

Location:



REGIONAL TRANSPORTATION COMMISSION
1105 Terminal Way, 1st Floor Great Room, Reno, NV
Date/Time: 10:00 A.M., Friday, August 16, 2024

REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY
BOARD MEETING AGENDA

- I. The Regional Transportation Commission Great Room is accessible to individuals with disabilities. Requests for auxiliary aids to assist individuals with disabilities should be made with as much advance notice as possible. For those requiring hearing or speech assistance, contact Relay Nevada at 1-800-326-6868 (TTY, VCO or HCO). Requests for supporting documents and all other requests should be directed to Michelle Kraus at 775-348-0400 and you will receive a response within five business days. Supporting documents may also be found on the RTC website: www.rtcwashoe.com.
- II. This meeting will be televised live and replayed on RTC's YouTube channel at: bit.ly/RTCWashoeYouTube
- III. Members of the public in attendance at the meeting may provide public comment (limited to three minutes) after filling out a request to speak form at the meeting. Members of the public that would like to provide presentation aids must bring eight (8) hard copies to be distributed to the Board members at the meeting. Alternatively, presentation aids may be emailed, in PDF format only, to mkraus@rtcwashoe.com prior to 4:00 p.m. on the day preceding the meeting to be distributed to the Board members in advance of the meeting. Members of the public may also provide public comment by one of the following methods: (1) emailing comments to: rtcpubliccomments@rtcwashoe.com; or (2) leaving a voicemail (limited to three minutes) at (775) 335-0018. Comments received prior to 4:00 p.m. on the day preceding the meeting will be entered into the record.
- IV. The Commission may combine two or more agenda items for consideration and/or may remove an item from the agenda or delay discussion relating to an item on the agenda at any time.
- V. The supporting materials for the meeting will be available at <https://rtcwashoe.com/news/board-meeting-notes/>. In addition, a member of the public may request supporting materials electronically from Michelle Kraus at the following email address: mkraus@rtcwashoe.com.

1. Call to Order:

- 1.1. Roll Call
- 1.2. Pledge of Allegiance

2. Public Comment: *Public comment taken under this item may pertain to matters both on and off the agenda. The Chair may take public comment on a particular item on the agenda at the time it is discussed. Comments are to be made to the Board as a whole and not to individual commissioners.*

3. Approval of Agenda (For Possible Action)

4. Consent Items (For Possible Action):

- 4.1. Minutes
 - 4.1.1 Approve the meeting minutes for the 07/19/2024 RTC Board meeting. (For Possible Action)

4.2. Reports

- 4.2.1 Acknowledge receipt of the monthly Procurement Activity Report. (For Possible Action)
- 4.2.2 Acknowledge receipt of the monthly Planning Activity Report. (For Possible Action)
- 4.2.3 Acknowledge receipt of the Summary Report for the Technical, Citizens Multimodal, and Regional Road Impact Fee Advisory Committees. (For Possible Action)
- 4.2.4 Acknowledge receipt of the monthly Engineering Activity Report. (For Possible Action)
- 4.2.5 Acknowledge receipt of the monthly Public Transportation and Operations Report for August 2024. (For Possible Action)
- 4.2.6 Acknowledge receipt of monthly Community and Media Outreach Activities Report. (For Possible Action)

4.3. Planning Department

- 4.3.1 Approve the South Virginia Street Transit Oriented Development (TOD) Plan. (For Possible Action)

4.4. Engineering Department

- 4.4.1 Approve a contract with Kimley-Horn and Associates, Inc., to provide engineering services on the ITS Program Support Project through August 31, 2025, in an amount not-to-exceed \$430,000. (For Possible Action)
- 4.4.2 Approve a contract with Lumos and Associates, Inc., for engineering services associated with updating the Standard Specifications for Public Works Construction (SSPWC), also known as the Orange Book, in an amount not-to-exceed \$283,200. (For Possible Action)
- 4.4.3 Approve a contract with Headway Transportation, LLC for design and optional engineering during construction services (EDC) for the Sparks Boulevard / Ion Drive Traffic Signal Project, and to perform various traffic studies, in an amount not-to-exceed \$449,300. (For Possible Action)
- 4.4.4 Approve an administrative settlement of up to \$440,680 authorizing RTC to acquire a fee simple interest in the entirety of APN: 013-082-15 from Robert F. and Evelyn J. Gunn Living Trust for the Mill Street Capacity and Safety Project. (For Possible Action)

4.5. Public transportation/Operations Department

- 4.5.1 Approve a contract with Carahsoft Technology Corporation to provide a subscription to Swiftly's transit data platform to share real-time passenger information, manage day-to-day operations and improve service performance for public transportation utilizing the State of Nevada Cloud Services procurement contract No. 99SWC-NV24-17504, in an amount not-to-exceed \$472,526.60. (For Possible Action)
- 4.5.2 Approve a contract with New Flyer to purchase ten (10) hybrid diesel-electric buses utilizing the State of Washington's Cooperative Purchasing Agreement for Transit Buses Master Contract No. 06719-0110, in an amount not-to-exceed \$10,492,211.40. (For Possible Action)
- 4.5.3 Acknowledge receipt of this quarterly Construction/Maintenance update on Transit Stops as presented to the Citizens Multimodal Advisory Committee on August 7, 2024. (For Possible Action)

- 4.6. Executive, Administrative and Finance Department
 - 4.6.1 Approve a Memorandum of Understanding between the Regional Transportation Commission (RTC) and Washoe County to formalize the terms and conditions upon which RTC will purchase employee health insurance coverage from Washoe County. (For Possible Action)
 - 4.6.2 Acknowledge receipt of the Asset Donation Log for the fourth quarter of calendar year 2023 through the second quarter of calendar year 2024. (For Possible Action)
 - 4.6.3 Acknowledge receipt of a report regarding quarterly progress on the RTC Agency Goals and Strategic Roadmap - FY 2024 (Q4). (For Possible Action)

5. Public Hearing:

- 5.1. Conduct a public hearing and adopt a resolution approving a purchase and sale agreement for the sale of property (APN 004-082-18; APN 004-061-29; APN 004-061-20; APN 004-061-26; APN 004-061-22; and APN 035-033-02) to the City of Reno. (For Possible Action)
 - a. Staff Presentation
 - b. Public Hearing
 - c. Action

6. Discussion Items and Presentations:

- 6.1. Receive a presentation from staff regarding the draft Regional Freight Plan. (For Possible Action)
- 6.2. Receive a presentation from staff regarding the 2050 Regional Transportation Plan (RTP) update. (For Possible Action)
- 6.3. Receive a presentation from staff regarding the draft Active Transportation Plan. (For Possible Action)

7. Reports (Information Only):

- 7.1. Monthly verbal update/messages from RTC Executive Director Bill Thomas - no action will be taken.
- 7.2. Monthly verbal update/messages from Paul Nelson, RTC Government Affairs Officer on federal matters related to the RTC - no action will be taken.
- 7.3. Monthly verbal update/messages from NDOT Director Tracy Larkin Thomason or designated NDOT Deputy Director - no action will be taken.

8. Commissioner Announcements and Updates: *Announcements and updates to include requests for information or topics for future agendas. No deliberation or action will take place on this item.*

9. Public Comment: *Public comment taken under this item may pertain to matters both on and off the agenda. The Chair may take public comment on a particular item on the agenda at the time it is discussed. Comments are to be made to the Board as a whole and not to individual commissioners.*

10. Adjournment (For Possible Action)



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.1.1

To: Regional Transportation Commission

From: Michelle Kraus, Clerk of the Board

SUBJECT: Draft Meeting Minutes for 07/19/2024

RECOMMENDED ACTION

Approve the meeting minutes for the 07/19/2024 RTC Board meeting.

BACKGROUND AND DISCUSSION

See attached for Background and Discussion

FISCAL IMPACT

There is no fiscal impact related to this item.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

**REGIONAL TRANSPORTATION COMMISSION
WASHOE COUNTY, NEVADA**

FRIDAY

10:00 A.M.

July 19, 2024

PRESENT:

**Ed Lawson, Mayor of Sparks
Alexis Hill, Vice Chair, Washoe County Commissioner
Mariluz Garcia, Washoe County Commissioner
Devon Reese, Reno City Council
Bill Thomas, RTC Executive Director
Adam Spear, Legal Counsel
Sajid Sulahria, Deputy Director of NDOT**

ABSENT:

**Hillary Schieve, Mayor of Reno
Tracy Larkin Thomason, NDOT Director**

The regular monthly meeting, held in the 1st Floor Great Room at Regional Transportation Commission of Washoe County, Reno, Nevada, was called to order by Vice Chair Hill. The Board conducted the following business:

Item 1 CALL TO ORDER

- 1.1 Roll Call
- 1.2 Pledge of Allegiance

Item 2 PUBLIC INPUT

Chair Lawson opened the meeting to public input and called on anyone wishing to speak on topics relevant to the Regional Transportation Commission (RTC) that are not included in the current agenda.

Don Swain, Keolis Manager spoke about team member Scott West.

Scott West is our one of our utility employees, and he came to us in December of 2023. Like all employees who might be operating a vehicle, he took the driver training program which includes awareness for human trafficking. Scott was at one of the bus stops at Fourth and Sutro working on keeping things squared away, and a gentleman and a young lady came up and were having an argument right near him where he could hear it. At one point the lady said, “this is human trafficking”. So, that really got Scott in gear to pay attention to what was happening. He kept an eye on the people and didn't take any action, which is part of the training. He stayed in the area while they were there and saw them come up behind the shelter, and then the lady came out with a wound to her forehead. They moved away from the bus stop, and a police car came by and Scott flagged them down. He got the Reno PD to take action and get these two people separated to overcome the problem. We don't know the details of what happened after that, but we do know that Scott got a couple of letters from local agencies that support Women in Crisis thanking him for the action that he took. This was a pretty remarkable thing to do out there on the road. Scott was really there to make sure that the stops are comfortable for our riders, but he took the extra step to make sure that that the people around him were

safe. It's a great thing, and we've been congratulating Scott since it happened on May 23rd. Thank you Scott!

Item 3 *APPROVAL OF AGENDA*

On motion of Commissioner Reese to approve agenda, seconded by Vice Chair Hill, which motion unanimously carried, Chair Lawson ordered that the agenda for this meeting be approved.

Items 4 *CONSENT ITEMS*

4.1 Minutes

4.1.1 Approve the meeting minutes for the 06/21/2024 RTC Board meeting.
(For Possible Action)

4.2. Reports

4.2.1 Acknowledge receipt of the monthly Procurement Activity Report. (For Possible Action)

4.2.2 Acknowledge receipt of the monthly Planning Activity Report. (For Possible Action)

4.2.3 Acknowledge receipt of the monthly summary report for the Technical, Citizens Multimodal, and Regional Road Impact Fee Advisory Committees. (For Possible Action)

4.2.4 Acknowledge receipt of the monthly Engineering Activity Report. (For Possible Action)

4.2.5 Acknowledge receipt of the monthly Public Transportation and Operations Activity Report. (For Possible Action)

4.2.6 Acknowledge receipt of the monthly Outreach Report from the Communications staff.
(For Possible Action)

4.3 Engineering Department

4.3.1 Authorize staff to pursue efforts to deliver the Sierra Street Bridge Replacement Project using the Construction Manager at Risk (CMAR) project delivery method, on a parallel path with planned and ongoing efforts to use the Design-Bid-Build project delivery method. (For Possible Action)

4.3.2 Approve an Interlocal Cooperative Agreement with the University of Nevada, Reno for research and engineering support activities from the Pavement Engineering and Science (PES) program in the amount of \$250,000. (For Possible Action)

4.3.3 Approve an administrative settlement in the amount of \$92,118 authorizing RTC to acquire certain property interests related to APN: 013-084-01 from Jentz Family Trust for the Mill Street Capacity and Safety Project. (For Possible Action)

4.3.4 Adopt a resolution declaring an intention to sell property (APN 004-082-18; APN 004-061-29; APN 004-061-20; APN 004-061-26; APN 004-061-22; and APN 035-033-02) to the City of Reno. (For Possible Action)

4.4 Public Transportation/Operations Department

4.4.1 Approve Amendment #1 to the contract with Spare Labs, Inc., (Order Form #SL-5055) for the Spare Platform software and services that RTC uses to manage its FlexRIDE service, to integrate additional modules (Spare Engage, Spare Dispatch, and Optimization Pro) and extend the contract term through July 31, 2027. (For Possible Action)

- 4.4.2 Approve a contract with Token Transit, Inc., to upgrade the mobile fare collection hardware and software across all services, in an amount not-to-exceed \$429,500. (For Possible Action)

On motion of Vice Chair Hill to accept the consent items, seconded by Commissioner Reese, which motion unanimously carried, Chair Lawson ordered that the consent items for this meeting be approved.

Item 5 *PUBLIC HEARING*

- 5.1 Conduct a public hearing regarding approval of Amendment No. 3 to the 2050 Regional Transportation Plan (RTP); adopt a resolution approving Amendment No. 3 to the 2050 Regional Transportation Plan (RTP). (For Possible Action)
 - a. Staff Presentation
 - b. Public Hearing
 - c. Action

Xuan Wang, RTC Planning Manager presented Amendment No. 3 on the 2050 RTP. The RTP is a long range plan, which was adopted in March of 2021. We had two amendments completed in January 2023 and January 2024. We are now working on a full update aiming for adoption in March 2025.

Amendments are needed when we add new projects or change schedules for some projects in the RTP. This amendment is for the I-80 East, Vista Boulevard to USA Parkway widening. There was a public hearing last month and that was for the environmental and design phase of this project. This hearing is for the construction portion of the project. We modeled this project originally for the 2015 model year, and now because of the schedule change, we're going to move it to the 2040 model year based on industry request.

An air quality conformity analysis was conducted according to the requirements, and the project is found to be in conformance with the requirements. The Interagency Air Quality Consultation Group met on June 18th and approved the Air Quality Analysis. We had a public comment period which started on Wednesday, June 26th and ended on Tuesday, July 16th. We presented this amendment to the CMAC and the TAC and this public hearing today. I'm happy to answer any questions and we also have NDOT project manager, Chris Kuhn, on the line for additional questions. Thank you.

There were no comments by the Commissioners, so Chair Lawson opened the public hearing up to anyone wishing to make public comment on this item.

Being no public comment, on motion of Vice Chair Hill to accept the report, seconded by Commissioner Reese, which motion unanimously carried, Chair Lawson ordered that Item 5.1 is approved.

Item 6 *DICUSSION ITEMS AND PRESENTATIONS*

- 6.1 Discuss and provide potential direction to staff regarding any legislative measures to be considered by the 83rd Session of the Nevada Legislature (2025). (Discussion Only)

Mr. Michael Hillerby of Kaempfer Crowell, who represents the RTC for legislative matters, gave a brief discussion on the legislative session.

- 6.2 Approve a Construction Manager-at-Risk (CMAR) contract with Granite Construction Company for the construction of the Arlington Avenue Bridges Project for a Guaranteed Maximum Price of \$32,340,102. (For Possible Action)

Brian Byrne, RTC Project Manager, gave an update and presentation on Arlington Avenue Bridges project.

This project is to address the structurally deficient bridges on Arlington over the Truckee River. This is also to preserve the hydraulic capacity of the Truckee River, provide safe and ADA compliant multimodal improvements, and of course, align with the adopted regional and community plans.

We have two bridges over the Truckee River on Arlington. The North Bridge is currently a two pier system with two piers in the water, we've changed that to be a single pier. In doing so, we have redesigned the kayak park to accommodate these features. We've made some pedestrian improvements under the under the North bridge with the pedestrian walkway and made that ADA accessible. The South Bridge is a clear span bridge. We will be matching that in kind with the clear span bridge. The esthetic features were voted on by the public and they selected the railing type, lighting and the pylons.

On our construction budget, we received congressionally directed spending of \$2 million. We were successful in getting a Raise Grant of \$7 million and our STB budget of \$5.9 million. This totals federal funding of \$14.9 million, with the total project budget of 32.7 million.

We finalized our design in May of 2024. We have completed our NEPA process and that received a categorical exclusion. This project aligns with the federal requirements regarding Build America and Buy America through all of our specifications and federal requirements. Currently, our easements and our agreements for utilities and rights of entry are being finalized and reviewed with the Nevada Division of State Lands. Those are expected to wrap up by the end of the year. Our section 408 404 and 401 permits are currently being reviewed with the Army Corps of Engineers and NDP. Those are on track to be finalized by the end of the year, prior to next spring for construction. With that, I will hand it over to Amanda Callegari.

Amanda Callegari, RTC Engineering Manager. Our CMAR process kicked off in November of 2023, after procuring Granite Construction as our construction manager. Involvement of the construction manager, as well as the Independent Cost Estimator (ICE), in the pre-construction phase really provides constructability and a different type of estimating. The CMAR process is a cyclical process that includes incorporating design innovations, holding workshops where we can identify risks and innovations, and work to mitigate those risks at certain design milestones. At certain design milestones, the construction manager, the independent cost estimator and the engineer submit Opinion of Probable Construction (OPC) cost estimates, and then the process concludes when all three parties reach a fair and reasonable construction price.

RTC developed ten key goals that we wanted to achieve through this project with the collaboration of Granite Construction, ICE and Jacobs Engineering, our designer.

A few goals that I would like to highlight include completing the construction of both bridges in one season from July to October to work within the ordinary high water mark. Secondly, our goal

was to limit noise impacts downtown. The third goal was that we didn't want any environmental compliance findings through the implementation of the identified mitigation measures and permit requirements. Involving our contractor throughout design, we were able to get their input incorporated into those permit applications and get our questions answered quicker and fast track the acceptance and approval of those permits. So, through integration of these contractor generated value and innovations during design, as well as understanding all the project unknowns and having a better understanding of risk, we were able to reach all ten of these goals.

Our construction was anticipated to extend into two full construction seasons, which would have impacted Wingfield Park for two full summers. Implementing the CMAR delivery method has enabled us to reduce this anticipated schedule to a single in-river working season, with construction completion anticipated to be in June of 2026. With that, our recommendation to the board today is to approve our CMAR contract with Granite Construction for the construction of the Arlington Avenue Bridges project for a GMP of \$32 million.

On motion of Vice Chair Hill to accept the report, seconded by Commissioner Reese, which motion unanimously carried, Chair Lawson ordered that Item 6.2 is approved.

6.3 Acknowledge receipt of a presentation on the South Virginia Street Transit Oriented Development (TOD) Plan. (For Possible Action)

Graham Dollarhide, RTC Planning Manager, gave a presentation and presented the results of the draft South Virginia Street Transit Oriented Development plan. The concept behind the South Virginia Transit Oriented Development, or TOD Plan, was to envision the future extension of the Virginia Line Bus Rapid Transit, or BRT route from Meadowood Mall to South Reno, and to develop the land use planning tools that will encourage a walkable transit supportive development pattern that meets the growth and development needs of the region. Establishing a plan for transit expansion and multimodal infrastructure now will hopefully guide development patterns in the desired direction for the future. I'd also like to note that the extension of the Virginia Line was part of the Unfunded Transit Vision in the 2050 Regional Transportation Plan (RTP).

Over the past 30 years, South Reno has experienced substantial growth, going from about 1500 population to about 43,000. While these types of percentage and even numerical gains are not expected over the next 30 years, some level of significant growth can still be expected.

In the near term, the RTC will be incorporating comments from the Board, Advisory Committees and the public into the final plan, which is anticipated to be ready for adoption in August. RTC staff has presented the draft plan to TAC, CMAC and now the Board and has made the draft available for review and comment to all bodies, including the public.

Vice Chair Hill, I think there are opportunities for RTC, if the Board is willing to do it, to sit down with some of these private property owners of vacant properties and see how we can leverage federal dollars to see if we can get multifamily and I also saw hotel usage as a recommended usage down there. I think we need more non-gaming, nonsmoking properties in town too. I'd love if this Board was willing to give staff direction to kind of have those discussions and see how we can be a leader in that and see how we can leverage our resources to support what we want to see down there, which is more public transit and rapid public transit.

Chair Lawson, we will be coming back next month for an actual action on this. Thank you.

6.4 Acknowledge receipt of the RTC Strategic Roadmap for FY 2025-2027 and provide input and direction regarding next steps. (For Possible Action)

Bill Thomas, RTC Executive Director, as a reminder for the Board and those who watch RTC and are involved in RTC, this is our third year in using the roadmap. Very simply, the roadmap is the strategic plan for the organization. It's intended to reflect the board direction that comes out of your annual retreat, and we use it here as your staff, as basically the benchmark or the guidepost for how we act over the next year. While this document may not be in the deepest detail, it really is the document that's most important to us when we talk about the goals in shaping how we as an organization operate over the next year. We've been very pleased with Erica and her organization's ability to work with you as the Board and us as the staff to facilitate the conversations that lead to what we believe is a very effective and powerful tool to reflect where we're going as an organization.

Eric Olson, OnStrategy Consultant gave a presentation and summary on the Strategic Goals for the next three years, which included:

- Expanding Public Transportation Utilization
- Promoting Neighborhood Mobility
- Exploring Truckee River as a Mobility Corridor
- Proactively Managing Construction
- Improving Network Safety
- Sustainable Maintenance of our Roads
- Being an Engaged Organization.

On motion of Vice Chair Hill to accept the report, seconded by Commissioner Reese, which motion unanimously carried, Chair Lawson ordered that Item 6.4 is approved.

6.5 Approve the RTC Goals for Fiscal Year (FY) 2025 (July 1, 2024 to June 30, 2025). (For Possible Action)

Bill Thomas, RTC Executive Director, in your packet and clearly in the public record for those who want to go into detail, are our ambitious, yet very committed 32 goals for next year. I would encourage people to go and look at each and every one of those goals. I don't have a presentation, but I wanted to touch on a few and give you some highlights and particularly on the ones that I know are of interest to you.

We're going to be beginning the design of the Keystone Avenue Bridge. We're going to start construction on Arlington Avenue Bridge, Sparks Boulevard widening and the Mill Street widening, which are pretty significant projects in our community that will start next year. They'll obviously be impactful, but they'll make a real difference in the community's ability to move around. We will finish construction on Steamboat Parkway, Somerset Parkway and South Virginia I-580 to Longley.

We'll begin the BLM application process for both the Tri Center to La Posada and the Pyramid Way to Lemmon Drive roadways. That'll put us in a better place for those two roads that will be important to our future. We will continue to make Sun Valley Boulevard our highest priority for federal funding.

We're working very closely this year with our Lake Tahoe Transportation partners to define our transit role and level of support, as well as studying things such as Park and Ride opportunities to address transportation to and from Lake Tahoe, particularly the Washoe County area of Lake Tahoe.

We are looking at the Truckee River Corridor and how it can function as part of the transportation network. We'll be bringing the Active Transportation Plan to the Board for adoption, which will then be quickly followed up with two neighborhood plans where we can start implementing our strategy.

We have a lot of stuff on our plate and the staff is eager to get our teeth into some of these and I'm very proud of the work that the staff does and their ability to perform. Like I said, 32 is a lot of goals. I push a lot as your Executive Director, and they respond very well and I'm very proud of our staff for keeping up with the pace. I'm asking today for the Board's approval of these goals.

Vice Chair Hill, this is so ambitious and exciting, so great work by the team. I have just a couple comments. At Washoe County and Reno, and my understanding is Sparks as well, we all have tree programs now through Urban Canopy Programs and giving trees to residents. I'm wondering if on our neighborhood plan, and we may already be doing this, but can we go to our lower income neighborhoods to get trees to those neighborhoods while we're doing that Planning. There's definitely a deficit in some of these neighborhoods. Also, on the Kids Ride for Free Program, which I'm so excited about that we started this summer, can we analyze and see if we want to do that moving forward as well, and not just do the pilot? Those are my only two comments and I'm just thrilled that Sun Valley and Lake Tahoe and all the other programs are on this list. So great work.

Commissioner Garcia, I'm very supportive of what Commissioner Hill just said, and I really appreciate that perspective. Thank you, Bill, so much for prioritizing and going after those grants to fund and support those Sun Valley Boulevard projects. There are so many significant needs out there for the community and I know that they'll be pleased to hear that you're fighting for them. So, I appreciate that.

Chair Lawson, my only comment is I'd like to see a quarterly progress report towards the goals so that we can see how we're doing. On the trees, we are actually giving away 300 trees in Sparks this year. Pretty sweet.

On motion of Vice Chair Hill to approve, with the suggested changes, seconded by Commissioner Reese, which motion unanimously carried, Chair Lawson ordered that Item 6.5 is approved.

Item 7 REPORTS (Informational Only)

7.1 RTC Executive Director Report

1. I'm very happy to announce that Congressman Mark Amodei included one million dollars for the RTC in the Fiscal Year 25 THUD Appropriations Bill.
 - We'll receive this Community Project Funding if Congress approves it as part of the budget. The funding will go towards construction of the Eagle Canyon Safety and Operations Project. The project will extend a shared use path, improve lighting, signage and striping, and could include safety enhancements at five pedestrian crosswalks.
2. July 26th will mark the 34th anniversary of the signing of the Americans with Disabilities Act.

- To observe this historic law, the RTC will offer free public transit on that day. The ADA became law in 1990. It prohibits discrimination against people with disabilities in many areas of public life, including transportation. We are proud to do our part to improve transportation accessibility and safety in all of our road projects and public transit.
3. We will also provide free public transit during Hot August Nights on four of our fixed routes.
 - Those include the Virginia and Lincoln Lines – and Routes 1 and 11 from August 6th through the 11th. These routes run up and down Virginia Street – and Fourth and Prater. ACCESS will also be free at Centennial Plaza and the 4th Street Station. With so many cars heading to the hotel properties, this is a great way for visitors and locals to get around town for the events.
 4. I am thrilled to welcome three new employees to the RTC.
 - Vanessa Lacer started on Monday as our new Director of Planning. She comes to us from Wilmington, North Carolina where she has worked in both Metropolitan Planning Organizations, as well as cities and towns in transportation and long-range planning. Most recently, she has been a Senior Transportation Planner for the Wilmington Urban Area MPO. She also has transit system experience as the Mobility Manager for the Cape Fear Transit Authority, known as Wave Transit.
 5. Please welcome Jamie Borino to the team.
 - Jamie also started Monday as RTC's next Safety and Security Administrator. He has extensive safety and risk management experience. He will be working with Rob Reeder over the next several weeks to develop relationships with our contractors and learn about RTC's policies and requirements. As you know, Rob is retiring in September. Thank you, Rob, for your help in the transition of this very important role.
 6. Finally, James Okorochoa rejoined the Planning Department for a summer internship on July 1st.
 - This is his second time interning with us, so some of you may remember him from last summer. James is currently pursuing a Ph.D. in Geography at the University of Nevada, Reno, and has a keen interest in GIS and Transportation Planning and Modeling. Welcome back, James!
 7. Congratulations to Dale Keller on his anniversary at RTC.
 - Dale passed the five-year mark July 8th. He is doing an incredible job as our Deputy Executive Director and Director of Engineering.
 8. And a big congratulations to Jennifer Meyers for 20 years at RTC July 12th.
 - Jennifer is our D.B.E Liaison Officer. Thank you for all of your hard work over the last two decades. Congratulations to both of you and keep up the great work.
 9. Please join us in congratulating Cathy Gardner as the MTM Employee of the Month for June.
 - Cathy has been part of the team since January 2018. Before that, she was a RIDE driver for many years. She enjoys helping the more vulnerable members of our community, getting to know the customers, and providing a safe service. Cathy has a great sense of humor and is likely to be found joking with her coworkers at the end of her day. She spends her free time with her Granddaughter and enjoys going to rock concerts.
 10. Donald Clay is the Keolis Driver of the Month.
 - Don's accomplishments in June consist of a 96 percent on-time performance, zero preventable accidents, and no customer complaints. He is originally from Philadelphia and moved to Reno in the 90s. He has worked as a bus operator for Ride since August of 2022. Don enjoys engaging with his passengers and making his coworkers laugh. He is a huge sports fan and loves to root for the Philadelphia Eagles.
 11. The Keolis Driver of the Month receives a 250-dollar gift card and a parking spot.
 12. The Technician and Utility Worker of the Month both receive a 250-dollar gift card, as well.

7.2 RTC Federal Report

Paul Nelson, RTC Government Affairs Officer. Last week we submitted our application for the Smart Grant and we're applying for \$1.1 million. This will go towards the Plumb Lane corridor, where we're going to be looking at the feasibility of using AI for some pedestrian detection systems. This is our second time applying for this, and we're hoping for a successful application this time around.

The House of Representatives is still working to pass its 12 appropriations bills before the August recess. That plan is in doubt because it failed to pass the legislative branch appropriations bill last week. It also has one less week to work on that because of the Republican National Convention that's happening this week. The Senate started its appropriations process a little bit later than the House did, and the schedule still isn't clear. We do expect the Senate and the House bills to look quite a bit different. So, we'll be expecting a continuing resolution into the next fiscal year, just like we saw in the last couple of years. The House funding bill does include cuts to the SIG program and the transit earmark pool. It is providing enough SIG funding to cover all the existing full funding grant agreements. Though the FTA recently released the Enhancing Mobility Innovation with almost \$2 billion available. These grants are meant to improve customer convenience, and they can be used for concept development and demonstration projects, or for software solutions projects, and that concludes my report.

7.3 NDOT Director Report

NDOT Deputy Director Sajid Sulahria gave a presentation and gave a summary on the following topics:

- U.S. 395 Northbound Dandini Ramp Closure
- University Way Resurfacing/Reconfiguration
- North McCarran Resurfacing – North Virginia to Clear Acre
- Pyramid Highway Shared Use Path
- Union Pacific “Big Boy” Whistle Stop Visit

Item 8 COMMISSIONER ANNOUNCEMENTS AND UPDATES

Vice Chair Hill asked if RTC is interested in EV Chargers at the administrative building. If so, I can put you in touch with NV Energy because that is a Grant we can apply for and support staff and visitors who are driving EV's .

Item 9 PUBLIC INPUT

Chair Lawson opened the meeting to public input and called on anyone wishing to speak on topics relevant to the Regional Transportation Commission (RTC) that are not included in the current agenda.

Dora Martinez, I really enjoyed the first public comment from your staff on Scott West. I just want to say thank you so much to James Gee for hearing us and making sure that the ADA anniversary on July 26th is free for all. We appreciate that move and thank you to Bill and all of the Commissioners for agreeing to do that. As constituents we like to be as everybody's email says, building a better community through quality transportation, and I really do appreciate that statement. We want to thank Susi Trinidad for everything she does. I went to Florida and Paratransit here is so much better than some of the counties out there. So, kudos to RTC folks,

RTC Access and the bus drivers. I want to put in a plug that Access drivers because they do a lot. They help us do the door and make sure that we don't fall on the steps when we get on the bus, and the dog doesn't get his toes run over by wheelchairs. So hopefully Mr. Gee and whoever's running that show will give them an increase. I want to thank Mr. Khalil Wilson from City of Reno and Ms. Kapuler, who was here in RTC, and she moved to NDOT. We have been requesting the crosswalk on Mason and Coit Plaza and they are being fixed because this little guy, he is trained to go on ramps and he is trained to walk within crosswalk. I hate to be a victim of a person that the driver didn't see the crosswalk. So please make sure that they are repainted. Thank you so much for all that you do.

Juan Martinez, we live up on North McCarran Boulevard in West Seventh Street. There is a bus stop there on the corner of North McCarran Boulevard that does not have a bench and there are a lot of shopping carts that are scattered around that bus stop that riders use. They flip the carts over to sit on. So please, if you can, I'm requesting a bench to be put on there so us blind folks don't run into those shopping carts that are tipped over. Also, if you do put the bus bench there to make sure it's not overlapping the sidewalk, so we don't hit our kneecaps on those as we're walking by. Thank you.

Item 10 ADJOURNMENT

There being no further business to come before the Board, the meeting was adjourned at 11:30 a.m.

ED LAWSON, Vice Chair
Regional Transportation Commission

****Copies of all presentations are available by contacting Michelle Kraus at mkraus@rtcwashoe.com.**



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.2.1

To: Regional Transportation Commission

From: Christian Schonlau, Director of Finance/CFO

SUBJECT: Procurement Activity Report

RECOMMENDED ACTION

Acknowledge receipt of the monthly Procurement Activity Report.

BACKGROUND AND DISCUSSION

Acknowledge receipt of the monthly Procurement Activity Report.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

ATTACHMENT A

PROJECTS CURRENTLY ADVERTISED

<u>Invitations for Bids (IFB)</u>	
Project	Due Date
N/A	
<u>Request for Proposals (RFP)</u>	
Project	Due Date
Tahoe Reno Industrial Center (TRIC) Rail Study	August 16, 2024
Sparks Boulevard Capacity Improvement Project, Phase 2	August 28, 2024

PROFESSIONAL SERVICES/CONSULTING AGREEMENTS

Per RTC's Management Policy P-13 Executive Director has authority to approve contracts greater than \$25,000 and less than (or equal to) \$100,000.

Project	Contractor	Contract Amount
Legal Services	Zev Kaplan	\$100,000
Legal Services	Taft Stettinius	\$100,000
Legal Services	Dickinson Wright	\$100,000
RTC Properties Landscaping	Town and Country Landscaping	\$26,180
North Hills Boulevard	CA Group Inc.	\$89,985
Two Portable Charging Sleds/Skids	ChargePoint Inc.	\$98,028
Portable Charging Stations	ChargePoint Inc.	\$88,078

CHANGE ORDERS AND CONTRACT AMENDMENTS WITHIN EXECUTIVE DIRECTOR'S RTC's P-13 PURCHASING POLICY AUTHORITY

Project	Contractor	Approval Date	CO / Amend. Number	CO / Amend. Amount	Revised Total Contract Amount
4SS & Centennial Plaza Display Kiosks	Vontas	7/18/2024	Amend. 2	\$56,571	\$650,846



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.2.2

To: Regional Transportation Commission

From: Xuan Wang, PHD, PE, PTP, RSP2, Planning Manager

SUBJECT: Planning Activity Report

RECOMMENDED ACTION

Acknowledge receipt of the monthly Planning Activity Report.

BACKGROUND AND DISCUSSION

See Attachment A for Background and Discussion.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

PLANNING STUDIES

Virginia Street Transit Oriented Development (TOD) Planning Study	
Graham Dollarhide, Project Manager	https://www.rtcwashoe.com/mpo-corridor-plan/south-virginia-street-transit-oriented-development-tod-study/
<i>Status: Final comments incorporated along with final revisions ahead of August adoption.</i>	

Active Transportation Plan	
Marquis Williams, Project Manager	https://www.rtcwashoe.com/mpo-reports/active-transportation-plan/
<i>Status: Draft to open for public review in July 2024 along with a virtual public presentation to be posted on the project webpage. Anticipated adoption is scheduled for September 2024.</i>	

Regional Freight Study	
Marquis Williams, Project Manager	https://rtcwashoe.com/planning/regional-planning/regional-freight-plan/
<i>Status: Revised draft document is under review by RTC and local agency partners. The corresponding public survey is open until late July 2024, with a scheduled Board date of September 2024.</i>	

RTC Regional Travel Characteristics Study	
Xuan Wang, Project Manager	https://www.rtcwashoe.com/mpo-reports/survey2023/
<i>Status: Data collection has been completed. The consultant team is working on processing the data and developing the project report.</i>	

RTC Regional Travel Demand Model Update	
Xuan Wang, Project Manager	https://www.rtcwashoe.com/mpo-reports/model2023/
<i>Status: A base year model has been built. The project team is working on developing refined employment data and calibration targets.</i>	

RTC Regional Transportation Plan Update	
Xuan Wang, Project Manager	https://rtcwashoe.com/planning/regional-planning/rtp/
<i>Status: An AWG meeting was held to review public outreach results and draft RTP chapters. The project team is working on developing the project listing and project evaluation method.</i>	

RTC Intersection Safety Improvement Prioritization	
Xuan Wang, Project Manager	N/A
<i>Status: 20 signalized intersections and 20 unsignalized intersections are identified. Project team is reviewing the draft list and report for final report preparation.</i>	

ONGOING PROGRAMS

Data Collection Program	
Xuan Wang, Project Manager	https://dlm.maps.arcgis.com/apps/mapviewer/index.html?webmap=06f3673e1e40454cbabbb57e67b424e2
<i>Status: Data collection started for scheduled sites. Continue to identify sites for data collection.</i>	

Bicycle and Pedestrian Planning	
RTC Planning and Engineering Staff	https://www.rtcwashoe.com/metropolitan-planning/
<p><i>Status: Ongoing collaboration with partner agencies on several initiatives to improve bicycle and pedestrian safety & facilities:</i></p> <ul style="list-style-type: none"> • <i>Coordinating with Engineering to develop design details on roadway network concepts and outreach activities.</i> 	

Vision Zero Truckee Meadows	
RTC Planning Staff	https://visionzerotruckeemeadows.com/
<p><i>Status: Application for SS4A planning funds to update the Action Plan and High Injury Network submitted 5/16/24; application results anticipated August 2024. Next Task Force meeting tentatively scheduled for 8/12/24.</i></p>	



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.2.3

To: Regional Transportation Commission

From: Xuan Wang, PHD, PE, PTP, RSP2, Planning Manager

SUBJECT: Advisory Committee Report

RECOMMENDED ACTION

Acknowledge receipt of the Summary Report for the Technical, Citizens Multimodal, and Regional Road Impact Fee Advisory Committees.

BACKGROUND AND DISCUSSION

The RTC has three advisory committees that provide input on a wide range of policy and planning issues as well as key planning documents and the RTC Budget. The committees include:

- The Citizens Multimodal Advisory Committee (CMAC), which includes members from the community. The RTC Board approves appointments to this advisory committee.
- The Technical Advisory Committee (TAC), which includes local public works directors, community development directors, and staff from other key agencies.
- The Regional Road Impact Fee Technical Advisory Committee (RRIF TAC), which was created to oversee and advise the local governments regarding land use classification assumptions and the Capital Improvements Plan (CIP) used in the impact fee program. The RRIF TAC consists of three representatives from each local entity, two RTC representatives, and four private sector members who are appointed by the RTC Board.

The TAC met on 08/01/2024. The committee received a presentation on the RTC Active Transportation Plan. Committee members expressed concerns about areas lacking access to active transportation in overlooked areas such as Sun Valley. RTC staff discussed ongoing projects with multimodal components, including the Sun Valley Boulevard project. The committee received a presentation on the Regional Freight Plan. Members discussed the potential impacts of truck idling, especially during cold weather and in residential areas, on noise and air quality, and commented on improving intermodal and regional rail access, emphasizing preserving rail access in Sparks and the North Valleys. The committee also received a presentation on the 2050 Regional Transportation Plan (RTP) Update.

The CMAC met on 08/07/2024. The committee provided information and advice regarding the construction, installation and maintenance of benches, shelters and transit stops for RTC passengers. Members voiced concerns about the removal of the 4th and Ralston bus stop due to landscaping changes. Members also recommended improvements to bus stops to make them more accessible to people with disabilities. The committee received a presentation on the RTC Active Transportation Plan. The group discussed ways to improve community outreach and public participation in the Neighborhood Network Planning approach. The committee received presentations on the Regional Freight Plan and the 2050 Regional Transportation Plan (RTP) Update.

There has not been a RRIF TAC meeting since the Board previously met.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.2.4

To: Regional Transportation Commission

From: Dale Keller, Director of Engineering

SUBJECT: Engineering Activity Report

RECOMMENDED ACTION

Acknowledge receipt of the monthly Engineering Activity Report.

BACKGROUND AND DISCUSSION

See Attachment A for Background and Discussion.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

ACTIVE TRANSPORTATION IMPROVEMENTS

Biggest Little Bike Network	
Sara Going, Project Manager	www.downtownrenomicromobility.com
<i>Status: Preliminary design for the project is underway. The public will have the first opportunity to provide input on the 30% design in September 2024.</i>	

Truckee River Shared Use Path	
Scott Gibson, Project Manager	https://www.rtcwashoe.com/engineering-project/truckee-river-shared-use-path-project/
<i>Status: The RTC is continuing to coordinate with the Reno Sparks Indian Colony (RSIC) for the maintenance, security, and property rights necessary for the pathway. There is no update on this during last reporting period.</i>	

CAPACITY/CONGESTION RELIEF PROJECTS

Buck Drive Circulation	
Maria Paz Fernandez, Project Manager	https://www.rtcwashoe.com/engineering-project/buck-drive-circulation/
<i>Status: Kimley Horn is the selected firm for design and construction engineering services. Ongoing coordination with City of Reno staff. Sixty percent (60%) design plans expected by the end of October. Construction is tentatively scheduled for spring 2025.</i>	

Butch Cassidy Drive Extension	
Kim Diegle, Project Manager	https://www.rtcwashoe.com/engineering-project/butch-cassidy-drive-extension/
<i>Status: Preliminary design is underway.</i>	

Eagle Canyon Safety and Operations	
LaShonn Ford, Project Manager	https://rtcwashoe.com/projects/eagle-canyon-safety-and-operations/
<i>Status: The project design is 60% complete. Construction is scheduled for summer 2025.</i>	

Geiger Grade Realignment	
Kim Diegle, Project Manager	https://www.rtcwashoe.com/engineering-project/geiger-grade-road-realignment/
<i>Status: RTC has selected J-U-B Engineers, Inc. to perform a feasibility study to further investigate preliminary design alternatives, traffic, and environmental impacts. This effort will be kicked off in summer 2024.</i>	

Kietzke Lane ITS	
Garrett Rodgers, Project Manager	https://www.rtcwashoe.com/engineering-project/kietzke-lane-its-project/
<i>Status: Bids were opened April 25, 2024. Sierra Nevada Construction (SNC) was awarded the Contract. Pre-construction coordination is ongoing. Construction activities are anticipated to begin August 12, 2024.</i>	

Military Road Capacity & Safety	
Austin McCoy, Project Manager	https://rtcwashoe.com/projects/military-road-capacity-safety/
<i>Status: Intermediate design is complete. Right of Way Setting is scheduled and Project team is advancing towards 90% Design Submittal.</i>	

North McCarran Boulevard & Pyramid Hwy Fiber	
Alex Wolfson, Project Manager	https://rtcwashoe.com/projects/n-mccarran-boulevard-pyramid-highway-fiber/
<i>Status: Construction is substantially complete; contractor is working on punch list items.</i>	

North Valleys North Virginia Street Capacity	
Garrett Rodgers, Project Manager	https://www.rtcwashoe.com/engineering-project/north-valleys-north-virginia-street-capacity/
<i>Status: The traffic analysis study and conceptual design is complete. Project team is advancing 30% Design Submittal.</i>	

Pembroke Drive Capacity & Safety	
Maria Paz Fernandez, Project Manager	https://rtcwashoe.com/projects/pembroke-drive-capacity-safety/
<i>Status: Nichols Consulting Engineers (NCE) was the selected design consultant. Preliminary design alternatives were updated to include widening to two (2) lanes in each direction. Sixty percent (60%) design plans are expected to be submitted to the City of Reno by the end of October.</i>	

Sparks Intelligent Corridors	
Alex Wolfson, Project Manager	https://rtcwashoe.com/projects/sparks-intelligent-corridor/
<i>Status: Installation of the new fiber is substantially complete. Testing of software for the notification system and dynamic traffic signal control is in progress.</i>	

Pyramid Highway Operations Improvements	
Jessica Dover, Project Manager	https://www.rtcwashoe.com/engineering-project/pyramid-highway-operations-improvements/
<i>Status: Preliminary Engineering ongoing; RTC is coordinating with NDOT to develop preferred preliminary alignment alternative.</i>	

Pyramid Way, Sparks Boulevard, Highland Ranch Interchange	
Austin McCoy, Project Manager	https://rtcwashoe.com/projects/pyramid-way-sparks-boulevard-highland-ranch-intersection/
<i>Status: NDOT LPA Agreement has been executed and a notice to proceed from NDOT has been received. Data collection, traffic analysis, and preliminary design is underway with Parametrix.</i>	

South Meadows Traffic Enhancements	
Austin McCoy, Project Manager	https://www.rtcwashoe.com/engineering-project/south-meadows-traffic-enhancements/
<i>Status: Sierra Nevada Construction (SNC) has achieved substantial completion.</i>	

South Virginia Street & I-580 Exit 29 Capacity & Safety	
Maria Paz Fernandez, Project Manager	https://rtcwashoe.com/projects/south-virginia-street-and-i-580-exit-29-capacity-and-safety/
<i>Status: Q&D Construction started the construction on June 17; completion is expected by the end of October. Construction is ongoing. Traffic has been shifted with the northbound lane closed.</i>	

Sparks Boulevard Project	
Garrett Rodgers, Project Manager	SparksBLVDproject.com .
<i>Status: One hundred percent (100%) Design Submittal received in May 2024. Final Design Submittal expected later this summer. Right-of-way acquisition is under way.</i>	

Sparks Boulevard/Ion Drive Traffic Signal Project	
LaShonn Ford, Project Manager	https://rtcwashoe.com/projects/sparks-boulevard-ion-drive-traffic-signal/
<i>Status: Headway Transportation, LLC has been selected as the design consultant for this project. The Professional Services Agreement (PSA) will appear as an agenda item for the August Board Meeting.</i>	

Steamboat Parkway Improvement	
Garrett Rodgers, Project Manager	https://rtcwashoe.com/projects/steamboat-parkway-improvement-damonte-ranch-pkwy-to-veterans-pkwy/
<i>Status: Construction started April 2, 2024. Crews are performing utility relocations and preparing for roadway widening operations.</i>	

Traffic Signal Fiber 25-01	
Austin McCoy, Project Manager	https://rtcwashoe.com/projects/traffic-signal-fiber-25-01/
<i>Status: Preliminary design is underway. Project team is advancing towards 60% design submittal.</i>	
Traffic Signal Installations 23-01	
Alex Wolfson, Project Manager	https://www.rtcwashoe.com/engineering-project/traffic-signal-installations-23-01/
<i>Status: Work is substantially complete at all locations in Reno and Sparks.</i>	
Traffic Signal Modifications 23-01	
Sara Going, Project Manager	https://www.rtcwashoe.com/engineering-project/traffic-signal-modifications-23-01/
<i>Status: Summit Line Construction, Inc. began construction on the project in July 2024. Construction will continue on the 19 project locations through October.</i>	
Traffic Signal Modifications 24-01	
Sara Going, Project Manager	https://www.rtcwashoe.com/engineering-project/traffic-signal-modifications-24-01/
<i>Status: The project design is 60% complete. Next month, the project will advance to 90% design and begin right-of-way acquisition.</i>	
Traffic Signal Modifications 25-01	
LaShonn Ford, Project Manager	https://rtcwashoe.com/projects/traffic-signal-modifications-25-01/
<i>Status: Preliminary design of the improvements is in progress. In addition, the consultant is working on intersection evaluations at several locations.</i>	
Traffic Signal Timing 7	
Alex Wolfson, Project Manager	https://www.rtcwashoe.com/engineering-project/traffic-signal-timing-7-project/
<i>Status: New signal timing plans have been implemented on the following corridors:</i> <ul style="list-style-type: none"> - Golden Valley Rd between Beckwourth Dr and North Virginia St 	
Veterans Parkway ITS	
Austin McCoy, Project Manager	https://www.rtcwashoe.com/engineering-project/veterans-parkway-its/
<i>Status: Intermediate design is complete. Project team is advancing towards 90% Design Submittal</i>	

Veterans Roundabout Modifications	
Jessica Dover, Project Manager	https://www.rtcwashoe.com/engineering-project/veterans-roundabout-modifications/
<i>Status: Preliminary Design (30%) submittal to NDOT, local agencies and Utilities for review Summer 2024; 60% design submittal Fall 2024.</i>	

Vista Boulevard/Disc Drive Intersection Improvement	
Alex Wolfson, Project Manager	https://rtcwashoe.com/projects/vista-boulevard-disc-drive-intersection-improvements/
<i>Status: Final design and right of way acquisition is in progress.</i>	

Vista Boulevard/Prater Way ITS	
Garrett Rodgers, Project Manager	https://www.rtcwashoe.com/engineering-project/vista-boulevard-prater-way-its/
<i>Status: Final design is underway.</i>	

CORRIDOR IMPROVEMENT PROJECTS

Arlington Avenue Bridges	
Bryan Byrne, Project Manager	https://www.rtcwashoe.com/engineering-project/arlington-avenue-bridges-project/
<i>Status: The CMAR Guaranteed Maximum Price (GMP) was approved on July 19, 2024. The project team is finalizing the contract and is tentatively scheduled to begin construction in May of 2025.</i>	

Keystone Bridge Replacement	
Sara Going, Project Manager	https://www.rtcwashoe.com/engineering-project/keystone-avenue-bridge-replacement/
<i>Status: In July, the project team held a public meeting at McKinley Arts and Culture Center to receive feedback on the proposed project alternatives. The public meeting materials can be viewed at KeystoneBridgeProject.com.</i>	

Lemmon Drive Traffic Improvements and Resiliency	
Bryan Byrne, Project Manager	https://rtcwashoe.com/projects/lemmon-drive-traffic-improvements-and-resiliency/
<i>Status: The project is making significant progress in conducting the required NEPA studies. The project team is incorporating public feedback and working towards the 60% design submission. Additionally, the team is coordinating the next public meeting, scheduled for August 21, 2024.</i>	

Mill Street Capacity & Safety (Kietzke Lane to Terminal Way)	
Kimberly Diegle, Project Manager	http://millstreetwidening.com
<i>Status: Final design is underway. The right-of-way acquisition activities and utility coordination is ongoing. Construction is anticipated to start in spring 2025</i>	

McCarran Boulevard Safety and Operational Improvements	
Jessica Dover, Project Manager	https://rtcwashoe.com/projects/mccarran-boulevard-safety-and-operational-improvements/
<i>Status: Project Prioritization Phase underway; Prioritization Working Group Meeting No. 1 Summer 2024. Preliminary design anticipated summer 2025.</i>	

Oddie/Wells Multimodal Improvements	
Maria Paz Fernandez, Project Manager	http://oddiewellsproject.com/
<p><i>Status:</i></p> <p><i>Phase 1 (Pyramid Way to Sullivan Lane in Sparks)</i></p> <p><i>Phase 2 (Sullivan Ln in Sparks to Silverada Blvd in Reno)</i></p> <p><i>Phase 3 (Silverada Blvd to east of US 395 in Reno)</i></p> <p><i>Phase 4 (Sutro Street to I-80)</i></p> <p><i>Project was substantially completed in July.</i></p> <p><i>Punchlist work items with intermittent lane closures are expected throughout the corridor.</i></p>	

Sierra Street Bridge Replacement	
Bryan Byrne, Project Manager	https://sierrastreetbridge.com/
<i>Status: The project team has engaged our Aesthetic Stakeholders Working Group to outline aesthetic design features to take to the public for voting. This will be open for voting from August 5th to September 27th.</i>	

Sun Valley Boulevard Corridor Improvements – Phase 2	
Jessica Dover, Project Manager	https://www.rtcwashoe.com/engineering-project/sun-valley-boulevard-corridor-improvements-phase-2/
<i>Status: Preferred Alternatives resulting from the Draft Conceptual Drainage Design Report advancing to the next level of analysis. Categorical Exclusion for Geotech ongoing.</i>	

West Fourth Street Downtown	
Scott Gibson, Project Manager	https://www.rtcwashoe.com/engineering-project/west-fourth-street-downtown/
<i>Status: Thirty percent (30%) design plans have been completed and Reno comments are being reviewed and addressed.</i>	

West Fourth Street Safety	
Scott Gibson, Project Manager	https://www.rtcwashoe.com/engineering-project/west-fourth-street-safety/
<i>Status: Wood Rodgers has submitted 60% design plans for review. Work on NEPA and coordination with NDOT environmental division continues. Coordination with UPRR is ongoing.</i>	

PAVEMENT PRESERVATION PROJECTS

2024 Preventive Maintenance Program	
Jessica Dover, Project Manager	https://rtcwashoe.com/projects/2024-preventive-maintenance-project/
<i>Status: Construction ongoing; Substantial Completion anticipated in fall/winter 2024.</i>	

2025 Bridge Maintenance	
Scott Gibson, Project Manager	https://rtcwashoe.com/projects/2025-bridge-maintenance/
<i>Status: Preliminary design is underway.</i>	

Arrowcreek/Wedge Rehabilitation	
Jessica Dover, Project Manager	https://www.rtcwashoe.com/engineering-project/arrowcreek-parkway-wedge-rehabilitation/
<i>Status: Preliminary design (50%) anticipated summer 2024.</i>	

Las Brisas and Los Altos Resurfacing	
Jessica Dover, Project Manager	https://www.rtcwashoe.com/engineering-project/las-brisas-and-los-altos-resurfacing/
<i>Status: Las Brisas Boulevard mill and overlay (Robb Drive to Britannia Drive) and signage throughout the corridor has achieved Final Acceptance. Los Altos Parkway mill and overlay (S. Vista Boulevard to Goodwin Road) and utility adjustments throughout the corridor has achieved Final Acceptance. Anticipate Substantial Completion of slurry and associated remaining Contract Items at both locations Summer 2024.</i>	

Meadowood Rehabilitation	
Garrett Rodgers, Project Manager	https://rtcwashoe.com/projects/meadowood-rehab/
<i>Status: Preliminary design is underway.</i>	

N Virginia Street University Rehabilitation	
Bryan Byrne, Project Manager	https://www.rtcwashoe.com/engineering-project/north-virginia-street-university-rehabilitation/
<i>Status: The construction bid was awarded to Granite Construction. Construction is underway and is scheduled to be completed in mid-August 2024.</i>	

Raleigh Heights Rehabilitation	
Austin McCoy, Project Manager	https://www.rtcwashoe.com/engineering-project/raleigh-heights-rehabilitation/
<i>Status: Construction is tentatively scheduled to start in August and go through November 2024.</i>	

Somerset Parkway Corrective Project	
Scott Gibson, Project Manager	https://rtcwashoe.com/projects/2024-corrective-maintenance-somerset/
<i>Status: Construction will begin in August and continue throughout the fall.</i>	

OTHER PROJECTS

4th Street Station Expansion	
Ian Chamberlain, Project Manager	https://www.rtcwashoe.com/engineering-project/4th-street-station-expansion/
<i>Status: This project is on hold due to issues with property acquisition for proposed improvements.</i>	

Virginia Line BRT Improvements	
Kimberly Diegle, Project Manager	https://www.rtcwashoe.com/engineering-project/virginia-line-brt-improvements/
<i>Status: Sixty percent (60%) design is complete. Coordination with the City of Reno, FTA, and affected utility companies continues. NEPA re-evaluation of the original Virginia Street Bus RAPID Transit Extension project is anticipated to be completed this summer.</i>	

REPORT ON NEGOTIATED SETTLEMENT AGREEMENTS FOR THE ACQUISITION OF PROPERTY

Project	Property Owner	Purchase Amount	Amount Over Appraisal
Sparks Boulevard Improvement	Kitchen Family Trust	\$1,000.00	\$0
Sparks Boulevard Improvement	Cristina Buick	\$1,000.00	\$0

CONTRACTS UP TO \$100,000

Project	Vendor	Scope	Amount
n/a			

EXECUTIVE SUMMARY

WASHOE COUNTY RTC

PAVEMENT AREA

3.63

SQUARE MILES

CENTERLINE MILES

445.82

LANE MILES

1141.32

SECTIONS

1199

*PEER COMPARISON

AS OF: 6/30/2024

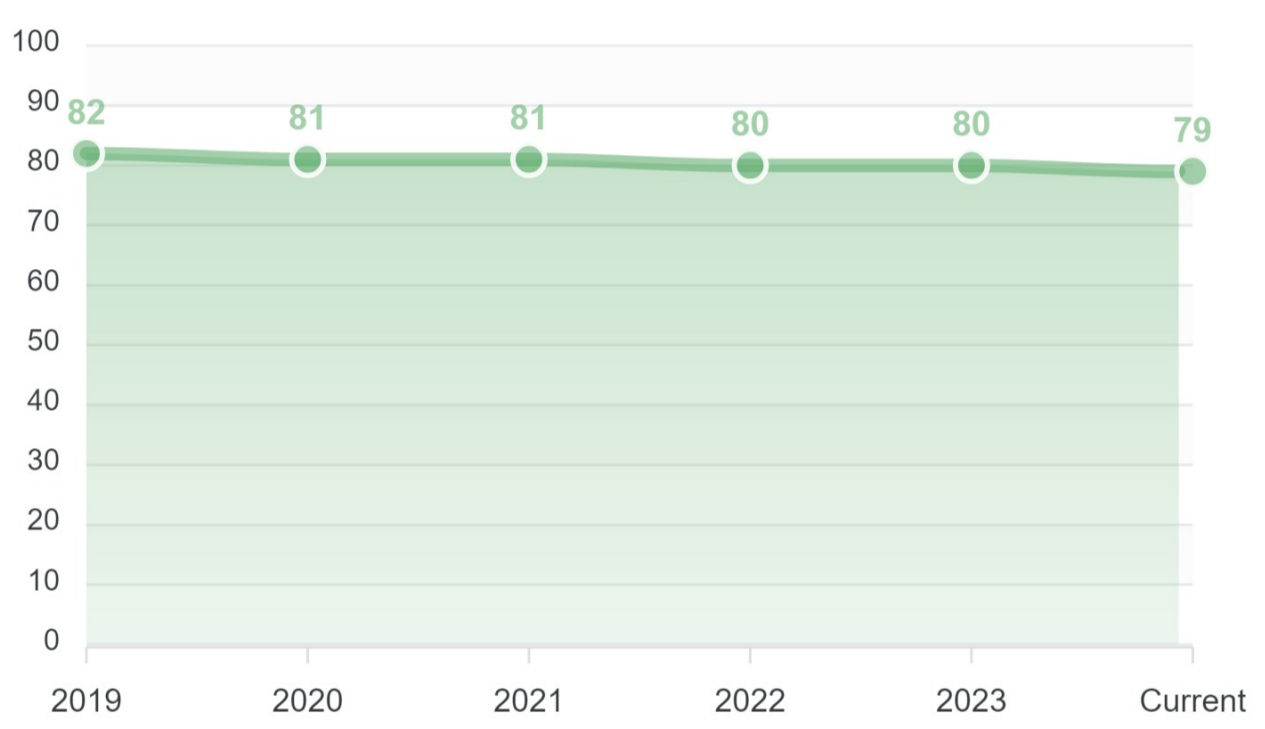
62

SIMILAR SIZE AGENCY PCI

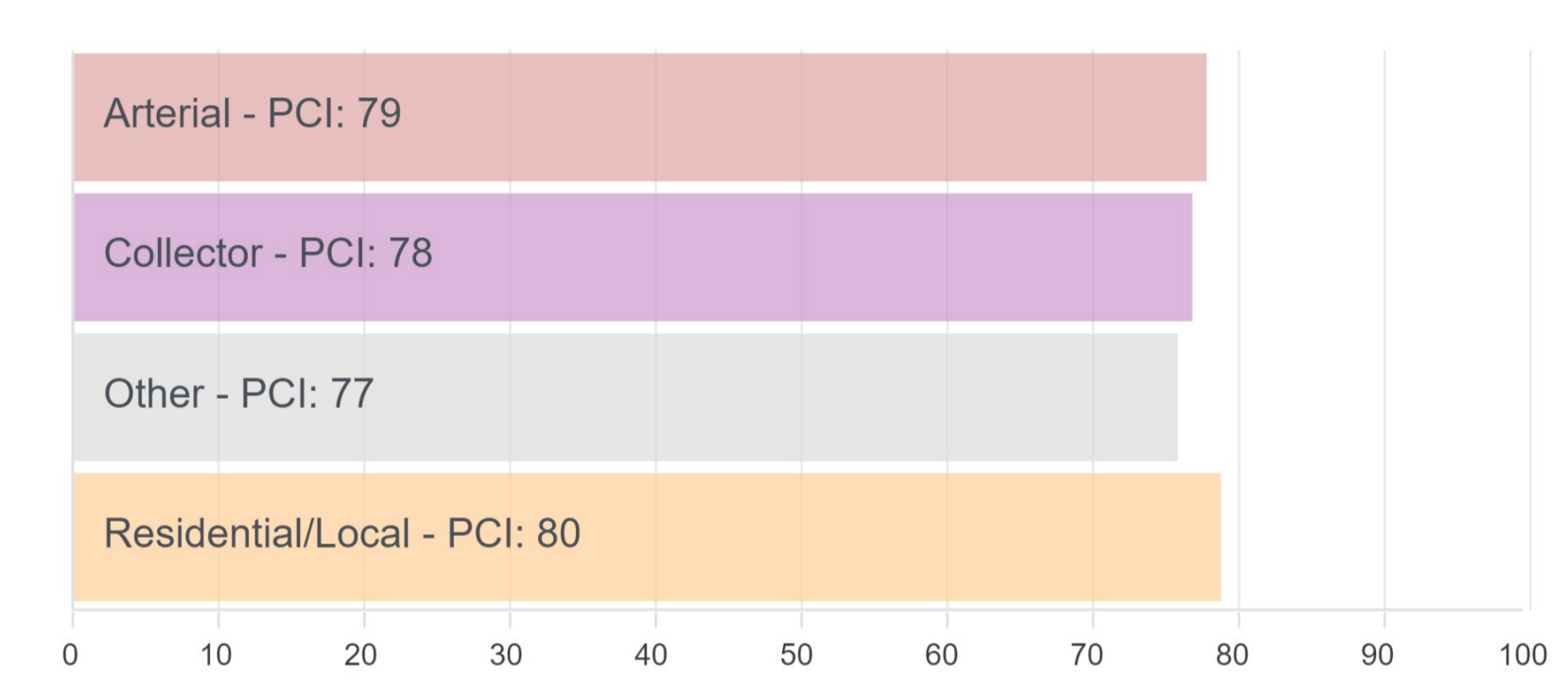
90%

YOUR PERCENTILE RANK

HISTORICAL PAVEMENT CONDITION TRENDS



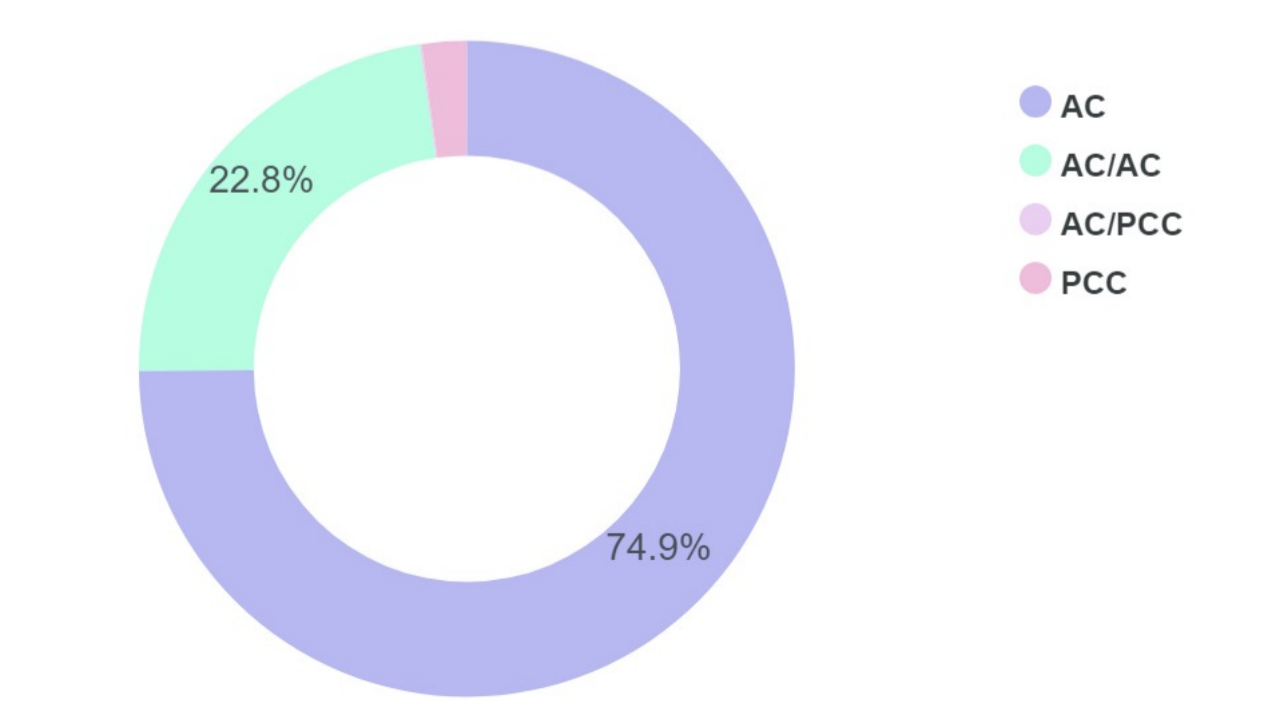
CURRENT PCI BY: FUNCTIONAL CLASS



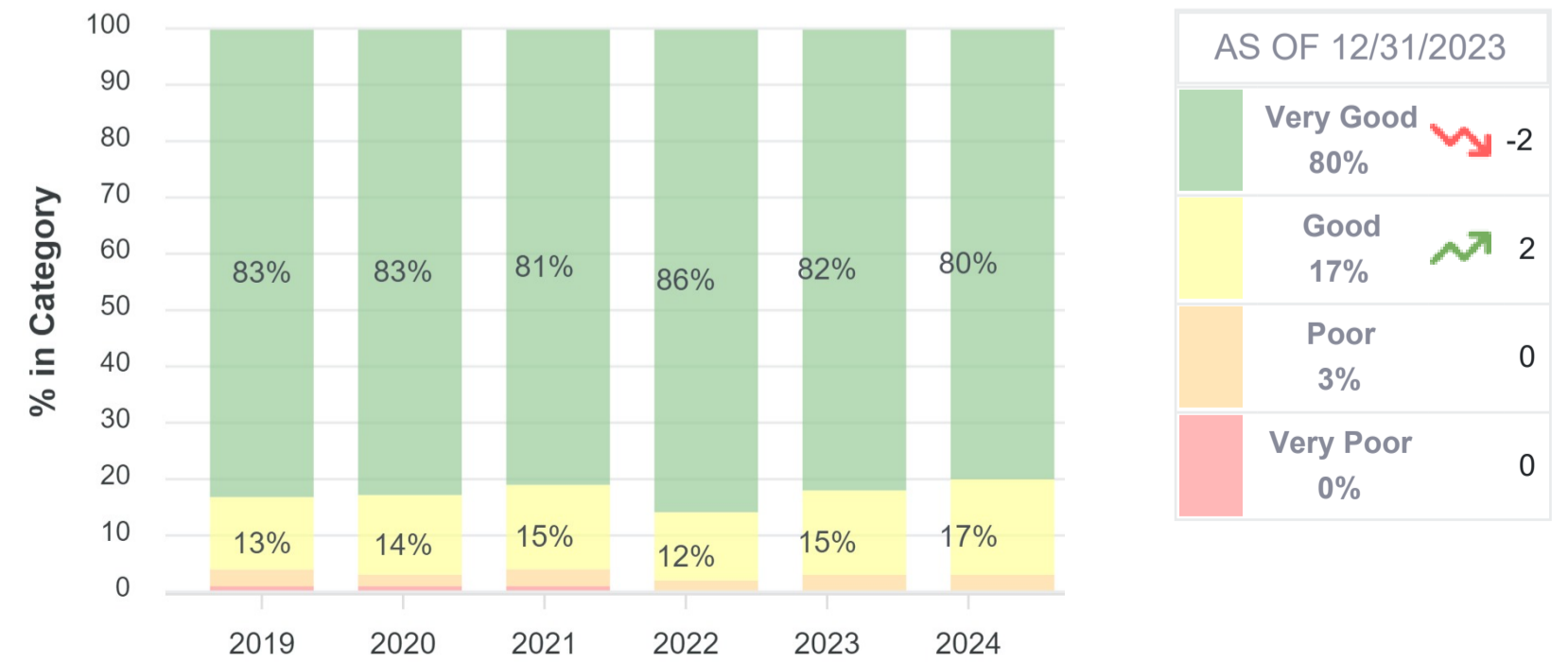
**CURRENT PCI



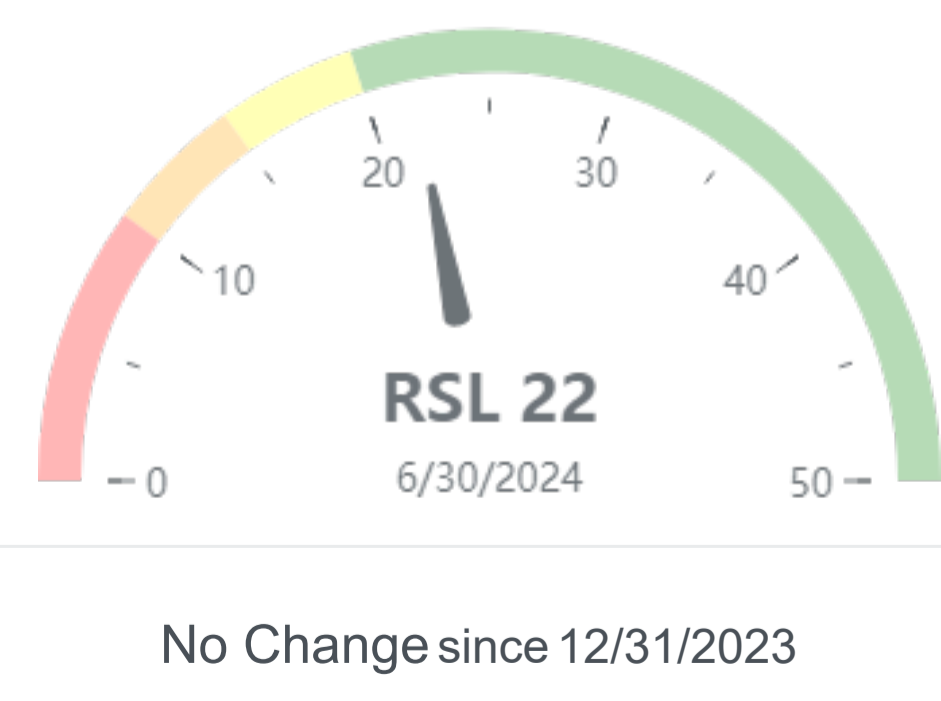
PERCENT OF AREA BY: SURFACE TYPE



HISTORICAL NETWORK CONDITION TRENDS



REMAINING SERVICE LIFE (YEARS)



*Based on the closest peers in your geographic location with a comparable number of Sections.

**For display purposes only, Current PCI graph shows Condition Category colors based on default PCI Breakpoint values of 70, 50 and 25.

Please Note: Historical PCI values are calculated as of 12/31 of the year shown.



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.2.5

To: Regional Transportation Commission

From: James Gee, Director of Public Transportation and Operations

SUBJECT: Public Transportation and Operations Monthly Report

RECOMMENDED ACTION

Acknowledge receipt of the monthly Public Transportation and Operations Report for August 2024.

BACKGROUND AND DISCUSSION

See Attachment A for background and discussion.

FISCAL IMPACT

There is no fiscal impact related to this item.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

BACKGROUND AND DISCUSSION

ATTACHMENT A

Highlights -

RTC to Provide Free Bus Rides to the Rib Cook Off – RTC will provide free transportation on the RAPID Lincoln Line, Route 11, and ACCESS transit services from Wednesday, August 28, through Monday, September 2, all day, each day to the *Best in the West Nugget Rib Cook Off*, in partnership with The Nugget Casino Resort.



RTC Provides Free Bus Rides to Hot

August Nights – RTC provided free transportation on the RAPID Virginia Line, RAPID Lincoln Line, Route 1, Route 11, and ACCESS transit services Tuesday, August 6, through Sunday, August 11, all day, each day in partnership with Hot August Nights. The FREE RIDE routes served RTC 4TH STREET STATION and RTC CENTENNIAL PLAZA.

RTC's RAPID Lincoln Line and Route 11 service runs from downtown Reno to downtown Sparks on 4th Street and Prater Way. RTC's RAPID Virginia Line and Route 1 service runs along Virginia Street from Meadowood Mall to the University of Nevada, Reno.

Don't Drive, Arrive! to special events in our community. There are plenty of alternatives to driving your car to events, including taking transit, walking, biking, or using rideshare. Events like these help to attract new transit passengers and reduce congestion on our roadways.

RTC RIDE Key Highlights – July

- 13 trainees released to Operations for revenue service
- Driver of the Month: Donald Clay
- 99% service hours and trips
- Northwest Reno Structure Fire Evacuation
- Driver bid commenced on 7/29 for September Service Change
- Employee Engagement:
 - National Hot Dog Day, July 17
- 1 Grievance filed (June) and 1 withdrawn. No new ULP filed in June
- Collective Bargaining Agreement Ratified, Wednesday July 24



Keolis represented staffing headcount as of July 29, 2024:

Position	Total Employed	#Needed
Coach Operator Trainees	13	2+
Coach Operators	168	2
Dispatchers	7	0
Road Supervisors	4	0
Mechanic A	6	0
Mechanic B	4	0
Mechanic C	4	0
Facilities Technician	2	0
EV Technician	1	0
Utility Worker	13	0
Electronics Tech	2	0
Body Technician	1	0

RTC ACCESS Key Highlights – July

Classes: Class held July 9, 2024 (4 in revenue service/2 resigned as of July 29)

Safety:

- **Accidents:**
 - 4 - Preventable
 - 0 - Non-Preventable
- **Incidents**
 - 0
- **Injuries:**
 - 0
- **YTD Preventable Accident Count:** 11
- **YTD Injury Count:** 2
- **July Safety Blitz**
 - Fixed objects and parked cars
- **July Safety Meeting**
 - FTA Drug Abuse Awareness video presentation

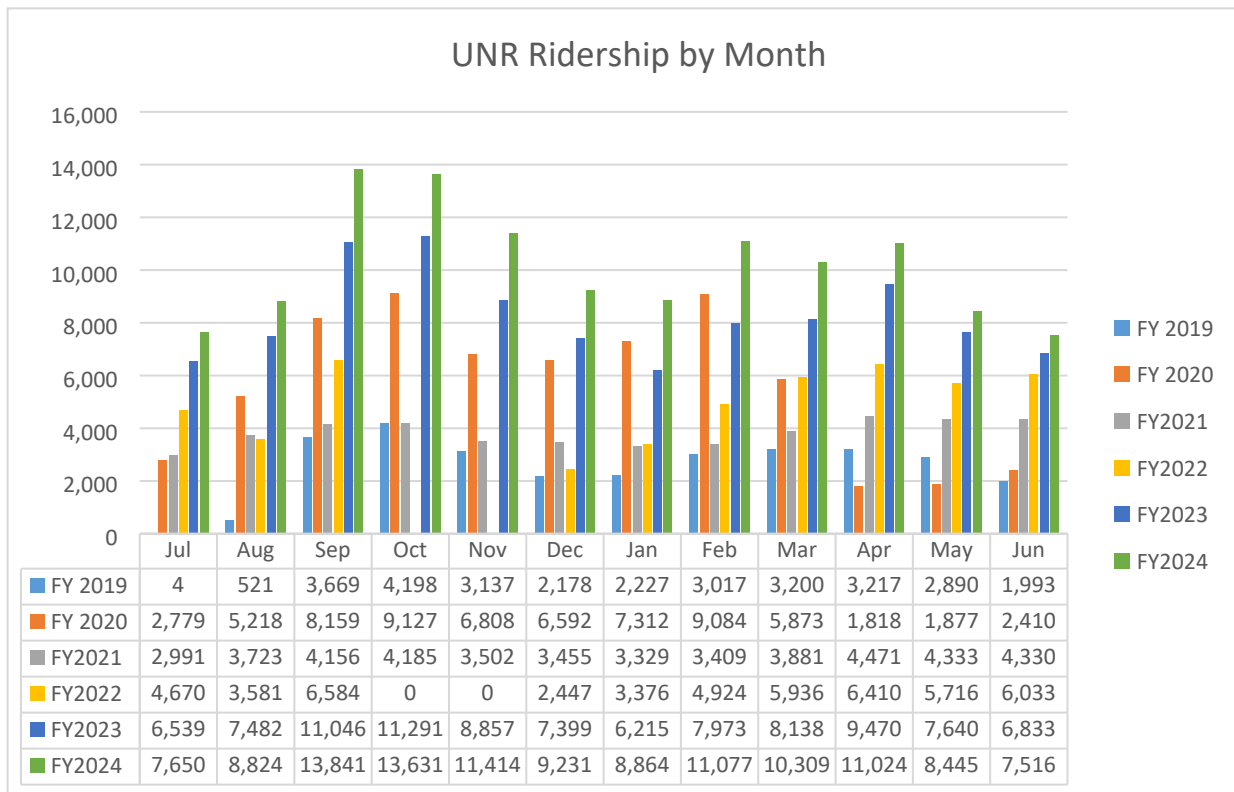
MTM represented staffing headcount as of July 29, 2024:

Position	Total Employed	#Needed
Drivers	56FT – 4PT	7-10 FT – 0 PT
Dispatchers	4 FT	0
Reservationists	3FT - 2 PT	1 FT
Mechanic A	3 FT	0
Maintenance Technician	1	0
Utility Worker	1	0

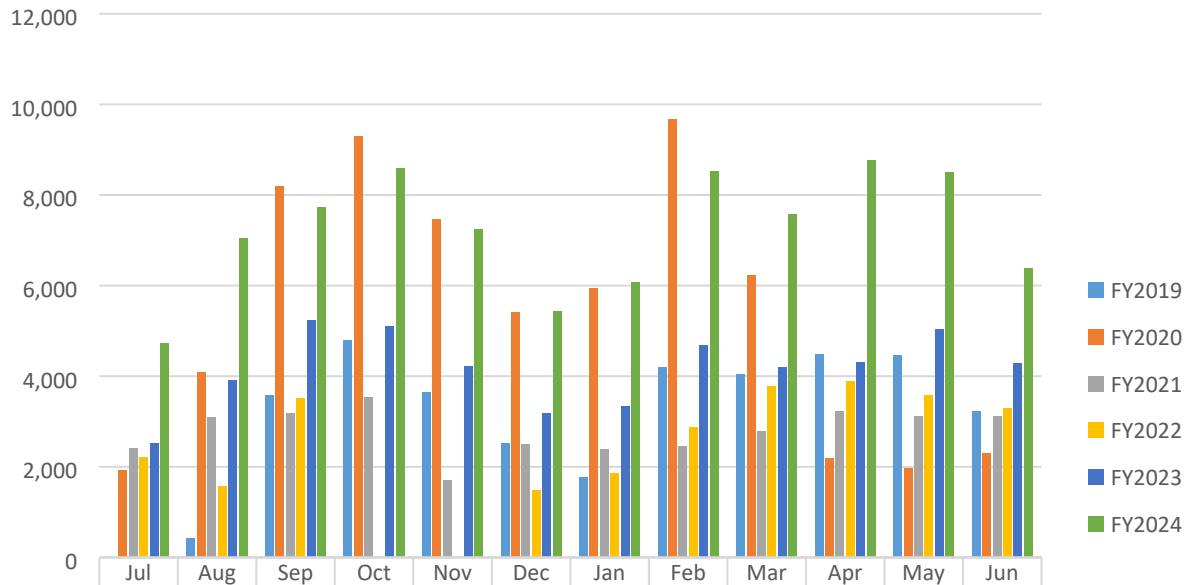
TRANSIT DEMAND MANAGEMENT (TDM) Update

- Vanpools remained at 335. Staff continues to work with a group in Tahoe to increase the number of vans to that area of which currently there are 19 vans serving the Lake Tahoe area.
- Staff meets weekly with RTC’s marketing consultant, Celtis to discuss deliverables for the ED Pass program. They have delivered 2 new “ED Pass” tablecloths, and are working on posters, updated Smart Trips brochures, and digital and social media ads.

Ridership numbers from the ED Pass Program through the month of June 2024:



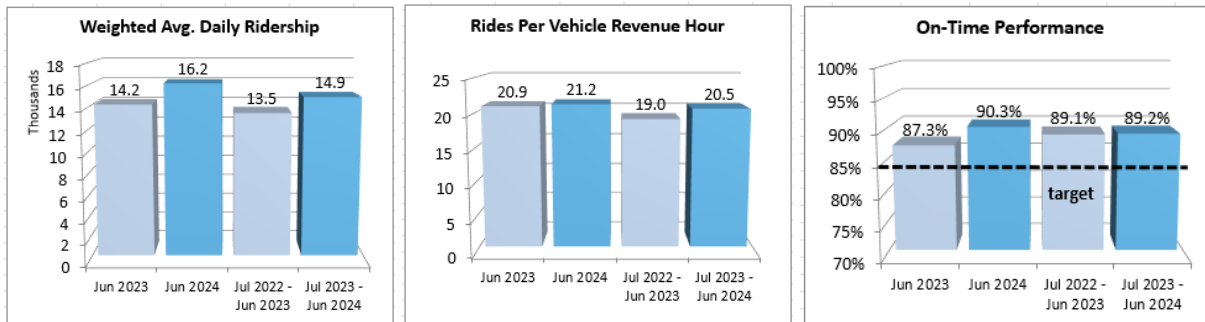
TMCC Ridership by Month



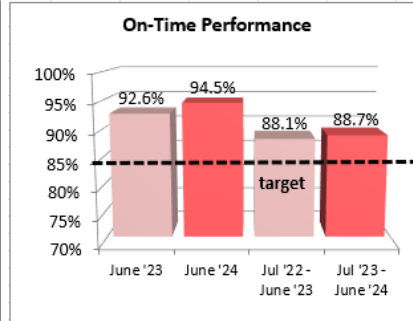
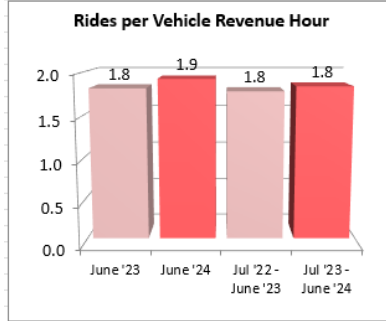
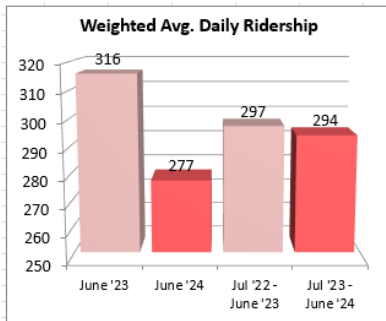
Ridership remains strong at both campuses. UNR ridership for the year was up 23.2%, and TMCC ridership was up 72.9%. Both colleges had all-time highs for the year. The programs are embarking on a new campaign and look forward to increasing those numbers even more in the coming year.

JUNE 2024 TRANSIT PERFORMANCE

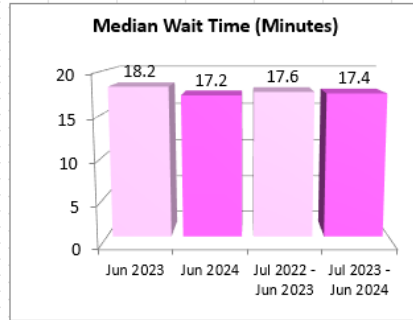
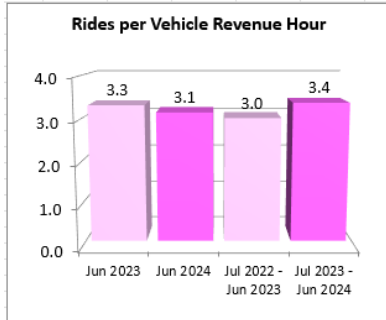
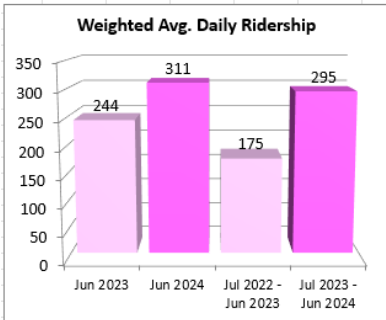
RTC RIDE



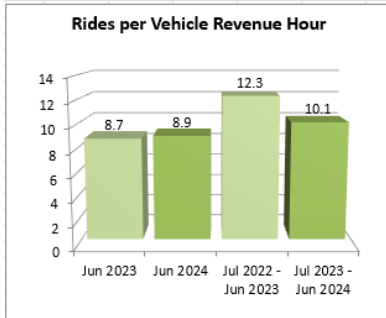
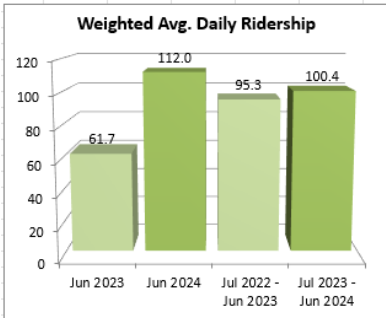
RTC ACCESS



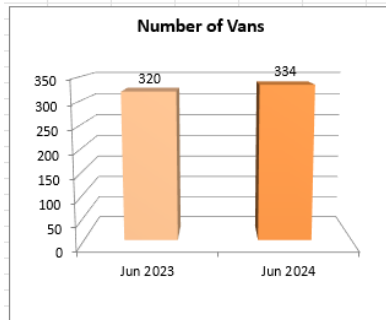
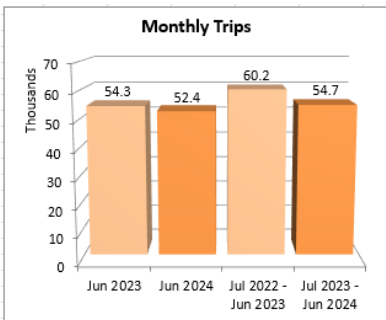
RTC FlexRIDE



TART



RTC VANPOOL





REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.2.6

To: Regional Transportation Commission

From: Josh MacEachern, Public Information Officer

SUBJECT: Community and Media Outreach Activities July 2024

RECOMMENDED ACTION

Acknowledge receipt of monthly Community and Media Outreach Activities Report.

BACKGROUND AND DISCUSSION

See attached for Background and Discussion.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

COMMUNITY AND MEDIA OUTREACH ACTIVITIES

July 2024

Outreach Summary (Josh MacEachern, PIO):

July saw an increase in outreach for the Keystone Bridge Replacement Project, free rides for the Fourth of July and free rides in celebration of the 34th anniversary of the Americans with Disabilities Act. The Somerset Parkway Rehabilitation and Maintenance Public Meeting was a resounding success thanks to the efforts of Councilmember Reese and Project Manager Scott Gibson.

Outreach Activities
Josh MacEachern, Project Manager
Status: RTC staff conducted the following outreach activities from July 1 through July 31
<i>Press Releases</i>
<i>7.1.24 – Free Rides for Star Spangled Sparks</i>
<i>7.10.24 – Join RTC for our Second Keystone Bridge Public Meeting</i>
<i>7.17.24 – Construction Begins on Vista Blvd.</i>
<i>7.24.24 – Free Rides Celebrate the 34th Anniversary of the Americans with Disabilities Act</i>
<i>Public Outreach</i>
<i>7.8.24 – Keystone Bridge Replacement Project Door-to-Door Walk (Sara, Josh, Paul)</i>
<i>7.11.24 -Keystone Bridge Replacement Public Meeting #2 (Sara, Josh, Paul)</i>
<i>7.17.24 – Joint Interim Standing Committee on Growth & Infrastructure and Health & Human Services on Complete Streets Program and Walking Audits (Paul, Graham, Dale)</i>
<i>7.17.24 – Sparks Citizens Advisory Committee, Public Transportation, Planning, and Engineering Projects in Sparks (Paul, Jeff)</i>
<i>7.24.24 – Arlington Bridges Groundbreaking Walkthrough (Paul, Josh)</i>
<i>7.30.24 – Somerset Parkway Rehabilitation and Maintenance Public Meeting (Scott, Josh, Paul)</i>

Media Mentions
Josh MacEachern, Project Manager
<i>7.2.24 (KOLO 8) – RTC offering free rides Thursday for the Fourth of July</i>
<i>7.4.24 (KTVN 2) – Office Closures for Fourth of July Holiday</i>
<i>7.10.24 (ThisisReno.com) – More public input wanted for new Keystone Bridge Design</i>
<i>7.11.24 (KTVN 2) - Keystone Avenue Bridge Project</i>
<i>7.18.24 (KTVN 2) - Vista Boulevard Pavement Maintenance Begins Today</i>
<i>7.24.24 (News 4) – Washoe County celebrates ADA anniversary with free transit day</i>
<i>7.24.24 (KTVN 2) – RTC Celebrates 34th Anniversary of The Americans with Disabilities Act with Free Shuttle Rides</i>
<i>7.24.24 (KOLO 8) – RTC offering free rides this Friday</i>

Social Media engagement and reach has increased across all platforms.

Informational Materials and Video Production

Paul Nelson, Project Manager

Status: Five (5) topics were broadcast on KOLO-TV for The Road Ahead with RTC.

- Fourth of July Free Rides
- Dancing In the Streets
- Preventative Maintenance
- UNR Signal Timing
- Free Transit for Hot August Nights



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.3.1

To: Regional Transportation Commission

From: Graham Dollarhide, Planning Manager

SUBJECT: South Virginia Street Transit Oriented Development Plan

RECOMMENDED ACTION

Approve the South Virginia Street Transit Oriented Development (TOD) Plan.

BACKGROUND AND DISCUSSION

The RTC, in partnership with the City of Reno, has developed the South Virginia Street Transit Oriented Development (TOD) Plan to determine the feasibility of extending the Virginia Line Bus Rapid Transit (BRT) service to South Reno and to develop land use planning tools that will encourage a walkable, transit-supportive development pattern that meets the growth and development needs of the region.

Public and stakeholder involvement was an important component throughout the development of the plan. Public feedback was collected during a set of workshops early in the process and through online surveys and a presentation to the City of Reno Neighborhood Advisory Board for Ward 2. Additionally, the RTC coordinated with the Nevada Department of Transportation (NDOT) as part of its Safety Management Plan focused on much of the same South Virginia Street corridor. RTC staff made a presentation on the TOD Plan during NDOT's SMP public meeting, interacted with attendees, and collected feedback.

The draft plan was then presented to the project technical advisory committee, the RTC CMAC and TAC, and the RTC Board, with comments incorporated into the final plan. While these comments led to clarifications of some of the information presented in the draft plan, no substantive changes were necessary.

The final plan includes analyses and other information necessary to develop recommendations that ultimately conclude that the Virginia Line BRT should not be extended, without the proper land use to support high intensity transit operations. Other recommendations include continued partnership with the City of Reno and Truckee Meadows Regional Planning Agency (TMRPA) to monitor and shape growth and development patterns in the study area, and further consideration of the mix of transit in the area through additional plans and studies such as the Transportation Optimization Plan Strategies or a transit alternatives analysis.

FISCAL IMPACT

Funding for the South Virginia Street Transit Oriented Development Plan was included in Amendment 1 to the FY 2022 – FY 2023 Unified Planning Work Program (UPWP) and carried forward to the current UPWP.

PREVIOUS BOARD ACTION

- 07/19/2024 Acknowledged receipt of a presentation on the South Virginia Street Transit Oriented Development (TOD) Plan.
- 04/21/2023 Approved the FY 2024-2025 UPWP.
- 12/16/2022 Approved the Professional Services Agreement (PSA) for the South Virginia Street Transit Oriented Development Plan.
- 02/18/2022 Approved Amendment No. 1 to the FY 2022-2023 UPWP.



SOUTH VIRGINIA STREET TRANSIT-ORIENTED DEVELOPMENT PLAN

DRAFT

AUGUST 2024



Prepared For



Prepared By



WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1361 Corporate Boulevard
Reno, NV 89502
Tel: 775.823.4068
Fax: 775.823.4066

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION.....	2
Why TOD?	2
TOD Guiding Principles.....	4
Existing Plan and Studies	6
Study Area	9
Plan Corridor	11
Corridor Roadway Sections.....	12
Active Transportation Facilities.....	14
Bus Facilities	15
Safety.....	16
Existing Demographics.....	16

CHAPTER 2

Opportunities in the Corridor.....	18
Historic Trends.....	19
Planning for Future Growth.....	20
Current Land Inventory.....	21
Master Plan and ReImagine Reno Area Specific Policies	22
Zoning.....	25
Supporting Transit Along Virginia Street.....	29
The Benefits of TOD	30
Characteristics of Transit-Supportive Development.....	30
Supporting Criteria in Study Area.....	34
Existing Density Housing and Employment.....	35
Transit Encouraging Developments.....	36
Less Transit-Supportive Developments.....	37
Public Outreach Summary	38

CHAPTER 3

The Future of the Corridor.....	40
TOD Opportunities	41
Vacant Land Opportunities	42
Transit Focused Area.....	43
Application of Land Use Tools Along the Corridor.....	44
Transit Focus Area Opportunities	45

CHAPTER 4

Connecting South Virginia Street	55
Transit Supportive Land Use	56
Future Development and Transit in the Study Area	56
Scenario 1	59
Scenario 2	60
Scenario 3	61
Future Transit Route	62
Efforts to Support Development Scenarios	62

CHAPTER 5

Moving South Virginia Street Forward	64
What will the Next 30 Years Bring?	65
Implementation Plan	66

Tables

Table 1.1: Transportation Plans and Studies
Table 2.1: South Virginia Context Relative to Criteria for Transit-Supportive Development
Table 3.1: Land Use Tools Summary
Table 4.1: Projected Transit Ridership
Table 5.1: SVTOD Action Plan

Figures

Figure 1.1: SVTOD Plan Process Timeline
Figure 1.2: Study Area
Figure 1.3: Roadway Sections
Figure 1.4: Typical Section A
Figure 1.5: Typical Section B
Figure 1.6: Typical Section C
Figure 1.7: Typical Section D
Figure 1.8: Existing Sidewalk
Figure 1.9: Existing Bike Facilities
Figure 1.10: Existing Transit Facilities
Figure 1.11: Collision Heatmap
Figure 1.12: Crash Types
Figure 1.13: Population by Block Group
Figure 1.14: Median Income by Block Group
Figure 2.1: Historic Growth Patterns
Figure 2.2: Current Land Inventory Map
Figure 2.3: Employment Areas
Figure 2.4: Community Centers
Figure 2.5: Potential Existing Site Improvements for Community/Neighborhood Centers
Figure 2.6: Study Area Zoning Designations
Figure 2.7: Mixed-Use Suburban (MS) Design Standards (City of Reno)

Figure 2.8: City of Reno Zoning

Figure 2.9: Washoe County Zoning

Figure 2.10: TOD Influences

Figure 3.1: Vacant Land Zoning

Figure 3.2: TOD Redevelopment Opportunities

Figure 3.3: Transit Focus Areas

Figure 3.4: Meadowood Mall Transit Focus Area

Figure 3.5: Longley Lane Transit Focus Area

Figure 3.6: South Meadows Pkwy Transit Focus Area

Figure 3.7: McCabe Drive Transit Focus Area

Figure 3.8: Damonte Ranch Pkwy Transit Focus Area

Figure 3.9: Downtown Damonte Transit Focus Area

Figure 3.10 Pioneer Parkway Transit Focus Area

Figure 3.11: Summit Mall Transit Focus Area

Figure 4.1: Land Use Characteristics vs Transit Service Typology

Figure 4.2: Development Scenario 1

Figure 4.3: Development Scenario 2

Figure 4.4: Development Scenario 3

Figure 4.5: SMP Improvements

Figure 4.6: SMP Corridor, E. Patriot Blvd to Mount Rose Highway

Appendix

Appendix A: Existing Conditions Technical Memo

Appendix B: Land Use Technical Memo

Appendix C: Transit Technical Memo

Appendix D: Public Outreach and Online Survey Results Memo



WOOD RODGERS



[This Page Intentionally Left Blank]



CHAPTER 1

INTRODUCTION



Introduction

The South Virginia Street Transit-Oriented Development (SVTOD) Plan is a collaboration between the Regional Transportation Commission (RTC) of Washoe County, the City of Reno, and other state and federal stakeholders. The goal of the plan is to expand opportunities for TOD and mixed-use development along South Virginia Street. This initiative will support a southern extension of the Virginia Line Bus Rapid Transit (BRT) route, which currently runs from the University of Nevada, Reno, through downtown and Midtown Reno, ending at Meadowood Mall. The TOD study aims to create a framework that promotes walkable and transit-supportive development on vacant and underutilized land within the study area.

Why is the Project Needed?

- **Lack of transit service for existing and future growth along South Virginia Street and surrounding areas.**
- **Vehicle dependent development patterns and lack of multi-modal connectivity.**
- **Safety concerns for all users.**
- **Support regional growth plans such as the ReImagine Reno Master Plan and Truckee Meadows Regional Plan.**
- **Lack of affordable housing and access barriers to transit dependent populations.**

What is the Purpose of the Project?

- **Extend next generation transit service to South Virginia Street.**
- **Serve existing and future growth areas, improve access to employment opportunities.**
- **Improve multimodal infrastructure and safety for all users.**
- **Accommodate regional growth plans.**
- **Encourage new housing and redevelopment opportunities through supportive transit, walking and biking improvements.**

What is TOD?

Transit Oriented Development (TOD) is a form of city planning focused on creating vibrant and pedestrian-oriented communities. This is done through mixed-use developments, walkable infrastructure, and availability of public transportation options to reduce dependency on cars as the primary mode of transportation. The RTC and its partners have utilized TOD to improve the transit options for Nevadans across Reno, Sparks, and Washoe County. As part of the TOD planning efforts, the RTC has solicited public input and feedback on TOD options for the South Virginia Street corridor to inform future planning efforts (see Chapter 2 for public outreach summary).

Over the last thirty years, South Virginia Street, from South McCarran Boulevard to Mount Rose Highway (SR 431), has evolved from a rural highway connecting Reno and Carson City into a growing corridor with a mix of uses including high-density housing, commercial centers, industrial, and variety of other less intense uses. This transition is ongoing along the South Virginia Street Corridor and establishing opportunities to create a multi-modal, transit-supportive pattern will help meet the growth and development needs of the region.



Transit Oriented Development in the Study Area

The Federal Transit Administration (FTA) is supportive of TOD development, stating:

"The success of transit systems in rural, urban, and suburban neighborhoods is critical to the economic health and sustainable growth of America's communities. Transit systems should address the needs of everyone and help people get to jobs, school, healthcare, and visit friends and family. Transit-oriented development (TOD) is where those two areas intersect to create real change."

TOD Guiding Principles


The South Virginia Street TOD includes a diverse group of key jurisdictional partners with individual focuses, but it shares one common goal; improving safety and multimodal transportation options accessible for all.



RTP 2050 Vision





















“Extend Virginia Line RAPID to Mt. Rose Highway – Providing transit connectivity to employment, education, commercial, and residential centers in south Reno would improve access to opportunities, expand travel options, and encourage transit supportive development along South Virginia Street.”





2050

REGIONAL TRANSPORTATION PLAN

Project Goals

- **WALK/CYCLE** – Provide infrastructure improvements along Virginia Street to improve the non-motorized transportation networks in the corridor.
- **CONNECT** – Locate future transit stops in areas that promote walking and cycling to access transit and maximize corridor connectivity.
- **TRANSIT** – Expand transit service to better serve existing and future residents and employees along South Virginia Street.
- **MIX** – Encourage economic development and plan for mixed uses, income, and demographics.
- **DENSIFY** – Optimize density on vacant and infill properties and encourage redevelopment opportunities to support transit in the corridor.
- **COMPACT** – Optimize transit service in the corridor to improve ridership.
- **SHIFT** – Transform South Virginia Street to accommodate all users and increase safe, non-auto mobility in the corridor.

The Eight Principles of a TOD



Walk

Development that promotes walking



Connect

Close key gaps in sidewalks and paths



Mix

Plans for mixed uses, income, and demographics



Compact

Create regions with short transit commutes



Cycle

Promote nonmotorized transportation networks



Transit

Locate development near high-quality public transportation



Densify

Optimize density and match transit capacity



Shift

Increase mobility options, encourage development standards and complete streets that support a shift from auto dependency

SVTOD Plan Process



Figure 1.1 SVTOD Plan Process Timeline

Existing Plan and Studies

The study area has been analyzed in several existing studies and future plans may include portions of the study area. Therefore, it is important to recognize and coordinate with these plans where appropriate. This approach ensures that this study considers the recommendations of previous plans while acknowledging changing conditions in the study area and the evolving relevance of some older documents. The Transportation Plans and Studies in **Table 1.1** highlights the sections of documents relevant to the South Virginia Street corridor. The two most important plans that influence this plan are the City of Reno’s ReImagine Reno Master Plan, and the Nevada Department of Transportation (NDOT) Safety Management Plan (SMP).

In 2006, to keep up with development patterns, the City of Reno adopted a TOD Plan for South Virginia Street, which changed the zoning along South Virginia Street to mixed-use to intensify development to support transit. Following the Great Recession, the market conditions forced the City of Reno to rethink a variety of past planning efforts, leading to the adoption of the 2017 ReImagine Reno Master Plan. As a result of the ReImagine Reno Plan, the 2006 South Virginia Street TOD Plan was removed and the TOD overlay zoning within the study area was converted to a zoning designation of Suburban Mixed-Use. In theory, the zoning change was meant to keep a transit supportive, mixed-use zoning without needing an overlay with unlimited density and commercial floor area. However, the zoning change did remove the minimum density and commercial floor area requirements, essentially opening the door for a broader range of uses including less transit supportive, low intense development. Master Planned Developments in south Reno remained as part of the ReImagine Reno Plan, which have seen higher density (both single and multi-family units) completed or under construction the past several years in Damonte Ranch. The first mixed-use type of development was recently announced for Damonte Ranch, which is identified as ‘Downtown Damonte’. The proposed mixed-use district will include retail, shops, restaurants, office space, and residential apartments (www.downtowndamonte.com). The Pioneer Parkway Master Planned Community south of Downtown Damonte on the future extension of Damonte Ranch Parkway has not yet started construction but would allow for additional high density or mixed-use development.

The NDOT is responsible for maintaining more than sixty percent of the study area right of way from Patriot Boulevard to the Mount Rose Highway. As part of improving safety along this stretch of the corridor, NDOT has been performing a Safety Management Plan (SMP) to analyze the traffic safety for all road users. This plan includes identifying low, medium, and high-priority implementable improvements that can be applied to this section of the South Virginia Street corridor. Many of the proposed improvements support the efforts of this study and the SMP has been working in tandem with this SVTOD plan. Although the NDOT SMP follows the timeline of this study it is a separate study and only applies to a portion of the South Virginia Street, however, the proposed improvements suggested from this study will be supported by this document.

Table 1.1: Transportation Plans and Studies

Transportation Plans and Studies			
Document	Owner	Description	Status
Virginia Street Corridor Investment Plan	RTC	The Virginia Street Corridor Investment Plan identifies near term and long-term transportation improvements that will be made along Virginia Street from North McCarran Boulevard to Mount Rose Highway.	Final April 2014
Transit Oriented Development in the Truckee Meadows: Bridging the Gap Between Planning and Implementation	TMRPA	The primary purpose of this paper is to assist stakeholders in the Truckee Meadows in bridging the gap between TOD planning and implementation.	Revised July 2009
2050 Regional Transportation Plan	RTC	The 2050 RTP identifies the long-term transportation investments that will be made in the urbanized area of Reno, Sparks, and Washoe County, Nevada, also known as the Truckee Meadows.	Update In-Process
City of Reno Bicycle and Pedestrian Master Plan	RTC	Guides bicycle and pedestrian facilities in the City of Reno.	Final June 2017
South Meadows Multimodal Transportation Study	RTC	The purpose of this multimodal study is to identify needs and long-term transportation improvements for regional roads and intersections in the South Meadows area.	Final April 2020
Mt. Rose Corridor Plan	NDOT	This Corridor Plan is focused on potential improvement concepts between Veterans Parkway and Douglas Fir Drive.	Final April 2022
South Virginia Street Transit Oriented Development Corridor Plan	City of Reno	The South Virginia Street Transit Oriented Development (TOD) Corridor Plan is divided into two sections: the Corridor Plan and Station Area Plans.	Draft November 2006
Reno Sparks ADA Right-of-Way Transition Plan	RTC	The Reno Sparks ADA Right-of-Way Transition Plan provides a roadmap to making pedestrian facilities accessible to persons with disabilities.	Draft 2019
Transportation Optimization Plan Strategies (TOPS)	RTC	The Transit Optimization Plan Strategies (TOPS) serves as the basis for changes to RTC's public transportation services over the next five years (FY23-FY27).	Final July 2022
South Virginia Street Safety Management Plan (SMP)	NDOT	A Safety Management Plan (SMP) is a transportation analysis that focuses on traffic safety for all road users.	Final Anticipated (September 2024)

Land Use and Area Plans			
Document	Owner	Description	Status
Truckee Meadows Regional Plan	TMRPA	In relation to the South Virginia Street TOD Study, this plan addresses infill development scenarios along the study corridor.	Final 2019
ReImagine Reno: City of Reno Master Plan	City of Reno	The Master Plan reflects the ideas, values, and desires of the community, aligning these with a range of plans, policies, and initiatives in place or underway in both Reno and the wider region.	Final November 2021
Envision Washoe 2040	Washoe County	The Master Plan is used to determine the most desirable location of each type of development. The plan has policies and maps designed to define development suitability and conserve natural resources.	Adopted January 2024

Ozone Advance Path Forward	U.S. EPA	The U.S. Environmental Protection Agency (EPA) establishes health-based National Ambient Air Quality Standards (NAAQS) for six criteria pollutants including ozone. Ozone concentrations are strongly linked to population, employment, and on-road vehicle miles traveled (VMT). Long-term initiatives focused on shaping land use development patterns and the built environment.	Updated April 2016
Complete Streets Master Plan	RTC	The purpose of the Complete Streets Master Plan is to identify the Regional Transportation Commission of Washoe County's (RTC) long range strategy for complete street treatments in the Reno-Sparks metropolitan area.	July 2016

Study Area

The study corridor extends 5.5 miles along South Virginia Street from the existing Virginia Line BRT route's current terminus at the Meadowood Mall transfer station to Mount Rose Highway (SR 431). This section of road will be identified as the 'study area' throughout this document. A majority of the study area has already been developed (S. McCarran Blvd. to S. Meadows Pkwy), but the area south of South Meadows Parkway remains mostly vacant with several high-density projects being planned specifically around Damonte Ranch Parkway. Therefore, an alternate study route has been included as the Damonte Ranch Parkway Alternative which appears to be the one area adjacent to South Virginia Street providing TOD level development. The study area follows these corridors and includes any property located within a walking distance of 1/2 mile as depicted in **Figure 1.2**.



Figure 1.2: Study Area

Plan Corridor



Vacant tract at South McCarran Boulevard and South Virginia Street

South Virginia Street Study Area: Extends from half a mile north of Meadowood Mall in the north to half a mile south of the Summit Shopping District in the south. Specifically, the ± 5.5 mile corridor includes South Virginia Street from Meadowood Mall Way to Mount Rose Highway (SR 431).



Damonte Ranch Parkway across from Downtown Damonte

Damonte Ranch Parkway Alternative: An alternative corridor that was analyzed is adjacent to many existing multi-family developments, includes Damonte Ranch Parkway from South Virginia Street to the terminus of Damonte Ranch Parkway. It also includes the future extension of Damonte Ranch Parkway which will connect to Geiger Grade Road and continues west along the Mount Rose Highway (SR 431) to the Summit Mall.

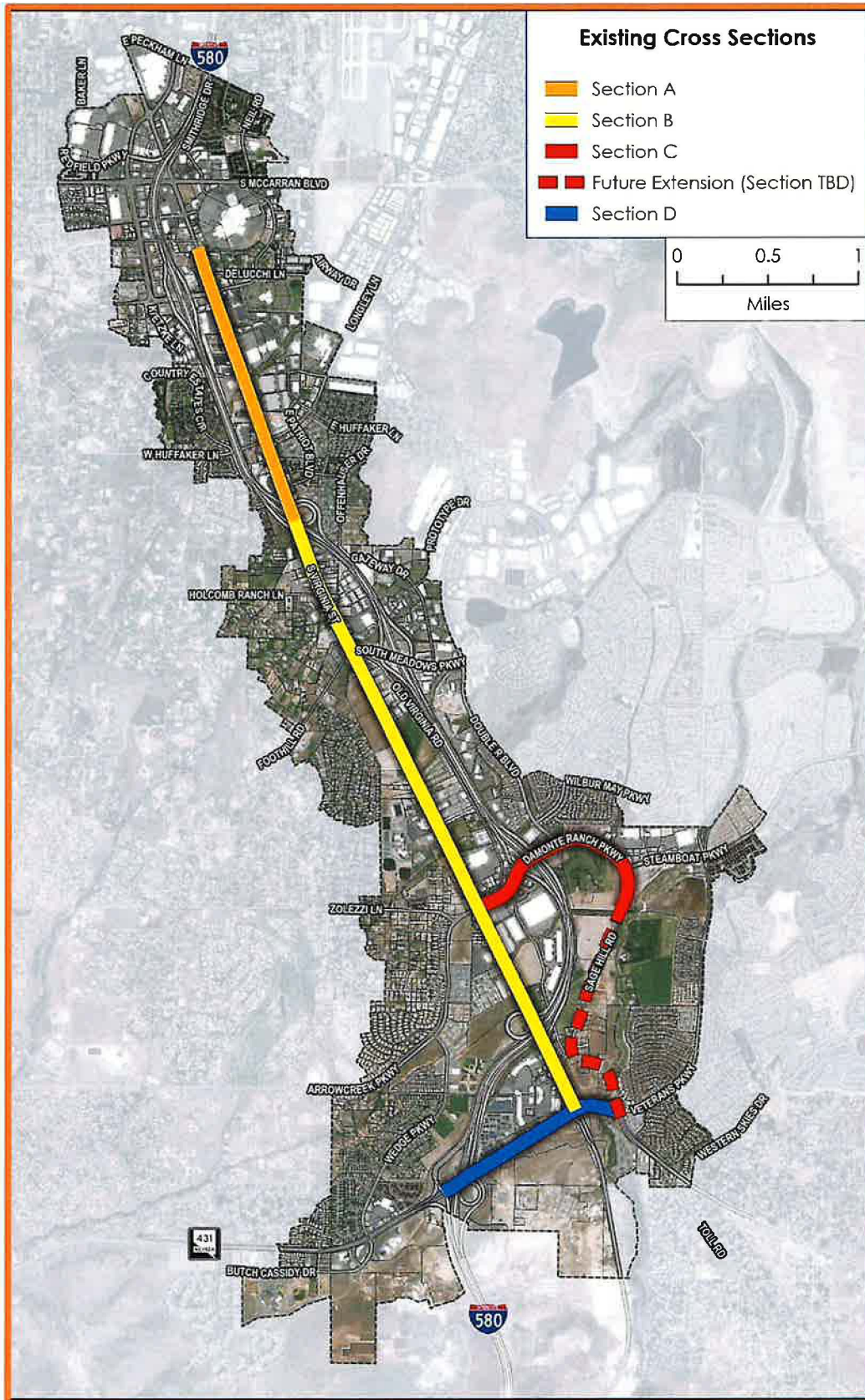


Figure 1.3: Roadway Sections

Corridor Roadway Sections

The study area and the existing cross sections are generally identified in **Figure 1.3** above showing the approximate location for each section and **Figure 1.4 thru 1.7** below display the details of each typical section.

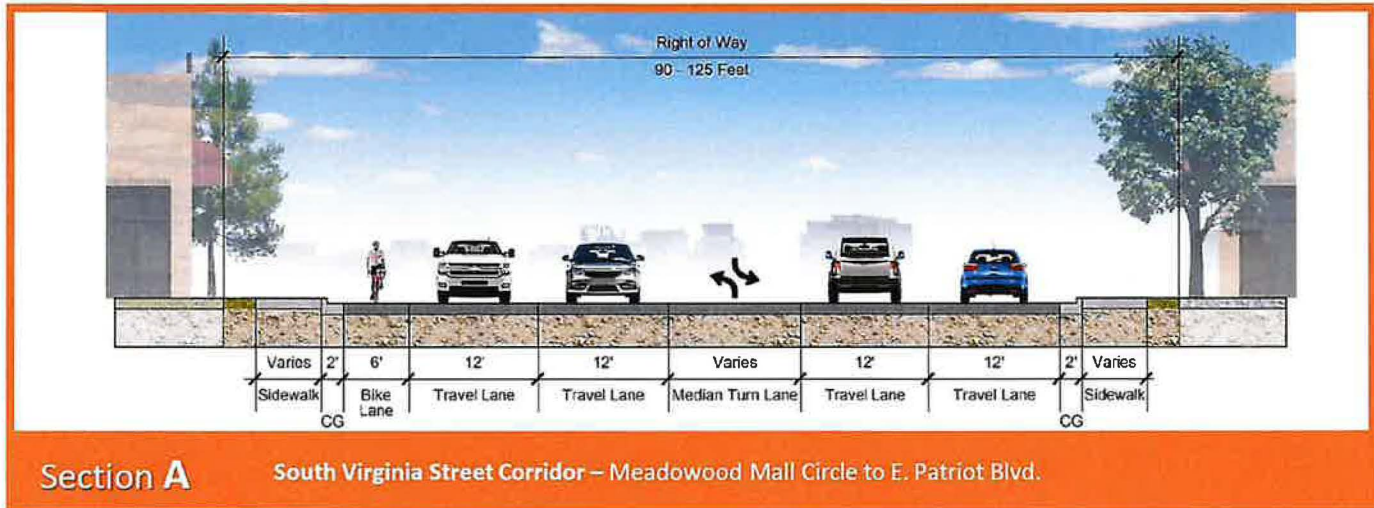


Figure 1.4: Typical Section A

Section A of South Virginia Street extends from Meadowood Mall Circle to East Patriot Boulevard and includes four travel lanes and center median/turn lane within a relatively confined corridor. Speed limits range from 35-45 miles per hour (MPH). Section A is within the City of Reno owned right of way and has been generally controlled by development standards as developments/redevelopments have occurred over the years on a property-by-property basis, leading to a variety of sidewalk widths, absence of curb and gutter in older areas, and inconsistent bike lanes/multimodal facilities. Despite the inconsistencies, sidewalk and bike lanes are generally provided throughout this section. The right of way width for Section A is generally 90-125 feet, making it the most restrictive within the study area corridors.

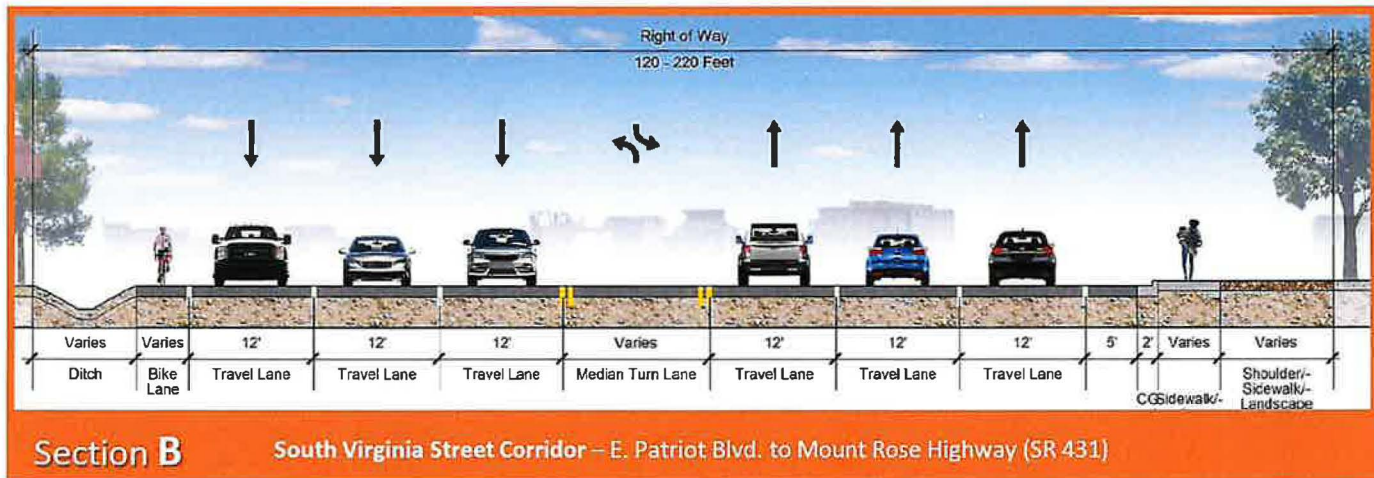


Figure 1.5: Typical Section B

Section B extends from E. Patriot Blvd. to Mt. Rose Hwy. (SR 431) and is owned by NDOT. Speed limits range from 45 to 55 miles per hour. The right of way is less restricted in this section and ranges from 120 to 220 feet in width. This portion of the study area is still largely reflective of the rural highway that South Virginia Street was constructed to serve as. There are several long stretches of the corridor that lack curb and gutter, sidewalks, and bicycle lanes. However, unlike in Section A, in sections that do have bicycle and pedestrian facilities

there is more consistency where recent developments have all met the same design standards. Improvements to Section B are being proposed as part of NDOT's SMP.

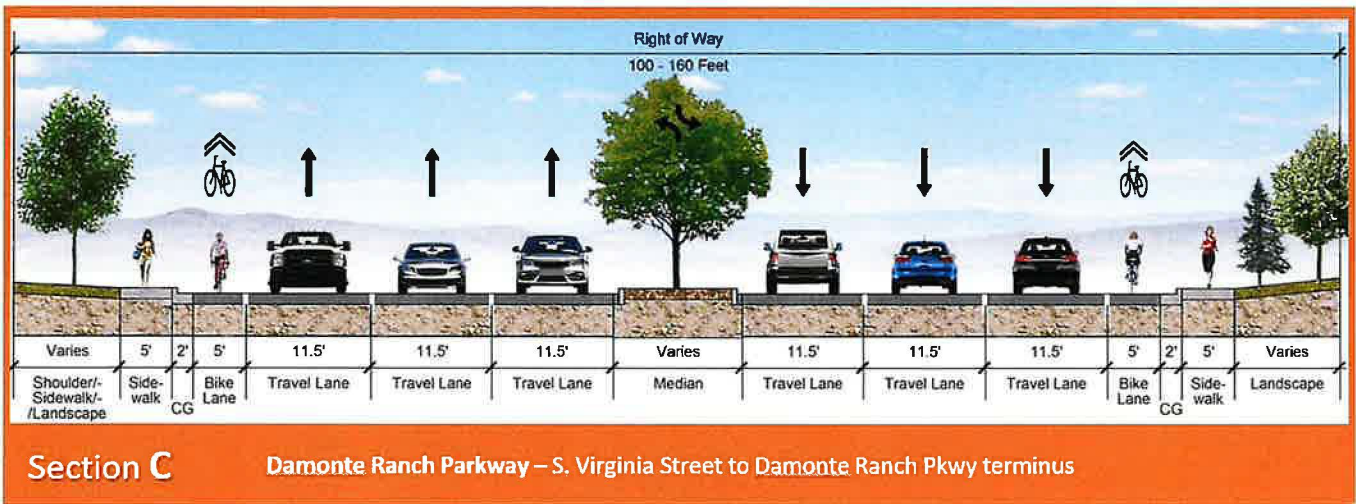


Figure 1.6: Typical Section C

Section C follows Damonte Ranch Parkway as an alternative to the South Virginia Street corridor. This section is a six-lane road with landscape medians and includes sidewalks and bike lanes. Speed limits range from 35 to 45 miles per hour and have been designed to accommodate the development from Damonte Ranch at full buildout. It is anticipated that the future extension of Damonte Ranch Parkway will narrow to four travel lanes from its current terminus to Geiger Grade Road (SR 341).

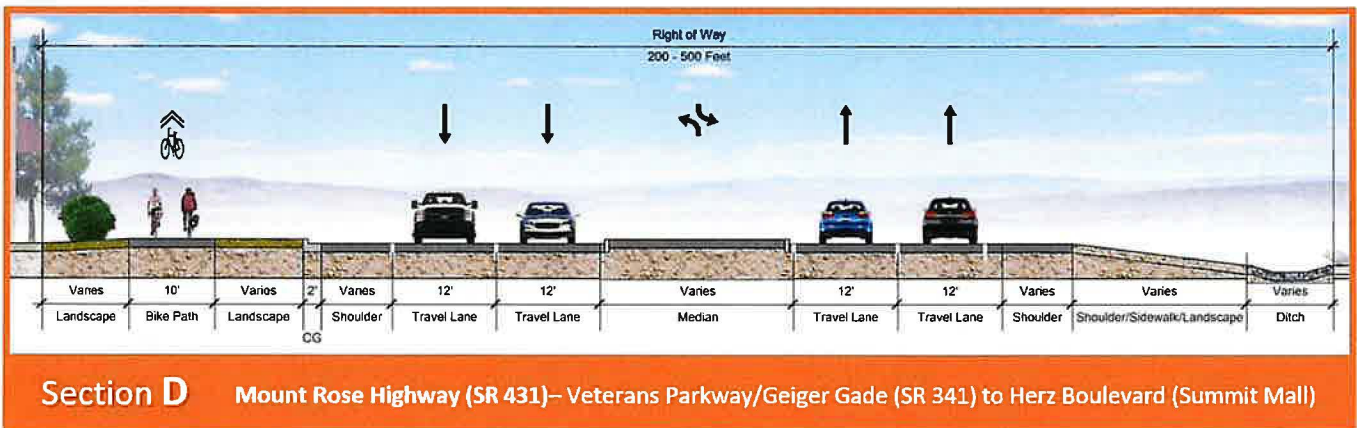


Figure 1.7: Typical Section D

Section D includes Mount Rose Highway (SR 431) from the roundabout at Veterans Parkway/Geiger Grade (SR 341) to Herz Boulevard at the Summit Mall. The right of way within this section is also owned by NDOT and provides ample room for any configuration. Currently, the speeds along this section range from 45-55 mph and there is a separated ten-foot wide multi use path on the northside from South Virginia Street to Wedge Parkway.

Active Transportation Facilities

The study area is a developing corridor with several gaps in the bike and pedestrian network. Currently, sidewalks exist on only 52% of the corridors with gaps on both sides of the street as shown in **Figure 1.8**. Additionally, bike facilities shown in **Figure 1.9** are entirely absent on approximately 18% of the corridors, although there is at least one bike lane or path on one side of the street in some areas. This inconsistency results in unreliable conditions for biking along South Virginia Street. Furthermore, the existing bike lanes vary in size and markings throughout the study area, potentially not accurately reflecting the intended facility standards.

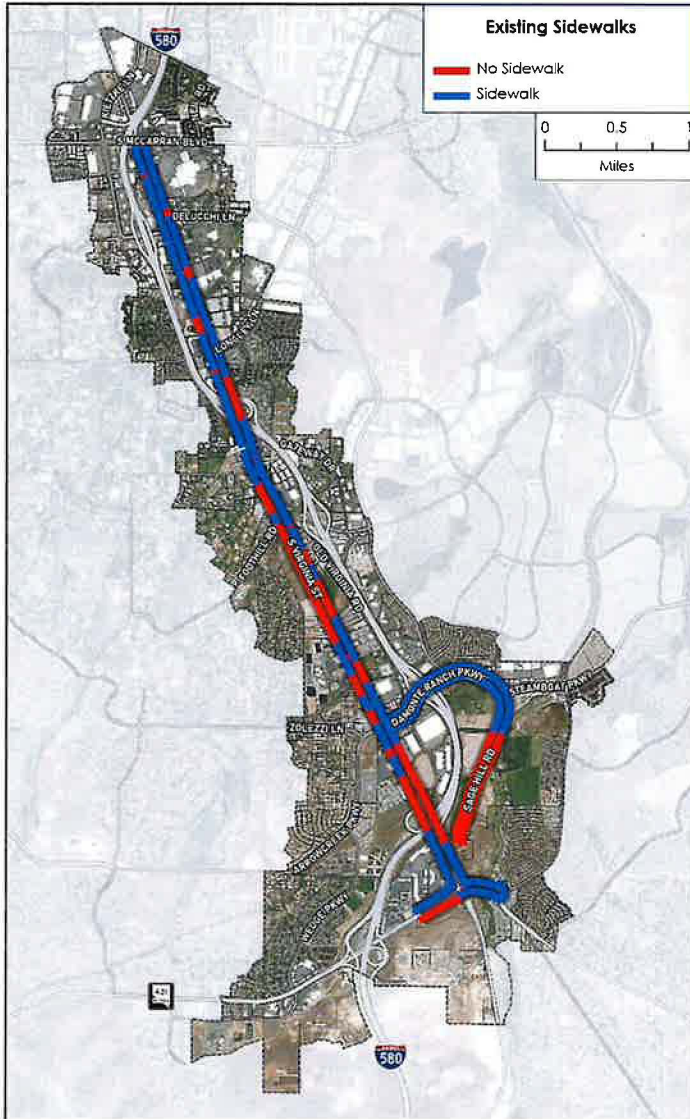


Figure 1.8: Existing Sidewalk



Figure 1.9: Existing Bike Facilities

The **Damonte Ranch Parkway Alternative** has been mostly developed within Planned Unit Developments (PUDs) which required bike and pedestrian connectivity and has consistent sidewalk, pedestrian paths, and bike lanes throughout the community. Bike facilities are also provided along the majority of the South Virginia Street corridor with an existing bike trail along Mount Rose Highway. These facilities connect to a larger network found throughout the residential development to the east and will help connect pedestrians to areas outside of the study area.

Bus Facilities

Existing bus services are limited in South Reno south of Meadowood Mall. In fact, **Route 56** is the only fixed route service in this portion of the study area (see **Figure 1.10**). Route 56 is limited to half-hour frequencies during peak times on the weekdays and has limited service after 8:00pm and during the weekends. There are a limited number of bus stops along Route 56 within the study area.

Another very limited service along the Study Area is provided by the Carson City regional route which runs the entirety of the South Virginia Street corridor from the Meadowood Mall transfer station to the Summit Mall. However, this is a commuter route connecting riders from Reno to Carson City and only runs during the weekdays in the mornings and evenings. This limits service along a majority of the study area for existing businesses and residents reliant on transit. **FlexRIDE** service is available and provides on-demand service from the neighborhoods to the east to portions of the study area including the Summit Mall, and areas around Damonte Ranch Parkway and South Meadows Parkway.

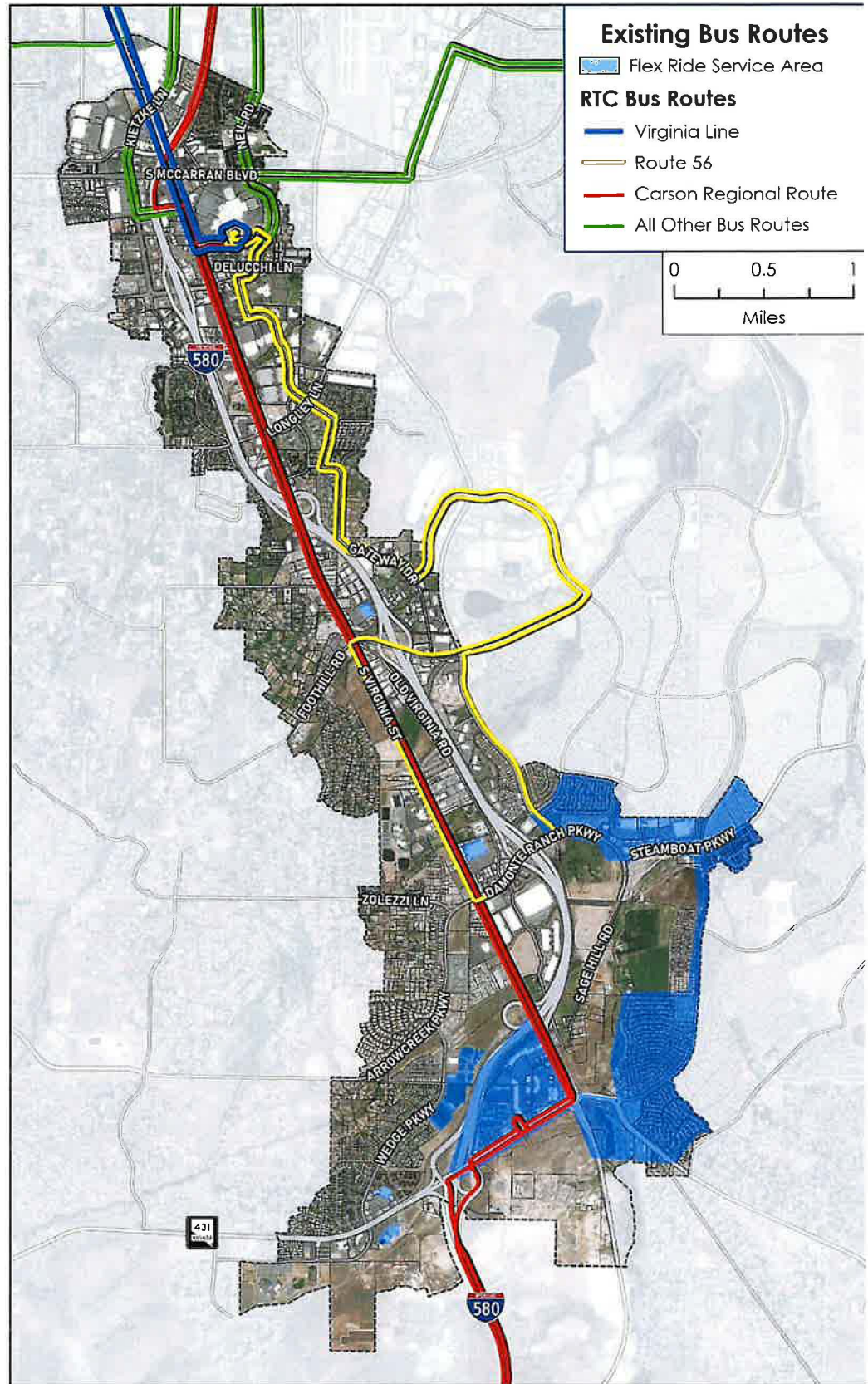


Figure 1.10: Existing Transit Facilities

Safety

Five-year crash data between the years 2016-2020 were analyzed along the South Virginia Street corridor and included over 1,000 crash reports that resulted in Equivalent Property Damage Only (EPDO). EPDO is a range of severity based on the equivalent cost of a crash in terms of property damage only, not including injury. As shown in **Figure 1.11**, crashes along South Virginia Street are concentrated at the major intersections. The map below, **Figure 1.12**, shows recorded pedestrian crashes including vehicle vs. pedestrian and vehicle vs. bicyclist. The data shows these concentrations are mostly occurring between existing signalized intersections and in areas that allow full movement with high-speed limits and six lanes of traffic. More importantly, these areas are also located in areas where multimodal infrastructure, including sidewalks and bike lanes are limited or do not exist.

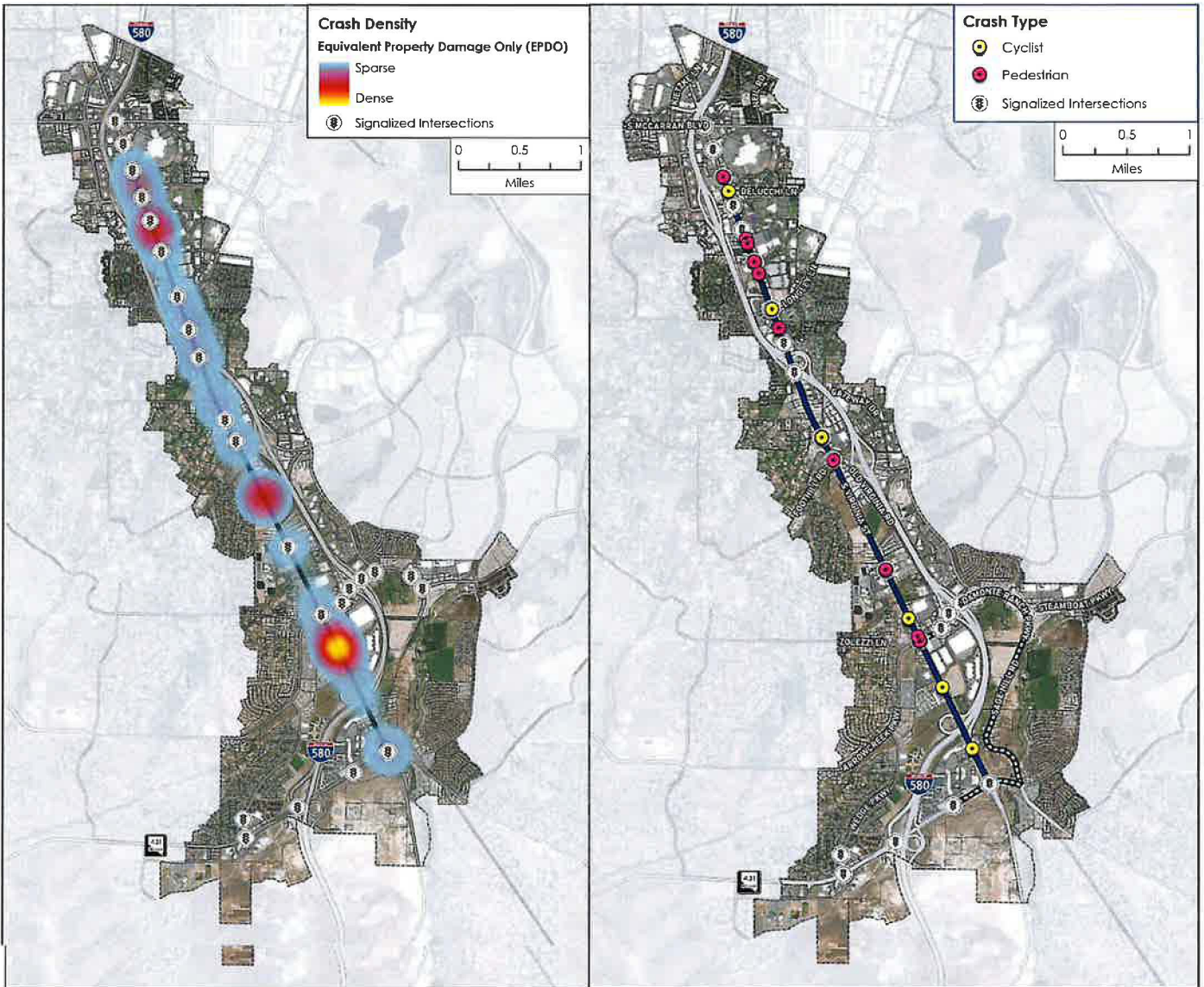


Figure 1.11: Collision Heatmap

Figure 1.12: Crash Types

Existing Demographics

The demographics within the study area will help to identify potential ridership and will be important to consider as riders in areas of high population, and low to moderate median income tend to be the population to most likely benefit from BRT. Analyzing the 2020 US Census data has developed a clear understanding of the existing population within the study area as shown below in **Figure 1.13**. The Census block groups which are located within the study area show a clear correlation between housing type and population, with the block

groups with the most population, having the most multi-family or high-density housing. Therefore, a better indication for possible dependent riders should be looking at areas with existing multi-family or high-density housing within the study area.

Figure 1.14 shows distribution of household income within the study area. The areas with higher proportions of low-income households are generally considered to be those more likely to be reliant on public transit and should be considered priority locations for future transit stops. Regardless of income or age, areas of high population density are also notable when targeting choice riders as a certain percentage of the population will use transit, especially when it comes to BRT since this service is supposed to be an equal or more attractive option to personal modes of transportation. Finally, when planning for the future needs, areas of vacant land should also be considered as these areas will influence the study area demographics in the future and could lead to an increase need for transit services in an area that is currently not identified.

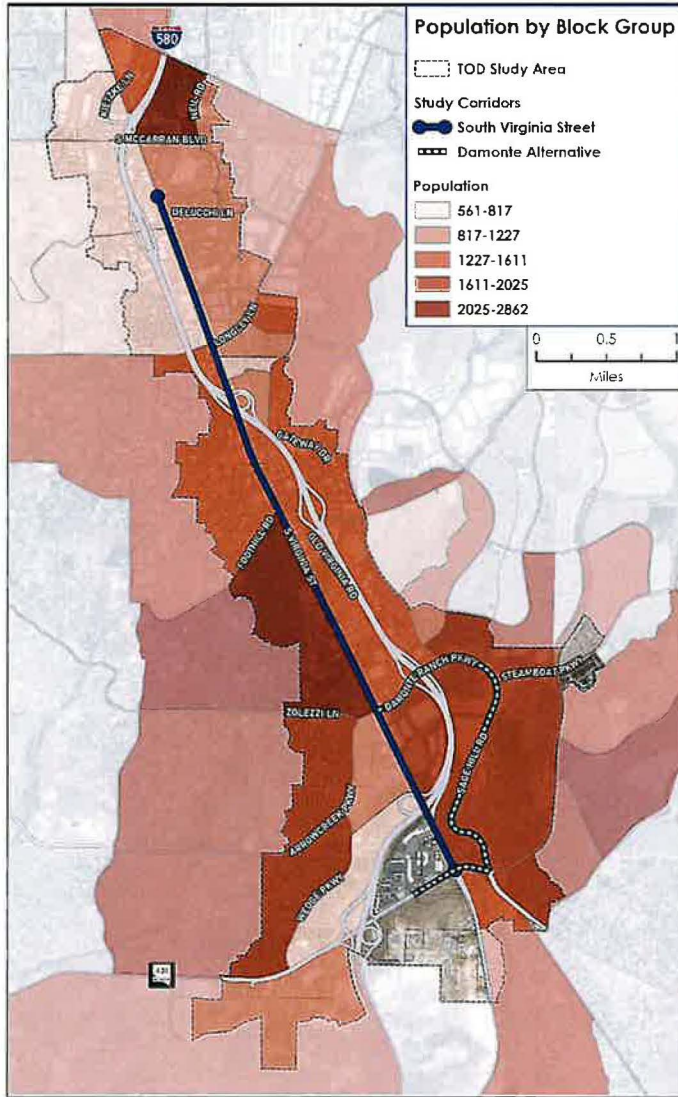


Figure 1.13: Population by Block Group

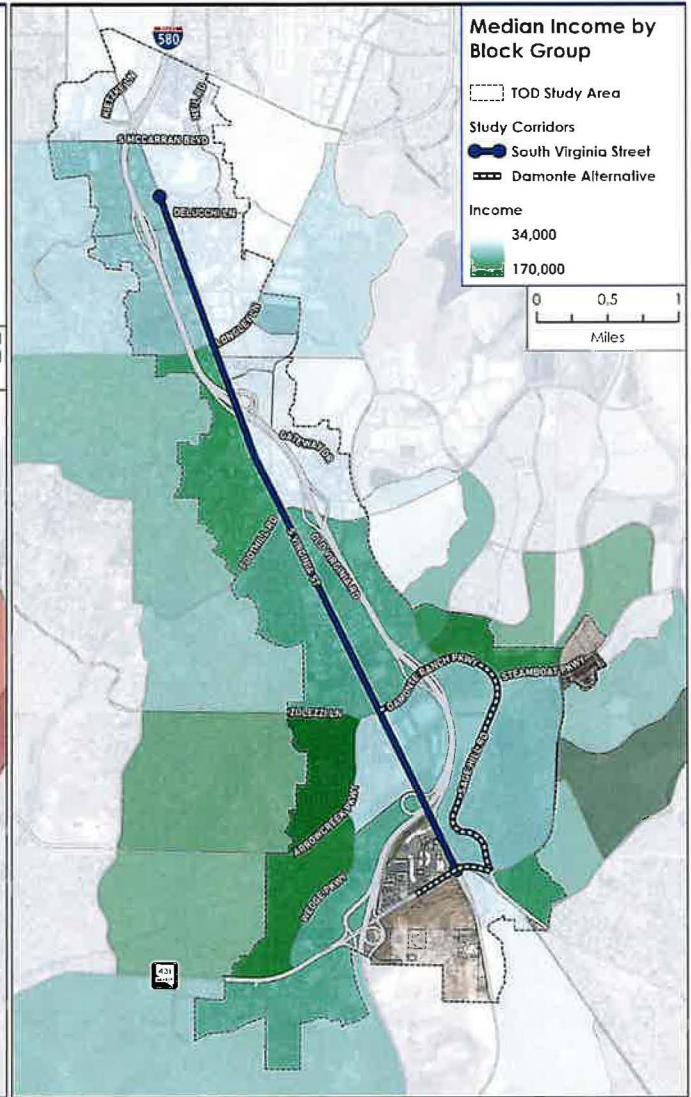


Figure 1.14: Median Income by Block Group

After considering the existing conditions, the following chapter will discuss the opportunities in the study area including an overview of the existing land use, development patterns, and future growth scenarios and how they influence transit services in the study area.

CHAPTER 2

OPPORTUNITIES IN THE CORRIDOR



Historic Trends

Over the past three decades and post the completion of Interstate 580 (I-580), the stretch of South Virginia Street extending from S. McCarran Boulevard to the Mount Rose Highway (SR 431) has transformed from a rural highway linking Reno and Carson City into a suburban arterial connecting nodes of development. This transition has resulted in a diverse mix of land uses and outdated infrastructure that has not kept up with the regional changes. Over the past thirty years, from 1990 to 2020, the population in the study area exploded from a population of $\pm 1,500$ to $\pm 43,000$ people (U.S. Census).

Before the 1990s, the study area was predominantly rural with limited development, including some low-density large lot residential areas under Washoe County jurisdiction, as well as large ranch lands. By the year 2000, construction was underway to extend U.S. 395 (now known as I-580), and planned developments in the South Meadows area were in progress, with the planning of Damonte Ranch also beginning. These initiatives allowed most commuters to bypass South Virginia Street and marked a shift from rural to typical suburban development serving the surrounding neighborhoods. During the following decade, from 2000 and 2010, major master planned developments such as Damonte Ranch, Curti Ranch, and Carmella Ranch began to take shape. South Reno continues to transform into a highly desirable community within the region, which has led to an increase in development along the Study Area.

Development within the study area experienced a slowdown following the Great Recession but has since rebounded significantly over the past decade. The resurgence in development in south Reno has been driven largely by the region's expanding employment opportunities, particularly from Tesla and the Tahoe Reno Industrial Center (TRIC). Over the past decade, there has been a significant increase in development and population growth in south Reno. This shift has led to higher-density development patterns, characterized by smaller lots and an increase in single-family attached and multifamily residences. This trend is ongoing in South Reno. **Figure 2.1** below illustrates the comparison of population and development patterns within the project study area over the past 30 years.

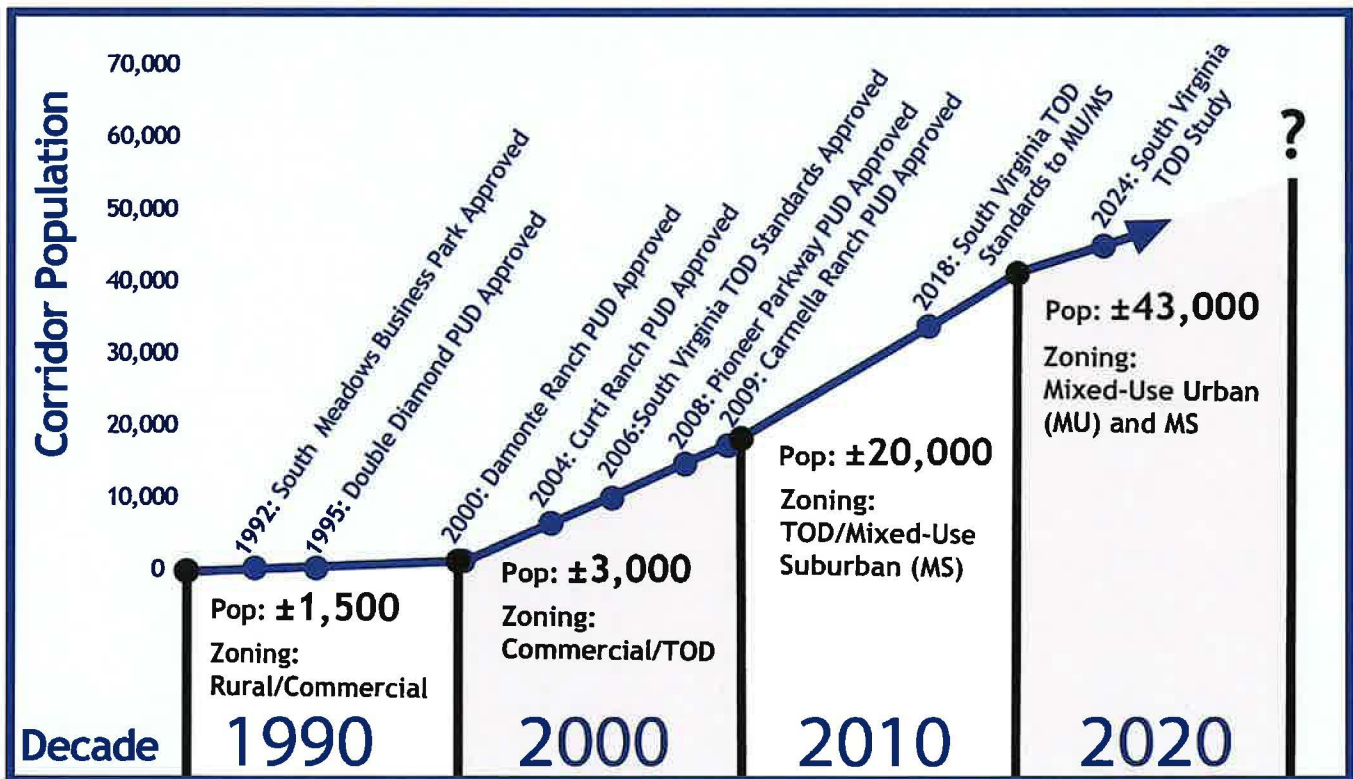
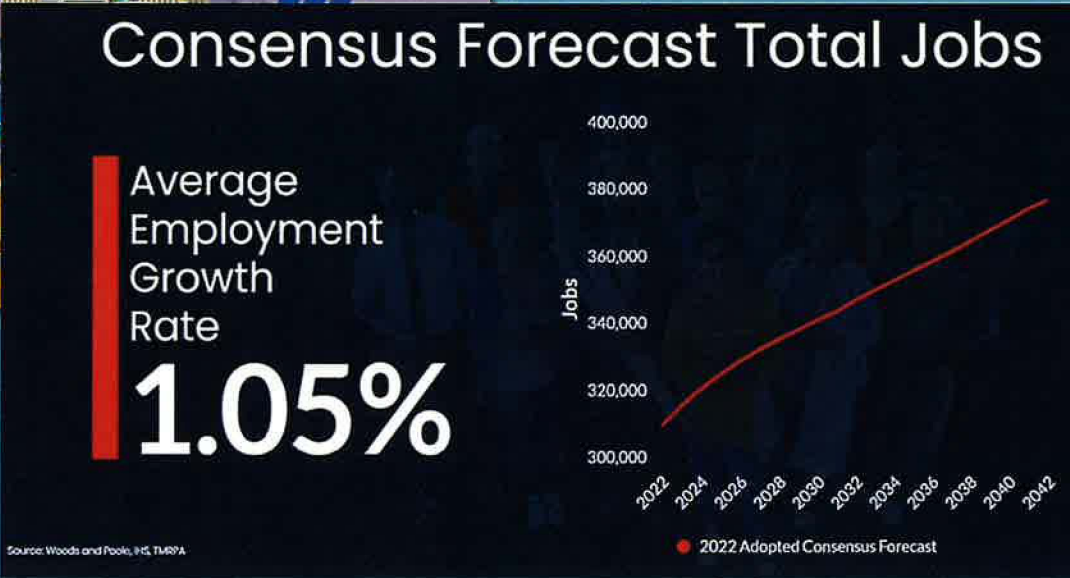
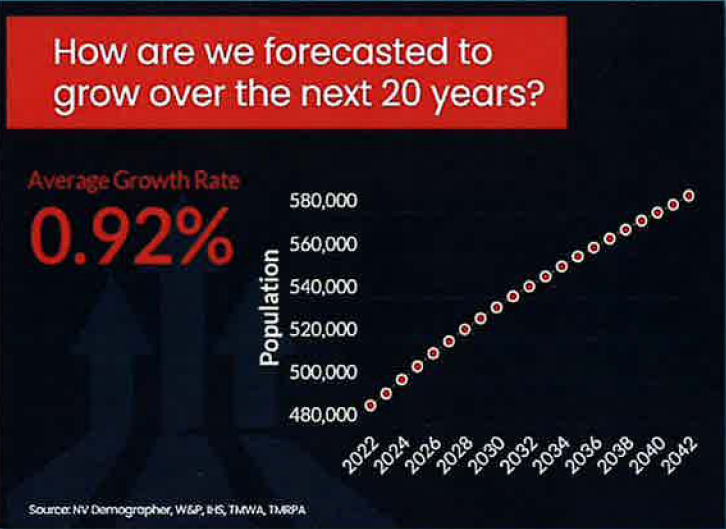
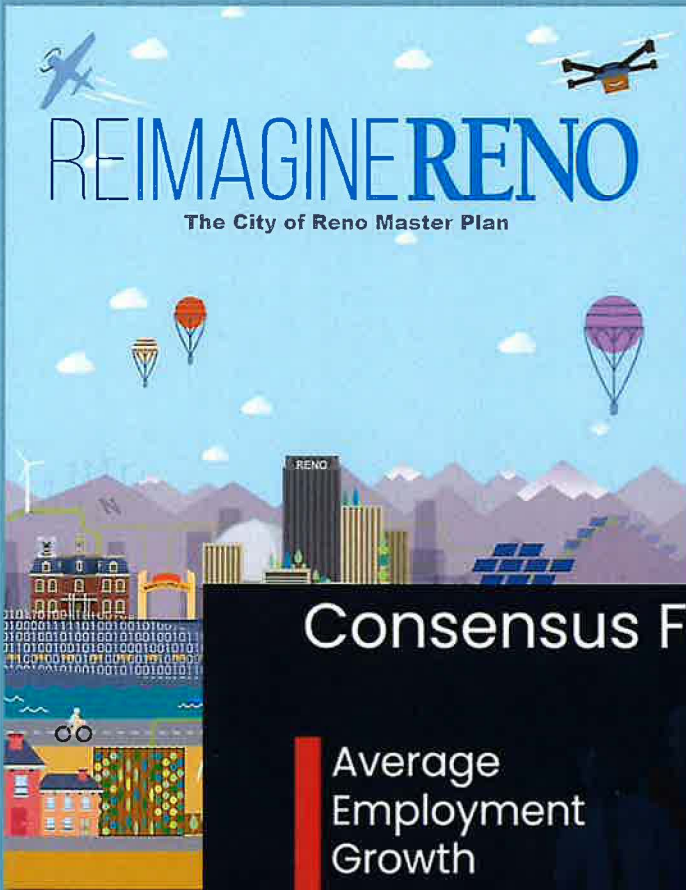


Figure 2.1 Historic Growth Pattern

Planning for Future Growth

According to the Truckee Meadows Regional Planning Agency (TMRPA), the region is projected to add 100,000 residents and over 68,000 jobs between 2022 and 2042. This growth will significantly impact the study area. As Reno's growth continues, collaborative planning efforts led by TMRPA and the City of Reno prioritize sustainable development practices, as outlined in the ReImagine Reno guiding principles. These include responsible and well-managed growth (Guiding Principle 2), vibrant neighborhoods and centers through infill and mixed-use development (Guiding Principle 4), and enhanced multimodal connectivity (Guiding Principle 5). The upcoming sections will delve into city and regional planning strategies, particularly their focus on promoting Transit-Oriented Development (TOD) along South Virginia Street.



Current Land Inventory

The current land inventory can help plan for future growth as well as identify what the current needs may be. Typically, BRT is favorable to mixed-use land designations, which promote high density development including multi-family, single family attached housing, large commercial developments, employment centers, and street networks with robust multimodal transportation infrastructure. Within this study area, identifying vacant land or areas for future redevelopment can help to determine future growth areas and the types of development that can be expected. The current land inventory map, shown in **Figure 2.2**, identifies vacant land and redevelopment opportunities.

By analyzing the master plan and zoning designations set by the city or county, the influences on the vacant land within the study area will help to understand the types of existing developments and identify future developments within the study area that may be favorable to BRT. Within the study area, these include the City of Reno master plan and zoning designations throughout the majority of the study area to the west and portions that are under Washoe County jurisdiction to the west.

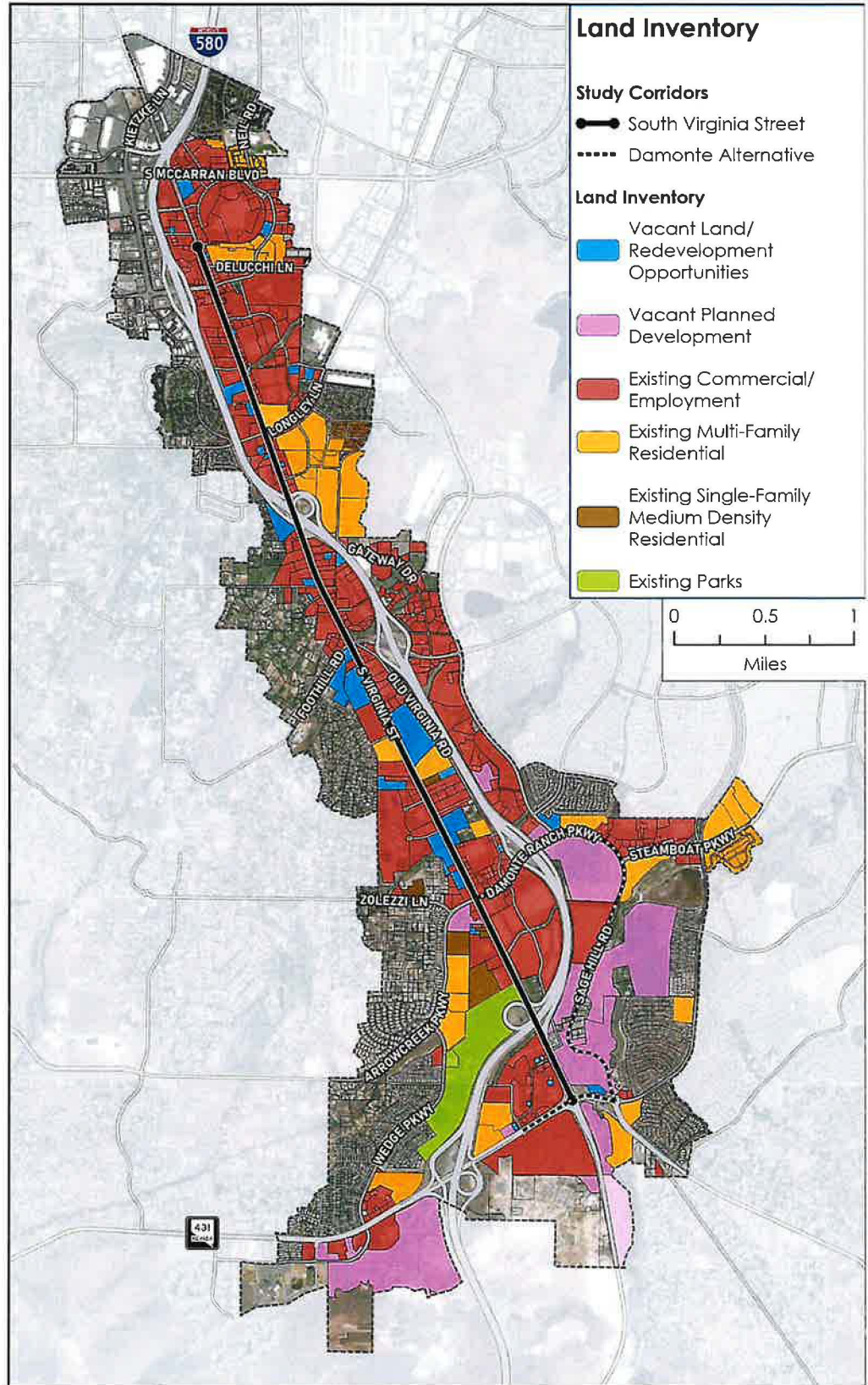


Figure 2.2 Current Land Inventory Map

Master Plan and ReImagine Reno Area Specific Policies

The ReImagine Reno Master Plan identifies South Virginia Street as a suburban corridor. Suburban corridors encourage a mix of higher-density residential, retail, commercial, and other employment- and service-oriented uses. While the corridor is currently suburban, the Area Specific Policies outlined below support its gradual transition to an urban corridor. These policies provide flexibility in development patterns and intensity in the near term, **encouraging nodes of higher-intensity development** which is more supportive of transit. This approach aims to enhance access to services, expand housing options, and **support expanded transit service over time**.

Employment Areas

Employment areas **support live-work opportunities** for the local workforce and reduce the need for cross-town trips. The connectivity between these employment areas and the study area can influence the demand for additional housing within the study area and increase transit ridership. There are two Employment Areas adjacent to the study area (blue shaded areas in **Figure 2.3**).

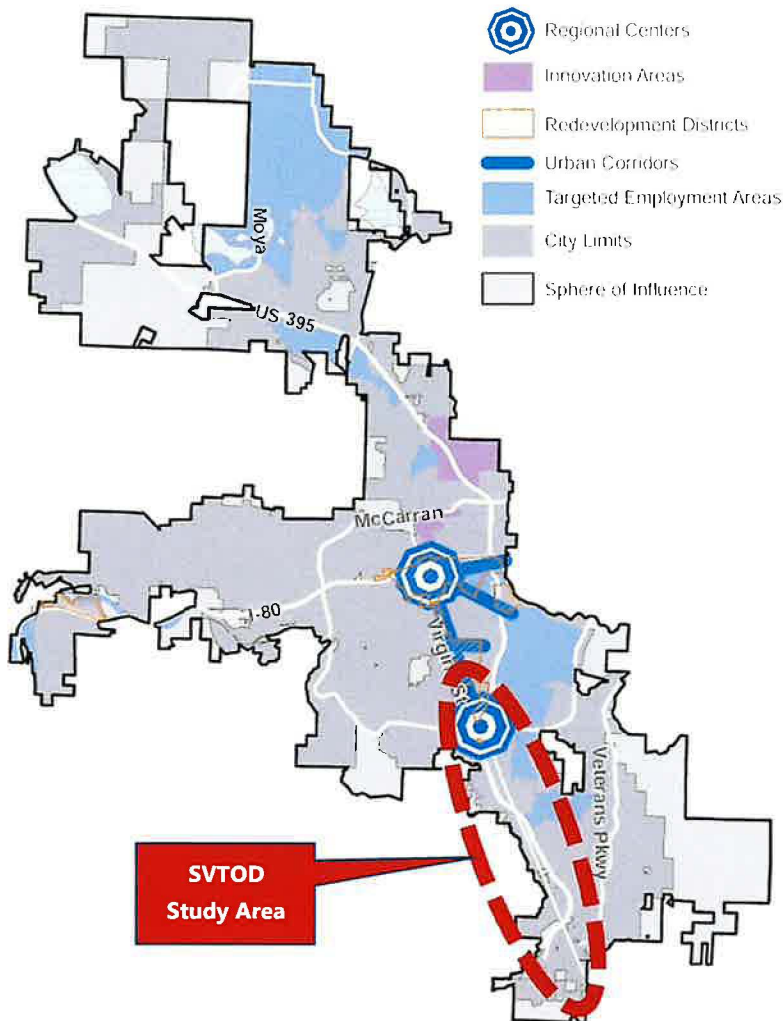


Figure 2.3: Employment Areas

Regional Centers

Meadowood Mall in the north is identified as a Regional Center (**Figure 2.3**). Regional centers serve residents of the City of Reno and the broader region, as well as visitors from across the state and country. Regional centers include a **diverse mix of uses of high-density** office, residential, hotel, entertainment (including gaming), retail, and supporting uses. **Are well-served by the region's multimodal transportation network** and serve as a hub for service to other destinations within the region.

Outer Neighborhoods

The study area provides connectivity for several surrounding outer neighborhoods as outlined in *ReImagine Reno Master Plan*. Outer neighborhoods include the city's older suburban areas, generally outside or adjacent to the McCarran loop, as well as newer suburban developments. They are generally comprised of single-family detached homes and have a cohesive character. While new development continues to occur in some outer neighborhoods, others are in need of revitalization and reinvestment. **Significant capacity for future residential development** lies in outer neighborhoods. **Opportunities to encourage a broader mix of housing types and supporting non-residential uses and amenities** in outer neighborhoods are encouraged in order to meet changing community needs.

Community/Neighborhood Centers

The study area includes several community/neighborhood centers (Figure 2.4). In the study area these include:

- Meadowood Mall
- South Meadows Parkway
- Downtown Damonte
- Summit Mall

Community/neighborhood centers provide opportunities for supporting services (e.g. restaurants, cafes, small retail stores, medical offices) intended to meet the needs of the immediate neighborhood. Walkable, small-scale neighborhood centers exist in several of the city's central neighborhoods, while larger community centers such as those anchored by a grocery store or other large retail tenant may include a **vertical or horizontal mix of residential and/or office uses in addition to retail/commercial uses.**

Community/neighborhood centers should have a cohesive and pedestrian-oriented design that features public/community gathering spaces and **enhanced pedestrian/bicycle connections** to the surrounding neighborhoods. The design principles that follow (see Figure 2.5) provide general guidance to support the revitalization of existing centers, and can inform the design of new centers. The identified centers within the study area (Meadowood Mall, South Meadows Parkway, Downtown Damonte, and the Summit Mall), have large parking areas that have the potential for revitalization and added density and a greater mix of uses that would also help encourage transit-oriented development according to the *Reimagine Reno Master Plan*.

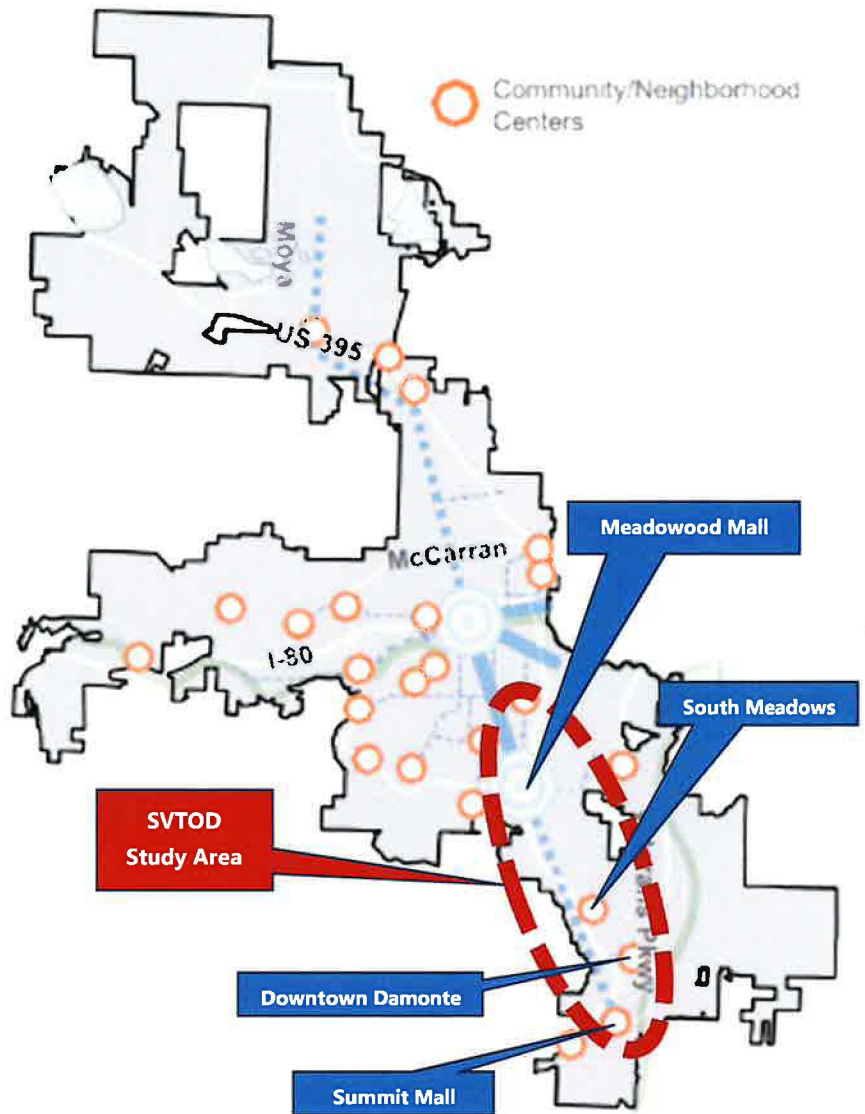
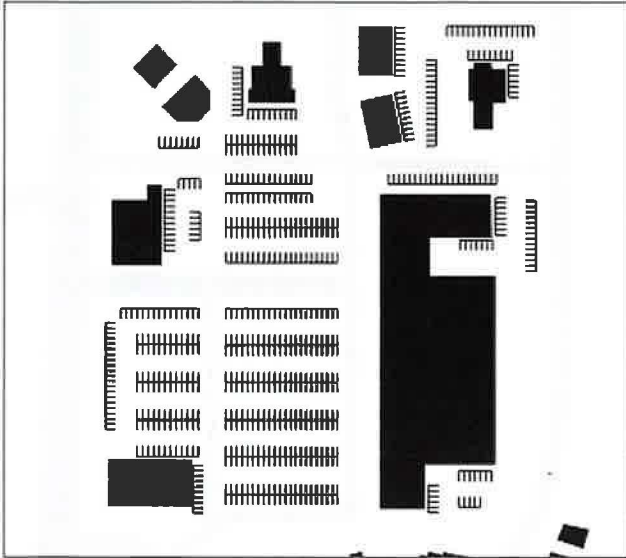
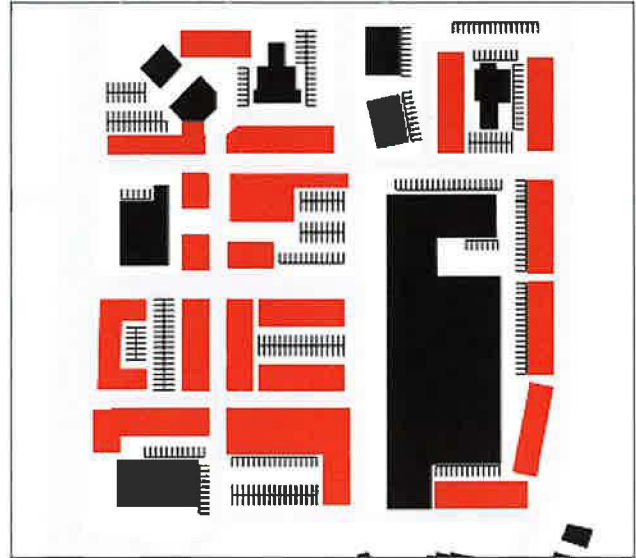


Figure 2.4: Community Centers

Existing Community Center



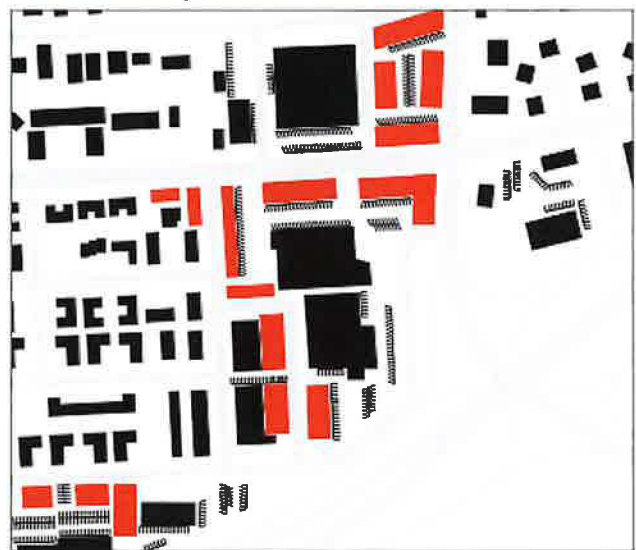
Revitalized Community Center



Existing Neighborhood Center



Revitalized Neighborhood Center



Revitalization of Existing Centers. The diagrams illustrate potential opportunities for site improvements and infill on surface parking lots to accommodate a greater mix of uses and promote the revitalization of existing centers. To achieve required parking for uses that replace surface parking lots, tuck-under and/or structured parking are to be utilized.

Figure 2.5 Potential Existing Site Improvements for Community/Neighborhood Centers

Zoning

The majority of the master plan designations within the study area are classified as Suburban Mixed Use (SMU), which promotes a mixed-use zoning designation that is favorable to BRT services. The underlying zoning typically associated with this master plan designation allows commercial or high-density residential development. The map below shows the distribution of the zoning districts throughout the study area. **Figure 2.6** shows the three major City of Reno zoning designations within the study area are **Mixed-Use Urban (MU)**, **Mixed-Use Suburban (MS)**, and **Planned Unit Development (PUD)**. While the MU zoning designation is traditionally most favorable to BRT, the SMU designation, which has no minimum density requirement, may not inherently encourage high-density development but still has design standards which support multimodal transportation. The PUD zoning is unique as it refers to a specific planned community with varying development standards throughout the study area, some of which may promote design elements favorable to transit.

Each Planned Unit Development (PUD) is unique and typically has different development standards than those found in the City of Reno development code. The three PUDs within the study area—Double Diamond PUD, Damonte Ranch PUD, and Pioneer Parkway PUD—have specific development standards detailed in their respective PUD Handbooks. These generally allow for high-density development but, like the SMU zoning designation, may lack minimum density standards to encourage consistent high-density development within the study area.

Importantly, the PUDs encompass the largest areas of vacant land within the study area and will significantly influence future development in the southern part of the area. Predicting future development patterns is challenging due to the wide range of potential densities. According to ReImagine Reno, the SMU master plan designation does not require a minimum density, though it encourages concentrated nodes of high-intensity development. While the SMU designation includes several conforming “Base Zoning Districts,” the study area is predominantly under one; Mixed-Use Suburban (MS). The current zoning map within the study area is shown in **Figure 2.8** for the City of Reno and **Figure 2.9** for Washoe County.

Figure 2.6 Study Area Zoning Designations

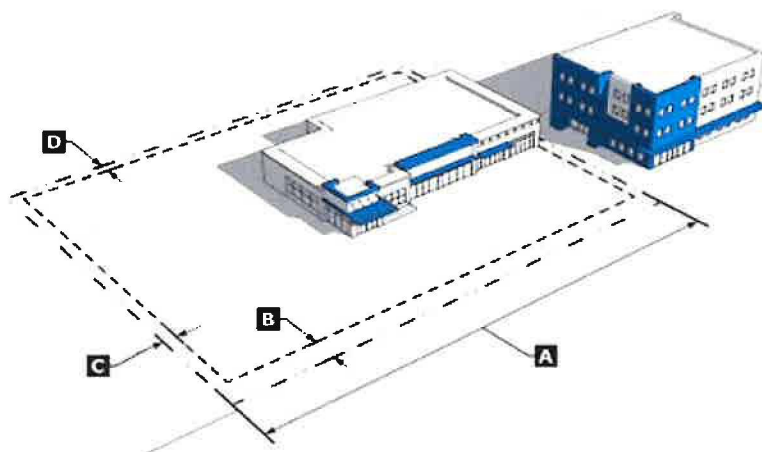
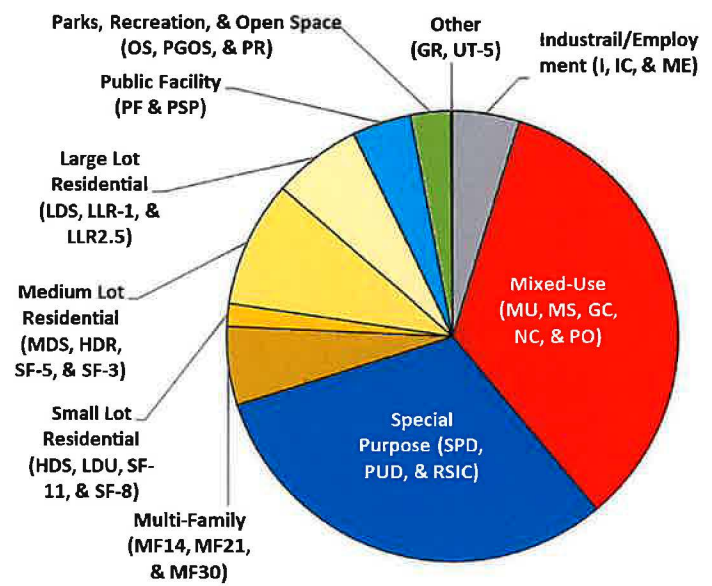


Figure 2.7 Mixed-Use Suburban (MS) Design Standards (City of Reno)

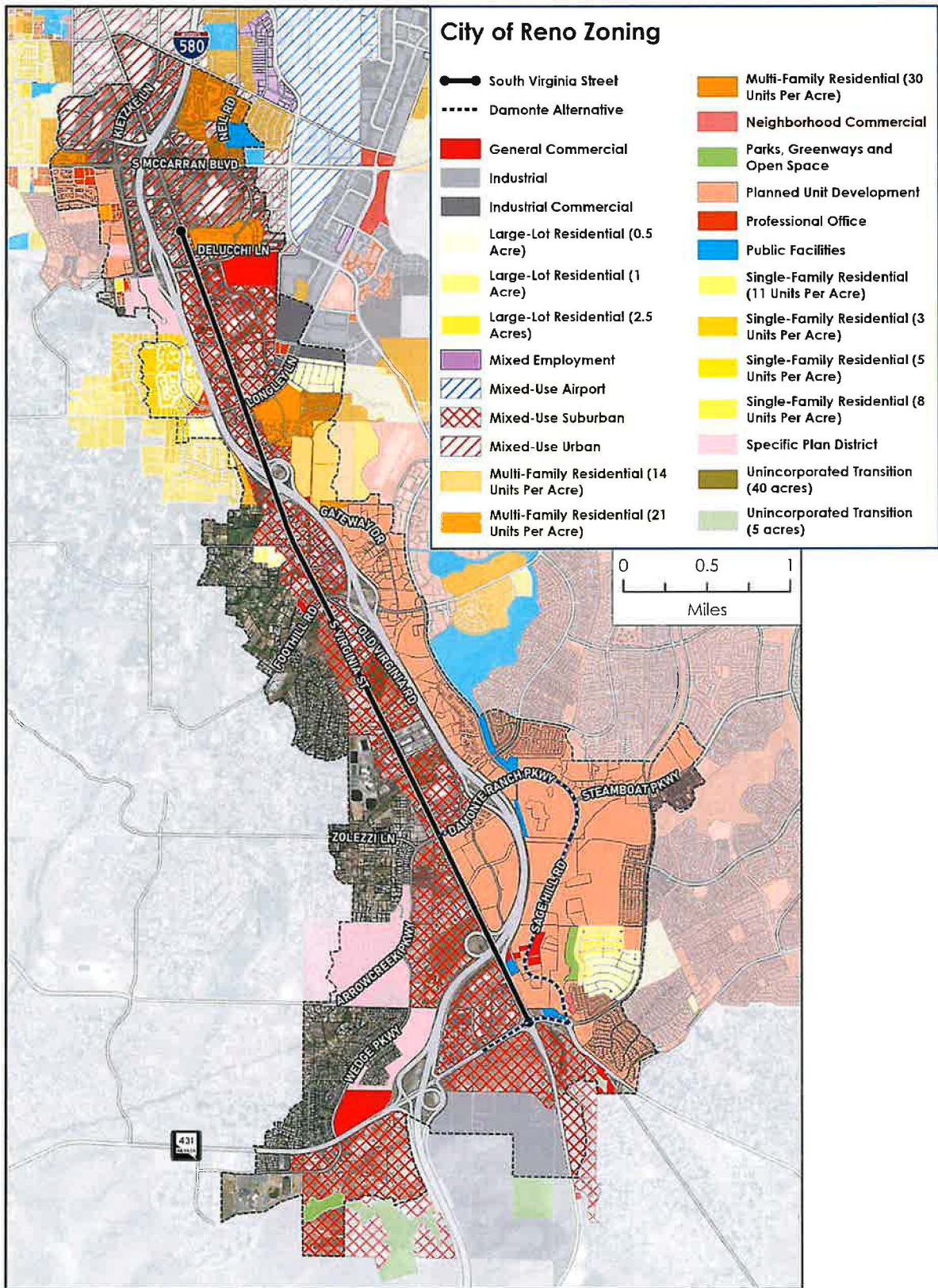


Figure 2.8 City of Reno Zoning

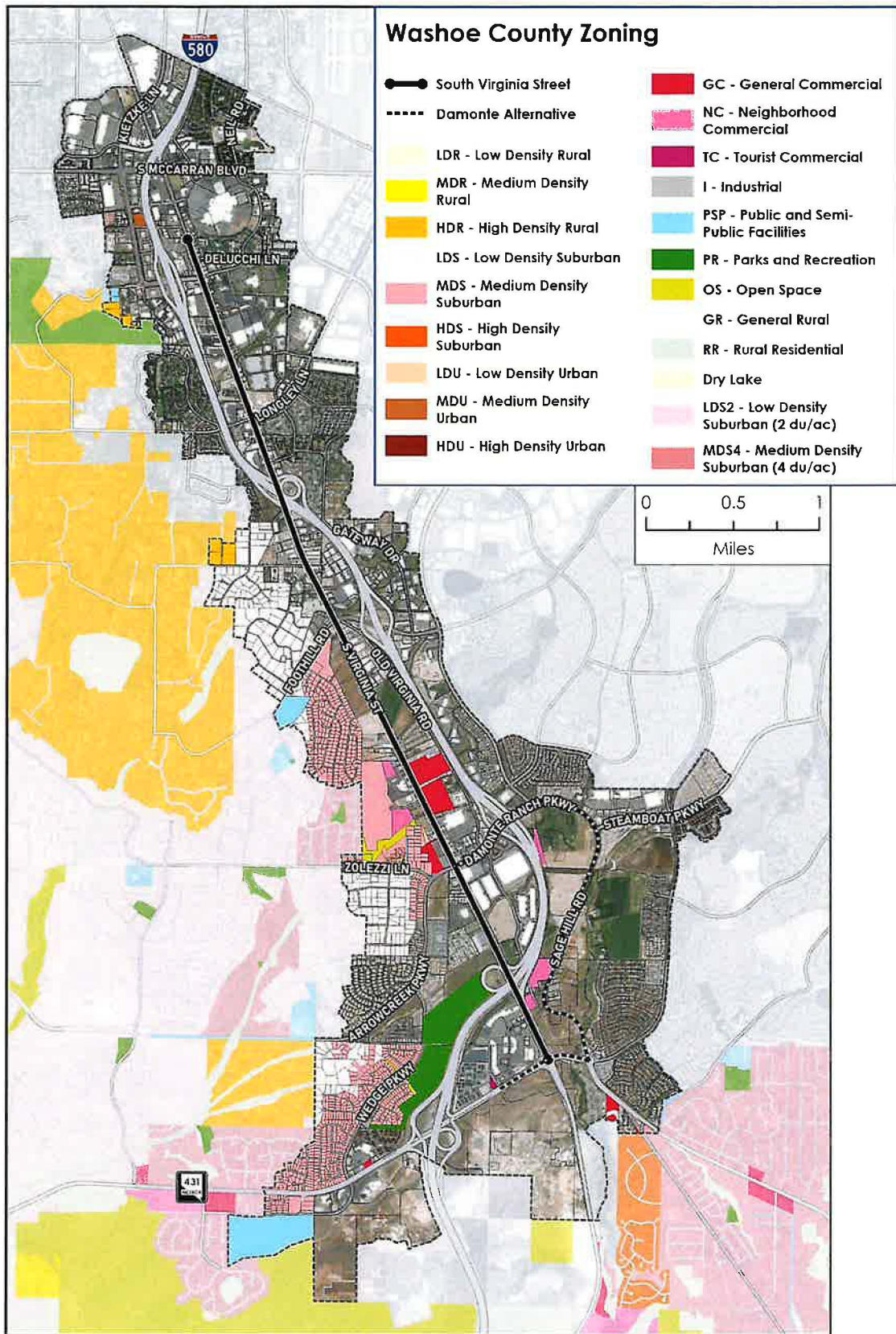


Figure 2.9 Washoe County Zoning

The MS zoning does not mandate minimum or maximum residential density or floor area ratio (FAR) and has very permissive, sometimes non-existent, setback requirements. There is no stated building height limit, though buildings over 55 feet require site review. These standards are conducive to transit-oriented development, which typically seeks to maximize allowable density. However, the absence of minimum density and FAR requirements poses a challenge when encouraging transit supportive development. This flexibility can lead to developments that are less supportive of transit, undermining the goals of transit-supportive land use policies.

In addition to the MS zoning, the southern end of the Study Area, including Damonte Ranch and its surroundings, falls under Planned Unit Development (PUD) zoning. This zoning specifies land uses and standards for various parts of the master-planned community. Similar to MS zoning, PUD zoning offers significant flexibility for use standards, allowing for a broad range of uses that may or may not support transit. Unlike South Virginia Street, Damonte Ranch is the only node within the study area that has seen higher density development concentrated around commercial areas, including the recently announced plans for the Downtown Damonte mixed-use development.

In summary, the ReImagine Reno Master Plan provides a framework for the study area to evolve into a more urbanized area, focusing on node densification and supporting future transit and multimodal connectivity. However, there is a disconnect between the vision of the master plan and the current development within the study area, largely due to the broad range of allowable uses under the existing zoning regulations.



Supporting Transit Along Virginia Street

One of the key challenges in achieving a long-term vision of TOD along South Virginia Street is bridging the gap between land-use policy and actual development. Aside from the planned Downtown Damonte area, there is little momentum for developing compact, walkable, mixed-use environments along South Virginia Street. To increase mixed-use development, an understanding of not only the policies but also external influences such as the private market, private landowners and developers, and the willingness of political jurisdictions to encourage changes in development patterns, is necessary. These factors and influences are shown in **Figure 2.10** below and have been and will continue to be the main drivers of development along South Virginia Street.



Figure 2.10 TOD Influences

The Benefits of Transit-Oriented Development



Reduced Traffic Congestion: Enhanced public transit options like BRT which can significantly decrease the reliance on personal vehicles, leading to less congested roads and smoother traffic flow.



Health and Lifestyle Improvements: Reduced pollution levels and the promotion of more active modes of transportation, like walking and biking to transit stops, can contribute to healthier bodies and minds in the community.



Environmental Advantages: Public transit systems are instrumental in reducing greenhouse gas emissions and local air pollution, contributing to a cleaner, healthier urban environment.



Local Economic Growth: Effective transit not only boosts property values and business attractiveness but also stimulates broader economic development by better connecting industry to the workforce it relies on.



Increased Social Equity: A well-implemented transit system democratizes mobility, offering more equitable access to employment, education, and services across all socio-economic groups, especially when connected with affordable housing efforts.

Characteristics of Transit-Supportive Development

A transit system and the built environment it operates in are mutually dependent when it comes to realizing the above benefits. Even the highest quality vehicles, stations, and operating systems may not attract a sizable number of riders away from auto-reliance unless the surrounding land uses and public infrastructure are thoughtfully designed to support, and benefit from, that transit.

This means thinking about how we design our neighborhoods – from the placement of buildings to the mix of shops, homes, and places of work. Ensuring that station areas have sufficient headcounts to generate rides is only one part of an equation that also involves factors like non-auto connectivity, physical orientation of uses, safety, and aesthetic desirability; it's about creating vibrant, attractive areas that naturally and safely encourage transit use. Here we will explore the key elements that make up a transit-supportive neighborhood and why getting these details right is crucial for the success of future transit service and to help achieve broader regional goals and policies.

Compact and Focused Development:

General Compactness. Compact development, as opposed to very low-density development, supports transit systems by efficiently utilizing land. This approach creates walkable, interconnected neighborhoods that facilitate public transit use. People and destinations are the life's blood of transit ridership, and compact design means more individuals and potential destinations per acre of land.

Focused Intensity Near Stations: An outcome to the criteria of compactness is that station areas should emerge as pulse points of activity and development density. Because BRT systems do not make stops between established station areas, adjacent properties that are not within walking distance of a station typically do not contribute much to ridership, either in terms of resident riders or destinations for BRT passengers.



RED Development Located at Virginia Street and Plumb Lane

Development density is therefore less critical for non-station stretches of the study area (meaning that low-density auto-oriented uses interested in locating in the study area should be steered to non-station areas to the extent possible). Pleasing, human-friendly architecture, landscaping, and site design near stations is critical for making the required density palatable, and even attractive to residents and neighbors.

Mix of Uses:

A mix of residential, commercial, and recreational spaces within walking distance of transit stations can enhance livability and encourage transit use. Not every station needs to include a full mix of residential and commercial uses, but primary stations that serve as end of the line points or multi-modal transportation hubs certainly should.



Example of Mixed Uses Along Virginia Street (Midtown Reno)

The mix of uses can be horizontal (side-by-side) or vertical (e.g. apartments above ground-floor commercial), as dictated by the market and developer preferences, so long as stations can potentially serve a variety of potential riders and destinations. In addition to smoothing out the distribution of passenger demand across stations and day-parts, mixed-use environments can enable shared parking opportunities and increase the vibrancy and activity levels around stations (which can also have safety benefits).

Pedestrian and Bicycle-Friendly Design:

Safe, convenient pedestrian and cycling infrastructure is vital to encourage transit use and support a healthy community. This criterion is most important directly adjacent to station areas, physically connecting passengers with the station platforms to and from buildings, trails, or parking areas. Design details for those last hundred feet of connections may only appear closer to the actual opening of the system, but the wider network of bicycle/pedestrian trails, crosswalks, walkways, lighting, and other elements, both along the route and into the city at large, should be planned for and in place well in advance.



Separated Pedestrian/Bike Path Example Along Carson Street

Connectivity and Accessibility:

Easy and direct access to transit stations from a variety of other transportation modes is key for a successful TOD. This criterion overlaps with the last in its emphasis on trail networks and other forms of bike/ped connectivity, but crucially also extends to local non-BRT bus route connections. Shuttle services to hotels and workplaces located outside the study area should also be cultivated and accommodated to and from major stations. Increasingly, station areas will also need to plan for ride-share and other taxi-like travel modes with convenient, non-disruptive pick-up/drop-off zones (a category of accommodation that will likely grow to include driverless cars).



BRT Transit Stop Located along Virginia Street (Virginia Line)

Affordable Housing:

Incorporating affordable housing near transit stations is critical to attract and support transit-dependent populations, such as lower to middle-income riders. In the Reno-Sparks metro, awareness and appreciation of transit is currently limited to lower and middle-income populations that already rely heavily on transit to get around. While increased awareness and acceptance of transit may grow through education and promotion efforts, operational feasibility of a South Virginia transit line will depend on the ability of significant numbers of transit-users to find housing they can afford near future station areas. Most cities with effective transit service consider transit access and housing affordability to be integral components that work together as part of a comprehensive approach to building social equity.



Steamboat Apartments Located Along Geiger Grade (SR 341)

Supporting Criteria in the Study Area

The existing study area was analyzed for transit supportive development and scored using the criteria listed above to help identify areas that are currently being served and to identify areas that can be improved.

Table 2.1: South Virginia Context Relative to Criteria for Transit-Supportive Development

<i>How transit-supportive? (1=not at all, 2=slightly, 3=moderately, 4=strongly, 5=very strongly)</i>			
Criteria	Current Context	Trajectory	Notes
Compact & Focused Development	<p>1 to 2 – overall</p> <p>3 - some multifamily and industrial areas (depending on station location)</p>	<p>4 - Downtown Damonte, as proposed.</p> <p>1 to 3 overall, moderately supportive in multifamily and industrial/employment areas</p>	Some recent multifamily developments have increased the overall corridor density, but none are particularly compact, from a typical TOD perspective. There is considerable job density overall in the industrial areas east of Sierra Center Parkway, though development is not particularly compact. In general, patterns of density are more randomly distributed than focused at likely station areas
Mix of Use	<p>1 to 2 at likely station areas overall.</p> <p>3 at Meadowood Mall terminus area and a few other potential station areas (Longley/Huffaker, Holcomb Ranch, McCabe)</p> <p>(4 at South Meadows Pkwy and Double R, but far from likely station areas)</p>	<p>4 at Downtown Damonte, as proposed</p> <p>1 to 2 over much of the remaining study area</p>	Though the study area includes an impressive mix of uses overall, there are few developments near possible station areas featuring a real mix of close-by uses. Different uses near potential stations like McCabe and Holcomb Ranch tend to be separated by arterial or collector roads and typically at lower, suburban densities.
Pedestrian & Bicycle-Friendliness	<p>1 to 2 overall</p>	<p>3 to 4 at Downtown Damonte</p>	Nearly the full extent of South Virginia Street is flanked by sidewalks in the north with little sidewalks found south of Patriot Boulevard, but except in a few areas around new developments. Where sidewalks exist these are directly adjacent to the busy arterial traffic and interrupted frequently by curb cuts. Crosswalk protection and lighting are inconsistent. Some bike trails can be found intersecting S. Virginia, but not along it. Plans for Downtown Damonte reference being ped/bike friendly, but few details are available.
Connectivity	<p>1 to 2 overall</p> <p>2 to 3 at Meadowood Mall</p>	<p>3 to 4 at Downtown Damonte</p>	Unlike older parts of Reno surrounding the existing Virginia St. BRT, South Virginia lacks an urban grid of surrounding local streets, instead relying on a loose network of parkways, partially connected streets, and private roads built to satisfy one or two developments at a time with little regard for overall connectivity. Meadowood Mall serves an intermodal function for 2-3 local bus lines, providing access to the North Virginia BRT.
Housing Affordability	<p>1 to 2 overall</p>	<p>1 to 2 within much of the study area</p>	Several Affordable housing projects exist but almost all have no access to transit. Establishing reliable transit service along S. Virginia Street will help to incentivize more affordable housing projects.

Existing Housing and Employment Densities

Over the past three decades, the study areas population has boomed from 1,500 to 43,000 (based on US Census tracts located within the Study Area). With nearly 700 acres of vacant land still available and more potential for redevelopment in older areas, the study area has the potential to absorb much of the regional growth that is anticipated in the Truckee Meadows. How to serve this growth with transit is hard to determine since the current zoning standards allow for a broad range of possibilities. High density housing and high employment center developments are some of the most important when it comes to supporting transit.

These developments often:

- Support a mix of uses
- Allow for people to work and live within a short distance
- Decrease reliability on personal vehicles by incorporating multimodal design
- Have access to a surrounding network of trails/sidewalks, bicycle lanes, and transit services
- Provide quality service to transit users



Multi-family Apartments

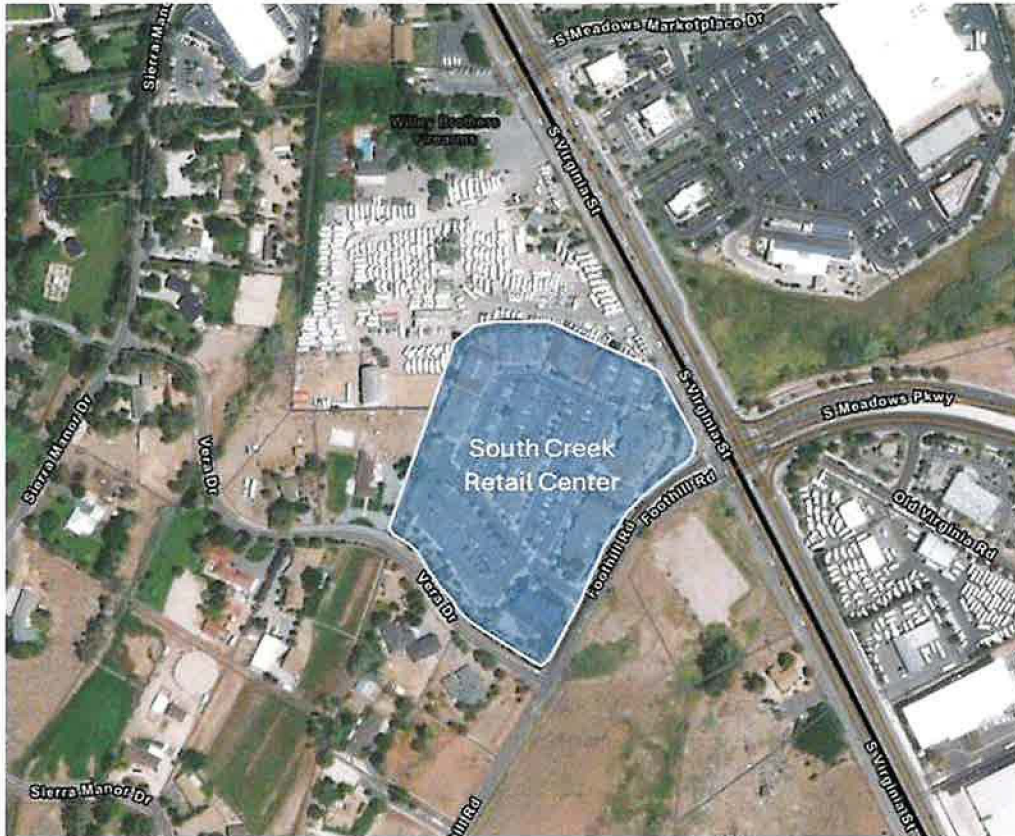


Tamarack Casino (High Employment Center)

Transit Encouraging Developments

Developments that encourage transit ridership are those that utilize design elements that support transit and discourage personal vehicle use. These developments typically encourage more choice riders. These developments typically:

- Allow for people to work and live within a short distance
- Incorporate multimodal design
- Have access to a surrounding network of trails/sidewalks, bicycle lanes, and transit services
- Encourage those who own a personal vehicle to use transit out of convenience rather than necessity



Transit-Friendly Development along South Virginia Street

Examples include townhome and condo developments and pedestrian-friendly destination retail centers. Traditional shopping malls favor parking and vehicles as the primary mode of travel making it difficult for pedestrians to access. Pedestrian-oriented features include placing the buildings outward towards the major arterials reducing the distance for transit and active transportation users to traverse improving overall comfort and reducing the sense of scale.



Townhome/Condo Developments

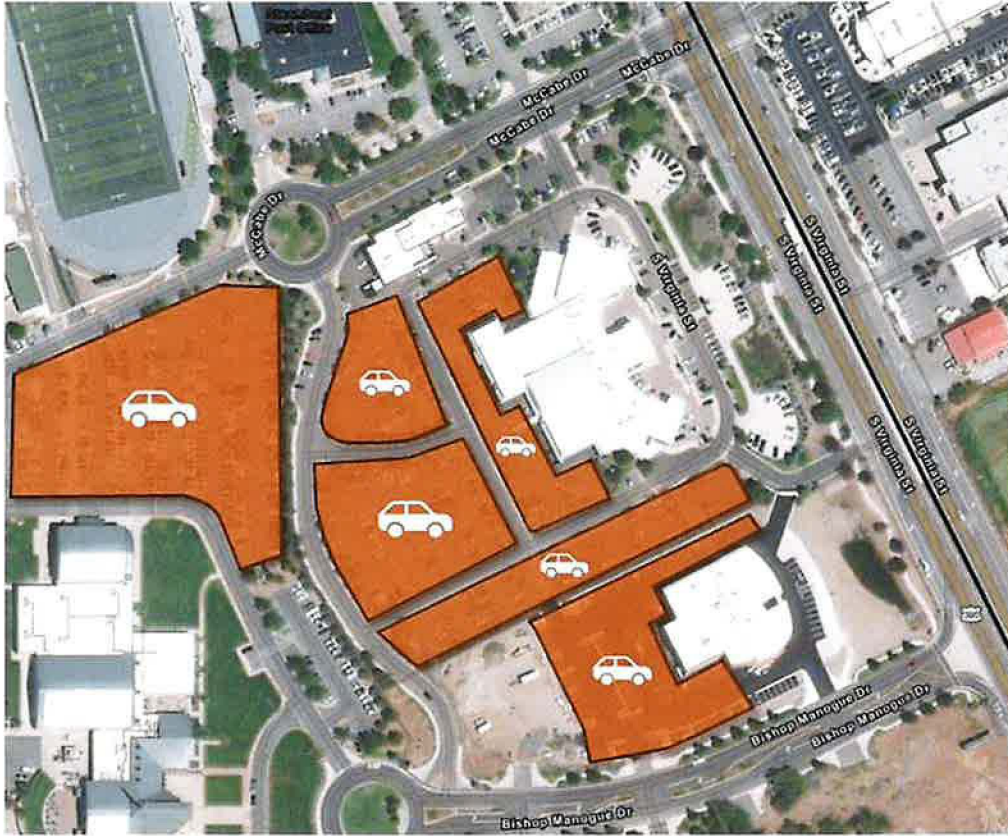


South Creek Retail Center

Less Transit-Supportive Developments

These developments typically do not have any elements incorporated in their design to support transit and are more auto oriented.

- Parking lots dominate the parcels or are large industrial warehouses with minimal employment
- Typically only support one type of transportation user
- Not supported by access to a network of trails\sidewalks, bicycle lanes, or transit services



Non-Transit-Friendly Development along South Virginia Street

Examples include car/recreational vehicle sales, single-family homes, industrial warehouses, and big box commercial centers. In less transit supportive developments parking lots are the prominent feature on the parcel and are barriers to pedestrian and transit-users for their first/last mile of travel.



Car Sales



Industrial Park

Public Outreach Summary



On June 5, 2023 two public workshops were held in person within the study area to introduce the SVTOD Study to the public. The focus of the meeting was to allow citizens to submit comments in person regarding the existing conditions, educate the public on the benefits of TODs and solicit feedback. An online survey and story map was also advertised for anyone who couldn't attend.

The two meetings took place at two locations along the corridor, the Meadowood Mall and the Tamarack Casino. Representatives from Wood Rodgers and RTC were there to walk attendees through the materials and encouraged them to comment. In addition to the workshop a survey was hosted online for the month of June for anyone who couldn't attend. A summary of some of the most repeated themes include:

- ✓ Strong support to see transit extended south of McCarren Blvd. but no consensus on level of service.
- ✓ Strong support for increase in frequency of arrival times and expanded hours for route 56.
- ✓ Strong support for a cycle track, separated multi-use path, or buffered pedestrian/bicycle path.
- ✓ Strong support for multi-modal improvements, sidewalk, and landscape.
- ✓ Strong support for landscaped median for safety and control of turn movements.
- ✓ Some support for speed reduction.
- ✓ Some support for lane reduction.
- ✓ Some support for bus only lane or prioritizing bus service at traffic lights.



Public Workshop at Meadowood Mall

Overall, the reception from the public was supportive. A majority of the comments about development within the study area were mixed with some in support of dense mixed-use development. A summary of the public meetings and survey results can be found in **Appendix D** of this report.

A second round of public outreach occurred during the April 16, 2024 Ward 2 Neighborhood Advisory Board meeting (NAB) along with a virtual story map and public feedback component. The materials presented at the NAB meeting included materials discussed in the *Land Use Technical Memo* and *Transit Technical Analysis Memo* which were in draft form. This included the types of developments that typically support transit, elements presented in the ReImagine Reno Master Plan, existing zoning, and discussions on the proposed Transit Focus Areas. Information and graphics including the proposed cross sections included in the NDOT South Virginia Street SMP and how they supported the efforts of the SVTOD were also presented. The NAB members then provided comments, a summary of their comments include:

- ✓ Support of increased transit service along South Virginia Street
- ✓ Support of increased nodes of density at Transit Focus Areas along South Virginia Street
- ✓ Support of incorporating elements of the ReImagine Reno Master Plan
- ✓ Concerns of the level of future transit service and supporting infrastructure (bus shelter types, bus travel lanes, etc.)
- ✓ Concerns with the frequency of service not being frequent enough to encourage choice riders

Story Maps

Two story map websites were created to present materials virtually. The first was released in June 2023 in tandem with the public workshops, which focused on introducing the SVTOD plan and provide background on the study area and the feasibility of extending the Virginia Line Bus Rapid Transit (BRT) service along the South Virginia Street. The second was released in April 2024 which provided an update to the plan and included elements discussed in the *Land Use Technical Memo* and *Transit Technical Analysis Memo* which were presented during the Ward 2 NAB. An opportunity to provide feedback was provided on the second story map and the responses generally concluded:

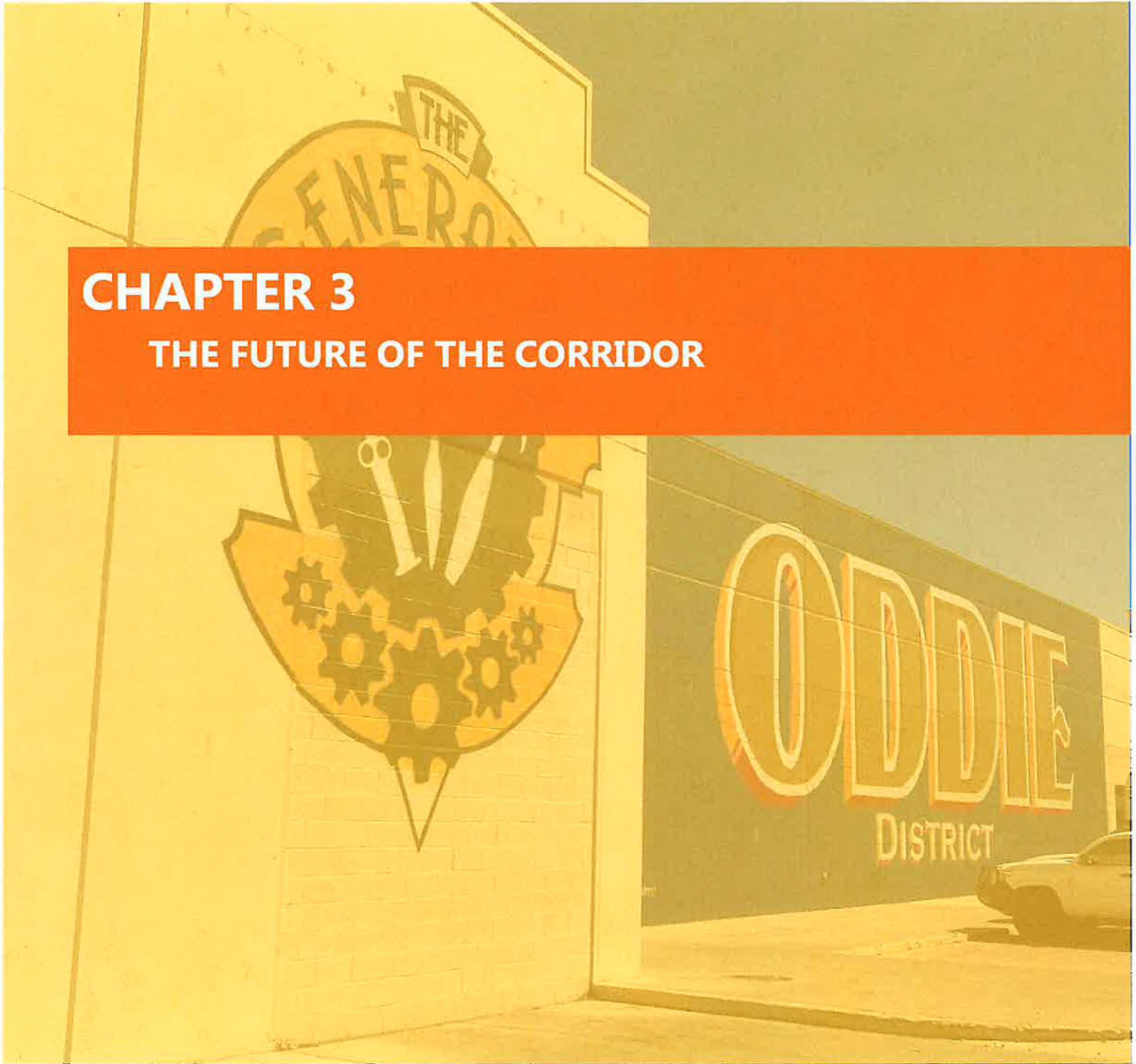
- ✓ Meadowood Mall is the most beneficial Transit Focus Area
- ✓ Development Scenario 3 was the most supported growth scenario
- ✓ Support for dense transit supportive development along South Virginia Street



Story Map Website

CHAPTER 3

THE FUTURE OF THE CORRIDOR



TOD Opportunities

A total of nearly 700 acres of vacant land has been identified within the study area, which includes both areas that are planned and not yet planned for development. The mixed use zoning designations do not have a maximum density and the two PUDs with the most vacant land (Damonte Ranch and Pioneer Parkway) have a maximum residential density of 105 du/ac. The comparison between acres of vacant land for the most popular zoning districts is shown below in **Figure 3.1**. The potential growth within these areas will be difficult to predict. However, utilizing proposed development data from the City of Reno, as well as using data associated with future development projections conducted by the Truckee Meadows Regional Planning Agency (TMRPA) in the 2019 Regional Plan, there is the potential to anticipate an additional increase of over 4,000 residential units, and over 400 acres of nonresidential development that will be added to the study area. To help understand the potential growth of the study area it will be important to work closely with landowners, the City of Reno, Washoe County, and TMRPA.

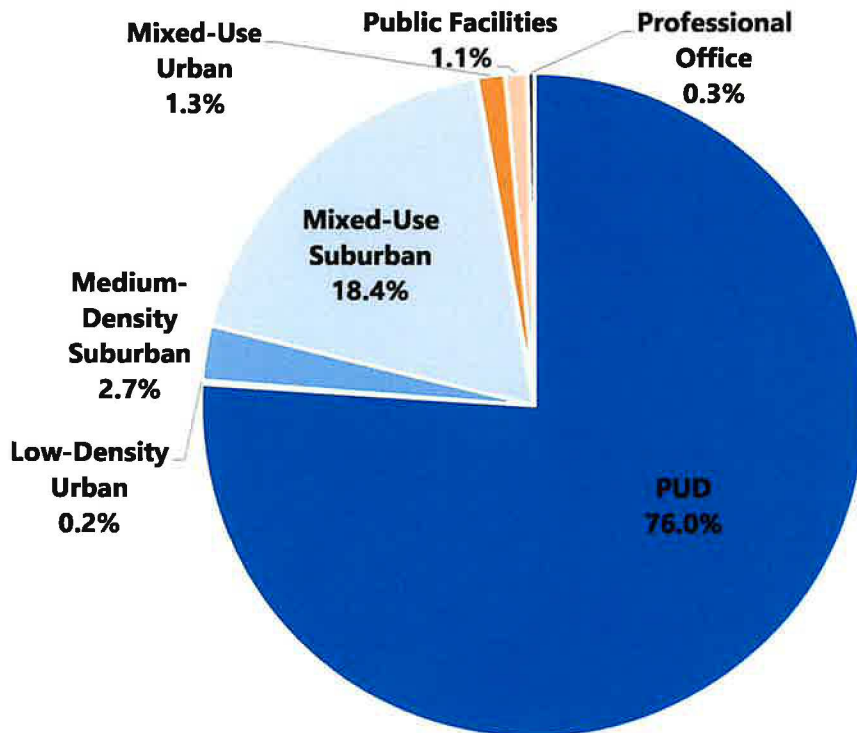


Figure 3.1 Vacant Land Zoning

Proposed Developments

The study area, while predominantly suburban, includes a mix of vacant parcels and potential redevelopment sites as identified in **Figure 3.2**. Until recently, almost all developments along the inner portions of the study area were commercial – ranging across retail, auto dealerships, low-rise office, lodging/casino, and light industrial. More recently over the past five years Reno, like much of the Western U.S. experienced a boom in multifamily residential development. Examples of which can now be found along the central portions of the study area amid commercial uses. In fact, many of the remaining empty land assemblies and identified redevelopment possibilities include medium to high density residential as part of the proposed use plans. Planned developments are primarily concentrated around Damonte Ranch. While some planning and design has been discussed much of the acreage has yet to see actual building permits filed and could change depending on market conditions.

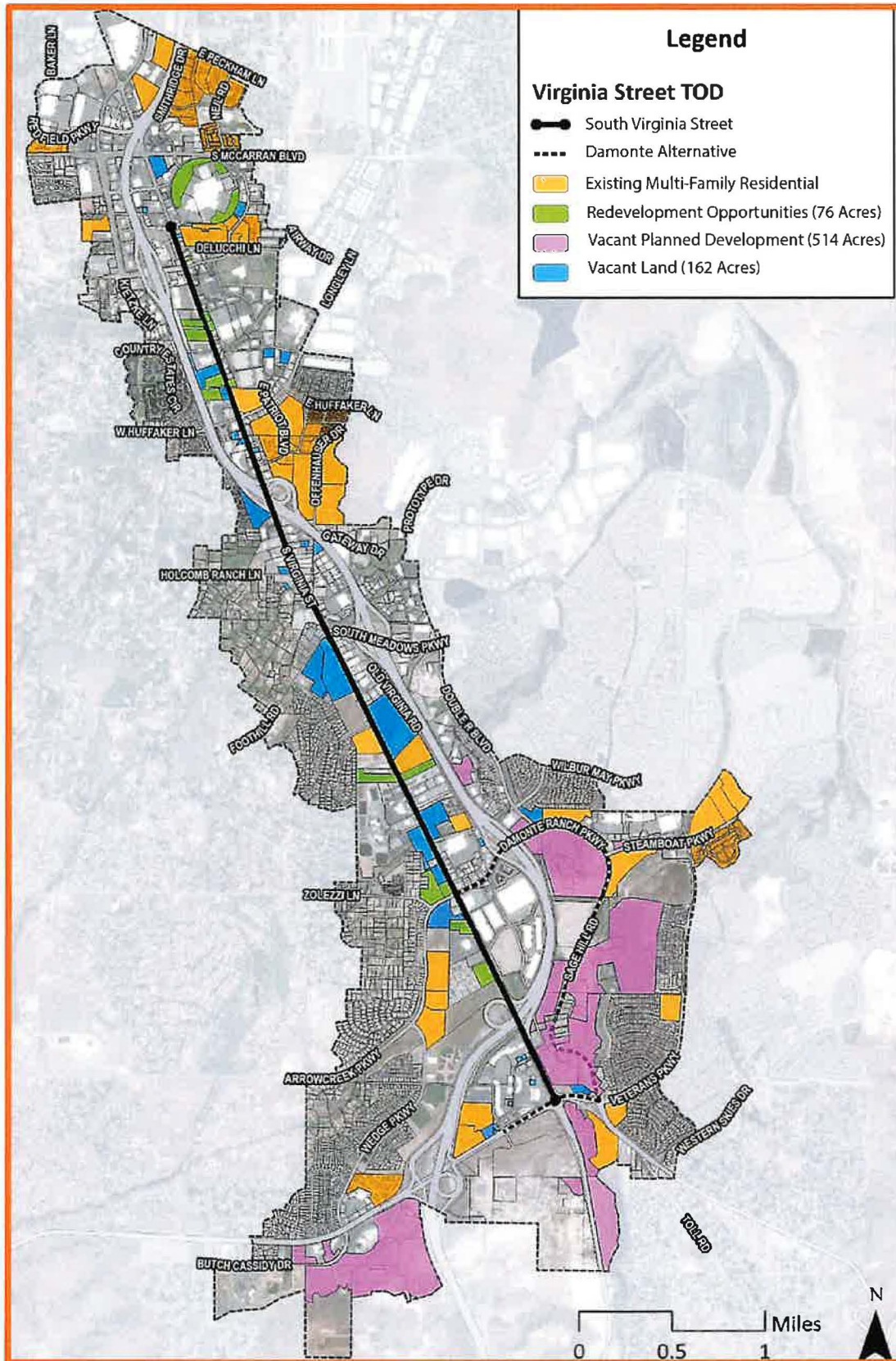


Figure 3.2 TOD Opportunities

Transit Focus Areas

In support of the ReImagine Reno Master Plan which encourages increased density along the Community/Neighborhood Centers, as identified in Chapter 2 (Meadowood Mall, South Meadows Parkway, Downtown Damonte, and Summit Mall), the plan also encourages this development to occur at major intersections within the study area, (Longley Lane and Damonte Ranch Parkway). The SVTOD Study expands on these areas identified in the ReImagine Reno Master plan and includes the addition of two more (McCabe Drive and Pioneer Parkway) based on a number of other factors including availability of vacant land, existing employment, existing multi-family developments, projected population growth, and projected employment growth within the study area. **Figure 3.3** displays the transit focus area locations within the study area.



Figure 3.3 Transit Focus Areas

Application of Land Use Tools

The Transit Focus Areas in **Figure 3.3** are intended to be where the main application of the land use tools is encouraged to help stimulate and encourage transit supportive development. However, these tools may be applied within any portion of the study area to play a part in encouraging transit-supportive elements in a suburban environment.

Land Use Tools to Increase Transit Supportive Development in the Study Area

Recapping the Policy Challenges of Reno's Existing Zoning

The current Reno Master Plan (2021) encourages alternate forms of transportation as a strategy for incorporating transit-oriented development, indicating the City will:

Prioritize transit-oriented development in regional and employment centers, along urban corridors and other locations that are currently served by or are planned to be served by high-frequency transit service (i.e., peak hour headways of 15 minutes or less) and/or fixed-route transit (i.e., bus rapid transit). Continue to encourage transit-supportive development in more remote employment centers, suburban corridors, and other locations that are currently served by high-frequency transit during peak hours.

Addressing the challenge of extending transit service into suburban south Reno, requires a multi-faceted approach. Since zoning regulations already permit a high degree of density and flexibility but the current development pattern isn't aligning with transit-oriented goals, the *Land Use Technical Memo* provides a land use toolkit that highlights some strategies that the city might consider. By employing a combination of these strategies within the transit focus areas, future developments will be more aligned with promoting a transit-supportive environment even in areas that currently exhibit suburban, auto-centric characteristics.



Meadowood Mall RTC Transfer Station

Toolkit Recommendations

Tools for promoting transit-supportive development can be grouped into at least four main categories: Land Use, Economic (including Incentives and Financing), Public Outreach, and System Related as shown in the TOD Toolkit table found in **Appendix B - Table 13** of the *Land Use Tech Memo*. There are many overlaps and dependencies across the various tools and they are intended to be used in combination, leveraging one another towards the goal steering transit-oriented and transit-supportive development. Below is a summary of the land use tools:

Category	Tools & Policy Recommendations
Land Use Planning, Design Involve elements of the City of Reno ReImagine Reno Master Plan, land use regulations, and approaches to urban design.	Station Area Plans
	Focused Rezoning or Overlay Zones at Transit Focus Areas
	Balancing Regulation with Incentives
Economic Tools Covers an overlapping set of real estate approaches, funding mechanisms, and selective favorable treatments that help to bridge economic feasibility gaps for desired projects.	Infrastructure Improvements
	Public-Private Partnerships & Joint Development
	Affordable and Workforce Housing
Outreach and Public Relations Involves community outreach and engagement, being a cheerleader for successful transit supportive development, and educating the public on the importance of transit supportive development.	Community Engagement and Education:
	Engage Developers to Leverage Existing Projects
	Community Support and Advocacy
System-Related Involves the logistics of system operations and the surrounding transportation infrastructure.	Early Express-Only Phase
	Transit Prioritization

Table 3.1: Land Use Tools Summary

Transit Focus Area Opportunities

The Transit Focus Areas identified in **Figure 3.3** have been analyzed to highlight the opportunities where the land use tools can be applied. Although this may not represent a full list of opportunities this incorporates a list of goals jurisdictions and developers can pursue to help support transit within the study area:

Meadowood Mall

The Meadowood Mall transit focus area (**Figure 3.4**) exhibits multiple qualities that indicate the potential for future transit-supportive and transit-oriented development. The RTC transfer station is located at the mall which is surrounded by the mixed-use urban zoning. The majority of the redevelopment opportunities as shown in the map are located adjacent to Meadowood Mall and along South Virginia St at the retail hubs including the mall which may be appropriate for redevelopment. Although it includes a concentration of jobs and are popular travel destinations for shoppers, suburban shopping malls like Meadowood Mall, at the northern end of the Study Area are not developed with transit service in mind. Although Meadowood is, in fact, the southern terminus of the existing Virginia Street BRT line, that station area is within a commercial development dominated by surface parking and auto-oriented interior transportation facilities.

In the near term, that property may continue to expand its bike and pedestrian amenities and other transit-supportive design accommodations, which should help improve its functional role as a potential multimodal hub. Over the longer planning horizon, Meadowood is a good candidate for more dramatic redevelopment, following in the path of many aging suburban enclosed malls across the country - shifting away from a purely retail destination function to a mix of land uses including residential, scaled-back and more neighborhood-serving retail, along with "other" uses and services that could include educational, medical, entertainment or even tech-oriented employment.

With a property roughly the same size as the planned Downtown Damonte (nearly 70 acres within the Meadowood Mall Circle), such a repurposing, if planned with transit service as an integral component, could make the Meadowood Mall property an excellent source for (and beneficiary of) future BRT ridership.

MEADOWOOD MALL



Meadowood Mall/RTC Xfer Center



Figure 3.4 Meadowood Mall Transit Focus Area

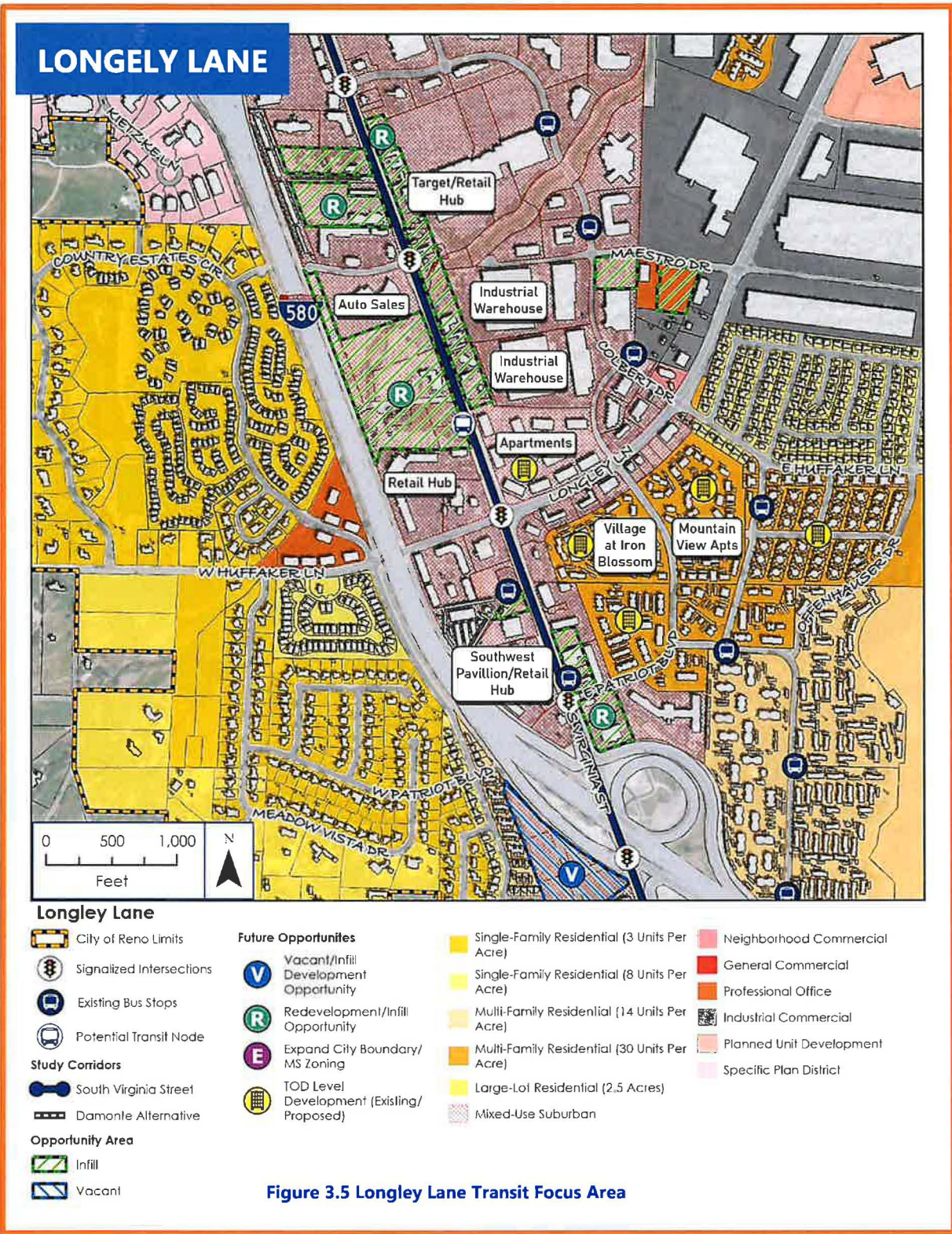


Figure 3.5 Longley Lane Transit Focus Area

The Longley Lane transit focus area consists primarily of MS zoning along South Virginia Street and features a large concentration of multi-family residential (30 units per acre) housing developments. Additional multi-family housing is under construction within the study area and the rest is dominated by a mix of old and new retail. To the east is a mix of medium and low-density housing and farther up Longley Lane there is a large industrial zoning. Redevelopment opportunities for TOD exist on smaller lots close to Virginia St. and is mostly infill.

SOUTH MEADOWS PARKWAY

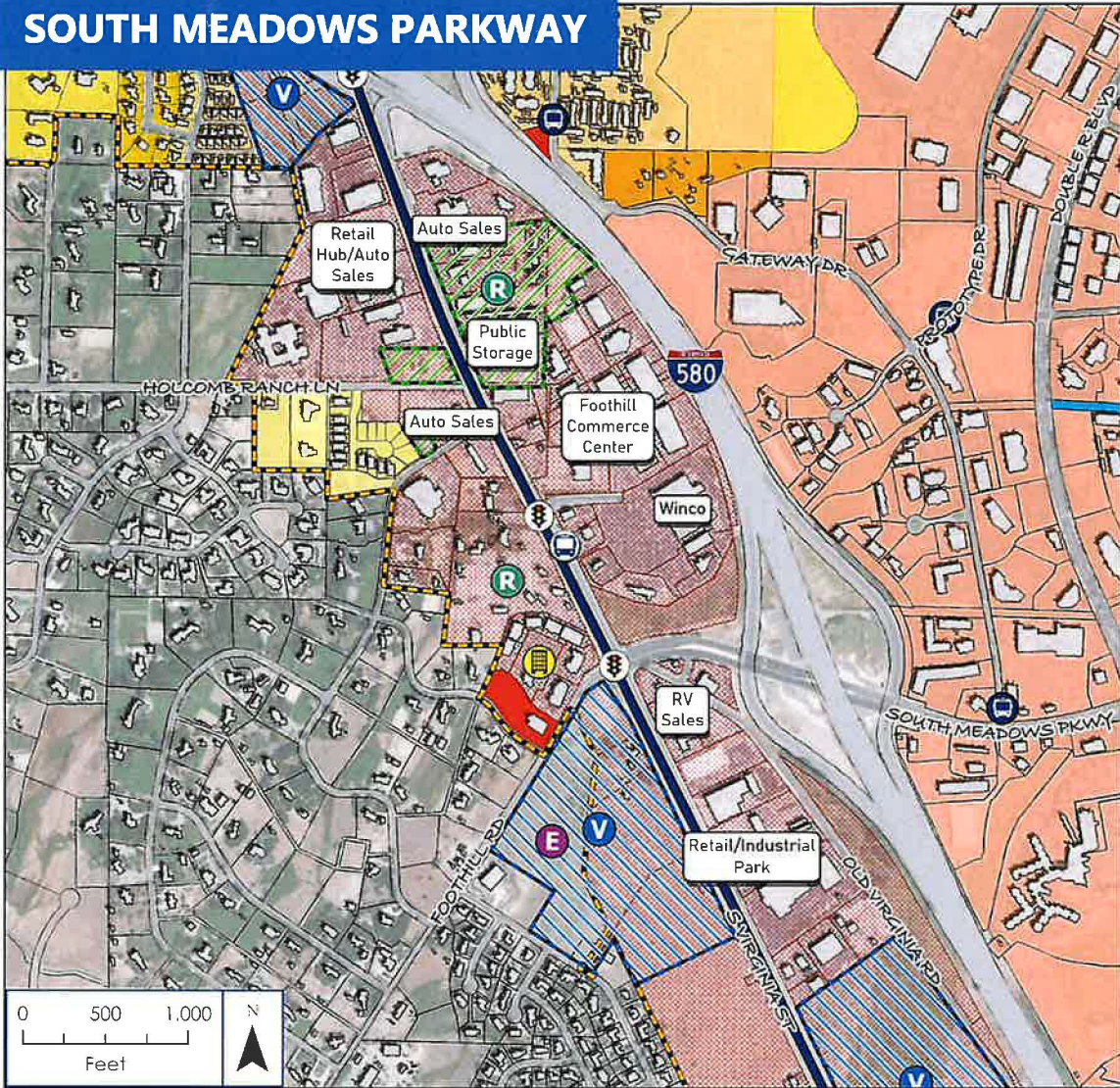
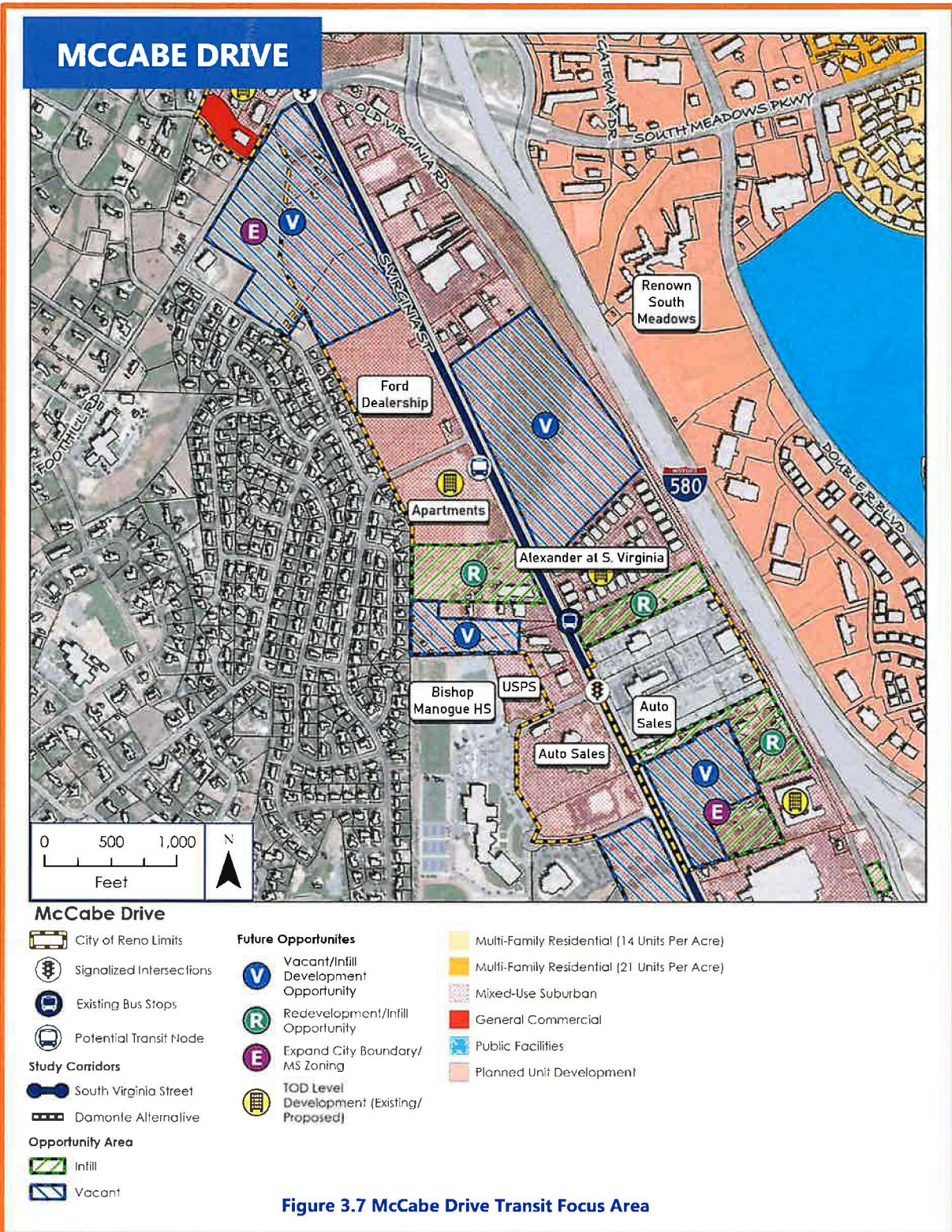
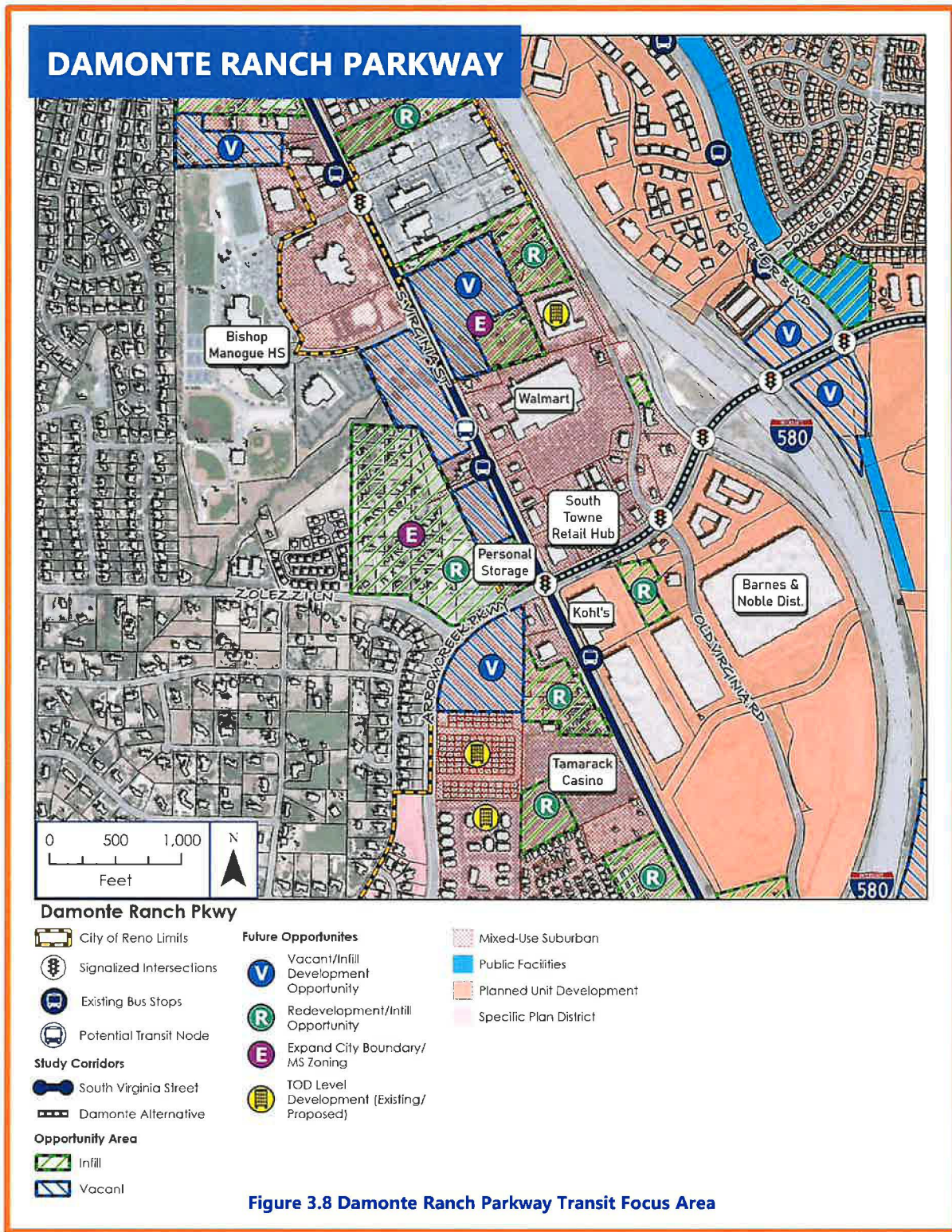


Figure 3.6 South Meadows Parkway Transit Focus Area

The predominant zoning along South Virginia Street in this area is MS consisting of largely traditional commercial operators including car dealerships, RV sales, public storage, and big box stores. The South Creek Retail Center located at the intersection of South Meadows Pkwy and South Virginia St is newer mixed-use development with an enhanced focus on pedestrian access. Redevelopment opportunities are available across the street from the South Creek Retail Center and on vacant infill lots. The City limits may be expanded here to increase the redevelopment opportunities.



The zoning along South Virginia Street is largely MS but this area has the largest available vacant land along South Virginia Street. A large vacant lot recommended for TOD exists across from two high density multi-family residential developments, one of which is currently under construction. Other older developments exist in this area and Bishop Manogue Catholic High School, located in Washoe County is surrounded by less transit supportive car dealerships. Any future transit-supportive projects in this area could enhance the transit opportunities and serve the existing transit supportive residential.



The area is primarily MS and PUD zoning to the east supporting a big box retail development with a light industrial business park. These large parking lots may eventually be feasible for infill redevelopment, but these opportunities are limited based on the age of the existing retail. The TOD opportunities are largely infill lots to the west of South Virginia Street and include opportunities to expand the City Limits into Washoe County to increase the MS zoning. The Tamarack Casino is largely reliant on transit for many of its employees and as the area develops additional opportunities for expansion and redevelopment around the casino exist. These future developments can take advantage of transit supportive development and serve the existing multifamily that exists along Arrowcreek Parkway.

Downtown Damonte

The Downtown Damonte transit focus area (**Figure 3.9**) falls almost entirely within the Damonte Ranch PUD zoning with small sections of public facilities zoning. There are currently no redevelopment opportunities that exist due to the PUD built-out. The most important single Study Area planned development, in terms of transit-supportive land use, is Downtown Damonte, the planned mixed-use focal point for the broader Damonte Ranch cluster of residential development in south Reno. The developer partnership of Nevada Pacific Development Corp. and The Di Loreto Companies describe the project in their site planning materials as “a walkable canvas of dining, housing, office, retail, medical, recreational, and commercial opportunities with a target occupancy date of late 2024 to early 2025.”

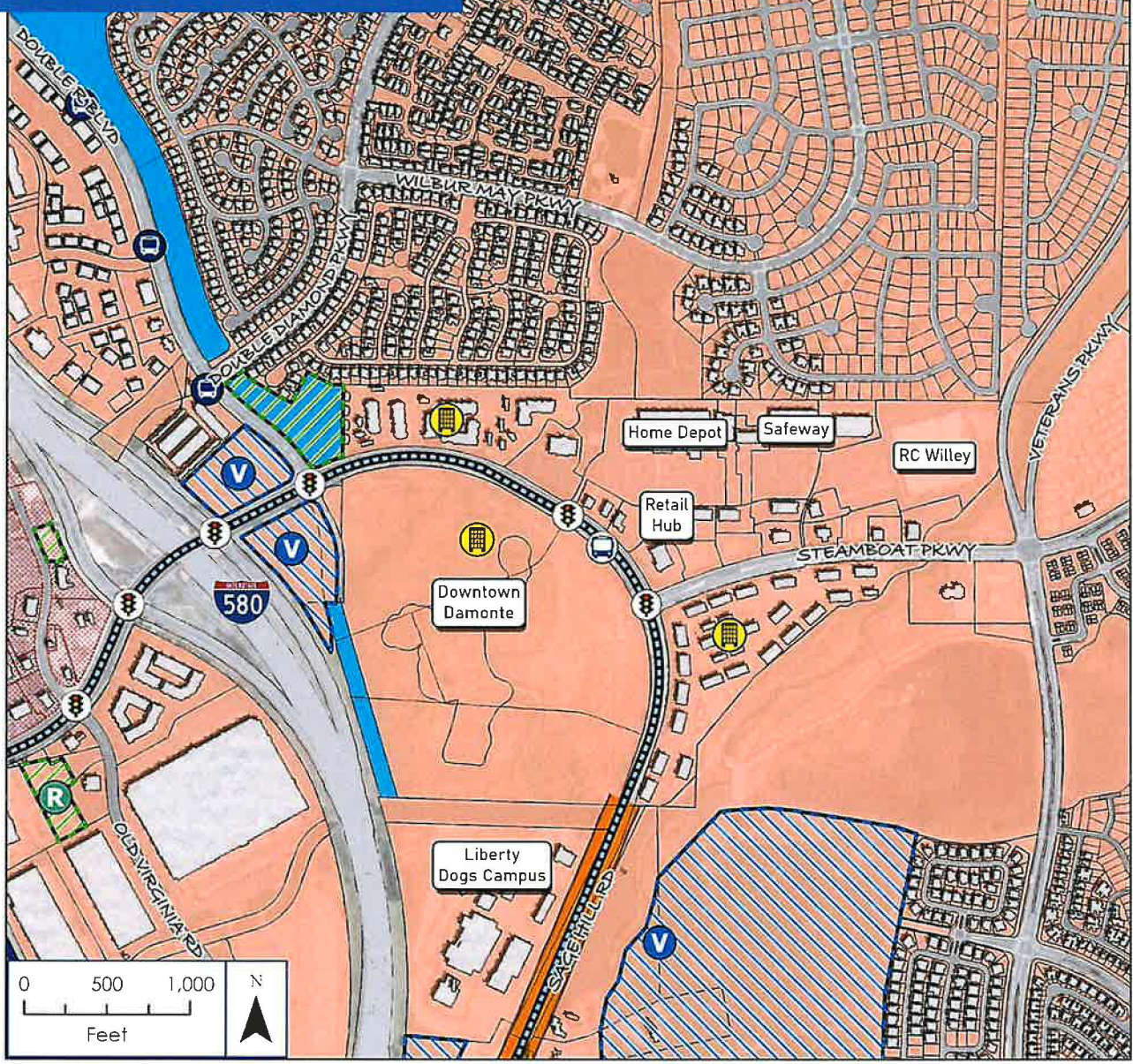
That 73-acre project, as proposed, would include up to 900 residential units – almost one fifth of the total residential unit development in the larger Damonte Ranch master-planned development. As such, the Downtown Damonte area alone could account for as many future added residents as are projected for the entire northern two-fifths of the Study Area, above Foothills Blvd./South Meadows Pkwy.

In short, Downtown Damonte, despite not being a prototypical pedestrian-focused TOD, has a great deal of promise for being a TOD catalyst given its planned future density of housing units, employment, and likely clustering of dining and shopping. While employees of the development’s lodging and retail establishments would be possibly transit-dependent, most of the new pool of prospective riders would likely include mostly riders-by-choice, given the upscale nature of most of the conceived project components for the site therefore requiring a significant increase in awareness and acceptance of mass transit use among the higher wage earners.



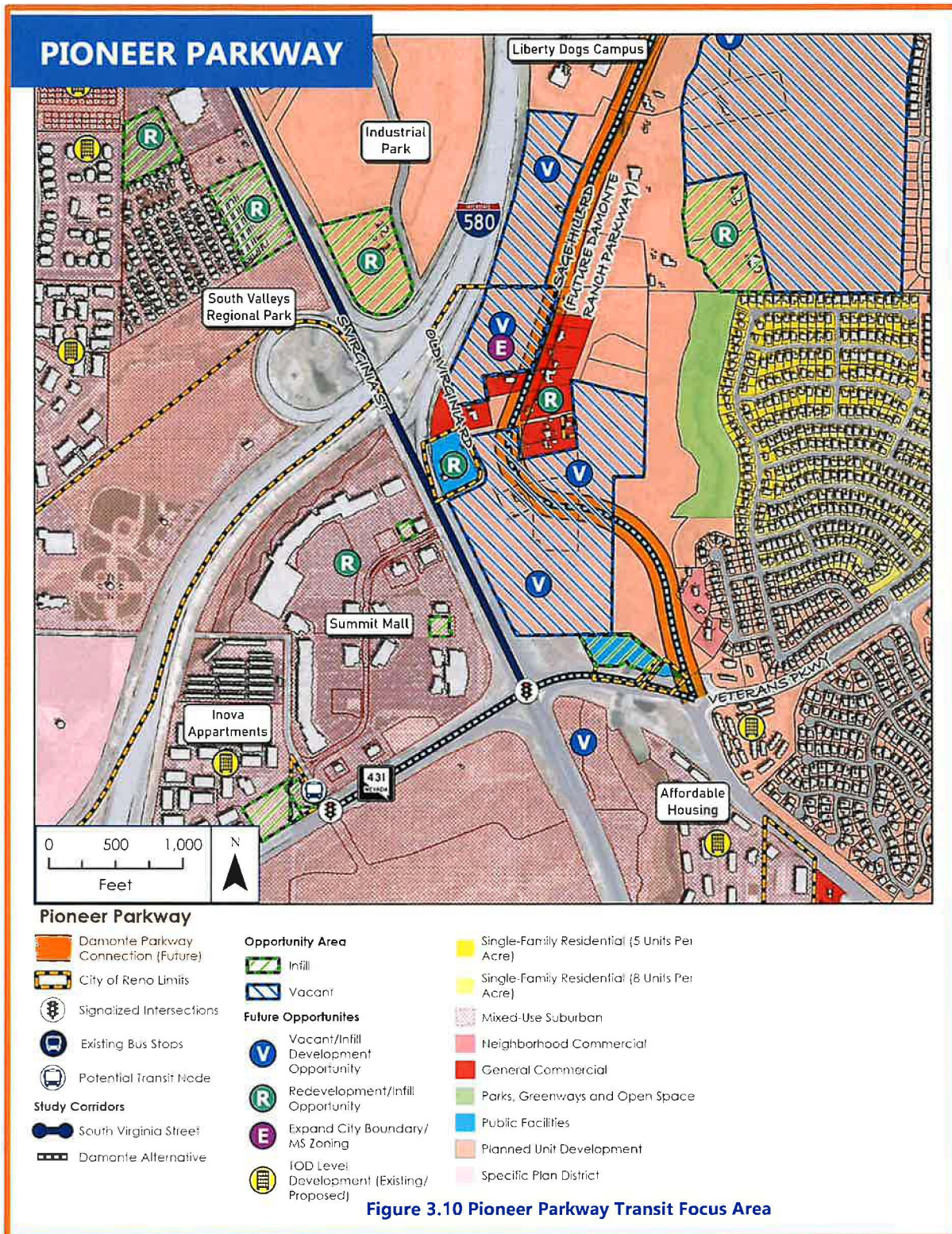
Downtown Damonte Concept Drawing

DOWNTOWN DAMONTE

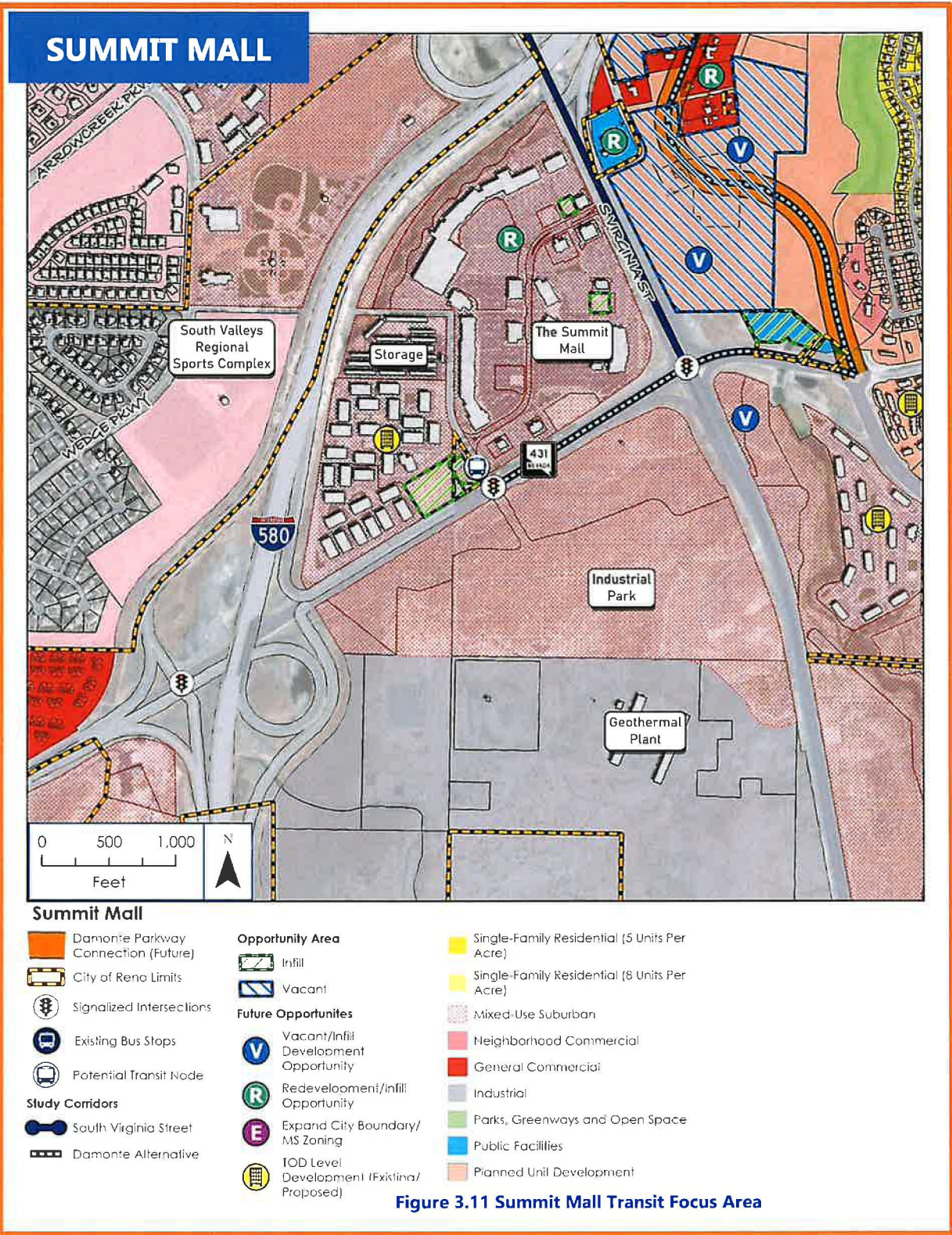


- Downtown Damonte**
- Damonte Parkway Connection (Future)
 - City of Reno Limits
 - Signalized Intersections
 - Existing Bus Stops
 - Potential Transit Node
- Study Corridors**
- South Virginia Street
 - Damonte Alternative
- Opportunity Area**
- Infill
 - Vacant
- Future Opportunities**
- Vacant/Infill Development Opportunity
 - Redevelopment/Infill Opportunity
 - Expand City Boundary/MS Zoning
 - TOD Level Development (Existing/Proposed)
- Other Legend Items:**
- Mixed-Use Suburban
 - Public Facilities
 - Planned Unit Development

Figure 3.9 Downtown Damonte Transit Focus Area



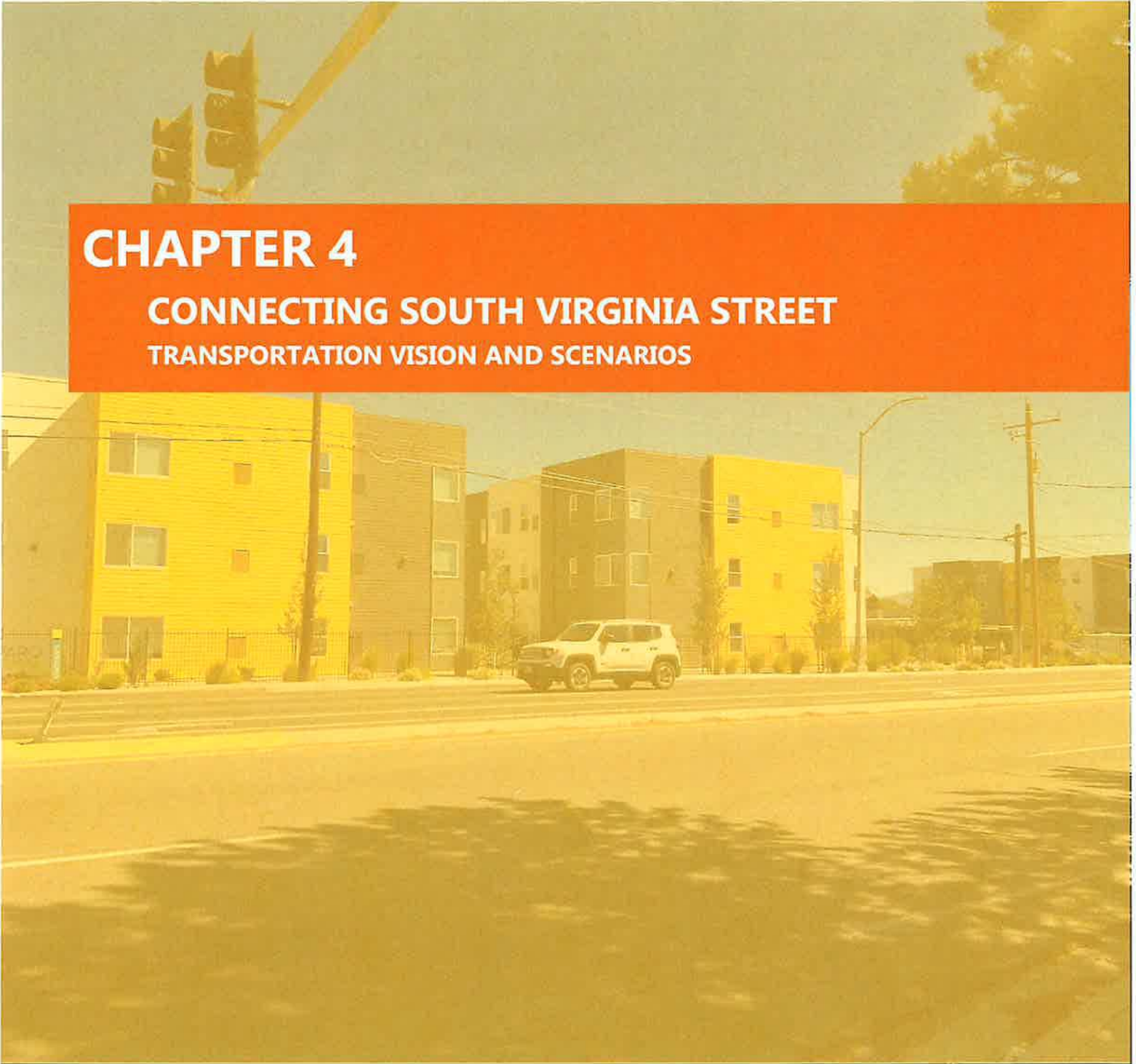
The Pioneer Parkway transit focus area is located in the heart of the Pioneer Parkway PUD and consists entirely of the PUD zoning. This development was approved in 2008 but has yet to break ground. The connection from the terminus of Damonte Ranch Parkway to the Veterans Parkway/Geiger Grade (SR 341)/Mount rose Highway (SR 431) roundabout is anticipated to be completed as part of this development. With the potential to add thousands of residential units, this focus area can encourage transit supportive design into the future development, including serving the existing affordable housing project located along Geiger Grade (SR 341).



The tentative southern terminus is located within a regional lifestyle retail center known as The Summit Mall which includes 65 stores with just over 500,000 square feet of surface-parked retail space representing a concentration of possible employment and the Inova Apartment complex that includes a portion of units dedicated to affordable housing. A large industrial employment center to the south is currently planned but the more notable opportunities for a future transit supportive development include revitalizing existing centers where large parking areas could be converted to vertical parking with additional commercial added.

CHAPTER 4

CONNECTING SOUTH VIRGINIA STREET TRANSPORTATION VISION AND SCENARIOS



Transit Supportive Land Use

Transit exists to get people where they want to go, such as home, work, school, a friend's house, or an appointment. In other words, there must be a market for transit to serve. Transit demand is strongly related to six factors:

- **Population and Population Density:** Transit relies on having more people in close proximity to service. Higher population density makes it possible to provide higher levels of transit service.
- **Socioeconomic Characteristics:** People may be more or less likely to use transit based on socioeconomic characteristics. For example, households with one or no cars are much more likely to use transit than households with several cars.
- **Jobs and Job Density:** Traveling to and from work often accounts for the most frequent type of transit trip. As a result, the location and density of jobs is a strong indicator of transit demand and the level of transit service that is possible.
- **Land Use Patterns:** In all cities, there is a strong correlation between land use patterns and transit ridership. In areas with denser development, mixed-use development, and a good pedestrian environment, transit can be very convenient for more people.
- **Major Activity Centers:** Large employers, universities, tourism destinations, and other high-activity areas attract large volumes of people and can generate a large number of transit trips.
- **Travel Flows:** People use transit to get from one place to another. Major transit lines such as rapid transit services or high frequency bus routes are designed to serve trips or corridors with high volumes of travel.

Of these six factors, population and job density are the most important when it comes to demand for transit and how much service is feasible to provide. This is because transit viability hinges on the intensity and distribution of land use.

Future Development and Transit in the Study Area

Looking to the future, the TMRPA's 2022 Washoe County Consensus Forecast anticipates the county to grow at a rate of 0.92 percent. This would result in an increase in population of 98,299 and an increase in employment totaling 68,000 jobs from 2022 to 2042. Considering the range of development that is allowed in the zoning that was discussed earlier, and considering there are nearly 700 acres of vacant land with the potential of more through redevelopment, the amount of growth that is absorbed within the study area will depend on the type of development that occurs in these areas. Therefore, the best way to plan for future growth will be through analyzing several development scenarios. These scenarios will help to predict the types of population and job growth that the study area can anticipate over the next thirty years to help better predict the type of transit that can be supported within the study area.

The following scenarios are based on the Traffic Analysis Zones (TAZ) that intersect the study area. From the TAZs the forecasted population growth and job growth were then projected based on specific scenarios impacting land use changes within the study area. This allowed each scenario to project where the population and job growth would occur throughout the study area. In all a total of ninety (90) TAZs were analyzed as part of this process. Under each scenario specific population growth rates and job rates were applied to the existing TAZ totals based on the opportunity areas identified in Chapter 3 (**Figure 3.2**). A comparison of the scenarios and change in each TAZ group by scenario can be referenced in **Appendix B – Land Use Tech Memo**.

It should be noted that these growth scenarios will be used to model future transit routes and the anticipated ridership. While the types of development proposed in these scenarios directly impacts the population and job growth, the total population and jobs will help to determine the type of transit that can serve the study area and how the future growth patterns represent the development scenarios. To determine which transit service would best serve the study area, **Figure 4.1** shows the correlation and accompanying thresholds between the study area land use characteristics (e.g., population and job densities) and transit service types and treatments. The main takeaway from this research is that denser corridors are more supportive of high capacity and more frequent transit service. For example, a low-density development found adjacent to the corridor in Washoe County may have a subdivision which allows one-third acre lots, or three dwelling units per acre (3 du/ac). At 2.65 persons per household, this would equal eight (8) persons per acre and would be supportive of micro transit, rideshare, and volunteer driver program according to **Figure 4.1**. Conversely for a high-density development in the City of

Reno Mixed Use zoning (MU) requires a minimum of eighteen dwelling units per acre (18 du/ac) along Virginia Steet, or forty-eighty (48) people per acre (based on 2.65 persons per household) and would be supportive of BRT, Rapid Transit, or a local bus service.

LAND USE			TRANSIT	
Land Use Type	Residents per Acre	Jobs per Acre	Appropriate Types of Transit	Frequency of Service
 Downtowns & High Density Corridors	>45	>25	Light Rail BRT Rapid Bus Local Bus	 10 mins or better
 Urban Mixed-Use	30-45	15-25	BRT Rapid Bus Local Bus	 10-15 minutes
 Neighborhood & Suburban Mixed-Use	15-30	10-15	Local Bus	 15-30 minutes
 Mixed Neighborhoods	10-15	5-10	Local Bus Micro-transit	 30-60 minutes
 Low Density	2-10	2-5	Micro-transit Rideshare Volunteer Driver Pgm	 60 mins or less or On Demand
 Rural	<2	<2	Rideshare Volunteer Driver Pgm	 On Demand

Source: Thresholds based on research by NelsonNygaard

Figure 4.1: Land Use Characteristics vs Transit Service Typology

Looking at the types of development supported in each development scenario in **Figures 4.2, 4.3, and 4.4** and comparing it to appropriate transit in **Figure 4.1**, it provides support that by encouraging more transit supportive development, which includes greater housing density (residents per acre) and employment (jobs per acre), the more likely a BRT style of transit service would be supported in the future.

Another way to look at these scenarios and how they support transit is to predict the potential ridership based on the surrounding population of the existing Lincoln Line and Virginia Line and comparing those percentages to the proposed scenarios. **Table 4.1** shows the existing Lincoln Line supports around 4.5% of the surrounding population and the Virginia Line supports 6.5%. The RTC generally considers these ridership numbers successful when supporting BRT and have been applied to the development scenarios to determine which level of population would be most supportive of transit in the study area.

Table 4.1: Projected Transit Ridership

RTC Route	Corridor Population ¹	Average Daily Riders ²	% of Riders Per Pop.
Lincoln Line	50,700	2,280	4.5%
Virginia Line	67,300	4,250	6.5%
Study Area	Projected Population	Ridership Potential ³	% of Riders Per Pop.
Existing South Virginia Street Corridor	43,000 ¹	1,290 – 2,150	3-5%
Development Scenario 1 ⁴	58,000	1,740 – 2,900	3-5%
Development Scenario 2 ⁴	64,000	1,920 – 3,200	3-5%
Future Growth Scenario 3 ⁴	75,000	2,400 – 4,000	3-5%
Notes: 1. 2020 population of census tracts adjacent to each corridor 2. 2019 average daily ridership 3. Forecast potential South Virginia Street ridership based on corridor population 4. Forecasted 2050+ population based on land use scenarios and level of future infill/redevelopment			

The three potential development scenarios for how the study area will grow over the next three decades utilize current zoning designations and vacant land and redevelopment opportunities in the TAZ. Each scenario anticipates how the type of future development can impact the potential to add additional population and job growth which then affect the types of transit that can be supported in the study area. The projected population and job growth in the following scenarios are based on a percentage of the total estimated regional growth forecasted by the Truckee Meadows Regional Planning Agency. The forecasted numbers were then expanded upon in Scenario 2 and 3 using the appropriate TAZ to calculate a more accurate representation of how the area can grow when applying the land use tools provided in **Table 3.1**. This data projects the growth for the years 2020 through 2050 and pick up where the last census data leaves off. Similarly looking at the development pattern of the previous thirty years (1990-2020), as analyzed in Chapter 1. How much regional growth is absorbed within the study area will depend on the level of density constructed on the vacant and redeveloped land. The development scenarios shown in **Figures 4.2, 4.3, and 4.4** show how the types of future development impact population and job growth within the study area and how this projection impacts the estimated number of riders per day.

Scenario 1, which anticipates growth to continue as it has historically with a mix of transit supportive and non-transit supportive development throughout the study area assumes a population and job growth rate of one percent (1%), the projected population would at minimum support a fixed route. Scenario 2, which applies the land use tools to encourage transit supportive development at the transit focus areas assumes a population growth rate of one and a half percent (1.5%) and a job growth rate of more than one percent (1.2%) and starts to support a population that could support a transit service that is more like BRT. Scenario 3, which anticipates transit supportive development throughout the study area even outside of the transit focus areas, assumes a growth model which is typically seen with the Mixed-Use Urban (MU) zoning designation which includes a minimum density requirement of 0.75 Floor Area Ratio (FAR) for non-residential development and 18 dwelling units per acre (du/acre) for residential. The population and job growth rate under this scenario is near two percent (2.0%) and estimates a population that is the most supportive of BRT. A detailed analysis of the projected growth is further outlined in **Appendix B – Land Use Technical Memo**.

SCENARIO 1

Scenario 1 anticipates development of vacant land/redevelopment under the status quo. Future development within vacant land along South Virginia Street will continue to be a broad range of uses and densities that may or may not support transit.

Population Increase: 15,000
Job Growth: 15,000

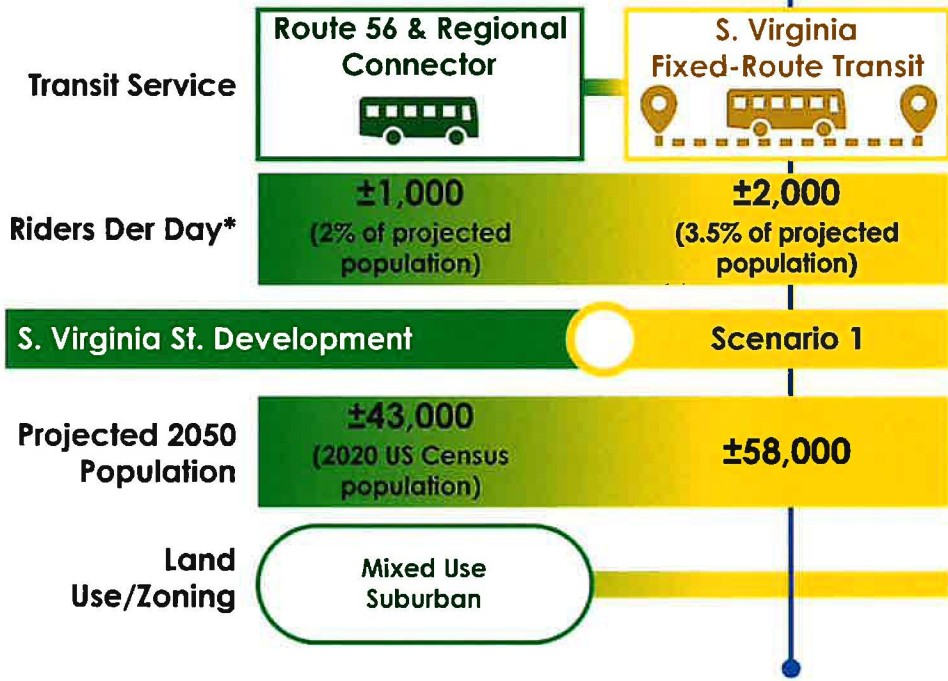
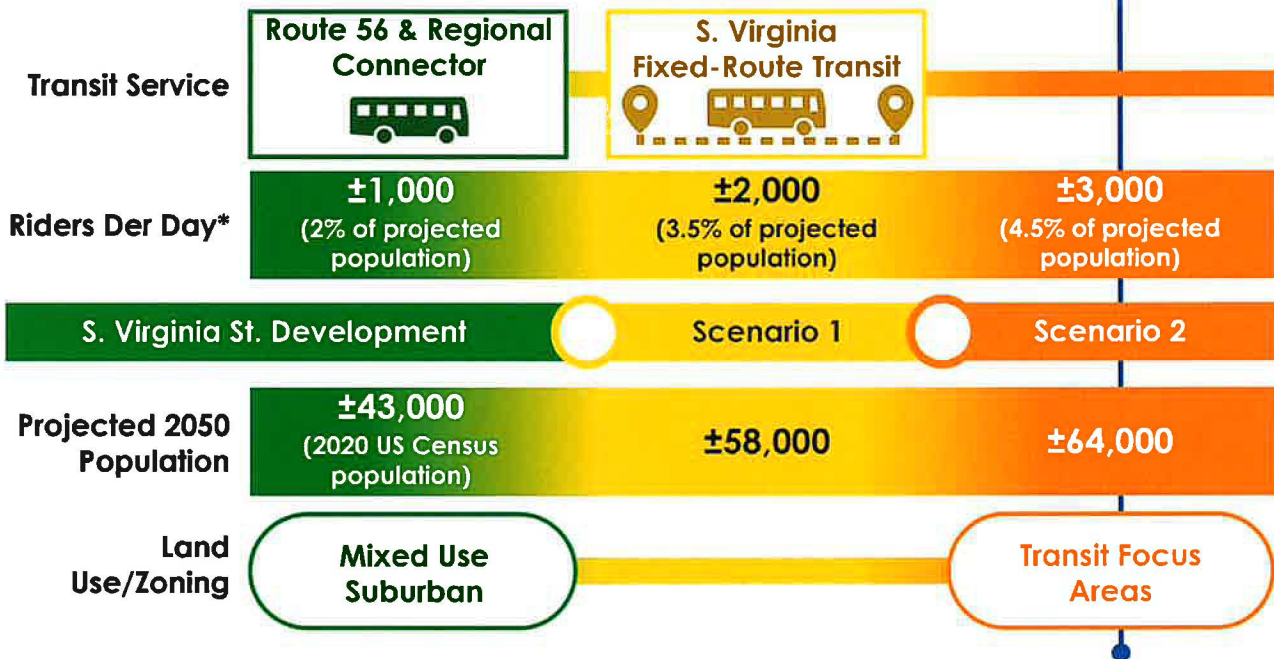


Figure 4.2: Development Scenario 1

SCENARIO 2

Scenario 2 anticipates a more active role using the Transit Focus Areas discussed in Chapter 3 to help guide transit supportive developments within the study area. Development outside the Transit Focus Areas are anticipated to remain a mix of non-transit and transit supportive development. This scenario assumes:

Population Increase: 21,000
Job Growth: 19,000



Land Use Type	Residents Per Acre	Jobs Per Acre	Appropriate Types of Transit	Frequency of Service
 Urban Mixed-Use	30-45	15-25	 BRT Rapid Bus Local Bus	 10-15 minutes

Figure 4.3: Development Scenario 2

SCENARIO 3

Scenario 3 anticipates infill transit supportive development along the entire South Virginia Corridor with concentrated nodes of higher development at the identified Transit Focus Areas in Scenario 2. In this scenario development throughout the study area is similar to that within the Mixed Use Urban (MU) zoning designation, north of the study area. This scenario assumes:

Population Increase: 32,000
Job Growth: 30,000

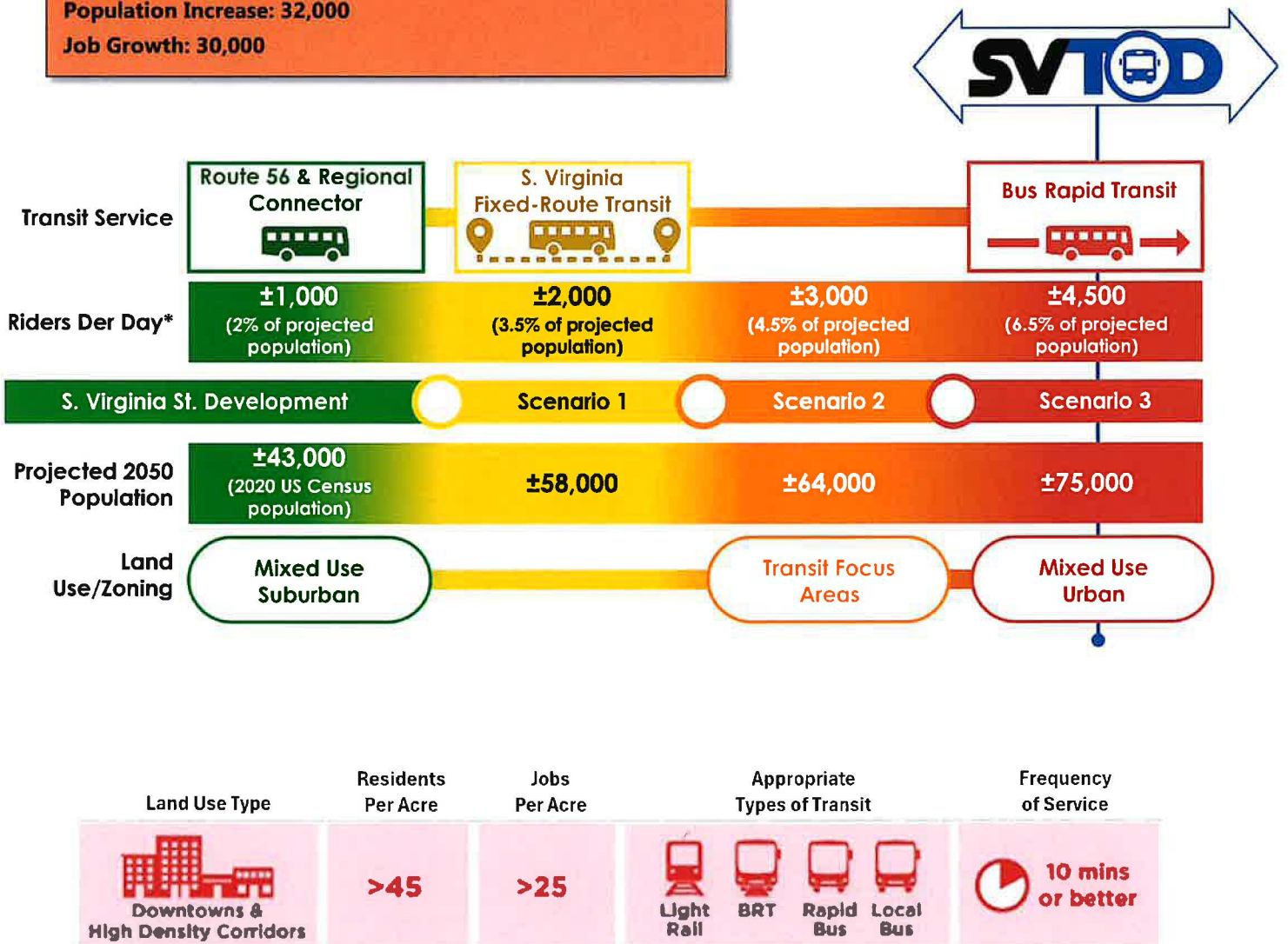


Figure 4.4: Development Scenario 3

Future Transit Route

Although the number of average daily riders based on the current population seems promising, there are many factors that influence ridership beyond population. When performing the Simplified Trips-on-Project Software (STOPS) modeling for this corridor based on the existing ridership data, the model concluded that at minimum a fixed route may be supported in the corridor, but due to the lack of transit in this area, the modeling data wasn't conclusive and further analysis and modeling should be required prior to proposing any type of BRT transit service. At minimum, adding a fixed route may help to generate the ridership data needed for more accurate modeling and if successful would be the first step towards providing BRT service in the study area as transit should be introduced in a phased approach. This process has already begun with the introduction of the FlexRIDE service that currently provides on demand service to portions of the study area, as well as Route 56 which currently runs along a portion of the corridor.

The success of a fixed route service in the study area will depend on serving the most populated areas. A detailed analysis of four (4) alternative routes the details of the STOPS model are discussed in detail in **Appendix C – Transit Technical Memo**. Currently the most logical extension would include stops at Meadowood Mall in the north, and the Downtown Damonte area in the south. Providing two ridership generators at the beginning and end of a future transit route, the transit supportive developments surrounding Meadowood Mall and the transit supportive development proposed at Downtown Damonte, would be critical to the success of BRT and would help to provide the ridership proposed in **Table 4.1**. However, as development continues throughout the corridor, this should be monitored to ensure these developments continue to support transit.

Efforts to Support Development Scenarios

Success of transit in the study area is not only influenced by land use decisions made outside jurisdictional control. The use of right of way and context of the roadway corridor will also have an impact on the level of transit that can be supported along South Virginia Street. As noted throughout the plan, NDOT is finalizing its SMP, the recommendations for which, once implemented, could have a profound effect on future transit and development.

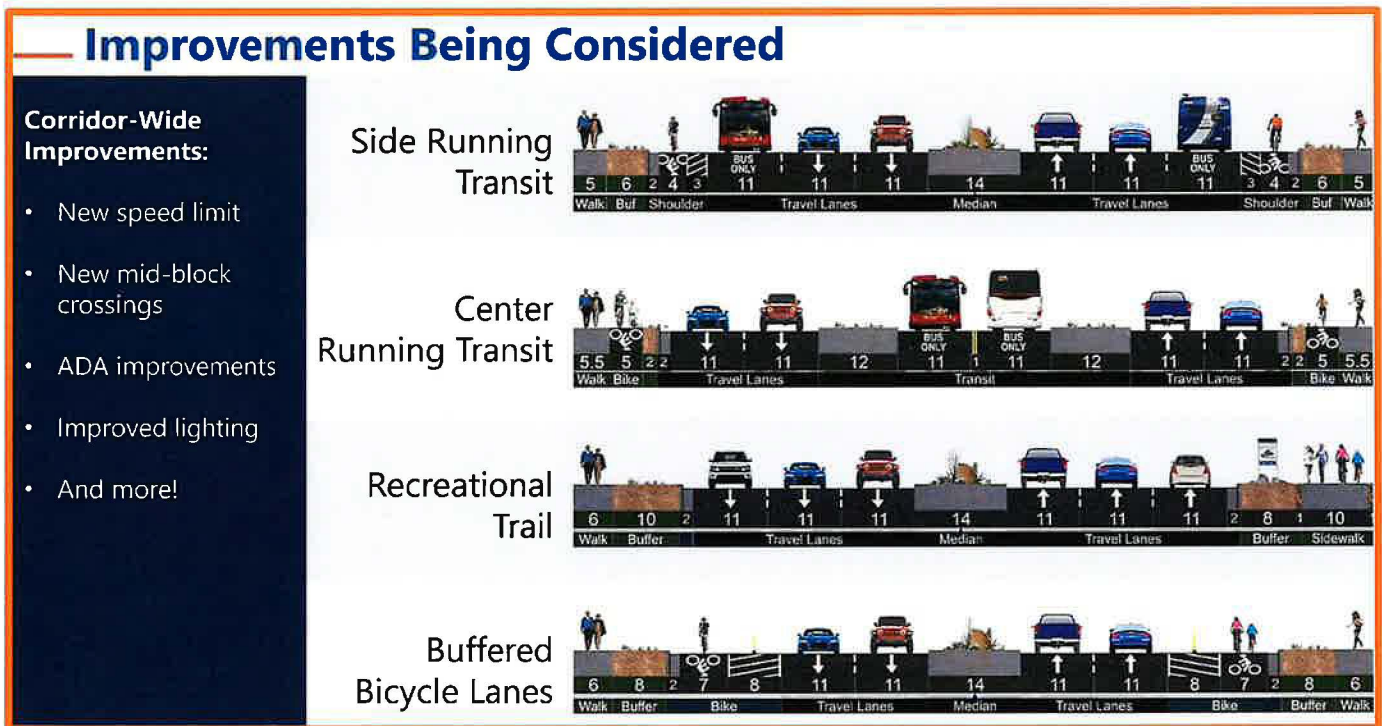


Figure 4.5: SMP Improvements

Safety Management Plan

As part of the SVTOD plan improvement considerations were given to recommendations made in the Roadway Safety Audit (RSA) of South Virginia Street from East Patriot Blvd to Mount Rose Highway. Safety improvements will be evaluated for inclusion in the updated Nevada Department of Transportation Safety Management Plan as shown in **Figure 4.5**. The proposed improvements will be incorporated into the NDOT right of way in the future to increase safety and plan for transit within the South Virginia Street corridor shown in **Figure 4.6**.

Certain elements of the proposed improvements being considered can be included in any portion of the NDOT right-of-way. Since the NDOT SMP was being conducted during the same time as the SVTOD plan, RTC and NDOT staff worked closely during this process to ensure that efforts being considered complement one another. The final preferred alternative for this portion of the corridor will be outlined in the NDOT SMP. Any element shown in **Figure 4.5** above can be mixed and matched throughout the corridor and may be provided in a phased approach. Therefore, ongoing coordination between NDOT and RTC to ensure each agency's needs will be met and to preserve right of way for future transit enhancements will continue. The addition of bike/ped facilities and improved safety (crosswalks, lighting, reduced speeds, etc.) will also go a long way to providing transit-supportive infrastructure. This will influence and encourage additional transit-supportive development as is supported in this plan.



Figure 4.6: SMP Corridor, E. Patriot Blvd to Mount Rose Highway

The background of the page is an aerial photograph of a city street, likely South Virginia Street, with a semi-transparent yellow overlay. The street is wide and has multiple lanes. There are several multi-story buildings on either side, some with flat roofs and others with more complex facades. The overall scene is urban and modern.

CHAPTER 5

MOVING SOUTH VIRGINIA STREET FORWARD IMPLEMENTATION

What will the Next 30 Years Bring?

Over the past three decades, the study area population has boomed from 1,500 to 43,000 (based on US Census tracts located within the Study Area). With nearly 700 acres of vacant land still available and more potential for redevelopment in older areas, the study area has the ability to absorb much of the regional growth that is anticipated in the Truckee Meadows. Planning now for the future growth will allow the infrastructure to support a more multimodal, walkable corridor with higher density development concentrated around transit focus areas. The Mixed Use Suburban Zoning provides the framework for higher density to support a more robust transit system; however, transit supportive development patterns have been slower to take shape. Action items to help encourage transit supportive development have been identified in Table 5.1 below. Many of these action items will require ongoing support and continued partnership among the agencies with various responsibilities within the study area; both from an implementation perspective as well as working together to find opportunities to encourage more sustainable growth patterns.

Table 5.1: SVTOD Action Plan

SVTOD ACTION PLAN				
	Action	Timing	Responsibility	Implementation Notes
Land Use Strategies				
LU1	Expand City boundary to include opportunity areas into Mixed Use Suburban Zoning	S	City of Reno/TMRPA	Will require a Regional Plan and City Master Plan.
LU2	Expand Mixed Use Urban Zoning	F	City of Reno	Currently ends at Meadowood Mall.
LU3	Support for expansion services in tier 1 areas	O	City of Reno/RTC	Consider transit service as a whole for the region and prioritize needs
Transportation Strategies				
T1	Analyze opportunity for a fixed route service along S. Virginia Street	S	RTC	
T2	Continue partnership to implement Safety Management Plan recommendations	S/F	NDOT/RTC/City of Reno	
T3	Continue to coordinate efforts to design funding for the S. Virginia Street corridor	M	NDOT/RTC	
T4	Construct multimodal design concept to encourage transit supportive development along S. Virginia Street	L	NDOT/RTC	
T5	Consider future feeder services to support BRT	L	RTC/City of Reno	Establish feeder routes that connect to future transit along S. Virginia St.
Investments in TOD Strategies				
I1	Consider vacant and redevelopment parcels for opportunity to purchase for future TOD/Bus Station	F	RTC/City of Reno	Seek grant funding
I2	Continue to monitor growth and development in the corridor	Annually	RTC/City of Reno/TMRPA	Collaborate on annual report that displays changes in growth and density patterns and correlate to appropriate levels of transit service.
I3	Explore public/private partnerships with landowners/developers	F	RTC/City of Reno	

Timing:

S – Short Term (Complete by 2027)

M – Medium Term (Complete by 2030)

L – Long Term (Complete by 2050)

F – Future, No Timeline (As funding/partnering/opportunity is available)

O – Ongoing, No Expiration Date

Implementation

The SVTOD further builds on the framework for improving the South Virginia Street corridor to accommodate future growth as identified in the 2019 Truckee Meadows Regional Plan and the City of Reno ReImagine Master Plan. The SVTOD provides direction on how to accomplish a sustainable growth pattern for the South Virginia Street corridor supported by transit and multimodal options by targeting three major categories as outlined in the SVTOD Action Plan (Table 5.1), Land Use, Transportation, and Investment in Transit Oriented Development.

Land Use Strategies:

- The Study Area has favorable zoning of Mixed Use Suburban to encourage transit supportive development. Expand that zoning area where feasible to try and encourage redevelopment and infill around identified transit focus areas. This includes incorporating some of the Washoe County area into City of Reno in order to expand the Mixed Use Suburban zoning.
- The current zoning does allow less intense non-transit supportive uses. Focus efforts on working with the City of Reno to identify ways to incentivize or gradually increase development standards for the transit focus areas to encourage higher density uses.

Transportation Strategies:

- Continue partnership with NDOT to transform South Virginia Street into a multimodal corridor. Transforming the right of way into a complete street will increase land values and encourage more transit supportive development patterns. Adding bike and pedestrian amenities as a first step will be a major improvement in the corridor.
- Providing transit service to currently proposed higher intense developments such Downtown Damonte will provide quick wins and show an investment in transit for the Study Area.
- Continue to increase the level of transit service as growth occurs in the corridor.

Investment in TOD Strategies:

- Continue to collaborate with the City of Reno, developers, and landowners around transit focus areas to explore opportunities to encourage transit supportive development patterns. Identifying infrastructure or financial incentives, providing a funding partnership opportunity for increased density, or simply reserving area for future transit amenities are some examples of helping maximize transit oriented development.
- Identify opportunity parcels around transit focus areas and explore funding opportunities to acquire the land for a future transit supportive development. Explore partnering opportunities with publicly owned parcels, some of which are owned by the Washoe County School District.
- Collaborate with existing underutilized infill site landowners and developers to explore partnerships for redevelopment and incorporating transit and multimodal connectivity opportunities. Meadowood Mall parking areas could be a great candidate for a future partnership where mixed use higher density housing and vertical parking provide an opportunity to support a mobility hub without impacting the existing mall.

The evolution of South Virginia Street is largely dependent on outside influences and will continue to respond to growth and the private market. Planning for and continuing to encourage sustainable growth is essential to ensure this corridor is a testament to the vibrant changes shaping our community. It starts with investments in the infrastructure, followed by collaboration and public/private partnerships, and continuing to phase in transit to support the future housing and employment opportunities in the corridor.



TECHNICAL MEMO
Existing Conditions Report

July 01, 2024



Prepared For



Prepared By



WOOD RODGERS

BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

1361 Corporate Boulevard
Reno, NV 89502

Tel: 775.823.4068
Fax: 775.823.4066

TABLE OF CONTENTS

EXISTING CONDITIONS	1
Background.....	1
Study Purpose and Need.....	1
Study Area.....	1
Existing Roadway Conditions.....	4
Existing Traffic Conditions.....	9
Existing Land Use.....	12
Existing Demographics.....	17
Existing Plans and Studies.....	18

Tables

Table 1: Transportation Plans and Studies

Figures

- Figure 1: Study Area
- Figure 2: Influences Along the Corridors
- Figure 3: Roadway
- Figure 4: Existing Sidewalk
- Figure 5: Existing Bike Facilities
- Figure 6: Existing Transit Facilities
- Figure 7: Signalized
- Figure 8: Annual Average Daily Traffic (AADT)
- Figure 9: Crash Density (2016-2020)
- Figure 10: Pedestrian/Bicyclist/Vehicle (2016-2020)
- Figure 11: Jurisdiction Map
- Figure 12: Master Plan
- Figure 13: Zoning
- Figure 14: Vacant Land
- Figure 15: Age by Block Group
- Figure 16: Median Income by Block Group
- Figure 17: Population by Block Group
- Figure 18: Existing Conditions Executive Summary

EXISTING CONDITIONS

Background

Virginia Street runs from Red Rock Road in the north valleys to Mount Rose Highway in the south valleys and is also considered US 395 Alternative Highway and was the historical north/south connection through Reno up until the construction of Interstate-580 (I-580). Virginia Street is famous for the Virginia Street Bridge, the Reno Arch and connects the downtown core, University of Nevada Reno, Midtown, and North/South Reno.

Study Purpose and Need

Virginia Street within the McCarran Ring (N. McCarran Blvd to S. McCarran Blvd), has been developed as a major corridor, complete with multi-modal transportation elements including the Virginia Line Bus Rapid Transit (BRT) service. The BRT currently runs along Virginia and Center Street with service arriving every ten minutes taking passengers from the University of Nevada Reno in the north to the Meadowood Mall in the south. As the area continues to grow and additional density is being developed along Virginia Street, there may be a need to expand the BRT service to the south.

South Virginia Street, from S. McCarran Boulevard to the Mount Rose Highway (SR 431) has transitioned over the last 50 years from a rural highway connecting Reno and Carson City, to a high-density mixed-use corridor. This transition is still underway. Resulting in a patchwork of transit elements throughout the S. Virginia Street corridor. Identifying the existing conditions within the study area will help to establish opportunities and needs and identify how the future extension of the BRT can create a multi-modal, transit-supportive development pattern that meets the growth and development needs of the region.

Study Area

The study corridor extends along **South Virginia Street** from the BRT route's current terminus at the Meadowood Mall transfer station to the Mount Rose Highway (SR 431). A majority of the corridor has already been developed (S. McCarran Blvd. to S. Meadows Pkwy) but the area south of Damonte Ranch Parkway remains mostly vacant with several high-density projects being planned. Therefore, an alternate study route has been included to see if an alternative BRT route, off Virginia Street, could be more successful. This corridor is identified as **Damonte/Wedge Alternative**. The project boundary, or study area, is based on an approximate three-quarter mile walking distance from the South Virginia Street and Damonte/Wedge Alternative corridors using existing streets. The entire study area includes 6,025 acres. A majority of which is within the City of Reno jurisdiction with portions of Unincorporated Washoe County to the west.

Corridors:

South Virginia Street: Is bound by Meadowood Mall in the north and the Summit Mall in the south. Specifically, the ±5.61 miles are between South McCarran Boulevard to Mount Rose Highway (SR 431).

Damonte/Wedge Alternative: A circular corridor that is adjacent to many multi-family developments, the RTC Park and Ride in the Summit Mall, and the University of Nevada Redfield Campus. The ±6.31 miles including

portions of Damonte Ranch Parkway from South Virginia Street to the terminus of Damonte Ranch Parkway. Future Damonte Ranch Parkway which includes a connection from Steamboat Parkway to Mount Rose Highway/Geiger Grade Road. Mount Rose Highway (SR 431) from Geiger Grade Road to Wedge Parkway; Wedge Parkway from SR 431 to Arrowcreek Parkway; and Arrowcreek Parkway from Wedge Parkway to South Virginia Street.

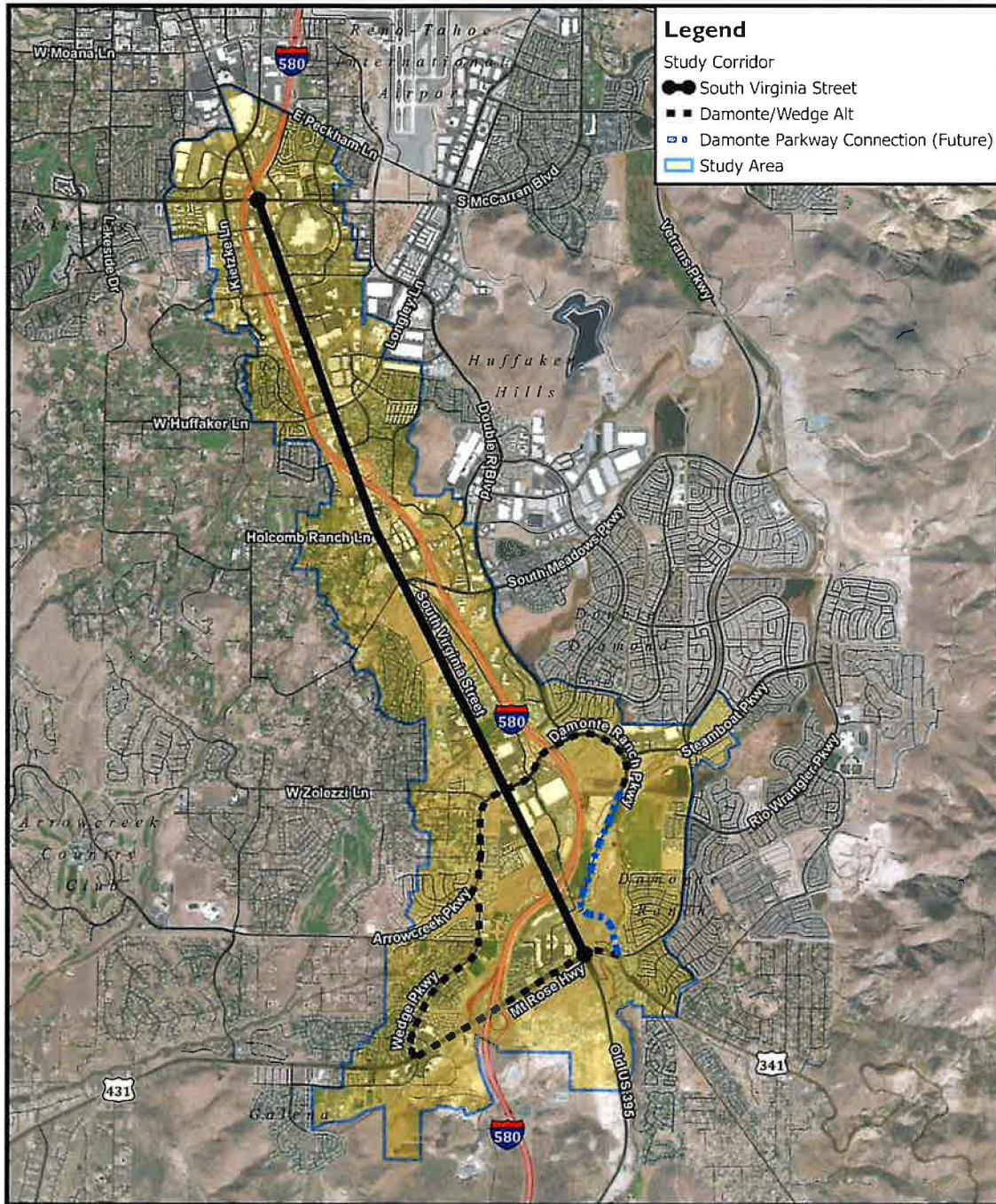


Figure 1: Study Area

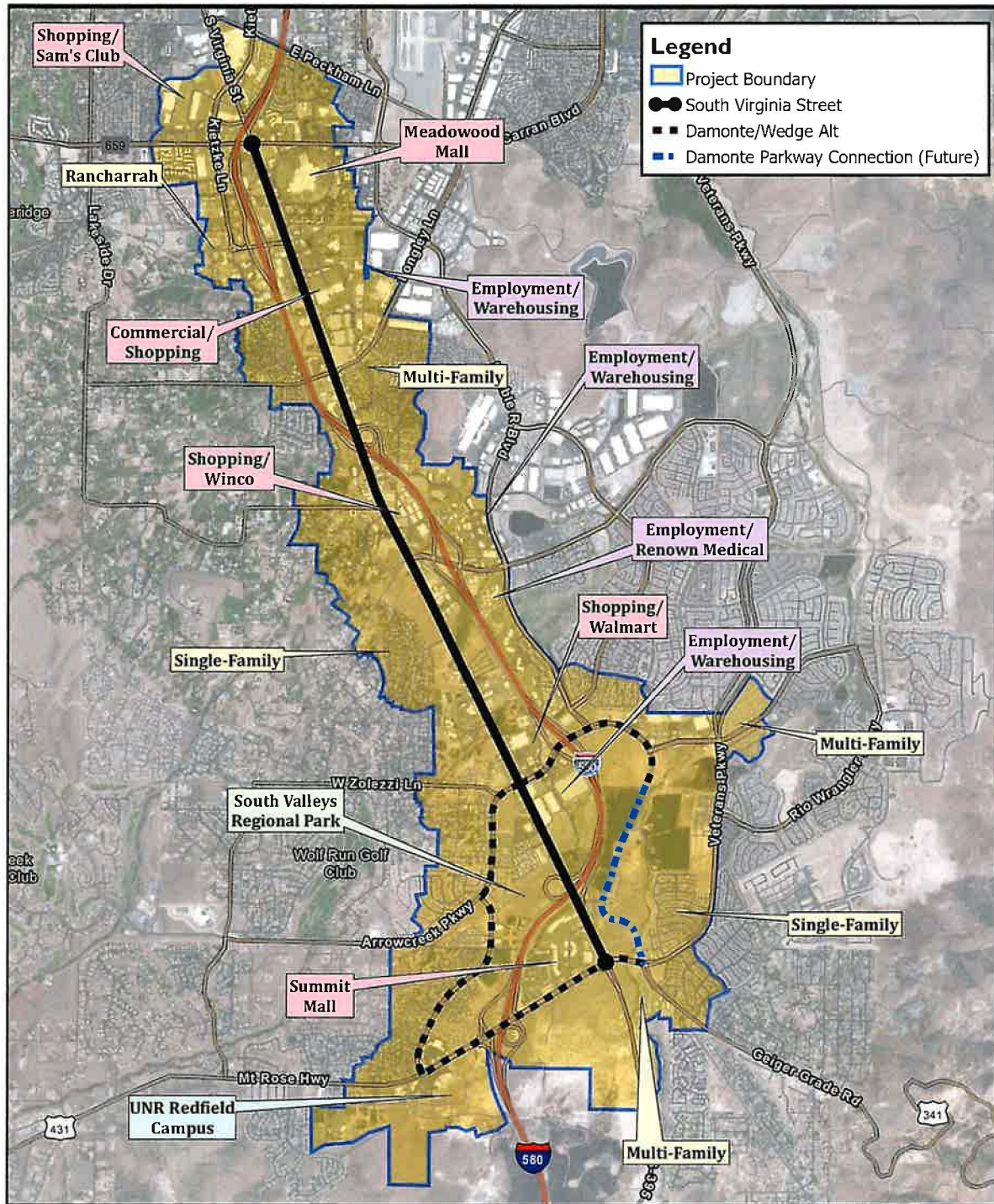


Figure 2: Influences Along the Corridors

Existing Roadway Conditions

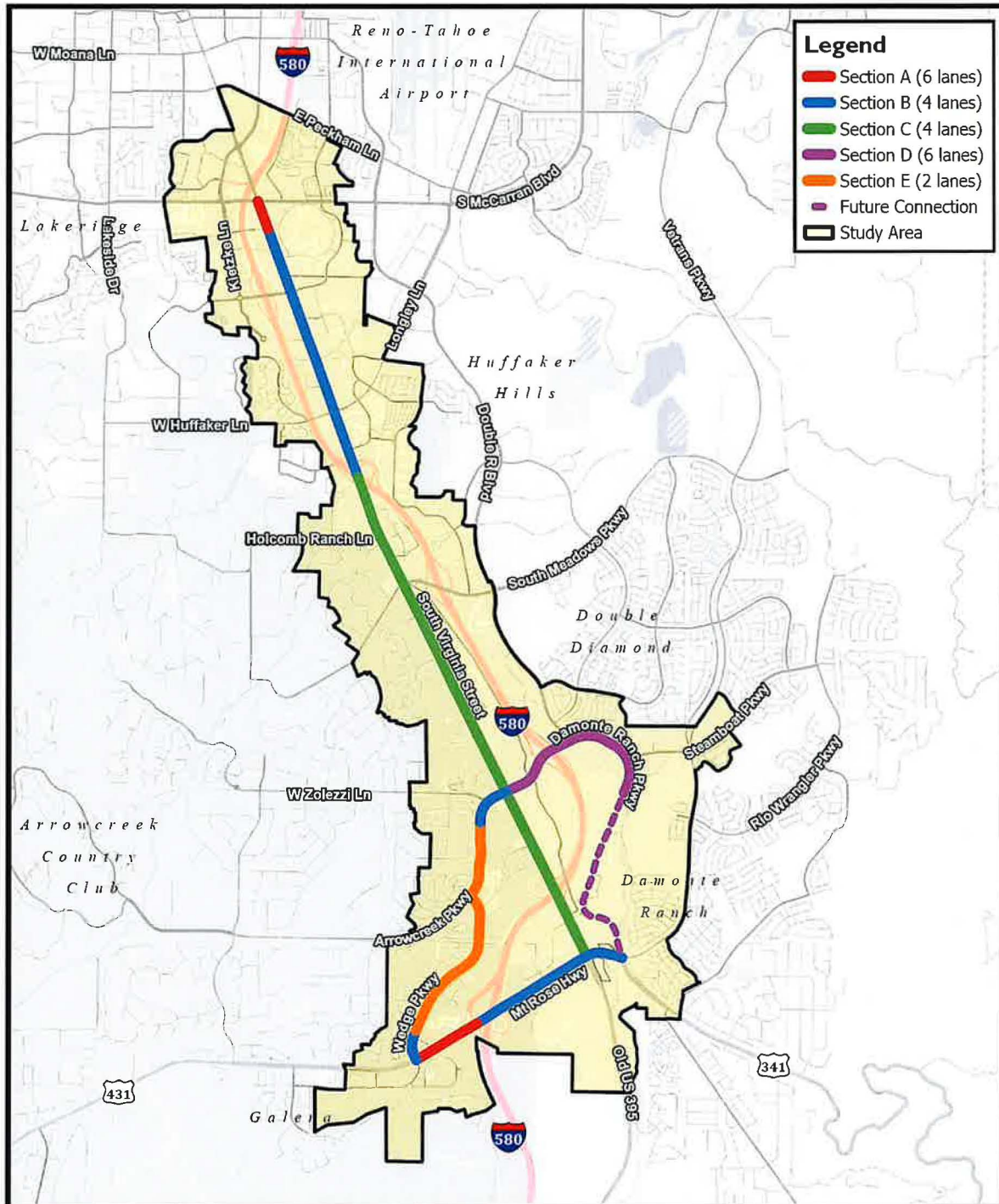
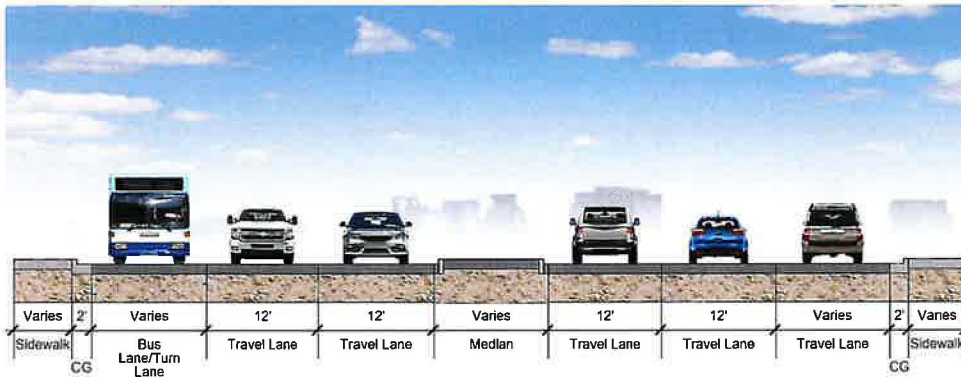


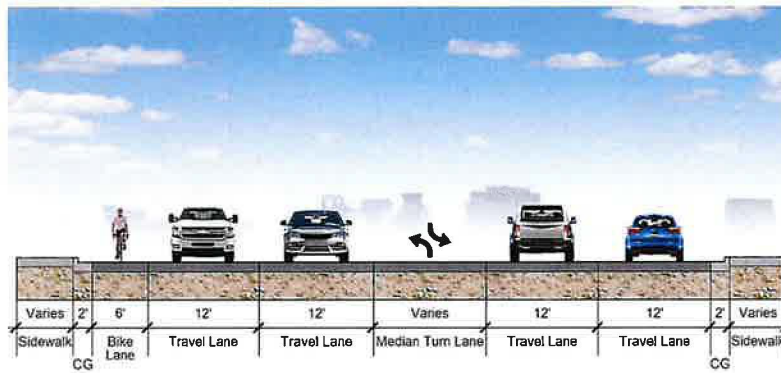
Figure 3: Roadway

Cross Sections:

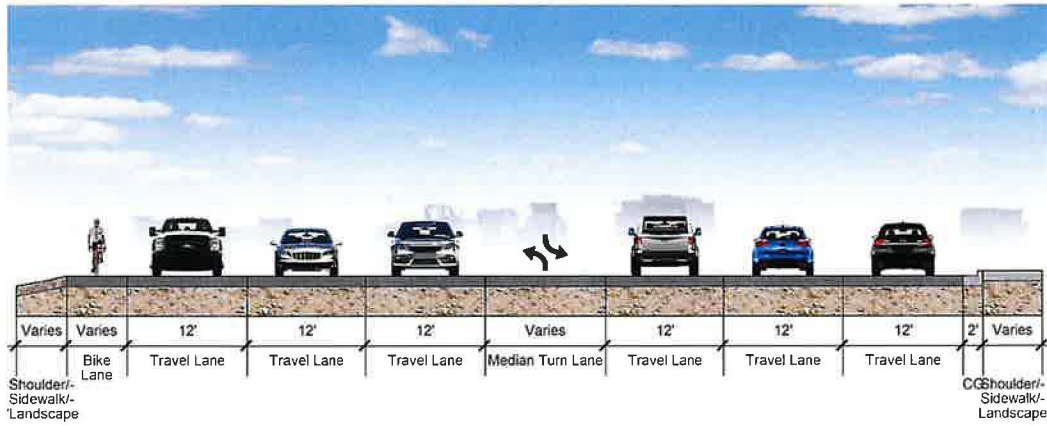
The **South Virginia Street Corridor** transitions from a four to six lane street with intermittent sidewalk and bike lanes. Generally, the vacant properties along the corridor have a shoulder and drainage ditch where newer developments have curb and gutter. Sections A, B, & C identified below, are found throughout the corridor. Speeds range from 45 miles per hour to 55 mph. The **Damonte/Wedge Alt Corridor** is a wider range of street sections with six lane roads found along Damonte Ranch Parkway and the Mount Rose Highway, with smaller collector streets at Wedge Parkway and Arrowcreek Parkway (Sections C, D, and E). Speeds range from 35 mph to 55 mph.



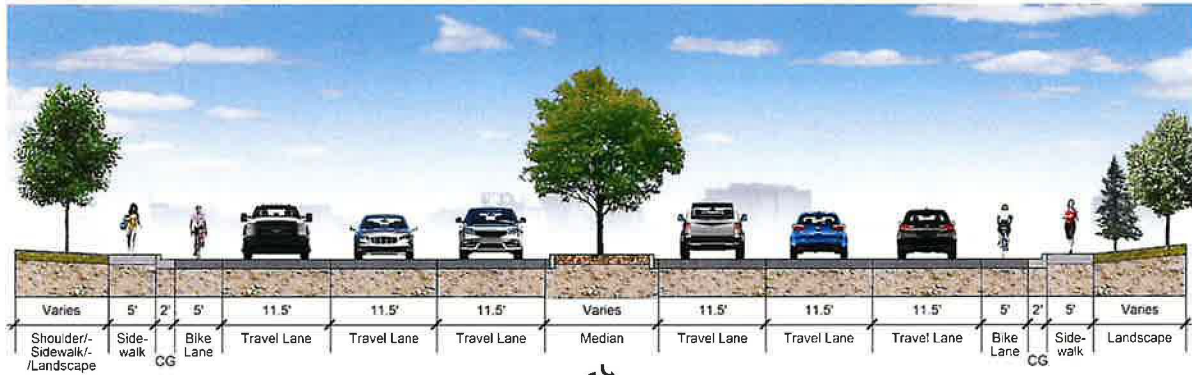
Section A



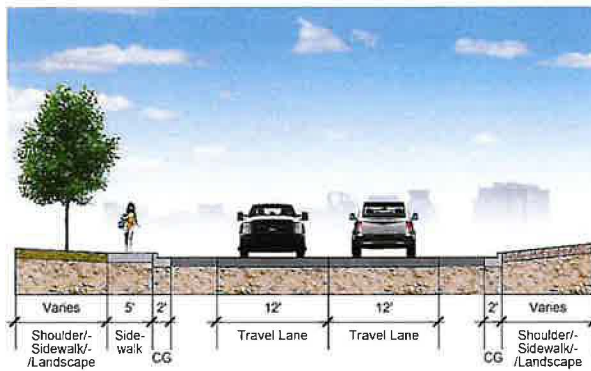
Section B



Section C



Section D



Section E

Sidewalk/Pedestrian Path and Bike Facilities:

The **South Virginia Corridor** has been developed over many years and under many different land use policies resulting in an incomplete pedestrian network. Currently only 52% of the corridor has existing sidewalk on either side of the street. Bike facilities are missing completely on about 18% of the corridor with at least one bike lane or path existing on at least one side of the street. Resulting in unreliable bike travel along South Virginia Street. Furthermore, the existing bike lanes are inconsistent in size and markings throughout the corridor and may not be a good representation of an existing facility.

The **Damonte/Wedge Alternative** has been mostly developed within Planned Unit Developments (PUD's) and therefore are more well served by consistent existing sidewalk/pedestrian paths with 78% of the corridor with a sidewalk/pedestrian path on either side. Bike facilities are also provided on nearly the entire corridor with an existing bike trail along Mount Rose Highway, these facilities connect to a larger network found throughout the residential development to the east and will help connect pedestrians to areas outside of the study area.

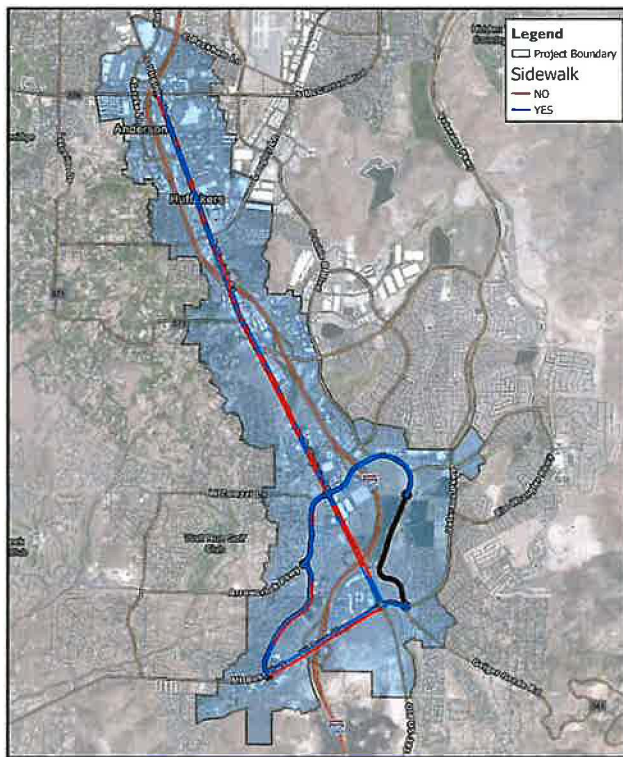


Figure 4: Existing Sidewalk

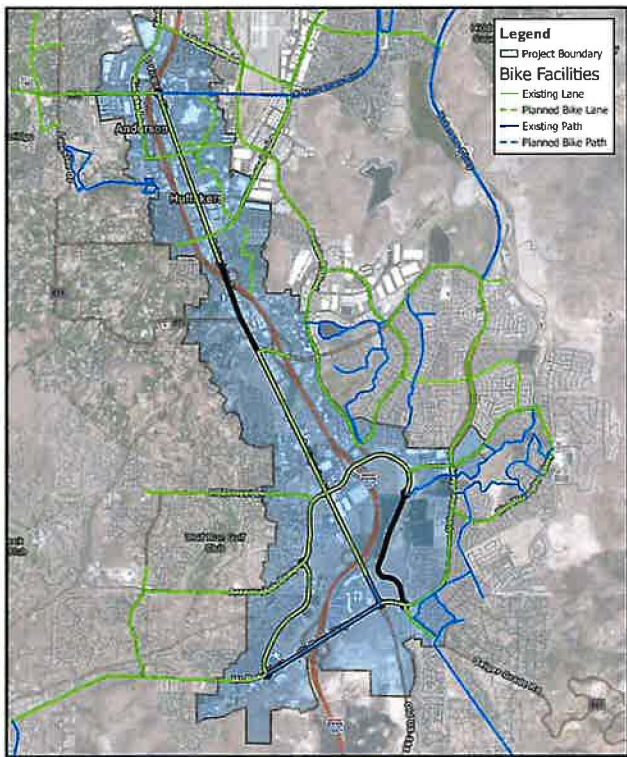


Figure 5: Existing Bike Facilities

Bus Facilities:

Existing bus services are limited south of McCarran Boulevard with Route 56 Serving South Virginia from South Meadows Parkway to Damonte Ranch Parkway. This route mainly serves the employment areas to the east of South Virginia Street along Double R Boulevard. The Carson City Route runs the entirety of the **South Virginia Street Corridor** from the Park and Ride at the Summit Mall to Meadowood Mall Transfer Station. However, this

is a commuter route connecting riders from Reno to Carson City and only runs during the weekdays in the mornings and evenings. Limited bus stops are located along South Virginia Street and one bus stop and the RTC Park and Ride is located along the **Damonte/Wedge Alternative Corridor**.

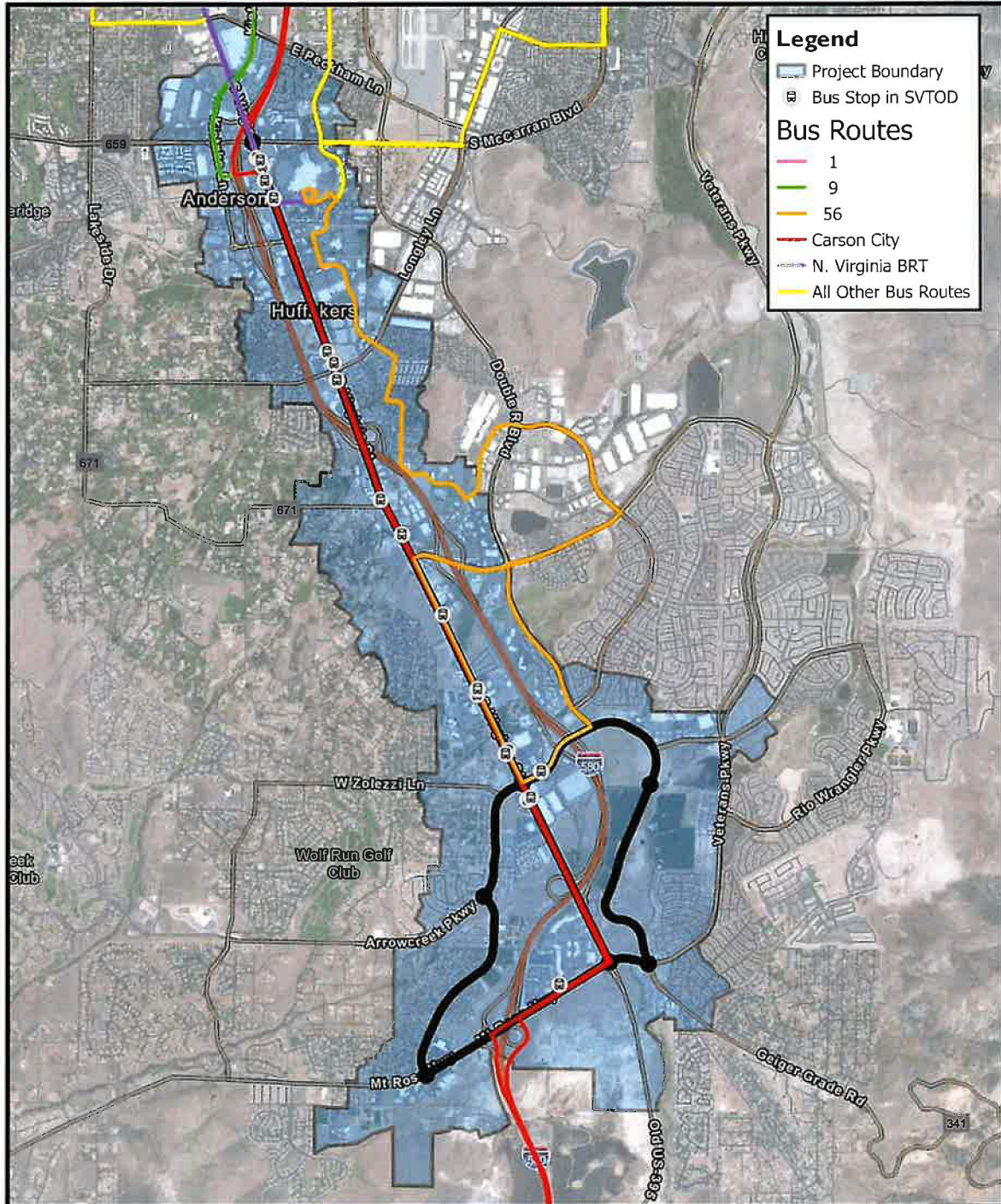


Figure 6: Existing Transit Facilities

Existing Traffic Conditions

The study area was analyzed for existing traffic conditions and other road user data. This information is used to identify areas where traffic conditions could benefit from BRT and identify potential ridership.

Signalized Intersections:

There are fourteen (14) signalized intersections along the **South Virginia Street Corridor** and 13 located along the **Damonte/Wedge Alternative** with the majority of them located along Damonte Ranch Parkway to the west.

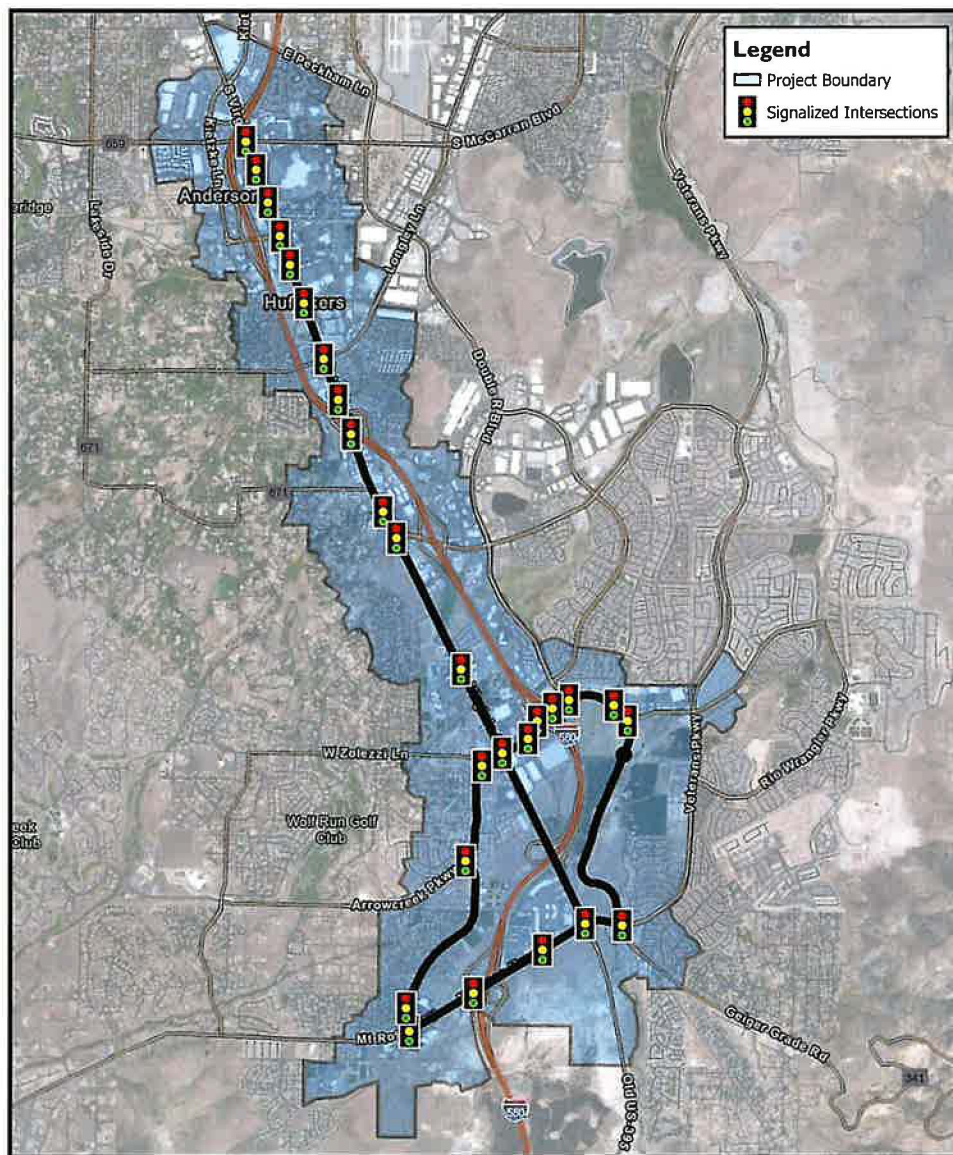


Figure 7: Signalized

Signalized intersections are important when considering BRT as they are the biggest influence on travel times and are generally associated with higher traffic volumes and higher crash rates. When considering this, one important dataset is the annual average daily traffic (AADT), which was obtained from NDOT's Traffic Records Information Access (TRINA) application. The traffic counts mapped over the corridor segments over a 5-year period and is summarized in the map below.

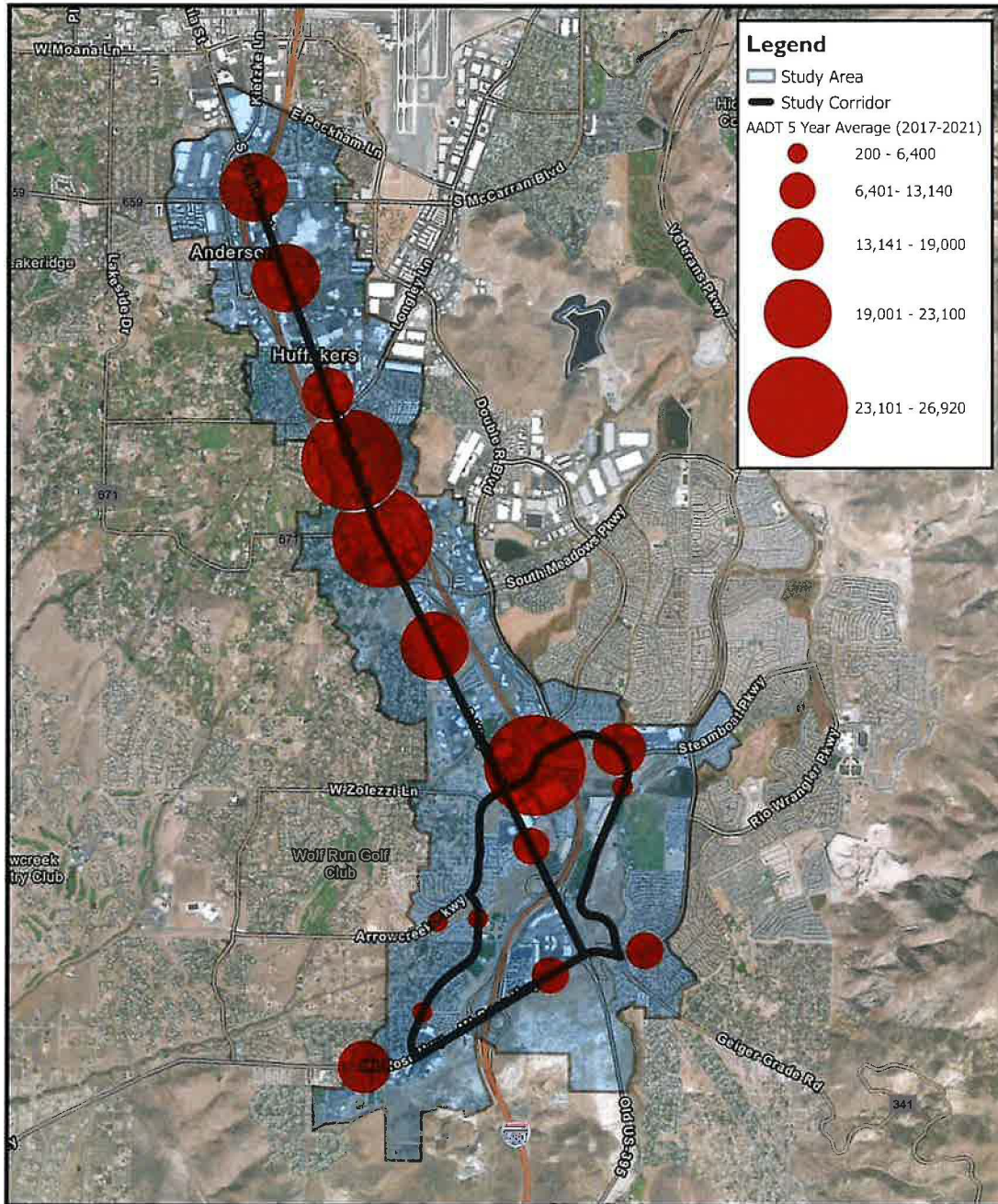


Figure 8: Annual Average Daily Traffic (AADT)

The map shows the segments with the highest traffic along the **South Virginia Corridor** are located between Longley Lane and South Meadows Parkway with AADT volumes above 20,000. The **Damonte/Wedge Alt Corridor** shows the highest AADT count located between South Virginia Street and I-580 with similar counts along Damonte Ranch Parkway and Steamboat and the Mount Rose Highway. It is anticipated that the future Damonte Ranch Connection will see similar AADT volumes.

Crash Data:

Five-year crash data between the years 2016-2020 were analyzed along the corridors and included over one-thousand crash reports. Crashes along the corridors are concentrated at the intersections and areas with higher traffic counts. More importantly when looking at BRT, crashes involving pedestrians should be considered with greater importance since identifying multi-modal and transit improvement should help to minimize these. The map below shows recorded crashes within a five-year period along the corridor and the recorded pedestrian crashes including vehicle vs. pedestrian/bicyclist.

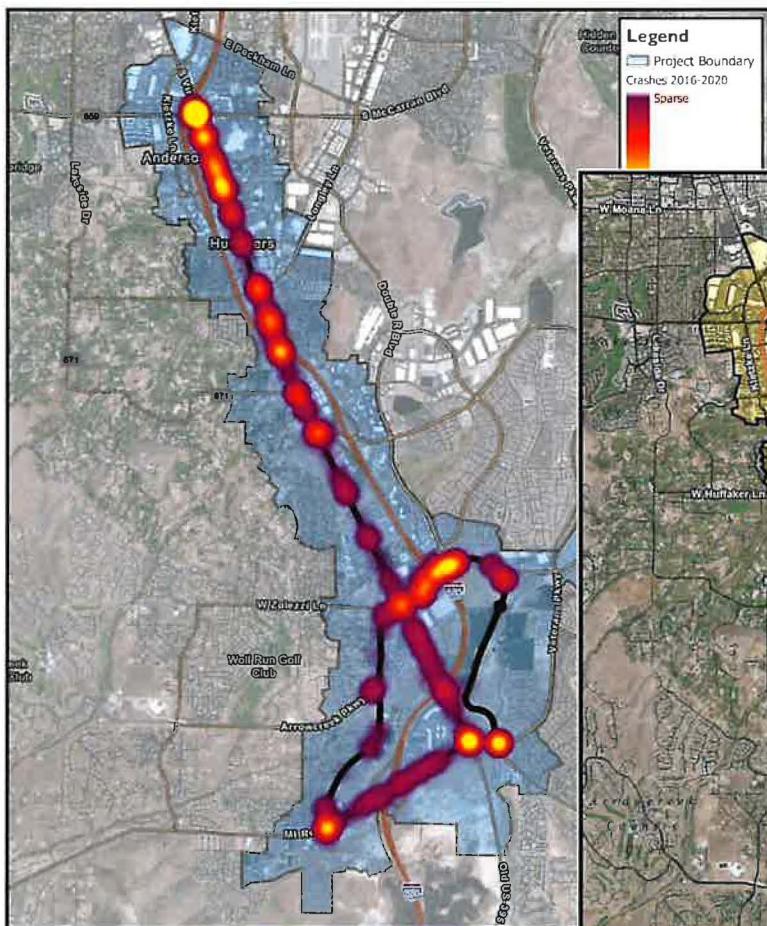
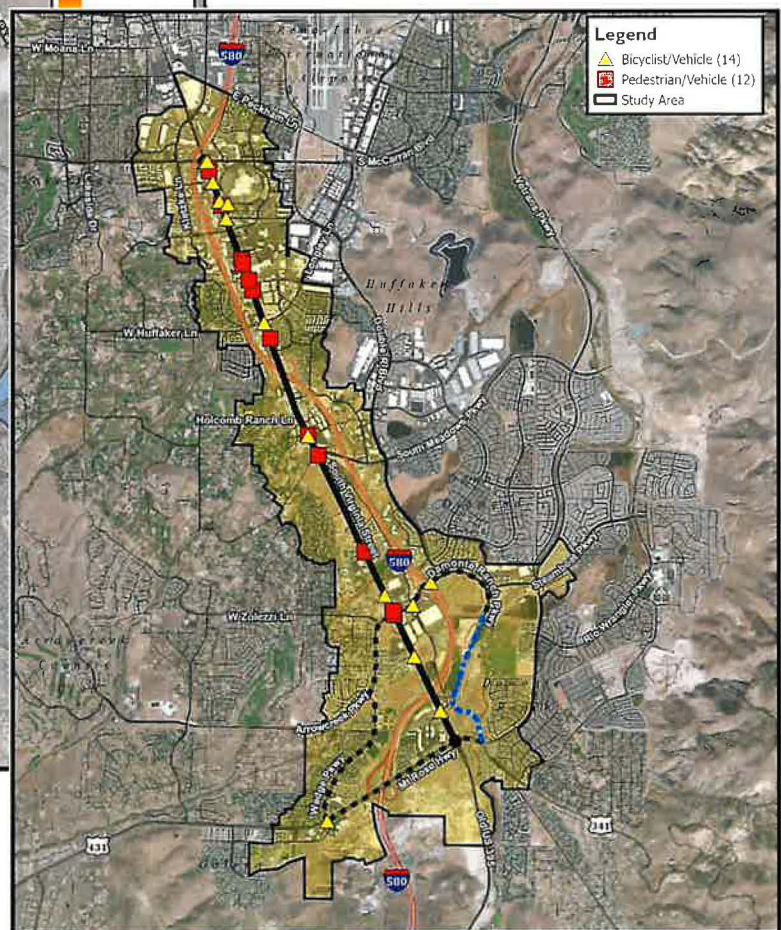


Figure 9: Crash Density (2016-2020)

Figure 10: Pedestrian/Bicyclist/Vehicle (2016-2020)



Existing Land Use

Land use is dictated by Master Plan and Zoning designations set by the city or county and determines the types of development found within the study area. Knowing these designations will help to understand future developments within the study area. Typically, BRT is favorable to mixed use land designations which promote high density development and encourage multi-family/attached housing, large commercial developments, and employment centers with a robust multi-modal transportation network. Within the study area these include the City of Reno Master Plan and Zoning with portions to the west that are under Washoe County jurisdiction.

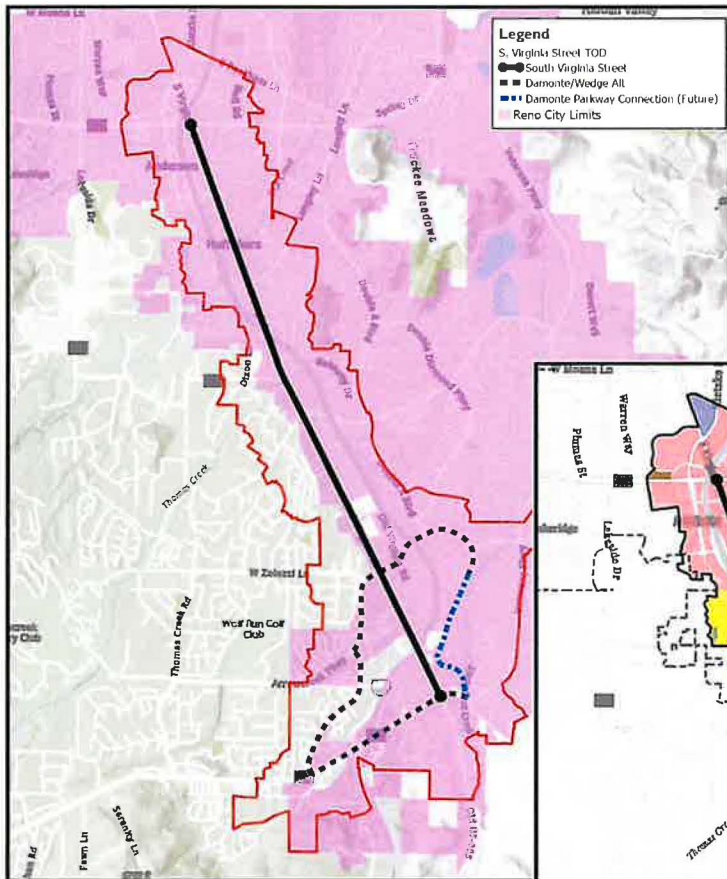


Figure 11: Jurisdiction Map

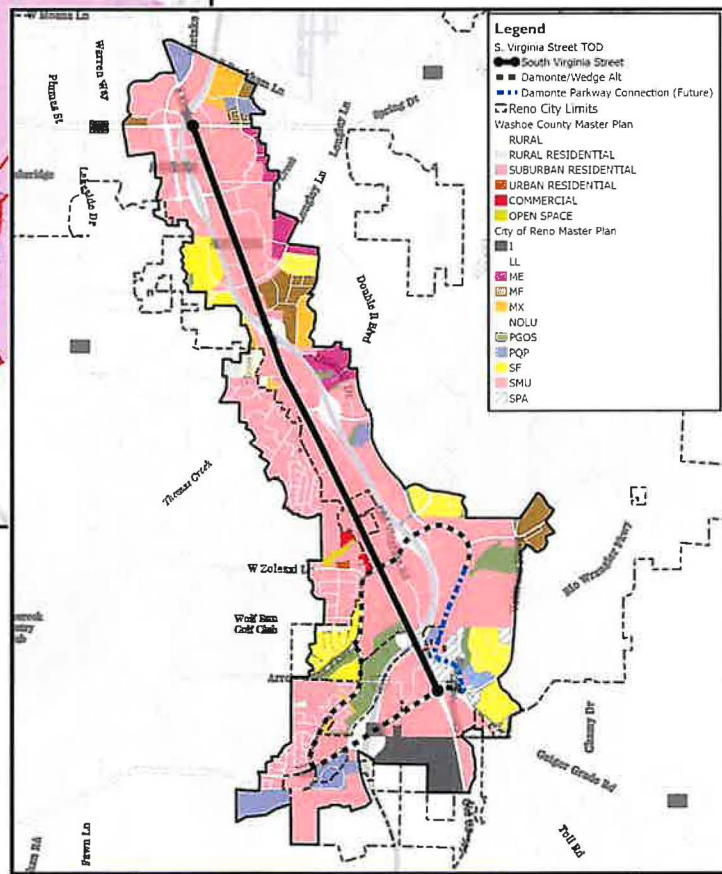


Figure 12: Master Plan

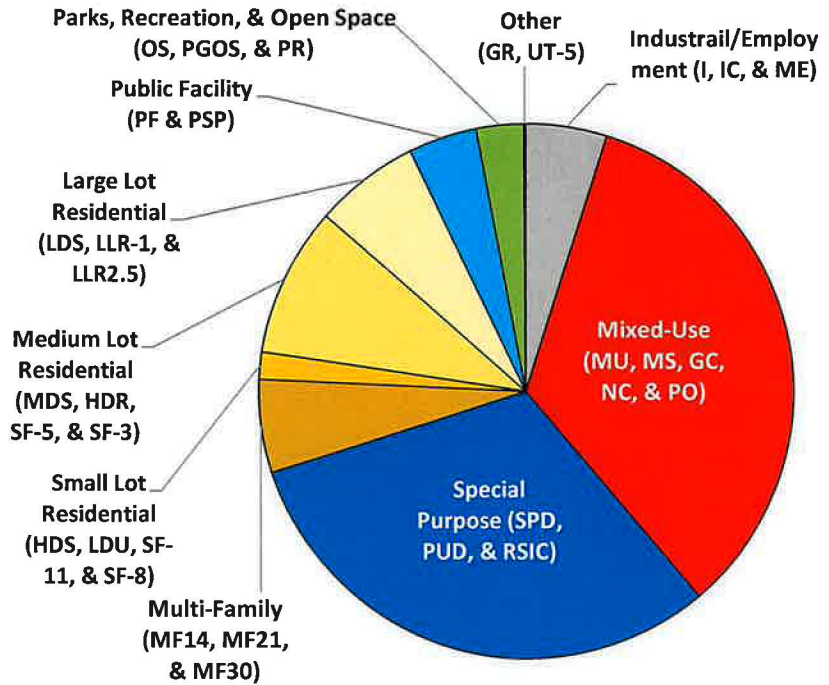
Master Plan and Zoning:

The majority of the Master Plan designations within the study area is Suburban Mixed Use (SMU) which promotes a mixed-use zoning designation that is favorable to BRT services. The underlying zoning typically associated with this master plan designation allows commercial or high-density residential. The map below shows the distribution of the zoning districts throughout the study area. The three major zoning designations within the study area are Mixed Use Urban (MU), Mixed Use Suburban (SMU), and Planned Unit Development (PUD). While the MU zoning designation is traditionally favorable to BRT, the SMU designation, which has no

minimum density requirement may not be as favorable to encourage high density development on its own. The third, the PUD zoning is unique since it refers to a specific planned community with varying development standards throughout the study area.

Each PUD is unique and typically has different development standards than those found in the standard City of Reno Zoning Code. The three PUD's within the study area include Double Diamond PUD, Damonte Ranch PUD, and Pioneer Parkway PUD. The development standards are detailed in the respective PUD Handbooks and generally allow high density development within the study area. But like the SMU zoning designation, may not have minimum density standards to encourage high density along the corridor. More importantly, the PUD's are the largest area of vacant land within the study area and will largely determine the future development of the study area in the south. What the future development looks like may be hard to predict since the density range is so large.

Study Area Zoning Designations



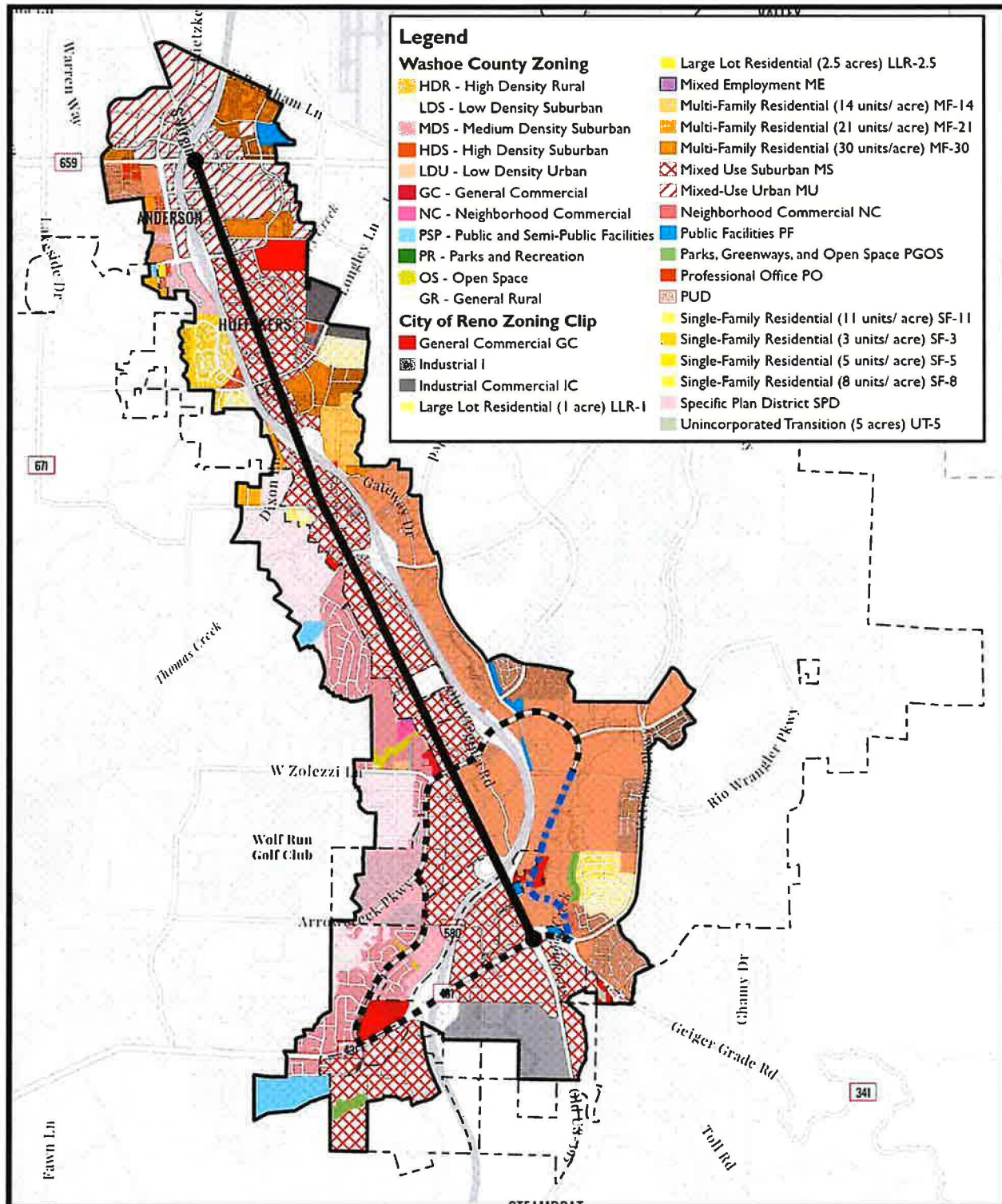
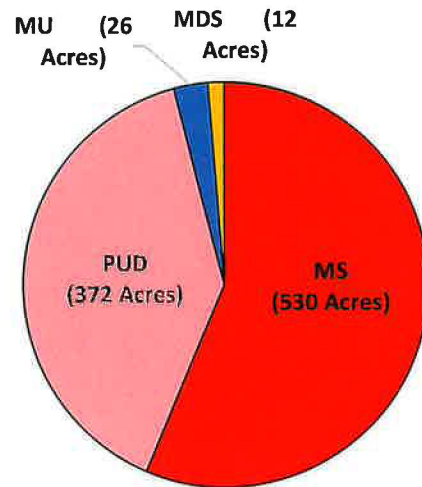


Figure 13: Zoning

Vacant Land:

A total of 940 acres of vacant land has been identified within the study area. The mixed use zoning designations do not have a maximum density and the two PUD's with the most vacant land (Damonte Ranch and Pioneer Parkway) have a maximum residential density of 105 du/ac. The potential growth within these areas will be difficult to predict. However, utilizing proposed development data from the City of Reno, as well as using data associated with future development projections conducted by the Truckee Meadows Regional Planning Agency Regional (TMRPA) in the 2019 Regional Plan, there is the potential to anticipate an additional increase of over 4,000 residential units, and over 400 acres of nonresidential that will be added to the study area over the next 20 years. To help understand the potential growth of the study area it will be important to communicate with landowners, the City of Reno, Washoe County, and TMRPA to better understand and predict the potential growth.

VACANT LAND ZONING (940 ACRES)



Approved Tentative Maps in Study Area	
Name	Dwelling Units Remaining
Pecetti Ranch Townhomes	79
Damonte Ranch Village 21	80
Rancharrah Village 6A	12
Braesview Custom	23
The Village at ArrowCreek	124
Gateway at Galena	361
Total	679

Approved PUD's Residential Growth Potential in Study Area	
Name	Dwelling Units
South Meadows III	1,000
Rancharrah	300
Damonte Ranch	1,500
Double Diamond	200
Pioneer Parkway	750
Total	3,750

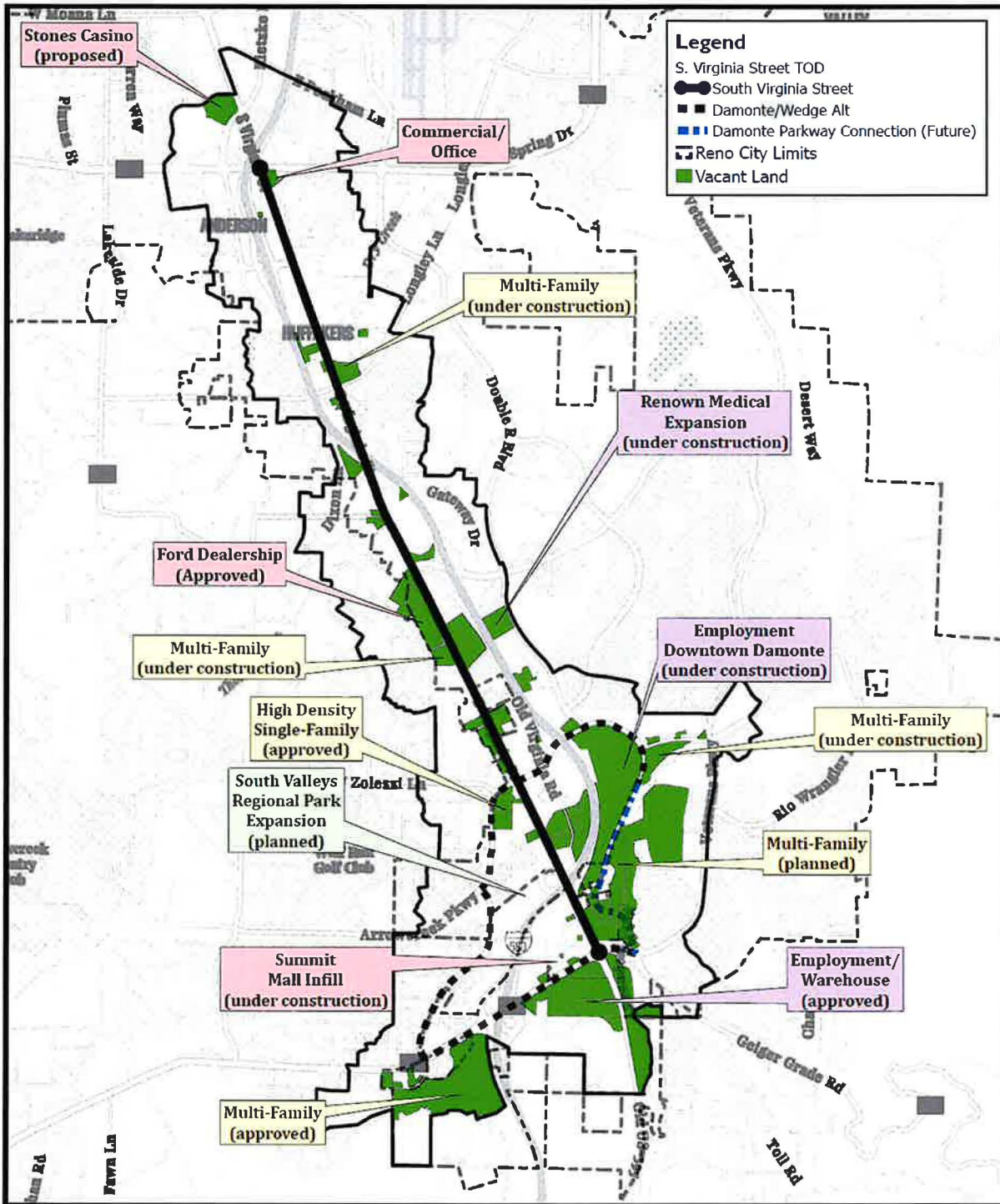


Figure 14: Vacant Land

Existing Demographics

The demographics within the study area will help to identify potential ridership and will be important to consider as riders in areas of high population, low to mid median income, and between the ages of 18-35 tend to be the population to most likely benefit from BRT. Analyzing the 2020 US Census data can help to understand the existing population but areas of vacant land should also be considered as these areas will most likely see the demographics change in the future.

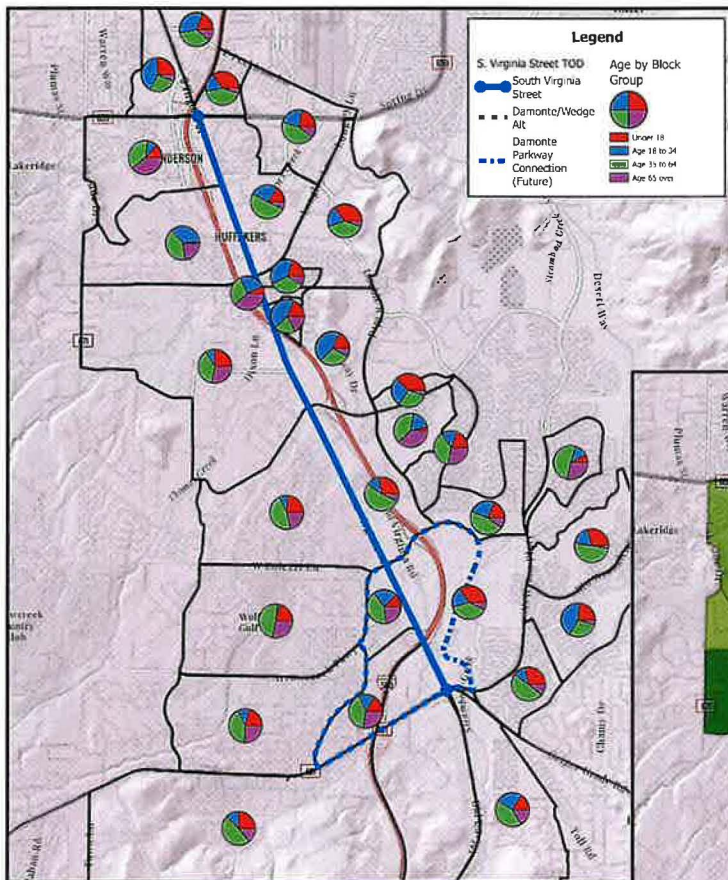


Figure 15: Age by Block Group

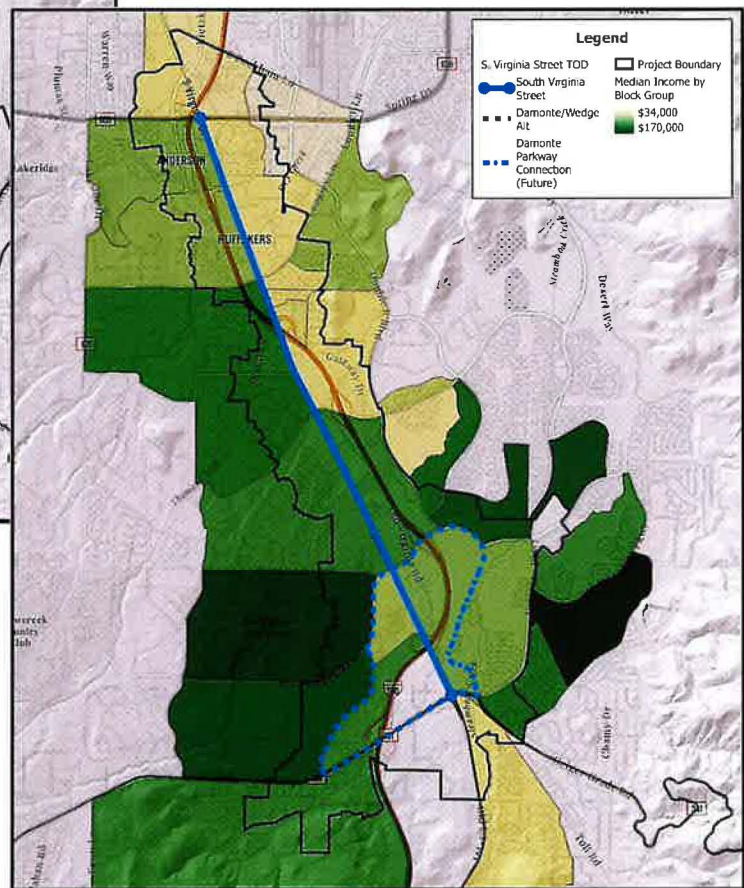


Figure 16: Median Income by Block Group

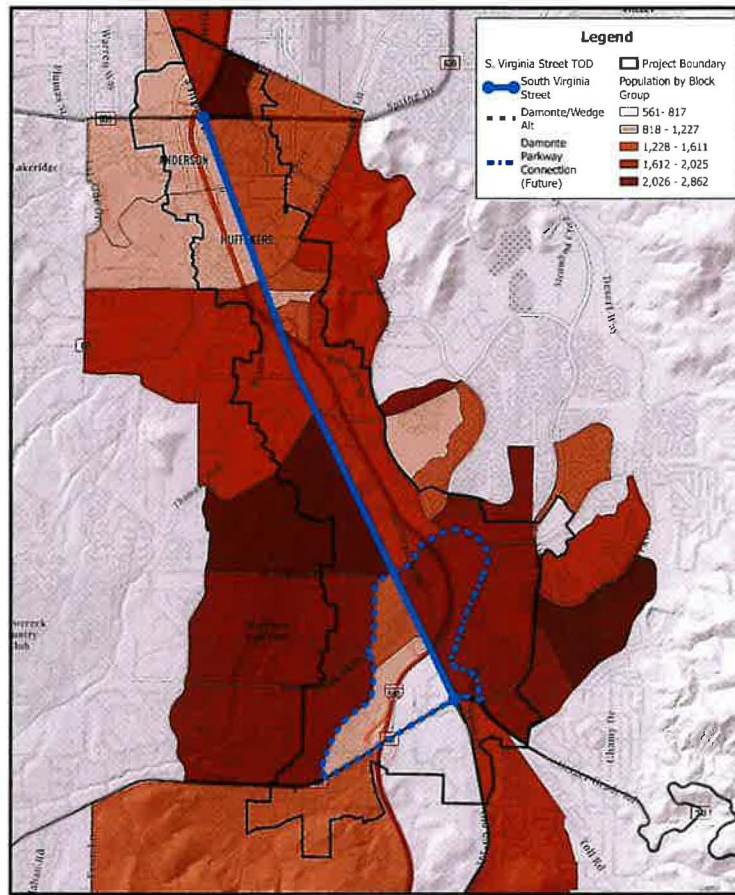


Figure 17: Population by Block Group

Existing Plans and Studies

The study area has been analyzed in several existing studies and future plans which may include portions of the study corridors. Therefore, it is important to recognize these plans and to coordinate resources where appropriate. This process ensures that this study considers the recommendations of previous plans and at the same time recognizes changing conditions in the study area and the ensuing changes to the relevance of some of these older documents. The *Transportation Plans and Studies Table* highlights the sections of documents that are relevant to the Virginia Street Corridor.

It should be noted that the Nevada Department of Transportation (NDOT) is currently conducting a Safety Management Plan from Mount Rose Highway to Patriot Boulevard that will focus on improving safety along the South Virginia Street Corridor. This study will communicate with NDOT Staff to coordinate any efforts to collaborate BRT improvements that are identified with this study.

Table 1: Transportation Plans and Studies

Transportation Plans and Studies			
Document	Owner	Description	Status
<i>Virginia Street Corridor Investment Plan</i>	RTC	<p>The Virginia Street Corridor Investment Plan identifies near term and long term transportation improvements that will be made along Virginia Street from North McCarran Boulevard to Mount Rose Highway. These recommended improvements will be included in the Regional Transportation Plan 2013-2035 for implementation. The study follows a context sensitive approach that identifies:</p> <ul style="list-style-type: none"> • Decision-making process • Virginia Street context, including geography and community values • Vision and goals • Area needs • Investment plan 	Final April 2014
<i>Transit Oriented Development in the Truckee Meadows: Bridging the Gap Between Planning and Implementation</i>	TMRPA	<p>The primary purpose of this paper is to assist stakeholders in the Truckee Meadows in bridging the gap between TOD planning and implementation. Accordingly, this paper contains four parts. Part I provides a brief macro-scale framework for TOD and serves as an introduction to potential policy considerations in the Truckee Meadows. Part II contains a more focused assessment of the current status of Centers and TOD Corridors in the Truckee Meadows.</p> <p>Building on the introductory framework in Part I and summary of current conditions in Part II, the bulk of the paper is found in Part III where policy, planning, and implementation approaches are considered that may better support TOD in the Truckee Meadows. Part III describes the current challenges facing transit-oriented development in the Truckee Meadows and presents a series of innovative approaches being employed in various metropolitan areas around the country. Part IV concludes this paper with a series of approaches for moving forward.</p>	Revised July 2009
<i>2050 Regional Transportation Plan</i>	RTC	The 2050 RTP identifies the long-term transportation investments that will be made in the urbanized area of Reno, Sparks, and Washoe County, Nevada, also	

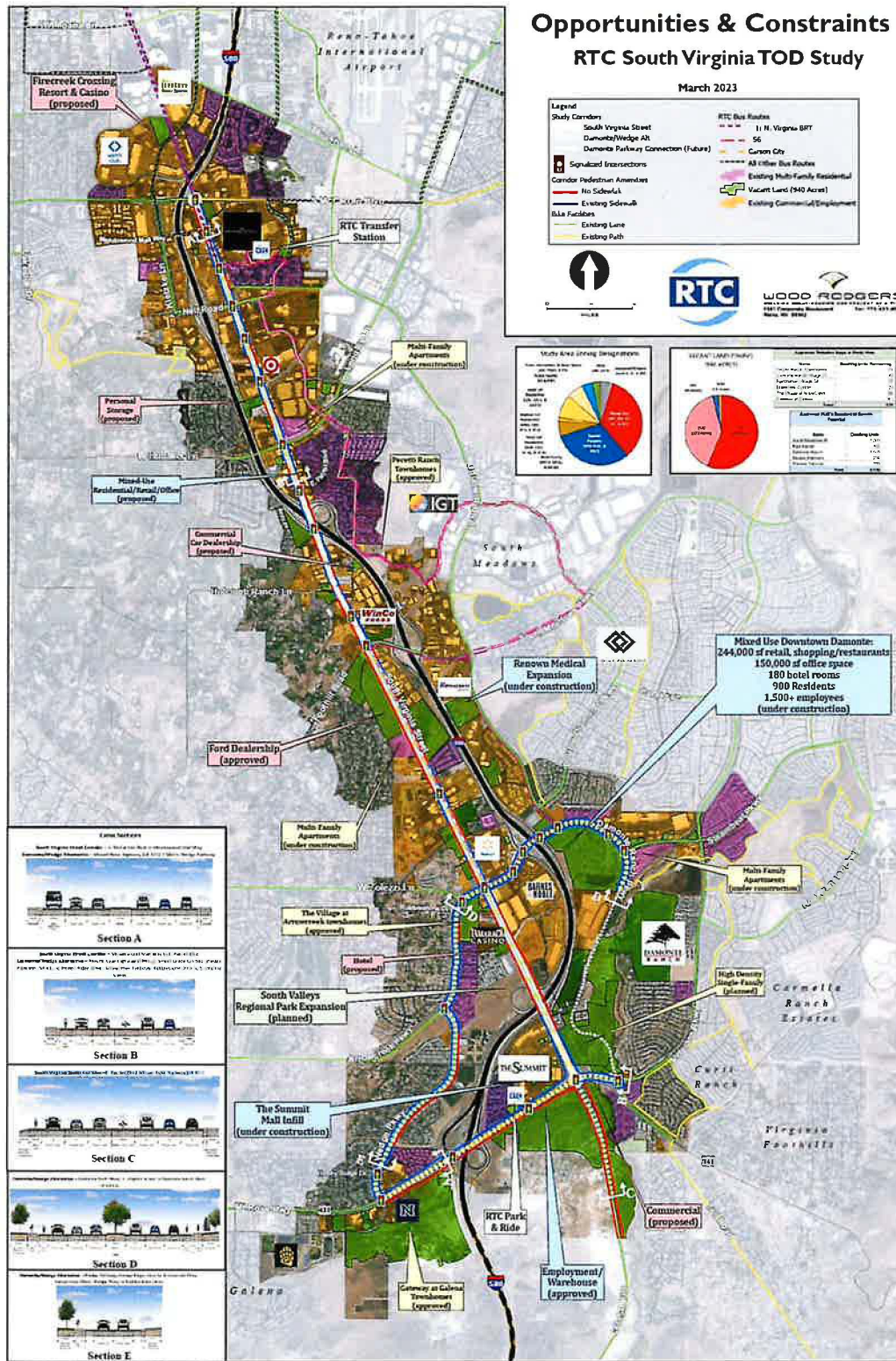
Transportation Plans and Studies			
Document	Owner	Description	Status
		known as the Truckee Meadows. The RTP presents transit investments such as the Virginia Street RTC RAPID project.	
<i>City of Reno Bicycle and Pedestrian Master Plan</i>	RTC	The Bicycle and Pedestrian Master Plan is part of the Regional Transportation Commission's (RTC) Regional Transportation Plan (RTP). The RTP guides transportation investments in Reno, Sparks, and part of Washoe County over a 20-30 year period. This Bicycle and Pedestrian Master Plan is the official policy document addressing the development of bicycle and pedestrian facilities for transportation purposes in the Truckee Meadows.	Final June 2017
<i>Bicycle, Pedestrian, & Wheelchair Data Collection Program Annual Report</i>	RTC	This 2017 Annual Report for the RTC Bicycle, Pedestrian, and Wheelchair Data Collection Program ("Program") provides a detailed review of bicycling, walking and wheelchair use at key locations throughout Reno, Sparks, and Washoe County. This ongoing collection of active transportation data supplements data for motorized traffic and transit ridership data to develop a more complete picture of overall travel behavior in our communities. The data collection methodology, collection times, and analysis factors follow the National Bicycle and Pedestrian Documentation Project (NBPDP).	Final 2017
<i>South Meadows Multimodal Transportation Study</i>	RTC	The purpose of this multimodal study is to identify needs and long-term transportation improvements for regional roads and intersections in the South Meadows area. This study focuses on traffic operations analysis and capacity improvements, safety improvements, pedestrian and bicycle connectivity, and transit service needs. The goals of the study are the following: <ul style="list-style-type: none"> • Improve roadway safety for all users • Plan regional roadway and intersection capacity improvements • Expand pedestrian and bicycle connectivity • Enhance public transportation connectivity and travel options 	Final April 2020
<i>Mt. Rose Corridor Plan</i>	NDOT	This Corridor Plan is focused on potential improvement concepts between Veterans Parkway and Douglas Fir Drive. This segment of highway forms a transition from an urban setting on the east to a more suburban and rural feel on the west. Mt. Rose	Final April 2022

Transportation Plans and Studies			
Document	Owner	Description	Status
		<p>Highway is a primary travel route from Reno to Incline Village and the Lake Tahoe North Shore, resulting in a mixture of local commuters and tourists utilizing the roadway.</p> <p>A critical area facing current and future congestion is the segment between S. Virginia Street and the Veterans Parkway roundabout. This segment serves as a primary connection to a significant residential area, as well as to SR 341, which provides access to Virginia City. Working closely with the RTC, the study team identified needed operational improvements to the existing roundabout. The improvement would not only enhance the operations of the roundabout, but also provide better lane utilization along the west approach.</p>	
<i>South Virginia Street Transit Oriented Development Corridor Plan</i>	City of Reno	The South Virginia Street Transit Oriented Development (TOD) Corridor Plan is divided into two sections: the Corridor Plan and Station Area Plans. The Corridor Plan describes the boundary, time frame, relationship to other plans and identifies policies for development within this TOD. The development concept, circulation, land use, and zoning that apply to the parcels are included in the plan for each station area. Development standards and processing provisions are included in the Reno Municipal Code.	Draft November 2006
<i>Reno Sparks ADA Right-of-Way Transition Plan</i>	RTC	The Reno Sparks Bicycle and Pedestrian Plan ADA Transition Plan of 2011 provides a roadmap to making pedestrian facilities accessible to persons with disabilities. The plan inventories bicycle and pedestrian ADA deficiencies, categorizes the severity of those deficiencies, and translates those determinations into sets of needs. Virginia Street deficiencies identified in the plan's analysis include transit stops, driveways, and sidewalk obstructions and deficiencies.	Draft 2019
<i>Transportation Optimization Plan Strategies (TOPS)</i>	RTC	The Transit Optimization Plan Strategies (TOPS) serves as the basis for changes to RTC's public transportation services over the next five years (FY23-FY27). It also sets out the work plan for RTC's Public Transportation Division during this period. This document analyzes the existing public transportation services operated by RTC. It also helps determine the merit for potential	Final July 2022

Transportation Plans and Studies			
Document	Owner	Description	Status
		transit routes connecting to or running parallel to the Virginia Street Corridor.	
Land Use and Area Plans			
<i>Truckee Meadows Regional Plan</i>	TMRPA	The Regional Plan describes the type, location, and pattern of growth and development that local governments and agencies in the region believe will best deliver the multiple aspects of quality of life desired by current and future residents of our area. In relation to the South Virginia Street TOD Study, this plan addresses infill development scenarios along the study corridor.	Final 2019
<i>ReImagine Reno: City of Reno Master Plan</i>	City of Reno	<p>The ReImagine Reno process was an opportunity to assess and explore trends and key issues that would influence the City's future, as well as an opportunity to articulate a shared, community-wide vision for the future and to explore potential trade-offs associated with that vision. The result is a Master Plan that provides a road map for the City as it continues to grow and evolve. The Master Plan reflects the ideas, values, and desires of the community, aligning these with a range of plans, policies, and initiatives in place or underway in both Reno and the wider region. Moving forward, the Master Plan will help guide both day-to-day decision-making, short-term actions, and longer-term initiatives and strategies to achieve the community's vision.</p> <p>This Plan describes existing conditions along the Virginia Street corridor as well as recommendations and implementation strategies.</p>	Final November 2021
<i>Washoe County Master Plan</i>	Washoe County	The Master Plan is used to determine the most desirable location of each type of development. The plan has policies and maps designed to define development suitability and conserve natural resources (e.g. protect critical environmental areas, define water resources, enhance visual and scenic corridors, etc.) It also includes growth forecast as well as policies and maps reflecting desires related to land uses and transportation. Finally, the Master Plan has standards and maps to guide provisions of public services and facilities. The public services and facilities	Final November 2020

Transportation Plans and Studies			
Document	Owner	Description	Status
		are implemented through the Capital Improvement Program.	
<i>Ozone Advance Path Forward</i>	U.S. EPA	The U.S. Environmental Protection Agency (EPA) establishes health-based National Ambient Air Quality Standards (NAAQS) for six criteria pollutants including ozone. Ozone concentrations are strongly linked to population, employment, and on-road vehicle miles traveled (VMT). Growth in these three categories increases air pollutant emissions and ozone concentrations. Ever since EPA promulgated the 2008 ozone NAAQS, the Washoe County Health District, Air Quality Management Division (AQMD) has been very proactive to encourage voluntary initiatives to improve air quality and avoid violating the ozone standard. Short-term initiatives targeted technology (i.e., smog check programs and clean school busses) and behavior (i.e., Employee Trip Reduction and Safe Routes to School). Long-term initiatives focused on shaping land use development patterns and the built environment. These initiatives were intended to increase transportation choices and reduce the impacts of on-road motor vehicles.	Updated April 2016
<i>Complete Streets Master Plan</i>	RTC	The purpose of the Complete Streets Master Plan is to identify the Regional Transportation Commission of Washoe County's (RTC) long range strategy for complete street treatments in the Reno-Sparks metropolitan area. This plan addresses: <ul style="list-style-type: none"> • Safety • Traffic flow • Connections for all modes of travel 	July 2016

Figure 18: Existing Conditions Executive Summary





TECHNICAL MEMO
Land Use Report

June 7, 2024



Prepared For



Prepared By



WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1361 Corporate Boulevard
Reno, NV 89502
Tel: 775.823.4068
Fax: 775.823.4066

TABLE OF CONTENTS

INTRODUCTION	1
Plan Purpose.....	1
Project Goals	1
TOD Guiding Principles	1
STUDY AREA	2
Existing Transit in the Corridor.....	3
Existing Land Use and Historical Growth.....	4
Reno’s Projected Growth and Land Use Policy Environment for South Virginia Street	5
SUPPORTING TRANSIT ALONG SOUTH VIRGINIA STREET	11
Characteristics of Transit-Supportive Development	12
TOD Opportunities for the South Virginia Street Corridor	15
How Supportive of Transit are the Current and Expected Patterns of Corridor Development?	18
Future Development Scenarios.....	20
Other Factors Influencing Future Transit Demand	23
Land Use Tools to Increase TOD Level Development in the Corridor.....	24

Tables

Table 1: South Virginia Context Relative to Criteria for Transit-Supportive Development

Figures

- Figure 1: Study Area
- Figure 2: Existing Conditions
- Figure 3: Corridor Population
- Figure 4: Suburban Corridor
- Figure 5: Regional Corridor
- Figure 6: Neighborhood Corridor
- Figure 7: Multi-Modal Hubs
- Figure 8: Zoning
- Figure 9: Growth Opportunities
- Figure 10: TAZ Groups and Growth Opportunities
- Figure 11: Users of the Existing Meadowood BRT Platform by Home Location and Wage Quartile, 2023
- Figure 12: Where Industrial Employees Live and Work in the Region
- Figure 13: Key Policy Mix Recommendations by Tentative Station Location

INTRODUCTION

Plan Purpose

The South Virginia Street Transit Oriented Development Study's (South Virginia TOD) purpose is to analyze the need for future transit service in the South Virginia Street corridor (Corridor) from Meadowood Mall to Mt. Rose Highway based on regional demand, and current and future growth. The South Virginia TOD will also analyze the land use planning tools that will encourage a walkable, transit-supportive development pattern that meets the growth and development needs of the region.

The purpose of this Land Use Technical Memorandum is to provide an overview of existing land use, development patterns, and future growth scenarios and how they may influence transit service in the Corridor.

Project Goals

The goals of the South Virginia TOD are to:

- Promote multimodal transportation within the corridor
- Create continuity throughout the corridor
- Allow for the safe movement of all forms of transportation
- Improve transit service
- Encourage mixed use development

This memo focuses on the analysis and recommendations that would support the goals related to improving transit service and multimodal transportation options.

TOD Guiding Principles

- ✓ **WALK /CYCLE-** Provide infrastructure improvements along Virginia Street to improve the nonmotorized transportation networks in the corridor.
- ✓ **CONNECT** – Locate future transit stops in areas that promote walking and cycling to access transit and maximize corridor connectivity.
- ✓ **TRANSIT** – Expand transit service to better serve existing and future residents and employees along South Virginia Street.
- ✓ **MIX** – Encourage economic development and plan for mixed uses, income, and demographics.
- ✓ **DENSIFY** – Optimize density on vacant and infill properties and encourage redevelopment opportunities to support transit in the corridor.
- ✓ **COMPACT** – Optimize transit service in the corridor to improve ridership.
- ✓ **SHIFT** – Transform South Virginia Street to accommodate all users and increase safe non-auto mobility in the corridor.

RTP 2050 Transit Vision:

“Extend Virginia Line RAPID to Mt. Rose Highway – Providing transit connectivity to employment, education, commercial, and residential centers in South Reno would improve access to opportunities, expand travel options, and encourage transit supportive development along South Virginia Street.”

STUDY AREA

The Corridor begins at its intersection with S. McCarran Blvd at Meadowood Mall and extends ±6 miles south to the Mount Rose Highway (SR 431) intersection. In addition to the Corridor, the Damonte Ranch Parkway and Wedge Parkway corridors are also included as these areas have seen recent multifamily development as well as current planned developments that have the potential to be transit supportive. The general study area follows these corridors and includes a walking distance of up to 1/2-mile as depicted in **Figure 1** below.

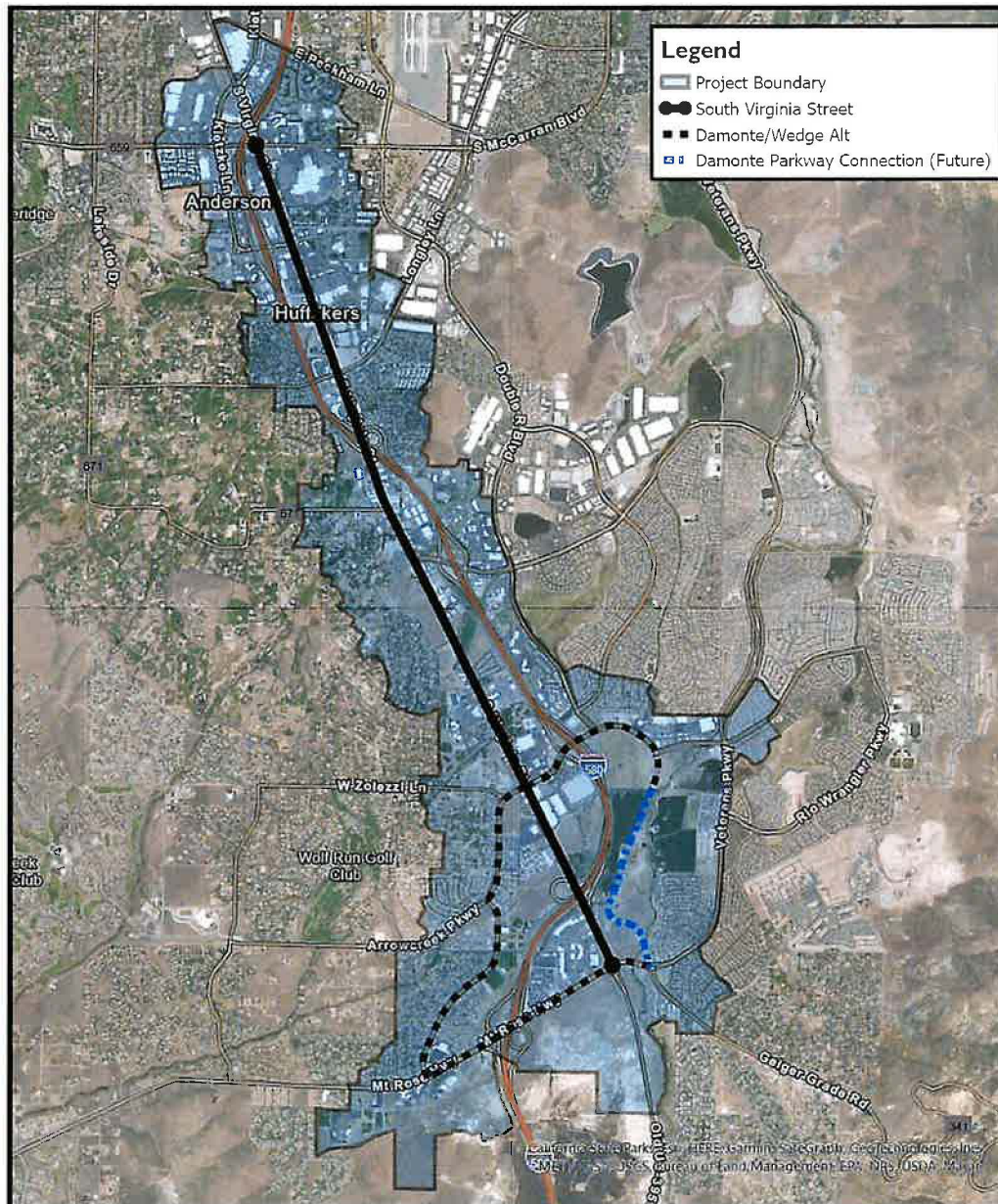


Figure 1: Study Area

Existing Transit in the Corridor

Transit services in south Reno, south of Meadowood Mall, are very limited compared to services along north Virginia, north of Meadowood Mall. RTC operates the existing Virginia Line Bus Rapid Transit (BRT) from the University of Nevada, Reno to the Meadowood Mall transfer center on 10-minute service intervals between 6 am to 1 am, and there are several connecting routes as well. Looking at South Virginia Street, RTC has limited service (**Figure 2** below) via Route 56 which deviates from South Virginia Street, and the RTC Regional Connector which is focused only on morning and afternoon commuters between Reno and Carson. Route 56 provides 30 min service from 5:30 am to 4:30 pm and hourly service from 5 pm to 10 pm. Additionally, FlexRIDE service was introduced to portions of the study area this year, and provides on demand transit service.

South Reno continues to grow and transit service has not expanded to match that growth. It was noted during the initial project visioning public workshops that a few of the employers in South Reno struggled to retain employees as the lack of timely transit has created conflicts for employee schedules.

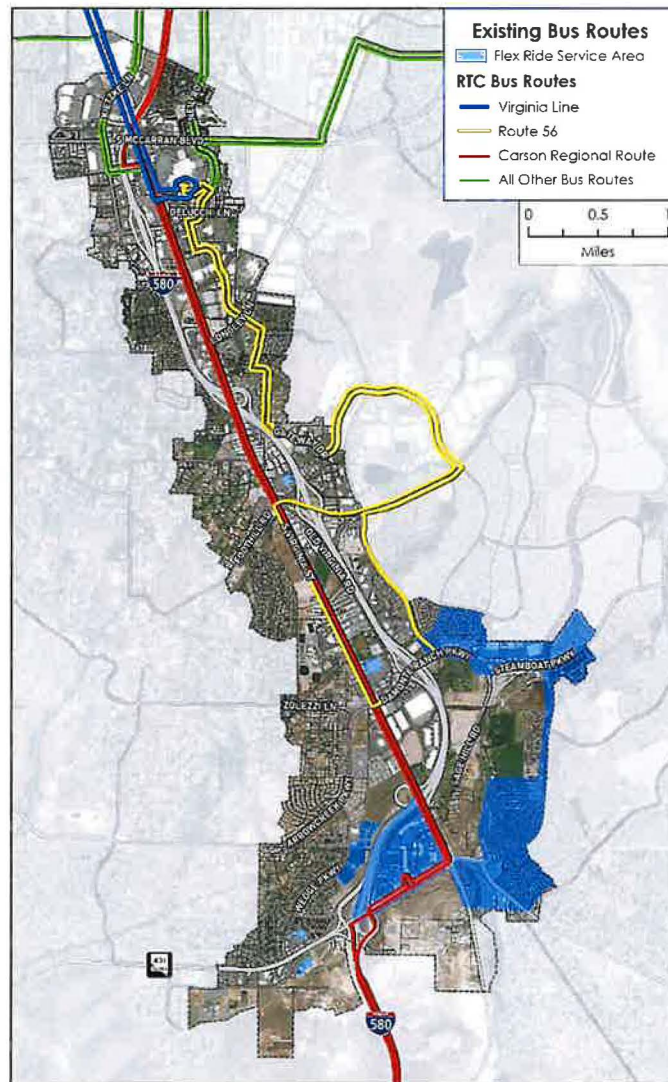


Figure 2: Existing Conditions

Existing Land Use and Historical Growth

Over the past three decades and post the completion of Interstate 580 (I-580), the stretch of South Virginia Street extending from S. McCarran Boulevard to the Mount Rose Highway (SR 431) has transformed from a rural highway linking Reno and Carson City into a suburban arterial connecting nodes of development. This transition has resulted in a diverse mix of land uses and outdated infrastructure that has not kept up with the regional changes. Over the past thirty years, from 1990 to 2020, the population in the study area exploded from a population of ±1,500 to ±43,000 people (US Census).

Pre 1990s the corridor was rural with limited development, some low-density large lot residential under Washoe County jurisdiction, and large ranch land. By 2000, the extension of US 395 (I-580 today) was under construction, planned developments in the South Meadows area were underway with planning of Damonte Ranch in process transforming the land use from rural to a typical suburb of Reno. The following decade, between 2000 and 2010 major master planned developments including Damonte Ranch, Curti Ranch, and Carmella Ranch began to take shape, along with the completion of the US 395 extension to Mt Rose Highway, changing South Reno into a very desirable community in the region.

Development hit a slowdown following the Great Recession but has largely recovered over the past decade as development in South Reno has exploded. Primarily fueled by the region’s growth in employment from Tesla and the Tahoe Reno Industrial Center (TRIC). The surge in development and population over the last decade has transitioned development patterns to higher density including smaller lots and an increase in single family attached and multifamily, a trend that is continuing for South Reno. **Figure 3** below provides a comparison of population and development patterns within the project study area over the past 30 years.

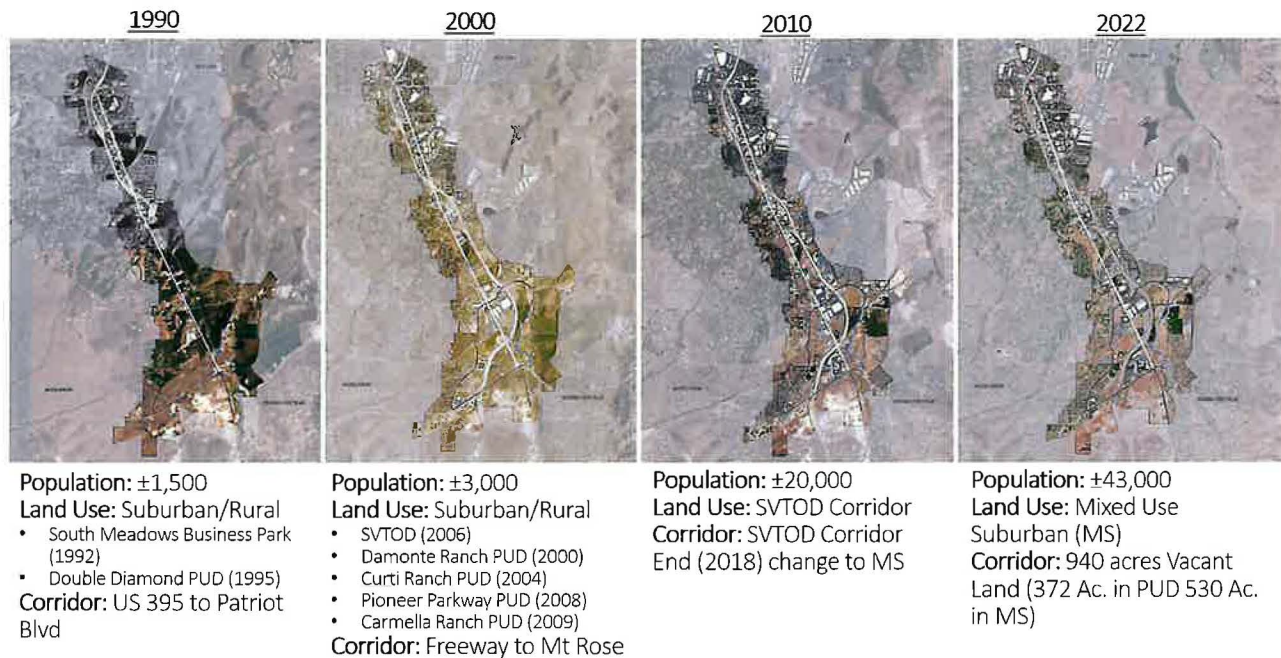


Figure 3: Corridor Population

Past Planning Efforts for South Reno

To keep up with development patterns, the City of Reno adopted a Transit Oriented Development (TOD) Plan for South Virginia Street in 2006 which changed the zoning along South Virginia Street to mixed-use to intensify development to support transit. Following the Great Recession, the market conditions led the City of Reno to rethink a variety of past planning efforts leading to the adoption of the 2017 *Reimagine Reno Master Plan*. As a result of the Reimagine Reno Plan, the 2006 South Virginia Street TOD Plan was removed and the TOD overlay zoning along the Corridor was converted to a zoning designation of Suburban Mixed Use. The zoning change was meant to keep, in theory, a transit supportive mixed-use zoning without needing an overlay with unlimited density and commercial floor area. However, the zoning change did remove the minimum density and commercial floor area requirements essentially opening the door for a broader range of uses including less transit supportive, low intense development. Master Planned Developments in South Reno remained as part of the Reimagine Reno Plan which have seen higher density (both single and multifamily units) completed or under construction the past several years in Damonte Ranch. The first mixed-use type development was recently announced for Damonte Ranch identified as 'Downtown Damonte'. The proposed mixed-use district will include retail, shops, restaurants, office space, and residential apartments (www.downtowndamonte.com). The Pioneer Parkway Master Planned Community south of Downtown Damonte on the future extension of Damonte Ranch Parkway has not yet started and would allow for additional high density or mixed-use development.

Reno's Projected Growth and Land Use Policy Environment for South Virginia Street

Reno is a fast-growing city within the booming Truckee Meadows region of Northern Nevada, which is expected to continue to grow as a result of the employment boom triggered by Tesla and TRIC east of Reno and Sparks. According to the Truckee Meadows Regional Planning Agency (TMRPA) the region is expected to grow by 100,000 people and over 80,000 jobs in the next 20 years. That growth will continue to influence the Corridor. As Reno continues to grow, regional planning efforts by TMRPA and the City of Reno continue to emphasize more sustainable development patterns (Reimagine Reno Guiding Principle 2-Responsible and Well Managed Growth) including focusing on infill and mixed-use development (Reimagine Reno Guiding Principle 4-Vibrant Neighborhoods & Centers) and improving multimodal connectivity (Reimagine Reno Guiding Principle 5-Well-Connected City & Region). City and regional planning efforts are further analyzed in the following sections as these documents specifically relate to encouraging TOD for South Virginia Street.

South Virginia Street's Role Within the Reimagine Reno Master Plan

Reno's master plan, Reimagine Reno identifies regional centers, corridors, and nodes that will support regional growth. Within that framework, planning for the Study Area is, wholly or in part, influenced and guided by multiple classifications. These classifications each have an Area Specific Policy related to each. The Area Specific Policies related to the Study Area:

- Is identified as a *Suburban Corridor* providing connectivity to a growing South Reno,
- Identifies the Meadowood Mall area as a connecting *Regional Center*,
- Provides connectivity to four *Community/Neighborhood Center* hubs,
- Connects two *Industrial/Logistics* or Employment Areas, and
- Connects *Outer Neighborhood* areas offset from the corridor itself.

Each of these Area-Specific Policies in the *Reimagine Reno Master Plan* includes descriptions of desired character, along with policy guidance for development density and land use typologies, which are discussed below.



Figure 4: Suburban Corridor

Area Specific Policy: Suburban Corridor

The Corridor is identified as a Suburban corridor (**Figure 4**). *Suburban corridors are auto oriented in character and serve areas generally outside the McCarran loop. A mix of higher density residential, retail, commercial, and other employment- and service-oriented uses is encouraged along suburban corridors. Although the corridor is classified as suburban, the Area Specific Policies that follow below support the gradual transition of the city's suburban corridors over time by providing a greater degree of flexibility in development patterns and intensity in the near-term (as the S. Virginia Corridor transitions to an urban corridor), encourages nodes of higher-intensity development to enhance access to services, housing options, and support expanded transit service over time.*

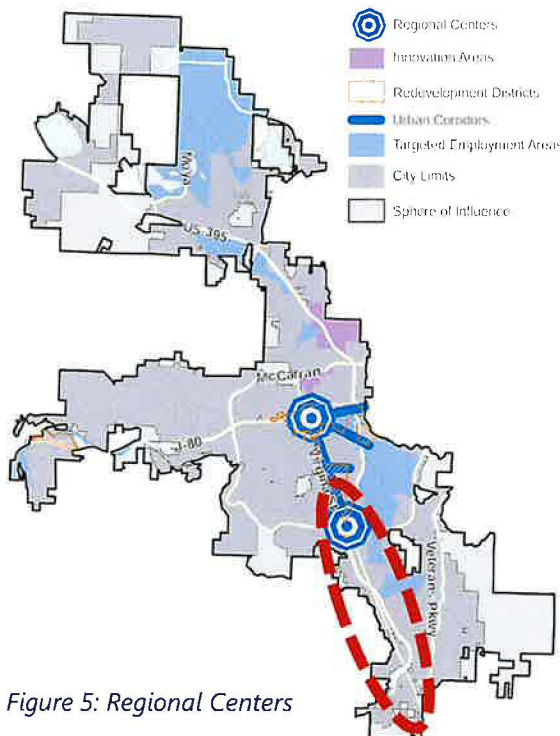


Figure 5: Regional Centers

Area Specific Policy: Employment Areas

(Industrial/logistics areas)

There are two Employment Areas adjacent to the Corridor (blue shaded areas in **Figure 5**). *Access to housing options and services within close proximity of industrial/logistics areas plays an important role in supporting live-work opportunities for the local workforce and reducing the need for cross-town trips. These employment areas and their connectivity to the Corridor may help influence the need for additional housing along the corridor, as well as generate additional transit ridership.*

Area Specific Policy: Regional Centers

The north end of the Corridor includes a Regional Center (**Figure 5**). *Regional centers serve residents of the City of Reno and the broader region, as well as visitors from across the state and country. Regional centers include a diverse mix of uses, including, but not limited to high-density office, residential, hotel, entertainment (including gaming), retail, and supporting uses. Regional centers are well-served by the region's multi-modal transportation network and serve as a hub for service to other destinations within the region.*

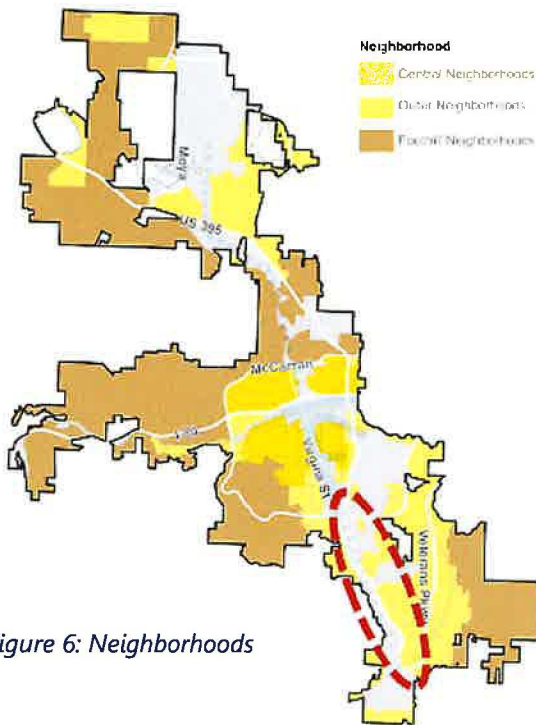


Figure 6: Neighborhoods

Area Specific Policy: Outer Neighborhoods

The Corridor provides connectivity for several surrounding outer neighborhoods (Figure 6). As outlined in ReImagine Reno, *Outer neighborhoods include the city’s older suburban areas, generally outside or adjacent to the McCarran loop, as well as newer suburban developments. They are generally comprised of single family detached homes and have a cohesive character. While new development continues to occur in some outer neighborhoods, others are in need of revitalization and reinvestment. Significant capacity for future residential development lies in outer neighborhoods. Opportunities to encourage a broader mix of housing types and supporting non-residential uses and amenities in outer neighborhoods are encouraged in order to meet changing community needs.*

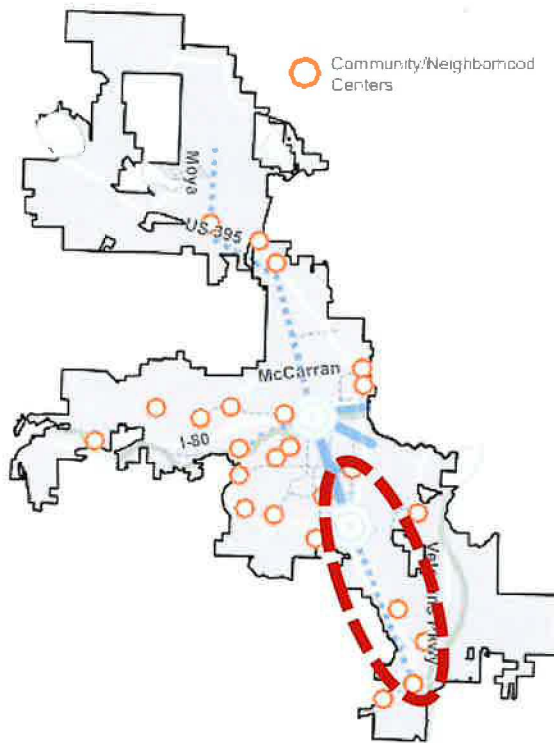
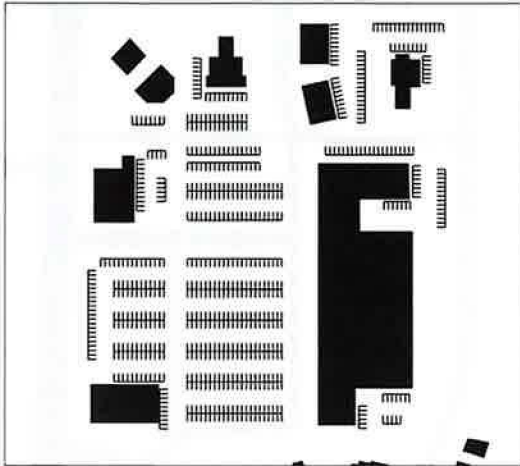


Figure 7a: Community/Neighborhood Centers

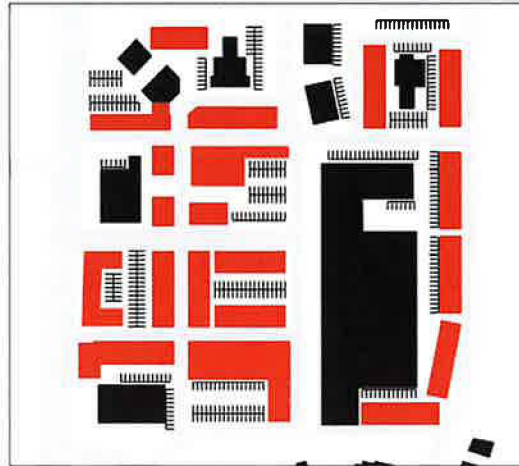
Area Specific Policy: Community/Neighborhood Centers

The Corridor includes several community/neighborhood centers (Figure 7a). *Community/neighborhood centers provide opportunities for supporting services (e.g. restaurants, cafes, small retail stores, medical offices) intended to meet the needs of the immediate neighborhood. Walkable, small-scale neighborhood centers exist in several of the city’s central neighborhoods, while larger community centers such as those anchored by a grocery store or other large retail tenant may include a vertical or horizontal mix of residential and/or office uses in addition to retail/commercial uses. Community/ neighborhood centers should have a cohesive and pedestrian-oriented design that features public/community gathering spaces and enhanced pedestrian/bicycle connections to surrounding neighborhoods. The design principles that follow provide general guidance to support the revitalization of existing centers (Figure 7b) and the design of new centers.* The Corridor has several existing centers with large parking areas that have the potential for revitalization and added density and a greater mix of uses that would also help encourage transit supportive development.

Existing Community Center



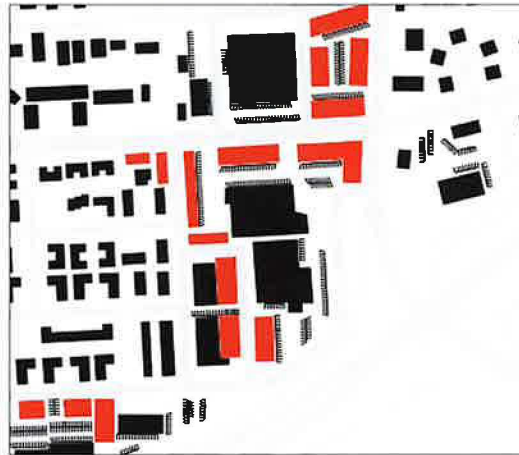
Revitalized Community Center



Existing Neighborhood Center



Revitalized Neighborhood Center



Revitalization of Existing Centers. The diagrams illustrate potential opportunities for site improvements and infill on surface parking lots to accommodate a greater mix of uses and promote the revitalization of existing centers. To achieve required parking for uses that replace surface parking lots, tuck-under and/or structured parking are to be utilized.

Figure 7b: Revitalization of Existing Centers

Land Use Designation and Zoning

While the southern half of the Study Area includes some residential and related parcels along its western edge that lie within unincorporated Washoe County, most of the Study Area – including all parcels adjacent to either South Virginia Street - fall within the land-use policy jurisdiction of the City of Reno. Under *Reimagine Reno*, the

“SMU: Concentrated nodes of higher-intensity development are encouraged at major intersections, near existing or planned transit stations... Residential development at a density greater than 30 dwelling units per acre is appropriate in these locations ”

- Reimagine Reno Master Plan 2021

dominant master plan designation for the Corridor is Suburban Mixed-Use (SMU), with zoning to match (MS, Mixed-Use Suburban).

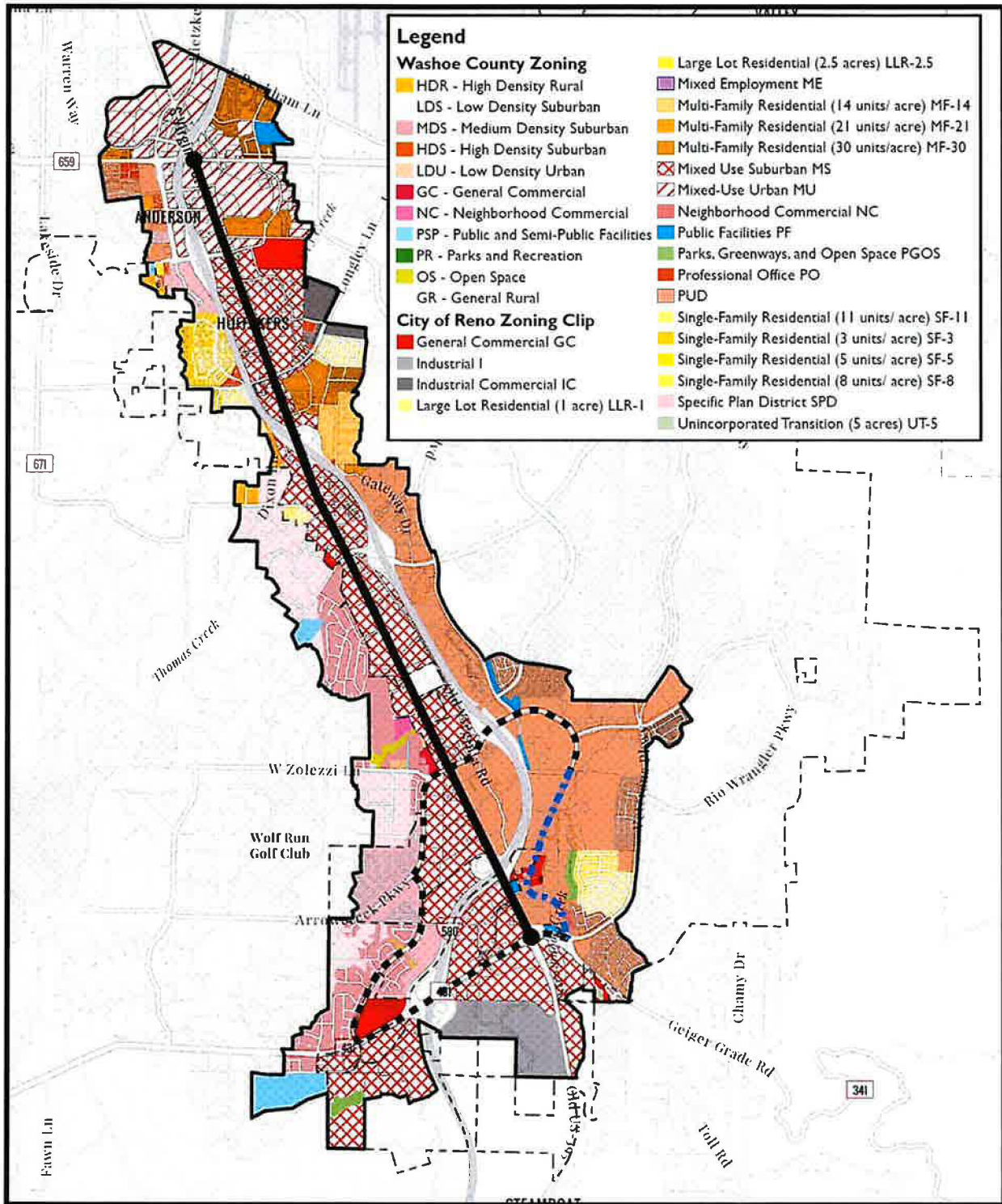


Figure 8: Zoning

The SMU master plan designation is described as follows in *Reimagine Reno*:

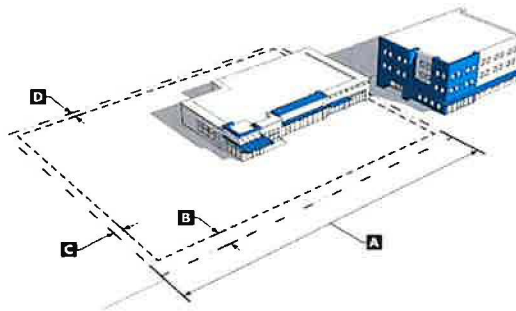
Low to moderate density with no minimum density requirements. Concentrated nodes of higher-intensity development are encouraged at major intersections, near existing or planned transit stations, and in other intensely developed areas of the city. Residential development at a density greater than 30 dwelling units per acre is appropriate in these locations.

Furthermore, the characteristics of the SMU master plan designation encourage transit supportive densities along the corridor. *Provides an opportunity for a broader mix of uses in a more suburban context while also preserving opportunities for higher-density infill and redevelopment in the future (for example, if transit services are expanded to serve the area).*

Although the SMU designation includes several conforming "Base Zoning Districts," the Study Area is predominantly under just one, Mixed-Use Suburban (MS). Requirements for development in the MS zone is excerpted from the City's zoning ordinance below:

18.02.308 MS: Mixed-Use Suburban Zoning

- (a) **Purpose** The MS district is intended to accommodate a mix of low-intensity, auto-oriented uses, while supporting the gradual transition of the city's suburban corridors to a mix of higher-density residential, retail, commercial, and other employment- and service-oriented uses.



The MS zoning does not require a minimum or maximum for residential density or floor area ratio (FAR) and has very permissive setback requirements (if any, in some cases). There is no stated height limit, just a requirement for site review for buildings over 55 feet. These standards are conducive to transit-oriented development, which is often pushing the limits of allowable density. Unfortunately, the no minimum density and FAR presents a serious challenge to the type of zoning that would normally be a principal component of a set of transit-supportive land use policies as it allows for developments that are less transit supportive. To date the MS zoning along South Virginia Street has produced large scale autocentric developments including car dealerships with large asphalt parking areas, large industrial developments, and scattered multifamily projects with little to no multimodal connectivity to the surrounding area.

In addition to the MS zoning, at the south end of the Study Area Damonte Ranch and the surrounding areas have their own Planned Unit Development (PUD) zoning, which identifies specific land uses and standards for various parts of the master planned community. Similar to the MS zoning the PUD provides the upmost flexibility for use standards and would allow for a broad range of uses that may or may not be transit supportive. Unlike South Virginia Street, the Damonte Ranch area is the only node within the project corridor to date that has seen higher density development concentrated around commercial including the Downtown Damonte mixed-use development recently announced.

In conclusion, the *Reimagine Reno* Master Plan provides a framework for the Corridor to grow into a more urbanized corridor with a focus on node densification and supporting future transit and multimodal connectivity. The zoning within the corridor is largely where the disconnect occurs between what is being constructed in the corridor and the vision of the master plan as a result of a wide spectrum of what is allowed.

SUPPORTING TRANSIT ALONG SOUTH VIRGINIA STREET

One of the most important challenges to overcome to achieve a long-term vision of TOD along South Virginia Street relates to the current disconnect between land-use policy and actual on-the-ground development. Specifically, except the planned Downtown Damonte area, there seems to be little momentum favoring the development of compact, walkable, mixed-use built environments along South Virginia Street. To increase actual mixed-use development understanding the policies are only part of the equation. Understanding outside influences such as the private market, private landowners and developers, and the desire of the political jurisdictions to encourage shifts in development patterns have been and will continue to be the main components driving certain development along South Virginia Street.

Private Market Influences:

Development patterns along South Virginia Street have largely been left up to the private market with no standards or requirements for enhancing multimodal connectivity or setting minimum standards for mixed-use development. This has led to a mix of both transit supportive development: Multi-family developments, hotels, some walkable commercial (South Creek Crossing); and non-transit supportive development: Industrial park, recent increase in car dealerships. This creates a challenge for multimodal connectivity and continues to keep the corridor more autocratic. It also creates challenges for transit planning and understanding how future development patterns will continue. Given the broad range of uses allowed under the mixed-use zoning it is likely that development patterns will continue to change annually based on regional demand.



Private Landowners/Developers:

There are over 950 acres of vacant land and redevelopment opportunities as well as several planned projects in the Corridor (identified in **Figure 9**), some of which are planned to be more transit supportive such as the “Downtown Damonte” mixed-use development. Transit has not been a priority and is not at the top of mind for future development projects. Continuing to explore opportunities for partnerships, incentives, and garnering support around a vision for future multimodal connectivity and its benefits will be key to helping shape future development patterns. With the current flexibility of mixed-use zoning landowners and developers will lean more towards keeping it that way and will not favor new regulations or zoning standards that may limit their options for a future project or land sale.

Political Influences:

The TOD plan from 2008 was removed as part of the 2017 *Reimagine Reno Master Plan*, and the Mixed-Use Suburban (MS) zoning along this corridor allows for unlimited density but does not require minimum density standards. At this time, the City of Reno staff does not anticipate changes to the zoning code to make a shift to require minimum density on residential and commercial floor area requirements within the study area. It was expressed by City staff that the ReImagine Reno Master Plan and MS zoning does allow for support of TOD development within the corridor and has indicated that they are supportive of transit within the study area, as well as the proposed land use tools discussed in this document.

NDOT:

The Nevada Department of Transportation (NDOT) has a Safety Management Plan underway within the Study Area that is exploring future multimodal enhancements within the South Virginia Street right of way, which is controlled by NDOT. Leveraging the partnership with NDOT to continue to improve multimodal enhancements in the corridor will be key to supporting future transit and overall connectivity for bike and pedestrians along South Virginia Street. Enhanced roadway improvements may also increase the likelihood of more mixed-use type developments.

Encouraging TOD without the help of more defined zoning tools will require focusing on nodes that have the most potential to support transit rather than the entire corridor; education on the benefits of TOD's, public and private partnerships, and leveraging incentives that can help influence development patterns, as well as working with agency partners such as NDOT to improve multimodal connectivity through infrastructure projects. These tools will allow the existing zoning to remain while influencing more transit supportive developments along the nodes identified in the *Reimagine Reno* Master Plan.

The benefits of TOD for the corridor:



Reduced Traffic Congestion: Enhanced public transit options like BRT which can significantly decrease the reliance on personal vehicles, leading to less congested roads and smoother traffic flow.



Health and Lifestyle Improvements: Reduced pollution levels and the promotion of more active modes of transportation, like walking and biking to transit stops, can contribute to healthier bodies and minds in the community.



Environmental Advantages: Public transit systems are instrumental in reducing greenhouse gas emissions and local air pollution, contributing to a cleaner, healthier urban environment.



Local Economic Growth: Effective transit not only boosts property values and business attractiveness but also stimulates broader economic development by better connecting industry to the workforce it relies on.



Increased Social Equity: A well-implemented transit system democratizes mobility, offering more equitable access to employment, education, and services across all socio-economic groups, especially when connected with affordable housing efforts.

The following sections further analyze the characteristics of and opportunities for future transit supportive development along South Virginia Street.

Characteristics of Transit-Supportive Development

A transit system and the built environment it operates in are mutually dependent when it comes to realizing the above benefits. Even the highest quality vehicles, stations, and operating systems may not attract a sizable number of riders away from auto-reliance unless the surrounding land uses and public infrastructure are thoughtfully designed to support, and benefit from, that transit.

This means thinking about how we design our neighborhoods – from the placement of buildings to the mix of shops, homes, and places of work. Ensuring that station areas have sufficient headcounts to generate rides is only one part of an equation that also involves factors like non-auto connectivity, physical orientation of uses, safety, and aesthetic desirability; it's about creating vibrant, attractive areas that naturally and safely encourage transit

use. Here, we will explore the key elements that make up a transit-supportive neighborhood and why getting these details right is crucial for the success of future transit service and to help achieve broader regional goals and policies.

Compact and Focused Development

General Compactness: Compact development, as opposed to very low-density development, supports transit systems by efficiently utilizing land. This approach creates walkable, interconnected neighborhoods, facilitating public transit use. People and destinations are the life's blood of transit ridership, and compact design means more individuals and potential destinations per acre of corridor land.



Focused Intensity Near Stations: An outcome to the criteria of compactness is that station areas should emerge as pulse points of activity and development density. Because BRT systems do not make stops between established station areas, corridor-adjacent properties that are not within walking distance of a station typically do not contribute much to ridership, either in terms of resident riders or destinations for BRT passengers.

Development density is therefore less critical for non-station stretches of corridor (meaning that low-density auto-oriented uses interested in locating on the corridor should be steered to non-station areas to the extent possible). Pleasing, human-friendly architecture, landscaping, and site design near stations is critical for making the required density palatable, and even attractive to residents and neighbors.

Mix of Uses

A mix of residential, commercial, and recreational spaces within walking distance of transit stations can enhance livability and encourage transit use. Not every station needs to include a full mix of residential and commercial uses, but primary stations that serve as end of the line points or multi-modal transportation hubs certainly should.



The mix of uses can be horizontal (side-by-side) or vertical (e.g. apartments above ground-floor commercial), as dictated by the market and developer preferences, so long as stations can potentially serve a variety of potential riders and destinations. In addition to smoothing out the distribution of passenger demand across stations and dayparts, mixed-use environments can enable shared parking opportunities and increase the vibrancy and activity levels around stations (which can also have safety benefits).

Pedestrian and Bicycle-Friendly Design

Safe, convenient pedestrian and cycling infrastructure is vital to encourage transit use and support a healthy community. This criterion is most important directly adjacent to station areas, physically connecting passengers with the station platforms to and from buildings, trails, or parking areas. Design details for those last hundred feet of connections may only appear closer to the actual opening of the system, but the wider network of bicycle/pedestrian trails, crosswalks, walkways, lighting, and other elements, both along the route and into the city at large, should be planned for and in place well in advance.



Connectivity and Accessibility

Easy and direct access to transit stations from a variety of other transportation modes is key for a successful TOD. This criterion overlaps with the last in its emphasis on trail networks and other forms of bike/ped connectivity, but crucially also extends to local non-BRT bus route connections. Shuttle services to hotels and workplaces located outside the corridor should also be cultivated and accommodated to and from major stations. Increasingly, station areas will also need to plan for ride-share and other taxi-like travel modes with convenient, non-disruptive pick-up/drop-off zones (a category of accommodation that will likely grow to include driverless cars).



Affordable Housing

Incorporating affordable housing near transit stations is critical to attract and support transit-dependent populations, such as lower to middle-income riders. In the Reno-Sparks metro, awareness and appreciation of transit is currently limited to lower and middle-income populations that already rely heavily on transit to get around. While increased awareness and acceptance of transit may grow through education and promotion efforts, operational feasibility of a South Virginia transit line will depend on the ability of significant numbers of transit-users to find housing they can afford near future station areas. Most cities with effective transit service consider transit access and housing affordability to be integral components that work together as part of a comprehensive approach to building social equity.

TOD Opportunities for the South Virginia Street Corridor

The Corridor, while predominantly suburban, includes a mix of vacant parcels and potential redevelopment sites. Currently, there are over 230 acres of identified vacant land and redevelopment opportunities as well as over 500 acres of planned developments along the Study Area as identified in **Figure 9**. Until quite recently, almost all developments along the inner portions of the corridor were commercial – ranging across retail, auto dealerships, low-rise office, lodging/casino, and light industrial. More recently over the past five or so years Reno, like much of the Western U.S. experienced a boom in multifamily residential development. Examples of which can now be found along the central portions of the corridor amid commercial uses. In fact, many of the remaining empty land assemblies and identified redevelopment possibilities include medium to high density residential as part of the proposed use plans. Planned developments are primarily concentrated around Damonte Ranch. While some planning and design has been discussed much of the acreage has yet to see actual building permits filed and could change depending on market conditions.

Some of the more notable opportunities for a future TOD include revitalizing existing centers as outlined in the *Reimagine Reno* Master Plan such as Meadowood Mall and Summit Mall where large parking areas could be converted to vertical parking with additional commercial added. There is one TOD mixed-use development planned in the corridor on Damonte Ranch Parkway, Downtown Damonte, which could provide a great opportunity to work with the developers to better serve that planned project in the

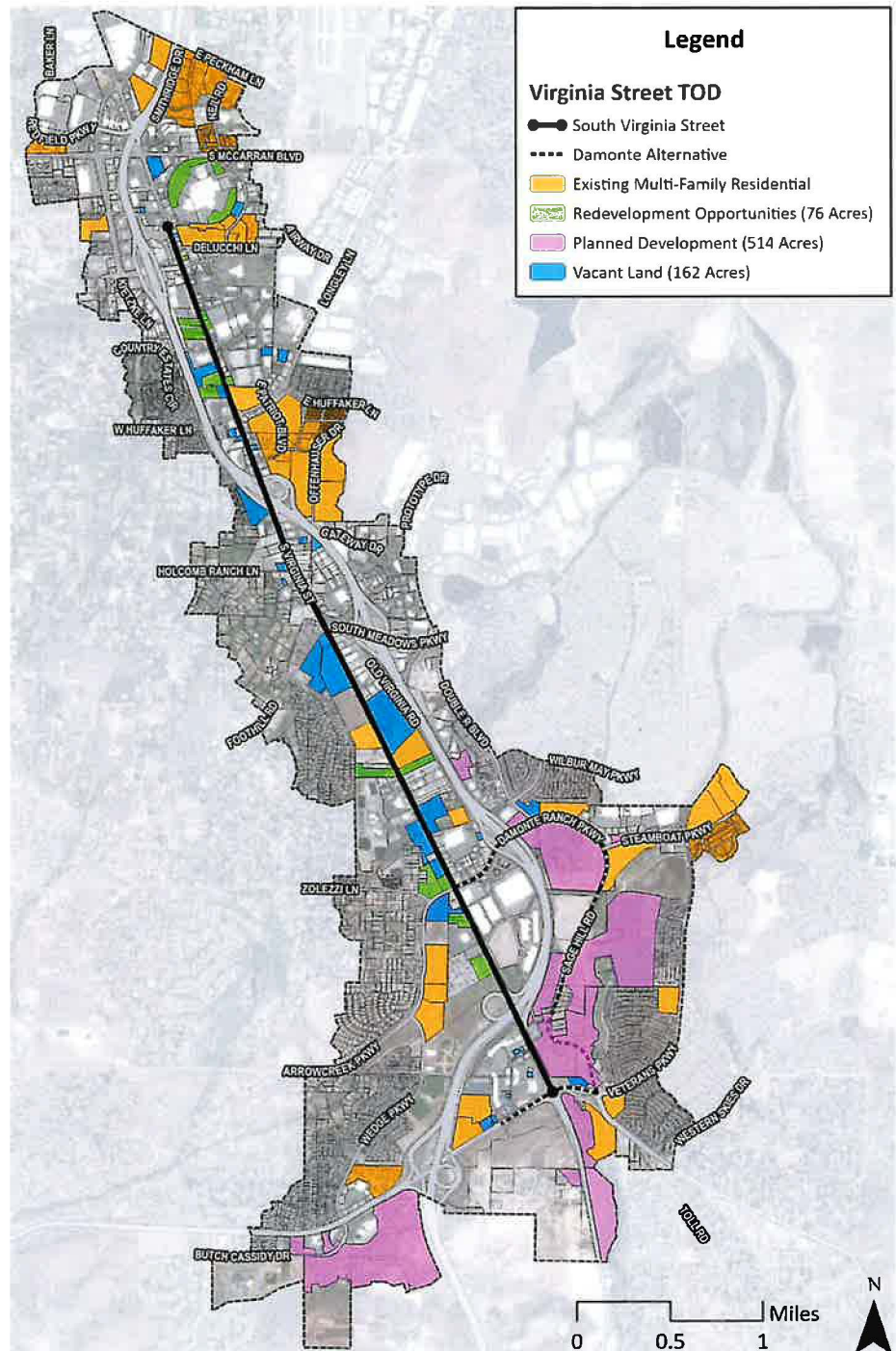


Figure 9 – TOD Opportunities

near future. These notable TOD projects are further described below and would provide a great opportunity to create book ends for the corridor to help encourage transit ridership and improve the potential for expanding the Virginia BRT line south of Meadowood Mall.

Opportunities for Infill/Revitalizing an Existing Center – Meadowood Mall

Though they include a concentration of lower-paying jobs and are popular travel destinations for shoppers, suburban shopping malls like Meadowood, near the northern end of the Study Area are not developed with transit service in mind. Although Meadowood is, in fact, the southern terminus of the existing Virginia Street BRT line, that station area is within a commercial development dominated by surface parking and auto-oriented interior transportation facilities.



In the near term, that property may continue to expand its bike and pedestrian amenities and other transit-supportive design accommodations, which should help improve its functional role as a potential multimodal hub. Over the longer planning horizon,

Meadowood is a good candidate for more dramatic redevelopment, following in the path of many aging suburban enclosed malls across the country - shifting away from a purely retail destination function to a mix of land uses including residential, scaled-back and more neighborhood-serving retail, along with "other" uses and services that could include educational, medical, entertainment or even tech-oriented employment.

With a property roughly the same size as the planned Downtown Damonte (nearly 70 acres within the mall perimeter road), such a repurposing, if planned with transit service as an integral component, could make the Meadowood Mall property an excellent source for (and beneficiary of) future BRT ridership.

Opportunities for Infill/Revitalizing an Existing Center – Summit Mall



The tentative southern terminus for the proposed system extension would be located within a regional lifestyle retail center known as The Summit Mall. The center, largely completed in 2007, includes some 65 stores with just over 500,000 square feet of surface-parked retail space. Adjacent to the retail, a 132-room upscale Hyatt Place hotel is under construction, due for completion later in 2024.

Also adjacent, just south and west of the retail center, but within easy walking distance to a likely BRT station location, are the recently completed (2019) Innova apartments, with 581 units. Apartments in the project are primarily market-rate, but 10 percent of units are reserved as affordable. Alongside the apartments is a 100,000-square foot self-storage facility and a park-and-ride surface lot serving existing bus system riders. Just to the south, across Mount Rose Highway, approximately one

million square feet of industrial space is under construction, with plans for additional future industrial or commercial on the remaining land parcels.

While the development at this node is quite suburban in density and layout, the property does represent a concentration of possible transit-dependent employment in the retail and hospitality sectors, with future additions of industrial employees likely to be less transit-dependent. In combination with residents from the large apartment project, the site has the potential to contribute significant ridership to a future BRT terminus station.

Because of the relatively recent vintage of retail development on the site, this node may not have as much potential in the foreseeable future for aggressive, blank-slate redevelopment as the older Meadowood Mall property (previously discussed). That said, the abundance of surface parking could be viewed as land with at least some good mixed-use redevelopment potential, including added housing density, over the long term – provided some structured parking is added to the mix.

Planned TOD Development - Downtown

Damonte

The most important single Study Area planned development, in terms of transit-supportive land use, is Downtown Damonte, the planned mixed-use focal point for the broader Damonte Ranch cluster of residential development in south Reno. The developer partnership of Nevada Pacific Development Corp. and The Di Loreto Companies describe the project in their site planning materials as “a walkable canvas of dining, housing, office, retail, medical, recreational, and commercial opportunities with a target occupancy date of late 2024 to early 2025.”



That 73-acre project, as proposed, would include up to 900 residential units – almost one quarter of the total residential unit development in the larger Damonte Ranch master-planned development. As such, the Downtown Damonte area alone could account for as many future added residents as are projected for the entire northern two-fifths of the Study Area, above Foothills Blvd./South Meadows Pkwy.

The mix of uses in Downtown Damonte would be primarily horizontal in nature, as opposed to a vertical mix having living units above storefront retail. As of late 2022 site plans, there would be 244,000 square feet of retail in the form of specialty shopping, dining, and bars, together with 150,000 square feet of class A office space. Adding to this trip-generating potential would be 180 new hotel rooms.

Adjacent to Downtown Damonte are parcels under development as a technology campus to be either wholly or largely occupied by Ridgeline Inc., a financial technology company that is anticipated to have more than 1,500 employees. That campus is very likely to be surfaced parked and not particularly compact – built to serve a workforce primarily expected to commute in by automobile. Nevertheless, it represents a large pool of relatively concentrated workers, some of which could be attracted to conveniences of BRT over time.

In short, Downtown Damonte, despite not being a prototypical pedestrian-focused TOD (or even directly reflecting the possibility of a transit station in its planning materials), has a great deal of promise for being a TOD catalyst

given its planned future density of housing units, employment, and likely clustering of dining and shopping. While employees of the development's lodging and retail establishments would be possibly transit-dependent, most of the new pool of prospective riders would likely include mostly riders-by-choice, given the upscale nature of most of the conceived project components for the site. As such, converting that planned new density into future transit ridership would require a significant increase in awareness and acceptance of mass transit use among the higher wage earners likely to make up the majority of new residents, shoppers, diners, hotel guests, and office employees in Downtown Damonte.

How Supportive of Transit are the Current and Expected Patterns of Corridor Development?

The following table summarizes how the existing and likely future built environment stack up against criteria for being transit-supportive. Because most station area locations are still tentative at this point, commentary relative to potential individual stations is necessarily limited.

Table 1: South Virginia Context Relative to Criteria for Transit-Supportive Development

<i>How transit-supportive? (1=not at all, 2=slightly, 3=moderately, 4=strongly, 5=very strongly)</i>			
Criteria	Current Context	Trajectory	Notes
Compact & Focused Development	<p>1 to 2 – overall</p> <p>3 - some multifamily and industrial areas (depending on station location)</p>	<p>4 - Downtown Damonte, as proposed.</p> <p>1 to 3 overall, moderately supportive in multifamily and industrial/employment areas</p>	<p>Some recent multifamily developments have increased the overall corridor density, but none are particularly compact, from a typical TOD perspective. There is considerable job density overall in the industrial areas east of Sierra Center Parkway, though development is not particularly compact. In general, patterns of density are more randomly distributed than focused at likely station areas</p>
Mix of Use	<p>1 to 2 at likely station areas overall.</p> <p>3 at Meadowood Mall terminus area and a few other potential station areas (Longly/Huffaker, McCabe, South Meadows Pkwy and Damonte, but far from likely future transit station areas)</p>	<p>4 at Downtown Damonte, as proposed</p> <p>1 to 2 over much of the remaining corridor</p>	<p>Though the corridor includes an impressive mix of uses overall, there are few developments near possible transit focus areas featuring a real mixed-use type development outside of the proposed Downtown Damonte. Most multifamily developments are separated by horizontal commercial or industrial uses, and generally are not well connected to services.</p>
Pedestrian & Bicycle-Friendliness	<p>1 to 2 overall</p>	<p>3 to 4 at Downtown Damonte (Potential for 5 should NDOT implement separated facilities as identified by the South Virginia Street Safety Management Plan)</p>	<p>Nearly the full extent of South Virginia Street is flanked by sidewalks in the north with little sidewalks found south of Patriot Boulevard, but except in a few areas around new developments. Where sidewalks exist these are directly adjacent to the busy arterial traffic and interrupted frequently by curb cuts. Crosswalk protection and lighting are inconsistent. Some bike trails can be found intersecting S. Virginia, but not along it. Plans for Downtown Damonte reference being ped/bike friendly, but few details are available. NDOT is in the process of a Safety Management Plan for South Virginia, which has proposed a separated bike path and larger sidewalks.</p>
Connectivity	<p>1 to 2 overall</p> <p>2 to 3 at Meadowood Mall</p>	<p>3 to 4 at Downtown Damonte</p>	<p>Unlike older parts of Reno surrounding the existing Virginia St. BRT, South Virginia lacks an urban grid of surrounding local streets, instead relying on a loose network of parkways, partially connected streets, and private roads built to satisfy one or two developments at a time with little regard for overall connectivity. Meadowood Mall serves an intermodal function for 2-3 local bus lines, providing access to the North Virginia BRT.</p>
Housing Affordability	<p>1 to 2 overall</p>	<p>1 to 2 over much of the corridor</p>	<p>Several Affordable housing projects exist but almost all have no access to transit. Establishing reliable transit service along S. Virginia Street will help to incentivize more affordable housing projects.</p>

Future Development Scenarios

Looking to the future, the TMRPA and the 2022 Washoe County Consensus Forecast anticipates the county to grow at a rate of 0.92 percent. This would result in an increase in population of 98,299 and an increase in employment totaling 38,000 jobs from 2022 to 2042. Considering the range of development that is allowed in the zoning that was discussed earlier, and considering there are over 700 acres of vacant and redevelopment opportunities, the amount of growth that is absorbed within the study area will depend on the type of development that occurs in these areas. Therefore, the best way to plan for future growth will be through analyzing several development scenarios. These scenarios will help to predict the types of population and job growth that the corridor can anticipate over the next 20+ years to help better predict the type of transit that can be supported.

The following scenarios are based on the Traffic Analysis Zones (TAZ) that intersect the study area. From the TAZ the forecasted population growth and job growth were then projected based on specific scenarios impacting land use changes within the opportunity areas within the corridor. The data originated from the Truckee Meadows Regional Plan projections and were modified based on growth scenarios further described in the Scenario Growth Opportunity by TAZ Group Table on page 22. In all a total of ninety (90) TAZ were analyzed as part of this process. Under each scenario specific population growth rates and job rates were applied to the existing TAZ totals based on the opportunity areas identified in Figure 9. Figure 10 shows groups of TAZs that were analyzed for growth potential based on opportunities for future development and an estimated increase in population and employment were calculated for each TAZ group based on a certain percent increase in population (Scenario 1 – 1%, Scenario 2 – 1.5%, and Scenario 3 – 2%). A comparison of the scenarios and change in each TAZ group by scenario are provided on the following pages.

It should be noted that these growth scenarios will be used to model future transit routes and the anticipated ridership. While the types of development proposed in these scenarios directly impact the population and job growth, the total population and jobs will help to determine the type of transit that can serve the study area.

Existing South Virginia Street Corridor	43,000 ¹
Future Growth Scenario 1	58,000
Future Growth Scenario 2	64,000
Future Growth Scenario 3	75,000

¹Based on 2020 US Census Tracts in the study area.

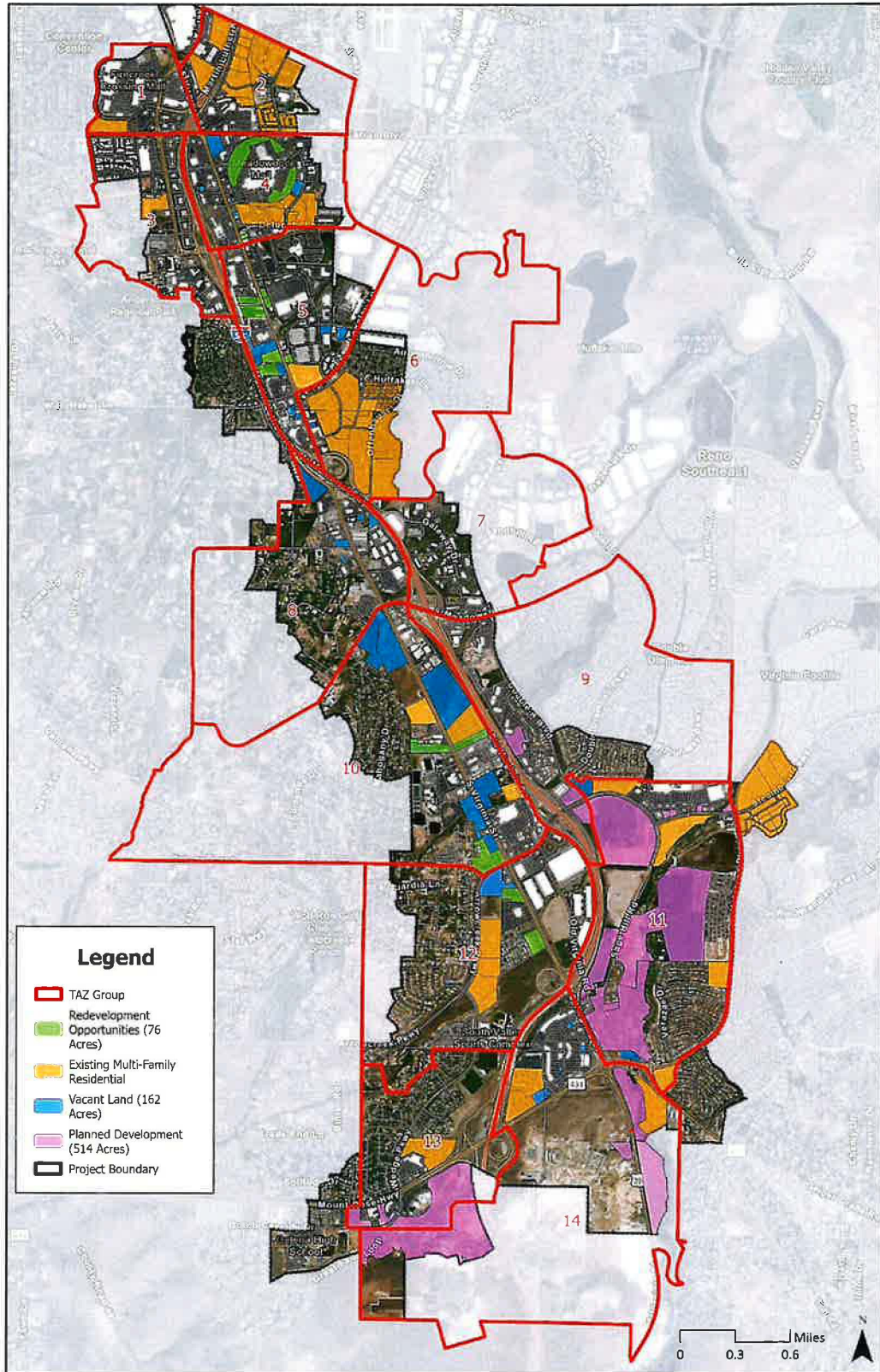


Figure 10: TAZ Groups and Growth Opportunity Areas

Table: Scenario Growth Opportunities by TAZ Group

TAZ Group	Future Employment Growth - Scenario 1	Future Population Growth - Scenario 1	Future Employment Growth - Scenario 2	Future Population Growth - Scenario 2	Future Employment Growth - Scenario 3	Future Population Growth - Scenario 3
1	1,139	78	1,103	76	1,094	73
2	380	679	368	662	365	637
3	1,264	320	1,225	312	1,214	300
4	1,721	525	1,667	512	1,907	3,216
5	1,142	204	1,106	789	1,217	952
6	810	457	785	445	782	443
7	2,376	1,711	2,302	1,667	2,282	1,607
8	431	142	417	211	424	456
9	2,555	189	2,475	184	2,454	177
10	713	1,860	283	2,413	997	5,019
11	776	3,812	2,799	3,158	2,796	3,110
12	146	1,181	663	1,592	659	1,933
13	197	128	191	474	189	457
14	782	2,558	973	1,527	975	1,569

Scenario 1: Historic Development Patterns

Scenario 1 anticipates a growth scenario that anticipates historic development patterns along the corridor to continue. This assumes that a broad range of intensities and developments ranging from car dealerships which are less transit supportive, to multi-family housing which is more transit supportive are anticipated to occur in the vacant land. This scenario assumes little to no infill/ redevelopment within the corridor. The population and job growth rate is assumed at one percent (1.0%). This results in a net increase of 14,866 people and 14,868 jobs throughout the study area.

Scenario 2: Transit Focus Areas

Scenario 2 assumes a growth model similar to the one highlighted in the *ReImagine Reno* Master Plan that allows a broad range of intensities to continue along the corridor but provides an increase in mixed-use developments that are more transit supportive around the major nodes (Figure 13 – Transit Focus Areas) and a mix of less transit supportive developments outside of these areas. The population growth rate under this scenario is approximately one and a half percent (1.5%) and a job growth rate of a little more than one percent (1.2%). This results in a net increase of 21,005 people and 18,747 jobs throughout the study area.

Scenario 3: Urban Corridor

Scenario 3 assumes transit supportive development anticipated along the full corridor, not just at the proposed transit focus areas. This assumes a growth model which is typically seen with the Mixed-Use Urban (MU) zoning designation which includes a minimum density requirement of 0.75 Floor Area Ratio (FAR) for non-residential development and 18 dwelling units per acre (du/acre) for residential. The population and job growth rate under this scenario is near two percent (2.0%). This results in a net increase of 26,005 people and 23,433 jobs throughout the study area.

Other Factors Influencing Future Transit Demand

Two crucial factors affecting potential ridership involve conditions outside the corridor study area. One factor relates to the home locations of current users of BRT, as related to income and wage levels, and how that is likely to impact future ridership and justify the need for additional affordable housing choices in the corridor. The second involves the scattered nature of employment destinations within the Reno market.

"Adding affordable housing at station areas would allow the corridor to even out the demand for service and add new riders."

Transit-Dependence and Affordable Housing

To better understand the critical role which affordable housing may play in a future South Virginia BRT system, Placer.ai cellphone geofencing data was utilized to look at the home locations of people who had visited the existing Meadowood platform over the past year (and thus presumably used the existing BRT serving downtown). That ridership "catchment" area was then overlaid on a map of residents by wage levels at a census block level.

The map at left shows a dark outline encompassing households accounting for the majority (actually, 70 percent) of platform visits. Note that ridership, by this measure, is very closely tied to a census block being in the lowest regional quartile for wages. This strongly suggests that BRT ridership in Reno is, at least currently, heavily driven by transit-dependent residents.

Transit dependence, in turn, is logically tied to a need for affordable housing. While there are a few affordable multifamily projects along the Corridor, housing in the study area is predominantly market rate, limiting the number of would-be transit users on the corridor. Without additions of affordable housing, the ridership dynamic would likely be largely made up of lower-income commuters living north of Meadowood Mall commuting south to work in the industrial employment concentration lying east of the interstate or the large retail centers on the corridor itself. Adding affordable housing at station areas would allow the corridor to more quickly be a source of northbound commuters, helping to even out the demand for service and add new riders.

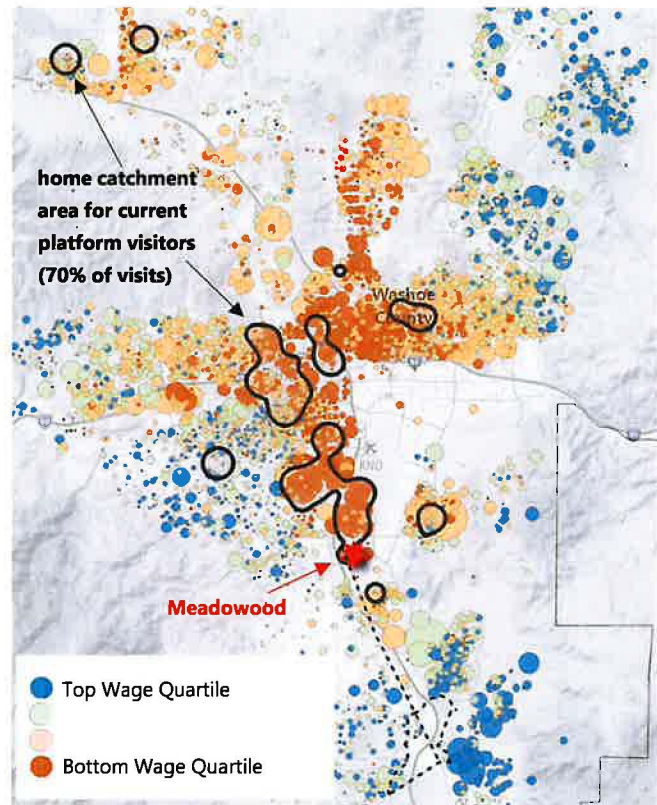


Figure 11: Users of the Existing Meadowood BRT Platform by Home Location and Wage Quartile, 2023

Scattered Worksite Destinations

While the corridor itself contains (or is adjacent to) a substantial concentration of industrial and retail jobs, most potential workplace destinations for prospective future corridor residents are not accessible via the north or future south BRT segments. In the case of industrial, other than the jobs found in or near the northeast reaches of the study area, most workplace locations can be found either in south Sparks or far north and east in Storey County. Without a strong complement of transfer buses or shuttles, most of this area employment will be unreachable via South Virginia BRT.

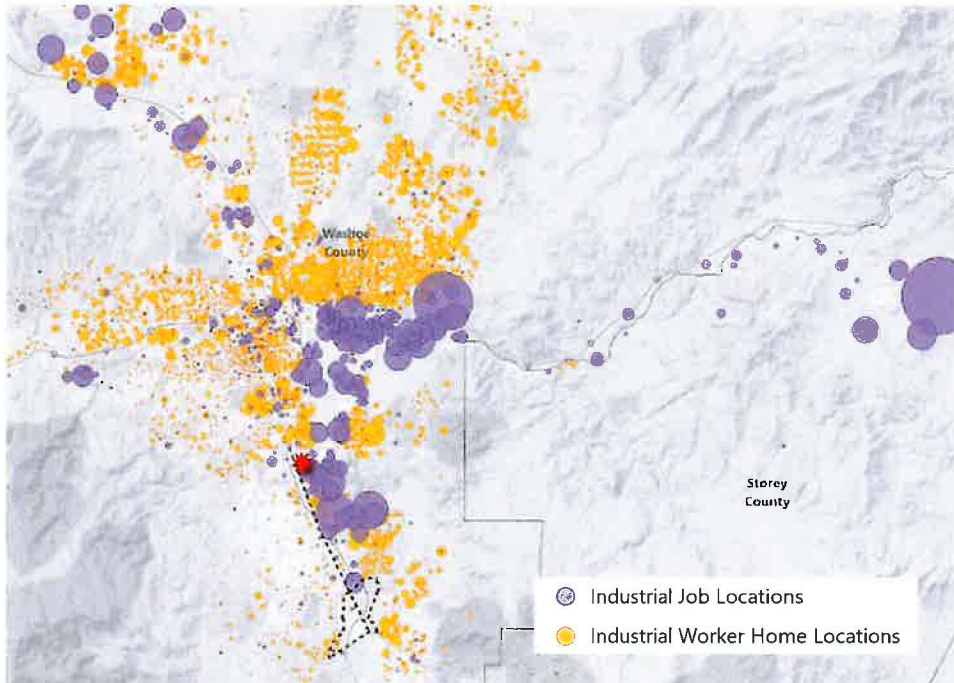


Figure 12: Where Industrial Employees Live and Work in the Region

Land Use Tools to Increase TOD Level Development in the Corridor

Recapping the Policy Challenges of Reno’s Existing Zoning

The *ReImagine Reno* Master Plan identifies the encouragement of alternate forms of transportation as a strategy element include some language on Transit-oriented/transit-supportive development, with just a paragraph under 5.4C saying that the City should...

Prioritize transit-oriented development in regional and employment centers, along urban corridors and other locations that are currently served by or are planned to be served by high-frequency transit service (i.e., peak hour headways of 15 minutes or less) and/or fixed-route transit (i.e., bus rapid transit). Continue to encourage transit-supportive development in more remote employment centers, suburban corridors, and other locations that are currently served by high-frequency transit during peak hours.

Addressing the challenge of extending transit service into suburban south Reno, requires a multi-faceted approach. Since zoning regulations already permit a high degree of density and flexibility but the current development pattern isn't aligning with transit-oriented goals, the table below highlights some strategies that the

city might consider. By employing a combination of these strategies, Reno can encourage developments that are more aligned with promoting a transit-supportive environment even in areas that currently exhibit auto-centric, suburban characteristics.

Toolkit Recommendations

Tools for promoting transit-supportive development can be grouped into four main categories: Land Use, Economic (including Incentives and Financing), Public Outreach, and System Related as shown in the following TOD Toolkit table. There are many overlaps and dependencies across the various tools and they are intended to be used in combination, leveraging one another towards the goal steering transit-oriented and transit-supportive development.

Phased Implementation: Consider a phased approach to implementing any of the tools shown below. Particularly in the case of overlay, or focused re-zoning, which can be perceived as particularly onerous. Start with less stringent requirements and gradually increase them, allowing developers time to adjust and plan for the changes.

Monitor and Adjust Policies: Continuously monitor the impact of major program elements such as overlay zoning and be willing to adjust policies if they are not working as intended. This adaptive approach shows developers that the city is responsive to their needs and the market realities.

TOD Toolkit

Category	Tools & Policy Recommendations	Case Study Examples
<p>Land Use Planning, Design</p> <p>Tools involving elements of the City’s general plan, land use regulations, and approaches to urban design</p>	<p>Master Plan Designations: Municipal land use planning begins with the master plan. The City should consider changes to the way South Virginia Street is categorized under Reno’s master plan framework. Current designations may place too much emphasis on the corridor’s suburban nature, downplaying its potential as a valuable extension of the existing BRT line to the north.</p> <p>Station Area Plans: One of the most important elements in successful transit projects across the country is dedicated individual station area planning. This can be a valuable incentive tool for developers already contemplating projects around station areas that include transit-supportive elements. These plans, typically co-sponsored by the transit agency and municipality, involve a process that brings community stakeholders to the table early to become better informed as to the goals and benefits of transit and the key characteristics of transit supportive development.</p> <p>By soliciting input about desires and concerns from station area neighbors, the process helps to secure community buy-in and overcome resistance through transparent problem-solving. A station area plan may or may not involve an actively interested developer or developers but should</p>	<p>Canyon Park (Bothell, WA) – General Plan Designation – Swift Green Line (BRT) – Subarea Plan (part of the city’s Comprehensive plan) identifies the neighborhood as a transportation hub (2020)</p> <p>2230 North Station (Provo, UT) – Station Area Plan – Utah Valley Express (BRT) – Station Area Plan being completed to guide mixed-use and commercial development near an existing station adjacent to a Walmart Neighborhood Market (2024)</p> <p>Transit Overlay District (Vancouver, WA) – Rezoning/Overlay Zones – C-TRAN (BRT) – District</p>

Category	Tools & Policy Recommendations	Case Study Examples
	<p>always yield important insights into potential development challenges and opportunities at the individual site level. Timing is important for station area planning. There needs to be some degree of certainty, usually in the form of secured funding, that the transit systems will be built, with preliminary decisions already made relative to system elements and platform locations.</p> <p>Focused Rezoning or Overlay Zones: Either as complement to, or instead of, individually negotiated development agreements (described in the next section, Economic Tools), consider implementing overlay zones at key arterial intersections intended for station areas. These overlays can set more specific guidelines or requirements for development in these areas, focusing on mixed-use, pedestrian-friendly designs that support BRT usage. Any design standards included in overlay regulations should be flexible enough to accommodate a range of potential development concepts.</p> <p>While overlay zoning directly addresses the primary observed challenge (lack of density, compactness, and land use mix around most prospective station areas), it does carry some risk of unintended consequences – potentially adding levels of bureaucracy and cost that may actually discourage station-area development relative to non-station areas. This can be countered by offering clear guidelines and assistance for developers navigating the overlay zoning regulations, including workshops, detailed guides, or dedicated city staff to help with compliance questions.</p> <p>Balancing Regulation with Incentives: Ensure that any additional regulations introduced by overlay zoning are balanced with incentives. This could mean offering tax abatements, density bonuses, or other financial incentives to developers who comply with the overlay requirements. The key is to make compliance more attractive than avoiding it.</p> <p>Urban Design Guidelines: As part of a program of zoning overlays, or separately, develop urban design guidelines that encourage developments to be pedestrian-friendly and easily accessible to BRT stations. This should include guidelines on building orientation, street frontages, and connectivity.</p>	<p>established along BRT lines, with Tier 1 density allowed adjacent to stations and lower-intensity Tier 2 density allowed elsewhere along the lines (2021)</p> <p>Murray Fireclay Area TOD (Murray, UT) – Design Guidelines – Utah Valley Express (BRT) – Streetscape, building, and pedestrian environment design guidelines for TOD areas (2021)</p>

Category	Tools & Policy Recommendations	Case Study Examples
	<p><i>Reimagining Reno</i> speaks to this, but in fairly general terms that could be spelled out in more concrete design terms, with recommendations and illustrations offering guidance on dimensions, materials, and key functional interrelationships of urban amenities.</p> <p>A set of urban design guidelines for BRT stations was developed in 2009 as part of planning efforts for the existing northern portion of the system. Those guidelines should be revisited and updated in light of the contextual differences along South Virginia south of McCarran.</p>	
<p>Economic Tools (incl. Incentives & Financing)</p> <p>These tools cover an overlapping set of real estate approaches, funding mechanisms, and selective favorable treatments that help to bridge economic feasibility gaps for desired projects.</p>	<p>Infrastructure Improvements:</p> <p>Public sector investments in infrastructure improvements represent one of the most important categories of incentives available to make areas around future BRT stations more attractive for development. Such spending may come directly from the City as part of its capital improvements plan or can be channeled through mechanisms like tax-increment financing (see below).</p> <p>Either way, these investments can help encourage desired private sector projects by taking on costs that would otherwise be borne by the developer. Even for nearby off-site costs that private developers would not be expected to bear, public investments such as streetscaping, pedestrian and bicycle pathways, and public spaces, can also improve the value of TOD projects while signaling a degree of permanence and commitment on the part of the City to supporting a high-quality built environment.</p> <p>Development Agreements:</p> <p>These are commonly used as a means of formalizing negotiated commitments between the City and developers, such as trading public infrastructure investment for developer adjustments to site design and land use mix. These may range from complex agreements spanning multiple topics to relatively simple ones. For a simple example, a city might agree to pay for undergrounding of electrical utility lines serving a project in exchange for dedication of a certain percentage of multifamily units as permanently affordable.</p> <p>A development agreement, and the related memoranda of understanding (MOU) represent a more individualized means to encourage desired transit-supportive characteristics in private developments. Such case-by-case negotiating of policies and requirements stands in contrast</p>	<p>Division Transit Project (Portland, OR) – Infrastructure Improvements – TriMet Frequent Express (BRT) – New BRT line accompanied by safety improvements near stations, including new sidewalks, bike lanes, and crosswalks (2022)</p> <p>SR 522 TOD (Kenmore, WA) – Public-Private Partnerships – City of Kenmore (BAT) – The City of Kenmore invested \$80 million in infrastructure improvements along SR 522, including BAT lanes to improve bus service. The City assembled property downtown and sold it to developers who built 230 new TOD units (2010)</p> <p>LA County Land Banking Pilot (Los Angeles, CA) – Land Bank – Metro and LA County (new transit stations) – Metro and LA County are collaborating on a pilot program to make surplus land acquired for new transit facilities available for joint development (2022)</p> <p>Metro TOD Program (Portland, OR) – Land Bank –</p>

Category	Tools & Policy Recommendations	Case Study Examples
	<p>to more strictly applied frameworks such as a detailed overlay zoning district with pre-specified use and design requirements and little room for custom tailoring.</p> <p>For the highly varied assortment of potential station area environments along South Virginia, the development agreement approach may be preferred for its flexibility – perhaps accompanied by a set of TOD overlay standards that are more focused on guidelines and incentives than prohibitions or requirements.</p> <p>Public-Private Partnerships & Joint Development: Engage with developers through public-private partnerships. This approach can ensure that new developments are aligned with the city's transit goals. For instance, the city might offer land or development rights at a reduced cost in exchange for developments that incorporate specific transit-friendly features. This notion of public-private partnerships pervades the TOD landscape around U.S. transit systems.</p> <p>This approach would typically work hand-in-hand with the value incentive of public sector investments in infrastructure improvements and would require a custom case-by-case approach – finding publicly-funded improvement that developers find sufficiently valuable to warrant tweaking project elements in a transit-supportive direction.</p> <p>Land Banking: If feasible, the City or RTC could consider purchasing additional key parcels of land along the BRT route, especially around planned station areas. This gives the City more control over how these areas are developed in the future and allows for value capture – allowing the City to realize gains in residual land value that can be passed on to developers as incentives or used to fund other incentive elements listed here.</p> <p>RTC already controls two large land parcels on the east side of South Virginia near where a terminal station facility (potentially including a park & ride lot) might be located. The City and/or RTC could investigate the potential of acquiring a similar land assembly on the Meadowood Mall property that would eventually be part of BRT (or intermodal) facilities at that terminus. More aggressive assembly could seek to control a future TOD development site adjacent to that station, setting the stage for a potential joint development</p>	<p>Metro Regional Government (all transit stations) – Program includes a variety of TOD-targeted incentives, including Metro acquisition of land for future affordable housing (1998)</p> <p>Jamestown Square (Kansas City, MO) – Tax Abatement – Ride KC (streetcar) – KCATA approved bonds for two apartment projects near a planned streetcar stop to provide private developer with 20-year tax abatement (2022)</p> <p>North College MAX BRT Corridor (Fort Collins, CO) – Tax-Increment Financing – North College Urban Renewal Authority – TIF district established in 2004 and expires in 2029. Currently has \$20 million to support priorities within the plan area, including gap financing for affordable housing (2004)</p>

Category	Tools & Policy Recommendations	Case Study Examples
	<p>assuming there is market feasibility in support of a full mall redevelopment along TOD lines.</p> <p>Tax Abatement & Fee Waivers: One of the simplest tools for encouraging development is allowing the removal of certain taxes or fees that would otherwise be paid by the developer for projects that meet certain specific TOD criteria. This approach obviously requires the City to forego some portion of a currently applicable revenue stream. From the developer's perspective, temporary property tax abatement and/or waiving of certain impact fees may be more enticing than the payment-in-kind structure of targeted public infrastructure investments. To the extent that the savings freed up by abatement can be spent across a variety of development costs (as opposed to earmarked for a specific infrastructure item), it can be seen as more flexible money. Tax-abatement incentives for desired TOD projects is a common element in BRT and LRT policy across many systems in the U.S.</p> <p>Tax-Increment Financing: TIF is one of the most common funding mechanisms used to help finance transit-supportive development projects. In general, TIF programs identify blighted and under-performing real estate in the City, produce redevelopment plans, and work with private developers to implement those plans by reinvesting a portion of new, incremental property and sales tax revenues generated from new real estate development.</p> <p>In Reno, the Economic Development/Redevelopment Agency (RDA) administers such programs, identifying blighted areas, developing plans, and coordinating the allocation of TIF funds across infrastructure investments, land assembly, and other allowed spending items. This approach can function as the primary vehicle for making transit-supportive infrastructure investments of the kind described in the section above.</p> <p>South Virginia Street (both above and below McCarran) is already identified as a priority area by the RDA, which explicitly references the need to work towards accommodating a future BRT right-of-way and implement Complete Streets along the corridor.</p>	

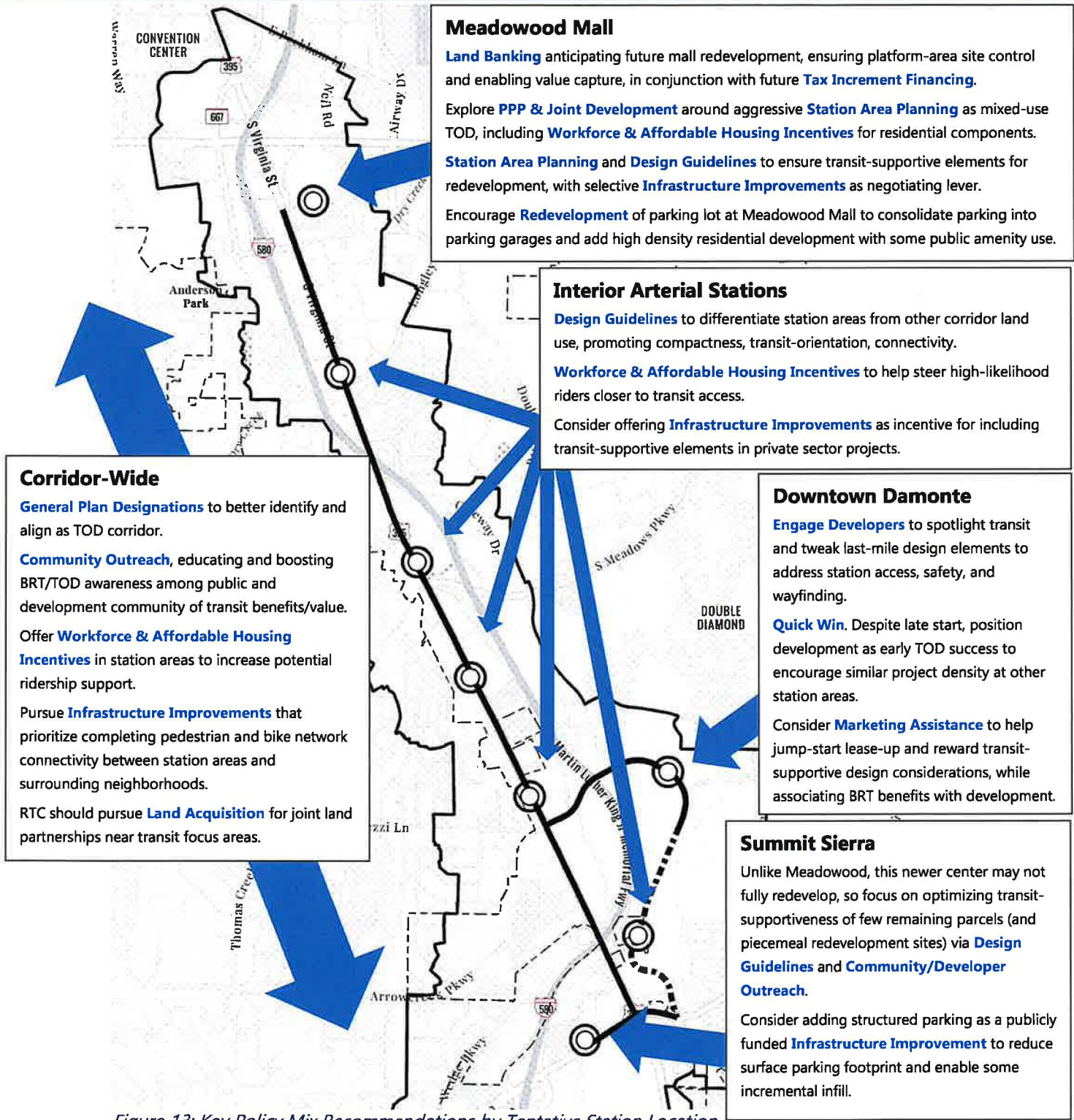
Category	Tools & Policy Recommendations	Case Study Examples
	<p>Eventual redevelopment of the Meadowood mall property could be an excellent candidate for future use of TIF funding in line with the RDA's stated mission.</p> <p>Selective Project Streamlining: Once preliminary station area locations are solidified, the City can institute a policy of prioritizing consideration and streamlining of approvals processes for projects that are located near stations and that include qualifying transit-supportive elements. Uncertainties in the entitlement (and even construction/inspection) phases present risks for developers and lenders that may deter transit-supportive project elements. Streamlining can help reduce that risk.</p> <p>Marketing Assistance: To the extent that the City (and potentially RTC) can take on some costs of marketing for critical transit-supportive developments, such as multifamily housing at station areas, they can help developers by increasing the pace of lease-up (for apartments) and sales absorption (for condos). This can be very appealing to lenders motivated to minimize their time to payoff. This incentive would necessarily come later in the process as station area planning begins to spur development projects. Direct marketing support would almost certainly require a budget line item for the public sector participant, so the City or RTC would need to weigh those costs against the "quick win" type benefits of encouraging rapid absorption or lease-up for a high-visibility project.</p> <p>Affordable and Workforce Housing: Coordinating with State and other jurisdictions on low-cost affordable housing loans and other affordable housing incentives addresses a critical source of future ridership and is central to the with the big picture of transit's economic benefits. The Nevada Housing Division has the ability to issue tax-exempt housing revenue bonds and non-competitive tax credits for qualified housing projects, lowering the cost of capital and improving proforma project feasibility.</p> <p>An important requirement of the Division's program is that local jurisdictions must put up 50 percent of the needed bonding authority. Such programs require a high degree of coordination between state and local authorities but represent an important part of the finance puzzle for developers of affordable housing.</p>	

Category	Tools & Policy Recommendations	Case Study Examples
<p>Outreach and Public Relations</p>	<p>Community Engagement and Education: A general lack of awareness of likely BRT benefits for commuters and developers appears to be a major potential shortfall constraining interest in transit supportive development. The City and RTC can step up efforts to work with local communities to educate them about the benefits of transit-oriented development. Community support can be a powerful tool in encouraging developers to consider transit-oriented projects. This type of outreach would be most focused during system planning but would presumably continue through early-phase BRT service rollout.</p>	
	<p>Engage Developers to Leverage Existing Projects: Work with private sector developers of existing and planned projects to incorporate transit-friendly features. This could include improving pedestrian access to BRT stations or providing amenities like bike-sharing stations. This strategy could be especially important in helping to shape last-mile amenities and infrastructure within the Downtown Damonte and Pioneer Parkway development area. In the more distant future, eventual redevelopment of the Meadowood Mall property (and potentially some densification/infill at The Summit) should involve extensive cooperation with transit planning.</p>	
	<p>Success Stories and Demonstrations: Look for "quick win" possibilities. Be prepared to showcase successful developments that have complied with the overlay zoning (or other policy changes) as examples and enjoyed added real estate value as a result. Demonstrating the potential benefits and feasibility can encourage others to follow suit.</p>	
	<p>Community Support and Advocacy: Build community support for developments within station area nodes, when local residents and businesses advocate for such developments, it can create a more favorable environment for developers and may help reduce resistance to regulatory burdens such as overlay zones.</p>	
	<p>Finding Shared Parking Opportunities: Major manufacturing and other industrial employment projects planned for the portions of the study area may be good locations for shared parking taking advantage of predictable large-scale work shift arrangements. These can be taken into consideration for targeted reductions in parking requirements at key locations.</p>	

Category	Tools & Policy Recommendations	Case Study Examples
<p>System-Related</p> <p>Operational Tools involving the logistics of system operations and the surrounding transportation and parking environment</p>	<p>Early Express-Only Phase: Awareness of and existing attitudes towards mass transit in Reno may currently limit prospects for attracting riders-by-choice, it may be especially important to enhance the convenience and commuting speed of the transit system. This can be done by significantly reducing the total number of stops so as to create more of an express service between key TOD focus areas such as The Summit, Downtown Damonte, and the current Meadowood terminus (which would presumably become more of a multi-modal hub).</p> <p>Transit Prioritization: Another way to enhance perceptions of convenience (and actual convenience/timeliness) for BRT is to aggressively add signalization priority for BRT vehicles at normally congested intersections. This is a fairly common BRT advantage across U.S. systems and one that may see opportunities for increased efficiency and effectiveness through advances in AI-supported software.</p> <p>Lane Dedication: One advantage of the more suburban environment along South Virginia is that there may be more opportunities to find stretches of right-of-way suitable for BRT-only travel. In combination with signal prioritization, any chance to allow buses to circumvent auto congestion via dedicated lanes will improve system efficiency and speed – in turn improving the perceived value of BRT among choice riders.</p> <p>Parking Regulations: Revisit parking regulations. Reducing minimum parking requirements for developments near BRT stations can discourage car use and encourage developers to use land more efficiently.</p>	

Recommended Policy Tool Combinations Across Likely Transit Focus Areas

Each of the above policy tools have the potential to play a role in steering the built environment of the Corridor to be more transit-supportive and better positioned to benefit from the presence of transit. Those transit-supportive characteristics are primarily important around future station areas, or likely nodes focused on transit, where residents and businesses can take advantage of pedestrian and other non-auto access to the service. Because each of the prospective nodes has its own unique combination of opportunities and challenges, the mix of policy tools for promoting transit-supportive development will need to be tailored to work across each separate node. The following **Figure 13** applies policy approaches across the current set of tentative transit focus areas.



Meadowood Mall

Land Banking anticipating future mall redevelopment, ensuring platform-area site control and enabling value capture, in conjunction with future **Tax Increment Financing**.

Explore **PPP & Joint Development** around aggressive **Station Area Planning** as mixed-use TOD, including **Workforce & Affordable Housing Incentives** for residential components.

Station Area Planning and **Design Guidelines** to ensure transit-supportive elements for redevelopment, with selective **Infrastructure Improvements** as negotiating lever.

Encourage **Redevelopment** of parking lot at Meadowood Mall to consolidate parking into parking garages and add high density residential development with some public amenity use.

Interior Arterial Stations

Design Guidelines to differentiate station areas from other corridor land use, promoting compactness, transit-orientation, connectivity.

Workforce & Affordable Housing Incentives to help steer high-likelihood riders closer to transit access.

Consider offering **Infrastructure Improvements** as incentive for including transit-supportive elements in private sector projects.

Corridor-Wide

General Plan Designations to better identify and align as TOD corridor.

Community Outreach, educating and boosting BRT/TOD awareness among public and development community of transit benefits/value.

Offer **Workforce & Affordable Housing Incentives** in station areas to increase potential ridership support.

Pursue **Infrastructure Improvements** that prioritize completing pedestrian and bike network connectivity between station areas and surrounding neighborhoods.

RTC should pursue **Land Acquisition** for joint land partnerships near transit focus areas.

Downtown Damonte

Engage Developers to spotlight transit and tweak last-mile design elements to address station access, safety, and wayfinding.

Quick Win. Despite late start, position development as early TOD success to encourage similar project density at other station areas.

Consider **Marketing Assistance** to help jump-start lease-up and reward transit-supportive design considerations, while associating BRT benefits with development.

Summit Sierra

Unlike Meadowood, this newer center may not fully redevelop, so focus on optimizing transit-supportiveness of few remaining parcels (and piecemeal redevelopment sites) via **Design Guidelines** and **Community/Developer Outreach**.

Consider adding structured parking as a publicly funded **Infrastructure Improvement** to reduce surface parking footprint and enable some incremental infill.

Figure 13: Key Policy Mix Recommendations by Tentative Station Location

Suburban BRT is Cutting Edge

Although the above recommendations mention other (typically BRT) transit systems there are no good “success stories” to apply to the present context under consideration. The transit extension down South Virginia would involve a foray into a more suburban environment. There are a few newly opened lines (in Vancouver, Washington, and Ogden, Utah, for example) that serve areas with similar suburban characteristics and several proposed or under construction suburban BRTs (in Fort Collins, Colorado, and metro Seattle, for example), but none of those have accumulated a body of performance evidence relative to the transit system or the corridor’s success in promoting suburban TOD. As such, the recommendations given in this memo are based on professional judgement given the conditions and constraints faced on South Virginia, informed by some case study BRT systems that share similarities but are typically less suburban in character.

The suburban context of the proposed extension of the South Virginia BRT line limits the range of potential case studies that can be looked at for meaningful comparison. A number of cities across the Western U.S. have suburban BRT lines that are either in planning stages or are very recently opened. As such, those routes have yet to establish a record of ridership performance on which to attribute system “success”. Proposed and new suburban BRT systems include:

- Tucson, AZ – proposed BRT extension north from downtown/university campus north to suburban foothills (an alignment that more closely resembles the existing northern segment of the South Virginia line).
- Fort Collins, CO – two planned extensions from their existing MAX BRT, one connecting the main CSU campus with a planned western satellite campus eager to participate in transit planning.
- Vancouver, WA – Red Line and Mill Plain Line additions in largely suburban settings, both opened in 2023. Another line addition still in conceptual planning would extend service nine miles north across a context resembling the proposed South Virginia extension.
- Metro Seattle, WA – several proposed BRT (and related bus-based) lines envisioned for suburban settings, but not yet constructed.

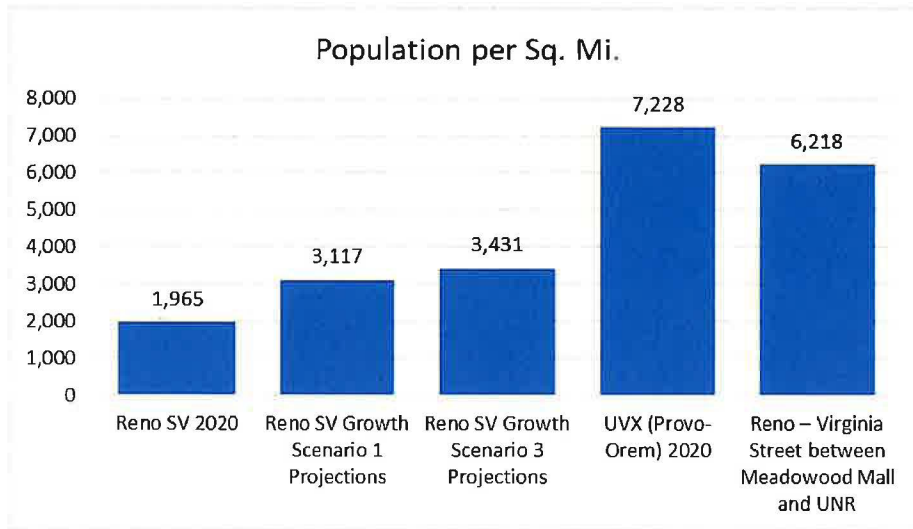
Suburban BRT Case Study Focus: Provo-Orem Utah Valley Express BRT

Only the Utah Valley Express (UVX), a BRT system opened in 2018, connecting Provo and Orem, has a reasonably similar suburban operating environment to the South Virginia setting and enough ridership track record to evaluate performance. That line is generally considered a ridership success story, with an impressive 14,600 daily riders just one year after opening. Part of the high ridership for the UVX line has been due to the policy of free fares, a policy which the Utah Transit Authority is in the process of transitioning to a sliding scale based on a set of affordability factors. The UVX line, as it is now known, offers frequent headways --service every six minutes at peak times, and every 10 minutes off-peak. About half its 10.5-mile route is in exclusive travel lanes for buses not shared with other vehicles. Like other BRT systems, buses have extra doors and limited stops. Buses are also longer than normal — 60 feet instead of 40.

Land Use Framework:

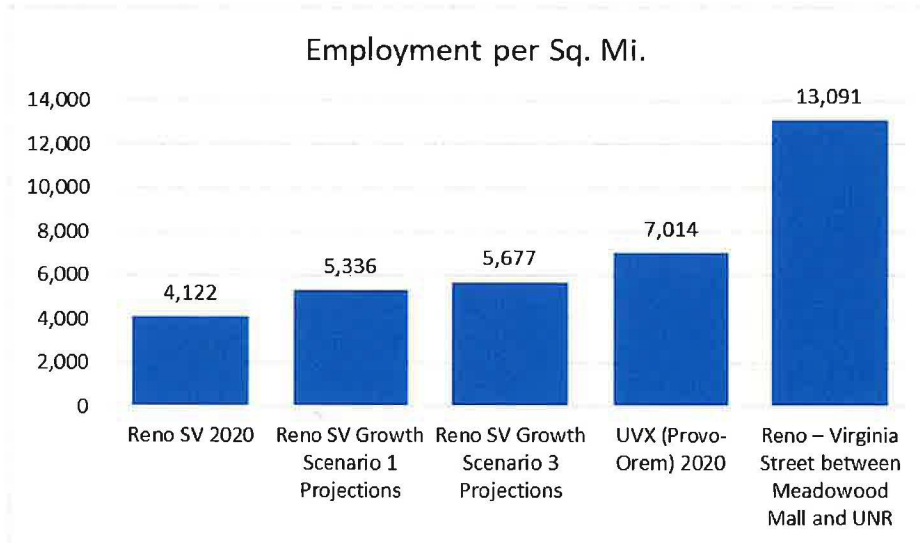
Although similarly suburban, the land use context along the UVX alignment differs significantly from that found along the South Virginia study area. The major difference is the UVX line includes both the Brigham Young University (a mid-point stop), as well as the Utah Valley University, a largely commuter college facility with enrollment of over 43,000 students. In addition, UTA and constituent local governments have been quite aggressive in terms of promoting transit-oriented development, largely through the use of joint development ventures leveraging land purchased well in advance of system planning and intentionally integrated into station area land use planning in cooperation with developers and public institutions.

Population Density Comparison: South Virginia Extension Service Area vs. Provo-Orem UVX Service Area



Source: U.S. Census, ESRI, and Leland Consulting Group

Employment Density Comparison: South Virginia Extension Service Area vs. Provo-Orem UVX Service Area



Source: U.S. Census, ESRI, and Leland Consulting Group

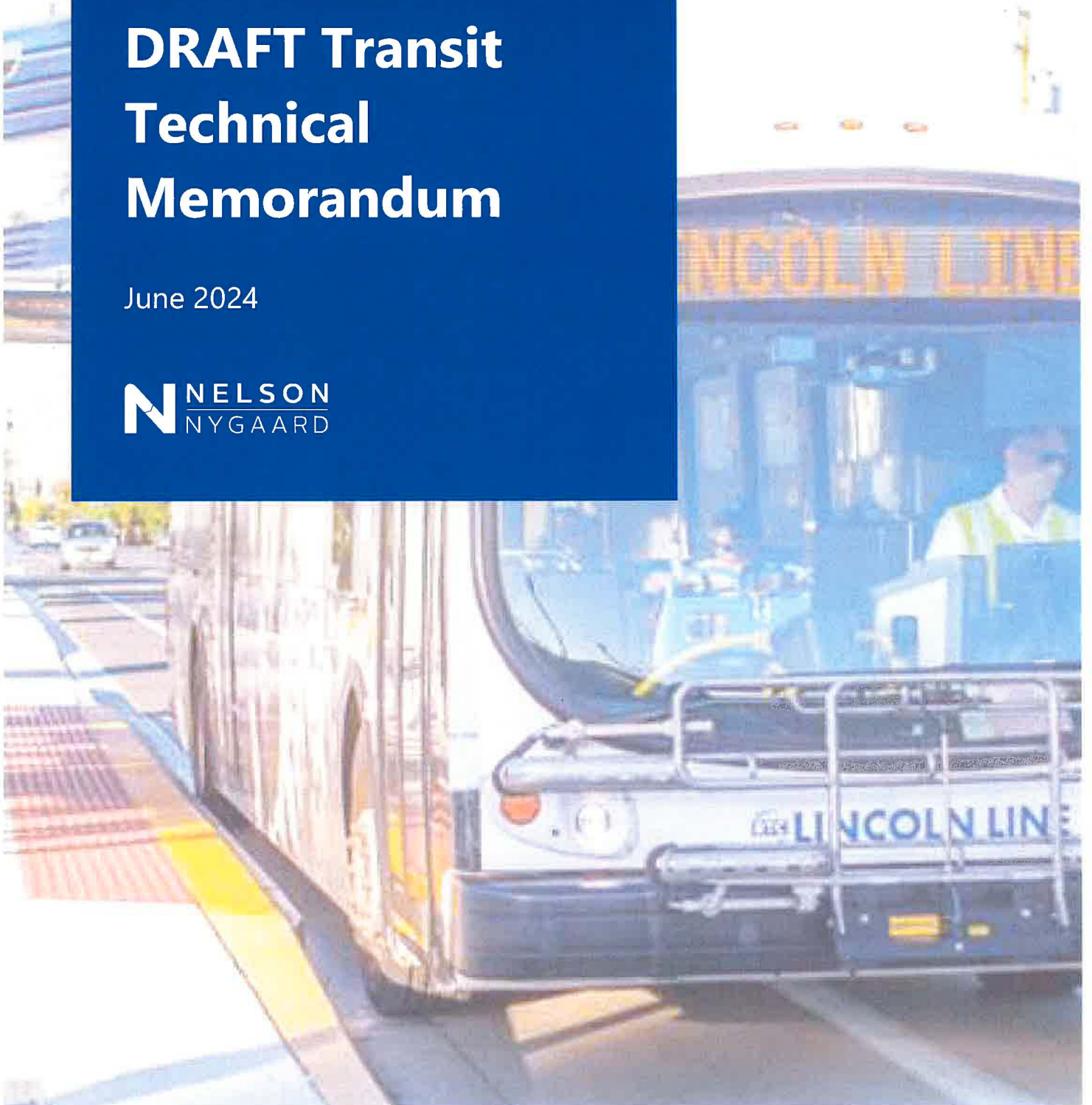
Although generally suburban in nature, the Provo-Orem line was built to serve an area far more densely used than the South Virginia study area. As the figure above illustrates, as of 2020, the UVX line’s half-mile service area has nearly 3.7 times the population density as the comparable service area for the proposed South Virginia BRT extension alignment and approximately 1.7 times the employment density. Even without growth assumed for the Provo-Orem Line, under the more aggressive “Option 3” scenario for South Virginia, the UVX catchment area will still have more than double the population density and a 25% higher employment density. This case study shows that South Virginia Street, while continues to grow, still has a way to go in terms of density required to generate ridership that would support future BRT level transit.

South Virginia Street
TOD Study
RTC Washoe

DRAFT Transit Technical Memorandum

June 2024

N NELSON
NYGAARD



South Virginia TOD Study – Transit Technical Memo
RTC Washoe

1	Introduction & Background	1
	Memo Purpose	1
	Study Area & Project Goals	1
2	Transit Supportive Land Uses	5
	Transit Ridership Factors.....	5
	South Virginia Corridor Population.....	7
3	Existing Conditions	8
	Characteristics of Regional Transit Riders.....	8
	Existing Transit Service in the Study Area	10
4	BRT Conceptual Alternatives	16
	Operations Planning Concepts.....	16
	EXISTING VIRGINIA LINE BRT.....	16
	Proposed Stop Locations.....	17
	Alternative 1 – Summit Mall.....	22
	Alternative 2 – Damonte Ranch	24
	Alternative 3 – Summit Mall / Damonte Ranch Loop.....	26
	Alternative 4 – Extension of Existing Virginia Line BRT to damonte ranch	29
	Alternatives Comparison.....	31
5	Corridor Ridership Forecasts	34
	STOPS Ridership Modeling Forecasts.....	34
6	Recommendations for Next Steps	36
	FTA Alternatives Analysis.....	36
	Opportunities to Build Transit Ridership Prior to BRT Investment.....	37

1 INTRODUCTION & BACKGROUND

MEMO PURPOSE

The South Virginia Street Transit Oriented Development (TOD) Study's purpose is to analyze the need for future transit service in the South Virginia Street corridor from Meadowood Mall to Mt. Rose Highway based on regional demand, and current and future growth. The TOD Study will also analyze the land use planning tools that will encourage a walkable, transit-supportive development pattern that meets the growth and development needs of the region.

The purpose of this Transit Technical Memorandum is to provide an overview of transit alternatives that could be considered to support that visioning for an expansion of RTC's Virginia Line Bus Rapid Transit (BRT) service along the South Virginia Street corridor. The following sections of the memo present existing conditions influencing current transit service and potential future BRT service, existing Virginia Line BRT ridership trends north of the study area, and transit service phasing recommendations that would support the future vision to implement BRT within the study area.

STUDY AREA & PROJECT GOALS

Study Area

The study area for the South Virginia TOD Study extends along South Virginia Street within Reno and portions of unincorporated Washoe County between Meadowood Mall in the north and Summit Mall in the south, including a small portion of Mt Rose Highway at the far southern end. The study area expands to the east on the southern end of the corridor to include the Downtown Damonte area encompassing higher density housing and retail destinations. The full study area is shown in **Figure 1**.

As shown in **Figure 2**, land adjacent to the South Virginia Street corridor is zoned for a mix of uses throughout, with a primarily mixed-use urban designation north of Neil Road and a primarily mixed-use suburban designation to the south. The Damonte Ranch area is zoned as planned unit development and residential uses of varying intensity with the highest densities being in the Downtown Damonte area.

Project Goals

The goals of the South Virginia TOD Study are to:

- Promote multimodal transportation within the corridor
- Create continuity throughout the corridor
- Allow for the safe movement of all forms of transportation
- Improve transit service
- Encourage mixed-use development

South Virginia TOD Study – Transit Technical Memo

RTC Washoe

This memo focuses on the analysis and recommendations that would support the goals related to improving transit service and multimodal transportation options.

South Virginia TOD Study – Transit Technical Memo
RTC Washoe

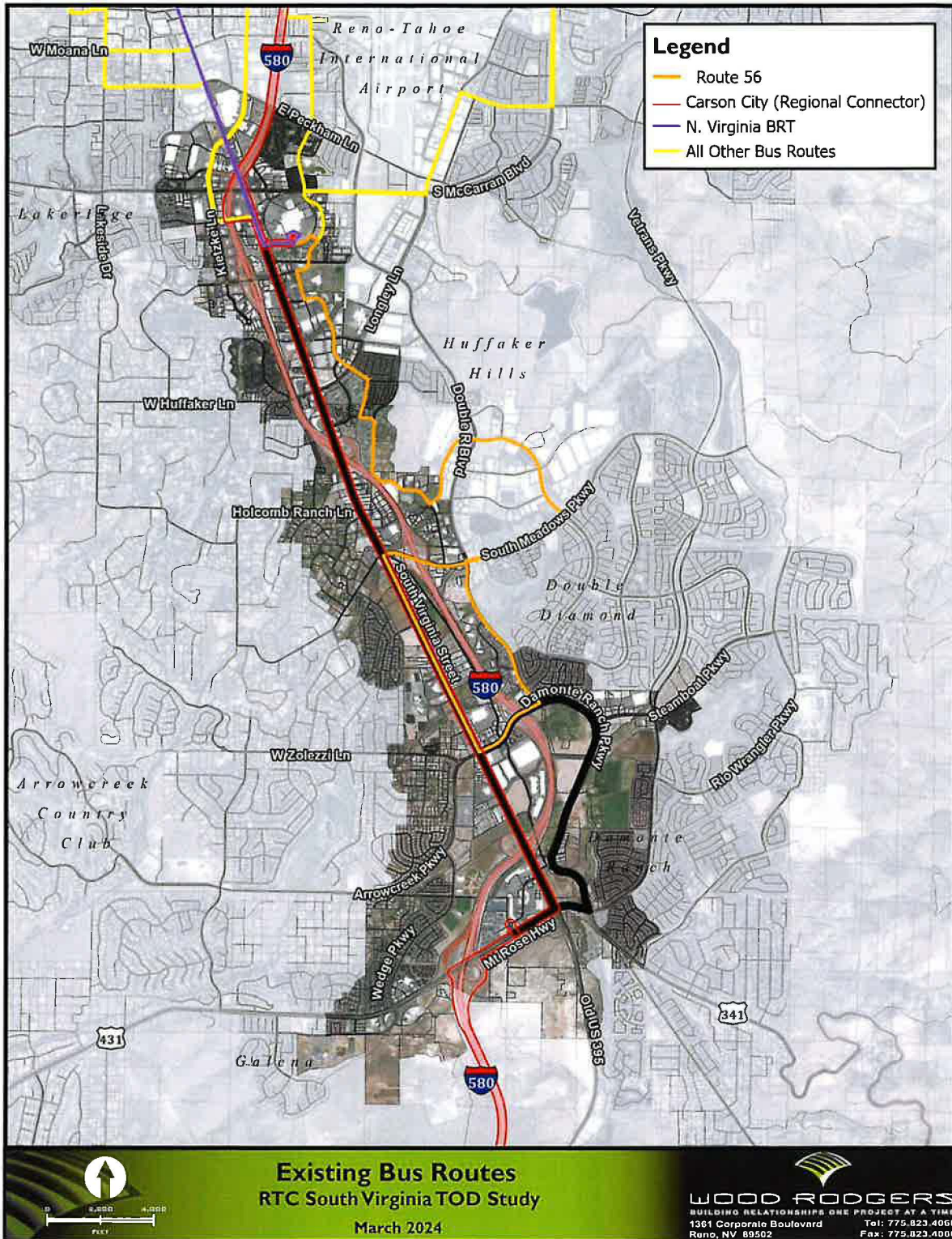


Figure 1 – Existing Transit Service in relation to the Study Area

South Virginia TOD Study – Transit Technical Memo
 RTC Washoe

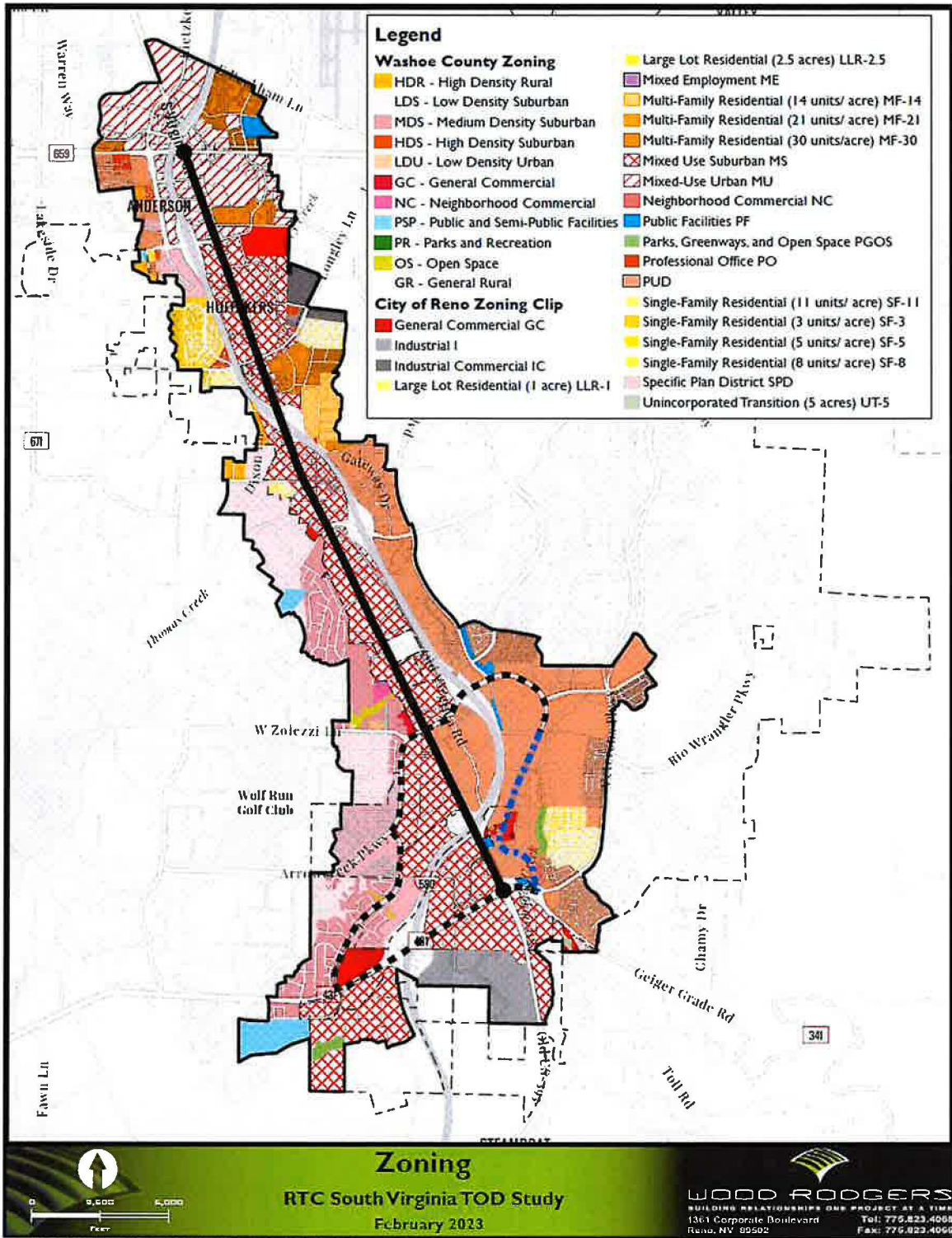


Figure 2 - Zoning in the Study Area

2 TRANSIT SUPPORTIVE LAND USES

TRANSIT RIDERSHIP FACTORS

Transit exists to get people where they want to go, such as home, work, school, a friend’s house, or an appointment. In other words, there must be a market for transit to serve.

Transit demand is strongly related to six factors:

- **Population and Population Density:** Transit relies on having more people in close proximity to service. Higher population density makes it possible to provide higher levels of transit service.
- **Socioeconomic Characteristics:** People may be more or less likely to use transit based on socioeconomic characteristics. For example, households with one or no cars are much more likely to use transit than households with several cars.
- **Jobs and Job Density:** Traveling to and from work often accounts for the most frequent type of transit trip. As a result, the location and density of jobs is a strong indicator of transit demand and the level of transit service that is possible.
- **Land Use Patterns:** In all cities, there is a strong correlation between land use patterns and transit ridership. In areas with denser development, mixed-use development, and a good pedestrian environment, transit can be very convenient for more people.
- **Major Activity Centers:** Large employers, universities, tourism destinations, and other high-activity areas attract large volumes of people and can generate a large number of transit trips.
- **Travel Flows:** People use transit to get from one place to another. Major transit lines such as rapid transit services or high frequency bus routes are designed to serve trips or corridors with high volumes of travel.




























Of these six factors, **population and job density are the most important when it comes to demand for transit and how much service is feasible to provide.**

This is because:

- The reach of bus transit is generally limited to one-quarter mile of a bus stop.
- As a result, the size of the transit market depends on how many people or jobs are within that area. Higher densities near a transit stop mean that there are more people or jobs within that area, which means that there is a larger market for transit service.
- Larger markets support more frequent service, while smaller markets with fewer people or jobs can support only less frequent service.

Based on research conducted by Nelson\Nygaard, **Figure 3** shows the correlation and accompanying thresholds between corridor land use characteristics (e.g., population and job densities) and transit service types and treatments. The main takeaway from this research is that denser corridors are more supportive of high capacity and more frequent transit service.

South Virginia TOD Study – Transit Technical Memo
 RTC Washoe

LAND USE			TRANSIT	
Land Use Type	Residents per Acre	Jobs per Acre	Appropriate Types of Transit	Frequency of Service
 Downtowns & High Density Corridors	>45	>25	 Light Rail  BRT  Rapid Bus  Local Bus	 10 mins or better
 Urban Mixed-Use	30-45	15-25	 BRT  Rapid Bus  Local Bus	 10-15 minutes
 Neighborhood & Suburban Mixed-Use	15-30	10-15	 Local Bus	 15-30 minutes
 Mixed Neighborhoods	10-15	5-10	 Local Bus  Micro-transit	 30-60 minutes
 Low Density	2-10	2-5	 Micro-transit  Rideshare  Volunteer Driver Pgm	 60 mins or less or On Demand
 Rural	<2	<2	 Rideshare  Volunteer Driver Pgm	 On Demand

Source: Thresholds based on research by Nelson\Nygaard

Figure 3 – Land Use Characteristics vs Transit Service Typology

SOUTH VIRGINIA CORRIDOR POPULATION

The South Virginia Street corridor is targeted in the City of Reno Master Plan for future growth, which has held true with an increase in population and employment over the past decade. However, growth in transit service has not matched the recent growth in population and employment in the corridor.

To better understand future ridership potential in the corridor current population and future growth scenarios (further described in the South Virginia TOD Land Use Tools Memorandum) were developed based on current land use and the land available for infill and redevelopment opportunities. To calculate the potential ridership for the South Virginia Street corridor, population were analyzed for the existing BRT routes. **Figure 4** provides a comparison of the existing BRT Line populations along with the existing and projected populations for the South Virginia Street corridor growth scenarios. Based on the average daily ridership observed for the two existing BRT lines, daily ridership is 4.5% - 6.5% of the corridor population. It is reasonable to assume that the proposed Virginia Line extension would serve a slightly lower percentage of the corridor population when compared to the existing Virginia Line based on its lower overall density.

RTC Route	Corridor Population ¹	Average Riders ²	Daily % of Riders Per Pop.
Lincoln Line	50,700	2,280	4.5%
Virginia Line	67,300	4,250	6.5%
Study Area	Corridor Population	Ridership Potential ³	% of Riders Per Pop.
Existing South Virginia Street Corridor	43,000 ¹	1,290 – 2,150	3-5%
Future Growth Scenario 1 ⁴	58,000	1,740 – 2,900	3-5%
Future Growth Scenario 2 ⁴	64,000	1,920 – 3,200	3-5%
Future Growth Scenario 3 ⁴	80,000	2,400 – 4,000	3-5%
Notes:			
<ol style="list-style-type: none"> 1. 2020 population of census tracts adjacent to each corridor 2. 2019 average daily ridership 3. Forecast potential South Virginia Street ridership based on corridor population 4. Forecasted 2050+ population based on land use scenarios and level of future infill/redevelopment 			

Figure 4 – Corridor Population Compared to Existing BRT Lines

3 EXISTING CONDITIONS

CHARACTERISTICS OF REGIONAL TRANSIT RIDERS

Replica¹ data for Washoe County from Spring 2023 was analyzed to better understand the trip-making and demographic characteristics of the transit market. The Replica dataset includes detailed attributes for all trips by primary mode.

This data is meant to augment the ridership modeling and forecasting results and to help inform any future service planning and phasing recommendations.

Figure 5 provides a summary of high-level findings from the regional Replica data and additional detail is provided below.

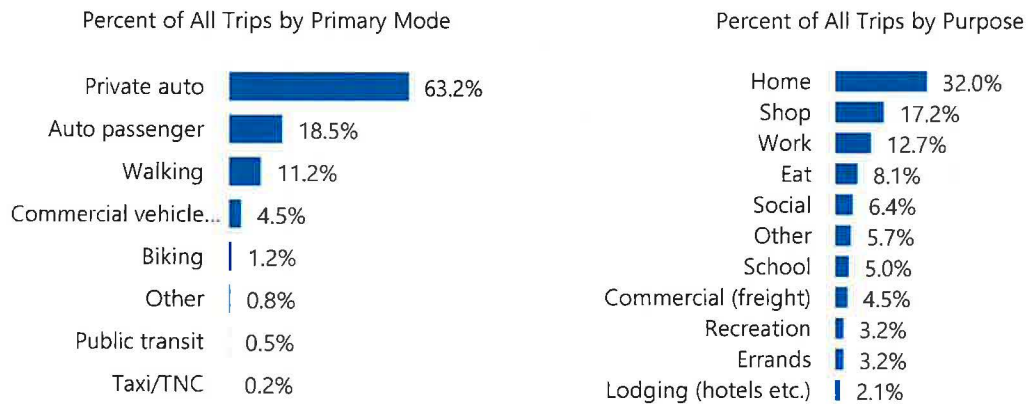


Figure 5 – Existing Trip Characteristics in Reno

¹ Replica is a data platform that provides simulations of the complete activities and movements of residents, visitors, and commercial vehicle fleets in a region and season on a typical day. The output of each simulation is a complete, disaggregate trip and population table for an average weekday and average weekend day in the subject season (e.g., Fall 2021). The model represents a 24-hour period with second-by-second temporal resolution, and point-of-interest-level spatial resolution. This data is used in planning work to understand the mobility trends and specific demographic characteristics of the population in a given study area.

South Virginia TOD Study – Transit Technical Memo

RTC Washoe

- **Trip Purpose.** 42% of transit trips are made for the purpose of going to work, which is significantly higher than the 12% for all modes.
 - There are employment centers along the South Virginia corridor that are not currently served by frequent transit suggesting that there may be an opportunity to maximize ridership along South Virginia by ensuring that service is provided to employment centers.
- **Trip Duration.** The average duration of a transit trip is 39.9 minutes, 16.6 minutes for auto-based trips, and 13.5 minutes for active trips.²
- **Trip Distance.** The average distance of a transit trip is 5.1 miles, an auto-based trip is 6.2 miles and an active trip is 1 mile.
- **Vehicle Availability.** 76% of transit trip takers did not have a vehicle available for the trip, meanwhile less than 3% of the remaining trip takers did not have a vehicle available.
- **Household Income.** The median household income of transit trip takers is \$54,800, an auto-based trip taker is \$91,600, and an active trip taker is \$75,200.
- **Household Size.** 34% of transit trip takers are from single-person households, whereas auto-based trip takers are from a single-person household only 11% of the time.
- **Age.** The average age of a transit trip taker is 46; meanwhile, the average age of an auto-based trip taker is 41 and 37 for an active trip taker.
- **Sex.** 58% of transit trip takers are male and 42% are female. This proportion is more balanced for auto-based and active trips with male trip takers accounting for 51% of the trips and female for 49%.
- **Tenure.** 71% of transit trip takers are renters whereas only 38% of non-transit trip takers are renters.
- **Commute Mode.** 53% of transit trip takers already commute via public transit versus less than 1% of auto-based trips commuting by public transit.
- **Employment Status.** 90% of transit trip takers are employed. This is higher than the 70% of auto-based trip takers and 61% of active trip takers.
- **Time of Day.** Almost half of all transit trips occur during the typical peak travel periods. 22% occur between 6:00 am and 9:00 am and 25% occur between 4:00 pm and 7:00 pm. 36% of trips occur during the middle of the day, from 9:00 am to 4:00 pm.
- **Land Use.** 65% of transit trips originate from these top three land uses: retail (27%), multi-family (25%), and mixed use (14%). Single-family residential land uses account for 11% of transit trips. A deeper dive into the destination land use of work trips revealed that 33% went to retail land uses, suggesting that retail workers represent a significant transit market.

² Auto-based trips include trips taken by auto, taxi or TNC. Active trips include biking and walking trips.

EXISTING TRANSIT SERVICE IN THE STUDY AREA

RTC provides public transit services to the greater Reno-Sparks area. RTC has a fleet of 65 buses for fixed-routes services and provides approximately five million transit rides per year on 20 routes. Most of the Local routes in the RTC system operate 30-minute or hourly service seven days per week, with the operating hours varying based on the corridor.

RTC currently operates BRT service on Virginia Street (Virginia Line) and 4th Street/Prater Way (Lincoln Line). These corridors have proven to be successful with the Virginia Line (along with the Route 1 Local underlay service) providing over one million rides per year on the five-and-a-half-mile route between the University of Nevada, Reno and Meadowood Mall. The Lincoln Line is a shorter route at approximately three-and-a-half-miles between the 4th Street Station in Downtown Reno and Centennial Plaza in Downtown Sparks. The Lincoln Line (along with the Route 11 Local underlay service) provides over 700,000 annual rides. The BRT Lines provide frequent service with headways of 10 minutes throughout the day on weekdays and 12 minutes on weekends. The span of service for the two BRT Lines varies with the Virginia Line providing service into the late evening hours past midnight. The Lincoln Line service operates from approximately 6 am to 8:30 pm. Along with a premium level of service, the BRT Lines include enhanced stations with larger shelters and real-time passenger information, among other amenities consistent with BRT service.

RTC also operates FlexRIDE microtransit, vanpool, Access ADA paratransit service, and partners with taxis and transportation network companies (TNCs), such as Uber and Lyft to provide service that can provide more flexibility for ADA passengers.

The South Virginia Street Study Area is currently served by Route 56, a standard fixed route, and the Regional Connector, which is a commuter route that operates between Reno and Carson City. Paratransit service is also available in the area, as well as RTC's vanpool and taxi/TNC programs. RTC plans to add FlexRIDE to the Damonte Ranch area in May 2024, but does not have any other immediate plans for expansion in the area. These services are described below as it will be critical to integrate them with the potential future extension of the Virginia Line.

Route 56

Local bus service within the South Meadows and Damonte Ranch areas is currently provided by Route 56, operating between Meadowood Mall in the north and Damonte Ranch in the south (see **Figure**). Route 56 operates at the following frequencies:

- Monday – Friday
 - 5:30am – 5pm: 30 minutes
 - 5pm – 10pm: 60 minutes
- Saturday
 - 6am – 8pm: 60 minutes
- Sunday
 - 7am – 6pm: 60 minutes

Route 56's alignment largely parallels the S. Virginia Street corridor to the east, including a clockwise loop along Double R Boulevard, Damonte Ranch Parkway, S. Virginia Street, and South Meadows Parkway in the southern portion of the route. As of October 2019, Route 56 was observed to have an average weekday ridership of approximately 750 boardings. This places Route 56 on the lower range of average ridership for an RTC route. There are eight routes in the post-2020 network that average fewer daily riders than Route 56.

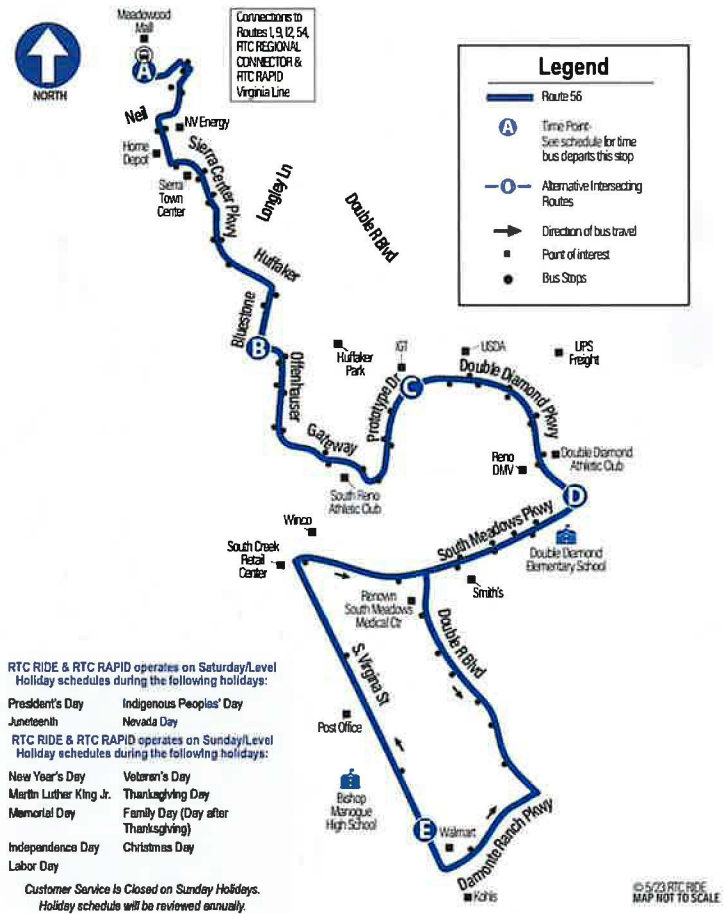


Figure 6 - RTC Route 56 Map

RTC Regional Connector

Regional, commuter-focused bus service along the S Virginia Street corridor is currently provided by the RTC Regional Connector, operating between Downtown Reno in the north and Carson City in the south (see **Figure 7**). The Regional Connector operates at the following frequencies:

- Monday – Friday
 - Southbound
 - 5:45am – 6:45am: 30 minutes
 - 3pm – 5:30pm: 60 – 90 minutes
 - Northbound
 - 6:50am – 7:50am: 30 minutes
 - 4:15pm – 6:45pm: 60 – 90 minutes

Primarily traveling on Interstate 580 between Reno and Carson City, the Regional Connector has several stops along S Virginia Street, including at Meadowood Mall and Summit Mall.

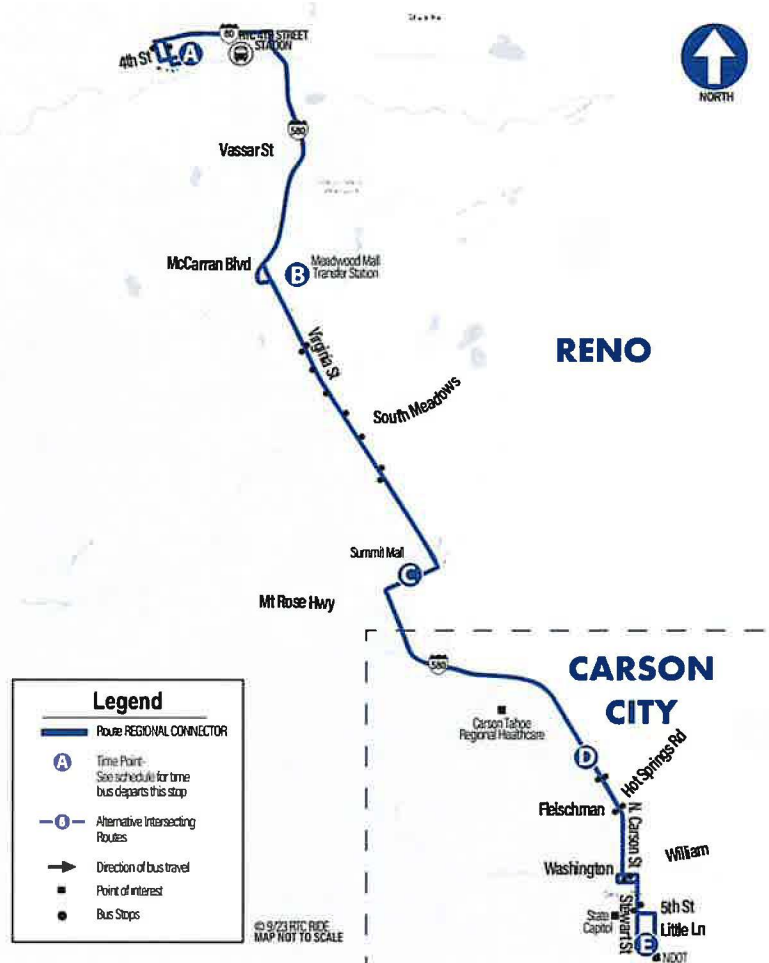


Figure 7 - RTC Regional Connector Route Map

RTC FlexRIDE

FlexRIDE is RTC’s curbside-to-curbside on-demand transit service, operating seven days a week in select areas of Sparks/Spanish Springs, Somerset/Verdi, and North Valleys. This type of on-demand service can function both as first- and last-mile travel to and from fixed-route transit hubs, and as a means of providing transit in areas that cannot support fixed-route service, such as those with low population densities, irregular street networks, or unique and challenging geographies. Connections to fixed-route service are provided at transit hubs, transfer points, and other key bus stops.

South Virginia TOD Study – Transit Technical Memo
RTC Washoe

While no FlexRIDE service is currently provided in the South Meadows and Damonte Ranch areas, RTC is planning to implement FlexRIDE service in these areas in May 2024(see **Figure 8**)³ In addition to the service area itself, FlexRIDE is anticipated to provide service to the following destinations outside of the service area:

- Raley’s at Galena Junction
- UNR Redfield Campus
- South Valleys Library/Sports Complex
- Reno Ice
- South Meadows Walmart
- IGT
- DMV
- WinCo
- Smith’s
- United States Post Office

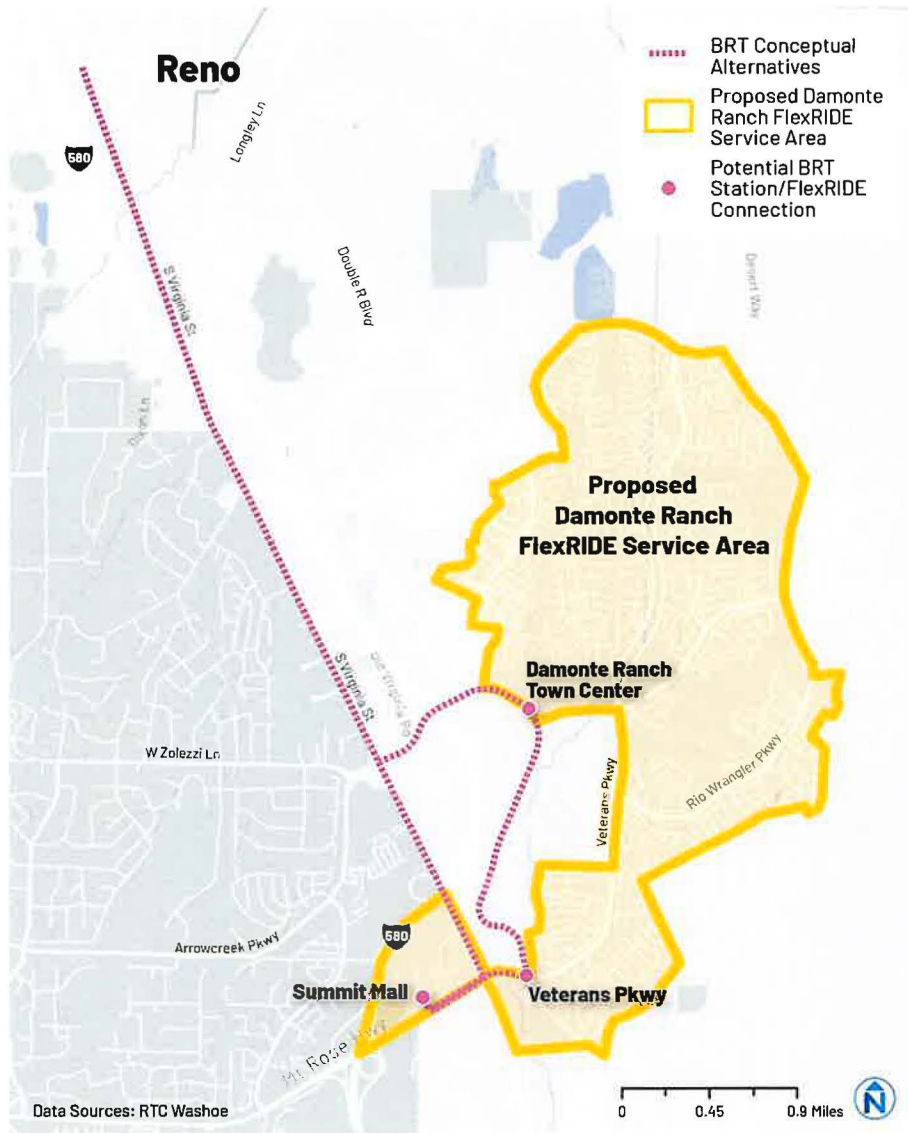


Figure 8 - Proposed Damonte Ranch RTC FlexRIDE Service Area

Meadowood Mall Transfer Center

The Meadowood Mall Transfer Center is located between the south end of the mall and Meadowood Mall Circle. The transfer center is comprised of seven bays, serving RTC Routes 1, 9, 12, 54, and 56, as well as the Virginia Line and the Regional Connector. Amenities at the transfer center include three shelters, benches, and trashcans. RTC is currently in the process of designing a new transfer center at Meadowood Mall to the east of the existing location (see **Figure 9**).

³ The Damonte Ranch FlexRIDE service area is preliminary and will be undergoing a formal RTC Washoe public participation and review process.

South Virginia TOD Study – Transit Technical Memo
RTC Washoe

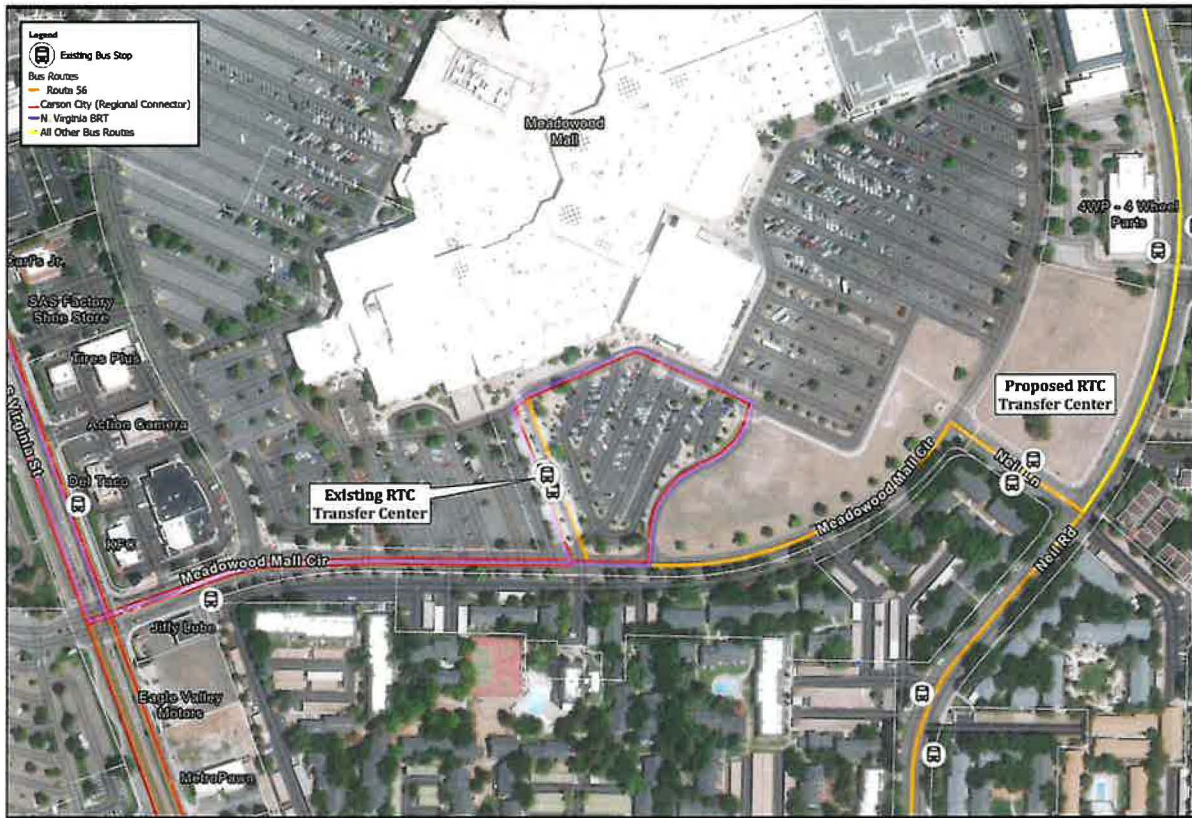


Figure 9 - Proposed Meadowood Mall Transfer Center Relocation

Bus Stops

Outside of the Meadowood Mall Transfer Center, existing bus stops within the study area are currently served by RTC Route 56 and the Regional Connector. Stops are primarily comprised of a bus stop flag on the sidewalk, with roughly half of the stops including a bench and two with a shelter. **Figure 10** displays the current level of amenities for existing bus stops on S Virginia Street, and **Figure 11** lists the details of all existing stops within the study area. Only two stops along the corridor currently have shelters.

South Virginia TOD Study – Transit Technical Memo

RTC Washoe



Figure10 - Existing Bus Stops on S Virginia Street for Route 56 & the Regional Connector

Stop Name	Direction	Routes	Amenities
Meadowood Mall Cir and S Virginia St	EB	1, 9	Flag, sidewalk
S Virginia St and Longley Ln	NB	Regional Connector	Flag, sidewalk
S Virginia St and Longley Ln	SB	Regional Connector	Flag, sidewalk
S Virginia St and E Patriot Blvd	SB	Regional Connector	Flag, sidewalk
S Virginia St and Holcomb Ranch Ln	SB	Regional Connector	Flag, sidewalk
S Virginia St and South Meadows Pkwy (Winco Entrance)	NB	Regional Connector	Flag, sidewalk, shelter, bench
S Virginia St and Artisan Means Way	NB	56	Flag, sidewalk
S Virginia St and McCabe Dr (Auto Center Dr)	NB	56, Regional Connector	Flag, sidewalk
S Virginia St and McCabe Dr	SB	Regional Connector	Flag, sidewalk, bench
S Virginia St and Trinity Ln	NB	56, Regional Connector	Flag, sidewalk, shelter, bench, trashcan
S Virginia St and Trinity Ln	SB	Regional Connector	Flag, sidewalk, bench
S Virginia St and Damonte Ranch Pkwy	NB	Regional Connector	Flag, sidewalk, bench
S Virginia St and Damonte Ranch Pkwy (Arrowcreek Pkwy)	SB	Regional Connector	Flag, sidewalk, bench

Figure 11 - Existing Bus Stops and Amenities on S Virginia Street

4 BRT CONCEPTUAL ALTERNATIVES

OPERATIONS PLANNING CONCEPTS

Four conceptual BRT service alternatives were developed for this study to illustrate the level of operations investment that would be needed by RTC to support a new BRT line serving the South Virginia Street and Damonte Ranch destinations. The operational investment is one of the key pieces of information that is necessary when determining whether to move forward with a transit capital project. These concepts are intended to be a starting point that could be used for future corridor planning including a formal Alternatives Analysis that would be required to seek federal funding to support a BRT transit capital investment for the South Virginia Street corridor.

Remix transit planning software was used to calculate the operating statistics and estimated operations costs for all service alternatives in this study. The annual operations costs from Remix were evaluated for accuracy compared to actual RTC operations cost and were deemed to be within reason and valid for planning purposes to evaluate service options as part of this analysis.

EXISTING VIRGINIA LINE BRT

The existing Virginia Line BRT service operates within the City of Reno between the University of Nevada, Reno (UNR) in the north and Meadowood Mall in the south. Primarily traveling on Virginia Street, the Virginia Line BRT connects UNR, RTC’s 4th Street Station, Downtown Reno, the Riverwalk District, Midtown Reno, and Meadowood Mall as it travels north to south. Operational statistics for the existing Virginia Line BRT are shown in Figure 10.

Existing Virginia Line BRT	
Peak Operational Vehicles	7
Roundtrip Length (mi)	12.34
Stations (total)	26
Average Station Spacing (mi)	0.51
Weekday Frequency (min)	10.6 min (6am – 7pm) / 30 min (7 – 10pm) / 60 min (10 – 11:59pm)
Saturday Frequency (min)	12.3 min (6am – 7pm) / 30 min (7 – 10pm) / 60 min (10 – 11:59pm)
Sunday Frequency (min)	12.3 min (6:30am – 7pm) / 30 min (7 – 9pm) / 60 min (9 – 11pm)
Annual Operating Cost Estimate	\$3.10 million (Remix estimate) \$3.43 million (RTC 2019-2020 estimate)

Annual Operating Hours Estimate	30,966
--	--------

Figure 12 - Existing Virginia Line BRT Operations Summary

PROPOSED STOP LOCATIONS

The proposed stop locations for each alternative are based on a combination of regional growth plans, best practices including the current spacing found with the Virginia Line, and an analysis of current and future land uses. Based on the City of Reno Relmagine Reno Master Plan, which was updated in 2021, the South Virginia Street corridor is mostly identified as Suburban Mixed Use (SMU) which encourages “concentrated nodes of higher-intensity development...at major intersections.” Furthermore, the plan identifies four multi-modal hubs which shall, “incorporate transit stops and other multi-modal facilities.” The four areas are located at the Meadowood Mall, South Meadows Parkway, Damonte Ranch Parkway, and the Summit Mall as shown in **Figure 13**.

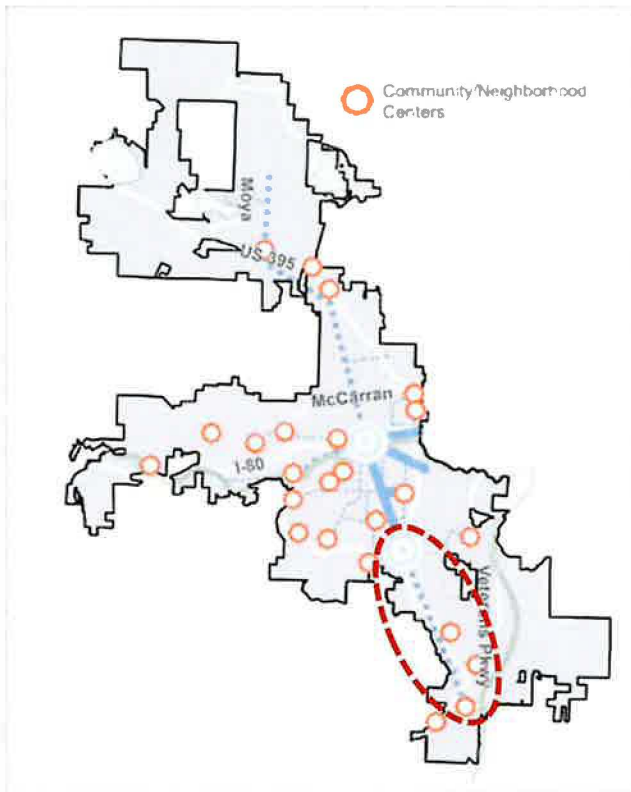


Figure 13: Multi-Modal Hubs identified in the Relmagine Reno Master Plan

South Virginia TOD Study – Transit Technical Memo

RTC Washoe

In addition to the multimodal hubs identified in the ReImagine Reno Master Plan, many of the major intersections including Longley Lane, South Meadows Parkway, and Damonte Ranch Parkway were prioritized because of connectivity to the surrounding neighborhoods. Further, best practices indicate stops should be placed approximately one-half mile apart to decrease travel times and increase ridership. This approach is consistent with RTC's existing BRT stop spacing. Finally, existing and future conditions were considered including the potential for development of higher densities, employment nodes, and areas of future growth potential.

Figure 14 shows the composite of the current and future conditions and the relationship with the proposed stop locations. As the figure shows, the highest growth opportunity within the study corridor shows a deviation from South Virginia Street along Damonte Ranch Parkway. The proposed stop locations align with the locations with the highest density or planned growth along the corridor including the stop along Damonte Ranch Parkway. A few of the stops are in less dense segments of the corridor to maintain consistent stop spacing and should be considered for targeted growth locations in the future.

South Virginia TOD Study – Transit Technical Memo
 RTC Washoe

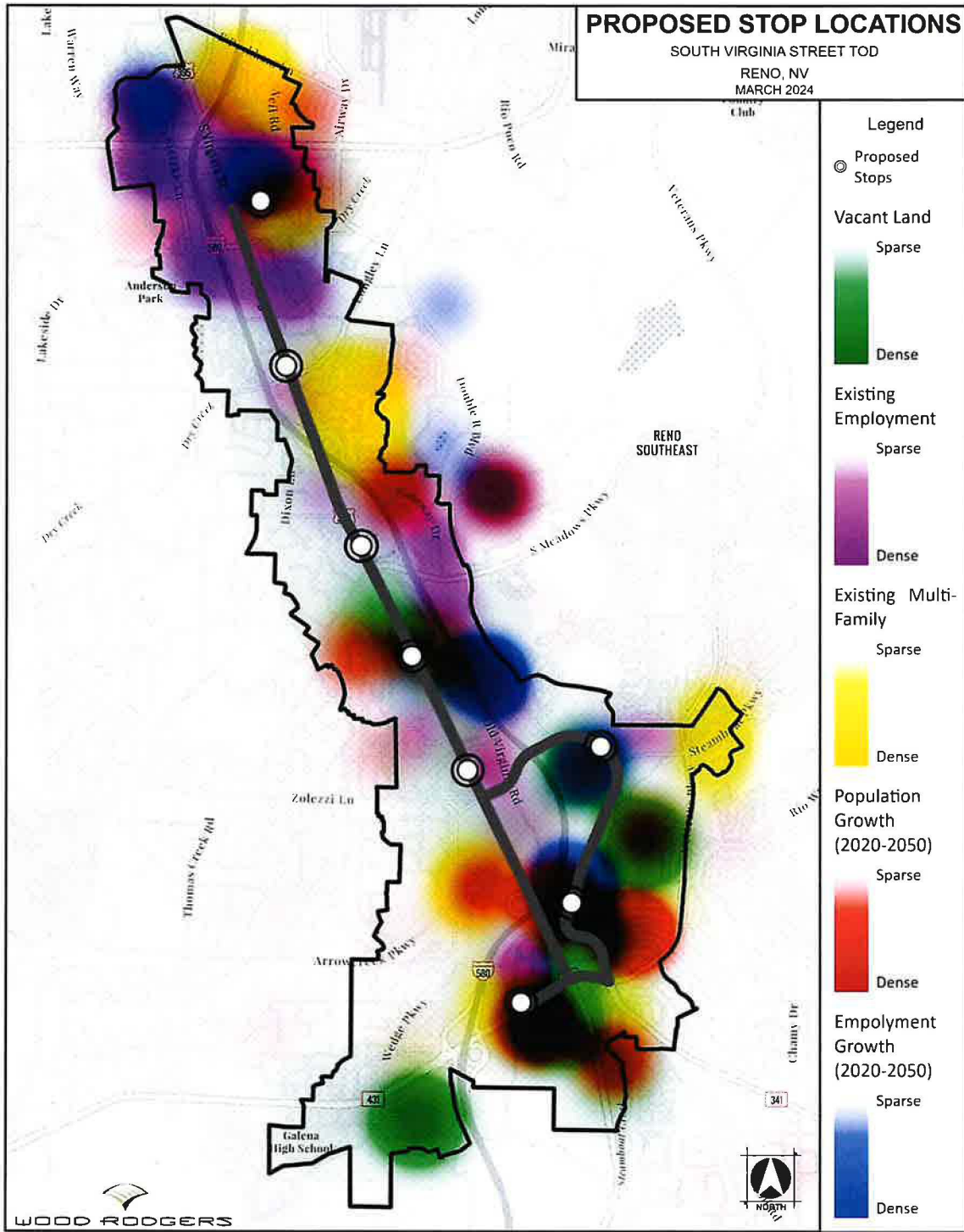


Figure 14: Land use analysis composite relative to proposed stop locations

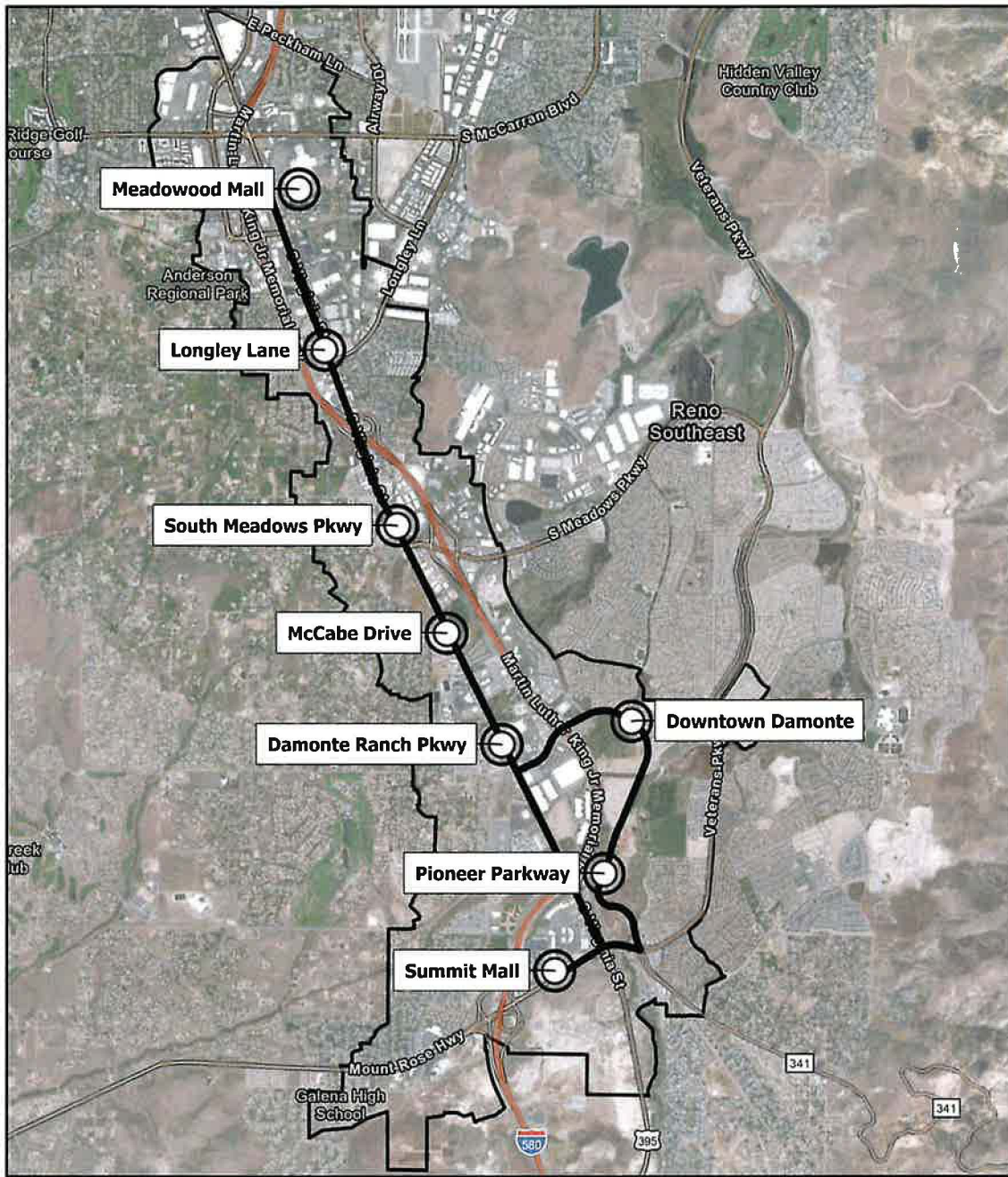


Figure 15: Stop Locations and Names

Considering all of the above criteria a total of eight stop locations were identified, six stop locations along South Virginia Street and two which deviate from South Virginia Street at Damonte Ranch Parkway and follow the planned connection between Damonte Ranch Parkway and Veterans Parkway. These eight stop locations and the opportunities that surround them are shown in **Figure 16**.

South Virginia TOD Study – Transit Technical Memo
RTC Washoe

Proposed Stop Location	Major Intersection	Relmagine Reno Multi-Modal Hub	Existing Employment Node	Existing Multifamily	Vacant Land or Redevelopment Opportunities	Future Population Growth	Future Employment Growth
Meadowood Mall	X	X	X	X	X	X	X
Longley Lane	X		X	X			X
South Meadows Parkway	X	X	X		X	X	X
McCabe Drive			X	X	X	X	X
Damonte Ranch Parkway	X		X		X		X
Downtown Damonte	X	X	X	X	X	X	X
Pioneer Parkway					X	X	X
Summit Mall	X	X	X	X	X	X	X

Figure 16: Factors influencing recommended stop locations.

The table identifies three major stop locations that include all criteria of an ideal stop location. The two north and south anchor points, Meadowood Mall in the north and the Summit Mall in the south justify the beginning and end of the proposed route. The third, in the area identified as Downtown Damonte, currently has the highest potential for concentration of riders and the greatest opportunity to include future development that will serve riders for transit along the corridor. Therefore, as part of this effort, alternatives explore the possibility of a transit route deviating from South Virginia Street to capture and serve the current and future population near Downtown Damonte.

ALTERNATIVE 1 – SUMMIT MALL

Route Description

Alternative 1 would provide service along S Virginia Street between Meadowood Mall in the north and Summit Mall in the south, as shown in **Figure 17**.

Stations would be at Longley Lane, South Meadows Parkway, McCabe Drive, Trinity Lane, and Damonte Ranch Parkway, and would connect riders to Bishop Manogue High School, Tamarack Casino, and various residential, retail and employment destinations along S Virginia Street.

To estimate the operational statistics shown in **Figure 8**, daily service frequency was assumed to be 15 minutes between 6am and 7pm and 30 minutes between 7pm and 10pm. 15-minute headways is the minimum level of service that would be considered BRT.

Operational statistics were also estimated for a “Robust Service Level Option” where service levels and spans match those of existing Virginia Line BRT. In this scenario, buses would operate at the frequencies and spans indicated in **Figure 9**.

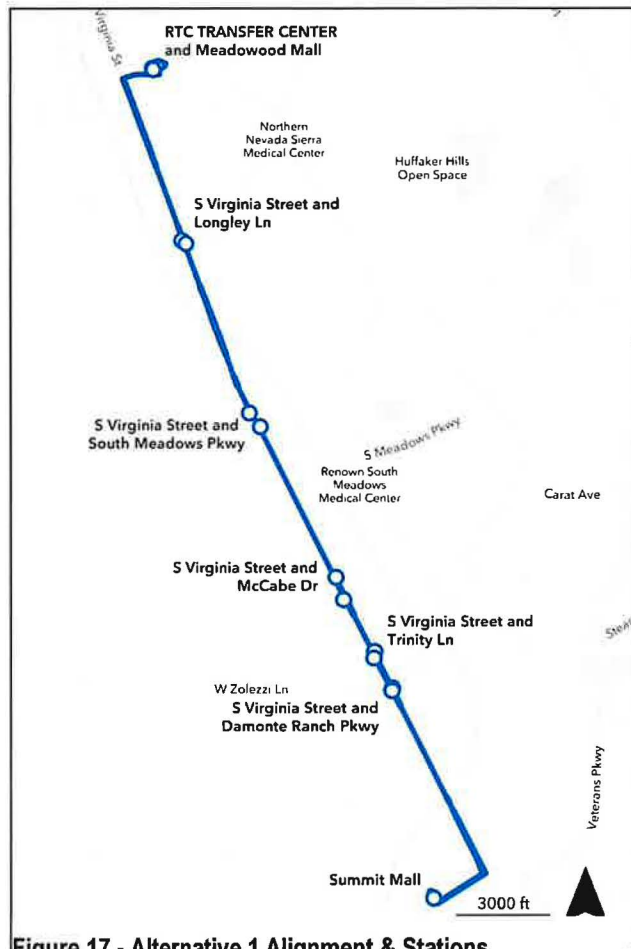


Figure 17 - Alternative 1 Alignment & Stations

Alternative 1 – Summit Mall	
Peak Operational Vehicles	4
Roundtrip Length (mi)	11.92
Stations (total)	12
Average Station Spacing (mi)	0.98
Frequency (min)	15 min (6am – 7pm) / 30 min (7 – 10pm)
Annual Operating Cost Estimate	\$2.05 million
Annual Operating Hours Estimate	20,500

Figure 18 - Alternative 1 Operations Summary

South Virginia TOD Study – Transit Technical Memo
RTC Washoe

Alternative 1 – Summit Mall – Robust Service Level Option	
Peak Operational Vehicles	6
Roundtrip Length (mi)	11.92
Stations (total)	12
Average Station Spacing (mi)	0.98
Weekday Frequency (min)	10.6 min (6am – 7pm) / 30 min (7 – 10pm) / 60 min (10 – 11:59pm)
Saturday Frequency (min)	12.3 min (6am – 7pm) / 30 min (7 – 10pm) / 60 min (10 – 11:59pm)
Sunday Frequency (min)	12.3 min (6:30am – 7pm) / 30 min (7 – 9pm) / 60 min (9 – 11pm)
Annual Operating Cost Estimate	\$2.79 million
Annual Operating Hours Estimate	27,851

Figure 19 - Alternative 1 Robust Service Levels Operations Summary

ALTERNATIVE 2 – DAMONTE RANCH

Route Description

Alternative 2 would provide service along South Virginia Street and Damonte Ranch Parkway between Meadowood Mall in the north and Damonte Ranch Town Center in the south, as shown in **Figure 20**.

Stations would be at Longley Lane, South Meadows Parkway, McCabe Drive, and Trinity Lane, and would connect riders to Bishop Manogue High School, and various residential, retail and employment destinations along S Virginia Street, mixed use retail and employment at the Damonte Ranch Town Center, and residences along Damonte Ranch Parkway.

To estimate the operational statistics shown in **21**, daily service frequency was assumed to be 15 minutes between 6am and 7pm and 30 minutes between 7pm and 10pm.

Operational statistics were also estimated for a “Robust Service Level Option” where service levels and spans match those of existing Virginia Line BRT. In this scenario, buses would operate at the frequencies and spans indicated in **Figure 22**. The proposed stop and route within Damonte Ranch is preliminary and would need to be finalized as the project moves forward.

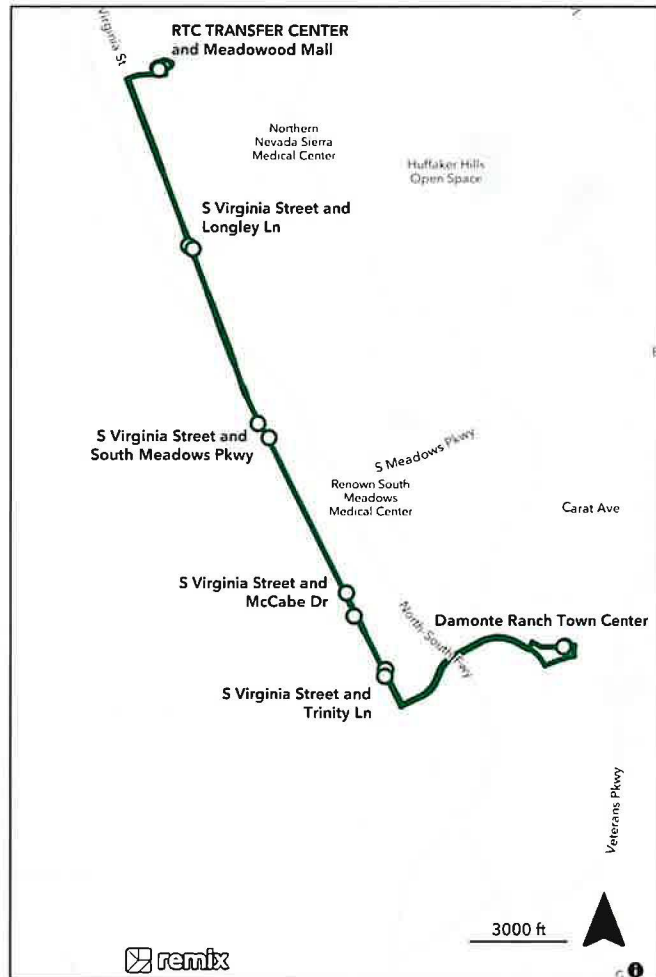


Figure 20 - Alternative 2 Alignment & Stations

The proposed stop and route within Damonte Ranch is preliminary and would need to be finalized as the project moves forward.

South Virginia TOD Study – Transit Technical Memo
RTC Washoe

Alternative 2 – Damonte Ranch Town Center	
Peak Operational Vehicles	4
Roundtrip Length (mi)	11.07
Stations (total)	10
Average Station Spacing (mi)	1.11
Frequency (min)	15 min (6am – 7pm) / 30 min (7 – 10pm)
Annual Operating Cost Estimate	\$1.95 million
Annual Operating Hours Estimate	19,400

Figure 21 - Alternative 2 Operations Summary

Alternative 2 – Damonte Ranch Town Center – Robust Service Level Option	
Peak Operational Vehicles	6
Roundtrip Length (mi)	11.07
Stations (total)	10
Average Station Spacing (mi)	1.11
Weekday Frequency (min)	10.6 min (6am – 7pm) / 30 min (7 – 10pm) / 60 min (10 – 11:59pm)
Saturday Frequency (min)	12.3 min (6am – 7pm) / 30 min (7 – 10pm) / 60 min (10 – 11:59pm)
Sunday Frequency (min)	12.3 min (6:30am – 7pm) / 30 min (7 – 9pm) / 60 min (9 – 11pm)
Annual Operating Cost Estimate	\$2.64 million
Annual Operating Hours Estimate	26,378

Figure 22 - Alternative 2 Robust Service Levels Operations Summary

ALTERNATIVE 3 – SUMMIT MALL / DAMONTE RANCH LOOP

Route Description

Alternative 3 would operate as two independent loop routes, differentiated by a clockwise or counterclockwise direction of travel around the loop created by S Virginia Street, Damonte Ranch Parkway, Sage Hill Road, and Veterans Parkway. Each trip for both routes would begin and terminate at Meadowood Mall, extending to Summit Mall in the south, as shown in **Figure** .

Stations would be at Longley Lane, South Meadows Parkway, McCabe Drive, Trinity Lane, Damonte Ranch Parkway, Damonte Ranch Town Center, and Veterans Drive, and would connect riders to Bishop Manogue High School, Tamarack Casino, and mixed-use retail and residential destinations along S Virginia Street, Damonte Ranch Parkway, and Veterans Parkway.

To estimate the operational statistics shown in **Figure 24**, daily service frequency was assumed to be 15 minutes between 6am and 7pm and 30 minutes between 7pm and 10pm.⁴

Operational statistics were also estimated for a “Robust Service Level Option” where service levels and spans match those of existing Virginia Line BRT. In this scenario, buses would operate at the frequencies and spans indicated in the table below.

⁴ Each loop route would operate independently at a 30-minute frequency from 6am – 7pm and a 60-minute frequency from 7 – 10pm. Service for both loop routes would overlap along S Virginia Street between Meadowood Mall and Damonte Ranch Parkway, creating 15-minute frequency from 6am – 7pm and 30-minute frequency from 7 – 10pm along that portion of the route. Bi-directional service along the loop portion of the route would operate at a 30-minute frequency from 6am – 7pm and a 60-minute frequency from 7 – 10pm.

South Virginia TOD Study – Transit Technical Memo

RTC Washoe

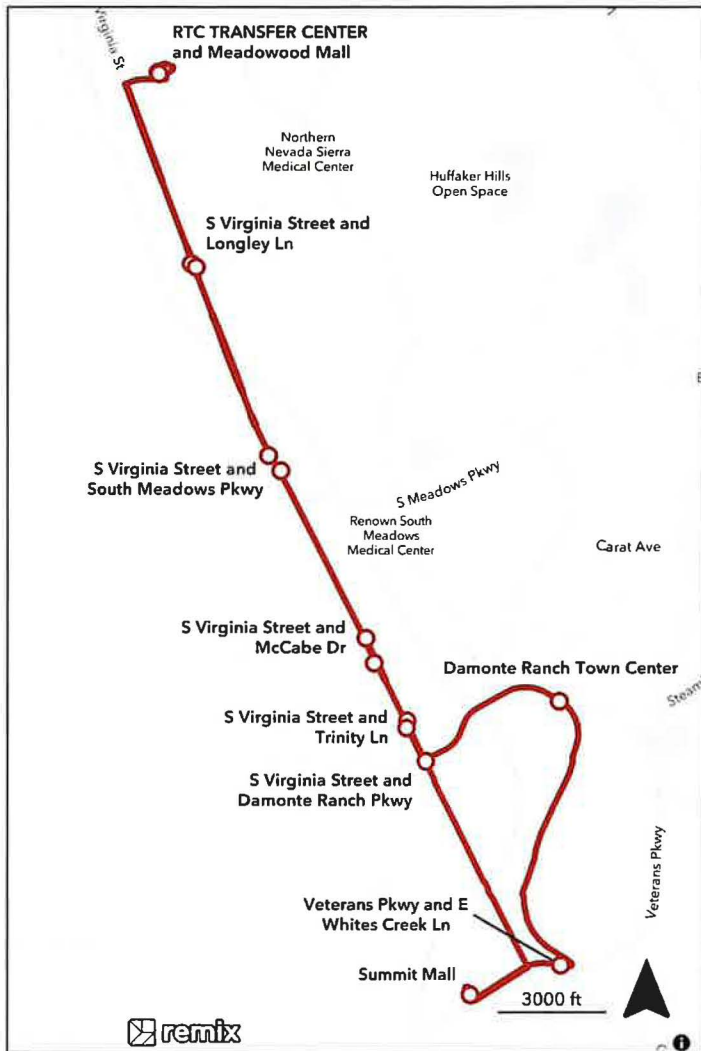


Figure 23 - Alternative 3 Alignment & Stations

Alternative 3 – Summit Mall / Damonte Ranch Loop	
Peak Operational Vehicles	4
Roundtrip Length (mi)	13.5
Stations (total)	15
Average Station Spacing (mi)	1.04
Frequency (min)	15 min (6am – 7pm) / 30 min (7 – 10pm)
Annual Operating Cost Estimate	\$2.16 million
Annual Operating Hours Estimate	21,700

Figure 24 - Alternative 3 Operations Summary

South Virginia TOD Study – Transit Technical Memo

RTC Washoe

Alternative 3 – Summit Mall / Damonte Ranch Loop – Robust Service Level Option	
Peak Operational Vehicles	6
Roundtrip Length (mi)	13.5
Stations (total)	15
Average Station Spacing (mi)	1.04
Weekday Frequency (min)⁵	10.6 min (6am – 7pm) / 30 min (7 – 10pm) / 60 min (10 – 11:59pm)
Saturday Frequency (min)⁶	12.3 min (6am – 7pm) / 30 min (7 – 10pm) / 60 min (10 – 11:59pm)
Sunday Frequency (min)⁷	12.3 min (6:30am – 7pm) / 30 min (7 – 9pm) / 60 min (9 – 11pm)
Annual Operating Cost Estimate	\$2.90 million
Annual Operating Hours Estimate	29,046

Figure 25 - Alternative 3 Robust Service Levels Operations Summary

⁵ On weekdays, each loop route would operate independently at a 21.2-minute frequency from 6am – 7pm, a 60-minute frequency from 7 – 10pm, and a 120-minute frequency from 10 – 11:59pm. Service for both loop routes would overlap along S Virginia Street between Meadowood Mall and Damonte Ranch Parkway, creating a 10.6-minute frequency from 6am – 7pm, a 30-minute frequency from 7 – 10pm, and a 60-minute frequency from 10 – 11:59pm along that portion of the route. Bi-directional service along the loop portion of the route would operate at a 21.2-minute frequency from 6am – 7pm, a 60-minute frequency from 7 – 10pm, and a 120-minute frequency from 10 – 11:59pm.

⁶ On Saturdays, each loop route would operate independently at a 24.6-minute frequency from 6am – 7pm, a 60-minute frequency from 7 – 10pm, and a 120-minute frequency from 10 – 11:59pm. Service for both loop routes would overlap along S Virginia Street between Meadowood Mall and Damonte Ranch Parkway, creating a 12.3-minute frequency from 6am – 7pm, a 30-minute frequency from 7 – 10pm, and a 60-minute frequency from 10 – 11:59pm along that portion of the route. Bi-directional service along the loop portion of the route would operate at a 24.6-minute frequency from 6am – 7pm, a 60-minute frequency from 7 – 10pm, and a 120-minute frequency from 10 – 11:59pm.

⁷ On Sundays, each loop route would operate independently at a 24.6-minute frequency from 6:30am – 7pm, a 60-minute frequency from 7 – 9pm, and a 120-minute frequency from 9 – 11pm. Service for both loop routes would overlap along S Virginia Street between Meadowood Mall and Damonte Ranch Parkway, creating a 12.3-minute frequency from 6:30am – 7pm, a 30-minute frequency from 7 – 9pm, and a 60-minute frequency from 9 – 11pm along that portion of the route. Bi-directional service along the loop portion of the route would operate at a 24.6-minute frequency from 6:30am – 7pm, a 60-minute frequency from 7 – 9pm, and a 120-minute frequency from 9 – 11pm.

ALTERNATIVE 4 – EXTENSION OF EXISTING VIRGINIA LINE BRT TO DAMONTE RANCH

Alternative 4 would extend the existing Virginia Line BRT south of Meadowood Mall, creating a continuous route between the University of Nevada, Reno in the north and Damonte Ranch in the south, as shown in **Figure 7**.

Between Meadowood Mall and Damonte Ranch, Alternative 4 would provide service along S Virginia Street and Damonte Ranch Parkway, with stations located at Longley Lane, South Meadows Parkway, McCabe Drive, and Trinity Lane. These stations would connect riders to Bishop Manogue High School, various residential, retail and employment destinations along S Virginia Street, mixed use retail and employment at the Damonte Ranch Town Center, and residences along Damonte Ranch Parkway.

Alternative 4 operational statistics were estimated through assuming service levels and spans that match those of existing Virginia Line BRT as shown in Figure . Buses would operate at the frequencies and spans indicated in the table below.

Alternative 4 – Damonte Ranch	
Peak Operational Vehicles	10
Roundtrip Length (mi)	23.43 (12.36 miles of the existing Virginia Line with 11.07 being new service)
Stations (total)	36
Average Station Spacing (mi)	0.69
Weekday Frequency (min)	10.6 min (6am – 7pm) / 30 min (7 – 10pm) / 60 min (10 – 11:59pm)
Saturday Frequency (min)	12.3 min (6am – 7pm) / 30 min (7 – 10pm) / 60 min (10 – 11:59pm)
Sunday Frequency (min)	12.3 min (6:30am – 7pm) / 30 min (7 – 9pm) / 60 min (9 – 11pm)
Annual Operating Cost Estimate	\$4.81 million
Annual Operating Hours Estimate	48,085

Figure 26 - Alternative 4 Operations Summary

South Virginia TOD Study – Transit Technical Memo
RTC Washoe

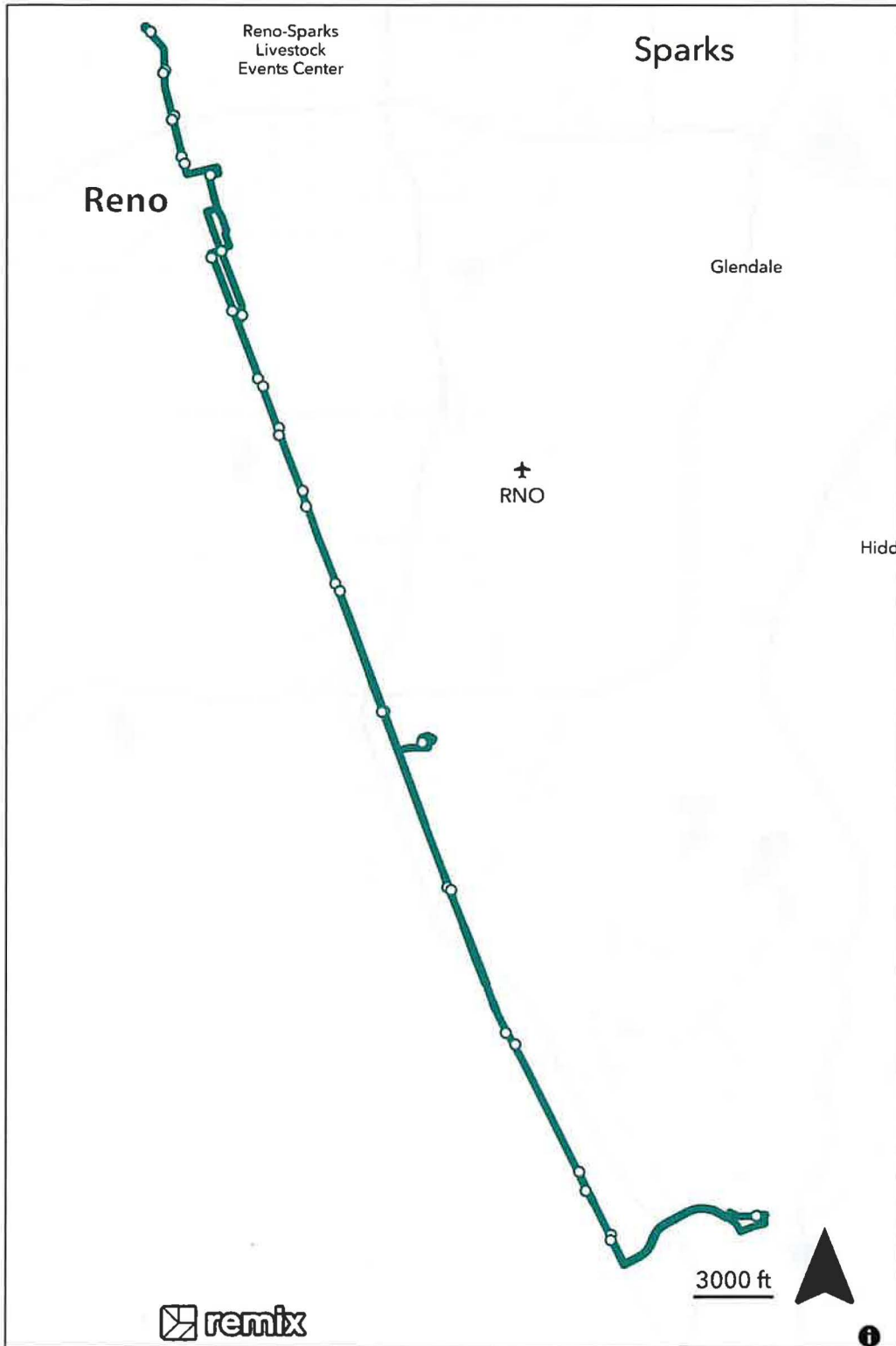


Figure 37 - Alternative 4 Alignment & Stations

ALTERNATIVES COMPARISON

A snapshot of the service and passenger experience pros and cons related to the four BRT service alternatives is provided below in **Figure 8**. As this corridor continues to develop, the potential service options could be updated to align station locations with new developments or pedestrian and bicycle facilities. These will be important factors in developing a final BRT service recommendation. Opportunities to connect with the planned FlexRIDE or Route 56 should be considered when comparing the benefits of potential service plans.

Alternative	Pros	Cons
Alternative 1 – Summit Mall	<ul style="list-style-type: none"> ▪ Shorter roundtrip length resulting in lower estimated annual operating costs ▪ Most direct BRT route staying on the South Virginia corridor ▪ ▪ 	<ul style="list-style-type: none"> ▪ Fewest destinations served, does not directly serve Downtown Damonte missing a large ridership opportunity (lowest ridership potential of the alternatives) ▪ Would require connecting transit service or FlexRIDE to reach the Damonte Ranch destinations. ▪ Would require passengers traveling from the North Virginia corridor to transfer to a new route.
Alternative 2 – Damonte Ranch	<ul style="list-style-type: none"> ▪ Shortest roundtrip length ▪ Lowest estimated annual operating cost ▪ Serves one of the highest ridership nodes 	<ul style="list-style-type: none"> ▪ Fewer destinations served including existing density near Summit Mall (lower ridership potential) ▪ Would require connecting transit service or FlexRIDE to reach the Summit Mall destinations. ▪ Would require passengers traveling from the North Virginia corridor to transfer to a new route.
Alternative 3 – Summit Mall/Damonte Ranch Loop	<ul style="list-style-type: none"> ▪ Greatest number of destinations served (highest ridership potential) 	<ul style="list-style-type: none"> ▪ Longest roundtrip length ▪ Highest estimated annual operating cost

South Virginia TOD Study – Transit Technical Memo
RTC Washoe

Alternative	Pros	Cons
Alternative 4 – Extension of Current Virginia Line BRT to Damonte Ranch⁸	<ul style="list-style-type: none"> ▪ Largest geographic coverage that would likely be more productive for generating ridership than connecting service that would require a transfer. 	<ul style="list-style-type: none"> ▪ Lower level of service in loop portion of route ▪ Would require passengers traveling from the North Virginia corridor to transfer to a new route.
	<ul style="list-style-type: none"> ▪ Fewest number of peak operational vehicles required compared to scenarios where Alternatives 1, 2, or 3 and existing Virginia Line BRT service would be operated as separate routes ▪ Shortest roundtrip travel time compared to scenarios where Alternatives 1, 2, or 3 and existing Virginia Line BRT service would be operated as separate routes ▪ Lowest estimated annual operating cost compared to scenarios where Alternatives 1, 2, or 3 and existing Virginia Line BRT service would be operated as separate routes ▪ Passengers would not need to transfer for trips to the north Virginia corridor 	<ul style="list-style-type: none"> ▪ Fewer destinations served including existing density near Summit Mall (lower ridership potential) ▪ Would require connecting transit service or FlexRIDE to reach the Summit Mall destinations.

⁸ Alternatives 1, 2, and 3 above assume that BRT service south of Meadowood Mall would be provided through a separate bus route than that of the existing Virginia Line BRT north of Meadowood Mall. In contrast, Alternative 4 is an extension of the existing Virginia Line BRT, combining service north and south of Meadowood Mall into one bus route. Because of this, the “Pros” and “Cons” listed for Alternative 4 compare against scenarios where existing Virginia Line service would be maintained and a new, separate BRT line south of Meadowood Mall, either Alternative 1, 2, or 3, would operate concurrently (i.e., for comparison with Alternative 4, operational statistics for Alternatives 1, 2, or 3 assume that two separate routes are operated and are combined with the statistics of the existing Virginia Line BRT). Assumed service levels and spans for Alternative 4 match those of the existing Virginia Line BRT.

Figure 48 - Pros and Cons of BRT Service Alternatives

Figure 9 displays a comparison of estimated operational statistics for the four BRT service alternatives, assuming service levels and spans that match those of the existing Virginia Line BRT. To provide an accurate comparison between Alternative 4, which includes the full Virginia corridor between the University of Nevada, Reno and Damonte Ranch, and the other three alternatives, operational statistics for Alternatives 1, 2, and 3 were combined with those of the existing Virginia Line BRT. This ensures that, for comparison purposes, each alternative considers the full Virginia corridor from the University of Nevada, Reno in the north to either Summit Mall or Damonte Ranch in the south.

As shown in **Figure 9**, there would be cost efficiencies associated with operating BRT service in the Virginia Street corridor south of Meadowood Mall as an extension of the existing Virginia Line BRT (Alternative 4) compared to operating service north and south of Meadowood Mall as two independent routes (Alternatives 1, 2, and 3). When determining whether to operate service south of Meadowood Mall as an extension of existing service, the ability to maintain on-time performance along the full route between the University of Nevada, Reno and Summit Mall or Damonte Ranch would need to be considered.

Alternative	Annual Operating Cost Estimate	Peak Operational Vehicles	Roundtrip Length	Stations	Annual Operating Hours Estimate
Existing Virginia Line + Alt 1 – Summit Mall	\$5.89 million	13	24.26 mi	38	58,817
Existing Virginia Line + Alt 2 – Damonte Ranch	\$5.74 million	13	23.41 mi	38	57,344
Existing Virginia Line + Alt 3 – Summit Mall/ Damonte Ranch Loop	\$6.00 million	13	25.84 mi	41	60,012
Alt 4 – Existing Virginia Line Extension to Damonte Ranch	\$4.81 million	10	23.43 mi	36	48,085

Figure 59 – Operations Comparison of BRT Service Alternatives

5 CORRIDOR RIDERSHIP FORECASTS

STOPS Ridership Modeling Forecasts

The Federal Transit Administration (FTA) has developed the Simplified Trips-on-Project Software (STOPS) that can be used to develop ridership forecasts for transit corridor projects. As part of this study, multiple STOPS model approaches were developed for the South Virginia Street corridor to evaluate ridership potential of the conceptual BRT service alternatives. The STOPS-based approaches relied on underlying Census data and a transit rider origin-destination survey conducted in 2017. Given the limited existing transit service/historical ridership and existing development in the project study area, using STOPS to forecast ridership for the South Virginia corridor, especially the southern end of the corridor, proved challenging. The results were nonetheless useful in providing high-level verification of four conceptual BRT alignments and potential ridership scenarios identified in the population analysis shown in Figure 9. However, the STOPS model would need to be refined for a more formal FTA Alternatives Analysis, which is necessary if the RTC were to apply to the FTA for discretionary grants to fund a future extension of the Virginia Line.

Four conceptual alignment/service alternatives were evaluated with the STOPS model. The conceptual alternatives are described in greater detail in the next section (Section 3) of the report. In addition to the four conceptual BRT alternatives, two land use alternatives were developed, tested, and analyzed to determine the impact that transit-supportive land use outcomes might have on ridership forecasts. And finally, STOPS includes a setting that represents the “visibility” of various levels of partial-fixed guideway transit services, such as BRT. Higher visibility settings are intended to represent features that improve the reliability and attractiveness of BRT, such as exclusive lane and/or signal priority treatment. Multiple variations of the visibility setting were tested to determine the potential impact that BRT service enhancements might have on ridership forecasts.

Initial forecasts based off the STOPS model indicate that the BRT service alternatives could generate between 1,000 and 2,000 additional daily riders in the South Virginia Street corridor by 2050. The lower end of the range would represent basic BRT service without a transit-supportive land use future, while the higher end of the range includes enhanced BRT service along with the realization of transit-supportive land uses.

While the overall magnitude of the STOPS-based forecasts is lower than the population-based ridership projections discussed in Figure 9, it is perhaps more useful to focus on the significant percentage changes in ridership that emerged from the STOPS modeling and testing. Those percentage changes in ridership outcomes are discussed in further detail below, but overall, initial STOPS modeling suggests that **ridership forecasts could increase by 46% to 53% over initial baseline forecasts.**

Several key findings that emerged from the STOPS modeling have broader implications for subsequent phases of this project, as noted below:

South Virginia TOD Study – Transit Technical Memo

RTC Washoe

- By a large margin, the existing Virginia Line consistently shows up as the strongest performer in terms of ridership. This is not only the case for near-term ridership forecasts, but also for the long-term. This confirms the existing Virginia Line as a logical foundational choice to build off and extend future service.
- Transit-supportive land uses matter. Sensitivity testing conducted with additional land use alternatives indicated that **complementary land uses could boost ridership 15%-22%**.
- Stop location/spacing positively influences ridership. Average stop spacing for the existing Virginia Line is every half-mile. Proposed average stop spacing for the four conceptual BRT alternatives under consideration in this study is one-mile. **Sensitivity testing conducted with the STOPS model during the latter phases of this study indicated that stop spacing closer to the existing Virginia Rapid Line could yield ridership gains of 15%-20%**.
- BRT enhancement treatments mean additional ridership. A visibility factor of .15 was used to calibrate the current year STOPS model. This factor represents the current level of visibility for the existing Virginia and Lincoln Lines. Factors of .30 and .50 were tested to determine the potential impact that enhancements might have on ridership outcomes for the four conceptual BRT alternatives under consideration in this study. The results of the sensitivity testing indicated that **BRT treatment enhancements such as exclusive lanes and/or signal prioritization could mean a ridership bump of 10%-26%**.

Should this project advance for further study, additional model calibration and refinement will be required to utilize STOPS for this corridor and for any FTA discretionary grant processes. In particular, the model would greatly benefit from a post-pandemic rider survey to update current behavior and more refined assumptions around future station access. While the forecasts based off the STOPS model are lower than the population-based ridership potential discussed in the previous section, they provide useful data points and findings to consider for the evaluation of the corridor for future BRT service.

The table below represents projected ridership from the STOPS model of the overall Virginia Line assuming a full route was in place from the UNR campus to Damonte Ranch/Summit Mall.

	2020 Baseline			2050 (Low)			2050 (High)		
	Virginia		Total	Virginia		Total	Virginia		Total
	Line	Project		Line	Project		Line	Project	
Alternative 1	6,900	1,000	7,900	8,450	1,250	9,700	8,800	1,900	10,700
Alternative 2	6,850	950	7,800	8,350	1,200	9,550	8,800	1,900	10,700
Alternative 3	6,850	950	7,800	8,350	1,200	9,550	8,800	1,850	10,650
Alternative 4	6,700	850	7,550	8,250	1,050	9,300	8,650	1,500	10,150

Figure 30 – STOPS Model Forecasts for Alternatives

6 RECOMMENDATIONS FOR NEXT STEPS

FTA ALTERNATIVES ANALYSIS

Based on the preliminary ridership forecasts completed as part of this effort along with the recommendations for TOD supportive land use improvements, the corridor could be a candidate for future BRT capital investment. A full Alternatives Analysis incorporating an updated STOPS ridership model should be completed as a first step in determining the feasibility for a full BRT investment. The service alternatives outlined in Section 3 should be used as a starting point for options to evaluate.

An important part of an Alternatives Analysis process is to determine capital and operating funding sources to support a new transit capital investment. This should include an evaluation of whether to pursue a Federal Transit Administration (FTA) Small Starts Capital Investment Grant (CIG). **Figure 31** shows a summary of the evaluation criteria that are used to evaluate projects for eligibility and award of federal CIG grants.

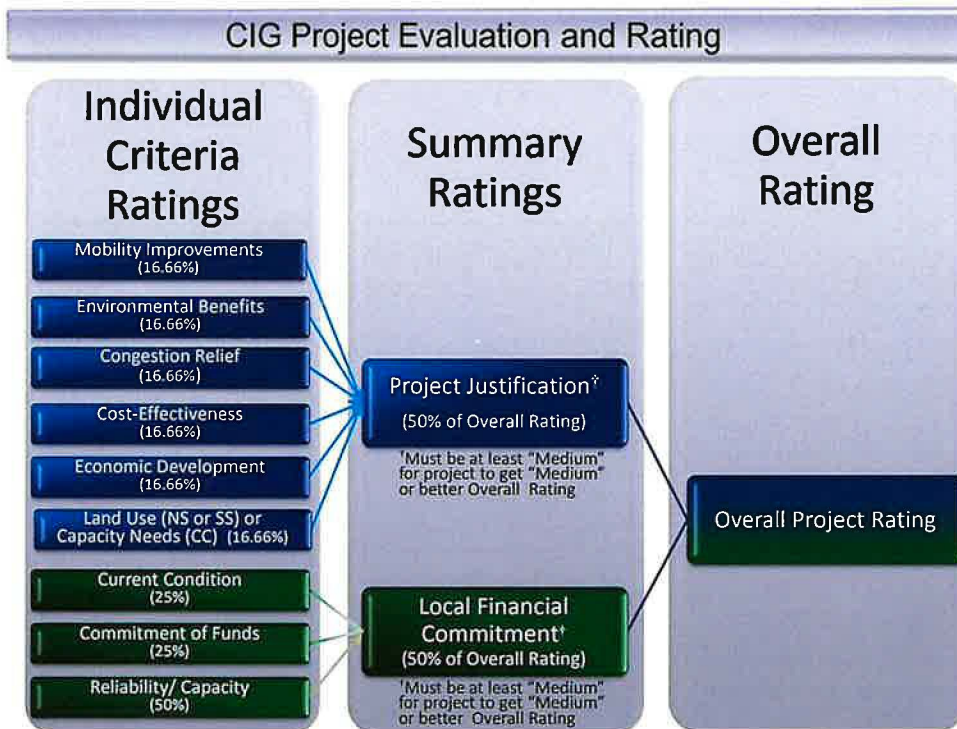


Figure 31- Capital Investment Grant Evaluation Criteria Summary

OPPORTUNITIES TO BUILD TRANSIT RIDERSHIP PRIOR TO BRT INVESTMENT

In addition to continuing with further study, there are opportunities to make incremental improvements to transit service along the South Virginia Street corridor that could build ridership to further support the future investment. These improvements could be made in coordination with new development along the corridor.

Phase 1 – Implement a Fixed Route Along on South Virginia

Prior to the delivery of full BRT service along the South Virginia Street corridor south of Meadowood Mall, interim service at frequencies lower than that of full BRT but greater than service levels provided by the Regional Connector could be introduced between Meadowood Mall, Summit Mall, and Damonte Ranch.

This would be beneficial if funding for operating transit service along the corridor becomes available ahead of funding for capital expenditures associated with full BRT service and passenger amenities. Introducing a route along South Virginia Street could also assist RTC in starting to build a ridership base along the corridor south of Meadowood Mall that could help build community and funding support for full BRT service delivery. This interim service could supplement the existing, or work in conjunction with a modified Route 56 service. Introducing service as a local route prior to a full BRT investment is also an opportunity to evaluate which stops are the most productive and would be good candidates for capital investments or to help inform how many stations would be needed for a future BRT route.

Phase 2 – Bus Stop Improvements

An interim step for enhancing transit service within the study area could be the improvement of passenger amenities at existing bus stops along the portions of Route 56 and the RTC Regional Connector that overlap with any of the proposed alternatives described above. Within the quickly growing study area, RTC Washoe could coordinate with those responsible for the development of properties adjacent to existing or potential bus stops on the improvement of passenger facilities and safe access to them.

Phase 3 – BRT Service Implementation

After the implementation of interim transit service along the South Virginia Street corridor, ridership should be monitored to gauge the potential viability of BRT service within the study area. This interim service ridership, along with future ridership potential driven by planned changes in land use intensity and the enhanced service levels and passenger amenities associated with BRT, should be considered key factors in determining when BRT should be implemented.

In connecting the planned FlexRIDE on-demand service area to South Virginia Street BRT within the study area, considerations would need to be given to the provision of space within BRT station

South Virginia TOD Study – Transit Technical Memo

RTC Washoe

footprints for on-demand transit use, the deployment of rides to align with fixed-route schedules, and the maintenance of sufficient vehicle capacity to handle peak-period demand connecting to fixed-route service. Potential connection points between FlexRIDE and South Virginia Street BRT are shown in **Figure 8**.

The analysis in this study suggests extending the existing Virginia Line route may be a good option to provide enhanced transit service to the South Virginia study area. This could be done incrementally with an initial extension to Damonte Ranch. The service could be modified to serve additional stops or destinations in response to continued development along the corridor.

Memorandum



WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

To: Graham Dollarhide
Regional Transportation Commission (RTC Washoe)

From: Eric Hasty
Wood Rodgers, Inc.

Date: June 06, 2023

Subject: Overview of SVTOD Public Outreach Workshops (June 5th, 11am-2pm & 3pm-6pm)

On June 5, 2023, two public workshops were held in person along the South Virginia Street Corridor to introduce the SVTOD Study to the public. The focus of the meeting was to allow citizens to submit comments in person regarding the existing conditions, educate the public on what transit oriented development (TOD) can bring to a corridor, and to solicit feedback. An online survey and story map was also advertised for anyone who couldn't attend.

Both meetings were advertised on the local news networks and on RTC social media pages. The two meetings took place at two locations along the corridor. The first which was held from 11am to 2pm was located within the common space of the Meadowood Mall. The second meeting which took place from 3pm to 6pm was located at the banquet room in the Tamarack Casino.

Both meetings had similar attendance with a total of nine members of the public contributing public comment. Representatives from Wood Rodgers and RTC were there to walk attendees through the materials and encouraged to provide comment. Almost all members who attended submitted their comments. Below is a summary of some of the most repeated themes:

- Strong support for a cycle track, separated multi-use path, or buffered pedestrian/bicycle path.
- Strong support for multi-modal improvements, sidewalk, and landscape.
- Strong support for landscaped median for safety and control of turn movements.
- Strong support to see transit extended south of McCarren Blvd. but no consensus on level of service. Comments included interest in flex ride, full BRT along Virginia Street to Mt. Rose Highway, and the increase in frequency of arrival times and expanded hours for route 56.
- Some support for speed reduction.
- Some support for lane reduction.
- Some support for bus only lane or prioritizing bus service at traffic lights.

Overall, the reception from the public was supportive. Most of the comments about development along the corridor were mixed with some in support of dense mixed-use development and others in support of less development. The online survey, which was launched on June 1st and will be open until June 30th will be advertised online and through various marketing channels through the month of June. A second round of public outreach meetings will occur at the end of the year and will provide more specific details of the TOD elements that will be proposed with this study. Copy of all materials including comments, sign in sheet, and link to online story map and survey are attached to this memo.

South Virginia Transit Oriented Development

Results

Survey 186249

Number of records in this query:	40
Total records in survey:	40
Percentage of total:	100.00%

Summary for zipcode

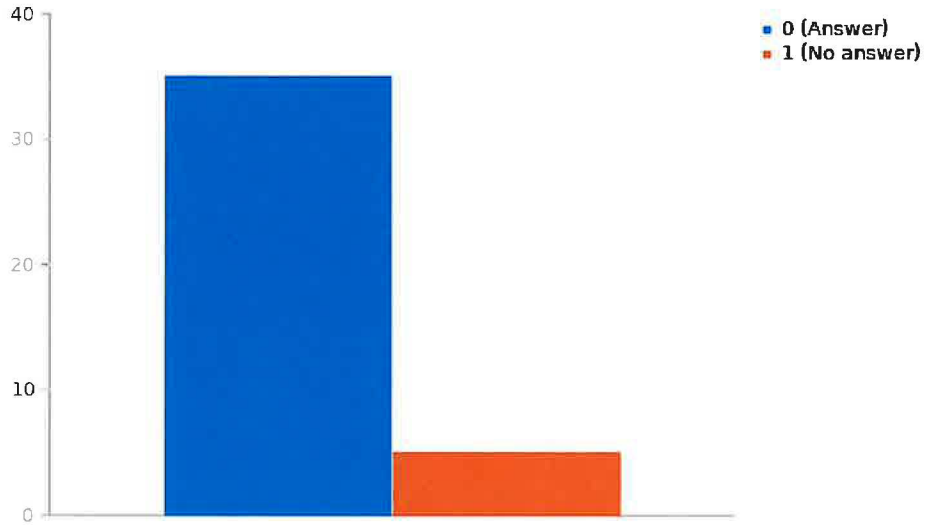
What is the zip code of your primary residence?

Answer	Count	Percentage
Answer	35	87.50%
No answer	5	12.50%

ID	Response
1	89521
18	89523
28	89502
31	89511
34	89509
36	89512
38	89432
40	89441
44	89511
47	89436
48	89511
52	89431
54	89706
57	89519
59	89511
65	89509
73	89704
74	89436
77	89512
82	89511
83	89509
85	89503
86	89521
107	89501
110	89511
119	89521
120	89511
123	89436
124	89506
130	89509
136	89509
137	89502
142	89521
148	89511
150	89511

Summary for zipcode

What is the zip code of your primary residence?



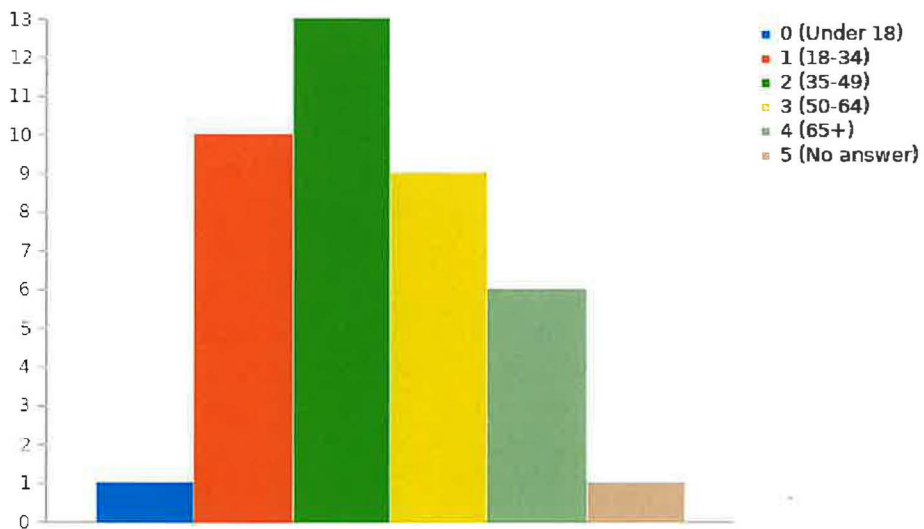
Summary for Age

How old are you?

Answer	Count	Percentage
Under 18 (AO01)	1	2.50%
18-34 (AO02)	10	25.00%
35-49 (AO03)	13	32.50%
50-64 (AO04)	9	22.50%
65+ (AO05)	6	15.00%
No answer	1	2.50%

Summary for Age

How old are you?



Summary for Race

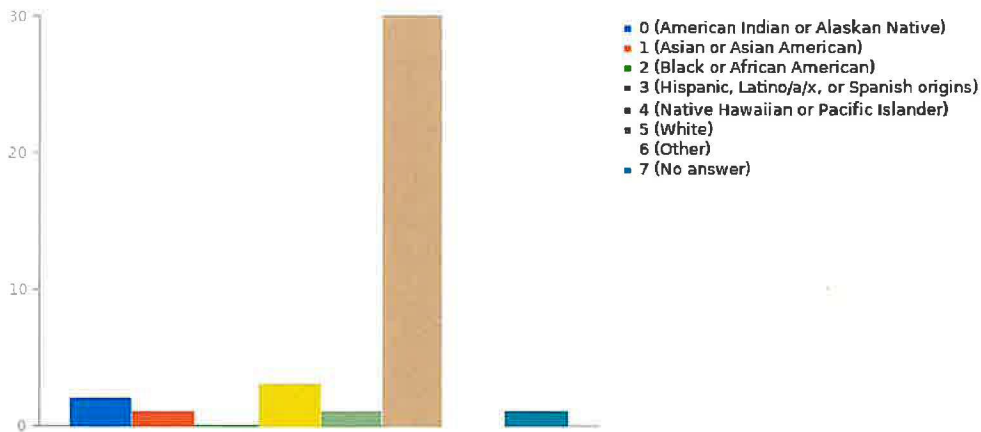
How do you identify?

Answer	Count	Percentage
American Indian or Alaskan Native (AO01)	2	5.00%
Asian or Asian American (AO02)	1	2.50%
Black or African American (AO03)	0	0.00%
Hispanic, Latino/a/x, or Spanish origins (AO04)	3	7.50%
Native Hawaiian or Pacific Islander (AO05)	1	2.50%
White (AO06)	30	75.00%
Other	2	5.00%
No answer	1	2.50%

ID	Response
----	----------

Summary for Race

How do you identify?



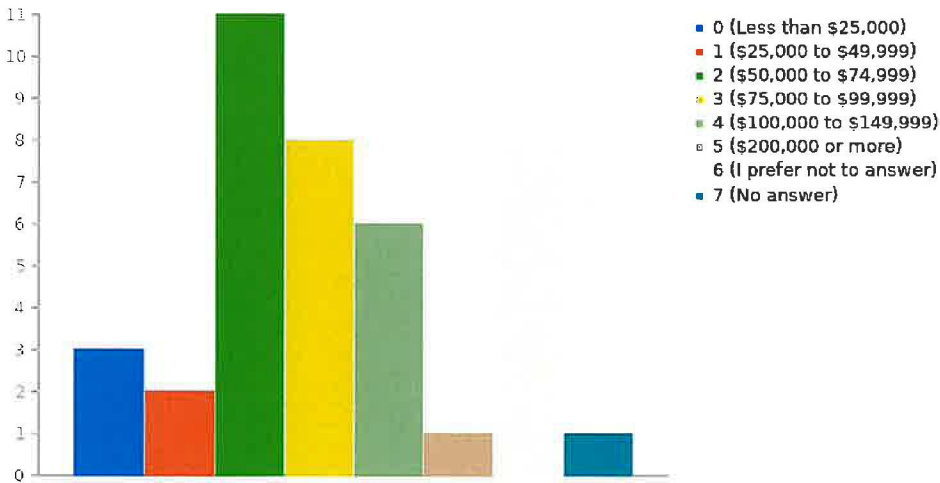
Summary for Income

What is your household's total annual earnings?

Answer	Count	Percentage
Less than \$25,000 (AO01)	3	7.50%
\$25,000 to \$49,999 (AO02)	2	5.00%
\$50,000 to \$74,999 (AO03)	11	27.50%
\$75,000 to \$99,999 (AO04)	8	20.00%
\$100,000 to \$149,999 (AO05)	6	15.00%
\$200,000 or more (AO06)	1	2.50%
I prefer not to answer (AO07)	8	20.00%
No answer	1	2.50%

Summary for Income

What is your household's total annual earnings?



Summary for HouseholdNum

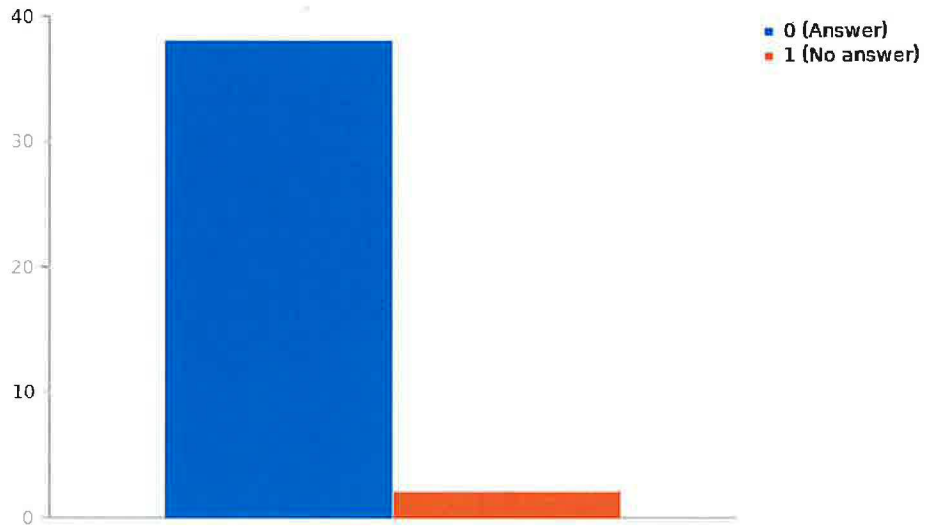
Including yourself, how many people live in your household?

Answer	Count	Percentage
Answer	38	95.00%
No answer	2	5.00%

ID	Response
1	3
18	2
23	2
28	4
31	4
34	1
36	3
38	3
40	2
44	4
47	2
48	4
52	2
54	2
57	1
59	2
65	2
73	1
74	2
77	2
82	2
83	4
84	1
85	4
86	5
107	4
110	2
119	3
123	4
124	3
126	2
130	2
136	1
137	1
141	1
142	2
148	2
150	3

Summary for HouseholdNum

Including yourself, how many people live in your household?



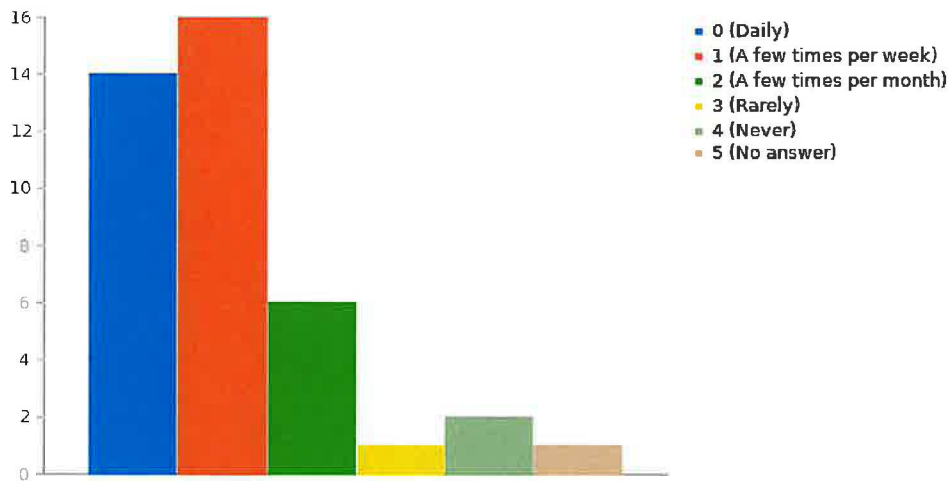
Summary for ACNDTravelOften

How often do you travel through the South Virginia Street Corridor?

Answer	Count	Percentage
Daily (daily)	14	35.00%
A few times per week (week)	16	40.00%
A few times per month (month)	6	15.00%
Rarely (rare)	1	2.50%
Never (never)	2	5.00%
No answer	1	2.50%

Summary for ACNDTravelOften

How often do you travel through the South Virginia Street Corridor?



Summary for ACNDConnection

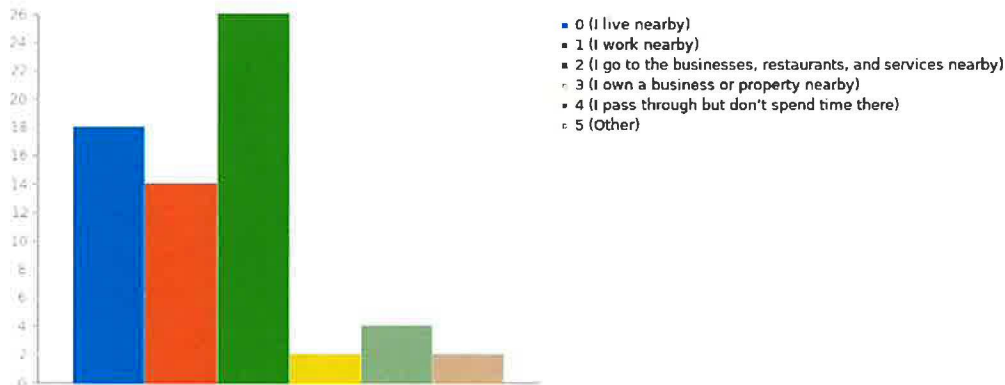
What is your connection with the South Virginia Street Corridor?

Answer	Count	Percentage
I live nearby (SQ001)	18	47.37%
I work nearby (SQ002)	14	36.84%
I go to the businesses, restaurants, and services nearby (SQ003)	26	68.42%
I own a business or property nearby (SQ004)	2	5.26%
I pass through but don't spend time there (SQ005)	4	10.53%
Other	2	5.26%

ID	Response
85	I visit friends and family
142	I would like to access the South Virginia Corridor more frequently via transit but don't currently have easy options to do so.

Summary for ACNDConnection

What is your connection with the South Virginia Street Corridor?



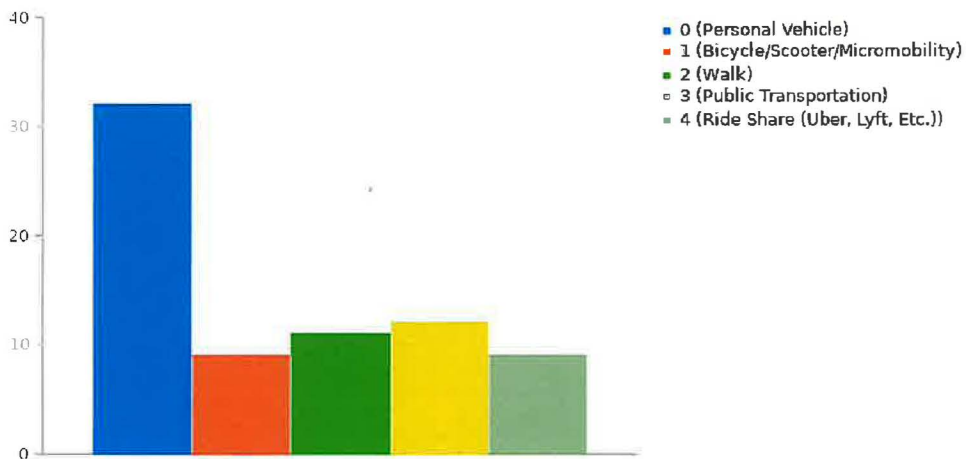
Summary for BCNDTransportMethod

What methods of transportation do you use along the South Virginia Street corridor?

Answer	Count	Percentage
Personal Vehicle (PersVeh)	32	80.00%
Bicycle/Scooter/Micromobility (Bike)	9	22.50%
Walk (Walk)	11	27.50%
Public Transportation (PubTrans)	12	30.00%
Ride Share (Uber, Lyft, Etc.) (RShare)	9	22.50%

Summary for BCNDTransportMethod

What methods of transportation do you use along the South Virginia Street corridor?



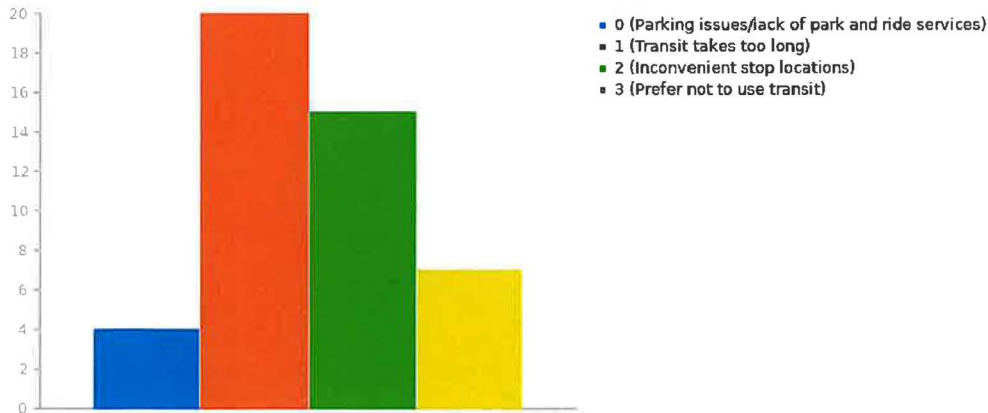
Summary for BCNDBarriersBus

What barriers exist that prevent you from using transit?

Answer	Count	Percentage
Parking issues/lack of park and ride services (SQ001)	4	14.81%
Transit takes too long (SQ002)	20	74.07%
Inconvenient stop locations (SQ003)	15	55.56%
Prefer not to use transit (SQ004)	7	25.93%

Summary for BCNDBarriersBus

What barriers exist that prevent you from using transit?



Summary for BCNDBarrierBike

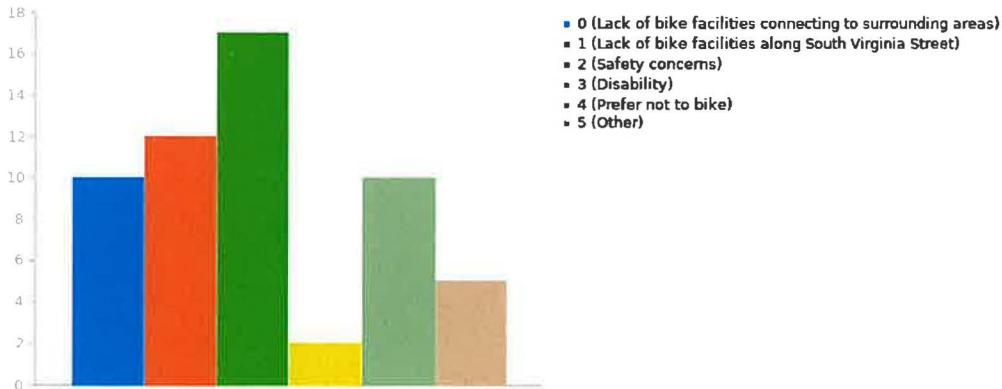
What barriers exist that prevent you from using bicycles?

Answer	Count	Percentage
Lack of bike facilities connecting to surrounding areas (SQ001)	10	35.71%
Lack of bike facilities along South Virginia Street (SQ002)	12	42.86%
Safety concerns (SQ003)	17	60.71%
Disability (SQ004)	2	7.14%
Prefer not to bike (SQ005)	10	35.71%
Other	5	17.86%

ID	Response
28	To far out south and dangerous
40	have a car
47	Distance from primary residence to desired services. Not realistic to utilize a bicycle for transportation to & from this area of town.
57	terain
130	Distances between things worth biking to are too large. Denser development would make me want to bike more.

Summary for BCNDBarrierBike

What barriers exist that prevent you from using bicycles?



Summary for BCNDBarrierWalk

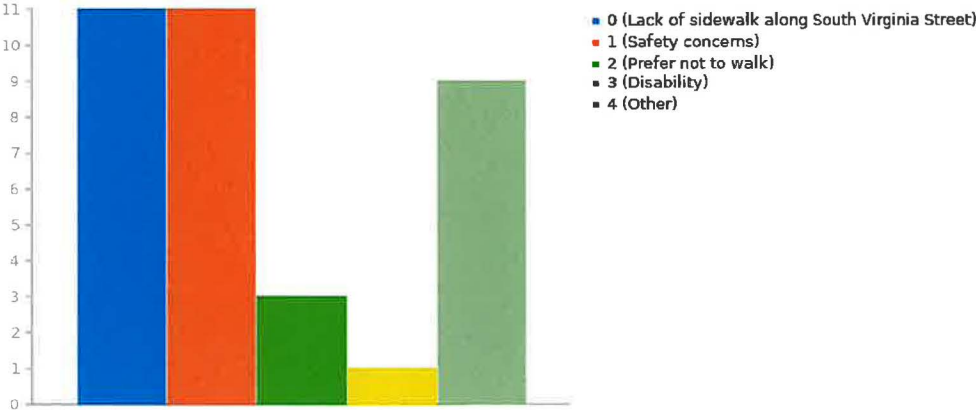
What barriers exist that prevent you from walking?

Answer	Count	Percentage
Lack of sidewalk along South Virginia Street (SQ001)	11	42.31%
Safety concerns (SQ002)	11	42.31%
Prefer not to walk (SQ003)	3	11.54%
Disability (SQ004)	1	3.85%
Other	9	34.62%

ID	Response
28	To far to walk
31	Long distances
40	have a car
47	Distance from primary residence to desired services. Not realistic to walk to & from this area of town. Or alternatively, lack of access to park-and-walk areas - which would be counterintuitive.
65	Length of trip
73	I hate getting hassled by the homeless.
84	Too Far
86	destinations too far away
130	Distances between things worth walking to are too large. Denser development would make me want to walk more.

Summary for BCNDBarrierWalk

What barriers exist that prevent you from walking?



Summary for BCNDWorkingVehicle

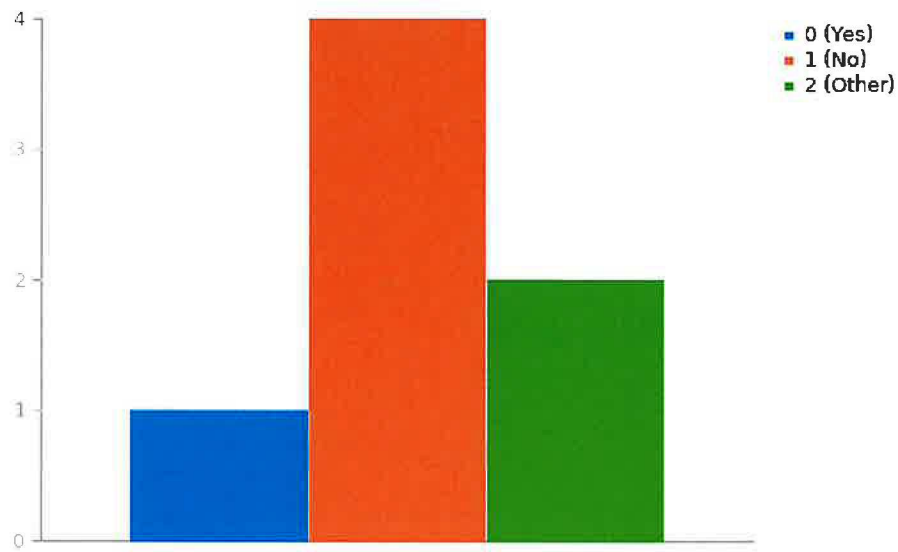
Do you have access to a working motor vehicle at home that you can reliably use?

Answer	Count	Percentage
Yes (SQ001)	1	12.50%
No (SQ002)	4	50.00%
Other	2	25.00%

ID	Response
38	only one vehicle
52	sometimes

Summary for BCNDWorkingVehicle

Do you have access to a working motor vehicle at home that you can reliably use?



Summary for BCNDRouteUsed

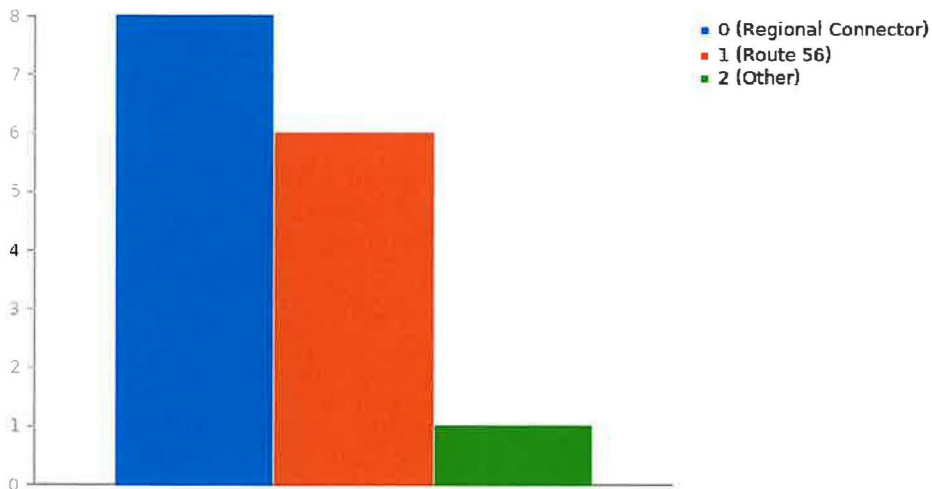
Which public transportation route or method have you used along the corridor?

Answer	Count	Percentage
Regional Connector (SQ001)	8	66.67%
Route 56 (SQ002)	6	50.00%
Other	1	8.33%

ID	Response
77	Virginia line or Route 1

Summary for BCNDRouteUsed

Which public transportation route or method have you used along the corridor?



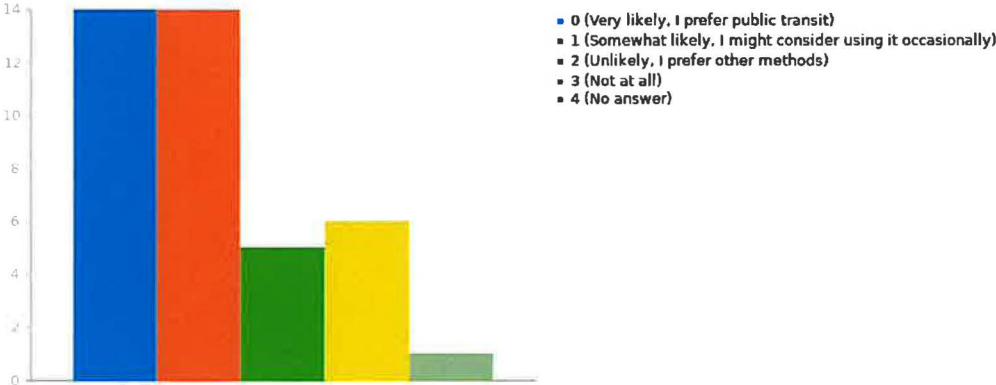
Summary for RAPIDExtLikely

How likely are you to use RAPID Line service on South Virginia St if it is extended to Mount Rose Hwy?

Answer	Count	Percentage
Very likely, I prefer public transit (AO01)	14	35.00%
Somewhat likely, I might consider using it occasionally (AO02)	14	35.00%
Unlikely, I prefer other methods (AO03)	5	12.50%
Not at all (AO04)	6	15.00%
No answer	1	2.50%

Summary for RAPIDExtLikely

How likely are you to use RAPID Line service on South Virginia St if it is extended to Mount Rose Hwy?



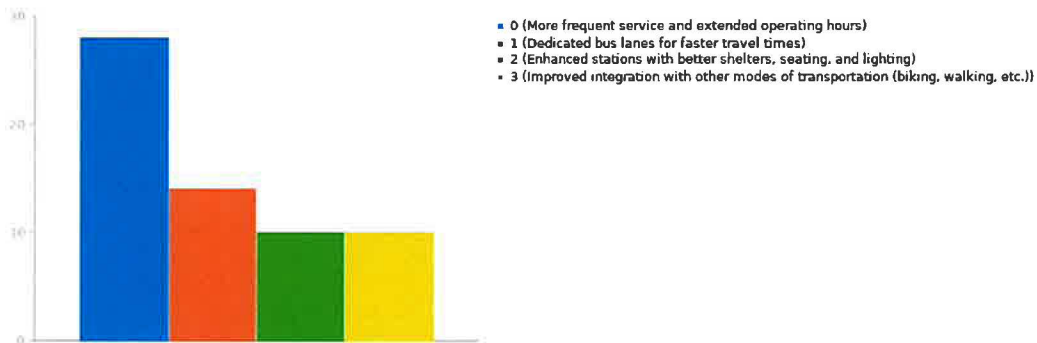
Summary for BusServiceImps

What improvements or amenities would make you inclined to use bus service on South Virginia Street?

Answer	Count	Percentage
More frequent service and extended operating hours (SQ001)	28	70.00%
Dedicated bus lanes for faster travel times (SQ002)	14	35.00%
Enhanced stations with better shelters, seating, and lighting (SQ003)	10	25.00%
Improved integration with other modes of transportation (biking, walking, etc.) (SQ004)	10	25.00%

Summary for BusServiceImps

What improvements or amenities would make you inclined to use bus service on South Virginia Street?



Summary for SpecificAreas

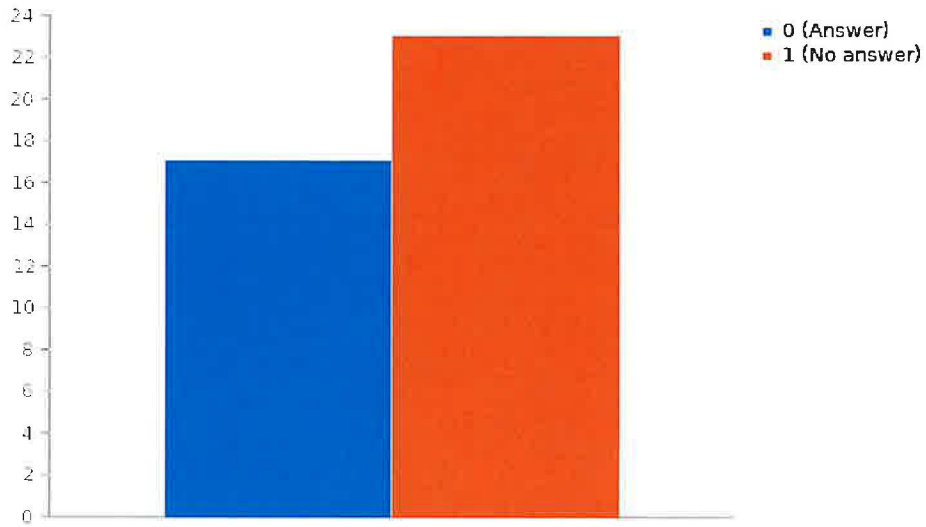
Are there any specific areas or neighborhoods in south Reno where you think public transit should serve?

Answer	Count	Percentage
Answer	17	42.50%
No answer	23	57.50%

ID	Response
31	Public transit should serve public services like South Valleys Regional Sports Complex and South Valleys Library. I think it should also serve the UNR Redfield campus, Galena High School, and prioritize service to multi family and higher density developments.
40	no
44	Curti Ranch to south virgina
48	Near Tamarack casino for employees and guest
52	Sierra Summit Mall and Mt Rose Highway
54	Damonte Ranch
59	Higher density neighborhoods near Geiger Grade and Veterans Pkwy
65	S. McCarran and Talbot area, for the medical buildings in that area.
77	Areas near The Summit Mall, The Reno Tahoe Airport
82	If its RAPID then what are connections from neighborhoods to the main line for it to be successful unless housing density along the route is not built as well?
85	In addition to S Virginia St, there should be service along South Meadows, as well as service to area around Veterans and Steamboat and the area around Mt Rose and Wedge.
120	No.
126	USA parkway
130	The multifamily developments and commercial areas, especially places with food and alcohol.
137	None.
142	<p>Yes! Transit is needed for the residential areas not currently served by the 56 bus. Specifically, the residential area bordered by South Meadows Parkway to the north, Veterans Parkway to the east, Steamboat Parkway/Damonte Ranch Parkway to the south, and Double R to the west has limited transit connectivity. I would like to have transit options to the South Virginia TOD corridor from streets such as Carat Ave, Double Diamond Parkway, and/or Wilbur May Parkway. An alternative could be a bus rapid transit option on Veterans Parkway, but I would prefer to just expand access to the future South Virginia bus corridor.</p> <p>For context, my nearest stop on the 56 bus route is about a 25 minute walk from my home. It's a better use of my time to walk about 40 minutes each way to South Virginia Street. Biking is an option for me, but biking along South Virginia Street is terrifying. I end up driving to places like the post office and Moana Nursery because there is no safe or easy alternative. I'd like to be able to take transit there instead, and to connect via transit all the way from my home to midtown, downtown, and other places in South Reno.</p>
150	I think that having the Virginia city line run straight down to summit shopping center is a logical choice. Taking the 56 is a bit ridiculous just to the Walmart or that area on South Virginia.

Summary for SpecificAreas

Are there any specific areas or neighborhoods in south Reno where you think public transit should serve?



Summary for AddlComments

Do you have any additional suggestions or comments regarding a RAPID Line extension or public transit on South Virginia Street?

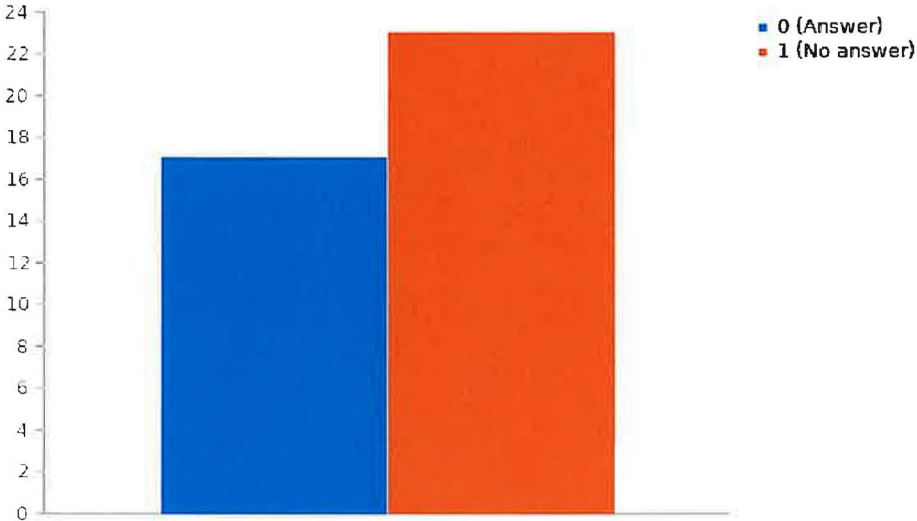
Answer	Count	Percentage
Answer	17	42.50%
No answer	23	57.50%

ID	Response
31	I think that RTC should anticipate potential ridership on the extended corridor as compared to other stretches of the Virginia Line and determine if more buses would be required to maintain existing frequency. RTC should avoid expanding coverage if it means reducing today's frequencies or negatively impacting reliability on the Virginia Line.
34	A bus stop in front of Tamarack Casino would be extremely beneficial. Many employees over the years have used bus transportation and have to walk from the nearest stop on Damonte. The extension and new stop would better serve our employees and guests.
40	We have also lost numerous candidates for employment due to bus service and accessibility (just 4 this past week in fact).
47	i have a car. Expansion of the BTR supports the localized movement of patrons that reside adjacent to the corridor. For the large amount of the local population that reside in the outlying suburbs and residential corridors, but travel to this area for consumer needs, it is unrealistic (if not unattainable) to utilize the BRT system. Proposed solutions such as dedicated bus lanes will only further encumber the corridor. Demand of passenger vehicles is unlikely to change, though roadway capacity would be decreased with a dedicated lane. Additions such bike lanes and sidewalk enhancements could be minimally invasive to the overall corridor, but some cost/benefit analysis should be done to look at the realistic demand for these additions vs. the unwarranted spending of taxes for an idealistic multimodal corridor.
54	Make the bus run on a dedicated, separated right of way, similar to the LA Metro Orange line. Make it as fast as you can!!! Must be time competitive to cars in order to draw usage. No one likes taking twice as long versus a car!!!
65	No
73	Extending the bus line would benefit my business. I own a small restaurant right off of Mt. Rose Highway. One of the barriers to employing folks who lack transportation is that the closest bus stop is over a mile away. By not having a bus line that services the Mt. Rose Highway area, at least to the Raley's shopping center, I'm limited by who can work for me. Potential employees have to have their own vehicles or similar mode of transit. People who apply that live in downtown/Midtown that don't drive are turned away because there isn't adequate public transportation for them to get reasonably close to the store. I have to turn away at least 10-15 people a year who want to work for me but can't get to my location off Mt. Rose Highway. I'm sure other businesses in the area have had similar experiences to me. Thanks for your consideration!
77	More frequent buses or dedicated bus lane or bike lane
82	People don't know what RAPID service means or why/how it can benefit them. Tough to compete with a car if most residents have them and depend on them. Who are the best prospective riders in the corridor?
85	The dedicated bus lanes should be extended much further north towards Meadowood than currently proposed. Most of the route has a wide enough shoulder that it could be done without having to drastically widen the pavement.
110	Public transportation on south Virginia Street to Mt Rose will undoubtedly increase the homeless moving into these areas, which is already happening.
120	Not sure if the proposed transit extension is going to go this far south but it looks like the very southern boundary of the land use study includes land next to the Ormat Geothermal facility. One important consideration for this study is Washoe APN: 049-450-51. This land is owned by the State of Nevada and is managed as a critical habitat for Steamboat Buckwheat (<i>Eriogonum ovalifolium</i> var. <i>williamsiae</i>). The City of Reno has designated this property with an Industrial land use, but this property is managed and used for habitat for Steamboat Buckwheat. Any future transit service and development at the south end of the study area and near the Redfield campus should carefully consider habitat for Steamboat Buckwheat.

-
- Future developers in this area should work with a qualified botanist to survey the site, map endangered and/or protected species. If survey results indicate that habitat disturbance or potential take may occur related to the proposed action, the applicant shall submit an application for a Conditional Permit for Disturbance or Destruction of Critically Endangered Species to the Nevada Division of Forestry pursuant to NRS 527.270.
- 124 If the time could be extended longer on weekends for those who work late
- 126 No
- 130 Safer bike routes, especially a path if car speed stay the same, would make a big difference for me.
- 137 People in South Reno are affluent and don't take transit. Bus service should focus on more frequent service to neighborhoods that depend on bus service not people in million-dollar homes and two or more cars. Any time bus service is provided for affluent neighborhoods, it takes away opportunities to increase service in neighborhoods that depend on bus service as their only affordable mode of transportation. During Recessions, bus service is taken away, and it doesn't make sense to take away service from neighborhoods that depend on bus service to keep service in affluent neighborhoods where people have the option of driving their cars. Geographically expanding any type of bus service also requires you to extend paratransit services which is considerably more expensive, and that too takes away service from people who have no other affordable transportation options. We live in an auto-centric society that discriminates against people who can't drive or can't afford to drive, and we are just making it worse by diluting bus service to serve those who can drive, who can afford to drive, or who can afford to take rideshare or taxis. It's like a food equity program where we feed people who are starving. Why would we go around South Reno and ask them if they need food when we know for a fact people are starving elsewhere and are not adequately served?
- 142 Please spend time on east-west connections that would enable as many people as possible to ride the RAPID line, not just those who live on existing bus lines or on South Virginia Street! Thanks so much for your work!

Summary for AddlComments

Do you have any additional suggestions or comments regarding a RAPID Line extension or public transit on South Virginia Street?



Summary for PedBikelmps

Pedestrian and Bicycle Improvements. Please select the top one to three elements you feel are most important to help improve pedestrian and bicycle facilities.

Answer	Count	Percentage
Wider sidewalks (SQ001)	15	37.50%
ADA Improvements (People with Disabilities) (SQ002)	6	15.00%
Safer street crossings (SQ003)	20	50.00%
Buffers between bicyclists/pedestrians and traffic (SQ004)	22	55.00%
Bicycle lanes (SQ005)	15	37.50%
Shared use path (SQ006)	14	35.00%
Other	3	7.50%

ID	Response
57	in fill missing sections
73	More bright flashing lights at every crosswalk!
142	Secure bicycle parking for RAPID riders/commuters

Summary for PedBikelmps

Pedestrian and Bicycle Improvements. Please select the top one to three elements you feel are most important to help improve pedestrian and bicycle facilities.



Summary for DISABLEDTransit

Public Transit Improvements Please select the elements which you feel are most important to help improve public transit along South Virginia Street [question disabled]

Answer	Count	Percentage
More frequent services (and/or more routes) (SQ001)	0	0.00%
Bus only lanes (SQ002)	0	0.00%
Transit priority at stop lights (SQ003)	0	0.00%
Improved connectivity (SQ004)	0	0.00%
Improved bus stop (shelters, level boarding, payment kiosk, etc.) (SQ005)	0	0.00%
Improved bus arrival/schedule information (SQ006)	0	0.00%
Park-n-Ride areas (similar to My Ride to Work, Regional Connector, Tahoe/recreational service, etc.) (SQ007)	0	0.00%
Other	0	0.00%

ID	Response
----	----------

Summary for DISABLEDTransit

Public Transit Improvements Please select the elements which you feel are most important to help improve public transit along South Virginia Street [question disabled]

Sorry, but this question has no responses yet so a graph cannot be shown.

Summary for VehicleImps

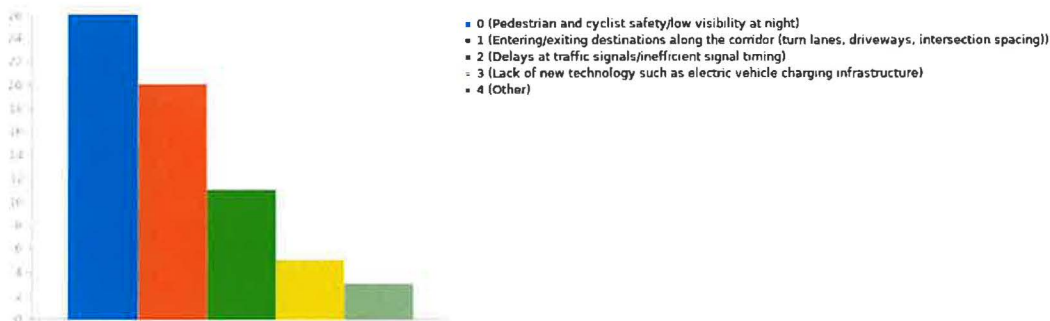
Vehicular Improvements Please select the issues that you currently experience and would like to see improved when driving along South Virginia Street

Answer	Count	Percentage
Pedestrian and cyclist safety/low visibility at night (SQ001)	26	65.00%
Entering/exiting destinations along the corridor (turn lanes, driveways, intersection spacing) (SQ002)	20	50.00%
Delays at traffic signals/inefficient signal timing (SQ003)	11	27.50%
Lack of new technology such as electric vehicle charging infrastructure (SQ004)	5	12.50%
Other	3	7.50%

ID	Response
57	uniform enforcement of all modes of travel
73	Virginia St. south of Patriot to Summit Mall is generally easy to traverse! Thanks for that.
77	Bikes have to compete with cars on the road because of the lack of buffers on bike lanes. And people blocking bike lanes

Summary for VehicleImps

Vehicular Improvements Please select the issues that you currently experience and would like to see improved when driving along South Virginia Street



Summary for DISABLEDDevelopment

Development in the Corridor Please select the top elements which you feel are most important to shape future development in the South Virginia Corridor [question disabled]

Answer	Count	Percentage
Landscape along the street frontage (SQ001)	0	0.00%
Landscape medians (SQ002)	0	0.00%
Higher mix of commercial and housing that encourages a more walkable corridor (SQ003)	0	0.00%
Improve housing options (SQ004)	0	0.00%
Orientation of development to encourage pedestrian/bicycle access from the street (SQ005)	0	0.00%
Active outdoor public spaces to encourage a more walkable corridor (SQ006)	0	0.00%
Densify the corridor (SQ007)	0	0.00%
Improve overall connectivity and sustainability of local services and employment (SQ008)	0	0.00%
Other	0	0.00%

ID	Response
----	----------

Summary for DISABLEDDevelopment

Development in the Corridor Please select the top elements which you feel are most important to shape future development in the South Virginia Corridor [question disabled]

Sorry, but this question has no responses yet so a graph cannot be shown.

Summary for DevelopmentImps

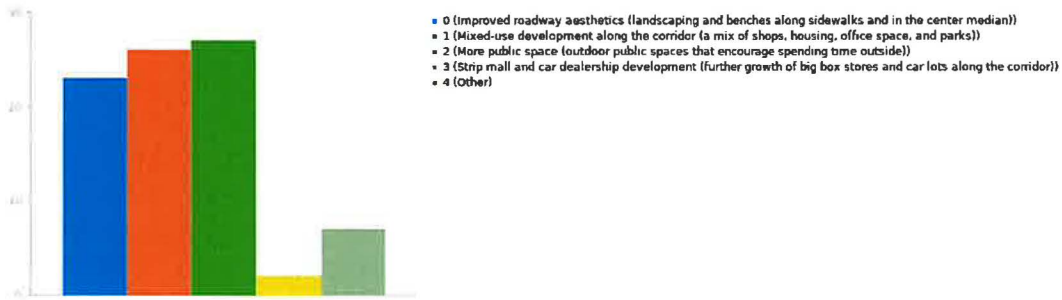
Development in the Corridor Please select the top elements which you feel are most important to shape future development in the South Virginia Corridor

Answer	Count	Percentage
Improved roadway aesthetics (landscaping and benches along sidewalks and in the center median) (SQ001)	23	57.50%
Mixed-use development along the corridor (a mix of shops, housing, office space, and parks) (SQ002)	26	65.00%
More public space (outdoor public spaces that encourage spending time outside) (SQ003)	27	67.50%
Strip mall and car dealership development (further growth of big box stores and car lots along the corridor) (SQ004)	2	5.00%
Other	7	17.50%

ID	Response
47	Access controls and improvements to signal timing to further increase the saturation flow rate through the corridor. The corridor already has quality development, and will continue to encourage development with improvements to traffic operations to encourage ease-of-access
65	Improve the road surface
83	Protected bike lanes that meet FHWA Bikeway Selection Guide Standards
85	Less strip mall and car dealership development, possibly a moratorium on new strip malls and car dealerships.
110	Stop the development!
137	wider sidewalks and bicycle lanes
142	Infill development for underused spaces such as large parking lots. Integrated, safe bicycle and pedestrian infrastructure that makes the corridor appealing.

Summary for DevelopmentImps

Development in the Corridor Please select the top elements which you feel are most important to shape future development in the South Virginia Corridor



Summary for GeneralComments

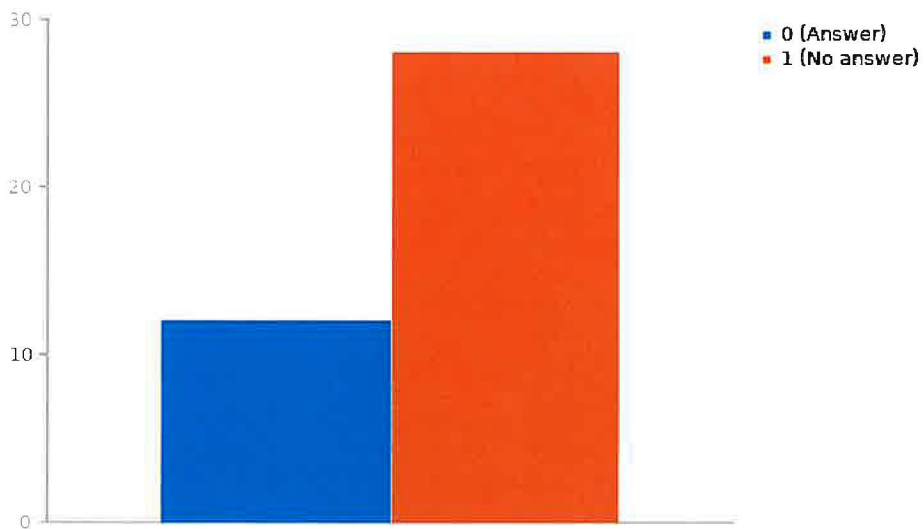
Please let us know if there is anything else you would like to see when it comes to improving the South Virginia Street Corridor. You may leave this blank and complete the survey.

Answer	Count	Percentage
Answer	12	30.00%
No answer	28	70.00%

ID	Response
23	More walkable areas, no parking minimums, reliable public transit, more public spaces where people don't necessarily have to spend money
28	The is a big need for employee transportation to the south of town. The routes need to go farther south with expanded hours
48	More Street light
54	Speeding is a major concern, slow people down! -The lack of sidewalks (or poor quality [narrow, right next to road]) is appalling. -Lack of lighting in areas (dark) Incohesive design, this area showcases how ugly and non-cohesive Reno Architecture is. - too many slip and turn lanes causes pedestrian nightmare trying to cross a street. - Bike lanes should be removed from vehicular traffic wherever possible, separate them from the roadway! BRT should extend to carson city. Maybe not with a 10 minute frequency , but at least every hour?
59	In your planning considerations, please think about cyclists and pedestrians when they travel up and down the corridor, but also when they want to cross over the corridor from east to west. Provide safe and effective crossing points for cyclists and peds that connect to useful east/west routes.
65	With rapid growth in the south, S. Virginia is to narrow. It needs to be at least 3 lanes just for traffic and then extra width for bicycles and busses.
77	Dedicated bike and walking roads. Not primarily for vehiclesDoesn't necessarily need to be on Virginia.
82	I don't want to see this corridor become another Kietzke Lane or the rest of Virginia Street, all commercial strip. Mixed use that transitions into the southwest and PUD development of the south valley should be encouraged with a transportation corridor that can handle the traffic demand, but also have multi-modal options making it safely usable by pedestrian, cyclists, transit, and motorists yet matches the aesthetic of this part of the Truckee Meadows.
83	Similar to a vehicle travel lane, the bicycle travel lane should be consistent from the projects end to end. That means following the FHWA Bikeway Selection Guide not just where it is convenient for drivers. Parking, loading zones can remain and bus loading and unloading zones can be moved out to preserve the consistency of the bicycle travel lane. Bus platforms are in use in Washington DC that move the loading zone out of the bus drop off. Vehicle traffic can wait behind a bus until passengers have unloaded. This would improve safety for all road users.
85	I honestly find it deeply concerning that this survey had questions about my connection to the South Virginia Street Corridor and it has the option for "I just pass through" but not an option for having friends and family living in the area and gave an option for wanting to see more strip malls and car dealerships in an area that is supposed to be transit oriented, which almost every study of urban spaces has found that strip malls and car dealerships are about the worst things you can build if you are trying to have a transit oriented neighborhood. It honestly feels like whoever developed this survey is not taking the study seriously.
142	I would like to see more Mobility Hubs, including at South Virginia and South Meadows, and I would like them to include bicycle infrastructure and connectivity. Currently, I am not aware of any secure bike parking at the Meadowood Mall transit center. Since the 56 bus is not convenient to me, and I'm not sure how to safely store my bike at the transit center, I end up driving to South Virginia Street destinations on the existing RAPID line. I'd like to have access to bicycle storage along the future RAPID extension, as well as safe bicycle connectivity options, such as a bike lane on South Meadows between South Virginia Street and Double Diamond Parkway.

Summary for GeneralComments

Please let us know if there is anything else you would like to see when it comes to improving the South Virginia Street Corridor. You may leave this blank and complete the survey.





REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.4.1

To: Regional Transportation Commission

From: Alex Wolfson, Project Manager

SUBJECT: ITS Program Support Master Services Agreement

RECOMMENDED ACTION

Approve a contract with Kimley-Horn and Associates, Inc., to provide engineering services on the ITS Program Support Project through August 31, 2025, in an amount not-to-exceed \$430,000.

BACKGROUND AND DISCUSSION

This is a "master services agreement" (MSA) with Kimley-Horn and Associates, Inc. to provide professional design and engineering services on ITS Program Support projects as needed for a one year period. This MSA contract structure will allow RTC to issue task orders for specific work/projects during that period in a cumulative amount of up to \$430,000. The RTC Director of Engineering must approve any task orders.

The RTC is completing work on the Intelligent Transportation Systems (ITS) Strategic Master Plan. As part of that plan, 24 different deployment strategies were recommended to be implemented by the RTC to enhance the regional traffic network through capital investments and proactive operations. This MSA would begin the process of implementing these recommendations to operate and improve the regional ITS infrastructure.

Possible tasks to be carried out through this MSA include:

- On-call maintenance of the Center-to-Center system (This is the system that allows for network communications between RTC and the local agencies)
- Design and review of fiber optic splices and other network infrastructure
- Update of RTC standard details and specifications for ITS and traffic signals
- ITS Network Master Plan update, including a new 5-year project list for fiber upgrades
- ITS and traffic signal inventory and asset management update, including health of existing infrastructure
- Traffic management center equipment procurement
- On-call traffic counting services, including bicycles and pedestrians

Kimley-Horn and Associates, Inc. was selected from the qualified Traffic Engineering Design and Construction Management Services list to perform these services. This will be a one-year agreement with services projected to start in September 2024 and conclude in August 2025.

The item supports Strategic Roadmap Goal #4, "Proactively manage congestion" and FY2025 RTC Goal, "Begin implementation of ITS Master Plan and standup of Traffic Management Center."

FISCAL IMPACT

Fuel tax appropriations for this item are included in the FY 2025 budget.

PREVIOUS BOARD ACTION

3/18/2022 Approved the qualified list of consultants to provide civil engineering, design, and construction management services for the Traffic Engineering Program and the Intelligent Transportation Systems (ITS) Program.

MASTER SERVICES AGREEMENT

This agreement (this “Agreement”) is dated and effective as of _____, 2024, by and between the Regional Transportation Commission of Washoe County (“RTC”) and Kimley-Horn and Associates, Inc. (“CONSULTANT”).

WITNESSETH:

WHEREAS, RTC has selected CONSULTANT from the 22-07 Traffic Engineering Design and Construction Management Services shortlist to perform ITS engineering design and support services in connection with RTC ITS Program Support (the “Project”); and

WHEREAS, CONSULTANT will perform services on an as-needed basis, subject to annual funding availability, as specified in separate task orders (each a “Task Order”) to be agreed upon and executed by CONSULTANT and RTC.

NOW, THEREFORE, RTC and CONSULTANT, in consideration of the mutual covenants and other consideration set forth herein, do hereby agree as follows:

ARTICLE 1 - ENGAGEMENT AND TERM

- 1.1. CONSULTANT will perform the work using the project team identified in the Proposal. Any changes to the project team must be approved by RTC’s Project Manager.
- 1.2. CONSULTANT will promptly, diligently and faithfully execute the work to completion in accordance with applicable professional standards subject to any delays due to strikes, acts of God, act of any government, civil disturbances, or any other cause beyond the reasonable control of CONSULTANT.
- 1.3. CONSULTANT shall not proceed with work under a Task Order until both parties have executed the Task Order and a purchase order has been issued to CONSULTANT. If CONSULTANT violates that prohibition, CONSULTANT forfeits any and all right to reimbursement and payment for that work and waives any and all claims against RTC, its employees, agents, and affiliates, including but not limited to monetary damages, and any other remedy available at law or in equity arising under the terms of this Agreement. Furthermore, prior to execution and issuance of a purchase order, CONSULTANT shall not rely on the terms of this Agreement in any way, including but not limited to any written or oral representations, assurances or warranties made by RTC or any of its agents, employees or affiliates, or on any dates of performance, deadlines, indemnities, or any term contained in this Agreement or the Task Order.
- 1.4. Task Orders must be approved and executed by RTC’s Director of Engineering
- 1.5. The term of this Agreement shall be from the date first written above through August 31, 2025, unless terminated at an earlier date, or extended to a later date, pursuant to the provisions herein. A new Task Order cannot be issued subsequent to that expiration date;

however, the period of performance of a Task Order may extend beyond that expiration date for the term specified in the Task Order. The provisions of this Agreement will remain in full force and effect during the term of the Task Order.

ARTICLE 2 - SERVICES OF CONSULTANT

2.1. SCOPE OF SERVICES

Tasks and subtasks shall be completed in accordance with the schedule in the Task Order. Any change(s) to the schedule must be approved by RTC's Project Manager.

2.2. SCHEDULE OF SERVICES

Tasks and subtasks shall be completed in accordance with the schedule in the Task Order. Any change(s) to the schedule must be approved by RTC's Project Manager.

2.3. TASK ORDERS

Task Orders shall be prepared using the templates in Exhibit B. Task Orders shall address the scope of services, deliverables, costs, schedule of performance, term, and any other material items for performance of the specified work. A budget and not-to-exceed costs for tasks and subtasks shall be negotiated and specified in the Task Order. In the event of a conflict between the terms and conditions of this Agreement and a Task Order, the terms and conditions of this Agreement will control.

2.4. CONTINGENCY

Contingency line items identified in a Task Order are for miscellaneous increases within the scope of work. Prior to the use of any contingency amounts, CONSULTANT shall provide a letter to RTC's Project Manager detailing the need, scope, and not-to-exceed budget for the proposed work. Work to be paid out of contingency shall proceed only with the RTC Project Manager's written approval.

2.5. OPTIONS

RTC shall have the right to exercise its option(s) for all or any part of the optional tasks or subtasks identified in a Task Order. CONSULTANT will prepare and submit a detailed scope of services reflecting the specific optional services requested, a schedule for such services, and a cost proposal. RTC will review and approve the scope of services and RTC and CONSULTANT will discuss and agree upon compensation and a schedule. CONSULTANT shall undertake no work on any optional task without written notice to proceed with the performance of said task. RTC, at its sole option and discretion, may select another individual or firm to perform the optional tasks or subtasks identified in a Task Order.

2.6. PERFORMANCE REQUIREMENTS

Any and all design and engineering work furnished by CONSULTANT shall be performed by or under the supervision of persons licensed to practice architecture, engineering, or surveying (as applicable) in the State of Nevada, by personnel who are careful, skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the work, and who shall assume professional responsibility for the accuracy and completeness of documents prepared or checked by them, in accordance with appropriate prevailing professional standards. Notwithstanding the provision of any drawings, technical specifications, or other data by RTC, CONSULTANT shall have the responsibility of supplying all items and details required for the deliverables required hereunder.

All sampling and materials testing shall be performed by an approved testing laboratory accredited by AASHTO or other ASTM recognized accrediting organization in the applicable test methods. If any geotechnical or materials testing is performed by a sub-consultant, that laboratory shall maintain the required certification. Proof of certification shall be provided to RTC with this Agreement. If certification expires or is removed during the term of this Agreement, CONSULTANT shall notify RTC immediately, and propose a remedy. If an acceptable remedy cannot be agreed upon by both parties, RTC may terminate this Agreement for default.

CONSULTANT shall provide only Nevada Alliance for Quality Transportation Construction (NAQTC) qualified personnel to perform field and laboratory sampling and testing during the term of this Agreement. All test reports shall be signed by a licensed NAQTC tester and notated with his/her license number.

2.7. ERRORS AND OMISSIONS

CONSULTANT shall, without additional compensation, correct or revise any deficiencies, errors, or omissions caused by CONSULTANT in its analysis, reports, and services. CONSULTANT also agrees that if any error or omission is found, CONSULTANT will expeditiously make the necessary correction, at no expense to RTC. If an error or omission was directly caused by RTC, and not by CONSULTANT and RTC requires that such error or omission be corrected, CONSULTANT may be compensated for such additional work.

ARTICLE 3 - COMPENSATION

- 3.1. CONSULTANT shall be paid for hours worked at the hourly rates and rates for testing in Exhibit C. RTC shall not be responsible for any other costs or expenses except as provided in Exhibit C.
- 3.2. The maximum amount payable to CONSULTANT to complete tasks in a Task Order shall be specified as a not-to-exceed amount in the Task Order. CONSULTANT can request in writing that RTC's Project Manager reallocate not-to-exceed amounts between tasks. A request to reallocate not-to-exceed amounts must be accompanied with a revised fee

schedule, and must be approved in writing by RTC's Project Manager prior to performance of the work.

- 3.3. The maximum amount payable to CONSULTANT for all Task Orders resulting from this Agreement shall not exceed \$430,000.
- 3.4. RTC may issue Task Orders for CONSULTANT to provide services in connection with preparing for and/or appearing in any litigation. CONSULTANT shall not receive compensation for preparing for and/or appearing in the litigation: (1) if such litigation costs are incurred by CONSULTANT in defending its work or services or those of any of its sub-consultants; or (2) as may be required by CONSULTANT's indemnification obligations. Compensation for litigation services requested by RTC shall be paid at a mutually agreed upon rate and/or at a reasonable rate for such services.

ARTICLE 4 - INVOICING

- 4.1. CONSULTANT shall submit monthly invoices in the format specified by RTC. Invoices must be submitted to accountspayable@rtcwashoe.com RTC's payment terms are 30 days after the receipt of the invoice. Simple interest will be paid at the rate of half a percent (0.5%) per month on all invoices approved by RTC that are not paid within thirty (30) days of receipt of the invoice.
- 4.2. RTC shall notify CONSULTANT of any disagreement with any submitted invoice for consulting services within thirty (30) days of receipt of an invoice. Any amounts not in dispute shall be promptly paid by RTC.
- 4.3. CONSULTANT shall maintain complete records supporting every request for payment that may become due. Upon request, CONSULTANT shall produce all or a portion of its records and RTC shall have the right to inspect and copy such records.

ARTICLE 5 - ACCESS TO INFORMATION AND PROPERTY

- 5.1. Upon request and without cost to CONSULTANT, RTC will provide all information that is reasonably available to RTC and pertinent to the Project including surveys, reports and any other data relative to design and construction of the Project.
- 5.2. RTC will provide access to and make all provisions for CONSULTANT to enter upon RTC facilities and public lands, as required for CONSULTANT to perform its work under this Agreement.

ARTICLE 6 - OWNERSHIP OF WORK

- 6.1. Plans, reports, studies, tracings, maps, software, electronic files, licenses, programs, equipment manuals, and databases and other documents or instruments of service prepared or obtained by CONSULTANT in the course of performing work under this Agreement, shall be delivered to and become the property of RTC. Software already developed and

purchased by CONSULTANT prior to the execution of the Project that will be used in the project and services rendered under this Agreement, is excluded from this requirement. CONSULTANT and its sub-consultants shall convey and transfer all copyrightable interests, trademarks, licenses, and other intellectual property rights in such materials to RTC upon completion of all services under this Agreement and upon payment in full of all compensation due to CONSULTANT in accordance with the terms of this Agreement. Basic survey notes, sketches, charts, computations and similar data prepared or obtained by CONSULTANT under this Agreement shall, upon request, also be provided to RTC.

- 6.2. CONSULTANT represents that it has secured all necessary licenses, consents, or approvals to use the components of any intellectual property, including computer software, used in providing services under this Agreement, that it has full legal title to and the right to reproduce such materials, and that it has the right to convey such title and other necessary rights and interests to RTC.
- 6.3. CONSULTANT shall bear all costs arising from the use of patented, copyrighted, trade secret, or trademarked materials, equipment, devices, or processes used on or incorporated in the services and materials produced under this Agreement.
- 6.4. CONSULTANT agrees that all reports, communications, electronic files, databases, documents, and information that it obtains or prepares in connection with performing this Agreement shall be treated as confidential material and shall not be released or published without the prior written consent of RTC; provided, however, that CONSULTANT may refer to this Project in connection with its promotional literature in a professional and commercially reasonable manner. The provisions of this subsection shall not apply to information in whatever form that comes into the public domain. The provisions of this paragraph also shall not restrict CONSULTANT from giving notices required by law or complying with an order to provide information or data when such order is issued by a court, administrative agency, or other entity with proper jurisdiction, or if it is reasonably necessary for CONSULTANT to defend itself from any suit or claim.

ARTICLE 7 - TERMINATION

7.1. CONTRACT TERMINATION FOR DEFAULT

If CONSULTANT fails to perform services in the manner called for in this Agreement or a Task Order or if CONSULTANT fails to comply with any other provisions of this Agreement or Task Order, RTC may terminate this Agreement for default. Termination shall be effected by serving a notice of termination on CONSULTANT setting forth the manner in which CONSULTANT is in default. CONSULTANT will only be paid the contract price for services delivered and accepted, or services performed in accordance with the manner of performance set forth in this Agreement.

If it is later determined by RTC that CONSULTANT had an excusable reason for not performing, such as a fire, flood, or events which are not the fault of or are beyond the control of CONSULTANT, RTC, after setting up a new performance schedule, may allow

CONSULTANT to continue work, or treat the termination as a termination for convenience.

7.2. CONTRACT TERMINATION FOR CONVENIENCE

RTC may terminate this Agreement or any Task Order, in whole or in part, at any time by written notice to CONSULTANT when it is in RTC's best interest. CONSULTANT shall be paid its costs, including contract closeout costs, and profit on work performed up to the time of termination. CONSULTANT shall promptly submit its termination claim to RTC to be paid CONSULTANT. If CONSULTANT has any property in its possession belonging to RTC, CONSULTANT will account for the same, and dispose of it in the manner RTC directs.

ARTICLE 8 - INSURANCE

- 8.1. CONSULTANT shall not commence any work or permit any employee/agent to commence any work until satisfactory proof has been submitted to RTC that all insurance requirements have been met.
- 8.2. In conjunction with the performance of the services/work required by the terms of this Agreement, CONSULTANT shall obtain all types and amounts of insurance set forth in Exhibit D, and shall comply with all provisions set forth therein.

ARTICLE 9 - HOLD HARMLESS

- 9.1. CONSULTANT's obligation under this provision is as set forth in Exhibit D. Said obligation would also extend to any liability of RTC resulting from any action to clear any lien and/or to recover for damage to RTC property.

ARTICLE 10 - EQUAL EMPLOYMENT OPPORTUNITY

- 10.1. During the performance of this Agreement, CONSULTANT agrees not to discriminate against any employee or applicant for employment because of race, color, religion, sex, age, disability, or national origin. CONSULTANT will take affirmative action to ensure that applicants are employed, and that employees are treated fairly during employment, without regard to their race, color, religion, sex, age, disability, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. CONSULTANT agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by RTC setting forth the provisions of this nondiscrimination clause.
- 10.2. CONSULTANT will, in all solicitations or advertisements for employees placed by or on behalf of CONSULTANT, state that well qualified applicants will receive consideration of employment without regard to race, color, religion, sex, age, disability, or national origin.

- 10.3. CONSULTANT will cause the foregoing provisions to be inserted in all sub-agreements for any work covered by this Agreement so that such provisions will be binding upon each sub-consultant.

ARTICLE 11 - RESOLUTION OF CLAIMS AND DISPUTES

11.1. NEGOTIATED RESOLUTION

In the event that any dispute or claim arises under this Agreement, the parties shall timely cooperate and negotiate in good faith to resolve any such dispute or claim. Such cooperation shall include providing the other party with all information in order to properly evaluate the dispute or claim and making available the necessary personnel to discuss and make decisions relative to the dispute or claim.

11.2. MEDIATION

If the parties have been unable to reach an informal negotiated resolution to the dispute or claim within thirty (30) days following submission in writing of the dispute or claim to the other party, or such longer period of time as the parties may agree to in writing, either party may then request, in writing, that the dispute or claim be submitted to mediation (the "Mediation Notice"). After the other party's receipt or deemed receipt of the Mediation Notice, the parties shall endeavor to agree upon a mutually acceptable mediator, but if the parties have been unable to agree upon a mediator within ten (10) days following receipt of the Mediation Notice, then each party shall select a mediator and those two selected mediators shall select the mediator. A mediator selected by the parties' designated mediators shall meet the qualification set forth in as provided in Rule 4 of Part C., "Nevada Mediation Rules" of the "Rules Governing Alternative Dispute Resolutions adopted by the Nevada Supreme Court." Unless otherwise agreed to by the parties, in writing, the mediator shall have complete discretion over the conduct of the mediation proceeding. Unless otherwise agreed to by the parties, in writing, the mediation proceeding must take place within thirty (30) days following appointment of the mediator. The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in Washoe County, Nevada, unless otherwise agreed to by the parties, in writing. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

11.3. LITIGATION

In the event that the parties are unable to settle and/or resolve the dispute or claim as provided above, then either party may proceed with litigation in the Second Judicial District Court of the State of Nevada, County of Washoe.

11.4. CONTINUING CONTRACT PERFORMANCE

During the pendency of any dispute or claim the parties shall proceed diligently with performance of this Agreement and such dispute or claim shall not constitute an excuse or defense for a party's nonperformance or delay.

ARTICLE 12 – PROJECT MANAGERS

- 12.1. RTC's Project Manager is Alex Wolfson, P.E., PTOE, RSP₁ or such other person as is later designated in writing by RTC. RTC's Project Manager has authority to act as RTC's representative with respect to the performance of this Agreement.
- 12.2. CONSULTANT' Project Manager is Michael Mosley P.E., PTOE or such other person as is later designated in writing by CONSULTANT. CONSULTANT's Project Manager has authority to act as CONSULTANT's representative with respect to the performance of this Agreement.

ARTICLE 13 - NOTICE

- 13.1. Notices required under this Agreement shall be given as follows:

RTC: Bill Thomas, AICP
Executive Director
Alex Wolfson, P.E., PTOE, RSP₁
RTC Project Manager
Regional Transportation Commission
1105 Terminal Way
Reno, Nevada 89502
(775) 335-1880

CONSULTANT: Michael Mosley P.E., PTOE
Vice President
Kimley-Horn and Associates
6671 Las Vegas Blvd South, Suite 320
Las Vegas, NV 89119
(702) 862-3626

ARTICLE 14 - DELAYS IN PERFORMANCE

- 14.1. TIME IS OF THE ESSENCE

It is understood and agreed that all times stated and referred to herein are of the essence. The period for performance may be extended by RTC's Executive Director pursuant to the process specified herein. No extension of time shall be valid unless reduced to writing and signed by RTC's Executive Director.

14.2. UNAVOIDABLE DELAYS

If the timely completion of the services under this Agreement should be unavoidably delayed, RTC may extend the time for completion of this Agreement for not less than the number of days CONSULTANT was excusably delayed. A delay is unavoidable only if the delay is not reasonably expected to occur in connection with or during CONSULTANT's performance, is not caused directly or substantially by acts, omissions, negligence or mistakes of CONSULTANT, is substantial and in fact causes CONSULTANT to miss specified completion dates, and cannot adequately be guarded against by contractual or legal means.

14.3. NOTIFICATION OF DELAYS

CONSULTANT shall notify RTC as soon as CONSULTANT has knowledge that an event has occurred or otherwise becomes aware that CONSULTANT will be delayed in the completion of the work. Within ten (10) working days thereafter, CONSULTANT shall provide such notice to RTC, in writing, furnishing as much detail on the delay as possible and requesting an extension of time.

14.4. REQUEST FOR EXTENSION

Any request by CONSULTANT for an extension of time to complete the work under this Agreement shall be made in writing to RTC. CONSULTANT shall supply RTC documentation to substantiate and justify the additional time needed to complete the work and shall provide a revised schedule. RTC shall provide CONSULTANT with notice of its decision within a reasonable time after receipt of a request.

ARTICLE 15 - GENERAL PROVISIONS

15.1. SUCCESSORS AND ASSIGNS

RTC and CONSULTANT bind themselves and their successors and assigns to the other party and to the successors and assigns of such party, with respect to the performance of all covenants of this Agreement. Except as set forth herein, neither RTC nor CONSULTANT shall assign or transfer interest in this Agreement without the written consent of the other. Nothing herein shall be construed as creating a personal liability on the part of any officer or agent or any public body which may be a party hereto, nor shall it be construed as giving any rights or benefits hereunder to anyone other than RTC and CONSULTANT.

15.2. NON TRANSFERABILITY

This Agreement is for CONSULTANT's professional services, and CONSULTANT's rights and obligations hereunder may not be assigned without the prior written consent of RTC.

15.3. SEVERABILITY

If any part, term, article, or provision of this Agreement is, by a court of competent jurisdiction, held to be illegal, void, or unenforceable, or to be in conflict with any law of the State of Nevada, the validity of the remaining provisions or portions of this Agreement are not affected, and the rights and obligations of the parties shall be construed and enforced as if this Agreement did not contain the particular part, term, or provision held invalid.

15.4. RELATIONSHIP OF PARTIES

CONSULTANT is an independent contractor to RTC under this Agreement. Accordingly, CONSULTANT is not entitled to participate in any retirement, deferred compensation, health insurance plans or other benefits RTC provides to its employees. CONSULTANT shall be free to contract to provide similar services for others while it is under contract to RTC, so long as said services and advocacy are not in direct conflict, as determined by RTC, with services being provided by CONSULTANT to RTC.

15.5. WAIVER/BREACH

Any waiver or breach of a provision in this Agreement or a Task Order shall not be deemed a waiver of any other provision and no waiver is valid unless in writing and executed by the waiving party. An extension of the time for performance of any obligation or act shall not be deemed an extension of time for the performance of any other obligation or act. This Agreement inures to the benefit of and is binding upon the parties to this Agreement and their respective heirs, successors and assigns.

15.6. REGULATORY COMPLIANCE

- A. CONSULTANT shall comply with all applicable federal, state and local government laws, regulations and ordinances. CONSULTANT shall be responsible for obtaining all necessary permits and licenses for performance of services under this Agreement. Upon request of RTC, CONSULTANT shall furnish RTC certificates of compliance with all such laws, orders and regulations.
- B. CONSULTANT represents and warrants that none of the services to be rendered pursuant to this Agreement constitute the performance of public work, as that term is defined by Section 338.010(17) of the Nevada Revised Statutes. To the extent CONSULTANT does engage in such public work, CONSULTANT shall be responsible for paying the prevailing wage as required by Chapter 338 of the Nevada Revised Statutes.

15.7. EXCLUSIVE AGREEMENT

There are no verbal agreements, representations or understandings affecting this Agreement, and all negotiations, representations and undertakings are set forth herein with

the understanding that this Agreement constitutes the entire understanding by and between the parties.

15.8. AMENDMENTS

No alteration, amendment or modification of this Agreement or any Task Order shall be effective unless it is in writing and signed by both parties.

15.9. CONTINUING OBLIGATION

CONSULTANT agrees that if, because of death or any other occurrence it becomes impossible for any principal or employee of CONSULTANT to render the services required under this Agreement, neither CONSULTANT nor the surviving principals shall be relieved of any obligation to render complete performance. However, in such event, RTC may terminate this Agreement if it considers the death or incapacity of such principal or employee to be a loss of such magnitude as to affect CONSULTANT's ability to satisfactorily complete the performance of this Agreement.

15.10. APPLICABLE LAW AND VENUE

The provisions of this Agreement shall be governed and construed in accordance with the laws of the State of Nevada. The exclusive venue and court for all lawsuits concerning this Agreement shall be the Second Judicial District Court of the State of Nevada, County of Washoe, and the parties hereto submit to the jurisdiction of that District Court.

15.11. ATTORNEYS' FEES

In the event of a dispute between the parties result in a proceeding in any Court of Nevada having jurisdiction, the prevailing party shall be entitled to an award of costs and any reasonable attorneys' fees.

15.12. CERTIFICATION REQUIRED BY NEVADA SENATE BILL 27 (2017)

CONSULTANT expressly certifies and agrees, as a material part of this Agreement, that it is not currently engaged in a boycott of Israel. CONSULTANT further agrees, as a material part of this Agreement, it will not engage in a boycott of Israel for the duration of this Agreement. If, at any time during the formation or duration of this Agreement, CONSULTANT is engaged or engages in a boycott of Israel, it will constitute a material breach of this Agreement.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement the day and year first above written.

REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY

By: _____
Bill Thomas, AICP, Executive Director

KIMLEY-HORN AND ASSOCIATES, INC.

By: _____
Michael Mosley, P.E., PTOE, Vice President

Exhibit A

Scope of Services

EXHIBIT A

SCOPE OF SERVICES **FOR** **RTC ITS PROGRAM SUPPORT**

This scope of services includes planning, design, and construction support of the Intelligent Transportation System (ITS) infrastructure within in the City of Reno, City of Sparks, Washoe County, and NDOT. All work that is performed will be based on scope of services and schedule as part of approved Task Orders.

Services that could be provided by the CONSULTANT through Task Orders include, but are not limited to:

1. Fiber optic splice planning, design, and review
2. Standard details / special provisions updates for ITS
 - a. Single mode to multi-mode standard
 - b. Support updates through workflow annually
3. ITS Network Master Plan Update (5-year project list)
 - a. Categories for types of projects
 - b. Possible ITS architecture plan/document
4. ITS/Signal Asset Management (Update annually)
 - a. Update GIS files for general use of mapping
 - i. Consider fiber management software
 1. 3GIS could be an option in coordination with NDOT
 - ii. Prepare City of Reno splice records
 - b. Maintenance needs study
 - c. Possible life-cycle replacement candidates list
 - i. Age of signal, when should it be replaced?
 - d. Safety deficient signals
 - i. MUTCD non-compliant
5. TMC equipment procurement
 - a. Special provisions/requirements for new equipment
 - b. Facility design / permitting, etc.
6. Traffic counts requests as needed
7. C2C Maintenance - Network maintenance in general
 - a. Network integration of software and services through C2C
 - b. NDOT connection
8. Other support as needed

Exhibit B

Task Order Template

Task Order No. # _____
Master Services Agreement dated _____, 2024

This Task Order No. # (this “Task Order”) is dated and effective as of _____, 20**, in accordance with the terms and conditions of the Master Services Agreement dated _____, 20** (the “Agreement”), by and between the Regional Transportation Commission of Washoe County (“RTC”) and Kimley-Horn and Associates, Inc. (“CONSULTANT”).

WHEREAS, the parties entered into the Agreement for CONSULTANT to perform design and engineering design and construction management services in connection with RTC ITS Program Implementation support through August 2025; and

NOW, THEREFORE, RTC and CONSULTANT agree as follows:

1. TERM

The term of this Task Order shall be from the date first written above through ***, 20**, unless terminated at an earlier date, or extended to a later date, pursuant to the provisions of the Agreement.

2. SCOPE OF SERVICES

The scope of services consist of the tasks and deliverables set forth in Exhibit A.

3. SCHEDULE OF PERFORMANCE

Tasks shall be completed in accordance with the schedule agreed to by the RTC Project Manager. Any change(s) to the schedule must be approved by RTC’s Project Manager.

4. COSTS

CONSULTANT shall be paid for hours worked at the hourly rates in Exhibit B. RTC shall not be responsible for any other costs or expenses except as provided in Exhibit B.

5. MAXIMUM COMPENSATION

The maximum amount payable to CONSULTANT to complete each task is equal to the not-to-exceed amounts identified in the Master Service Agreement. CONSULTANT can request in writing that RTC’s Project Manager reallocate not-to-exceed amounts between tasks. A request to reallocate not-to-exceed amounts must be accompanied with a revised fee schedule, and must be approved in writing by RTC’s Project Manager prior to performance of the work. In no case shall CONSULTANT be compensated in excess of the following not-to exceed amount for this Task Order: \$[_____].

6. OTHER PROVISIONS

All other provisions of the Agreement shall remain in full force and effect during the term of this Task Order, as if fully set forth herein.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement the day and year first above written.

REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY

By: _____
Bill Thomas, AICP, Executive Director

KIMLEY-HORN AND ASSOCIATES, INC.

By: _____
Michael Mosley, P.E., PTOE, Vice President

Exhibit C

Hourly Rates and Rates

Kimley-Horn and Associates, Inc.

Hourly Labor Rate Schedule

Classification	<i>Rate</i>
Support Staff	\$117
Technical Support	\$130
Analyst I	\$150
Analyst II	\$185
Senior Technical Support	\$190
Professional	\$225
Senior Professional I	\$285
ITS Systems Manager/ Senior Professional II	\$330

Effective through December 31, 2024
Subject to annual adjustment thereafter
Reimbursable Expenses will be charged per the Contract
Sub-Consultants will be billed per the Contract

Exhibit D

Indemnification and Insurance Requirements

INDEMNIFICATION AND INSURANCE REQUIREMENTS FOR
PROFESSIONAL SERVICE AGREEMENTS
[NRS 338 DESIGN PROFESSIONAL]

1. INTRODUCTION

IT IS HIGHLY RECOMMENDED THAT CONSULTANTS CONFER WITH THEIR INSURANCE CARRIERS OR BROKERS TO DETERMINE THE AVAILABILITY OF THESE INSURANCE CERTIFICATES AND ENDORSEMENTS IN ADVANCE OF PROPOSAL SUBMISSION. IF THERE ARE ANY QUESTIONS REGARDING THESE INSURANCE REQUIREMENTS, IT IS RECOMMENDED THAT THE AGENT/BROKER CONTACT RTC'S FINANCE DIRECTOR AT (775) 335-1845.

2. INDEMNIFICATION

CONSULTANT agrees, subject to the limitations in Nevada Revised Statutes Section 338.155, to save and hold harmless and fully indemnify RTC, Nevada Department of Transportation, Washoe County, City of Reno and City of Sparks including their elected officials, officers, employees, and agents (hereafter, "Indemnitees") from and against any and all claims, proceedings, actions, liability and damages, including reasonable attorneys' fees and defense costs incurred in any action or proceeding (collectively "Damages") arising out of the:

- A. Negligence, errors, omissions, recklessness or intentional misconduct of CONSULTANT or CONSULTANT's agents, employees, officers, directors, subconsultants, or anyone else for whom CONSULTANT may be legally responsible, which are based upon or arising out of the professional services of CONSULTANT; and
- B. Violation of law or any contractual provisions or any infringement related to trade names, licenses, franchises, patents or other means of protecting interests in products or inventions resulting from the use by the Indemnitees of any materials, devices, processes, equipment, or other deliverable (including software) supplied by CONSULTANT under or as a result of this Agreement, but excluding any violation or infringement resulting from the modification or alteration by the Indemnitees of any materials, devices, processes, equipment, or other deliverable (including software) not consented to by CONSULTANT.

CONSULTANT further agrees to defend, save and hold harmless and fully indemnify the Indemnitees from and against any and all Damages arising out the negligence, errors, omissions, recklessness or intentional misconduct of CONSULTANT or CONSULTANT's agents, employees, officers, directors, subconsultants, or anyone else for whom CONSULTANT may be legally responsible, which are not based upon or arising out of the professional services of CONSULTANT.

The Damages shall include, but are not limited to, those resulting from personal injury to any person, including bodily injury, sickness, disease or death and injury to real property or personal property, tangible or intangible, and the loss of use of any of that property, whether or not it is physically injured.

If the Indemnitees are involved in defending actions of CONSULTANT or anyone else for whom CONSULTANT is legally responsible, CONSULTANT shall reimburse the Indemnitees for the time spent by such personnel at the rate of the Indemnitees pay or compensation for such services.

If an Indemnitee is found to be liable in the proceeding, then CONSULTANT'S obligation hereunder shall be limited to the proportional share of the liability attributed to CONSULTANT.

In determining whether a claim is subject to indemnification, the incident underlying the claim shall determine the nature of the claim.

In the event of a violation or an infringement under paragraph 2.B above and the use is enjoined, CONSULTANT, at its sole expense, shall either (1) secure for the Indemnitees the right to continue using the materials by suspension of any injunction or by procuring a license or licenses for the Indemnitees; or (2) modify the materials so that they become non-infringing. This covenant shall survive the termination of the Professional Services Agreement.

The provisions of this Agreement are separate and severable and it is the intent of the Parties hereto that in the event any provision of this Agreement should be determined by any court of competent jurisdiction to be void, voidable or too restrictive for any reason whatsoever, the remaining provisions of this Agreement shall remain valid and binding upon said Parties. It is also understood and agreed that in the event any provision should be considered, by any court of competent jurisdiction, to be void because it imposes a greater obligation on CONSULTANT than is permitted by law, such court may reduce and reform such provisions to limitations which are deemed reasonable and enforceable by said court.

3. GENERAL REQUIREMENTS

Prior to the start of any work on a RTC project, CONSULTANT shall purchase and maintain insurance of the types and limits as described below insuring against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONSULTANT, its subconsultants, or their employees, agents, or representatives. The cost of all such insurance shall be borne by CONSULTANT.

4. VERIFICATION OF COVERAGE

CONSULTANT shall furnish RTC with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth herein, on forms acceptable to RTC. All deductibles and self-insured retentions requiring RTC approval shall be shown on the certificate. All certificates and endorsements are to be addressed to RTC's Finance Director and be received by RTC before work commences. Upon request, CONSULTANT agrees that RTC has the right to review CONSULTANT'S and the Sub's insurance policies, or certified copies of the policies. Copies of applicable policy forms or endorsements confirming required additional insured, waiver of subrogation and notice of cancellation provisions are required to be provided with any certificate(s) evidencing the required coverage.

5. NOTICE OF CANCELLATION

CONSULTANT or its insurers shall provide at least thirty (30) days' prior written notice to RTC prior to the cancellation or non-renewal of any insurance required under this Agreement. An exception may be included to provide at least ten (10) days' written notice if cancellation is due to non-payment of premium. CONSULTANT shall be responsible to provide prior written notice to RTC as soon as practicable upon receipt of any notice of cancellation, non-renewal, reduction in required limits or other material change in the insurance required under this Agreement.

6. SUBCONSULTANTS & SUBCONTRACTORS

CONSULTANT shall include all Subcontractors and Subconsultants (referred to collectively as "Subs") as insureds under its liability policies OR shall cause Subs employed by CONSULTANT to purchase and maintain separate liability coverages and limits of the types specified herein. If any Subs maintain separate liability coverages and limits, each shall include the RTC, Washoe County, City of Reno and City of Sparks as additional insureds under its commercial general liability policy, subject to the same requirements stated herein, without requiring a written contract or agreement between each of the additional insureds and any sub-consultant or sub-contractor. Any separate coverage limits of liability maintained by Subs shall be at least **\$1,000,000** per occurrence and at least **\$2,000,000** for any applicable coverage aggregates or the amount customarily carried by the Sub, whichever is GREATER. If any Subs provide their own insurance with limits less than required of the Contractor, Contractor shall include Subs in their coverage up to the full limits required of the Contractor. When requested by RTC, CONSULTANT shall furnish copies of certificates of insurance evidencing coverage for each subconsultant. CONSULTANT need not require its non-design subcontractors to carry Professional Errors and Omissions Liability insurance.

7. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions that exceed \$25,000 per occurrence or claim must be declared to RTC's Finance Director prior to signing this Agreement. RTC is entitled to request and receive additional documentation, financial or otherwise, prior to giving its approval of the deductibles and self-insured retentions. Any changes to the deductibles or self-insured retentions made during the term of this Agreement or during the term of any policy must be declared to RTC's Finance Director prior to the change taking effect.

8. ACCEPTABILITY OF INSURERS

Required insurance is to be placed with insurers with a Best's rating of no less than A-VII and acceptable to RTC. RTC may accept coverage with carriers having lower Best's ratings upon review of financial information concerning CONSULTANT and the insurance carrier. RTC reserves the right to require that CONSULTANT'S insurer(s) be licensed and admitted in the State of Nevada or meet any applicable state and federal laws and regulations for non-admitted insurance placements.

9. OTHER CONDITIONS

- A. Failure to furnish the required certificate(s) or failure to maintain the required insurance may result in termination of this Agreement at RTC's option.
- B. If CONSULTANT fails to furnish the required certificate or fails to maintain the required insurance as set forth herein, RTC shall have the right, but not the obligation, to purchase said insurance at CONSULTANT's expense.
- C. Any waiver of CONSULTANT's obligation to furnish such certificate or maintain such insurance must be in writing and signed by an authorized representative of RTC. Failure of RTC to demand such certificate or other evidence of full compliance with these insurance requirements or failure of RTC to identify a deficiency from evidence that is provided shall not be construed as a waiver of CONSULTANT's obligation to maintain such insurance, or as a waiver as to the enforcement of any of these provisions at a later date.
- D. By requiring insurance herein, RTC does not represent that coverage and limits will necessarily be adequate to protect CONSULTANT, and such coverage and limits shall not be deemed as a limitation on CONSULTANT's liability under the indemnities granted to RTC in this contract.
- E. If CONSULTANT'S liability policies do not contain the standard ISO separation of insureds condition, or a substantially similar clause, they shall be endorsed to provide cross-liability coverage.

10. COMMERCIAL GENERAL LIABILITY

CONSULTANT shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than **\$2,000,000** each occurrence. If such CGL insurance contains a general aggregate limit, it shall be increased to equal twice the required occurrence limit or revised to apply separately to this project.

CGL insurance shall be written on ISO occurrence form CG 00 01 04 13 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, products-completed operations, personal and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

RTC and any other Indemnitees listed in Section 2. INDEMNIFICATION of this Agreement shall be included as an additional insured under the CGL, using ISO additional insured endorsement CG 20 10 07/04 or CG 20 33 07/04 or a substitute providing equivalent coverage, and under the commercial umbrella, if any.

This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to RTC or any other Indemnitees under this Agreement.

CONSULTANT waives all rights against RTC and any other Indemnitees listed in section 2. INDEMNIFICATION of this Agreement for recovery of damages to the extent these damages are covered by the commercial general liability or commercial umbrella liability insurance maintained pursuant to this agreement. CONSULTANT's insurer shall endorse CGL policy to waive subrogation against RTC with respect to any loss paid under the policy.

11. COMMERCIAL AUTOMOBILE LIABILITY

CONSULTANT shall maintain automobile liability and, if necessary, commercial umbrella liability insurance with a limit of not less than **\$1,000,000** each accident. Such insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos).

Coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 25, or a substitute form providing equivalent liability coverage for all owned, leased, hired (rented) and non-owned vehicles (as applicable). RTC may agree to accept auto liability for non-owned and hired (rented) vehicles under the CGL if CONSULTANT does not own or operate any owned or leased vehicles.

CONSULTANT waives all rights against RTC, its officers, employees and volunteers for recovery of damages to the extent these damages are covered by the automobile liability or commercial umbrella liability insurance obtained by CONSULTANT pursuant to this Agreement.

12. INDUSTRIAL (WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY) INSURANCE

It is understood and agreed that there shall be no Industrial (Worker's Compensation and Employer's Liability) Insurance coverage provided for CONSULTANT or any subconsultants by RTC. CONSULTANT, and any subconsultants, shall procure, pay for and maintain the required coverages.

CONSULTANT shall maintain workers' compensation and employer's liability insurance meeting the statutory requirements of the State of Nevada, including but not limited to NRS 616B.627 and NRS 617.210. The employer's liability limits shall not be less than **\$1,000,000** each accident for bodily injury by accident or **\$1,000,000** each employee for bodily injury by disease.

CONSULTANT shall provide a Final Certificate for itself and each subconsultant evidencing that CONSULTANT and each subconsultant maintained workers' compensation and employer's liability insurance throughout the entire course of the project.

If CONSULTANT, or any subconsultant is a sole proprietor, coverage for the sole proprietor must be purchased and evidence of coverage must appear on the Certificate of Insurance and Final Certificate.

CONSULTANT waives all rights against RTC, its elected officials, officers, employees and agents for recovery of damages to the extent these damages are covered by the workers compensation and employer's liability or commercial umbrella liability insurance obtained by Tenant pursuant to this

agreement. CONSULTANT shall obtain an endorsement equivalent to WC 00 03 13 to affect this waiver.

13. PROFESSIONAL ERRORS AND OMISSIONS LIABILITY

CONSULTANT shall maintain professional liability insurance applying to liability for a professional error, omission, or negligent act arising out of the scope of CONSULTANT'S services provided under this Agreement with a limit of not less than **\$1,000,000** each claim and annual aggregate. CONSULTANT shall maintain professional liability insurance during the term of this Agreement and, if coverage is provided on a "claims made" or "claims made and reported" basis, shall maintain coverage or purchase an extended reporting period for a period of at least three (3) years following the termination of this Agreement.

14. NETWORK SECURITY AND PRIVACY LIABILITY

If CONSULTANT will have access to RTC computer or network systems for any reason and/or data including personal information (as defined in NRS 603A.040) or confidential information, CONSULTANT shall maintain network security and privacy liability insurance insuring against loss resulting from (1) privacy breaches [liability arising from the loss or disclosure of confidential information] (2) system breach (3) denial or loss of service (4) introduction, implantation, or spread of malicious software code (5) unauthorized access to or use of computer systems and (6) system failure. Coverage shall be provided with a limit of not less than **\$1,000,000** per claim and annual aggregate.



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.4.2

To: Regional Transportation Commission

From: Amanda Callegari, Engineering Manager

SUBJECT: Standard Specifications for Public Works Construction ("Orange Book") Update PSA

RECOMMENDED ACTION

Approve a contract with Lumos and Associates, Inc., for engineering services associated with updating the Standard Specifications for Public Works Construction (SSPWC), also known as the Orange Book, in an amount not-to-exceed \$283,200.

BACKGROUND AND DISCUSSION

The Regional Transportation Commission (RTC) has outlined a process to update and publish the new version of the Orange Book. To achieve this, the RTC has established the Specifications Review Committee (SRC), which includes representatives from the RTC, City of Reno, City of Sparks, and Washoe County. Lumos will act as an extension of this committee, assisting the SRC in planning, process, communication, coordination, compilation, and document control throughout the project.

The primary goal of this project is to develop an updated and practical document for standard public works projects. Additional stakeholders, including other agencies, consultants, contractors, utilities, associations, and material suppliers, will be identified and given opportunities to review and provide feedback for possible inclusion in the revised document.

The update process will begin with the 2012 Revision 8 version of the Orange Book as the baseline template, incorporating agreed-upon specifications from the 2016 Revision 9 version to establish a new baseline document. This will serve as the foundation for the update process.

Lumos was selected from the Civil Engineering Design and Construction Management Services for the Streets & Highways Qualified List as a qualified firm to perform these design services. The complete scope of services is included in Exhibit A attached the Professional Services Agreement. Lumos' scope, schedule, and fee indicate the amount for design services is within the appropriated budget. While the schedule may fluctuate, the targeted schedule for these services is as follows:

Task 1 - Project Management: Duration of the Project

Task 2 - Develop Baseline Document: October 2024

Task 3 - Specifications Outreach and Update: September 2025

Task 4 - Stakeholder Vetting: February 2026

Task 5 - Finalize and Publish Update: February 2026

FISCAL IMPACT

Fuel Tax appropriations for this item are included in the FY 2025 budget.

PREVIOUS BOARD ACTION

6/17/2022 Approved the Qualified Consultant List for Engineering Design and Construction Management Services.

**AGREEMENT
FOR
PROFESSIONAL SERVICES**

This agreement (this “Agreement”) is dated and effective as of _____, 2024, by and between the Regional Transportation Commission of Washoe County (“RTC”) and Lumos and Associates, Inc. (“CONSULTANT”).

WITNESSETH:

WHEREAS, RTC has selected Lumos and Associates, Inc. from the Streets and Highways Engineering and Construction Services shortlist to perform Engineering services, research, coordination and technical writing in connection with updating the Standard Specifications for Public Works Construction “Orange Book.”

NOW, THEREFORE, RTC and CONSULTANT, in consideration of the mutual covenants and other consideration set forth herein, do hereby agree as follows:

ARTICLE 1 – TERM AND ENGAGEMENT

- 1.1. The term of this Agreement shall be from the date first written above through December 31, 2026, unless terminated at an earlier date, or extended to a later date, pursuant to the provisions herein.
- 1.2. CONSULTANT will promptly, diligently and faithfully execute the work to completion in accordance with applicable professional standards subject to any delays due to strikes, acts of God, act of any government, civil disturbances, or any other cause beyond the reasonable control of CONSULTANT.
- 1.3. CONSULTANT shall not proceed with work until both parties have executed this Agreement and a purchase order has been issued to CONSULTANT. If CONSULTANT violates that prohibition, CONSULTANT forfeits any and all right to reimbursement and payment for that work and waives any and all claims against RTC, its employees, agents, and affiliates, including but not limited to monetary damages, and any other remedy available at law or in equity arising under the terms of this Agreement. Furthermore, prior to execution and issuance of a purchase order, CONSULTANT shall not rely on the terms of this Agreement in any way, including but not limited to any written or oral representations, assurances or warranties made by RTC or any of its agents, employees or affiliates, or on any dates of performance, deadlines, indemnities, or any term contained in this Agreement or otherwise.

ARTICLE 2 - SERVICES OF CONSULTANT

2.1. SCOPE OF SERVICES

The scope of services consist of the tasks set forth in Exhibit A.

2.2. SCHEDULE OF SERVICES

Tasks and subtasks shall be completed in accordance with the schedule in Exhibit B. Any change(s) to the schedule must be approved by RTC's Project Manager.

2.3. CONTINGENCY

Contingency line items identified in the scope of services are for miscellaneous increases within the scope of work. Prior to the use of any contingency amounts, CONSULTANT shall provide a letter to RTC's Project Manager detailing the need, scope, and not-to-exceed budget for the proposed work. Work to be paid for out of contingency shall proceed only with the RTC Project Manager's written approval.

2.4. ADDITIONAL SERVICES

CONSULTANT will provide additional services when agreed to in writing by RTC and CONSULTANT.

2.5. PERFORMANCE REQUIREMENTS

Any and all design and engineering work furnished by CONSULTANT shall be performed by or under the supervision of persons licensed to practice architecture, engineering, or surveying (as applicable) in the State of Nevada, by personnel who are careful, skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the work, and who shall assume professional responsibility for the accuracy and completeness of documents prepared or checked by them, in accordance with appropriate prevailing professional standards. Notwithstanding the provision of any drawings, technical specifications, or other data by RTC, CONSULTANT shall have the responsibility of supplying all items and details required for the deliverables required hereunder.

2.6. ERRORS AND OMISSIONS

CONSULTANT shall, without additional compensation, correct or revise any deficiencies, errors, or omissions caused by CONSULTANT in its analysis, reports, and services. CONSULTANT also agrees that if any error or omission is found, CONSULTANT will expeditiously make the necessary correction, at no expense to RTC. If an error or omission was directly caused by RTC, and not by CONSULTANT and RTC requires that such error or omission be corrected, CONSULTANT may be compensated for such additional work.

ARTICLE 3 - COMPENSATION

3.1. CONSULTANT shall be paid for hours worked at the hourly rates in Exhibit C. RTC shall not be responsible for any other costs or expenses except as provided in Exhibit C.

- 3.2. The maximum amount payable to CONSULTANT to complete each task is equal to the not-to-exceed amounts identified in Exhibit C. CONSULTANT can request in writing that RTC’s Project Manager reallocate not-to-exceed amounts between tasks. A request to reallocate not-to-exceed amounts must be accompanied with a revised fee schedule, and must be approved in writing by RTC’s Project Manager prior to performance of the work. In no case shall CONSULTANT be compensated in excess of the following not-to exceed amounts:

Description	Fee
Project Management	\$66,200
Develop Baseline Document	\$60,800
Specifications Outreach and Update	\$65,600
Stakeholder Vetting	\$50,050
Finalize and Publish Update	\$25,550
Contingency (OPTIONAL)	\$15,000
Total Not-to-Exceed Amount:	\$283,200

- 3.3. For any work authorized under Section 2.4, “Additional Services,” RTC and CONSULTANT will negotiate not-to-exceed amounts based on the standard hourly rates in Exhibit C. Any work authorized under Section 2. 4, “Additional Services,” when performed by persons who are not employees or individuals employed by affiliates of CONSULTANT, will be billed at a mutually agreed upon rate for such services, but not more than 105% of the amounts billed to CONSULTANT for such services.
- 3.4. CONSULTANT shall receive compensation for preparing for and/or appearing in any litigation at the request of RTC, except: (1) if such litigation costs are incurred by CONSULTANT in defending its work or services or those of any of its sub-consultants; or (2) as may be required by CONSULTANT’s indemnification obligations. Compensation for litigation services requested by RTC shall be paid at a mutually agreed upon rate and/or at a reasonable rate for such services.

ARTICLE 4 - INVOICING

- 4.1. CONSULTANT shall submit monthly invoices in the format specified by RTC. Invoices must be submitted to accountspayable@rtcwashoe.com. RTC’s payment terms are 30 days after the receipt of the invoice. Simple interest will be paid at the rate of half a percent (0.5%) per month on all invoices approved by RTC that are not paid within thirty (30) days of receipt of the invoice.
- 4.2. RTC shall notify CONSULTANT of any disagreement with any submitted invoice for consulting services within thirty (30) days of receipt of an invoice. Any amounts not in dispute shall be promptly paid by RTC.
- 4.3. CONSULTANT shall maintain complete records supporting every request for payment that may become due. Upon request, CONSULTANT shall produce all or a portion of its records and RTC shall have the right to inspect and copy such records.

ARTICLE 5 - ACCESS TO INFORMATION AND PROPERTY

- 5.1. Upon request and without cost to CONSULTANT, RTC will provide all pertinent information that is reasonably available to RTC including surveys, reports and any other data relative to design and construction.
- 5.2. RTC will provide access to and make all provisions for CONSULTANT to enter upon RTC facilities and public lands, as required for CONSULTANT to perform its work under this Agreement.

ARTICLE 6 - OWNERSHIP OF WORK

- 6.1. Plans, reports, studies, tracings, maps, software, electronic files, licenses, programs, equipment manuals, and databases and other documents or instruments of service prepared or obtained by CONSULTANT in the course of performing work under this Agreement, shall be delivered to and become the property of RTC. Software already developed and purchased by CONSULTANT prior to the Agreement is excluded from this requirement. CONSULTANT and its sub-consultants shall convey and transfer all copyrightable interests, trademarks, licenses, and other intellectual property rights in such materials to RTC upon completion of all services under this Agreement and upon payment in full of all compensation due to CONSULTANT in accordance with the terms of this Agreement. Basic survey notes, sketches, charts, computations and similar data prepared or obtained by CONSULTANT under this Agreement shall, upon request, also be provided to RTC.
- 6.2. CONSULTANT represents that it has secured all necessary licenses, consents, or approvals to use the components of any intellectual property, including computer software, used in providing services under this Agreement, that it has full legal title to and the right to reproduce such materials, and that it has the right to convey such title and other necessary rights and interests to RTC.
- 6.3. CONSULTANT shall bear all costs arising from the use of patented, copyrighted, trade secret, or trademarked materials, equipment, devices, or processes used on or incorporated in the services and materials produced under this Agreement.
- 6.4. CONSULTANT agrees that all reports, communications, electronic files, databases, documents, and information that it obtains or prepares in connection with performing this Agreement shall be treated as confidential material and shall not be released or published without the prior written consent of RTC; provided, however, that CONSULTANT may refer to this scope of work in connection with its promotional literature in a professional and commercially reasonable manner. The provisions of this subsection shall not apply to information in whatever form that comes into the public domain. The provisions of this paragraph also shall not restrict CONSULTANT from giving notices required by law or complying with an order to provide information or data when such order is issued by a court, administrative agency, or other entity with proper jurisdiction, or if it is reasonably necessary for CONSULTANT to defend itself from any suit or claim.

ARTICLE 7 - TERMINATION

7.1. CONTRACT TERMINATION FOR DEFAULT

If CONSULTANT fails to perform services in the manner called for in this Agreement or if CONSULTANT fails to comply with any other provisions of this Agreement, RTC may terminate this Agreement for default. Termination shall be effected by serving a notice of termination on CONSULTANT setting forth the manner in which CONSULTANT is in default. CONSULTANT will only be paid the contract price for services delivered and accepted, or services performed in accordance with the manner of performance set forth in this Agreement.

If it is later determined by RTC that CONSULTANT had an excusable reason for not performing, such as a fire, flood, or events which are not the fault of or are beyond the control of CONSULTANT, RTC, after setting up a new performance schedule, may allow CONSULTANT to continue work, or treat the termination as a termination for convenience.

7.2. CONTRACT TERMINATION FOR CONVENIENCE

RTC may terminate this Agreement, in whole or in part, at any time by written notice to CONSULTANT when it is in RTC's best interest. CONSULTANT shall be paid its costs, including contract closeout costs, and profit on work performed up to the time of termination. CONSULTANT shall promptly submit its termination claim to RTC to be paid CONSULTANT. If CONSULTANT has any property in its possession belonging to RTC, CONSULTANT will account for the same, and dispose of it in the manner RTC directs.

ARTICLE 8 - INSURANCE

8.1. CONSULTANT shall not commence any work or permit any employee/agent to commence any work until satisfactory proof has been submitted to RTC that all insurance requirements have been met.

8.2. In conjunction with the performance of the services/work required by the terms of this Agreement, CONSULTANT shall obtain all types and amounts of insurance set forth in Exhibit D, and shall comply with all provisions set forth therein.

ARTICLE 9 - HOLD HARMLESS

9.1. CONSULTANT's obligation under this provision is as set forth in Exhibit D. Said obligation would also extend to any liability of RTC resulting from any action to clear any lien and/or to recover for damage to RTC property.

ARTICLE 10 - EQUAL EMPLOYMENT OPPORTUNITY

- 10.1. During the performance of this Agreement, CONSULTANT agrees not to discriminate against any employee or applicant for employment because of race, color, religion, sex, age, disability, or national origin. CONSULTANT will take affirmative action to ensure that applicants are employed, and that employees are treated fairly during employment, without regard to their race, color, religion, sex, age, disability, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. CONSULTANT agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by RTC setting forth the provisions of this nondiscrimination clause.
- 10.2. CONSULTANT will, in all solicitations or advertisements for employees placed by or on behalf of CONSULTANT, state that well qualified applicants will receive consideration of employment without regard to race, color, religion, sex, age, disability, or national origin.
- 10.3. CONSULTANT will cause the foregoing provisions to be inserted in all sub-agreements for any work covered by this Agreement so that such provisions will be binding upon each sub-consultant.

ARTICLE 11 - RESOLUTION OF CLAIMS AND DISPUTES

11.1. NEGOTIATED RESOLUTION

In the event that any dispute or claim arises under this Agreement, the parties shall timely cooperate and negotiate in good faith to resolve any such dispute or claim. Such cooperation shall include providing the other party with all information in order to properly evaluate the dispute or claim and making available the necessary personnel to discuss and make decisions relative to the dispute or claim.

ARTICLE 12 – PROJECT MANAGERS

- 12.1. RTC's Project Manager is Amanda Calegari, PE or such other person as is later designated in writing by RTC. RTC's Project Manager has authority to act as RTC's representative with respect to the performance of this Agreement.
- 12.2. CONSULTANT' Project Manager is Alex Greenblat, P.E. or such other person as is later designated in writing by CONSULTANT. CONSULTANT's Project Manager has authority to act as CONSULTANT's representative with respect to the performance of this Agreement.

ARTICLE 13 - NOTICE

13.1. Notices required under this Agreement shall be given as follows:

RTC: Bill Thomas, AICP
Executive Director
Amanda Calegari, PE
RTC Engineering Manager
Regional Transportation Commission
1105 Terminal Way
Reno, Nevada 89502
Email: acalegari@rtcwashoe.com
(775)335-1881

CONSULTANT: Alex Greenblat
Senior Project Manager
Lumos and Associates, Inc.
950 Sandhill Rd., Suite 100
Reno, NV 89521
Email: agreenblat@lumosinc.com
(775)827-6111

ARTICLE 14 - DELAYS IN PERFORMANCE

14.1. TIME IS OF THE ESSENCE

It is understood and agreed that all times stated and referred to herein are of the essence. The period for performance may be extended by RTC's Executive Director pursuant to the process specified herein. No extension of time shall be valid unless reduced to writing and signed by RTC's Executive Director.

14.2. UNAVOIDABLE DELAYS

If the timely completion of the services under this Agreement should be unavoidably delayed, RTC may extend the time for completion of this Agreement for not less than the number of days CONSULTANT was excusably delayed. A delay is unavoidable only if the delay is not reasonably expected to occur in connection with or during CONSULTANT's performance, is not caused directly or substantially by acts, omissions, negligence or mistakes of CONSULTANT, is substantial and in fact causes CONSULTANT to miss specified completion dates, and cannot adequately be guarded against by contractual or legal means.

14.3. NOTIFICATION OF DELAYS

CONSULTANT shall notify RTC as soon as CONSULTANT has knowledge that an event has occurred or otherwise becomes aware that CONSULTANT will be delayed in the completion of the work. Within ten (10) working days thereafter, CONSULTANT shall provide such notice to RTC, in writing, furnishing as much detail on the delay as possible and requesting an extension of time.

14.4. REQUEST FOR EXTENSION

Any request by CONSULTANT for an extension of time to complete the work under this Agreement shall be made in writing to RTC. CONSULTANT shall supply to RTC documentation to substantiate and justify the additional time needed to complete the work and shall provide a revised schedule. RTC shall provide CONSULTANT with notice of its decision within a reasonable time after receipt of a request.

ARTICLE 15 - GENERAL PROVISIONS

15.1. SUCCESSORS AND ASSIGNS

RTC and CONSULTANT bind themselves and their successors and assigns to the other party and to the successors and assigns of such party, with respect to the performance of all covenants of this Agreement. Except as set forth herein, neither RTC nor CONSULTANT shall assign or transfer interest in this Agreement without the written consent of the other. Nothing herein shall be construed as creating a personal liability on the part of any officer or agent or any public body which may be a party hereto, nor shall it be construed as giving any rights or benefits hereunder to anyone other than RTC and CONSULTANT.

15.2. NON TRANSFERABILITY

This Agreement is for CONSULTANT's professional services, and CONSULTANT's rights and obligations hereunder may not be assigned without the prior written consent of RTC.

15.3. SEVERABILITY

If any part, term, article, or provision of this Agreement is, by a court of competent jurisdiction, held to be illegal, void, or unenforceable, or to be in conflict with any law of the State of Nevada, the validity of the remaining provisions or portions of this Agreement are not affected, and the rights and obligations of the parties shall be construed and enforced as if this Agreement did not contain the particular part, term, or provision held invalid.

15.4. RELATIONSHIP OF PARTIES

CONSULTANT is an independent contractor to RTC under this Agreement. Accordingly, CONSULTANT is not entitled to participate in any retirement, deferred compensation, health insurance plans or other benefits RTC provides to its employees. CONSULTANT

shall be free to contract to provide similar services for others while it is under contract to RTC, so long as said services and advocacy are not in direct conflict, as determined by RTC, with services being provided by CONSULTANT to RTC.

15.5. WAIVER/BREACH

Any waiver or breach of a provision in this Agreement shall not be deemed a waiver of any other provision in this Agreement and no waiver is valid unless in writing and executed by the waiving party. An extension of the time for performance of any obligation or act shall not be deemed an extension of time for the performance of any other obligation or act. This Agreement inures to the benefit of and is binding upon the parties to this Agreement and their respective heirs, successors and assigns.

15.6. REGULATORY COMPLIANCE

A. CONSULTANT shall comply with all applicable federal, state and local government laws, regulations and ordinances. CONSULTANT shall be responsible for obtaining all necessary permits and licenses for performance of services under this Agreement. Upon request of RTC, CONSULTANT shall furnish RTC certificates of compliance with all such laws, orders and regulations.

B. CONSULTANT represents and warrants that none of the services to be rendered pursuant to this Agreement constitute the performance of public work, as that term is defined by Section 338.010(17) of the Nevada Revised Statutes. To the extent CONSULTANT does engage in such public work, CONSULTANT shall be responsible for paying the prevailing wage as required by Chapter 338 of the Nevada Revised Statutes.

15.7. EXCLUSIVE AGREEMENT

There are no verbal agreements, representations or understandings affecting this Agreement, and all negotiations, representations and undertakings are set forth herein with the understanding that this Agreement constitutes the entire understanding by and between the parties.

15.8. AMENDMENTS

No alteration, amendment or modification of this Agreement shall be effective unless it is in writing and signed by both parties.

15.9. CONTINUING OBLIGATION

CONSULTANT agrees that if, because of death or any other occurrence it becomes impossible for any principal or employee of CONSULTANT to render the services required under this Agreement, neither CONSULTANT nor the surviving principals shall be relieved of any obligation to render complete performance. However, in such event,

RTC may terminate this Agreement if it considers the death or incapacity of such principal or employee to be a loss of such magnitude as to affect CONSULTANT's ability to satisfactorily complete the performance of this Agreement.

15.10. APPLICABLE LAW AND VENUE

The provisions of this Agreement shall be governed and construed in accordance with the laws of the State of Nevada. The exclusive venue and court for all lawsuits concerning this Agreement shall be the Second Judicial District Court of the State of Nevada, County of Washoe, and the parties hereto submit to the jurisdiction of that District Court.

15.11. ATTORNEYS' FEES

In the event of a dispute between the parties result in a proceeding in any Court of Nevada having jurisdiction, the prevailing party shall be entitled to an award of costs and any reasonable attorneys' fees.

15.12. CERTIFICATION REQUIRED BY NEVADA SENATE BILL 27 (2017)

CONSULTANT expressly certifies and agrees, as a material part of this Agreement, that it is not currently engaged in a boycott of Israel. CONSULTANT further agrees, as a material part of this Agreement, it will not engage in a boycott of Israel for the duration of this Agreement. If, at any time during the formation or duration of this Agreement, CONSULTANT is engaged or engages in a boycott of Israel, it will constitute a material breach of this Agreement.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement the day and year first above written.

REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY

By: _____
Bill Thomas, AICP, Executive Director

LUMOS AND ASSOCIATES, INC.

By: _____
Timothy Russel, P.E., WRS, Director of
Engineering

Exhibit A

Scope of Services



EXHIBIT A

Carson City • El Dorado Hills • Fallon • Lake Tahoe • Reno

www.LumosInc.com

Reno
950 Sandhill Road, Suite 100
Reno, Nevada 89521
775.827.6111

July 3, 2024

Amanda Callegari, P.E.
Engineering Manager
RTC of Washoe County
1105 Terminal Way
Reno, NV 89502

LA24.474

Subject: Proposal for Engineering Services for the RTC Orange Book Update

Dear Amanda:

Lumos and Associates, Inc. is pleased to provide you with this proposal for Engineering Services in relation to the RTC Orange Book Update Process.

Project Understanding

The RTC has outlined a process to update and publish the new version of the Orange Book. The RTC has created a core group referred to as the Specifications Review Committee (SRC) consisting of the RTC, City of Reno, City of Sparks, and Washoe County. Lumos' role will be an extension of this committee and will help the SRC in the planning, process, communication, coordination, compilation, and document control of this project. The goal and purpose of the project is to develop an updated and usable document intended for application on standard public works projects. Additional stakeholders will be identified, including other agencies, consultants, contractors, utilities, associations, and material suppliers, whom will have opportunities to review and provide feedback for possible inclusion into the revised document. The 2012 Revision 8 version of the Orange Book will be the baseline template of the update and will incorporate agreed upon specifications of the 2016 Revision 9 version to establish a new baseline document to begin working through the update process.

We propose the following tasks to assist you with your project:

Project Scope

The scope of work is based off the process outline provided by the RTC dated 5/23/2024. This process has been attached to this proposal.

Task 1 – Project Management

Management of the overall project will include scheduling of Lumos staff resources, coordinating with agencies, specifically RTC, City of Reno, City of Sparks, Washoe County, Agency liaisons, scheduling, invoicing, and general project administration. Detailed monthly invoices will be prepared to document work performed during the invoicing period.

Lumos Project Manager will facilitate and assist in coordination of: Project Kick off meeting with the SRC, baseline document comment review, updated specification document comment review

meetings, and stakeholder comment review meetings with the SRC. Lumos will compile agendas and provide meeting minutes.

Lumos Project Manager will keep the RTC Project Manager well informed of Project progress with bi-weekly informal briefings via email or phone call. Formal progress meetings will be conducted monthly or as directed by the RTC Project Manager.

Meetings with other stakeholders are not included in this Task and will be incorporated into Task 3 and Task 4.

Deliverables:

- Various meeting agendas and minutes
- Monthly invoices and summaries

Task 2 – Develop Baseline Document

Lumos will utilize the 2012 Rev. 8 and 2016 Rev. 9 versions of the Orange Book and any related or referenced documents and analyze and compare these specifications. Items which may be addressed for incorporation into the new baseline document are as follows:

- Agreed upon specifications from 2016 Rev. 9 that provide benefit to remain in new baseline document
- Outdated sections, gaps, or areas needing improvement
- Updates to standards and best practices, without adding in specialty work
- Advancements in technologies and methodologies
- Potential policy changes
- Known feedback from the SRC on common issues, areas of concern, or lessons learned from past projects (misapplication or misunderstandings of specs)
- Expansion in content to address these issues or provide more guidance
- Formatting and organization to improve useability (reorder sections, new sections, revising layout of information)

Deliverables:

- New baseline document with potential updates and improvements identified to advance to Task 3

Task 3 – Specifications Outreach and Update

For the select portions of the specifications identified for updates in Task 2, the SRC will prioritize those sections and determine which should move forward to be updated in this version and which can be held for future consideration. For the select sections that are prioritized to move forward, Lumos will reach out to stakeholders (SRC liaisons on the current Title Sheet of the Orange Book) to gather industry feedback on the prioritized list of updates. Once the feedback has been received, the updates may be re-prioritized, and a final list of updates will be brought to the SRC and liaisons for concurrence.

Subcommittees will be created by the SRC for specific focused reviews based upon their expertise. Resources will be identified for possible inclusion in the Orange Book update, such as, recent specifications utilized by the SRC and upcoming NDOT Standard modifications. Detailed research will

be performed to ensure any updates are based on the latest standards, technologies, and best practices.

The updates will be drafted clearly and concisely and adhere to the format and style guidelines of the new baseline document established in Task 2. This will allow for a smoother review of the drafted updates by the SRC for feedback on the revisions.

Once the SRC members have provided feedback, the SRC core will collaborate to address any discrepancies, concerns, or conflicts as well as any cooperation required with SRC liaisons and key industry partners to reach a consensus on the proposed updates.

Once consensus is reached, the draft updates will be formally approved.

Deliverables:

- Document with a summary of the prioritized list of updates
- Compiled feedback matrices
- Draft update document utilizing new baseline document style and format
- Approved updated baseline document to advance to Task 4
- Three (3) presentations will be prepared and conducted with the SRC team as part of the Roadshow efforts

Task 4 – Stakeholder Vetting

The approved updated baseline document will then be provided to additional stakeholders, including other external agencies, consultants, contractors, utilities, public works associations, and material suppliers. A draft of the new document will be provided for review and feedback. This feedback will be collected and compiled for the SRC review. If agreed upon, the comments, concerns, and suggestions will be addressed and incorporated into the revised draft document. A final review will be performed by the SRC core and eventual adoption of the new Orange Book update.

Deliverables:

- Compiled feedback matrices
- Revised update document incorporating approved changes by the SRC Core
- Approved revised baseline document to advance to Task 5

Task 5 – Finalize and Publish Update

Once the SRC core adopts the Orange Book Update, Lumos will develop and provide a change summary report of the compiled documented changes made, including rationale, stakeholder feedback, and SRC commentary. The final document will be published to the designated platforms and distributed to the SRC liaisons. The detailed summary report will be shared with all relevant parties and other stakeholders. A presentation will be created that can be distributed to ensure smooth adoption of the updated specifications.

Deliverables:

- Change Summary Report
- Final version of the Orange Book Update
- Two (2) presentations will be prepared and conducted with the SRC team

Task 6 - Contingency (OPTIONAL)

This task is a contingency for miscellaneous increases within the scope of this contract in the performance of services under Tasks 1 through 5 if authorized. If Lumos determines that it is necessary to perform work to be paid out of contingency, Lumos will provide a letter detailing the need, scope, and not-to-exceed budget for any proposed work. Work under this task shall proceed only with the RTC Project Manager’s prior written approval. Work will be performed on a time and materials basis in accordance with Lumos’ fee schedule.

Assumptions / Exceptions

Lumos has made the following assumptions in preparation of this proposal:

- RTC to provide word documents for the 2012 Rev. 8 & 2016 Rev. 9 versions of Orange Book
- If reviewing agencies exceed the allotted time for document review and feedback, the schedule may need to be adjusted accordingly.
- Five (5) presentations will be prepared and conducted along with RTC and other SRC members
- The NTP will be after approval of the contract at the August 16th, 2024, Board Meeting.

Fees

The tasks described in the Scope of Work will be completed on a time and materials basis and will not exceed the following amounts without approval of an amendment from the Client:

Task	Description	Fee
Task 1	Project Management	\$66,200
Task 2	Develop Baseline Document	\$60,800
Task 3	Specifications Outreach and Update	\$65,600
Task 4	Stakeholder Vetting	\$50,050
Task 5	Finalize and Publish Update	\$25,550
Task 6	Contingency (OPTIONAL)	\$15,000
Total:		\$283,200

Schedule

Reference the attached modified schedule based upon the draft schedule provided by RTC.

NTP: August 17, 2024

Task 1 completion: Duration of the Project

Task 2 completion: October 17, 2024

Task 3 completion: September 25, 2025

Task 4 completion: February 5, 2026

Task 5 completion: February 27, 2026

If this proposal is acceptable, please provide an executed purchase order. Any additional services requested but not covered by this Scope of Work can be provided by an amendment to this proposal. Lumos and Associates, Inc. will send monthly progress billings on this project. The amount of these billings will be based upon the percentage of work completed. The terms are 'Due Upon Receipt' and accounts are past due after 30 days. Accounts over 30 days old will be subject to interest at the rate of 1 ½% per month and such collection action as may be necessary to collect the account.

In addition, a "Stop Work Order" may be issued on past due accounts. In this case, no further work will be performed until the account is brought current.

Thank you again for allowing Lumos and Associates to provide you with this proposal. Please do not hesitate to call me if you have questions.

Sincerely,

Dan Stucky, P.E.
Group Manager

Tim Russell, P.E., WRS
Director

Encl: RTC Process dated 5/23/2024, and modified schedule

Step 1: Establish the Review Team (SRC)

1.1 Identify Key Participants

- Identify core members for Specifications Review Committee (SRC) from public agencies that will be impacted by or have a stake in the specifications update.
 - RTC – Amanda Callegari (SRC Lead), ○ Washoe County – Janelle Thomas, Michon Reede, Mitchell Fink
 - City of Sparks – Bob Schricker ○ City of Reno – Hans Meyer, Khalil Wilson
- Identify other public agencies/jurisdictions that will be impacted by or have a stake in the specifications update and identify point of contacts who will serve as SRC liaisons through the update process. These will include entities identified on Orange Book title sheet.
- Identify key industry partners (i.e. agreed upon consultants, AGC representatives, etc.) who will provide benefit and expertise in the update process.

1.2 Define Roles and Responsibilities:

- Assign roles (Team Leaders, Subject Matter Experts (SMEs), Document Managers, etc.)
- Clarify the specific responsibilities of each member.

1.3 SRC Initial Meeting:

- Initial meeting to discuss the scope, objectives, and timeline of the update process.
- Establish a communication plan for regular updates and meetings.
- Define main goals of update.
 - Develop an updated and usable document intended for application on standard public works projects.

1.4 Consultant Procurement:

- Begin procurement of consultant to support the RTC through update process.
 - Consultant will help in the planning, process, communication, coordination, compilation, and documentation control.

1.5 SRC Agency Kick-off Meeting:

- After re-baseline document is complete and the SRC has identified necessary changes and improvements, a kick-off meeting will be held with all impacted public agencies, consultant, and key industry partners with a stake in the specification update. Kick-off meeting intent is to discuss goals, schedule, process for input and gathering feedback.
- Notify public works associations of process commencement.

Step 2: Develop Baseline Documents

2.1 Gather Existing Documents:

- Collect the current available versions of the specifications.

- Gather any related documents and previous update records.
- Identify baseline document (Orange Book 2012 v8)

2.2 Review and Analyze:

- Analyze/compare the existing specifications (2012 v8 and 2016)
- Identify specifications from 2016 that provide benefit to incorporation in re-baseline document.
- Re-baseline: Update 2012 v8 with agreed upon specifications from 2016.
- Identify outdated sections, gaps, or areas needing improvement.
- Identify changes for consideration including:
 - Updates to standards and best practices
 - Advancements in technologies and methodologies (materials, ITS, etc.)
 - Any known policy changes?
 - Gather feedback from the current users of the document to understand common issues, areas of concern, or lessons learned from past projects (misapplication or misunderstandings of specs).
 - Expansion in content to address issues or provide more guidance.
 - Formatting and organization to improve useability (reorder sections, new sections, revising layout of information)

Step 3: Select Specifications Needing Update

3.1 Create a List:

- SRC to create a comprehensive list of specifications identified for update.
- SRC to prioritize the list based on impact, urgency, and resources available.
 - Changes to be incorporated in this update.
 - Changes for future consideration.

3.2 Vet and Finalize the List:

- Perform stakeholder (AGC, BANN, Consultant) outreach “Roadshow” to gather key industry partner feedback on prioritized list of updates.
- After outreach reanalyze prioritization
- Review final list of updates and get concurrence from SRC liaisons.

Step 4: Research and Draft Updates

4.1 Subcommittee Development:

- Assign specific sections or topics to SRC team members based on their expertise.
- SRC will help in the development of subcommittees.

4.2 Conduct Research:

- Perform detailed research to ensure updates are based on the latest standards, technologies, and best practices.
- Coordinate with industry SMEs.

4.3 Draft Updates:

- Draft the proposed updates clearly and concisely.
- Ensure that each draft adheres to the format and style guidelines of the Re-baselined document.

Step 5: Reach Concurrence on Updates

5.1 Internal Review:

- Share the draft updates with the core review team for initial feedback and revisions.

5.2 Collaboration:

- Collaborate closely to address any discrepancies, concerns, or conflicts with existing specifications.
- Cooperate with SRC liaisons and key industry partners.
- Reach a consensus on the proposed updates.

5.3 Approval:

- Once consensus is reached, formally approve the updated drafts within the core review team.

Step 6: Vet Updates with Stakeholders

6.1 Identify Stakeholders:

- Identify all relevant stakeholders, including other external agencies, consultants, contractors, utilities, public works associations, materials suppliers, etc.

6.2 Distribute Drafts:

- Distribute the draft updates to the identified stakeholders for review and feedback.

6.3 Collect Feedback:

- Collect and compile feedback from all stakeholders (AGC, BANN, Consultants, APWA, ASCE).
- Address any comments, concerns, or suggestions.

6.4 Revise Drafts:

- Revise the draft updates based on stakeholder feedback.

Step 7: Final Review and Approval

7.1 Final Review:

- Conduct a final review of the revised drafts within the core review team.

7.2 Approval Process:

- SRC members agree on adoption of Orange Book update.

7.3 Document Changes:

- Document all changes made, including rationale and stakeholder feedback.
- Develop a change summary report.

Step 8: Publish and Communicate Updates

8.1 Publish Updated Document:

- Publish the updated specifications document in the designated format and platforms.

8.2 Communicate Changes:

- Communicate the changes to all relevant parties and stakeholders, including detailed summaries.

8.3 Training and Support:

- Provide presentations to support and ensure smooth adoption of the updated specifications.

Step 9: Monitor and Review

9.1 Monitor Implementation and Feedback:

- Monitor the implementation of the updated specifications to ensure compliance and identify any issues.
- Establish process for feedback and collection of input from users and stakeholders.

9.2 Plan for Future Updates:

- Keep records of feedback and start planning for the next update cycle (every 5 years) to ensure the document remains current and relevant.

Exhibit B

Schedule

Exhibit B

ID	Task Mode	Task Name	Duration	Start
1		Establish Review Team	72 days	Thu 5/23/24
2		SRC Initial Meeting	1 day	Thu 5/23/24
3		Consultant Procurement	40 days	Fri 6/21/24
4		Consultant Kickoff	1 day	Fri 8/16/24
5		Identify Industry Partners	10 days	Fri 8/16/24
6		SRC/SRC Liaison Kick-Off	1 day	Fri 8/30/24
7		Develop Baseline Document	45 days	Fri 8/16/24
8		Gather Existing Documents / Establish SRC Liaisons	1 day	Fri 8/16/24
9		Re-Baseline 2012 v8	45 days	Fri 8/16/24
10		Review and Analyze	95 days	Fri 10/18/24
11		Identify changes and improvements	45 days	Fri 10/18/24
12		Create list of of specs to update	5 days	Fri 12/20/24
13		Prioritize changes	5 days	Fri 12/27/24
14		Industry Partner Kick-Off/Feedback	20 days	Fri 1/3/25
15		Develop consensus on changes	20 days	Fri 1/31/25
16		Research and Draft Updates	105 days	Fri 2/28/25
17		Subcommittee Development	5 days	Fri 2/28/25
18		Research and Coordination	80 days	Fri 3/7/25
19		Draft Updates	80 days	Fri 4/4/25
20		Roadshow	80 days	Fri 3/7/25
21		Concurrence on Updates	45 days	Fri 7/25/25
22		Internal Review	20 days	Fri 7/25/25
23		Address concerns and conflicts	15 days	Fri 8/22/25
24		Approve Updates	10 days	Fri 9/12/25
25		Vet Updates with Stakeholders	95 days	Fri 9/26/25
26		Compile Updates with Re-Baseline	15 days	Fri 9/26/25
27		Stakeholder Review and Comment	60 days	Fri 10/17/25
28		Draft Revisions	20 days	Fri 1/9/26
29		Final Document Compilation	15 days	Fri 2/6/26
30		Change Summary Report	15 days	Fri 2/6/26
31		Publish Updated Orange Book	1 day	Fri 2/27/26



Project: Orange Book Update Process Schedule
Date: Wed 7/31/24

Task	Summary	Inactive Milestone	Duration-only	Start-only	External Milestone	Critical Split
Split	Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Deadline	Progress
Milestone	Inactive Task	Manual Task	Manual Summary	External Tasks	Critical	Manual Progress

Exhibit C

Fees

Engineering	Per Hour
Director	\$295
Group Manager	280
Project / Senior Project Manager	235/250
Staff / Project / Senior Engineer	185/200/215
Project / Senior Project Coordinator	180/190
Project / Senior Project Designer	160/170
Engineering Technician I / II / III	110/140/150

Construction/Testing/Inspection	Per Hour
Director	\$295
Materials Engineering Manager	255
Senior Project Manager	250
Geotechnical Engineer	200
Senior Project Coordinator	190
Geotechnician	170
Inspector / Senior Inspector	155/160
Construction Technician II /III	130/140
Materials Technician II / III	120/130

Surveying	Per Hour
Director	\$295
Project Manager	235
Photogrammetry Manager	190

Administrative	Per Hour
Administrative Support	\$125

**RTC Orange Book Update
Fee Breakdown - Exhibit C-2**

DATE: 7/3/2024

		MANAGEMENT		ENGINEERING			ADMIN	OTHER	TOTALS
BUDGET ESTIMATE	FEE	\$280	\$250	\$215	\$190	\$150	\$125		
TASK	TITLE	GROUP	SR. PROJECT	SR. PROJECT	SR. PROJECT	ENGR	ADMINISTRATOR	CONTINGENCY	TOTAL
		MANAGER	MANAGER	ENGINEER	COORDINATOR	TECH III			
1 - Project Management									
	Sub Total Hrs.	40	220						260
	Sub Total \$	\$11,200	\$55,000						\$66,200
2 - Develop Baseline Document									
	Sub Total Hrs.	10	30	120	30	110	20		320
	Sub Total \$	\$2,800	\$7,500	\$25,800	\$5,700	\$16,500	\$2,500		\$60,800
3 - Specifications Outreach and Update									
	Sub Total Hrs.	40	75	70	40	70	20		315
	Sub Total \$	\$11,200	\$18,750	\$15,050	\$7,600	\$10,500	\$2,500		\$65,600
4 - Stakeholder Vetting									
	Sub Total Hrs.	10	45	20	80	110			265
	Sub Total \$	\$2,800	\$11,250	\$4,300	\$15,200	\$16,500			\$50,050
5 - Finalize and Publish Update									
	Sub Total Hrs.	10	30		50	30	10		130
	Sub Total \$	\$2,800	\$7,500		\$9,500	\$4,500	\$1,250		\$25,550
6 - Contingency (OPTIONAL)									
	Sub Total Hrs.								
	Sub Total \$							\$15,000	\$15,000
	Total Hrs.	110	400	210	200	320	50		1290
TOTAL DESIGN SERVICES		\$30,800	\$100,000	\$45,150	\$38,000	\$48,000	\$6,250	\$15,000	\$283,200

Exhibit D

Indemnification and Insurance Requirements

ATTACHMENT D

INDEMNIFICATION AND INSURANCE REQUIREMENTS FOR PROFESSIONAL SERVICE AGREEMENTS [NRS 338 DESIGN PROFESSIONAL]

2022-07-08 Version

1. INTRODUCTION

IT IS HIGHLY RECOMMENDED THAT CONSULTANTS CONFER WITH THEIR INSURANCE CARRIERS OR BROKERS TO DETERMINE THE AVAILABILITY OF THESE INSURANCE CERTIFICATES AND ENDORSEMENTS IN ADVANCE OF PROPOSAL SUBMISSION. IF THERE ARE ANY QUESTIONS REGARDING THESE INSURANCE REQUIREMENTS, IT IS RECOMMENDED THAT THE AGENT/BROKER CONTACT RTC'S FINANCE DIRECTOR AT (775) 332-9511.

2. INDEMNIFICATION

CONSULTANT agrees, subject to the limitations in Nevada Revised Statutes Section 338.155, to save and hold harmless and fully indemnify RTC, including their elected officials, officers, employees, and agents (hereafter, "Indemnitees") from and against any and all claims, proceedings, actions, liability and damages, including reasonable attorneys' fees and defense costs incurred in any action or proceeding (collectively "Damages") arising out of the:

- A. Negligence, errors, omissions, recklessness or intentional misconduct of CONSULTANT or CONSULTANT's agents, employees, officers, directors, subconsultants, or anyone else for whom CONSULTANT may be legally responsible, which are based upon or arising out of the professional services of CONSULTANT; and
- B. Violation of law or any contractual provisions or any infringement related to trade names, licenses, franchises, patents or other means of protecting interests in products or inventions resulting from the use by the Indemnitees of any materials, devices, processes, equipment, or other deliverable (including software) supplied by CONSULTANT under or as a result of this Agreement, but excluding any violation or infringement resulting from the modification or alteration by the Indemnitees of any materials, devices, processes, equipment, or other deliverable (including software) not consented to by CONSULTANT.

CONSULTANT further agrees to defend, save and hold harmless and fully indemnify the Indemnitees from and against any and all Damages arising out the negligence, errors, omissions, recklessness or intentional misconduct of CONSULTANT or CONSULTANT's agents, employees, officers, directors, subconsultants, or anyone else for whom CONSULTANT may be legally responsible, which are not based upon or arising out of the professional services of CONSULTANT.

The Damages shall include, but are not limited to, those resulting from personal injury to any person, including bodily injury, sickness, disease or death and injury to real property or personal property, tangible or intangible, and the loss of use of any of that property, whether or not it is physically injured.

If the Indemnitees are involved in defending actions of CONSULTANT or anyone else for whom CONSULTANT is legally responsible, CONSULTANT shall reimburse the Indemnitees for the time spent by such personnel at the rate of the Indemnitees pay or compensation for such services.

If an Indemnitee is found to be liable in the proceeding, then CONSULTANT'S obligation hereunder shall be limited to the proportional share of the liability attributed to CONSULTANT.

In determining whether a claim is subject to indemnification, the incident underlying the claim shall determine the nature of the claim.

In the event of a violation or an infringement under paragraph 2.B above and the use is enjoined, CONSULTANT, at its sole expense, shall either (1) secure for the Indemnitees the right to continue using the materials by suspension of any injunction or by procuring a license or licenses for the Indemnitees; or (2) modify the materials so that they become non-infringing. This covenant shall survive the termination of the Professional Services Agreement.

The provisions of this Agreement are separate and severable and it is the intent of the Parties hereto that in the event any provision of this Agreement should be determined by any court of competent jurisdiction to be void, voidable or too restrictive for any reason whatsoever, the remaining provisions of this Agreement shall remain valid and binding upon said Parties. It is also understood and agreed that in the event any provision should be considered, by any court of competent jurisdiction, to be void because it imposes a greater obligation on CONSULTANT than is permitted by law, such court may reduce and reform such provisions to limitations which are deemed reasonable and enforceable by said court.

3. GENERAL REQUIREMENTS

Prior to the start of any work on a RTC project, CONSULTANT shall purchase and maintain insurance of the types and limits as described below insuring against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONSULTANT, its subconsultants, or their employees, agents, or representatives. The cost of all such insurance shall be borne by CONSULTANT.

4. VERIFICATION OF COVERAGE

CONSULTANT shall furnish RTC with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth herein, on forms acceptable to RTC. All deductibles and self-insured retentions requiring RTC approval shall be shown on the certificate. All certificates and endorsements are to be addressed to RTC's Finance Director and be received by RTC before work commences. Upon request, CONSULTANT agrees that RTC has the right to review CONSULTANT'S and the Sub's insurance policies, or certified copies of the policies. Copies of applicable policy forms or endorsements confirming required additional insured, waiver of subrogation and notice of cancellation provisions are required to be provided with any certificate(s) evidencing the required coverage.

5. NOTICE OF CANCELLATION

CONSULTANT or its insurers shall provide at least thirty (30) days' prior written notice to RTC prior to the cancellation or non-renewal of any insurance required under this Agreement. An exception may be included to provide at least ten (10) days' written notice if cancellation is due to non-payment of premium. CONSULTANT shall be responsible to provide prior written notice to RTC as soon as practicable upon receipt of any notice of cancellation, non-renewal, reduction in required limits or other material change in the insurance required under this Agreement.

6. SUBCONSULTANTS & SUBCONTRACTORS

CONSULTANT shall include all Subcontractors and Subconsultants (referred to collectively as "Subs") as insureds under its liability policies OR shall cause Subs employed by CONSULTANT to purchase and maintain separate liability coverages and limits of the types specified herein. If any Subs maintain separate liability coverages and limits, each shall include the RTC as additional insured under its commercial general liability policy, subject to the same requirements stated herein, without requiring a written contract or agreement between each of the additional insureds and any sub-consultant or sub-contractor. Any separate coverage limits of liability maintained by Subs shall be at least **\$1,000,000** per occurrence and at least **\$2,000,000** for any applicable coverage aggregates or the amount customarily carried by the Sub, whichever is GREATER. If any Subs provide their own insurance with limits less than required of the Contractor, Contractor shall include Subs in their coverage up to the full limits required of the Contractor. When requested by RTC, CONSULTANT shall furnish copies of certificates of insurance evidencing coverage for each subconsultant. CONSULTANT need not require its non-design subcontractors to carry Professional Errors and Omissions Liability insurance.

7. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions that exceed \$25,000 per occurrence or claim must be declared to RTC's Finance Director prior to signing this Agreement. RTC is entitled to request and receive additional documentation, financial or otherwise, prior to giving its approval of the deductibles and self-insured retentions. Any changes to the deductibles or self-insured retentions made during the term of this Agreement or during the term of any policy must be declared to RTC's Finance Director prior to the change taking effect.

8. ACCEPTABILITY OF INSURERS

Required insurance is to be placed with insurers with a Best's rating of no less than A-VII and acceptable to RTC. RTC may accept coverage with carriers having lower Best's ratings upon review of financial information concerning CONSULTANT and the insurance carrier. RTC reserves the right to require that CONSULTANT'S insurer(s) be licensed and admitted in the State of Nevada or meet any applicable state and federal laws and regulations for non-admitted insurance placements.

9. OTHER CONDITIONS

- A. Failure to furnish the required certificate(s) or failure to maintain the required insurance may result in termination of this Agreement at RTC's option.
- B. If CONSULTANT fails to furnish the required certificate or fails to maintain the required insurance as set forth herein, RTC shall have the right, but not the obligation, to purchase said insurance at CONSULTANT's expense.
- C. Any waiver of CONSULTANT's obligation to furnish such certificate or maintain such insurance must be in writing and signed by an authorized representative of RTC. Failure of RTC to demand such certificate or other evidence of full compliance with these insurance requirements or failure of RTC to identify a deficiency from evidence that is provided shall not be construed as a waiver of CONSULTANT's obligation to maintain such insurance, or as a waiver as to the enforcement of any of these provisions at a later date.
- D. By requiring insurance herein, RTC does not represent that coverage and limits will necessarily be adequate to protect CONSULTANT, and such coverage and limits shall not be deemed as a limitation on CONSULTANT's liability under the indemnities granted to RTC in this contract.
- E. If CONSULTANT'S liability policies do not contain the standard ISO separation of insureds condition, or a substantially similar clause, they shall be endorsed to provide cross-liability coverage.

10. COMMERCIAL GENERAL LIABILITY

CONSULTANT shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than **\$2,000,000** each occurrence. If such CGL insurance contains a general aggregate limit, it shall be increased to equal twice the required occurrence limit or revised to apply separately to this project.

CGL insurance shall be written on ISO occurrence form CG 00 01 04 13 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, products-completed operations, personal and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

RTC and any other Indemnitees listed in Section 2. INDEMNIFICATION of this Agreement shall be included as an additional insured under the CGL, using ISO additional insured endorsement CG 20 10 07/04 or CG 20 33 07/04 or a substitute providing equivalent coverage, and under the commercial umbrella, if any.

This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to RTC or any other Indemnitees under this Agreement.

CONSULTANT waives all rights against RTC and any other Indemnitees listed in section 2. INDEMNIFICATION of this Agreement for recovery of damages to the extent these damages are covered by the commercial general liability or commercial umbrella liability insurance maintained pursuant to this agreement. CONSULTANT's insurer shall endorse CGL policy to waive subrogation against RTC with respect to any loss paid under the policy.

11. COMMERCIAL AUTOMOBILE LIABILITY

CONSULTANT shall maintain automobile liability and, if necessary, commercial umbrella liability insurance with a limit of not less than **\$1,000,000** each accident. Such insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos).

Coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 25, or a substitute form providing equivalent liability coverage for all owned, leased, hired (rented) and non-owned vehicles (as applicable). RTC may agree to accept auto liability for non-owned and hired (rented) vehicles under the CGL if CONSULTANT does not own or operate any owned or leased vehicles.

CONSULTANT waives all rights against RTC, its officers, employees and volunteers for recovery of damages to the extent these damages are covered by the automobile liability or commercial umbrella liability insurance obtained by CONSULTANT pursuant to this Agreement.

12. INDUSTRIAL (WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY) INSURANCE

It is understood and agreed that there shall be no Industrial (Worker's Compensation and Employer's Liability) Insurance coverage provided for CONSULTANT or any subconsultants by RTC. CONSULTANT, and any subconsultants, shall procure, pay for and maintain the required coverages.

CONSULTANT shall maintain workers' compensation and employer's liability insurance meeting the statutory requirements of the State of Nevada, including but not limited to NRS 616B.627 and NRS 617.210. The employer's liability limits shall not be less than **\$1,000,000** each accident for bodily injury by accident or **\$1,000,000** each employee for bodily injury by disease.

CONSULTANT shall provide a Final Certificate for itself and each subconsultant evidencing that CONSULTANT and each subconsultant maintained workers' compensation and employer's liability insurance throughout the entire course of the project.

If CONSULTANT, or any subconsultant is a sole proprietor, coverage for the sole proprietor must be purchased and evidence of coverage must appear on the Certificate of Insurance and Final Certificate.

CONSULTANT waives all rights against RTC, its elected officials, officers, employees and agents for recovery of damages to the extent these damages are covered by the workers compensation and employer's liability or commercial umbrella liability insurance obtained by Tenant pursuant to this agreement. CONSULTANT shall obtain an endorsement equivalent to WC 00 03 13 to affect this waiver.

13. PROFESSIONAL ERRORS AND OMISSIONS LIABILITY

CONSULTANT shall maintain professional liability insurance applying to liability for a professional error, omission, or negligent act arising out of the scope of CONSULTANT'S services provided under this Agreement with a limit of not less than **\$1,000,000** each claim and annual aggregate. CONSULTANT shall maintain professional liability insurance during the term of this Agreement and, if coverage is provided on a "claims made" or "claims made and reported" basis, shall maintain coverage or purchase an extended reporting period for a period of at least three (3) years following the termination of this Agreement.



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.4.3

To: Regional Transportation Commission

From: LaShonn Ford, Project Manager

SUBJECT: Sparks Boulevard / Ion Drive Traffic Signal Project PSA

RECOMMENDED ACTION

Approve a contract with Headway Transportation, LLC for design and optional engineering during construction services (EDC) for the Sparks Boulevard / Ion Drive Traffic Signal Project, and to perform various traffic studies, in an amount not-to-exceed \$449,300.

BACKGROUND AND DISCUSSION

This Professional Services Agreement (PSA) with Headway Transportation, LLC, is for professional design services for the Sparks Boulevard/Ion Drive Traffic Signal Project in the amount of \$183,140, optional engineering during construction services (EDC) in the amount of \$140,300, and various traffic studies in the amount of \$95,860. Project contingency in the amount of \$30,000 is also included in the agreement. The project includes the design and construction of a new traffic signal on Sparks Boulevard at the Ion Drive/Sawgrass Lane intersection in order to improve safety and traffic operations. Additionally, Headway Transportation, LLC will perform traffic studies at several locations in order to identify possible future traffic engineering improvements.

Headway Transportation, LLC, was selected from the qualified Traffic Engineering Design and Construction Management Services list to perform engineering, construction management, and quality assurance. Headway Transportation's scope, schedule, and budget indicated the amount for design services is within the appropriated budget.

- Design Kickoff: September 2024
 - 50% Design Submittal: January 2025
 - 100% Design Submittal: May 2025
 - Construction: Fall 2025
-

FISCAL IMPACT

Fuel tax appropriations for this item are included in the FY 2025 budget.

PREVIOUS BOARD ACTION

12/17/2021 Authorized the procurement of a qualified list of consultants to provide civil engineering, design, and construction management services for the Traffic Engineering Program and the Intelligent Transportation Systems (ITS) Program.

**AGREEMENT
FOR
PROFESSIONAL SERVICES**

This agreement (this “Agreement”) is dated and effective as of _____, 2024, by and between the Regional Transportation Commission of Washoe County (“RTC”) and Headway Transportation, LLC (“CONSULTANT”).

WITNESSETH:

WHEREAS, RTC has selected CONSULTANT from the 22-07 Traffic Engineering Design and Construction Management Services shortlist to perform engineering design, Engineering During Construction (EDC), and traffic studies in connection with the SPARKS / ION TRAFFIC SIGNAL PROJECT.

NOW, THEREFORE, RTC and CONSULTANT, in consideration of the mutual covenants and other consideration set forth herein, do hereby agree as follows:

ARTICLE 1 – TERM AND ENGAGEMENT

- 1.1. The term of this Agreement shall be from the date first written above through June 30, 2026, unless terminated at an earlier date, or extended to a later date, pursuant to the provisions herein.
- 1.2. CONSULTANT will perform the work using the project team identified in Exhibit B. Any changes to the project team must be approved by RTC’s Project Manager.
- 1.3. CONSULTANT will promptly, diligently and faithfully execute the work to completion in accordance with applicable professional standards subject to any delays due to strikes, acts of God, act of any government, civil disturbances, or any other cause beyond the reasonable control of CONSULTANT.
- 1.4. CONSULTANT shall not proceed with work until both parties have executed this Agreement and a purchase order has been issued to CONSULTANT. If CONSULTANT violates that prohibition, CONSULTANT forfeits any and all right to reimbursement and payment for that work and waives any and all claims against RTC, its employees, agents, and affiliates, including but not limited to monetary damages, and any other remedy available at law or in equity arising under the terms of this Agreement. Furthermore, prior to execution and issuance of a purchase order, CONSULTANT shall not rely on the terms of this Agreement in any way, including but not limited to any written or oral representations, assurances or warranties made by RTC or any of its agents, employees or affiliates, or on any dates of performance, deadlines, indemnities, or any term contained in this Agreement or otherwise.

ARTICLE 2 - SERVICES OF CONSULTANT

2.1. SCOPE OF SERVICES

The scope of services consist of the tasks set forth in Exhibit A.

2.2. SCHEDULE OF SERVICES

Tasks and subtasks shall be completed in accordance with the schedule in Exhibit A. Any change(s) to the schedule must be approved by RTC's Project Manager.

2.3. CONTINGENCY

Contingency line items identified in the scope of services are for miscellaneous increases within the scope of work. Prior to the use of any contingency amounts, CONSULTANT shall provide a letter to RTC's Project Manager detailing the need, scope, and not-to-exceed budget for the proposed work. Work to be paid for out of contingency shall proceed only with the RTC Project Manager's written approval.

2.4. OPTIONS

RTC shall have the right to exercise its option(s) for all or any part of the optional tasks or subtasks identified in Exhibit A. CONSULTANT will prepare and submit a detailed scope of services reflecting the specific optional services requested, a schedule for such services, and a cost proposal. RTC will review and approve the scope of services and RTC and CONSULTANT will discuss and agree upon compensation and a schedule. CONSULTANT shall undertake no work on any optional task without written notice to proceed with the performance of said task. RTC, at its sole option and discretion, may select another individual or firm to perform the optional tasks or subtasks identified in Exhibit A.

2.5. ADDITIONAL SERVICES

CONSULTANT will provide additional services when agreed to in writing by RTC and CONSULTANT.

2.6. PERFORMANCE REQUIREMENTS

Any and all design and engineering work furnished by CONSULTANT shall be performed by or under the supervision of persons licensed to practice architecture, engineering, or surveying (as applicable) in the State of Nevada, by personnel who are careful, skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the work, and who shall assume professional responsibility for the accuracy and completeness of documents prepared or checked by them, in accordance with appropriate prevailing professional standards. Notwithstanding the provision of any drawings, technical specifications, or other data by RTC, CONSULTANT shall have the

responsibility of supplying all items and details required for the deliverables required hereunder.

Any sampling and materials testing shall be performed by an approved testing laboratory accredited by AASHTO or other ASTM recognized accrediting organization in the applicable test methods. If any geotechnical or materials testing is performed by a sub-consultant, that laboratory shall maintain the required certification. Proof of certification shall be provided to RTC with this Agreement. If certification expires or is removed during the term of this Agreement, CONSULTANT shall notify RTC immediately, and propose a remedy. If an acceptable remedy cannot be agreed upon by both parties, RTC may terminate this Agreement for default.

CONSULTANT shall provide only Nevada Alliance for Quality Transportation Construction (NAQTC) qualified personnel to perform field and laboratory sampling and testing during the term of this Agreement. All test reports shall be signed by a licensed NAQTC tester and notated with his/her license number.

2.7. ERRORS AND OMISSIONS

CONSULTANT shall, without additional compensation, correct or revise any deficiencies, errors, or omissions caused by CONSULTANT in its analysis, reports, and services. CONSULTANT also agrees that if any error or omission is found, CONSULTANT will expeditiously make the necessary correction, at no expense to RTC. If an error or omission was directly caused by RTC, and not by CONSULTANT and RTC requires that such error or omission be corrected, CONSULTANT may be compensated for such additional work.

ARTICLE 3 - COMPENSATION

3.1. CONSULTANT shall be paid for hours worked at the hourly rates and rates for testing in Exhibit B. RTC shall not be responsible for any other costs or expenses except as provided in Exhibit B.

3.2. The maximum amount payable to CONSULTANT to complete each task is equal to the not-to-exceed amounts identified in Exhibit B. CONSULTANT can request in writing that RTC's Project Manager reallocate not-to-exceed amounts between tasks. A request to reallocate not-to-exceed amounts must be accompanied with a revised fee schedule, and must be approved in writing by RTC's Project Manager prior to performance of the work. In no case shall CONSULTANT be compensated in excess of the following not-to exceed amounts:

Design Services	\$279,000.00
Design Contingency	\$20,000.00
Optional Engineering During Construction Services	\$140,300.00
<u>Engineering During Construction Services Contingency</u>	<u>\$10,000.00</u>
Total Not-to-Exceed Amount	\$449,300.00

- 3.3. For any work authorized under Section 2.5, "Additional Services," RTC and CONSULTANT will negotiate not-to-exceed amounts based on the standard hourly rates and rates for testing in Exhibit B. Any work authorized under Section 2.5, "Additional Services," when performed by persons who are not employees or individuals employed by affiliates of CONSULTANT, will be billed at a mutually agreed upon rate for such services, but not more than 105% of the amounts billed to CONSULTANT for such services.
- 3.4. CONSULTANT shall receive compensation for preparing for and/or appearing in any litigation at the request of RTC, except: (1) if such litigation costs are incurred by CONSULTANT in defending its work or services or those of any of its sub-consultants; or (2) as may be required by CONSULTANT's indemnification obligations. Compensation for litigation services requested by RTC shall be paid at a mutually agreed upon rate and/or at a reasonable rate for such services.

ARTICLE 4 - INVOICING

- 4.1. CONSULTANT shall submit monthly invoices in the format specified by RTC. Invoices must be submitted to accountspayable@rtcwashoe.com. RTC's payment terms are 30 days after the receipt of the invoice. Simple interest will be paid at the rate of half a percent (0.5%) per month on all invoices approved by RTC that are not paid within thirty (30) days of receipt of the invoice.
- 4.2. RTC shall notify CONSULTANT of any disagreement with any submitted invoice for consulting services within thirty (30) days of receipt of an invoice. Any amounts not in dispute shall be promptly paid by RTC.
- 4.3. CONSULTANT shall maintain complete records supporting every request for payment that may become due. Upon request, CONSULTANT shall produce all or a portion of its records and RTC shall have the right to inspect and copy such records.

ARTICLE 5 - ACCESS TO INFORMATION AND PROPERTY

- 5.1. Upon request and without cost to CONSULTANT, RTC will provide all pertinent information that is reasonably available to RTC including surveys, reports and any other data relative to design and construction.
- 5.2. RTC will provide access to and make all provisions for CONSULTANT to enter upon RTC facilities and public lands, as required for CONSULTANT to perform its work under this Agreement.

ARTICLE 6 - OWNERSHIP OF WORK

- 6.1. Plans, reports, studies, tracings, maps, software, electronic files, licenses, programs, equipment manuals, and databases and other documents or instruments of service prepared or obtained by CONSULTANT in the course of performing work under this Agreement, shall be delivered to and become the property of RTC. Software already developed and purchased by CONSULTANT prior to the Agreement is excluded from this requirement.

CONSULTANT and its sub-consultants shall convey and transfer all copyrightable interests, trademarks, licenses, and other intellectual property rights in such materials to RTC upon completion of all services under this Agreement and upon payment in full of all compensation due to CONSULTANT in accordance with the terms of this Agreement. Basic survey notes, sketches, charts, computations and similar data prepared or obtained by CONSULTANT under this Agreement shall, upon request, also be provided to RTC.

- 6.2. CONSULTANT represents that it has secured all necessary licenses, consents, or approvals to use the components of any intellectual property, including computer software, used in providing services under this Agreement, that it has full legal title to and the right to reproduce such materials, and that it has the right to convey such title and other necessary rights and interests to RTC.
- 6.3. CONSULTANT shall bear all costs arising from the use of patented, copyrighted, trade secret, or trademarked materials, equipment, devices, or processes used on or incorporated in the services and materials produced under this Agreement.
- 6.4. CONSULTANT agrees that all reports, communications, electronic files, databases, documents, and information that it obtains or prepares in connection with performing this Agreement shall be treated as confidential material and shall not be released or published without the prior written consent of RTC; provided, however, that CONSULTANT may refer to this scope of work in connection with its promotional literature in a professional and commercially reasonable manner. The provisions of this subsection shall not apply to information in whatever form that comes into the public domain. The provisions of this paragraph also shall not restrict CONSULTANT from giving notices required by law or complying with an order to provide information or data when such order is issued by a court, administrative agency, or other entity with proper jurisdiction, or if it is reasonably necessary for CONSULTANT to defend itself from any suit or claim.

ARTICLE 7 - TERMINATION

7.1. CONTRACT TERMINATION FOR DEFAULT

If CONSULTANT fails to perform services in the manner called for in this Agreement or if CONSULTANT fails to comply with any other provisions of this Agreement, RTC may terminate this Agreement for default. Termination shall be effected by serving a notice of termination on CONSULTANT setting forth the manner in which CONSULTANT is in default. CONSULTANT will only be paid the contract price for services delivered and accepted, or services performed in accordance with the manner of performance set forth in this Agreement.

If it is later determined by RTC that CONSULTANT had an excusable reason for not performing, such as a fire, flood, or events which are not the fault of or are beyond the control of CONSULTANT, RTC, after setting up a new performance schedule, may allow CONSULTANT to continue work, or treat the termination as a termination for convenience.

7.2. CONTRACT TERMINATION FOR CONVENIENCE

RTC may terminate this Agreement, in whole or in part, at any time by written notice to CONSULTANT when it is in RTC's best interest. CONSULTANT shall be paid its costs, including contract closeout costs, and profit on work performed up to the time of termination. CONSULTANT shall promptly submit its termination claim to RTC to be paid CONSULTANT. If CONSULTANT has any property in its possession belonging to RTC, CONSULTANT will account for the same, and dispose of it in the manner RTC directs.

ARTICLE 8 - INSURANCE

- 8.1. CONSULTANT shall not commence any work or permit any employee/agent to commence any work until satisfactory proof has been submitted to RTC that all insurance requirements have been met.
- 8.2. In conjunction with the performance of the services/work required by the terms of this Agreement, CONSULTANT shall obtain all types and amounts of insurance set forth in Exhibit C, and shall comply with all provisions set forth therein.

ARTICLE 9 - HOLD HARMLESS

- 9.1. CONSULTANT's obligation under this provision is as set forth in Exhibit C. Said obligation would also extend to any liability of RTC resulting from any action to clear any lien and/or to recover for damage to RTC property.

ARTICLE 10 - EQUAL EMPLOYMENT OPPORTUNITY

- 10.1. During the performance of this Agreement, CONSULTANT agrees not to discriminate against any employee or applicant for employment because of race, color, religion, sex, age, disability, or national origin. CONSULTANT will take affirmative action to ensure that applicants are employed, and that employees are treated fairly during employment, without regard to their race, color, religion, sex, age, disability, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. CONSULTANT agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by RTC setting forth the provisions of this nondiscrimination clause.
- 10.2. CONSULTANT will, in all solicitations or advertisements for employees placed by or on behalf of CONSULTANT, state that well qualified applicants will receive consideration of employment without regard to race, color, religion, sex, age, disability, or national origin.
- 10.3. CONSULTANT will cause the foregoing provisions to be inserted in all sub-agreements for any work covered by this Agreement so that such provisions will be binding upon each sub-consultant.

ARTICLE 11 - RESOLUTION OF CLAIMS AND DISPUTES

11.1. NEGOTIATED RESOLUTION

In the event that any dispute or claim arises under this Agreement, the parties shall timely cooperate and negotiate in good faith to resolve any such dispute or claim. Such cooperation shall include providing the other party with all information in order to properly evaluate the dispute or claim and making available the necessary personnel to discuss and make decisions relative to the dispute or claim.

11.2. MEDIATION

If the parties have been unable to reach an informal negotiated resolution to the dispute or claim within thirty (30) days following submission in writing of the dispute or claim to the other party, or such longer period of time as the parties may agree to in writing, either party may then request, in writing, that the dispute or claim be submitted to mediation (the "Mediation Notice"). After the other party's receipt or deemed receipt of the Mediation Notice, the parties shall endeavor to agree upon a mutually acceptable mediator, but if the parties have been unable to agree upon a mediator within ten (10) days following receipt of the Mediation Notice, then each party shall select a mediator and those two selected mediators shall select the mediator. A mediator selected by the parties' designated mediators shall meet the qualification set forth in as provided in Rule 4 of Part C., "Nevada Mediation Rules" of the "Rules Governing Alternative Dispute Resolutions adopted by the Nevada Supreme Court." Unless otherwise agreed to by the parties, in writing, the mediator shall have complete discretion over the conduct of the mediation proceeding. Unless otherwise agreed to by the parties, in writing, the mediation proceeding must take place within thirty (30) days following appointment of the mediator. The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in Washoe County, Nevada, unless otherwise agreed to by the parties, in writing. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

11.3. LITIGATION

In the event that the parties are unable to settle and/or resolve the dispute or claim as provided above, then either party may proceed with litigation in the Second Judicial District Court of the State of Nevada, County of Washoe.

11.4. CONTINUING CONTRACT PERFORMANCE

During the pendency of any dispute or claim the parties shall proceed diligently with performance of this Agreement and such dispute or claim shall not constitute an excuse or defense for a party's nonperformance or delay.

ARTICLE 12 – PROJECT MANAGERS

- 12.1. RTC’s Project Manager is LaShonn Ford or such other person as is later designated in writing by RTC. RTC’s Project Manager has authority to act as RTC’s representative with respect to the performance of this Agreement.
- 12.2. CONSULTANT’ Project Manager is Loren Chilson or such other person as is later designated in writing by CONSULTANT. CONSULTANT’s Project Manager has authority to act as CONSULTANT’s representative with respect to the performance of this Agreement.

ARTICLE 13 - NOTICE

- 13.1. Notices required under this Agreement shall be given as follows:

RTC: Bill Thomas, AICP
Executive Director
LaShonn Ford, PE
RTC Project Manager
Regional Transportation Commission
1105 Terminal Way
Reno, Nevada 89502
Email: lford@rtcwashoe.com
(775) 322-2136

CONSULTANT: Loren Chilson, PE
Principal
Headway Transportation, LLC
5482 Longley Lane, Suite B
Reno, Nevada 89511
Email: lchilson@headwaytransportation.com
Phone: (775) 322-4300

ARTICLE 14 - DELAYS IN PERFORMANCE

- 14.1. TIME IS OF THE ESSENCE

It is understood and agreed that all times stated and referred to herein are of the essence. The period for performance may be extended by RTC’s Executive Director pursuant to the process specified herein. No extension of time shall be valid unless reduced to writing and signed by RTC’s Executive Director.

- 14.2. UNAVOIDABLE DELAYS

If the timely completion of the services under this Agreement should be unavoidably delayed, RTC may extend the time for completion of this Agreement for not less than the number of days CONSULTANT was excusably delayed. A delay is unavoidable only if the delay is not reasonably expected to occur in connection with or during

CONSULTANT's performance, is not caused directly or substantially by acts, omissions, negligence or mistakes of CONSULTANT, is substantial and in fact causes CONSULTANT to miss specified completion dates, and cannot adequately be guarded against by contractual or legal means.

14.3. NOTIFICATION OF DELAYS

CONSULTANT shall notify RTC as soon as CONSULTANT has knowledge that an event has occurred or otherwise becomes aware that CONSULTANT will be delayed in the completion of the work. Within ten (10) working days thereafter, CONSULTANT shall provide such notice to RTC, in writing, furnishing as much detail on the delay as possible and requesting an extension of time.

14.4. REQUEST FOR EXTENSION

Any request by CONSULTANT for an extension of time to complete the work under this Agreement shall be made in writing to RTC. CONSULTANT shall supply to RTC documentation to substantiate and justify the additional time needed to complete the work and shall provide a revised schedule. RTC shall provide CONSULTANT with notice of its decision within a reasonable time after receipt of a request.

ARTICLE 15 - GENERAL PROVISIONS

15.1. SUCCESSORS AND ASSIGNS

RTC and CONSULTANT bind themselves and their successors and assigns to the other party and to the successors and assigns of such party, with respect to the performance of all covenants of this Agreement. Except as set forth herein, neither RTC nor CONSULTANT shall assign or transfer interest in this Agreement without the written consent of the other. Nothing herein shall be construed as creating a personal liability on the part of any officer or agent or any public body which may be a party hereto, nor shall it be construed as giving any rights or benefits hereunder to anyone other than RTC and CONSULTANT.

15.2. NON TRANSFERABILITY

This Agreement is for CONSULTANT's professional services, and CONSULTANT's rights and obligations hereunder may not be assigned without the prior written consent of RTC.

15.3. SEVERABILITY

If any part, term, article, or provision of this Agreement is, by a court of competent jurisdiction, held to be illegal, void, or unenforceable, or to be in conflict with any law of the State of Nevada, the validity of the remaining provisions or portions of this Agreement are not affected, and the rights and obligations of the parties shall be construed and enforced as if this Agreement did not contain the particular part, term, or provision held invalid.

15.4. RELATIONSHIP OF PARTIES

CONSULTANT is an independent contractor to RTC under this Agreement. Accordingly, CONSULTANT is not entitled to participate in any retirement, deferred compensation, health insurance plans or other benefits RTC provides to its employees. CONSULTANT shall be free to contract to provide similar services for others while it is under contract to RTC, so long as said services and advocacy are not in direct conflict, as determined by RTC, with services being provided by CONSULTANT to RTC.

15.5. WAIVER/BREACH

Any waiver or breach of a provision in this Agreement shall not be deemed a waiver of any other provision in this Agreement and no waiver is valid unless in writing and executed by the waiving party. An extension of the time for performance of any obligation or act shall not be deemed an extension of time for the performance of any other obligation or act. This Agreement inures to the benefit of and is binding upon the parties to this Agreement and their respective heirs, successors and assigns.

15.6. REGULATORY COMPLIANCE

- A. CONSULTANT shall comply with all applicable federal, state and local government laws, regulations and ordinances. CONSULTANT shall be responsible for obtaining all necessary permits and licenses for performance of services under this Agreement. Upon request of RTC, CONSULTANT shall furnish RTC certificates of compliance with all such laws, orders and regulations.
- B. CONSULTANT represents and warrants that none of the services to be rendered pursuant to this Agreement constitute the performance of public work, as that term is defined by Section 338.010(17) of the Nevada Revised Statutes. To the extent CONSULTANT does engage in such public work, CONSULTANT shall be responsible for paying the prevailing wage as required by Chapter 338 of the Nevada Revised Statutes.

15.7. EXCLUSIVE AGREEMENT

There are no verbal agreements, representations or understandings affecting this Agreement, and all negotiations, representations and undertakings are set forth herein with the understanding that this Agreement constitutes the entire understanding by and between the parties.

15.8. AMENDMENTS

No alteration, amendment or modification of this Agreement shall be effective unless it is in writing and signed by both parties.

15.9. CONTINUING OBLIGATION

CONSULTANT agrees that if, because of death or any other occurrence it becomes impossible for any principal or employee of CONSULTANT to render the services required under this Agreement, neither CONSULTANT nor the surviving principals shall be relieved of any obligation to render complete performance. However, in such event, RTC may terminate this Agreement if it considers the death or incapacity of such principal or employee to be a loss of such magnitude as to affect CONSULTANT's ability to satisfactorily complete the performance of this Agreement.

15.10. APPLICABLE LAW AND VENUE

The provisions of this Agreement shall be governed and construed in accordance with the laws of the State of Nevada. The exclusive venue and court for all lawsuits concerning this Agreement shall be the Second Judicial District Court of the State of Nevada, County of Washoe, and the parties hereto submit to the jurisdiction of that District Court.

15.11. ATTORNEYS' FEES

In the event of a dispute between the parties result in a proceeding in any Court of Nevada having jurisdiction, the prevailing party shall be entitled to an award of costs and any reasonable attorneys' fees.

15.12. CERTIFICATION REQUIRED BY NEVADA SENATE BILL 27 (2017)

CONSULTANT expressly certifies and agrees, as a material part of this Agreement, that it is not currently engaged in a boycott of Israel. CONSULTANT further agrees, as a material part of this Agreement, it will not engage in a boycott of Israel for the duration of this Agreement. If, at any time during the formation or duration of this Agreement, CONSULTANT is engaged or engages in a boycott of Israel, it will constitute a material breach of this Agreement.

///
///
///
///
///

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement the day and year first above written.

REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY

By: _____
Bill Thomas, AICP, Executive Director

HEADWAY TRANSPORTATION, LLC

By: _____
Loren E. Chilson, PE, Principal

Exhibit A

Scope of Services

EXHIBIT A
SCOPE OF SERVICES
FOR
SPARKS / ION TRAFFIC SIGNAL PROJECT

DESIGN SERVICES

CONSULTANT will provide design, plans, specifications, and engineer's estimates for traffic signal construction at the Sparks Blvd/Ion Drive intersection and minor geometric revisions of the intersection.

CONSULTANT will also provide traffic studies for the following intersections:

- Sullivan Ln/Byrd Dr (Intersection Control Evaluation)
- Robb Dr/7th Street (Intersection Control Evaluation)
- McCarran Blvd/Mae Anne Ave (Operations Study to evaluate feasibility of converting eastbound Mae Anne to triple left turn lanes by converting the through lane to a left-through lane and associated signal phasing changes)
- Sharlands Ave/Ambassador Dr (Signal Warrant Study)
- N. Virginia St/Talus Way (Signal Warrant Study)
- Sparks Blvd/Henry Orr Parkway (Signal Warrant Study)

The traffic study locations may be revised through mutual consent of the RTC and CONSULTANT prior to CONSULTANT beginning work at a study location.

Task 1 - Project Management

1. Coordination with RTC project manager and staff will be ongoing throughout the project. Project management and coordination meetings or conference calls will be held with the RTC and other agencies/parties as necessary. CONSULTANT will coordinate kick-off meeting and hold progress meetings during the course of the project. A 30-minute coordination/status meeting once per month is included.
2. Coordination with Utilities and appropriate agencies will be ongoing throughout the project. Coordination with property owners will also be performed throughout this project to keep owners apprised of the project and address access to their personal sites.

CONSULTANT will organize and attend up to four (4) agency coordination meetings.

Deliverables:

Invoicing and progress reports.

Task 2 - Preliminary Design (50% & 90%)

1. Investigate Existing Conditions and Field Inventory

CONSULTANT will evaluate the existing intersection conditions and determine potential issues associated with constructing a signal system and other contemplated improvements.

2. Topographic Survey

CONSULTANT will perform a Topographic Survey locating the physical features in the Sparks Blvd / Ion Drive intersection area.

3. Subsurface Utility Investigation/Depiction

CONSULTANT will investigate and locate subsurface utilities within the roadway right-of-way, and areas reasonably affected, in accordance with the American Society of Civil Engineers Standard guideline for the Collection and Depiction of Existing Subsurface Utility Data, Quality Level C. Additionally, CONSULTANT will coordinate with Utility Owners to remove lids of surface features and document depth of utility device, or invert of pipe, within such surface features. Deliverables will include a depiction of subsurface utilities on the plan sheets.

Potholing is not included in this scope of work but can be included under the design contingency task if deemed necessary by RTC and CONSULTANT.

4. Utility Coordination

Based on field investigation, CONSULTANT will provide the RTC with a list of utility companies whose utilities are likely to be within the project limits or reasonably affected by the project. RTC will issue the initial notification to the utility agencies on the list and CONSULTANT will coordinate with the utility agencies for upcoming work, facility relocation and new installation, and to ensure utilities likely affected by the project are included in the plans, evaluate potential conflicts through field investigation, and investigate conflict resolution strategies.

CONSULTANT will provide utility coordination and manage utility permitting.

5. Right-of-Way and Easements

CONSULTANT will conduct a Boundary Survey of existing right-of-way and easement information and identify where existing and new equipment may be, or need to be located, outside existing right-of-way/easements. If right-of-way or new easements are to be acquired, CONSULTANT will provide title reports, legal descriptions/exhibits, and supporting items. CONSULTANT will not be required to set parcel corners or file a Record of Survey, the boundary information will be used and shown on the topographic map.

The Washoe County assessor's parcel lines/maps will be used as the first review step. Findings will be reported to the RTC project manager. This task includes up to four (4) title reports and four (4) legal descriptions. Additional locations, if any, are to be included under the design contingency task.

6. Plans, Specifications, and Estimates (50% & 90%)

Prior to beginning the traffic signal design work, CONSULTANT will prepare a 30% geometric design of the Sparks Blvd/Ion Drive proposed intersection revisions for agency approval. The geometric plan will illustrate revisions to channelized right turn lane islands, addition of a left turn lane on Sawgrass Lane, crosswalks on all four legs, and revisions to through lanes and buffer areas to add right turn lanes on Sparks Blvd if possible.

Prepare preliminary plans, an outline of technical specifications, and a preliminary cost estimate suitable for RTC and Local Agency review. Construction plans shall cover an area sufficient for contractor's later use as a base for traffic control plans, e.g., coverage should include traffic control taper areas across intersections.

A geometric plan will be provided at the 30% design level. Submittals of the traffic signal PS&E package will be made at the 50% and 90% design levels.

CONSULTANT will prepare 11" x 17" format plan sheets for the Sparks Blvd / Ion Drive intersection.

CONSULTANT will perform a project walk through prior to the 90% submittal to evaluate that every aspect of the project scope has been captured.

Develop quantities and opinion of probable costs for major items of work.

Upon receipt of comments from the RTC and City of Sparks, CONSULTANT will incorporate comments into the final design.

Deliverables:

Electronic copies of plans in PDF format to each reviewing agency and the RTC.

Task 3 - Final Design

1. Prepare Final Plans and Specifications

- a. Prepare Final Construction Plans, Contract Documents, and Technical Specifications suitable for construction bid advertisement for the selected intersection improvements in accordance with RTC standards and requirements. RTC will provide the boilerplate Contract Documents in MS Word format. The RTC, Local Entity, and Quality Control review comments will be incorporated into the Final Plans and Specifications.

The final construction plans will be on 11" x 17" size sheets and will show all elements of the project construction, including signal modifications, trenching, signing and striping, right-of-way lines, and surface treatments. The final plan set will include, as a minimum:

- Cover Sheet
- Location Map
- Notes & Details Sheets
- Technical Specifications
- Intersection Modification Plan Sheets
- Traffic Signal Plan Sheets
- Pedestrian Ramp Grading
- Signing & Striping Plan Sheets

The Contract Documents and Technical Specifications will reference the latest edition of Standard Specifications for Public Works Construction (Orange Book) for standard construction items. Technical provisions will be prepared for approved deviations from the Orange Book and unique construction items not adequately covered in the Orange Book. The final plans and specifications will be signed and sealed by a Nevada Registered Professional Civil Engineer in responsible charge of preparation. Plans and specifications will be submitted to the RTC, Local Entities, and other affected parties for review at the 50%, 90%, and 100% stages of completion per the following:

- Electronic (pdf) plans and specifications will be acceptable unless hard copies are specifically requested.
- 50% & 90% Plans – One 11" x 17" set to RTC, agencies, and other affected parties
- 90% Specifications – One set each to RTC and the local agency(s)
- 100% Plans – One 11"x17" set each to RTC and the local agency(s)
- 100% Specifications – One set each to RTC and the local agency(s)
- Final Working Plan Set – One 11"x17" set each to RTC and the local agency(s)
- Final Working Specification Document – One set each to RTC and the local agency(s), one copy in MS Word format of the Contract Documents and Technical Specifications to RTC.

- b. Independent Checker. An independent reviewer will check each plan sheet. A quality control review of the plans, contract documents and technical specifications will be performed which will focus on technical aspects of the plans and specifications and will ensure that all items of work are adequately covered.
2. Final Engineer's Opinion of Probable Construction Costs and Time.

Provide a final Engineer's opinion of probable construction costs for the project based on the final design and any alternatives or options. The cost opinion will be in the same format as the bid proposal form included in the contract documents. A quality control review of the cost opinion will be performed by the CONSULTANT. The CONSULTANT will also estimate the number of working or calendar days, as appropriate, for the construction of the project.

Deliverables:

Electronic copies of PS&E package in PDF format to each reviewing agency and the RTC. One copy in MS Word format of the Contract Documents and Technical Specifications to RTC. Final Engineer's Estimate.

Task 4 - Bidding Services

1. Plan Set and Specification Distribution

CONSULTANT will provide the RTC with final plans and specifications, including addenda, in Portable Document Format (PDF), for use in the Procureware system.

2. Pre-bid Meeting

CONSULTANT will be available during the bidding process to answer technical questions and will conduct the pre-bid meeting. RTC will prepare the pre-bid meeting agenda. All questions and responses will be documented and provided to RTC. CONSULTANT will prepare and provide PDF addenda, if required. All questions regarding legal aspects of the contract documents will be referred directly to RTC. CONSULTANT will prepare and provide a PDF summary of the pre-bid meeting, as directed by the RTC.

3. Bid Opening & Award Support

CONSULTANT will attend the bid opening and review the bids received for irregularities and provide a recommendation for award. CONSULTANT will tabulate bid results into a MS Excel spreadsheet and check multiplication and addition of bid items for mathematical accuracy.

Task 5 - Traffic Studies

1. Intersection Control Evaluation (ICE) Studies

The study intersections are: Sullivan Ln/Byrd Dr and Robb Dr/7th Street

CONSULTANT will provide a basic synopsis of intersection control options, identify potential improvements to address key issues, and provide a basic ICE study outlining the justification for the recommended improvements.

Basic ICE study work will include: AM and PM peak hour traffic counts, operations analysis, preliminary signal warrant analysis (4-hour vehicular volume), traffic volume forecasting, alternatives development, preliminary layout for up to two (2) configurations (10% design level), identification of major cost items, identification of significant issues for construction, statement of benefits and challenges, consideration of safety, aesthetics, multi-modal accommodation, and other factors.

Provide a separate brief Draft ICE report for each location, outlining the analysis and presenting a recommendation for the intersection configuration. Coordinate review and input with the RTC, the Local Agency, and NDOT when applicable. Incorporate agency comments and provide a Final ICE report.

2. Operations Study for McCarran Blvd/Mae Anne Ave Intersection

CONSULTANT will perform a traffic operations analysis to evaluate the feasibility of converting eastbound Mae Anne Ave to triple left turn lanes by converting the through lane to a left-through lane and associated signal phasing changes. CONSULTANT will also evaluate the conversion of the westbound approach to a left and left-through lane for dual left turns. CONSULTANT will assess the geometrics, identify the scope of signal modifications, and identify any feasibility issues. CONSULTANT will provide AM and PM peak hour traffic counts, truck/design vehicle maneuvering using AutoTURN software, and technical analysis to determine level of service and queuing with revised lane configurations and signal operations. Operations will be evaluated for the 20-year horizon as required by NDOT.

Provide a Draft Operations Study report summarizing the analysis and presenting a recommendation for the intersection configuration. Coordinate review and input with the RTC, NDOT and the City of Reno, incorporate agency comments, and provide a Final Operations Study report.

3. Traffic Signal Warrant Analyses

The study intersections are:

- Sharlands Ave/Ambassador Dr
- N. Virginia St/Talus Way
- Sparks Blvd/Henry Orr Parkway

CONSULTANT will perform a signal warrant analysis and prepare a separate report for each intersection. The analysis will focus on the following warrants:

- Warrant 1, Eight-Hour Vehicular Volume (Existing and Future Year)
- Warrant 2, Four-Hour Vehicular Volume (Existing and Future Year)
- Warrant 4, Pedestrian Volume (Four-Hour and Peak Hour criteria, Existing Year)
- Warrant 7, Crash Experience
- Warrant 8, Roadway Network

The other warrants will be covered at a cursory level only.

CONSULTANT will document the study process, analysis, and recommendations. The signal warrant analysis report will include:

- Data collection and traffic volumes
- Discussion of each evaluated warrant
- Recommendations

CONSULTANT will provide a draft letter report, incorporate up to one round of consolidated RTC, NDOT when applicable, and local agency review comments, and provide a separate final letter report for each location.

Task 6 - Design Contingency

1. Contingency

This is a contingency budget for miscellaneous increases within the scope of this contract during the design phase. CONSULTANT shall provide a letter detailing the need, scope, and not-to-exceed budget for any proposed work. Work under this task shall proceed only with the RTC Project Manager's written approval.

CONSTRUCTION SUPPORT SERVICES (OPTIONAL)

The RTC and CONSULTANT shall review Optional Construction Services following the completion of final design to determine their appropriateness to the project.

Task 7 - Contract Administration (Optional)

1. Provide contract administration services as follows:

- Attend the preconstruction conference
- Perform construction coordination
- Review and provide recommendations on contractor's traffic control plans
- Review and comment on or approve contractor's submittals for conformance to the contract documents, including plantmix bituminous pavement and Portland Cement concrete mix designs
- Review and provide recommendations on test results
- Review and provide recommendations on contractor's construction schedule and work progress
- Review construction for acceptance and/or mitigation
- Provide verification and approval of contractor's monthly pay request
- Supervise the inspection, surveying, and material testing activities
- Provide recommendations to the RTC for any necessary construction changes due to field conditions
- Assist in change order review and approval

Task 8 - Construction Surveying (Optional)

1. Provide construction staking services at the project locations.

Task 9 - Inspection (Optional)

1. Provide Inspector

Provide one full-time inspector during all construction activities. **8-hour workdays and a 60 working day contract period** are anticipated. The inspector will:

- Attend the preconstruction conference
- Monitor the work performed by the Contractor and verify that the work is in accordance with the plans and specifications
- Assist in problem resolution with the RTC, contractor personnel, utility agencies, the public and others
- Prepare daily inspection reports, submitted weekly to RTC.
- Provide quantity reports and assist in contractor's monthly progress payments
- Provide verification of the distribution of public relation notices required to be delivered by the contractor, if applicable

- Assist in preparation of the Punch List
- Maintain a field blueline set of drawings to incorporate contractor record drawing mark-ups

Task 10 - Materials Testing (Optional)

1. Provide Material Testing

CONSULTANT will provide material testing for compliance with the specifications per the latest edition of the Standard Specifications for Public Works Construction (Orange Book) testing requirements. Materials to be tested will include plantmix bituminous pavement, aggregate base, native subgrade material, structural fill material and Portland Cement Concrete. Test reports, accompanied with CONSULTANT's recommendation regarding acceptance/mitigation of materials, shall be submitted promptly to the RTC.

2. Provide On-site Nuclear Gauge Testing & Sampling

CONSULTANT will provide on-site nuclear gauge testing and sampling during the placement of aggregate base and fill materials, on-site thin-lift Nuclear Gauge testing & sampling for plantmix bituminous pavement placement, and on-site PCC testing & sampling. **40 hours** of field testing are anticipated, and laboratory tests will include moisture density curves, Atterberg limits, and sieve analysis. Test frequency shall comply with the latest edition of the Orange Book.

Task 11 - As-Built Information (Optional)

1. Record Drawings

Provide as-built record drawings for the completed project. Three sets of electronic drawings, in single file PDF format (11" x 17" at 300 dpi), on USB Flash Drive will be provided to RTC for its files and distribution to the Local Entities. The PDF file shall include all plan sheets in one file with index/bookmark for easy access to different sheets or sections of the plan set.

The final record drawings must be identified, dated, and signed as record drawings and must also contain the engineer's stamp and signature. The Consultant may either:

- Provide the final revisions on the original engineer-stamped/signed reproducible drawings, which will then also be identified as the record drawings, or
- Provide new engineer-stamped/signed reproducible drawings identified as the record drawings.

The Record Drawings shall include a scan of the original title sheet (including the appropriate signatures by RTC, local government, signed and stamped by the CONSULTANT) and identified as record drawings.

Task 12 - Construction Contingency

1. Contingency

This is a contingency budget for miscellaneous increases within the scope of this contract during the construction phase. CONSULTANT shall provide a letter detailing the need, scope, and not-to-exceed budget for any proposed work. Work under this task shall proceed only with the RTC Project Manager's written approval.

PROJECT SCHEDULE
Sparks / Ion Traffic Signal Project

TASK	DESCRIPTION	2024				2025												2026												
		SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
	DESIGN SERVICES																													
1	Project Management	M			M		M		M		M																			
2	Preliminary Design (50% & 90%)	T		30%		50%		90%																						
3	Final Design									100%																				
	Right-of-Way Acquisition						RS					R/W																		
4	Bidding Services										BID	OPEN																		
5	Traffic Studies		R	R	R	R	R	R																						
	CONSTRUCTION SUPPORT SERVICES																													
7	Contract Administration																													
8	Construction Surveying																													
9	Inspection																													
10	Materials Testing																													
11	As-Built Information																													

- T Topographic Survey
- M Coordination Meeting/Plan Review Meetings
- R Traffic Study Report Submittal
- RS Right of Way Setting
- R/W RTC Complete R/W Acquisition

7/29/2024

Exhibit B

Compensation



2024 STANDARD BILLING RATES

EMPLOYEE CLASSIFICATION	HOURLY RATE
Principal II	\$280
Principal	\$240
Senior Associate II	\$220
Senior Associate I	\$210
Associate II	\$200
Associate	\$190
Senior Engineer / Planner II	\$180
Senior Engineer / Planner	\$170
Engineer / Planner II	\$160
Engineer / Planner	\$150
Inspector	\$150
Technician	\$120
Administrative Assistant	\$90

Auto Mileage @ current IRS rate

Exhibit B - Schedule of Services



Standard Fee Schedule January 1, 2024

Engineering	Per Hour
Director	\$285
Group Manager	270
Senior Project Manager – Special Projects	250
Assistant / Project / Senior Project Manager	195/225/240
Staff / Project / Senior Hydrogeologist	180/195/205
Staff / Project / Senior Engineer	180/195/205
Assistant / Project / Senior Project Coordinator	140/175/185
Project / Senior Project Designer	155/165
Engineering Technician I / II / III	105/135/145
Construction	Per Hour
Director	\$285
Materials Engineering Manager	250
Assistant / Project / Senior Project Manager	195/225/240
Staff / Project / Senior Geotechnical Engineer	180/195/205
Construction Services Supervisor / Engineer	160/185
Assistant / Project / Senior Project Coordinator	140/175/185
Geotechnician	160
Inspector / Senior Inspector (includes nuclear gauge)	150/160
Construction Technician I / II / III	115/125/135
Materials Technician I / II / III (includes nuclear gauge)	105/115/125
Administrative Technician	85/95/105
Surveying	Per Hour
Director	\$285
Group Manager	270
Assistant / Project / Senior Project Manager	195/225/240
Staff / Project / Senior Surveyor	180/195/205
Assistant / Project / Senior Project Coordinator	140/175/185
Photogrammetrist / Photogrammetry Manager	155/180
GIS Analyst	135
Surveying Technician I / II / III	90/135/145
Party Chief	180
Administrative & Other Services	Per Hour
Administrative Support	\$125
Copy & Print Services	Cost + 15%
Mileage (per mile)	0.75

- Fees for prevailing wage rate projects are available upon request.
- Map filing, checking, consulting, and other fees paid on behalf of the client shall be billed at cost plus fifteen percent (15%).
- Overtime hours will be billed at 1.5 times the standard rate where applicable.
- Survey and Field crew billing rates include standard field survey equipment and truck up to 30 mile radius, after which mileage rates apply
- Fees for depositions and testimony will be billed at two (2) times the standard billing rates

These rates apply to services rendered through December 31, 2024. Services provided after this date will be invoiced according to the Standard Fee Schedule in effect at that time.

Exhibit B - Schedule of Services



Quality Control Fee Schedule January 1, 2024

Testing/Inspection	Per Hour
Director	\$285
Materials Engineering Manager	250
Assistant / Project / Senior Project Manager	195/225/240
Staff / Project / Senior Geotechnical Engineer	180/195/205
Construction Services Supervisor / Engineer	160/185
Assistant / Project / Senior Project Coordinator	140/175/185
Geotechnician	160
Inspector / Senior Inspector (includes nuclear gauge)	150/160
Construction Technician I / II / III	115/125/135
Materials Technician I / II / III (includes nuclear gauge)	105/115/125
Administrative Technician	85/95/105

Particle Size Testing For Soils/Aggregates		Each
Sieve Analysis	(ASTM C-136/C-117)	\$200
Wash	(ASTM C-117)	150
Grain Size Analysis Soils	(ASTM D-421/422)	300
Sieve Analysis/Wash (coarse combined)	(ASTM C-136/C-117)	250

Soils & Aggregate Testing		Each
Specific Gravity & Absorption — Coarse or Fine Aggregate	(ASTM C-127/C-128)	\$150
Sand Equivalent	(ASTM D-2419)	200
Dry Unit Weight of Aggregate	(ASTM C-29)	100
Organic Impurities	(ASTM C-40)	100
Fractured Faces	(NDOT T-230)	100
L.A. Abrasion	(ASTM C-131)	250
Sodium Sulfate Soundness (5 cycles)	(ASTM C-88)	500
Moisture Content	(ASTM C-566)	50
Moisture Content and Unit Density	(ASTM D-2937)	100
Plastic Index	(ASTM D-4318)	225
Expansion Index	(ASTM D-4829)	300
R-Value	(ASTM D-2844)	350
California Bearing Ratio	(ASTM D-1883)	Quote on request
Direct Shear	(ASTM D-3080)	350
Unconfined Compression	(ASTM D-2166)	Quote on request
Consolidation	(ASTM D-2435)	500
Permeability (4-inch Rigid Wall, Falling head)	(ASTM D-4491)	Quote on request
Soluble Sulfates		Quote on request
pH	(ASTM D-4972)	Quote on request
Resistivity		Quote on request
Clay Lumps/Friable Parts	(ASTM C-142)	100
Cement Treated Base Mix Design		Quote on request
Cement Treated Base Compression Test		75
Fine Durability Index	(ASTM D-3744)	250
Coarse Durability Index	(ASTM D-3744)	300
Cleanness Value	(CAL 229)	250

Moisture Density Testing		Each
Compaction	(ASTM D-698 or ASTM D-1557)	\$275
Rock Correction	(ASTM D-4718)	150
Harvard Miniature	(NDOT T-101)	150
CAL 216		300
Check Point	(ASTM D-1557)	125

Exhibit B - Schedule of Services



Quality Control Fee Schedule January 1, 2024

Emulsion Testing		Each
% Residue By Evaporation/Softening Point (Ring & Ball)	(AASHTO T-53 & T-59) 24 hr. turnaround	\$400
% Residue By Evaporation/Softening Point (Ring & Ball)	(AASHTO T-53 & T-59) 3-day turnaround	350
Saybolt Furol Viscosity Test @ 122°	(AASHTO T-59)	275
Rotational Paddle Viscosity	(ASTM D-7226 & AASHTO T-382)	550

Concrete Testing		Each
Compression Concrete Cylinders	(ASTM C-39)	\$40
Hold Cylinder (Cured but not tested)		30
Compression, Concrete Core	(ASTM C-42)	40
Flexural Strength of Concrete Beams	(ASTM C-78/C-293)	80
Compression, Grout Cylinder	(UBC 24-28)	40
Compression, Mortar Cylinder	(UBC 24-28)	40
Masonry Block Absorption and Moisture	(ASTM C-140)	Quote on request
Shrinkage	(ASTM C-426)	Quote on request
Compression, Concrete Masonry Units	(ASTM C-140)	Quote on request
Compression, Concrete Masonry Prisms	(ASTM C-1314)	Quote on request
Density of Spray Applied Fireproofing		Quote on request
Concrete Mix Design, including Mixing and Casting of Cylinders		Quote on request

Asphalt Concrete Testing		Each
Sieve Analysis	(ASTM D-5444)	\$125
Unit Weight on Compacted Sample	(ASTM D-2726)	50
Unit Weight on Core	(ASTM D-2726)	75
Marshall Stability & Flow	(ASTM D-1559)	50
Max. Theoretical Specs. Gravity	(ASTM D-2041)	100
Bitumen Content	(ASTM D-6307)	150
Asphalt Concrete Mix Design		Quote on request
A.C. Series (Marshall)		675
Oven Correction	(ASTM D-6307)	300

- Fees for prevailing wage rate projects available upon request.
- Map filing, checking, consulting, and other fees paid on behalf of the client shall be billed at cost plus fifteen percent (15%).
- Overtime hours will be billed at 1.5 times standard rate where applicable.
- Billing rates include standard testing equipment and truck up to 30 mile radius, after which mileage rates apply.
- Fees for depositions and testimony will be billed at two (2) times the standard billing rates

These rates apply to services rendered through December 31, 2024. Services provided after this date will be invoiced according to the Standard Fee Schedule in effect at that time.

Exhibit C

Indemnification and Insurance Requirements

EXHIBIT C

INDEMNIFICATION AND INSURANCE REQUIREMENTS FOR PROFESSIONAL SERVICE AGREEMENTS [NRS 338 DESIGN PROFESSIONAL]

2022-07-08 Version

1. INTRODUCTION

IT IS HIGHLY RECOMMENDED THAT CONSULTANTS CONFER WITH THEIR INSURANCE CARRIERS OR BROKERS TO DETERMINE THE AVAILABILITY OF THESE INSURANCE CERTIFICATES AND ENDORSEMENTS IN ADVANCE OF PROPOSAL SUBMISSION. IF THERE ARE ANY QUESTIONS REGARDING THESE INSURANCE REQUIREMENTS, IT IS RECOMMENDED THAT THE AGENT/BROKER CONTACT RTC'S FINANCE DIRECTOR AT (775) 335-1845.

2. INDEMNIFICATION

CONSULTANT agrees, subject to the limitations in Nevada Revised Statutes Section 338.155, to save and hold harmless and fully indemnify RTC and City of Sparks including their elected officials, officers, employees, and agents (hereafter, "Indemnitees") from and against any and all claims, proceedings, actions, liability and damages, including reasonable attorneys' fees and defense costs incurred in any action or proceeding (collectively "Damages") arising out of the:

- A. Negligence, errors, omissions, recklessness or intentional misconduct of CONSULTANT or CONSULTANT's agents, employees, officers, directors, subconsultants, or anyone else for whom CONSULTANT may be legally responsible, which are based upon or arising out of the professional services of CONSULTANT; and
- B. Violation of law or any contractual provisions or any infringement related to trade names, licenses, franchises, patents or other means of protecting interests in products or inventions resulting from the use by the Indemnitees of any materials, devices, processes, equipment, or other deliverable (including software) supplied by CONSULTANT under or as a result of this Agreement, but excluding any violation or infringement resulting from the modification or alteration by the Indemnitees of any materials, devices, processes, equipment, or other deliverable (including software) not consented to by CONSULTANT.

CONSULTANT further agrees to defend, save and hold harmless and fully indemnify the Indemnitees from and against any and all Damages arising out the negligence, errors, omissions, recklessness or intentional misconduct of CONSULTANT or CONSULTANT's agents, employees, officers, directors, subconsultants, or anyone else for whom CONSULTANT may be legally responsible, which are not based upon or arising out of the professional services of CONSULTANT.

The Damages shall include, but are not limited to, those resulting from personal injury to any person, including bodily injury, sickness, disease or death and injury to real property or personal property, tangible or intangible, and the loss of use of any of that property, whether or not it is physically injured.

If the Indemnitees are involved in defending actions of CONSULTANT or anyone else for whom CONSULTANT is legally responsible, CONSULTANT shall reimburse the Indemnitees for the time spent by such personnel at the rate of the Indemnitees pay or compensation for such services.

If an Indemnitee is found to be liable in the proceeding, then CONSULTANT'S obligation hereunder shall be limited to the proportional share of the liability attributed to CONSULTANT.

In determining whether a claim is subject to indemnification, the incident underlying the claim shall determine the nature of the claim.

In the event of a violation or an infringement under paragraph 2.B above and the use is enjoined, CONSULTANT, at its sole expense, shall either (1) secure for the Indemnitees the right to continue using the materials by suspension of any injunction or by procuring a license or licenses for the Indemnitees; or (2) modify the materials so that they become non-infringing. This covenant shall survive the termination of the Professional Services Agreement.

The provisions of this Agreement are separate and severable and it is the intent of the Parties hereto that in the event any provision of this Agreement should be determined by any court of competent jurisdiction to be void, voidable or too restrictive for any reason whatsoever, the remaining provisions of this Agreement shall remain valid and binding upon said Parties. It is also understood and agreed that in the event any provision should be considered, by any court of competent jurisdiction, to be void because it imposes a greater obligation on CONSULTANT than is permitted by law, such court may reduce and reform such provisions to limitations which are deemed reasonable and enforceable by said court.

3. GENERAL REQUIREMENTS

Prior to the start of any work on a RTC project, CONSULTANT shall purchase and maintain insurance of the types and limits as described below insuring against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONSULTANT, its subconsultants, or their employees, agents, or representatives. The cost of all such insurance shall be borne by CONSULTANT.

4. VERIFICATION OF COVERAGE

CONSULTANT shall furnish RTC with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth herein, on forms acceptable to RTC. All deductibles and self-insured retentions requiring RTC approval shall be shown on the certificate. All certificates and endorsements are to be addressed to RTC's Finance Director and be received by RTC before work commences. Upon request, CONSULTANT agrees that RTC has the right to review CONSULTANT'S and the Sub's insurance policies, or certified copies of the policies. Copies of applicable policy forms or endorsements confirming required additional insured, waiver of subrogation and notice of cancellation provisions are required to be provided with any certificate(s) evidencing the required coverage.

5. NOTICE OF CANCELLATION

CONSULTANT or its insurers shall provide at least thirty (30) days' prior written notice to RTC prior to the cancellation or non-renewal of any insurance required under this Agreement. An exception may be included to provide at least ten (10) days' written notice if cancellation is due to non-payment of premium. CONSULTANT shall be responsible to provide prior written notice to RTC as soon as practicable upon receipt of any notice of cancellation, non-renewal, reduction in required limits or other material change in the insurance required under this Agreement.

6. SUBCONSULTANTS & SUBCONTRACTORS

CONSULTANT shall include all Subcontractors and Subconsultants (referred to collectively as "Subs") as insureds under its liability policies OR shall cause Subs employed by CONSULTANT to purchase and maintain separate liability coverages and limits of the types specified herein. If any Subs maintain separate liability coverages and limits, each shall include the RTC and City of Sparks as additional insureds under its commercial general liability policy, subject to the same requirements stated herein, without requiring a written contract or agreement between each of the additional insureds and any sub-consultant or sub-contractor. Any separate coverage limits of liability maintained by Subs shall be at least **\$1,000,000** per occurrence and at least **\$2,000,000** for any applicable coverage aggregates or the amount customarily carried by the Sub, whichever is GREATER. If any Subs provide their own insurance with limits less than required of the Contractor, Contractor shall include Subs in their coverage up to the full limits required of the Contractor. When requested by RTC, CONSULTANT shall furnish copies of certificates of insurance evidencing coverage for each subconsultant. CONSULTANT need not require its non-design subcontractors to carry Professional Errors and Omissions Liability insurance.

7. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions that exceed \$25,000 per occurrence or claim must be declared to RTC's Finance Director prior to signing this Agreement. RTC is entitled to request and receive additional documentation, financial or otherwise, prior to giving its approval of the deductibles and self-insured retentions. Any changes to the deductibles or self-insured retentions made during the term of this Agreement or during the term of any policy must be declared to RTC's Finance Director prior to the change taking effect.

8. ACCEPTABILITY OF INSURERS

Required insurance is to be placed with insurers with a Best's rating of no less than A-VII and acceptable to RTC. RTC may accept coverage with carriers having lower Best's ratings upon review of financial information concerning CONSULTANT and the insurance carrier. RTC reserves the right to require that CONSULTANT'S insurer(s) be licensed and admitted in the State of Nevada or meet any applicable state and federal laws and regulations for non-admitted insurance placements.

9. OTHER CONDITIONS

- A. Failure to furnish the required certificate(s) or failure to maintain the required insurance may result in termination of this Agreement at RTC's option.
- B. If CONSULTANT fails to furnish the required certificate or fails to maintain the required insurance as set forth herein, RTC shall have the right, but not the obligation, to purchase said insurance at CONSULTANT's expense.
- C. Any waiver of CONSULTANT's obligation to furnish such certificate or maintain such insurance must be in writing and signed by an authorized representative of RTC. Failure of RTC to demand such certificate or other evidence of full compliance with these insurance requirements or failure of RTC to identify a deficiency from evidence that is provided shall not be construed as a waiver of CONSULTANT's obligation to maintain such insurance, or as a waiver as to the enforcement of any of these provisions at a later date.
- D. By requiring insurance herein, RTC does not represent that coverage and limits will necessarily be adequate to protect CONSULTANT, and such coverage and limits shall not be deemed as a limitation on CONSULTANT's liability under the indemnities granted to RTC in this contract.
- E. If CONSULTANT'S liability policies do not contain the standard ISO separation of insureds condition, or a substantially similar clause, they shall be endorsed to provide cross-liability coverage.

10. COMMERCIAL GENERAL LIABILITY

CONSULTANT shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than **\$2,000,000** each occurrence. If such CGL insurance contains a general aggregate limit, it shall be increased to equal twice the required occurrence limit or revised to apply separately to this project.

CGL insurance shall be written on ISO occurrence form CG 00 01 04 13 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, products-completed operations, personal and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

RTC and any other Indemnitees listed in Section 2. INDEMNIFICATION of this Agreement shall be included as an additional insured under the CGL, using ISO additional insured endorsement CG 20 10 07/04 or CG 20 33 07/04 or a substitute providing equivalent coverage, and under the commercial umbrella, if any.

This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to RTC or any other Indemnitees under this Agreement.

CONSULTANT waives all rights against RTC and any other Indemnitees listed in section 2. INDEMNIFICATION of this Agreement for recovery of damages to the extent these damages are covered by the commercial general liability or commercial umbrella liability insurance maintained pursuant to this agreement. CONSULTANT's insurer shall endorse CGL policy to waive subrogation against RTC with respect to any loss paid under the policy.

11. COMMERCIAL AUTOMOBILE LIABILITY

CONSULTANT shall maintain automobile liability and, if necessary, commercial umbrella liability insurance with a limit of not less than **\$1,000,000** each accident. Such insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos).

Coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 25, or a substitute form providing equivalent liability coverage for all owned, leased, hired (rented) and non-owned vehicles (as applicable). RTC may agree to accept auto liability for non-owned and hired (rented) vehicles under the CGL if CONSULTANT does not own or operate any owned or leased vehicles.

CONSULTANT waives all rights against RTC, its officers, employees and volunteers for recovery of damages to the extent these damages are covered by the automobile liability or commercial umbrella liability insurance obtained by CONSULTANT pursuant to this Agreement.

12. INDUSTRIAL (WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY) INSURANCE

It is understood and agreed that there shall be no Industrial (Worker's Compensation and Employer's Liability) Insurance coverage provided for CONSULTANT or any subconsultants by RTC. CONSULTANT, and any subconsultants, shall procure, pay for and maintain the required coverages.

CONSULTANT shall maintain workers' compensation and employer's liability insurance meeting the statutory requirements of the State of Nevada, including but not limited to NRS 616B.627 and NRS 617.210. The employer's liability limits shall not be less than **\$1,000,000** each accident for bodily injury by accident or **\$1,000,000** each employee for bodily injury by disease.

CONSULTANT shall provide a Final Certificate for itself and each subconsultant evidencing that CONSULTANT and each subconsultant maintained workers' compensation and employer's liability insurance throughout the entire course of the project.

If CONSULTANT, or any subconsultant is a sole proprietor, coverage for the sole proprietor must be purchased and evidence of coverage must appear on the Certificate of Insurance and Final Certificate.

CONSULTANT waives all rights against RTC, its elected officials, officers, employees and agents for recovery of damages to the extent these damages are covered by the workers compensation and employer's liability or commercial umbrella liability insurance obtained by Tenant pursuant to this agreement. CONSULTANT shall obtain an endorsement equivalent to WC 00 03 13 to affect this waiver.

13. PROFESSIONAL ERRORS AND OMISSIONS LIABILITY

CONSULTANT shall maintain professional liability insurance applying to liability for a professional error, omission, or negligent act arising out of the scope of CONSULTANT'S services provided under this Agreement with a limit of not less than **\$1,000,000** each claim and annual aggregate. CONSULTANT shall maintain professional liability insurance during the term of this Agreement and, if coverage is provided on a "claims made" or "claims made and reported" basis, shall maintain coverage or purchase an extended reporting period for a period of at least three (3) years following the termination of this Agreement.



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.4.4

To: Regional Transportation Commission

From: Dale Keller, Director of Engineering

SUBJECT: Administrative Settlement - Robert F. and Evelyn J. Gunn Living Trust

RECOMMENDED ACTION

Approve an administrative settlement of up to \$440,680 authorizing RTC to acquire a fee simple interest in the entirety of APN: 013-082-15 from Robert F. and Evelyn J. Gunn Living Trust for the Mill Street Capacity and Safety Project.

BACKGROUND AND DISCUSSION

RTC is in the process of acquiring property needed for the Mill Street Capacity and Safety Project. RTC and the property owner have negotiated an agreement to purchase a fee simple interest in the entirety of APN 013-082-15 contingent upon Board approval. The RTC originally offered to purchase a portion of the parcel at its appraised value of \$274,320. Under the settlement, RTC would purchase the entire parcel including an interest in a billboard lease on the parcel. The RTC would pay the property owner \$705,000 and up to \$10,000 for costs, which represents a proposed administrative settlement of up to \$440,680 above RTC's original appraised value and offer. RTC Management Policy P-55 requires Board approval of administrative settlements in excess of \$50,000.

Staff recommends approval of the settlement. If the Board approves the settlement, the Executive Director will execute an agreement in substantially the form attached hereto and RTC will acquire the parcel. If the Board does not approve the settlement, staff will continue to attempt to negotiate for the purchase of the property interests it needs for the project until it becomes necessary to file a complaint in eminent domain.

FISCAL IMPACT

The costs to acquire the subject property interests are included in the FY 2025 budget.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

Project: Mill Street Capacity and Safety Project
RTC Project No.: 211007
Parcel: 2060 Mill Street
APN: 013-082-15

PUBLIC HIGHWAY AGREEMENT

This PUBLIC HIGHWAY AGREEMENT (“AGREEMENT”) is made this _____ day of _____, 2024, by and between Robert F. Gunn and Evelyn J. Gunn, in their capacities as co-trustees of the ROBERT F. AND EVELYN J. GUNN LIVING TRUST (“OWNER”), and the REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY (“RTC”).

WITNESSETH:

1. That the OWNER, for and in consideration of the covenants to be performed and payments to be paid as herein provided, represents the following:

(a) OWNER is the owner of that certain real property located in Washoe County, Nevada, described as Assessor’s Parcel Number 013-082-15 (the “OWNER PROPERTY”).

(b) OWNER owns fee title to OWNER PROPERTY and there are no prior encumbrances, liens, restrictions, covenants or conditions applicable to the OWNER PROPERTY which will frustrate or interfere with the purposes of this AGREEMENT.

(c) That there are no leases, licenses, conditions, actions or threatened or pending litigation related to the OWNER PROPERTY which will frustrate or interfere with the purposes of this AGREEMENT.

2. That the OWNER, for and in consideration of the covenants to be performed and payments to be paid as herein provided, agrees as follows:

(a) To sell and convey the OWNER PROPERTY to the RTC, free and clear of any liens or encumbrances created by OWNER, by way of a grant, bargain and sale deed in substantially the form attached hereto as Schedule 1; this real property is described on Exhibit “A” to Schedule 1 and depicted on Exhibit “B” to Schedule 1, attached hereto and made a part hereof (the “LAND”).

(b) To deposit into escrow with Stewart Title, 5390 Kietzke Lane, Suite 101, Reno, Nevada 89511 (Attn: Roberta Crown Rogers), hereinafter called (the “ESCROW AGENT”), all the aforementioned documents, fully executed and notarized where required, on or prior to September 1, 2024 (the “ESCROW CLOSING DATE”).

(c) To deliver to ESCROW AGENT such other documentation as ESCROW AGENT may reasonably require to close the escrow and consummate the real property transfers in accordance with the terms of this AGREEMENT.

(d) To pay through escrow any accrued, due or delinquent property taxes, utility use fees or assessments, together with penalties, if any, up to the close of escrow.

(e) To be responsible for the LAND, including risk and liability for loss and damage, including all repairs to the premises prior to the ESCROW CLOSING DATE.

(f) To acknowledge and hereby does acknowledge, that a public highway and the necessary incidents thereto (the “PROJECT”), are to be located upon, over, and across the LAND.

(g) To waive, and hereby does waive, all claims and rights that OWNER may have to seek consequential, special and/or punitive damages in relation to any breach of the obligations contemplated in this AGREEMENT and acknowledges that nothing in this AGREEMENT is intended to or shall it be construed to waive the rights, limitations and immunities of the RTC under Nevada Revised Statutes Chapter 41.

3. The RTC, in consideration of the promises and covenants of the OWNER herein set forth, agrees as follows:

(a) Pursuant to the administrative settlement approved by RTC's Board of Commissioners at its meeting on August 16, 2024, RTC shall pay to OWNER through the deposit into escrow the sum of SEVEN HUNDRED FIVE THOUSAND DOLLARS (\$705,000), and shall pay to OWNER directly up to TEN THOUSAND DOLLARS (\$10,000) for actual costs incurred by OWNER for its appraiser and attorney fees and costs.

(b) RTC shall deliver to ESCROW AGENT such other documentation as ESCROW AGENT may reasonably require to close the escrow and consummate the real property transfers in accordance with the terms of this AGREEMENT.

(c) RTC shall pay all escrow and conveyance fees due and owing to ESCROW AGENT.

(d) RTC shall acknowledge, and hereby does acknowledge, that the real property conveyed hereby is transferred and sold "AS IS", "WHERE IS", WITH ALL FAULTS AND CONDITIONS THEREON, and that OWNER has not made and specifically disclaims any representations, warranties, promises, covenants or guaranties of any kind or character whatsoever, whether express or implied, oral or written, past, present or future with respect to the LAND, and hereby waives any right to make any claim against OWNER based on any of the foregoing.

4. It is further mutually agreed and understood by the RTC and by the OWNER as follows:

(a) The laws of the State of Nevada shall be applied in interpreting and construing this AGREEMENT. The party's consent to the exclusive jurisdiction and venue of the Second Judicial District Court in and for the State of Nevada, located in Washoe County, Nevada, for the enforcement of this AGREEMENT.

(b) This AGREEMENT shall constitute the entire contract between the parties hereto, and no modification hereof shall be binding upon the parties unless the same is in writing and signed by the respective parties hereto.

(c) All covenants and agreements herein contained shall extend to and be obligatory upon the heirs, executors, administrators, successors, and assigns, as the case may be, of the respective parties.

(d) As used herein the term OWNER shall include the plural as well as the singular, and the feminine as well as the masculine and the neuter.

(e) The covenants and agreements expressed in the AGREEMENT shall survive the close of escrow.

(f) The regulations pertaining to nondiscrimination and Title VI of the Civil Rights Act of 1964, as contained in Title 23, Code of Federal Regulations Part 200, and Title 49, Code of Federal Regulations Part 21, are hereby incorporated by reference and made a part of this AGREEMENT.

(g) Except as otherwise provided for by law or this AGREEMENT, the rights and remedies of the parties hereto shall not be exclusive and are in addition to any other rights and remedies provided by law or equity.

(h) That the persons signing this AGREEMENT and all related documents on behalf of the RTC and OWNER are duly authorized to so sign and have the full power and authority to bind them, and to enter into and perform the obligations hereunder.

(i) That this AGREEMENT may be executed in counterpart.

(j) Notices. Except as otherwise expressly specified in this AGREEMENT, all notices, requests, consents, approvals, agreements, authorizations, acknowledgments, waivers and other communications required or permitted hereunder shall be in writing to the addresses set forth below and shall be deemed given: (i) immediately when delivered by hand; (ii) the next business day when sent by overnight delivery by internationally recognized express courier such as Federal Express or UPS; or (iii) three (3) days after deposit in the United States mail postage prepaid, registered or certified mail, return receipt requested:

To RTC:

Regional Transportation Commission of Washoe County
Attn: Michele Payne
1105 Terminal Way, Suite 108
Reno, NV 89502

To OWNER:

ROBERT F. AND EVELYN
J. GUNN LIVING TRUST
Attn: Robert F. Gunn
3855 Amy Road
Reno, NV 89510

Signature Pages Follow

IN WITNESS WHEREOF the parties hereto have executed this AGREEMENT the day and year first above written.

OWNER:

ROBERT F. AND EVELYN J. GUNN LIVING TRUST

By: _____
Name: Robert F. Gunn
Its: Co-Trustee

STATE OF NEVADA)
) ss.
COUNTY OF WASHOE)

This instrument was acknowledged before me on _____ by Robert F. Gunn, as Co-Trustee of ROBERT F. AND EVELYN J. GUNN LIVING TRUST.

S
E
A
L

Notary Public

My commission expires:

Other Co-Trustee signature page:

OWNER:

ROBERT F. AND EVELYN J. GUNN LIVING TRUST

By: _____
Name: Evelyn J. Gunn
Its: Co-Trustee

STATE OF NEVADA)
) ss.
COUNTY OF WASHOE)

This instrument was acknowledged before me on _____ by Evelyn J. Gunn, as Co-Trustee of ROBERT F. AND EVELYN J. GUNN LIVING TRUST

S
E
A
L

Notary Public

My commission expires:

RTC Signature Page Follows

RTC:

REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY

Bill Thomas, Executive Director

STATE OF NEVADA)
) ss.
COUNTY OF WASHOE)

This instrument was acknowledged before me on _____
by Bill Thomas as Executive Director of the Regional Transportation Commission of Washoe County.

S
E
A
L

Notary Public

My commission expires:

SCHEDULE 1

FORM OF GRANT, BARGAIN AND SALE DEED

APN: 013-082-15

WHEN RECORDED RETURN TO:
Regional Transportation Commission of Washoe County
Attn: Michele Payne
1105 Terminal Way, Suite 108
Reno, NV 89502

MAIL TAX STATEMENTS TO:
Exempt

LEGAL DESCRIPTION PREPARED BY:
HALANA D. SALAZAR, PLS
JACOBS ENGINEERING
50 W. LIBERTY STREET, SUITE 205
RENO, NV 89501

Project: Mill Street Capacity & Safety Project
Project #: 0211007
Parcel: APN 013-082-15

GRANT BARGAIN AND SALE DEED

THIS GRANT BARGAIN AND SALE DEED, made this _____ day of _____, 2024, by and between Robert F. Gunn and Evelyn J. Gunn, in their capacities as co-trustees of the ROBERT F. AND EVELYN J. GUNN LIVING TRUST, hereinafter called GRANTOR, and the REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY, hereinafter called GRANTEE.

WITNESSETH:

That the GRANTOR, for and in consideration of the sum of ONE DOLLAR (\$1.00), lawful money of the United States of America, and other good and valuable consideration, the receipt whereof is hereby acknowledged, does by this presents grant, bargain, sell and convey unto the GRANTEE and to its assigns forever, the real property described in Exhibit "A" and depicted on Exhibit "B", attached hereto and made a part hereof (the "Property").

TOGETHER with all and singular the tenements, hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof.

TO HAVE AND TO HOLD all and singular the Property, together with the appurtenances, unto the said GRANTEE and to any of its heirs, successors and assigns forever; and GRANTOR does hereby bind GRANTOR, and GRANTOR's successors and assigns, to WARRANT and FOREVER DEFEND, all and singular, the Property, unto GRANTEE, and GRANTEE's successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by, through or under GRANTOR, but not otherwise.

IN WITNESS WHEREOF said GRANTOR has hereunto signed on the day and year first above written.

GRANTOR: Robert F. Gunn and Evelyn J. Gunn in their capacities as co-trustees of the ROBERT F. AND EVELYN J. GUNN LIVING TRUST

By: _____
Robert F. Gunn, Co-Trustee

By: _____
Evelyn J. Gunn, Co-Trustee

STATE OF NEVADA)
) ss.
COUNTY OF WASHOE)

This instrument was acknowledged before me on this _____ day of _____, 2024, by Robert F. Gunn and Evelyn J. Gunn, Co-Trustees of ROBERT F. AND EVELYN J. GUNN LIVING TRUST.

Notary Public

My commission expires:

LEGAL DESCRIPTION PREPARED BY:
HALANA D. SALAZAR, PLS
JACOBS ENGINEERING
50 W. LIBERTY ST., SUITE 205
RENO, NV 89501

EXHIBIT "A"
LEGAL DESCRIPTION

All of APN 013-082-15

Situate, lying and being in the City of Reno, County of Washoe, State of Nevada, and more particularly described as being a portion of the SW 1/4 of Section 7, T. 19 N., R. 20 E., M.D.M.; and more fully described by metes and bounds as follows:

BEGINNING at the northwest corner of Grantor's property, 37.18 feet right of and at right angles to the centerline of Mill Street at Highway Engineer's Station "M" 99+89.48 P.O.T.; said point of beginning further described as bearing S. 36°49'01" W. a distance of 2,969.71 feet from the center quarter corner of said Section 7; said corner further described as being a 3 inch brass cap in a survey well stamped "Center Sec 7/C ENGR" in Glendale Avenue; thence S. 63°53'38" E., along Grantor's northerly boundary line, a distance of 75.00 feet; thence S. 25°47'53" W., along Grantor's easterly boundary line, a distance of 110.00 feet; thence N. 63°53'38" W. along Grantor's southerly boundary line, a distance of 75.00 feet; thence N. 25°47'53" E., along Grantor's westerly boundary line, a distance of 110.00 feet to the point of beginning; said parcel contains an area of 8,250 square feet (0.19 of an acre).

It is the intent of this document to convey and it does convey the parcel of land described in that certain QUITCLAIM DEED, Document No. 2037868, filed for record in Book 4693, Page 0848, on October 10, 1996, Official Records Washoe County, Nevada.

The Basis of Bearing for this description is the NEVADA STATE PLANE COORDINATE SYSTEM, NAD 83/94 DATUM, West Zone as determined by the State of Nevada, Department of Transportation.



EXHIBIT "B"



SCALE: 1"=50'



FEE ACQUISITION

SEC 7
T 19 N C 1/4
R 20 E



ROBERT F. GUNN AND EVELYN J. GUNN, CO-TRUSTEES OF THE ROBERT F. AND EVELYN J. GUNN 1996

OWNER: REVOCABLE TRUST DATED SEPTEMBER 12, 1996

ASSESSOR PARCEL NO's:

APN 013-082-15

SECTION, TOWNSHIP, RANGE:

SW 1/4 SECTION 7, T. 19 N., R. 20 E.

AREA:

8,250 SQUARE FEET

LOCATION:

CITY OF RENO, COUNTY OF WASHOE

PROPERTY LOCATION MAP

JOB NO: W7Y47500

DATE: 07/31/2024

DRAWN BY: SB

CHECKED BY: HS

JACOBS

50 W. LIBERTY ST. STE #205
RENO, NV 89501
(775) 329-7300



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.5.1

To: Regional Transportation Commission

From: James Gee, Director of Public Transportation and Operations

SUBJECT: Carahsoft Technology Corporation, Swiftly Software Subscription

RECOMMENDED ACTION

Approve a contract with Carahsoft Technology Corporation to provide a subscription to Swiftly’s transit data platform to share real-time passenger information, manage day-to-day operations and improve service performance for public transportation utilizing the State of Nevada Cloud Services procurement contract No. 99SWC-NV24-17504, in an amount not-to-exceed \$472,526.60.

BACKGROUND AND DISCUSSION

Swiftly analyzes billions of data points to create the transit industry’s most accurate vehicle location information. This platform powers operations and performance insights for efficiencies in our public transportation service. The software will seamlessly connect data across RTC’s hardware and software platforms. The products are designed to improve service reliability and long-term planning for the agency, ultimately improving the passenger experience. The quote dated July 10, 2024 covers annual subscription services beginning October 1, 2024 through September 30, 2027.

This project is in line with the Board’s adoption of the Transit Optimization Plans Strategies (TOPS) recommendation to improve technology to improve service delivery and passenger communication.

FISCAL IMPACT

The software is included in the FY25 budget.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

AGREEMENT FOR SUPPLY OF SWIFTLY SOFTWARE

This agreement (“Agreement”) is dated and effective as of October 1, 2024, by and between the Regional Transportation Commission of Washoe County, Nevada (“RTC”) and Carahsoft Technology Corporation (“Contractor”). This Agreement implements the purchase of software from the State of Nevada Master Agreement # 99SWC-NV24-17504.

1. **Term.** The term of this agreement shall commence on the effective date above and shall end on September 30, 2027.
2. **Scope of Work.** Contractor shall provide the goods and services described in the scope of work attached as Exhibit A.
3. **Time for Performance.** Upon issuance of the Purchase Order by the RTC, Swiftly will schedule and organize a technical scoping call and kick-off meeting, provide all necessary materials and resources for the project team, and the expected schedule will be delivered during the kickoff phase and adjusted throughout the project as tasks and milestones are completed as set form in Exhibit A.
4. **Compensation.** RTC shall pay Contractor for the goods and services pursuant to, and in an amount not to exceed, the pricing and fee schedule attached as Exhibit B.
5. **Proceeding with Work.** Contractor shall not proceed with work until both parties have executed this Agreement and RTC has issued a purchase order. If Contractor proceeds with work before those conditions have been satisfied, Contractor shall forfeit any and all right to reimbursement and payment for work performed during that period. In the event Contractor violates this section, Contractor waives any and all claims and damages against RTC, its employees, agents, and affiliates, including but not limited to monetary damages, and any other remedy available at law or in equity arising under the terms of this Agreement.
6. **Invoices/Payment.** Contractor shall submit invoices to accountspayable@rtcwashoe.com. RTC’s payment terms are 30 days after the receipt of the invoice. Simple interest will be paid at the rate of half a percent (0.5%) per month on all invoices approved by RTC that are not paid within thirty (30) days of receipt of the invoice.
7. **Legal/Regulatory Compliance.**
 - a. Contractor shall comply with all applicable federal, state and local government laws, regulations and ordinances. Contractor shall be responsible for obtaining all necessary permits and licenses for performance of services under this Agreement. Upon request of RTC, Contractor shall furnish RTC certificates of compliance with all such laws, orders and regulations.
 - b. Contractor represents and warrants that none of the services to be rendered pursuant to this Agreement constitute the performance of public work, as that term is defined by Section 338.010(17) of the Nevada Revised Statutes. To the extent Contractor does engage in such public work, Contractor shall be responsible for paying the prevailing wage as required by Chapter 338 of the Nevada Revised Statutes.

8. Insurance. Contractor shall obtain all types and amounts of insurance set forth in Exhibit C, and shall comply with all of its terms. Contractor shall not commence any work or permit any employee/agent to commence any work until satisfactory proof has been submitted to RTC that all insurance requirements have been met.

9. Indemnification. Contractor's obligations are set forth in Exhibit C. Said obligation would also extend to any liability of RTC resulting from any action to clear any lien and/or to recover for damage to RTC property.

10. Termination.

- a. Mutual Assent. This Agreement may be terminated by mutual written agreement of the parties.
- b. Convenience. RTC may terminate this Agreement in whole or in part for convenience upon written notice to Contractor.
- c. Default. Either party may terminate this Agreement for default by providing written notice of termination, provided that the non-defaulting party must first provide written notice of default and give the defaulting party and opportunity to cure the default within a reasonable period of time.

11. Rights, Remedies and Disputes

- a. RTC shall have the following rights in the event that RTC deems the Contractor guilty of a breach of any term under the Agreement:
 - i. The right to take over and complete the work or any part thereof as agency for and at the expense of the Contractor, either directly or through other contractors;
 - ii. The right to cancel this Agreement as to any or all of the work yet to be performed;
 - iii. The right to specific performance, an injunction or any other appropriate equitable remedy; and
 - iv. The right to money damages.
- b. Inasmuch as the Contractor can be adequately compensated by money damages for any breach of this Agreement, which may be committed by RTC, the Contractor expressly agrees that no default, act or omission of RTC shall constitute a material breach of this Contract, entitling Contractor to cancel or rescind the Agreement (unless RTC directs Contractor to do so) or to suspend or abandon performance.
- c. Disputes arising in the performance of this Agreement that are not resolved by agreement of the parties shall be decided in writing by the authorized representative of RTC's Executive Director. This decision shall be final and conclusive unless within 10 days from the date of receipt of its copy, Contractor mails or otherwise furnishes a written appeal to RTC's Executive Director. In connection with any such appeal, Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of RTC's Executive Director shall be binding upon the Contractor and the Contractor shall abide by the decision.
- d. Unless otherwise directed by RTC, Contractor shall continue performance under this Agreement while matters in dispute are being resolved.

12. Ownership of Work. Plans, reports, studies, tracings, maps, software, electronic files, licenses, programs, equipment manuals, and databases and other documents or instruments of service prepared or obtained by Contractor in the course of performing work under this Agreement, shall be delivered to and become the property of RTC. Software already developed and purchased by Contractor prior to the execution of the Project that will be used in the Project and services rendered under this Agreement, is excluded from this requirement. Contractor and its sub-contractors shall convey and transfer all copyrightable interests, trademarks, licenses, and other intellectual property rights in such materials to RTC upon completion of all services under this Agreement and upon payment in full of all compensation due to Contractor in accordance with the terms of this Agreement. Basic survey notes, sketches, charts, computations and similar data prepared or obtained by Contractor under this Agreement shall, upon request, also be provided to RTC.

13. Records. Contractor will permit RTC access to any books, documents, papers and records of Contractor pertaining to this Agreement, and shall maintain such records for a period of not less than three years.

14. Exhibits. The exhibits to this Agreement, and any additional terms and conditions specified therein, are a material part hereof and are incorporated by reference as though fully set forth herein.

15. Exclusive Agreement. This Agreement constitutes the entire agreement of the parties and supersedes any prior verbal or written statements or agreements between the parties.

16. Amendment. No alteration, amendment or modification of this Agreement shall be effective unless it is in writing and signed by both parties.

17. No Assignment. Contractor shall not assign, sublease, or transfer this Agreement or any interest therein, directly or indirectly by operation of law, without the prior written consent of RTC. Any attempt to do so without the prior written consent of RTC shall be null and void, and any assignee, sublessee, or transferee shall acquire no right or interest by reason thereof.

18. Governing Law. This Agreement shall be construed in accordance with and governed by the laws of the State of Nevada.

19. Venue. Any lawsuit brought to enforce this Agreement shall be brought in the Second Judicial District Court of the State of Nevada, County of Washoe appropriate court in the State of Nevada.

20. Attorneys' Fees. In the event of a dispute between the parties result in a proceeding in any Court of Nevada having jurisdiction, the prevailing party shall be entitled to an award of costs and any reasonable attorneys' fees.

21. Certification Required by Nevada Senate Bill 27 (2017). Contractor expressly certifies and agrees, as a material part of this Agreement, that it is not currently engaged in a boycott of Israel. Contractor further agrees, as a material part of this Agreement, it will not engage in a boycott of Israel for the duration of this Agreement. If, at any time during the formation or duration

of this Agreement, Contractor is engaged or engages in a boycott of Israel, it will constitute a material breach of this Agreement.

22. Federal Clauses. This Agreement is funded, in whole or in part, with federal funds. As a condition for receiving payment under this Agreement, Contractor agrees to comply with any and all applicable federal clauses attached as Exhibit D, and those clauses are incorporated herein by reference.

REGIONAL TRANSPORTATION
COMMISSION OF WASHOE COUNTY

BY: _____
Bill Thomas, AICP, Executive Director

CARAHSOFT TECHNOLOGY
CORPORATION

BY: _____
Madeline Barfield, Manager, Contracts
Team

SAMPLE

EXHIBIT A

Implementation Phase Details

Project Team

Swiftly

- **Implementation Manager** – Project main point of contact and responsible for delivering a successful project for the RTC Washoe. Coordinate weekly/biweekly touch points with the agency & deliver training for the products before transitioning to AM for graduation.
- **Account Manager** – The Account Manager will be present throughout the implementation to align on long-term goals to make sure Swiftly is always solving the most critical issues for RTC Washoe. The AM will continually expand your return on investment, deepen the reach and usage of our solutions, and overall help you get more value out of Swiftly's offerings. The AM will be present at various phases throughout the duration of the project, attending occasional project status meetings as-needed.

RTC Washoe

- **Project Sponsor** – The sponsor is accountable for the overall success of the project. To achieve this, the sponsor will support by ensuring the business needs are valid, correctly prioritized, and provide a point of contact who will support the implementation from the agency perspective. The sponsor will also be the main point of contact for escalation and reprioritization of resources at the agency.
- **IT Representative** – The IT personnel will be the main point of contact from the agency perspective. They would be considered a Project Manager from the agency to support project activities and drive the project to its graduation phase.

Scope of Work & Responsibility Matrix

The following scope of work & responsibility matrix describes Swiftly's implementation process for RTC Washoe. Tasks not defined in this document are considered out-of-scope for this project and cannot be accommodated unless an agreed-upon change-order is issued.

Swiftly's entire implementation process, as defined below, will be completed remotely by the Implementation Manager with no on-site requirement. If an on-site visit is requested of Swiftly, such visit will be subject to a fee.

Phase 1: Kick-Off & Technical Scoping

What happens?

Kick-Off & Technical Scoping

Technical scoping is an opportunity to align stakeholders, confirm technical details and identify roles and responsibilities. This call will set the stage for the Kick-Off meeting and project plan.

During the one-hour virtual kick-off meeting, we will review our objectives for this project, clarify the implementation process, review the scope of work, and establish the next steps to achieve success and maintain our implementation timeline.

Swiftly Responsibilities & Deliverables

Swiftly Team will:

Schedule and organize a technical scoping call and kick-off meeting, inviting all key stakeholders to attend.

Provide all necessary materials and resources for the project team to understand the implementation process and timeline in detail, including next steps and key responsibilities. The expected schedule will be delivered during the kickoff phase and adjusted throughout the project as tasks and milestones are completed.

RTC Washoe Responsibilities & Deliverables

RTC Washoe Team will:

Help coordinate key stakeholders to be available for the Technical Scoping call and the Kick-Off Meeting.

Identify the project stakeholder at RTC Washoe who will be responsible for maintaining accountability for any project tasks that are owned by the organization.

Phase 2: Data Integration

Data Integration

Dependency: In order for Operator Reports to be functional, Swiftly will need to have a stable source to ingest Operator IDs from RTC Washoe.

This phase is in place to verify that all necessary data sources are integrated into the Swiftly platform, including:

- GTFS static files – provided via URL fetch location, these files establish scheduled services and route alignments for RTC Washoe.
- AVL feed – this dataset is needed to get real-time vehicle locations and vehicle assignment information.

Swiftly Team will:

Provide project team with necessary data integration documentation.

Integrate GTFS-static data into the Swiftly platform.

Ingest and use operator ID information provided by RTC Washoe to display in Swiftly Dashboard reports

RTC Washoe Team will:

Provide valid GTFS-static to Swiftly staff (should be provided via fetch URL or file emailed to Swiftly)

Provide Swiftly with operator ID information via the supported methods: GTFS-rt or other API endpoint (endpoints and credentials must be provided to Swiftly), or by using Swiftly's API to post driver ID information (requires both driver ID and block ID).

Phase 3: Passenger-Facing Tools Setup & Configuration

What happens?

Passenger-Facing Tools Setup & Configuration:

Dependency: The integration of real-time predictions into any passenger-facing tools cannot happen until Swiftly is receiving stable GPS information via Vontas AVL feed and GTFS-static integration is complete.

The following tools will be included in this setup:

- **Transit app**, the most popular transit prediction app on the market.
- **Google Maps**, the most common navigation tool available.
- Swiftly's **Passenger Predictions Map**, an interactive web map. This is a web-based tool that can be embedded within any website or hyperlinked from any website. This tool is not customizable and is offered as a complementary, out-of-the-box tool for passengers.
- **Any other desired passenger-facing tools.** Swiftly provides real-time data in the industry-standard GTFS-realtime format, making it easy to share with any other tools. Swiftly can share the Swiftly API (in GTFS-rt format) with any 3rd party of choice, and it is the responsibility of those 3rd parties to complete that integration.

Phase 4: Swiftly Dashboard Training

Swiftly Dashboard Training

Through a series of remote virtual training sessions, Swiftly will provide in-depth, team-specific training to staff that include basic interface functions, advanced techniques, and tactical use cases of the following Swiftly

Swiftly Responsibilities & Deliverables

Swiftly Team will:

Setup and configure the Passenger Predictions Map, a web-based predictions tool.

Work with Transit app to facilitate integration of real-time predictions.

This can take 1-4 weeks for Transit to complete this task, and Swiftly does not have any control of their timelines for delivery.

Work with Google to get real-time predictions integrated into Google Maps.

This can take 4-8 weeks to complete, primarily due to Google's own timeline. Swiftly does not have any control of their timelines for delivery.

Share the Swiftly Real-time API, which includes real-time predictions and vehicle locations, along with documentation and training, to any additional 3rd-party consumers of predictions.

Swiftly's responsibility lies in giving access to real-time predictions for these 3rd-party consumers, completion of the integration into these tools is subject to that 3rd-party's timeline. Swiftly is not responsible for these timelines.

Support RTC Washoe with the public launch of real-time passenger tools by providing a press kit.

Swiftly Team will:

Offer up to 6 hours of live training for RTC Washoe team

Schedule and lead training sessions on the Swiftly Dashboard for all staff, including, but not limited

RTC Washoe Responsibilities & Deliverables

RTC Washoe Team will:

Communicate any additional passenger-facing tools that are desired to have real-time predictions integrated into.

For passenger-facing tools that are managed internally (in-house built or managed), RTC Washoe will connect Swiftly with the stakeholder to coordinate that integration.

For Google Maps integration, RTC Washoe will need to either: a) give permission to Google (in writing) for Swiftly to manage the integration of GTFS-RT into this tool, or b) manage the integration into Google Maps themselves (if desired), with support from Swiftly.

For any public messaging about the launch of real-time predictions, RTC Washoe will send mentions or descriptions of Swiftly to the Swiftly team for approval.

RTC Washoe Team will:

Provide work emails, first and last names, for all staff that need Swiftly Dashboard account access.

Help coordinate staff and facilities for remote

Phase 5: Data Validation

What happens?	Swiftly Responsibilities & Deliverables	RTC Washoe Responsibilities & Deliverables
<p>Dashboard.</p> <p>Swiftly will hold live training to cover all of the Swiftly Dashboard products. These can be spread over remote training sessions.</p> <p>All remote training sessions will be recorded and shared afterward.</p> <p>Training of the Swiftly Dashboard will include the following modules:</p> <ul style="list-style-type: none"> • Live Operations • Service Adjustments • On-Time Performance • Run-Times • Operator Reports 	<p>to: dispatchers, supervisors, administrators, maintenance technicians, and customer service.</p> <p>Create and manage all accounts to access Swiftly Dashboard. Swiftly will create an Accounts Sheet which will allow visibility to RTC Washoe staff on who has access to their data and will allow staff to request new accounts.</p> <p>Provide all necessary materials for remote training as well as ongoing education to staff.</p>	<p>training sessions.</p> <p>Assign responsibility of populating and managing the Accounts Sheet with users on an ongoing basis.</p>
<p>Early-Access Swiftly Dashboard Training</p> <p>Swiftly will provide early-access training to select project team members early on in this project in an effort to get RTC Washoe staff value out of this tool as early as possible. Expanded training, which will cover all other staff members, will commence once data validation is complete.</p>		
<p>Phase Description: Data Validation</p> <p><i>Dependency: Data Validation phase can begin once data integration phase is complete.</i></p> <p>This phase ensures that RTC Washoe's historical and real-time data is in excellent quality, ready for use by staff and passengers. At this stage of the implementation, Swiftly will have the ability to review data and take note of changes that could improve real-time and historical data outputs. Data validation is completed by:</p> <ul style="list-style-type: none"> • Running data health checks to assess overall reporting quality and identify areas of focus • Reviewing GTFS-static files for general accuracy (based on operational observations over time), providing notes of inconsistencies and the effect on Swiftly's 	<p>Swiftly Team will:</p> <p>Analyze data and provide notes to staff on issues via Google Sheet log. <i>There are data-related issues that may not be within Swiftly's control to fix. For example, problems related to GTFS-static accuracy can negatively impact historical data. In these cases, it is only Swiftly's responsibility to document the impact of those GTFS-static inaccuracies and suggest a fix to the relevant project members.</i></p> <p>In cases where it's feasible, make adjustments to Swiftly's software, as deemed necessary by Swiftly, that result from findings from the data validation process.</p> <p>Convey any GTFS-static related adjustments to RTC Washoe for update/correction.</p>	<p>RTC Washoe Team will:</p> <p>Provide information to help Swiftly understand operational practices that relate to data quality seen in historical reports.</p> <p>Make adjustments and updates to GTFS-static per requests from Swiftly based on the data validation observations.</p>

Milestone: System Acceptance & Project Graduation

What happens?	Swiftly Responsibilities & Deliverables	RTC Washoe Responsibilities & Deliverables
<p>reporting where issues exist, relaying them back to RTC Washoe staff for clarification or modification (if applicable).</p> <ul style="list-style-type: none"> Analyzing historical records to ensure the usefulness and overall usability of reports <p><i>Note: Duration of the data validation process can vary based on data quality and the number of issues discovered. Answering questions during the data validation process can greatly help in speeding up issue resolution.</i></p>		
<p>Implementation Graduation</p> <p>This marks the official completion of the implementation project. The main point of contact is transferred from Implementation Manager to Account Manager (AM).</p> <p>From this point forward, the Account Manager (AM) will continue to work with the Project Team and RTC Washoe staff to refine long-term goals, continue support, and improve usage and value of the Swiftly Dashboard and real-time passenger information.</p>	<p>Swiftly Team will:</p> <ul style="list-style-type: none"> Schedule and lead the implementation graduation meeting. Gather feedback on the implementation process. Provide proper information about communication changes from Implementation Manager to Account Manager. Provide RTC Washoe staff with System Acceptance guidance for testing and sign-off of project deliverables. During graduation, if there are any outstanding unresolved items from the implementation process, the AM will carry the ownership and resolution of those items going forward. 	<p>RTC Washoe Team will:</p> <ul style="list-style-type: none"> Use Swiftly's System Acceptance guidance to provide sign-off on the project deliverables within 7 days of receipt. Help coordinate key stakeholders to be available for a 30-minute graduation call. Complete brief NPS survey following completion of implementation. Provide feedback to the Swiftly team on the implementation process.

Post-Implementation Customer Success and Support

After the completion of the implementation, your Account Manager (AM) will continue to be your ongoing main point of contact. Your Account Manager will:

- Be your first point of contact if you have questions, are encountering issues, or need more support
- Work hard to guarantee that every member of your team is satisfied and find immense value in our tools
- Apply a keen analytical eye to spot trends and proactively communicate problems with the Swiftly Product & Engineering team

Additionally, you'll have access to our team of technical support representatives, who will be available to answer product questions and troubleshoot issues as they arise.

Swiftly provides a support system that has been reviewed by our customers as industry-leading, with a Net Promoter Score (NPS) that is consistently above 59 (deemed "excellent"), reflecting confidence in Swiftly's quality of service. Swiftly's high-quality support system involves a combination of meetings (in person, over the phone, and via Zoom video) and email. Agreed-upon communication comes at no additional cost. With your Swiftly contract, RTC Washoe will have unlimited seats/users for the Swiftly platform, and the Swiftly Customer Success team offers free ongoing training of the Swiftly dashboard as needed and when new users come on board. Swiftly prides itself on building long-lasting partnerships with Transit Agencies—for some of our Swiftly success stories, see our blog for how Swiftly helps Transit Agencies every day (<https://www.goswift.ly/resources>).

Swiftly's Customer Success & Support Team maintains an SLA of one business day (24/5) for first response time for non-emergency email requests.

EXHIBIT B PRICE QUOTATION

CARAHSOFT TECHNOLOGY CORP

11493 SUNSET HILLS ROAD | SUITE 100 | RESTON, VIRGINIA 20190
 PHONE (703) 871-8585 | FAX (703) 871-8505
 WWW.CARAHSOFT.COM | SALES@CARAHSOFT.COM



TO: Jim Gee
 Director of Public Transportation
 Regional Transportation Commission of Washoe County
 1105 Terminal Wy
 Reno, NV 89502 USA

FROM: Hannah Rose
 Carahsoft Technology Corp.
 11493 Sunset Hills Road
 Suite 100
 Reston, Virginia 20190

EMAIL: jgee@rtcwashoe.com

EMAIL: Hannah.Rose@carahsoft.com

PHONE:

PHONE: (571) 662-3121

TERMS: Contract Number: 99SWC-NV24-17504
 NASPO Master Contract Number: AR2472
 Additional Terms: Nevada Participating Addendum
 Contract Term: 06/15/2017 to 09/15/2026
 Shipping Point: FOB Destination
 Credit Cards: VISA/MasterCard/AMEX
 Remit To: Same as Above
 Payment Terms: Net 30 (On Approved Credit)
 Sales Tax May Apply

QUOTE NO:	48599530
QUOTE DATE:	07/10/2024
QUOTE EXPIRES:	08/09/2024
RFQ NO:	
SHIPPING:	GROUND
TOTAL PRICE:	\$472,526.60
TOTAL QUOTE:	\$472,526.60

LINE NO.	PART NO.	DESCRIPTION	QUOTE PRICE	QTY	EXTENDED PRICE
YEAR 1 OF 3					
1	SWFT-CP-RTTP-3-491	Annual subscription per vehicle for Real-Time Passenger Predictions. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CP-RTTP-3 Start Date: 10/01/2024 End Date: 09/30/2025	\$310.75	COOP 70	\$21,752.50
2	SWFT-CS-LO-3-491	Annual subscription per vehicle for Live Operations. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-LO-3 Start Date: 10/01/2024 End Date: 09/30/2025	\$310.75	COOP 70	\$21,752.50
3	SWFT-CS-OTP-3-491	Annual subscription per vehicle for On-Time Performance. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-OTP-3 Start Date: 10/01/2024 End Date: 09/30/2025	\$310.75	COOP 70	\$21,752.50
4	SWFT-CS-RT-3-491	Annual subscription per vehicle for Run-Times. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-RT-3 Start Date: 10/01/2024 End Date: 09/30/2025	\$310.75	COOP 70	\$21,752.50
5	SWFT-CS-OR-3-491	Annual subscription per vehicle for Operator Reports. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-OR-3 Start Date: 10/01/2024 End Date: 09/30/2025	\$310.75	COOP 70	\$21,752.50
6	SWFT-CP-SA-3-491	Annual subscription per vehicle for Service Adjustments. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CP-SA-3 Start Date: 10/01/2024 End Date: 09/30/2025	\$456.99	COOP 70	\$31,989.30
7	SWFT-PS-IS-3-491	One-time implementation fee per vehicle, per product. 50-99 vehicle tier. Swiftly, Inc - SWFT-PS-IS-3	\$57.20	COOP 350	\$20,020.00
YEAR 1 OF 3 SUBTOTAL:					\$160,771.80

PRICE QUOTATION
CARASOFT TECHNOLOGY CORP

11493 SUNSET HILLS ROAD | SUITE 100 | RESTON, VIRGINIA 20190
 PHONE (703) 871-8585 | FAX (703) 871-8505
 WWW.CARASOFT.COM | SALES@CARASOFT.COM



LINE NO.	PART NO.	DESCRIPTION	QUOTE PRICE	COOP	QTY	EXTENDED PRICE
YEAR 2 OF 3						
8	SWFT-CP-RTPP-3-491	Annual subscription per vehicle for Real-Time Passenger Predictions. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CP-RTPP-3 Start Date: 10/01/2025 End Date: 09/30/2026	\$332.51	COOP	70	\$23,275.70
9	SWFT-CS-LO-3-491	Annual subscription per vehicle for Live Operations. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-LO-3 Start Date: 10/01/2025 End Date: 09/30/2026	\$332.51	COOP	70	\$23,275.70
10	SWFT-CS-OTP-3-491	Annual subscription per vehicle for On-Time Performance. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-OTP-3 Start Date: 10/01/2025 End Date: 09/30/2026	\$332.51	COOP	70	\$23,275.70
11	SWFT-CS-RT-3-491	Annual subscription per vehicle for Run-Times. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-RT-3 Start Date: 10/01/2025 End Date: 09/30/2026	\$332.51	COOP	70	\$23,275.70
12	SWFT-CS-OR-3-491	Annual subscription per vehicle for Operator Reports. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-OR-3 Start Date: 10/01/2025 End Date: 09/30/2026	\$332.51	COOP	70	\$23,275.70
13	SWFT-CP-SA-3-491	Annual subscription per vehicle for Service Adjustments. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CP-SA-3 Start Date: 10/01/2025 End Date: 09/30/2026	\$488.98	COOP	70	\$34,228.60
YEAR 2 OF 3 SUBTOTAL:						\$150,607.10
YEAR 3 OF 3						
14	SWFT-CP-RTPP-3-491	Annual subscription per vehicle for Real-Time Passenger Predictions. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CP-RTPP-3 Start Date: 10/01/2026 End Date: 09/30/2027	\$355.78	COOP	70	\$24,904.60
15	SWFT-CS-LO-3-491	Annual subscription per vehicle for Live Operations. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-LO-3 Start Date: 10/01/2026 End Date: 09/30/2027	\$355.78	COOP	70	\$24,904.60
16	SWFT-CS-OTP-3-491	Annual subscription per vehicle for On-Time Performance. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-OTP-3 Start Date: 10/01/2026 End Date: 09/30/2027	\$355.78	COOP	70	\$24,904.60
17	SWFT-CS-RT-3-491	Annual subscription per vehicle for Run-Times. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-RT-3 Start Date: 10/01/2026 End Date: 09/30/2027	\$355.78	COOP	70	\$24,904.60
18	SWFT-CS-OR-3-491	Annual subscription per vehicle for Operator Reports. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CS-OR-3 Start Date: 10/01/2026 End Date: 09/30/2027	\$355.78	COOP	70	\$24,904.60

PRICE QUOTATION
CARASOFT TECHNOLOGY CORP

11493 SUNSET HILLS ROAD | SUITE 100 | RESTON, VIRGINIA 20190
PHONE (703) 871-8585 | FAX (703) 871-8505
WWW.CARASOFT.COM | SALES@CARASOFT.COM



LINE NO.	PART NO.	DESCRIPTION	-	QUOTE PRICE	COOP	QTY	EXTENDED PRICE
19	SWFT-CP-SA-3-491	Annual subscription per vehicle for Service Adjustments. 50-99 vehicle tier. Unlimited agency users. Swiftly, Inc - SWFT-CP-SA-3 Start Date: 10/01/2026 End Date: 09/30/2027		\$523.21		70	\$36,624.70
YEAR 3 OF 3 SUBTOTAL:							\$161,147.70
SUBTOTAL:							\$472,526.60
TOTAL PRICE:							\$472,526.60
TOTAL QUOTE:							\$472,526.60

The exact service term (the 'Initial Term'): 36 Months (10/1/2024 - 9/30/2027).
Billing Terms: Annually in Advance

Year 1 Total Price: \$160,771.80
Year 2 Total Price: \$150,607.10
Year 3 Total Price: \$161,147.70

SAMPLE

EXHIBIT C
INDEMNIFICATION AND INSURANCE REQUIREMENTS FOR
SOFTWARE SERVICE AGREEMENTS

2022-07-08 Version

1. INTRODUCTION

IT IS HIGHLY RECOMMENDED THAT CONTRACTORS CONFER WITH THEIR INSURANCE CARRIERS OR BROKERS TO DETERMINE THE AVAILABILITY OF THESE INSURANCE CERTIFICATES AND ENDORSEMENTS IN ADVANCE OF PROPOSAL SUBMISSION. IF THERE ARE ANY QUESTIONS REGARDING THESE INSURANCE REQUIREMENTS, IT IS RECOMMENDED THAT THE AGENT/BROKER CONTACT RTC'S FINANCE DIRECTOR AT (775) 335-1845.

2. INDEMNIFICATION

CONTRACTOR agrees to defend, save and hold harmless and fully indemnify RTC including its elected officials, officers, employees, and agents (hereafter, "Indemnitees") from and against any and all claims, proceedings, actions, liability and damages, including attorneys' fees and defense costs incurred in any action or proceeding (collectively "Damages") arising out of:

- A. Any breach of duty, neglect, error, misstatement, misleading statement or omission committed in the conduct of CONTRACTOR'S profession, work or services rendered by (i) CONTRACTOR, its employees, agents, officers, or directors, (ii) subcontractors (hereafter, "Subs"), or (iii) anyone else for which CONTRACTOR may be legally responsible; and
- B. The negligent acts of CONTRACTOR, its employees, agents, officers, directors, Subs, or anyone else for which CONTRACTOR is legally responsible; and
- C. The infringement of any patent or copyright resulting from the use by the Indemnitees of any equipment, part, component or other deliverable (including software) supplied by CONTRACTOR under or as a result of this Agreement, but excluding any infringement resulting from the modification or alteration by the Indemnitees of any equipment, part, component, or other deliverable (including software) except as consented to by CONTRACTOR.

The Damages shall include, but are not limited to, those resulting from personal injury to any person, including bodily injury, sickness, disease or death and injury to real property or personal property, tangible or intangible, and the loss of use of any of that property, whether or not it is physically injured.

If the Indemnitees are involved in defending actions, CONTRACTOR shall reimburse the Indemnitees for the time spent by such personnel at the rate the Indemnitees pay for such services.

If an Indemnitee is found to be liable in the proceeding, then CONTRACTOR'S obligation hereunder shall be limited to the proportional share of the liability attributed to CONTRACTOR.

In determining whether a claim is subject to indemnification, the incident underlying the claim shall determine the nature of the claim.

In the event of a violation or an infringement under paragraph 2.C above and the use is enjoined, CONTRACTOR, at its sole expense, shall either (1) secure for the Indemnitees the right to continue using the materials by suspension of any injunction or by procuring a license or licenses for the Indemnitees; or (2) modify the materials so that they become non-infringing. This covenant shall survive the termination of this Agreement.

3. GENERAL REQUIREMENTS

Prior to the start of any work on a RTC project, CONTRACTOR shall purchase and maintain insurance of the types and limits as described herein insuring against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONTRACTOR, its Subs, or their employees, agents, or representatives. The cost of all such insurance shall be borne by CONTRACTOR.

4. VERIFICATION OF COVERAGE

CONTRACTOR shall furnish RTC with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth herein, on forms acceptable to RTC. All deductibles and self-insured retentions shall be shown on the certificate. All certificates and endorsements are to be addressed to RTC's Finance Director and be received by RTC before work commences. Upon request, the CONTRACTOR agrees that RTC has the right to review CONTRACTOR'S and the Sub's insurance policies, or certified copies of the policies. Copies of applicable policy forms or endorsements confirming required additional insured, waiver of subrogation and notice of cancellation provisions are required to be provided with any certificate(s) evidencing the required coverage.

5. NOTICE OF CANCELLATION

CONTRACTOR or its insurers shall provide at least thirty (30) days' prior written notice to RTC prior to the cancellation or non-renewal of any insurance required under this Agreement. An exception may be included to provide at least ten (10) days' written notice if cancellation is due to non-payment of premium. CONTRACTOR shall be responsible to provide prior written notice to RTC as soon as practicable upon receipt of any notice of cancellation, non-renewal, reduction in required limits or other material change in the insurance required under this Agreement.

6. SUBCONTRACTORS & SUBCONSULTANTS

CONTRACTOR shall include all Subcontractors and Subconsultants (referred to collectively as "Subs") as insureds under its liability policies OR shall cause Subs employed by CONTRACTOR to purchase and maintain separate liability coverages and limits of the types specified herein. If any Subs maintain separate liability coverages and limits, each shall include the RTC an additional insureds under its commercial general liability policy, subject to the same requirements stated herein, without requiring a written contract or agreement between each of the additional insureds and any sub-consultant or sub-contractor. Any separate coverage limits of liability maintained by

Subs shall be at least **\$1,000,000** per occurrence and at least **\$2,000,000** for any applicable coverage aggregates or the amount customarily carried by the Sub, whichever is GREATER. If any Subs provide their own insurance with limits less than required of the Contractor, Contractor shall include Subs in their coverage up to the full limits required of the Contractor. When requested by RTC, CONTRACTOR shall furnish copies of certificates of insurance evidencing coverage for each Sub.

7. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions that exceed \$25,000 per occurrence or claim must be declared to RTC's Finance Director prior to signing this Agreement. RTC is entitled to request and receive additional documentation, financial or otherwise, prior to giving its approval of the deductibles and self-insured retentions. Any changes to the deductibles or self-insured retentions made during the term of this Agreement or during the term of any policy must be declared to the RTC's Finance Director prior to the change taking effect.

8. ACCEPTABILITY OF INSURERS

Required insurance is to be placed with insurers with a Best's rating of no less than A-VII and acceptable to RTC. RTC may accept coverage with carriers having lower Best's ratings upon review of financial information concerning CONTRACTOR and the insurance carrier. RTC reserves the right to require that CONTRACTOR'S insurer(s) be licensed and admitted in the State of Nevada or meet any applicable state and federal laws and regulations for non-admitted insurance placements.

9. OTHER CONDITIONS

- A. Failure to furnish the required certificate(s) or failure to maintain the required insurance may result in termination of this Agreement at RTC's option.
- B. If CONTRACTOR fails to furnish the required certificate or fails to maintain the required insurance as set forth herein, RTC shall have the right, but not the obligation, to purchase said insurance at CONTRACTOR's expense.
- C. Any waiver of CONTRACTOR's obligation to furnish such certificate or maintain such insurance must be in writing and signed by an authorized representative of RTC. Failure of RTC to demand such certificate or other evidence of full compliance with these insurance requirements or failure of RTC to identify a deficiency from evidence that is provided shall not be construed as a waiver of CONTRACTOR's obligation to maintain such insurance, or as a waiver as to the enforcement of any of these provisions at a later date.
- D. By requiring insurance herein, RTC does not represent that coverage and limits will necessarily be adequate to protect CONTRACTOR, and such coverage and limits shall not

be deemed as a limitation on CONTRACTOR's liability under the indemnities granted to RTC in this contract.

- E. If CONTRACTOR'S liability policies do not contain the standard ISO separation of insureds condition, or a substantially similar clause, they shall be endorsed to provide cross-liability coverage.

10. COMMERCIAL GENERAL LIABILITY

CONTRACTOR shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than **\$1,000,000** each occurrence. If such CGL insurance contains a general aggregate limit, it shall be increased to equal twice the required occurrence limit or revised to apply separately to this project.

CGL insurance shall be written on ISO occurrence form CG 00 01 04 13 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, products-completed operations, personal and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

RTC and any other Indemnitees listed in Section 2. INDEMNIFICATION of this Agreement shall be included as an additional insured under the CGL, using ISO additional insured endorsement CG 20 10 07/04 or CG 20 33 07/04 or a substitute providing equivalent coverage, and under the commercial umbrella, if any.

This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to RTC or any other Indemnitees under this Agreement.

CONTRACTOR waives all rights against RTC and any other Indemnitees listed in Section 2. INDEMNIFICATION of this Agreement for recovery of damages to the extent these damages are covered by the commercial general liability or commercial umbrella liability insurance maintained pursuant to this agreement. CONTRACTOR's insurer shall endorse CGL policy to waive subrogation against RTC with respect to any loss paid under the policy.

11. COMMERCIAL AUTOMOBILE LIABILITY

CONTRACTOR shall maintain automobile liability and, if necessary, commercial umbrella liability insurance with a limit of not less than **\$1,000,000** each accident. Such insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos).

Coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 25, or a substitute form providing equivalent liability coverage for all owned, leased, hired (rented) and non-owned vehicles (as applicable). RTC may agree to accept auto liability for non-owned and hired (rented) vehicles under the CGL if CONTRACTOR does not own or operate any owned or leased vehicles.

CONTRACTOR waives all rights against RTC, its officers, employees and volunteers for recovery of damages to the extent these damages are covered by the automobile liability or commercial umbrella liability insurance obtained by CONTRACTOR pursuant to this Agreement.

12. NETWORK SECURITY AND PRIVACY LIABILITY

If CONTRACTOR will have access to RTC computer or network systems for any reason and/or data including personal information (as defined in NRS 603A.040) or confidential information, CONTRACTOR shall maintain network security and privacy liability insurance insuring against loss resulting from (1) privacy breaches [liability arising from the loss or disclosure of confidential information] (2) system breach (3) denial or loss of service (4) introduction, implantation, or spread of malicious software code (5) unauthorized access to or use of computer systems and (6) system failure. Coverage shall be provided with a limit of not less than **\$1,000,000** per claim and annual aggregate.

13. TECHNOLOGY PROFESSIONAL LIABILITY (ERRORS & OMISSIONS)

Contractor shall maintain professional liability insurance applying to liability for a professional error, omission, or negligent act arising out of the scope of the Contractor's services provided under this Agreement. Limits shall be not less than \$2,000,000 each claim and annual aggregate.

Coverage shall be included, without limitation, for any form of infringement of copyright or other intellectual property misuse including software copyright infringement, as well as errors, omissions, or negligent acts in the performance or failure to perform technological services for others which result in claims for damage arising out of or alleging programming errors, software performance, or Contractor's failure to perform the services and provide the products that Contractor delivers.

Contractor shall maintain professional liability insurance during the term of this Agreement and, if coverage is provided on a "claims made" or "claims made and reported" basis, shall maintain coverage or purchase an extended reporting period for a period of at least three (3) years following the termination of this Agreement.

EXHIBIT D
FTA REQUIRED CLAUSES

It is a requirement of the Federal Government that activities financed, in part, with Federal funds and performed by a third-party contractor and its subcontractors on behalf of a Federal grantee must be carried out in accordance with applicable Federal requirements.

Activities performed under this Agreement, and any other prior or subsequent amendments thereto, may be financed in part, by a grant from the United States Department of Transportation (DOT), Federal Transit Administration (FTA) to the Regional Transportation Commission of Washoe County (RTC), and if so, would therefore be subject to the applicable grant terms, conditions, and regulations. Accordingly, the Contractor and its subcontractors performing activities under this Agreement must adhere to the Federal requirements stated herein as a condition of satisfactory performance.

All subcontracts and subcontractors employed as a result of this Agreement are subject to the same conditions and requirements as set forth herein unless specifically exempted. The Contractor shall ensure that its subcontractors at all tiers are made aware of and comply with these Federal requirements. The Contractor will be held liable for compliance failures by its subcontractors. Failure to comply will render the Contractor responsible for damages and/or contract termination.

1 - NO GOVERNMENT OBLIGATION TO THIRD PARTIES

- A. The RTC and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying Agreement, absent the express written consent by the Federal Government, the Federal Government is not a party to the Agreement and shall not be subject to any obligations or liabilities to the RTC, the Contractor, or any other party (whether or not a part to that Agreement) pertaining to any matter resulting from the underlying Agreement.
- B. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

2 - PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACTS
[49 U.S.C. § 5323(I) (1); 31 U.S.C. §§ 3801-3812; 18 U.S.C. § 1001; 49 C.F.R. part 31]

- A. The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801, et seq., and U.S. DOT regulations, "Program Fraud Civil Remedies", 49 C.F.R. Part 31, apply to its actions pertaining to the Agreement. Upon execution of the Agreement, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the Agreement or the FTA assisted project for which the work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.
- B. The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5323(I)(1) on the Contractor, to the extent the Federal Government deems appropriate.

C. The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

3 - ACCESS TO RECORDS AND REPORTS [49 U.S.C. § 5325(g); 2 C.F.R. § 200.333; 49 C.F.R. part 633]

The following access to records requirements apply to the Agreement:

A. The Contractor agrees to provide the RTC, the FTA Administrator, the DOT Office of Inspector General, Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to the Agreement for the purposes of making audits, examinations, excerpts, and transcriptions, and as may be necessary for the RTC to meet its obligations under 2 CFR Part 200. This access includes timely and reasonable access to personnel for interviews and discussions related to the records. This right of access is not limited to the required retention period set forth in subsection C below, but continues as long as the records are retained.

B. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

C. The Contractor agrees to maintain all books, records, accounts, and reports required under the Agreement for a period of not less than three years, except in the event of litigation or settlement of claims arising from the performance of the Agreement, in which case the Contractor agrees to maintain such materials until the RTC, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims, or exceptions related thereto. The retention period commences after the RTC makes final payment and all other pending contract matters are closed.

D. The Contractor shall include this clause in all subcontracts and shall require all subcontractors to include the clause in their subcontracts, regardless of tier.

4 - FEDERAL CHANGES

The Contractor shall at all times comply with all applicable FTA regulations, policies, procedures, and directives, including without limitation those listed directly or by reference in the Master Agreement between the RTC and the FTA, as they may be amended or promulgated from time to time during the term of the Agreement. The Contractor's failure to so comply shall constitute a material breach of the Agreement.

5 - ENERGY CONSERVATION [42 U.S.C. 6321 et seq.; 49 C.F.R. part 622, subpart C]

The Contractor agrees to comply with the mandatory standards and policies relating to energy efficiency that are contained in the State Energy Conservation Plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. § 6321, et seq.).

6 - CIVIL RIGHTS LAWS AND REGULATIONS

The Contractor agrees to comply with all applicable civil rights laws and regulations in accordance with applicable federal directives. The Contractor agrees to include these requirements in each subcontract

financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties. These include, but are not limited to, the following:

A. Nondiscrimination in Federal Public Transportation Programs:

Contractor shall prohibit discrimination on the basis of race, color, religion, national origin, sex (including gender identity), disability, or age. Contractor shall prohibit the (i) exclusion from participation in employment or a business opportunity for reasons identified in 49 U.S.C. § 5332; (ii) denial of program benefits in employment or a business opportunity identified in 49 U.S.C. § 5332; or (iii) discrimination identified in 49 U.S.C. § 5332, including discrimination in employment or a business opportunity. Contractor shall follow the most recent edition of Federal Transit Administration Circular 4702.1, "Title VI Requirements and Guidelines for Federal Transit Administration Recipients," to the extent consistent with applicable Federal laws, regulations, requirements, and guidance, and other applicable Federal guidance that may be issued.

B. Nondiscrimination—Title VI of the Civil Rights Act

1. Contractor shall prohibit discrimination on the basis of race, color, or national origin.
2. Contractor shall comply with (i) Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d et seq.; (ii) U.S. Department of Transportation regulations, "Nondiscrimination in Federally-Assisted Programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964," 49 CFR Part 21; and (iii) Federal transit law, specifically 49 U.S.C. § 5332.
3. Contractor shall follow (i) the most recent edition of Federal Transit Administration Circular 4702.1, "Title VI Requirements and Guidelines for Federal Transit Administration Recipients," to the extent consistent with applicable Federal laws, regulations, requirements, and guidance; (ii) U.S. Department of Justice "Guidelines for the enforcement of Title VI, Civil Rights Act of 1964," 28 CFR 50.3; and (iii) all other applicable Federal guidance that may be issued.

C. Equal Employment Opportunity

1. Federal Requirements and Guidance. Contractor shall prohibit discrimination on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin, and (i) comply with Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e et seq.; (ii) facilitate compliance with Executive Order No. 11246, "Equal Employment Opportunity" September 24, 1965, 42 U.S.C. § 2000e note, as amended by any later Executive Order that amends or supersedes it in part and is applicable to Federal assistance programs; (iii) comply with Federal transit law, specifically 49 U.S.C. § 5332; (iv) comply with Federal Transit Administration Circular 4704.1 "Equal Employment Opportunity (EEO) Requirements and Guidelines for Federal Transit Administration Recipients;" and (v) follow other Federal guidance pertaining to equal employment opportunity laws, regulations, and requirements, and prohibitions against discrimination on the basis of disability.
2. Specifics. Contractor shall ensure that applicants for employment are employed and employees are treated during employment without discrimination on the basis of their race, color, religion, national origin, disability, age, sexual orientation, gender identity, or status as a parent, as provided in Executive Order No. 11246 and by any later executive order that amends or supersedes it, and as specified by U.S. Department of Labor regulations. Contractor shall take affirmative action that includes but is not limited to (i) recruitment advertising, recruitment, and employment; (ii) rates of pay and other forms of compensation; (iii) selection for training, including apprenticeship, and upgrading; and (iv) transfers, demotions, layoffs, and terminations. Contractor recognizes that Title VII of the Civil Rights Act of 1964, as amended, exempts Indian Tribes under the definition of "Employer."

3. Equal Employment Opportunity Requirements for Construction Activities. Contractor shall comply, when undertaking "construction" as recognized by the U.S. Department of Labor, with (i) U.S. Department of Labor regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 CFR Chapter 60; and (ii) Executive Order No. 11246, "Equal Employment Opportunity in Federal Employment," September 24, 1965, 42 U.S.C. § 2000e note, as amended by any later executive order that amends or supersedes it, referenced in 42 U.S.C. § 2000e note.

D. Nondiscrimination on the Basis of Sex:

Title IX of the Education Amendments of 1972, as amended, 20 U.S.C. § 1681 et seq. and implementing Federal regulations, "Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance," 49 CFR Part 25 prohibit discrimination on the basis of sex.

E. Nondiscrimination on the Basis of Age:

In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. §§ 621-634; Federal transit law at 49 U.S.C. § 5332; the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6101 et seq.; 49 CFR Part 90, and 29 CFR Part 1625, Contractor agrees to refrain from discrimination for reason of age. In addition, Contractor agrees to comply with applicable Federal implementing regulations.

F. Nondiscrimination on the Basis of Disability:

In accordance with Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794; the Americans with Disabilities Act of 1990, as amended, 42 U.S.C. § 12101 et seq.; the Architectural Barriers Act of 1968, as amended, 42 U.S.C. § 4151 et seq.; and Federal transit law at 49 U.S.C. § 5332, Contractor agrees that it will not discriminate against individuals on the basis of disability. Contractor further agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR Part 1630, pertaining to employment of persons with disabilities. In addition, Contractor agrees to comply with applicable Federal implementing regulations.

G. Drug or Alcohol Abuse - Confidentiality and Other Civil Rights Protections:

To the extent applicable, Contractor agrees to comply with the confidentiality and civil rights protections of the Drug Abuse Office and Treatment Act of 1972, as amended, 21 U.S.C. § 1101, et seq., the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970, as amended, 42 U.S.C. § 4541, et seq., and the Public Health Service Act, as amended, 42 U.S.C. §§ 290dd-290dd-2.

H. Access to Services for Persons with Limited English Proficiency:

Contractor agrees to promote accessibility of public transportation services to persons with limited understanding of English by following Executive Order No. 13166, "Improving Access to Services for Persons with Limited English Proficiency," 42 U.S.C. § 2000d-1 note, and U.S. DOT Notice, "DOT Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficiency (LEP) Persons," 70 Fed. Reg. 74087, Dec. 14, 2005.

7 - INCORPORATION OF FTA TERMS

The preceding provisions include, in part, certain standard terms and conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, and FTA's Master Agreement, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms

shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any RTC requests which would cause the RTC to be in violation of the FTA terms and conditions.

8 - SAFE OPERATION OF MOTOR VEHICLES [23 U.S.C. part 402; Executive Order No. 13043; Executive Order No. 13513; U.S. DOT Order No. 3902.10]

- A. Seat Belt Use. Contractor is encouraged to adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company-owned vehicles, company-rented vehicles, or personally operated vehicles. The terms “company-owned” and “company-leased” refer to vehicles owned or leased either by Contractor or the RTC.
- B. Distracted Driving. Contractor agrees to adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers, including policies to ban text messaging while using an electronic device supplied by an employer, and driving a vehicle the driver owns or rents, a vehicle Contractor owns, leases, or rents, or a privately-owned vehicle when on official business in connection with the work performed under this Agreement.
- C. Contractor shall require the inclusion of these requirements in subcontracts of all tiers.

9 - PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT [2 CFR § 200.216]

Contractor is prohibited from obligating or expending loan or grant funds to:

- A. Procure or obtain;
- B. Extend or renew a contract to procure or obtain; or
- C. Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
 - 1. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
 - 2. Telecommunications or video surveillance services provided by such entities or using such equipment.
 - 3. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

10 - NOTICE TO FTA AND U.S. DOT INSPECTOR GENERAL OF INFORMATION RELATED TO FRAUD, WASTE, ABUSE, OR OTHER LEGAL MATTERS [FTA Master Agreement (28), Section 39(b)]

Notification to FTA; Flow Down Requirement. If a current or prospective legal matter that may affect the Federal Government emerges, Contractor must promptly notify RTC, which will promptly notify the FTA Chief Counsel and FTA Regional Counsel for the Region in which RTC is located. Contractor must include an equivalent provision in its sub-agreements at every tier, for any agreement that is a “covered transaction” according to 2 C.F.R. §§ 180.220 and 1200.220.

- A. The types of legal matters that require notification include, but are not limited to, a major dispute, breach, default, litigation, or naming the Federal Government as a party to litigation or a legal disagreement in any forum for any reason.
- B. Matters that may affect the Federal Government include, but are not limited to, the Federal Government’s interests in the Award, the accompanying Underlying Agreement, and any Amendments thereto, or the Federal Government’s administration or enforcement of federal laws, regulations, and requirements.
- C. Additional Notice to U.S. DOT Inspector General. Contractor must promptly notify RTC, which will promptly notify the U.S. DOT Inspector General in addition to the FTA Chief Counsel or Regional Counsel for the Region in which RTC is located, if Contractor has knowledge of potential fraud, waste, or abuse occurring on a project receiving assistance from FTA. The notification provision applies if a person has or may have submitted a false claim under the False Claims Act, 31 U.S.C. § 3729, et seq., or has or may have committed a criminal or civil violation of law pertaining to such matters as fraud, conflict of interest, bid rigging, misappropriation or embezzlement, bribery, gratuity, or similar misconduct involving federal assistance. This responsibility occurs whether the project is subject to this Agreement or another agreement involving a principal, officer, employee, agent, or Third Party Participant of Contractor. It also applies to subcontractors at any tier. Knowledge, as used in this paragraph, includes, but is not limited to, knowledge of a criminal or civil investigation by a Federal, state, or local law enforcement or other investigative agency, a criminal indictment or civil complaint, or probable cause that could support a criminal indictment, or any other credible information in the possession of Contractor. In this paragraph, “promptly” means to refer information without delay and without change. This notification provision applies to all divisions of Contractor, including divisions tasked with law enforcement or investigatory functions.

11 - GOVERNMENT-WIDE DEBARMENT AND SUSPENSION [2 C.F.R. part 180; 2 C.F.R part 1200; 2 C.F.R. § 200.213; 2 C.F.R. part 200 Appendix II (I); Executive Order 12549; Executive Order 12689]

- A. Contractor shall comply and facilitate compliance with U.S. Department of Transportation regulations, “Non-procurement Suspension and Debarment,” 2 CFR Part 1200, which adopts and supplements the U.S. Office of Management and Budget “Guidelines to Agencies on Government wide Debarment and Suspension (Non-procurement),” 2 CFR Part 180. These provisions apply to each contract at any tier of \$25,000 or more, and to each contract at any tier for a federally required audit (irrespective of the contract amount), and to each contract at any tier that must be approved by a Federal Transit Administration official irrespective of the contract amount. As such, Contractor shall verify that its principals, affiliates, and subcontractors are eligible to participate in this federally funded contract and are not presently declared by any Federal department or agency to be:

1. Debarred from participation in any federally assisted award;
2. Suspended from participation in any federally assisted award;
3. Proposed for debarment from participation in any federally assisted award;
4. Declared ineligible to participate in any federally assisted award;
5. Voluntarily excluded from participation in any federally assisted award; or
6. Disqualified from participation in any federally assisted award.

- B. Contractor certifies that it and/or its principals, affiliates, and subcontractors are not currently debarred or suspended. Contractor shall promptly inform the RTC of any change in the suspension or debarment status of Contractor or its principals, affiliates, and subcontractors during the term of the Agreement. Further, Contractor shall include a provision requiring compliance with the requirements of 2 CFR Part 180, Subpart C, as supplemented by 2 CFR Part 1200 in its lower-tier covered transactions.
- C. The certification in this clause is a material representation of fact relied upon by RTC. If it is later determined by the RTC that Contractor knowingly rendered an erroneous certification, in addition to remedies available to the RTC, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
- D. Contractor agrees to comply with the requirements of 2 CFR Part 180, Subpart C, as supplemented by 2 CFR Part 1200, throughout the term of the Agreement.

12 - LOBBYING RESTRICTIONS [31 U.S.C. § 1352; 2 C.F.R. § 200.450; 2 C.F.R. part 200 appendix II (J); 49 C.F.R. part 20]

Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by 49 C.F.R. Part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. § 1352. Such disclosures are forwarded from tier to tier up to the RTC.

13 - CONTRACT WORK HOURS AND SAFETY STANDARDS ACT—NON-CONSTRUCTION

- A. Contractor shall comply with all Federal laws, regulations, and requirements providing wage and hour protections for non-construction employees, in accordance with 40 U.S.C. § 3702, Contract Work Hours and Safety Standards Act, and other relevant parts of that Act, 40 U.S.C. § 3701 et seq., and U.S. Department of Labor regulations, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Non-construction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 CFR Part 5.
- B. Contractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three (3) years from the completion of the Agreement for all laborers and mechanics, including guards and watchmen, working on the Agreement. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid.

- C. Such records maintained under this section shall be made available by Contractor for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration and the U.S. Department of Labor, and Contractor will permit such representatives to interview employees during working hours on the job.
- D. Contractor shall require the inclusion of the language of this section in subcontracts of all tiers.

14 - CLEAN WATER REQUIREMENTS [33 U.S.C. §§ 1251-1387; 2 C.F.R. part 200, Appendix II (G)]

- A. The Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1251, et seq. The Contractor agrees to report each violation to the RTC and understands and acknowledges that the RTC will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.
- B. The Contractor also agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FTA.

15 - CLEAN AIR ACT [42 U.S.C. §§ 7401 – 7671q; 2 C.F.R. part 200, Appendix II (G)]

- A. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401, et seq. The Contractor agrees to report each violation to the RTC and understands and agrees that the RTC will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.
- B. The Contractor also agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FTA.

16 - CARGO PREFERENCE [46 U.S.C. § 55305; 46 C.F.R. part 381]

If the Contractor uses Federal funds to purchase any capital items from foreign sources under the Agreement, the Contractor agrees:

- A. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately from dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, materials, or commodities pursuant to this Contract to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
- B. To furnish within 20 working days following the date of loading for shipments originating within the United States, or within 30 working days following the date of loading for shipment originating outside of the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in subsection A above to the RTC (through the Contractor in case of a subcontractor bill-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, 400 Seventh Street, S.W., Washington, D.C. 20590, marked with appropriate identification of the project.
- C. To include these requirements in all subcontracts issued pursuant to the Agreement which may involve the transport of equipment, materials, or commodities by ocean vessel.

17 - GEOGRAPHIC INFORMATION AND RELATED SPATIAL DATA

If the work or related activity directly or indirectly involves spatial data, or geographic information systems, Contractor shall follow U.S. Office of Management and Budget Circular A-16, "Coordination of Geographic Information and Related Spatial Data Activities," August 19, 2002, and U.S. Office of Management and Budget Circular A-16 Supplemental Guidance, "Geospatial Line of Business," November 10, 2010.

SAMPLE

REQUIRED FEDERAL CERTIFICATIONS

SAMPLE

AFFIDAVIT OF NON-COLLUSION

I hereby swear (or affirm) under penalty of perjury:

1. That I am the Bidder (if the Bidder is an individual, a partner in the Bid (if the Bidder is a partnership) or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation));
2. That the attached Bid or Bids has been arrived at by the Bidder independently and have been submitted without collusion and without any agreement, understanding or planned common course of action with any other vendor of materials, supplies, equipment or service described in the Invitation for Bid, designed to limit independent Bids or competition;
3. That the contents of the Bid or Bids has not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished with the Bid or Bids and will not be communicated to any such person prior to the official opening of the Bid or Bids; and
4. That I have fully informed myself regarding the accuracy of the statements made in the affidavit.

Firm Name: Carahsoft Technology Corp

Signed: _____

Print: _____

Date: _____

**CERTIFICATION REGARDING DEBARMENT, SUSPENSION,
OTHER INELIGIBILITY AND VOLUNTARY EXCLUSION**

I, _____ certify to the best of my knowledge and belief, that the contractor/primary participant and principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency;
2. Have not, within a three-year period preceding this Bid, been convicted of or had a civil judgment rendered against them for commission of a fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public function (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and
4. Have not, within a three-year period preceding this bid, had one or more public transactions (federal, state, or local) terminated for cause or default.

[Where the Contractor is unable to certify to any of the statements in this certification, such Contractor shall attach an explanation to this Bid.]

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THE FOREGOING DOCUMENT ARE TRUE AND CORRECT, AND THAT I AM AUTHORIZED, ON BEHALF OF THE ABOVE FIRM, TO MAKE THIS AFFIDAVIT.

Contractor Name: Carahsoft Technology Corp

Signature: _____

Print: _____

Date: _____

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans and Cooperative Agreements 49 C.F.R. Part 20 that: The undersigned Contractor certifies, to the best of his or her knowledge and belief,

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form—LLL, “Disclosure Form to Report Lobbying,” in accordance with its instructions as amended by “Government wide Guidance for New Restrictions on Lobbying,” 61 Fed. Reg. 1413 (1/19/96).

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. §1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty or not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.

The Contractor, Carahsoft Technology Corp, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801, *et seq.*, apply to this certification and disclosure, if any.

Signature of Contractor’s Authorized Official: _____

Name and Title of Contractor’s Authorized Official: _____,

Date: _____



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.5.2

To: Regional Transportation Commission

From: James Gee, Director of Public Transportation and Operations

SUBJECT: Purchase of Ten (10) Hybrid Diesel-Electric Buses, Transit Buses Master Contract No. 06719-0110

RECOMMENDED ACTION

Approve a contract with New Flyer to purchase ten (10) hybrid diesel-electric buses utilizing the State of Washington's Cooperative Purchasing Agreement for Transit Buses Master Contract No. 06719-0110, in an amount not-to-exceed \$10,492,211.40.

BACKGROUND AND DISCUSSION

RTC currently has a mixed fixed route fleet of battery electric, hybrid electric, and hydrogen fuel cell vehicles. Due to poor aftermarket support for the battery electric vehicles, primarily due to the bankruptcy of Proterra (the manufacturer of RTC's electric vehicles) and RTC's limited experience with hydrogen fuel cell vehicles, RTC is seeking to purchase ten (10) replacement hybrid electric vehicles. This purchase will be made from the State of Washington joint procurement contract. That procurement method is preferred by the Federal Transit Administration and will save RTC grant funds due to the increased purchasing power available with the state contract as opposed to purchasing vehicles independently.

RTC has selected New Flyer hybrid vehicles due to the positive history RTC already has with these buses. RTC already operates 33 of these vehicles or approximately 50% of its fleet. From past orders, these vehicles have been reliable with excellent product support from the manufacturer. By staying with New Flyer, RTC will gain the benefits of reduced inventory, continued reliability, and reduced training requirements for our drivers and technicians.

New Flyer is experiencing significant demand for its vehicles in the wake of the Proterra bankruptcy. If the Board approves this contract now, RTC can secure an earlier than expected production date which should reduce the delivery timeframe by approximately 9 months. As a result, the expected delivery of these vehicles would be April and May of 2025.

RTC is in the process of finalizing contract terms that will supplement the terms of the State of Washington joint procurement contract. Those terms will be consistent with the material terms described in this staff report and contained in the attached quote from New Flyer.

FISCAL IMPACT

Funding for these ten buses is contained in the FY25 budget.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.



**Regional Transportation Commission
of Washoe County**

**Option Proposal for Ten (10) 40'
Hybrid Buses**

Regional Transportation Commission of Washoe County

Option for Ten (10) XDE40 Hybrid Buses

Proposal Table of Contents

Tab 1, Letter of Transmittal

Tab 2, Bus Price Summary

Tab 3, Bus Price Change Detail

Tab 4, Bus Warranty Proposal

Tab 5, Bus Training Proposal

Tab 6, Bus Publications Proposal

Tab 7, Bus Tools and Diagnostics Proposal

Tab 8, Bus Delivery Schedule

Tab 9, Bus Technical Summary

Regional Transportation Commission of Washoe County

Option for Ten (10) XDE40 Hybrid Buses

Tab 1, Letter of Transmittal

Solicitation Requirements:

N/A

New Flyer Response:

Please see attached our [Letter of Transmittal](#) to the Regional Transportation Commission of Washoe County.

Please indicate your acceptance by providing a Purchase Order to New Flyer, attention:

Adrian Graca, Business Segment Director – Municipal Transit Fleets
204.470.5521

Adrian_Graca@newflyer.com



July 11, 2024

Jim Gee
Regional Transportation Commission of Washoe County (Reno)
Director, Public Transportation
Suite 200 - 1105 Terminal Way
Reno, NV 89502

Subject: Quotation for Ten (10) 40' Heavy Duty Low-Floor Hybrid Buses

Dear Jim,

New Flyer is pleased to submit an option price quotation for the production of ten (10) forty-foot Heavy-Duty Hybrid Transit buses based on New Flyer's agreement with the State of Washington Contract #06719.

The proposed buses will be technically configured as per your request for the XDE40.

The XDE40 price per contract is **\$1,049,221 USD/bus** which includes Warranty, Publications, and Delivery.

We would like to highlight key elements of our proposal:

Warranty: New Flyer exceeds the industry standard warranties in many areas such as our 5 year / 300,000 miles axle warranty (standard warranty is 2 years) and our 3 years / 150,000 miles multiplex warranty (standard competitor warranty is 1 year / 50,000 miles). Please see our Warranty Proposal for more information. Please note that warranty is included in the bus price.

Training: New Flyer Training is an organization within the New Flyer Customer Services group, a division of New Flyer Industries. As a part of the leading manufacturer of heavy-duty transit buses in the United States and Canada, we have access to top design, engineering, propulsion technology, and electrical systems professionals. This allows us to offer the service and expertise to maximize the lifetime value of your fleet. Please see our Training Proposal for more information. Please note that optional training is not included in the bus price.

Publications: The New Flyer Publications team combines extensive, hands-on technical experience with exceptional writing, illustrating, and publishing skills to create the industry's benchmark in maintenance manuals. They supply accurate information in a timely manner, assisting the customer in the performance of proper bus maintenance, which adds to the overall reliability and lifetime value of each New Flyer bus on the road. Please see our Publications Proposal for more information. Please note that publications are included in the bus price.

Tooling and Diagnostics: Please see our Tools and Diagnostics Proposal for more information. Please note that tooling and diagnostics are not included in the bus price.

Delivery Proposal: New Flyer is proposing a complete delivery by Q3-Q4 of 2025 based on a receipt of a Notice to Proceed within 60 days of this submission. Please note that delivery is included in the bus price.

Payment Terms: Following the terms and conditions of New Flyer’s contract payment terms with the State of Washington Contract #06719:

- Payment terms are Net 30 days
- Acceptance is within 15 days of delivery

New Flyer is pleased to offer milestone payments discount as follows:

Milestone Payment Options (XDE40)

Terms Payment Net 30 for all Milestones	Percentage	Amount	Discount	Net Payment
Engine Installation	75%	\$786,916	(\$8,893)	\$778,023
Acceptance	25%	\$262,305	\$0.00	\$261,400
		\$1,049,221	(\$8,893)	\$1,040,328
Approval for Shipment from Facility	80%	\$839,377	(\$5,174)	\$834,203
Acceptance	20%	\$209,844	\$0.00	\$209,844
		\$1,049,221	(\$5,174)	\$1,044,047

This project allows New Flyer the important opportunity to continue our strong relationship with Regional Transportation Commission of Washoe County (Reno). It also gives us the opportunity to deliver some of the most advanced vehicles available in North America. We thank you for your continued interest in New Flyer products and look forward to working with you again.

This quote is open for acceptance for sixty (60) days. Please indicate your acceptance by providing a Purchase Order to New Flyer of America, attention to Adrian Graca, Business Segment Director – Municipal Transit Fleets at Adrian_Graca@newflyer.com.

Sincerely,

NEW FLYER OF AMERICA INC.



Robby Tokar
Technical Sales Manager
 C 431.294.7568
robby_tokar@newflyer.com

CC: Walter Yang – Regional Sales Manager
 Adrian Graca – Business Segment Director – Municipal Transit Fleets
 Cindy Campbell – Contract Administrator

Regional Transportation Commission of Washoe County

Option for Ten (10) XDE40 Hybrid Buses

Tab 2, Bus Price Summary

Solicitation Requirements:

N/A

New Flyer Response:

Please see the attached New Flyer's [Price Summary](#) for Ten (10) – XDE40 buses for the Regional Transportation Commission of Washoe County].



Price Change Summary

Property:	Regional Transportation Commission of Washoe
Option Origin:	County (Reno)
Sales Release No.:	20-046
Quantity:	0
Type:	10
Price Change No.:	XDE40
Revision:	1
Date:	E
	27-Jun-24

	Each	Total
Items Included in Bus Price		
Original Contract Price Base Coach	\$ 822,282.75	\$ 8,222,827.50
Base Bus Price Change Total	\$ 226,938.39	\$ 2,269,383.90
Contract Spares Base Bus Price Change Total	\$ -	\$ -
Revised Price Base Bus (including ADA & delivery)	\$ 1,049,221.14	\$ 10,492,211.40

Priced Separately Items		
Original Contract Price for Contract Spares (If priced separately)		
Contract Spares Changes (Priced Separately) Total	\$ -	\$ -
Revised Contract Spares Priced Separately	\$ -	\$ -

Original Contract Price for Miscellaneous (If priced separately)		
Miscellaneous Price Change Total	\$ -	\$ -
Revised Miscellaneous Priced Separately	\$ -	\$ -

Revised Total Contract Price **\$ 10,492,211.40**

Authorized Signatures:

New Flyer Authorization:

Signature: _____

Title: _____

Date: _____

Property Authorization:

Signature: _____

Title: _____

Date: _____

Tab 3, Bus Price Change Detail

Solicitation Requirements:

N/A

New Flyer Response:

Please see the attached New Flyer's [Price Detail Sheet](#).

This sheet includes all price changes that are required to go from the base bus to the proposed configuration, as requested.



Price Change Detail

Property:	Regional Transportation Commission of Washoe County (Reno)
Option Origin:	20-046
Sales Release No.:	0
Quantity:	10
Bus Type:	XDE40

Price Change Type	Reference No.	Option No.	Option Group	SRCR No.	Description	Data		
						Price per coach	Extended Total	
Base Bus Price Change	1	203	Suspension Front		Delete E-Stroke	(2,921.31)	(29,213.10)	
	2	205	Tires		Change wheels from White powdercoat to Polish Durabright wheels	2,194.41	21,944.06	
	4	241	Fuel System		Change Stainless Steel Fuel tank to Polycarbon and Add DAVCO fuel system	(1,723.70)	(17,237.00)	
	5	269	PA System		Remove Amp and gooseneck mic	(256.51)	(2,565.10)	
	6	246	Air, Brake & Lev System		Change from Gemini to AD9 Tandem Air Dryer	186.72	1,867.17	
	7	280	Passenger Signal		Add Touch tape Stop request driver lamp	72.61	726.10	
	8	273	Exterior Lamp		Remove porch lights, change from one to two CRT stop, add RR reflectors	(345.54)	(3,455.41)	
	10	304	Paint & Decal		Add Customer Specific Paint Scheme	8,642.00	86,420.01	
	13	306	Safety Equipment		Add First aid kit and Bloodbourne kit	167.75	1,677.55	
	14	420	Body A/P Before Paint		Add Roof hatch and change the color of Corner Pillar	992.95	9,929.49	
	15	422	Body A/P After Paint		Remove Docket 90 - not required	(4,199.00)	(41,990.00)	
	16	423	Advertising Frames		Add Stainless Steel Ad Frame	597.32	5,973.20	
	17	450	Flooring A/P		Change Altro Black TFM 27892 Flooring and RR wheel house PNLs required, removing docket 90	(1,040.66)	(10,406.64)	
	18	460	Windows		Changing windows to Arow Global - LAM framed 44% 6mm tip-in/fixd with film	3,502.76	35,027.63	
	19	470	Destination Signs		Add Hanover - Amber with FRT route sign, Trapeze AVA system, Zonar AVM, Antenna Nextbus, NF connect required	53,769.49	537,694.86	
	20	491	Door Exit		Add Class Pneumatic Medium Ameriview Acoustic system	3,620.91	36,209.10	
	21	526	Seating & Stanchions		Change to USSC Citipro 40P 2 x V-Pro USB, Recaro MC2 2 pt belt HTD, Arow Global DPS ext glass, 14 straps	26,185.95	261,859.47	
	22	549	HVAC System		Add floor, auxiliary, and ramp heaters	6,987.00	69,870.00	
	23	580	Wheelchair Lift		Change to NFIL ramp from Smart Rider Ramp	(2,976.00)	(29,760.00)	
	24	600	Customer Options		GFI Farebox	28,395.99	283,959.90	
	25	600	Customer Options		Safefleet Camera Surveillance system	14,868.62	148,686.24	
	26	600	Customer Options		Amerex Fire Suppression	5,921.18	59,211.83	
	27	600	Customer Options		Sportworks APEX3 Bike Rack	2,531.15	25,311.54	
	28	600	Customer Options		Hanover Software license fee for WDM	685.00	6,850.00	
	29	600	Customer Options		Hanover Wireless Data Manager Hosting	411.00	4,110.00	
	30	600	Customer Options		GFI License Fee	260.30	2,603.00	
	31	600	Customer Options		Trapeze Site Integration Labor	2,894.81	28,948.10	
	32	600	Customer Options		Trapeze Supplier Application Approval Labor	1,096.00	10,960.00	
	33	600	Customer Options		Instant tire chains , Equipment box, Coffee cup holder, SDS Trays	6,512.46	65,124.60	
	34	420	Body A/P Before Paint		Remove Impact Panels	(1,573.69)	(15,736.90)	
	35	480	Mirrors		Change to heated pullback windows	(202.00)	(2,020.00)	
	36	600	Customer Options		Remove tansfer cutter, ground straps, and tow connector	(263.68)	(2,636.80)	
	37	600	Customer Options		Add Mandatory Electrical Accessories for Hybrid Buses	71,944.10	719,441.00	
	Base Bus Price Change Total						226,938.39	2,269,383.90

Tab 4, Bus Warranty Proposal

Solicitation Requirements:

N/A

New Flyer Response:

Please see the attached New Flyer [Warranty Proposal](#).

Please note that Warranty Pricing is included as part of the Bus Price.



CONTRACT DELIVERABLES LIST		Warranty
CUSTOMER NAME	Regional Transportation Commission of Washoe County	
BID NUMBER	2024-073	
SR #		
CUSTOMER CONTRACT #		
CUSTOMER PO #		
LD DATE		
BUS MODEL	XDE40	
QUANTITY	10	

MAJOR COMPONENT DESCRIPTION	BASE AND EXTENDED WARRANTY			COMMENTS
	PROVIDER	YEARS	MILEAGE	
Base Bus Warranty	New Flyer of America	1	50,000	Excluding scheduled maintenance items, acts of nature, or normal consumables
Basic Bus Structure	New Flyer of America	3	150,000	Body, and body structure shall consist of the components that are bolted or riveted to the structure, such as, exterior panels, interior panels, roof, ceiling, and driver's barrier.
Chassis Structure (Integrity)	New Flyer of America	12	500,000	Consists of all components that are welded together to form the main frame (skeleton) and body construction. The structural integrity guarantee covers against a significant loss of structural integrity of the assembly or its functional performance due to non corrosion related failures.
Chassis Structure (Corrosion)	New Flyer of America	12	500,000	Consists of all components that are welded together to form the main frame (skeleton) and body construction. The corrosion guarantee covers against a significant loss of structural integrity of the assembly or its functional performance, resulting from a pertinent loss of cross-section due to corrosion caused by normal environmental elements but excludes corrosion caused by aggressive road de-icers such as Magnesium Chloride or equivalents, unless New Flyer approved preventative measures are taken. The warranty shall be void if the Agency fails to conduct corrosion inspections and scheduled preventive maintenance procedures as specified in the Contractor's maintenance manuals. The Agency shall maintain documentation, auditable by the Contractor, verifying service activities in conformance with the Contractor's maintenance manuals.
Engine	Cummins	2	Unlimited	All repairs/warranty claims need to be handled through the local authorized repair facility. When the 3 year extended warranty is purchased (5 years total) the following applies: Two Year Base (Full Coverage), years 3,4 & 5 covers components only as per manufacturer's warranty document.
Hybrid Drive	BAE	2	Unlimited	All repairs/warranty claims need to be handled through the local authorized repair facility. When the 3 year extended warranty is purchased (5 years total) the following applies: Two Year Base (Full Coverage), years 3,4 & 5 covers components only as per manufacturer's warranty document.
Axle (Front and Rear)	MAN	5	300,000	Excluding maintenance items & items that are not covered by the OEM's warranty. All friction materials are excluded from this limited warranty. Wear and third party items supplied with the axle (e.g. slack adjuster, seals and bearings, shocks, air bellows, radius rods, brake chambers) are not included in the 5 year warranty. Please see manufacturer's warranty document.
A/C	Thermo King	2	Unlimited	Some limitations and exclusions may apply - Please see manufacturer's warranty document. All repairs/warranty claims need to be handled through the local authorized repair facility.
Brake System	New Flyer of America	1	50,000	Friction Material Excluded
Destination Signs	Twin Vision	6	Unlimited	Some limitations and exclusions may apply - Please see manufacturer's warranty document. All repairs/warranty claims need to be handled through the local authorized repair facility.
Door Systems	Vapor	3	150,000	Excluding maintenance items & items that are not covered by the OEM's warranty
Air Compressor	Cummins	2	Unlimited	
Wheelchair Ramp	New Flyer of America	1	50,000	
Electrical System	Vansco	3	150,000	Excluding maintenance items & items that are not covered by the OEM's warranty
LED Headlights	J.W. Speaker	6	Unlimited	Warranty covers parts only after first year
Paint	Axalta	5	Unlimited	
Emission Control System	Cummins	5	100,000	Some limitations and exclusions may apply - Please see manufacturer's warranty document. All repairs/warranty claims need to be handled through the local authorized repair facility for Cummins components. Warranty includes Particulate Filter, DEF Components and Aftertreatment devices which should be submitted direct to New Flyer.
Tires	New Flyer of America	2	24,000	New Flyer Industries Limited warrants the tires installed as original equipment on this vehicle only against defects in materials and workmanship which cause the vehicle to fail to comply with applicable U.S. and Canadian greenhouse gas emission limits ("Warrantable Emissions Failures"). This vehicle emissions limited express warranty relating to original equipment tires is valid for two (2) years or 24,000 miles whichever occurs first.
Greenhouse Gas Emissions-Related Warrant	New Flyer of America	5	100,000	Aluminum Wheels, Emissions-related warranty on Neutral-Idle or Start/Stop idle reduction systems, as defined by the U.S. EPA (not including Allison Standard FuelSense 2.0, Restricted Neutral-at-Stop (NAS), and "Auto-Neutral" functions)

Tab 5, Bus Training Proposal

Solicitation Requirements:

N/A

New Flyer Response:

Please see the attached New Flyer [Training Proposal](#).

Please note that this proposal is for recommended training only. Training courses may be selected by the Regional Transportation Commission of Washoe County. New Flyer's training team is happy to advise on selecting the correct training for your needs.

Corresponding prices are not included in the Bus Price.

CONTRACT DELIVERABLES LIST		CUSTOMER TRAINING		CURRENCY: USD
CUSTOMER NAME	Reno - Washoe County			
BID/OPTION/SR NUMBER	2024-073			
TECHNICAL SUMMARY	Rev Draft 1			
BUS MODEL	XDE40			
QUANTITY	10			
New Flyer Supplied Training				
DESCRIPTION	RECOMMENDED MAXIMUM NUMBER OF STUDENTS PER CLASS	QTY HRS.	TOTAL SELLING PRICE AT BID	
Operator Orientation (Train-the-Trainer)	6	4	\$986.85	
Maintenance Orientation	15	4	\$986.85	
Preventive Maintenance Inspection	10	4	\$986.85	
Multiplex System	10	32	\$7,894.80	
Entrance & Exit Doors	10	4	\$986.85	
Wheelchair Ramp	10	4	\$986.85	
Brake Systems and Axles	10	16	\$3,947.40	
Air System and ABS	10	8	\$1,973.70	
Suspension and Steering	10	8	\$1,973.70	
Electric Fan Drive	10	4	\$986.85	
Coolant Loop Fill Procedure	10	4	\$986.85	
Towing	10	4	\$986.85	
Body and Structure	10	4	\$986.85	
OEM/Subcontractor Supplied Training				
DESCRIPTION	RECOMMENDED MAXIMUM NUMBER OF STUDENTS PER CLASS	QTY HRS.	TOTAL SELLING PRICE AT BID	
Engine Maintenance	10	16	\$8,640.00	
HVAC Maintenance	8	8	\$4,860.00	
Fire Suppression	10	8	\$5,130.00	
Destination Sign	10	8	\$4,860.00	
Hybrid Propulsion System Familiarization	8	16	\$13,500.00	
Hybrid Propulsion System Troubleshooting	8	16	\$13,500.00	

Tab 6, Bus Publications Proposal

Solicitation Requirements:

N/A

New Flyer Response:

Please see the attached New Flyer [Publications Proposal](#).

Please note that Publication Pricing is included in the Bus Price.

CONTRACT DELIVERABLES SHEET

PUBLICATIONS rev a. May 29, 2024

0 RTC - Washoe County

PRIMARY CUSTOMER NAME	Reno
PUBLICATIONS CUSTOMER NAME	RTC - Washoe County
BID NUMBER	2024-073
SR #	
BUS MODEL	XDE40
QUANTITY	10

New Flyer Standard Bus Publications

This is for one XDE40 Option Build of 10 Buses Only

DESCRIPTION	QTY	CUSTOMER DELIVERY	UPDATES (years)	COMMENTS
Emergency Responder Guide (8.5x11 laminated paper)	10	With First Bus Delivery	6	Emergency information to be on board each bus
Operator's Guide (8.5x11 3-hole)	10	With First Bus Delivery	6	
Parts Manual	5	30 Business days After Last Bus Delivery	6	
Service Manual	5	30 Business days After Last Bus Delivery	6	
Bus System Drawings Manual (11x17 3-hole regular paper includes air, electr, hydraulic, cooling, PLC HVAC layouts and schematics)	5	30 Business days After Last Bus Delivery	6	
TIV USB	5	30 Business days After Last Bus Delivery	6	USB Includes only NF Manuals plus OEM manuals below identified with ""

OEM Supplier Publications

This is for one XDE40 Option Build of 10 Buses Only

DESCRIPTION	QTY	CUSTOMER DELIVERY	UPDATES (years)	COMMENTS
Cummins B6.7 (CM2450) Engine OEM Vendor Manual Set (includes only the following)		With First Bus Delivery or Soon After Receiving From OEM Supplier		
Fault Code Troubleshooting Manual (Vol 1 - 6)	1	"	N/A	PDF only available with hard copy
Service Manual (Vol 1 - 2)	1	"	N/A	PDF only available with hard copy
Operation & Maintenance Manual	1	"	N/A	PDF only available with hard copy
Owners Manual	1	"	N/A	PDF not available
BAE HDS200 Hybridrive OEM Manual Set (includes only the following)		With First Bus Delivery or Soon After Receiving From OEM Supplier		
HDS200 Hybridrive System Manual	1	"	N/A	*
Thermo King HVAC OEM Manual Set (includes only the following)		With First Bus Delivery or Soon After Receiving From OEM Supplier		
Unit Operation & Maintenance Manual	1	"	N/A	*
Intelligaire III Controls Diagnostic Manual	1	"	N/A	*
EMP Cooling System OEM Manual Set (includes only the following)		With First Bus Delivery or Soon After Receiving From OEM Supplier		
MH5 Cooling System Service Manual	1	"	N/A	*
MH5 Cooling System Troubleshooting Manual	1	"	N/A	*
ESS Oil Cooler Service Manual	1	"	N/A	*
ESS Oil Cooler Troubleshooting Manual	1	"	N/A	*
WABCO ABS System OEM Manual (includes only the following)		With First Bus Delivery or Soon After Receiving From OEM Supplier		
ABS Maintenance Manual	1	"	N/A	*
Destination Sign OEM Manual Set (includes only the following)		With First Bus Delivery or Soon After Receiving From OEM Supplier		
Operation & Maintenance Manual	1	"	N/A	*
Amerex FSS System OEM Manual Set (includes only the following)		With First Bus Delivery or Soon After Receiving From OEM Supplier		
System Operation and Maintenance Manual	1	"	N/A	*
Modular Controller Operation and Maintenance Manual	1	"	N/A	*
Valeo Aux Coolant Heater System OEM Manual Set (includes only the following)		With First Bus Delivery or Soon After Receiving From OEM Supplier		
Thermo DC200 Workshop Manual	1	"	N/A	*
Safe Fleet Video Surveillance System OEM Manual Set (includes only the following)		With First Bus Delivery or Soon After Receiving From OEM Supplier		
MobileView User Manual	1	"	N/A	*
Arow Global OEM Manual Set (includes only the following)		With First Bus Delivery or Soon After Receiving From OEM Supplier		
DPS System Manual	1	"	N/A	*
Vansco Multiplexing System OEM Manual (includes only the following)		With First Bus Delivery or Soon After Receiving From OEM Supplier		
Hardware User Guides	1	"	N/A	*
Software User Guides	1	"	N/A	*

Tab 7, Bus Tools and Diagnostics Proposal

Solicitation Requirements:

N/A

New Flyer Response:

Please see the attached New Flyer [Tools and Diagnostics Proposal](#).

Please note that this proposal outlines New Flyer's recommended tools and diagnostics package required to maintain the Xcelsior® bus. The package acts as a shopping list for the Regional Transportation Commission of Washoe County to select from, as required.

The corresponding prices are not included in the Bus Price.

CONTRACT DELIVERABLES LIST		DIAGNOSTICS & TOOLS					
CUSTOMER NAME		Reno - Washoe County					
BID/OPTION/SR NUMBER		2024-073		CURRENCY: USD			
TECHNICAL SUMMARY		Rev Draft 1					
BUS MODEL		XDE40					
QUANTITY		10					
SHIPPING ADDRESS (IF DIFFERENT THAN ABOVE)	COMMENTS	DESCRIPTION	QUOTED PART #	BID QTY	UNIT SELLING PRICE	EXTENDED SELLING PRICE	
		Diagnostic Equipment					
	for use with all diagnostic software	Panasonic FZ55 Toughbook Laptop	6502351	1	\$3,713.91	\$3,713.91	
	Product Drivers - NEXIQ.com	Nexiq USB Link™ 3 - WIFI/Bluetooth Edition	6494933	1	\$1,181.98	\$1,181.98	
	INSITE™ Engine Diagnostics Cummins Inc.	Cummins Insite Software	NPN	1	\$0.00	\$0.00	
	Requires annual renewal	Cummins Insite Lite (1st year subscription)	6339520	1	\$1,661.65	\$1,661.65	
	Requires annual renewal	Insite Lite - 1-yr Renewal	6495522	1	\$1,661.65	\$1,661.65	
	Requires annual renewal	Cummins Insite Pro (1st year subscription)	6339521	1	\$1,372.99	\$1,372.99	
	Requires annual renewal	Insite Pro - 1-yr Renewal	6495523	1	\$1,372.99	\$1,372.99	
	Requires annual renewal	Wabco ABS Software (1st yr subscription)	6334596	1	\$432.62	\$432.62	
		Software - Wabco ABS 1-yr Renewal	6495817	1	\$432.62	\$432.62	
		BAE IDS Software	6494673	1	\$6,180.30	\$6,180.30	
	https://www.kvaser.com/downloads/	KVASER Interface	6399629	1	\$571.68	\$571.68	
	Software included in kit	Intelligaire III Diagnostic Software & Cables	6393934	1	\$2,456.96	\$2,456.96	
	EMP : Drivers & Downloads (emp-corp.com)	EMP Software	NPN	1	\$0.00	\$0.00	
	Software included in kit	Valeo Diagnostic Software & Cables	6396448	1	\$622.19	\$622.19	
		Valeo Adapter - Diagnostic	6492163	1	\$109.65	\$109.65	
	kmeyers@hanoverdisplays.com	Hanover HELEN Software	6401762	1	\$15.45	\$15.45	
		Hanover Keylo Programming Device	6401761	1	\$193.13	\$193.13	
		Hanover Keylo Programming Base Station	6401760	1	\$270.39	\$270.39	
	http://divapps.parker.com/divapps/qan/VanscoVM	Vansco Software	NPN	1	\$0.00	\$0.00	
	http://divapps.parker.com/divapps/qan/VanscoDLA	Vansco 1210 Chooser	NPN	1	\$0.00	\$0.00	
	PVSG Software (parker.com)	PVSG Software	NPN	1	\$0.00	\$0.00	
		Cable - PVSG Interface	6487019	1	\$56.74	\$56.74	
		Cable - Transtech VR Interface	6488984	1	\$321.60	\$321.60	
	https://promo.parker.com/promotionsite/parker-sm	Smartrider Software	NPN	1	\$0.00	\$0.00	
		Vapor Class System Diagnostic Interface Kit	6358421	1	\$62.37	\$62.37	
	kkobel@wabtec.com	Vapor Class System Software	NPN	1	\$0.00	\$0.00	
		Datalogger - Vector GL1000	6473056	1	\$3,243.10	\$3,243.10	
	darryl.desjarlais@newflyer.com	Danfoss Software - Berendsen Pwr Strg	NPN	1	\$0.00	\$0.00	
		Cables Kit - Berendsen Pwr Strg	6490120	1	\$396.39	\$396.39	
		Service Cable - IRMA APC Analyzer	479892	1	\$47.90	\$47.90	
		Ethernet Cable - IRMA APC	6465569	1	\$130.10	\$130.10	
		Special Tools & PPE					
		Kit - Lift Tow Universal	6396565	1	\$321.79	\$321.79	
		Kit - Lift Tow Receivers	6396567	1	\$1,939.15	\$1,939.15	
		Xcelsior Flat Tow adapter (2 pcs. Per set)	6395097	1	\$3,744.29	\$3,744.29	
		Assy - Frame Flat Towing	902990	1	\$6,349.79	\$6,349.79	
		Jacking Adapters	434434	1	\$1,142.77	\$1,142.77	
		Tool - Sway Bar Bushing Removal	566804	1	\$460.91	\$460.91	
		Repair Kit - Disc Brakes & Calipers	6408310	1	\$4,700.74	\$4,700.74	
		Torque Multiplier	6314711	1	\$2,636.86	\$2,636.86	
		Hub Repair Kit - MAN VOK-07 Frt Axle	6408311	1	\$9,473.69	\$9,473.69	
		Optional Hub Removal Hydraulic Tool Kit - MAN VOK-07	6458834	1	\$6,040.35	\$6,040.35	
		King Pin Press Kit - MAN VOK-07 Frt Axle	6494532	1	\$21,388.09	\$21,388.09	
		Hub Repair Kit - MAN HY1350 RR Axle	6408306	1	\$6,214.42	\$6,214.42	
		ABS Sensor R&R Kit - MAN HY1350 RR Axle	6408307	1	\$1,115.68	\$1,115.68	
		Pinion Seal Repair Kit - MAN HY1350 RR Axle	6444302	1	\$3,046.36	\$3,046.36	
		Differential Repair Kit - MAN HY1350 RR Axle	6444303	1	\$9,774.72	\$9,774.72	
		Optional Tool Kit - MAN HY1350 RR Axle	6444304	1	\$41,032.96	\$41,032.96	
		Coolant System Pressure Tester	660817	1	\$1,127.43	\$1,127.43	
		Kit - Coolant Pressure Fill	6484741	1	\$4,556.43	\$4,556.43	
		Adj Tool - Strg Gear Box Press Relief	6465265	1	\$334.20	\$334.20	
		Depth Punch - Strg Gear Box Press Relief	6465266	1	\$185.67	\$185.67	
		Flow Meter Tester - Strg Gear Box	140809	1	\$1,386.91	\$1,386.91	
		Puller Tool - Pitman Arm	6394270	1	\$510.57	\$510.57	
		Refractometer-DEF	6392284	1	\$193.01	\$193.01	
		Alignment Tool - Flex Connector	6360381	1	\$906.88	\$906.88	
		Cummins B6.7 Service Tool Kit	6484144	1	\$31,107.67	\$31,107.67	
		BAE ISG Gap Measurement Tool	6469543	1	\$1,390.57	\$1,390.57	
		BAE Assy - Jig ACTM	6400475	1	\$4,017.20	\$4,017.20	
		BAE Lever - Anti Rotation	6400476	1	\$772.54	\$772.54	
		BAE Assy - Jig PSR	6400477	1	\$1,699.58	\$1,699.58	
		BAE Assy - Jig ISG	6400478	1	\$3,862.69	\$3,862.69	
		BAE Spanner - Socket Yoke	6400479	1	\$1,854.09	\$1,854.09	
		BAE Table - Lift Scissor OTC	6400481	1	\$13,905.68	\$13,905.68	
		BAE Blanket - Insulating	6400482	1	\$2,626.63	\$2,626.63	
		BAE Eyebolt - M12 x 1.75 x 24 30mm	6400486	1	\$30.90	\$30.90	
		BAE Eyebolt - M8 x 1.25 x 16 25mm	6400487	1	\$21.63	\$21.63	
		BAE Lifting Hook - ACTM	6410750	1	\$115.88	\$115.88	
		BAE Hardware - ACTM Lifting Hook	6410751	1	\$1.55	\$1.55	
		BAE ESS Module - Lift Bar	6490630	1	\$587.13	\$587.13	
		BAE ESS Module - Lifting Tool	6483360	1	\$386.27	\$386.27	
		TK A/C Tool Kit - RLFE R407c	6459438	1	\$32,963.25	\$32,963.25	
		Amerex Discharge Hose Blowout Adapter	052132	1	\$187.26	\$187.26	
		Amerex Fire Alarm/Simulator Module	6484731	1	\$383.49	\$383.49	
	HV Tools	Clamp Meter - 1000A Fluke 376	6487900	1	\$1,172.48	\$1,172.48	
	HV Tools	Fluke 2 in 1 Multimeter - 1587FC	6400746	1	\$1,784.72	\$1,784.72	
	HV Tools	modular test lead kit	6473267	1	\$338.37	\$338.37	
	HV Tools	test probe flat blade	6473268	1	\$45.46	\$45.46	
	HV Tools	test probe back probe	6473269	1	\$43.28	\$43.28	
	HV Tools	Wiha Insulated Master Electrician's tool kit	6473445	1	\$4,867.56	\$4,867.56	
	HV Tools	wiha 1/4 in ratchet set insulated SAE	6473447	1	\$708.94	\$708.94	
	HV Tools	wiha 1/4 in ratchet set insulated Metric	6473448	1	\$709.34	\$709.34	
	HV Tools	16 PC 3/8 drive socket set	6473449	1	\$521.89	\$521.89	
	HV Tools	3/8 Extension set	6473450	1	\$78.64	\$78.64	
	HV Tools	3/8 Extension set	6473451	1	\$111.29	\$111.29	
	HV Tools	wiha open end wrench insulated metric	6473452	1	\$688.99	\$688.99	
	HV Tools	wiha open end wrench insulated sae	6473453	1	\$856.09	\$856.09	
	HV Tools	Wiha insulated Serrated Tweezers Straight	6473454	1	\$64.09	\$64.09	
	HV Tools	Wiha insulated Serrated Tweezers Angled	6473455	1	\$89.27	\$89.27	
	HV Tools	Insulated Torque Wrench 1/4"	6473456	1	\$1,000.58	\$1,000.58	

SHIPPING ADDRESS (IF DIFFERENT THAN ABOVE)	COMMENTS	DESCRIPTION	QUOTED PART #	BID QTY	UNIT SELLING PRICE	EXTENDED SELLING PRICE
	HV Tools	Insulated Torque Wrench 3/8"	6472024	1	\$1,041.69	\$1,041.69
	HV Tools	Insulated Torque Wrench 1/2"	6473457	1	\$1,146.63	\$1,146.63
	HV Tools	torque screwdriver set	6473458	1	\$510.45	\$510.45
	HV Tools	insulated crimper 30 - 6 Awg 7"	6473459	1	\$58.37	\$58.37
	HV Tools	wire stripper 6 - 3/8 overall 20 to 10	6473460	1	\$52.65	\$52.65
	HV Tools	insulated water pump pliers v-jaw	6473461	1	\$113.45	\$113.45
	HV Tools	insolated hex key set 10pc metric	6473462	1	\$298.71	\$298.71
	HV Tools	Long SAE Natural insulated hex key set 12 pc	6473463	1	\$384.55	\$384.55
	HV Tools	bit driver	6473464	1	\$120.17	\$120.17
	HV Tools	Stubby Bit Driver	6473465	1	\$42.35	\$42.35
	HV Tools	Wiha Insulated "bitFlip" Set	6472034	1	\$74.39	\$74.39
	HV Tools	Mini Screw Driver set	6473466	1	\$132.86	\$132.86
	PPE	ARC Flash Protection Clothing Kit - 2PC Small	6471958	1	\$860.24	\$860.24
	PPE	ARC Flash Protection Clothing Kit - 2PC Medium	6473412	1	\$915.69	\$915.69
	PPE	ARC Flash Protection Clothing Kit - 2PC Large	6473413	1	\$915.69	\$915.69
	PPE	ARC Flash Protection Clothing Kit - 2PC XL	6473414	1	\$911.41	\$911.41
	PPE	ARC Flash Protection Clothing Kit - 2PC 2XL	6471962	1	\$961.47	\$961.47
	PPE	ARC Flash Protection Clothing Kit - 2PC 3XL	6471963	1	\$1,032.28	\$1,032.28
	PPE	ARC Flash Protection Clothing Kit - 2PC 4XL	6471964	1	\$1,118.29	\$1,118.29
	PPE	ARC Flash Protection Clothing Kit - 2PC 5XL	6471965	1	\$1,204.32	\$1,204.32
	PPE	ARC Flash Protection Clothing Kit - 1PC Small	6471966	1	\$683.71	\$683.71
	PPE	ARC Flash Protection Clothing Kit - 1PC Medium	6473415	1	\$683.71	\$683.71
	PPE	ARC Flash Protection Clothing Kit - 1PC Large	6473416	1	\$683.71	\$683.71
	PPE	ARC Flash Protection Clothing Kit - 1PC XL	6473417	1	\$683.71	\$683.71
	PPE	ARC Flash Protection Clothing Kit - 1PC 2XL	6473418	1	\$972.35	\$972.35
	PPE	ARC Flash Protection Clothing Kit - 1PC 3XL	6471971	1	\$1,079.16	\$1,079.16
	PPE	ARC Flash Protection Clothing Kit - 1PC 4XL	6471972	1	\$1,107.12	\$1,107.12
	PPE	ARC Flash Protection Clothing Kit - 1PC 5XL	6471973	1	\$1,081.49	\$1,081.49
	PPE	Balaclava Head Cover one size fits all	6473440	1	\$61.12	\$61.12
	PPE	Hard Hat and Face Shield one size fits all	6368561	1	\$409.91	\$409.91
	PPE	Fall Safety Harness 425LBS	6473270	1	\$232.41	\$232.41
	PPE	Black electrical glove kit, Size 7	6471976	1	\$162.22	\$162.22
	PPE	Black electrical glove kit, Size 8	6473420	1	\$170.34	\$170.34
	PPE	Black electrical glove kit, Size 8.5	6471978	1	\$155.48	\$155.48
	PPE	Black electrical glove kit, size 9	6471979	1	\$157.61	\$157.61
	PPE	Black electrical glove kit, Size 9.5	6473421	1	\$155.48	\$155.48
	PPE	Black electrical glove kit, size 10	6473422	1	\$153.30	\$153.30
	PPE	Black electrical glove kit, Size 10.5	6473423	1	\$218.72	\$218.72
	PPE	Black electrical glove kit, size 11	6473424	1	\$162.22	\$162.22
	PPE	Black electrical glove kit, size 12	6473425	1	\$155.48	\$155.48
	PPE	HV Blanket 3' x 3'	6473431	1	\$406.76	\$406.76
	PPE	Blanket Clamp 9-1/2" L, 5" Opening	6473432	1	\$35.72	\$35.72
	PPE	Glove Dust 0.5oz	6473433	1	\$14.25	\$14.25
	PPE	Rescue Hook 6FT	6400745	1	\$631.36	\$631.36
	PPE	Defibrillator Adult	6473177	1	\$2,739.82	\$2,739.82
	PPE	Brady Personal Lockout Pouch Kit	6494427	1	\$139.26	\$139.26
	PPE	Steel Lock Hasp with Tab	6473442	1	\$17.86	\$17.86
	PPE	American lock A1106RED	6473443	1	\$25.88	\$25.88
	PPE	Lock Out Tag (pk of 25)	6473444	1	\$32.08	\$32.08
	PPE	Hv Warning sign	6473436	1	\$20.77	\$20.77
	PPE	Arc Flash Warning sign	6473437	1	\$14.88	\$14.88
	PPE	steering wheel covers	6473439	1	\$79.79	\$79.79
	PPE	Cart - Safety Barricade System (up to 75ft)	6491772	1	\$1,630.13	\$1,630.13
	PPE	Tape - Red HV Safety	6491845	1	\$45.86	\$45.86

Tab 8, Bus Delivery Schedule

Solicitation Requirements:

N/A

New Flyer Response:

New Flyer's Delivery Schedule for the proposed bus has not been determined, exact dates are not available at this time. Estimated line entry is Q3/Q4 2025. A delivery schedule will be forwarded to you when the dates have been determined.

Tab 9, Bus Technical Summary

Solicitation Requirements:

N/A

New Flyer Response:

Please see the attached New Flyer [Technical Summary](#) for the proposed bus.

Family	Family Description	Feature	Feature Description	Comments
100-00	XCELSIOR COACH LENGTH	X40	Xcelsior - 40' coach.	
100-03	STRUCTURAL MATERIAL	CAR	Carbon steel/ferritic sst.	
100-04	FUEL TYPE	DIE	Diesel, compatible up to 20% biodiesel.	
100-05	EPA CALENDAR YEAR	025	2025	
100-0B	POWERTRAIN CAN BAUD RATE	500	500 kbps	
100-0Y	BUS MODEL YEAR	025	2025	
201-01	FRONT BUMPER	NFI	Romeo Rim, three piece, front bumper.	
201-03	FRONT TOWING PROVISIONS	001	Basic set-up, incorporated in front chassis. Tow adapters are required.	
201-05	REAR BUMPER	NFI	Romeo Rim, three piece, rear bumper with anti-ride feature.	
203-01	FRONT AXLE	002	M.A.N. VOK-08-F, GAWR 18,078 lbs. With disc brakes. Hub mount, Knorr cylinders, Ferodo lining with low copper (<5%) brake pads.	
203-02	SECUREMENT OF BRAKE LININGS	NFI	Bonded.	
203-06	SHOCK ABSORBERS	NFI	Koni.	
203-0A	FRT AXLE AND WHEEL SPLASH APRONS	001	Basic, full width, fore of axles and wheels.	
203-0B	RADIUS ROD BUSHINGS	WIN	Windowed	
204-01	REAR AXLE	001	M.A.N. 4.56:1. Model HY-1350-F. GAWR 28,660 lbs. With disc brakes, hub mount, Knorr cylinder, Ferodo lining with low copper (<5%) brake pads.	
204-03	REAR AXLE GEAR OIL	PET	Petroleum based.	
204-09	REAR AXLE DRAIN PLUGS	EXT	Magnetic external hex head.	
204-0A	REAR AXLE MUD FLAP	ONE	One aft of rear axle. (Requirement is determined by local climate, ice build-up, high ambient temperature.)	
204-0C	REAR WHEEL MUD FLAP	002	One aft of each rear wheel.	
205-01	TIRE SUPPLIER	002	Customer supplied tires.	
205-06	WHEELS	ALD	Alcoa 22.5" x 8.25" aluminum. Polished Durabright finish.	
205-0J	STEERING AXLE TIRES	002	305/70R/22.5, Firestone CTIAZ (65 mph).	
205-0M	REAR AXLE TIRES	002	305/70R/22.5, Firestone CTIAZ (65 mph).	
209-01	POWER STEERING PUMP	ELC	Berendsen electric power steering pump. Mounted at the front streetside.	
209-02	POWER STEERING HOSES	GAT	Gates G2XH	
209-03	POWER STEERING DIAGNOSTIC FTGS	REQ	At steering box.	
209-05	POWER STEERING RESERVOIR	REQ	Required.	
209-06	POWER STEERING FLUID INDICATOR	PNL	Required at instrument panel.	
209-08	POWER STEERING DRAIN PLUG	MAG	Magnetic plug.	
209-09	POWER STEERING UNIT	VTX	ZF TAS85, power assisted, frame mounted.	
209-0A	POWER STEERING SYSTEM FLUID	DEX	Dexron III, mineral based.	
209-0B	POWER STEERING SENSOR	REQ	Hydraulic level sensor required.	
219-01	FUEL/PROPULSION SYSTEM	BHB	BAE hybrid with B6.7 diesel engine.	

219-02	PROPULSION,HP,TORQUE,TYPE	007	Cummins B6.7 2024 emissions-standard diesel engine, 280 horsepower (Engine output is controlled by Hybrid Drive). Refer to 100-05 for EPA/Engine Model Year.	
219-05	AIR COMPRESSOR	E01	Direct coupled air compressor powered by electric motor.	
219-06	AIR COMPRESSOR HIGH VOLTAGE INTERLOCK SWITCH	BSC	Not required, Junction box provided with tamperproof hardware.	
219-09	CUMMINS DIESEL FUEL FILTERS	003	DP245 primary and Cummins secondary fuel filter system. The DP245 has built-in check valve.	
219-0B	CUMMINS DIPSTICK,LOCATION	CSS	Static oil level indicator, on curbside of engine.	
219-0C	ENGINE & TRANS FLUID FILL TAGS	NFI	For engine and transmission dipsticks.	
219-0D	ROAD SPEED	065	Top road speed is governed. Set at 65 MPH (105 KPH).	
219-0H	HYBRID DRIVE START/STOP	STP	Shuts off and restarts engine automatically to reduce idling at stops.	
219-0J	BAE DRIVE MODES, SWITCH LOCATION	SC1	Shuts engine off with input/switch on side console, light up, allows operation for short distances (<500 yards at speeds < 15 mph).	
219-0M	TRANSMISSION/HYBRID DRIVE/TRACTION MOTOR	005	As per BAE hybrid system, HDS200.	
219-0P	TRANSMISSION SHIFTING	NFI	Foot on brake enables shift when in neutral.	
219-18	FLUID, TRANS/HYBRID DRIVES	DDH	Dura Drive HD synthetic	
219-1A	ENG/TRANS OIL DRAIN PLUGS	BSC	OEM Provided	
219-1C	AIR CLEANER	DON	Donaldson. Reusable housing with disposable cartridge/filter.	
219-1D	AIR RESTRICTION INDICATOR	MCH	Mechanical gauge mounted directly on air intake tube.	
219-1E	EXHAUST SYSTEM	SCR	Single module DPF/SCR combined.	
219-1F	EXHAUST TAIL PIPE ORIENTATION	001	Curved pipe set to 45 degrees to streetside.	
219-1G	EXHAUST BLANKETS FOR CUMMINS DIESEL OR CNG	BSC	Provided for the exhaust tubes.	
219-1H	EXHAUST REGEN SWITCH LOCATION	SDS	Single switch in destination sign panel required.	
219-1U	ENGINE SWITCH BOX	BSC	Basic indicator configuration with run/start switch.	
219-22	ENGINE COMPARTMENT GAUGES	DIE	Programmable CAN communicator. Standard Features: Engine Oil Pressure, Engine Water temperature, Tachometer, 12V/24V battery voltage, Hour Meter, Exhaust Temp, Active Faults, Drivetrain Specific features.	
219-25	ENG SWITCHBOX KEYPAD	003	Includes service light, fan reverse and coolant fill switches and start disabled, wait to start, low coolant, ECP coolant low and HEV maintenance required indicators.	
219-27	ENGINE OIL FILL TUBE & CAP	BSC	Basic Cummins supplied.	
219-2E	BELT GUARD	001	The engine pulley guard hinged to open curbside. Yellow powder coated.	
219-2F	BELT GUARD LATCHING	001	SST adjustable draw latch.	

219-2H	OIL SAMPLING	ETP	Required for engine and transmission, using KST probalizer fittings.	
219-2J	OIL SAMPLING, EASY ACCESS	002	For engine probalizer fitting located at street side engine strut.	
219-2K	DEF(DIESEL EXH FLUID) TANK	MNL	Manual fill is set in the lower curbside fusebox access door with NFIL fill cap.	
219-2U	HYBRID DEPOT DRIVE	REQ	Required	
219-2V	GEOFENCED HYBRID DRIVE	001	Geofencing using NFI Connect.	
219-2Z	COOLANT PRESSURE FILL HOSE	GAT	Gates G2XH.	
219-31	DIESEL HYBRID AUTO SHIFT TO NEUTRAL	001	Immediately shifts to neutral when propulsion system is selected in range and the parking brake is applied. Also, after a 5-minute delay, whenever the exit door brake interlock is applied.	
231-02	RADIATOR,CAC,HYDR FLUID COOLER	MHW	EMP MH5 GEN4 with full diagnostic capabilities. 3 x 15" fans and 2 x 11" fans. Includes hybrid WEG cooler.	
231-04	RADIATOR REVERSE FAN SW & DIAG LAMP	REQ	Keypad button.	
231-06	SURGE TANK	5GL	5 gallon cylindrical SST tank.	
231-08	SURGE TANK ENG MAINT & DERATE SENSOR MFR	FOZ	Fozmula	
231-09	SURGE TANK PRESSURE TEST PORT	PVD	Schrader valve fitting provided.	
231-0A	SURGE TANK PRESSURE RELIEF VALVE	001	Radiator cap (LEV-R VENT), built into surge tank cap.	
231-0B	SURGE TANK SIGHT GLASS	NFI	Graduated sight glass (glass material).	
231-0C	RAD TUBES	SST	SST	
231-0F	COOLANT FLUID/ANTIFREEZE	001	50/50 pre-mixed distilled water with ethylene glycol with anti-corrosion additive and bittering agent. Pink fluid.	
231-0G	TRANSMISSION/HYBRID DRIVE COOLER	006	Built into rad for BAE hybrids with external pump.	
231-0J	TRANSMISSION/HYBRID DRIVE COOLER PUMP	NFI	AMETEK pump	
231-0K	COOLANT RECOVERY TANK	REQ	Required.	
241-01	DIESEL FUEL TANK MATERIAL	POL	Cross-linked polyethylene.	
241-02	DIESEL TANK CAPACITY AND FILL TYPE	1PF	100 useable US gallons. Pressure filled.	
241-03	DIESEL FILLER CAP	POS	Posi-snap flip type.	
241-04	DIESEL FUEL SENDER	001	Required.	
241-07	DIESEL FUEL HOSES,ENGINE COMPT	NFI	GH100.	
241-08	DIESEL FUEL LINES,TANK TO BULKHEAD	NFI	Orange, fuel grade nylon tubing.	
246-01	AIR COMPRESSOR DISCHARGE LINE	NFI	Teflon 2807 SST braided hose.	
246-02	BASIC AIR TANKS	B01	Combo Tank 1 (Wet Tank + Primary Brake Tank), Combo Tank 2 (Front Axle Kneeling Tank + Accessory Air Tank), Secondary Brake Tank.	
246-04	AIR TANK DRAIN VALVES	MNL	Manual 1/4 turn valve.	
246-06	WET TANK DRAIN VALVE	MAN	Manual 1/4 turn valve.	

246-09	RIDE HEIGHT SENSORS	SP2	SmartRider electronic leveling system on front axle and Barksdale mechanical leveling valves on center/rear axles.	
246-0A	RIDE HEIGHT SETTINGS, NORMAL	SR1	Front ride height is 4.0" axle to bump stop.	
246-0E	DOOR INTERLOCK	ENE	Applied to entrance and exit doors. Foot on brake to release interlock, applied via multiplex system programming.	
246-0G	DRIVER'S PARK BRAKE ALARM	001	If the Master Run switch is in the OFF or PARK positions, the kneeling alarm is triggered to alert the driver that the park brake is not set.	
246-0H	PARK BRAKE PRESSURE SETTING	NFI	40 psi auto-apply park brake valve. 60 psi pressure switch for park brake light activation.	
246-0K	AIR DRYER	003	Bendix AD9 Tandem air dryer with IPC (Integrated Puraguard Cartridge).	
246-0M	AIR DRYER LOCATION	BSW	Behind the rear streetside wheelhouse, on the bulkhead.	
246-0U	PARK BRAKE ACTUATION	PUL	Pull To Apply.	
246-0V	PARK/EMERG BRAKE LOCATION	PSC	Park brake control location - on side console panel.	
246-13	FRONT TOW CONNECTOR	NPT	Male 1/4" NPT fitting with Series 20/30 coupler fitting, with tag.	
246-14	FRONT AIR CONNECTOR ARRANGEMEN	SS1	Located below the bumper, streetside.	
246-15	FRONT AIR CHARGE CONNECTOR	NPT	Male 1/4" NPT fitting with Series 20/30 coupler fitting, with tag.	
246-16	REAR AIR CHARGE FITTING LOCATION	BSC	Routed to curbside of engine.	
246-17	REAR AIR CHARGE CONNECTOR TYPE	NPT	Male 1/4" NPT fitting with Series 20/30 coupler fitting, with tag.	
246-1B	FLEXIBLE AIR LINES	NFI	Synflex colour coded. Green: rear service brakes and supplies. Red: front service brakes. Brown: parking brake. Black: accessories and brake hose. Yellow: compressor and governor. Blue: suspension.	
246-1E	ABS	NFI	Wabco.	
246-1J	FRONT CHARGE AIR ROUTING	WET	Direct charge to wet tank.	
246-1K	REAR CHARGE AIR ROUTING	AFT	Connection after air dryer with direct path into wet tank.	
246-27	AIR SYSTEM TRANSDUCER FAULT DETECTION	001	Transducer Fault Detection - Transducer voltage falls to 0V if transducer failure occurs.	
260-01	BATTERY MANAGEMENT	TRA	Transtech regulator w/Low Voltage Disconnect, temperature and current sensors to optimize battery life.	
260-02	BATTERY VOLTAGE REGULATOR	002	Transtech REG24C w/J1939 and data logging	
260-03	BATTERY VOLTAGE REGULATOR LOCATION	FUS	Mounted inside fuse box.	
260-04	BATTERY TYPE / MFR	001	Two East Penn 8D Flooded lead acid maintainable batteries. 1425 CCA. Drop posts: 1/2" positive, 3/8" negative.	
260-05	BATTERY CABLES	NFI	Red heat shrink on 24 volt positive cable end and light blue heat shrink on 12 volt positive cable end.	

260-09	BATTERY TRAY	NFI	Slide out battery acid resistant polyethylene enclosure with SST sub frame, SST bearings and rubber isolation mounts. Located aft of the curbside rear wheelhouse. Note: battery access door opens to the side.	
260-0C	POSITIVE BATTERY DISCONNECT SW	001	Required with quick access through flip-open door. Uses a micro-switch for engine shutdown.	
260-0E	BATTERY VOLTAGE EQUALIZER	A06	Vanner 100 amp with J1939, battery State-of-Health monitor, and temperature /current sensor.	
260-0F	JUMP START MANUFACTURER/TYPE	A01	Anderson SB350 grey	
260-0G	JUMP START LOCATION	005	Mounted on underneath side of fusebox, accessible via the DEF fill access door	
260-0H	START/STOP SWITCH	REQ	Start/Stop mode functionality Shuts off and restarts engine automatically to reduce idling at stops, required	
260-0Y	BAE ELECTRONIC COOLING PACKAGE (ECP)	EMP	EMP cooler with Ametek pump for propulsion control and accessory power system.	
260-0Z	BAE ENERGY STORAGE SYSTEM (ESS)	NXT	3G-32K (Next Gen)	
260-10	ACCESSORY POWER SUPPLY	2A3	BAE MAPS-SDM3A. 2 APC (200 Amp @ 28V DC each). 3 API (17.5 KW at 230 V 3-Ph AC each). XDE40/35 with electric accessories for use with Gen 2.5.	
260-15	ROOF FAIRING / SKIRTS ENCLOSURE	XDE	Fairing with full length skirts for XDE's.	
260-1B	BATTERY VOLTAGE EQUALIZER QUANTITY	001	One	
269-01	P.A. AMPLIFIER MFR / TYPE	AVA	Included with AVA or AVL system.	
269-0G	INTERIOR SPEAKER MFR	TCB	TCB	
269-0H	PRIMARY INTERIOR SPEAKERS	006	Six: four to light panels, two above rear bench.	
269-0K	EXTERIOR SPEAKERS, LOCATION	ENT	At basic location above entrance.	
269-0M	EXTERIOR SPEAKER MFR	SHE	Shekonic	
269-0Z	PRIMARY PA SYSTEM	AVA	To AVA/AVL System.	
269-13	EXTERIOR SPEAKER QUANTITY	ES1	One	
269-1E	EXTERIOR SPEAKER COIL	1CO	Single coil	
273-01	HEADLIGHTS	NFI	NFIL Xcelsior LED low beam and high beam headlights.	
273-02	DAY RUN HEADLIGHTS	REQ	Required.	
273-03	FRONT TURN SIGNALS	NFI	NFIL amber LED. Integrated with headlight assembly.	
273-06	TAIL LIGHT ARRANGEMENT	006	Amber, red (stop/tail), red (stop/tail), white.	
273-07	TAIL LIGHTS MFR	4DG	4" Dialight LED, grommet mounted.	
273-08	CENTER STOP / DECELERATION LIGHT SIZE	BSC	18" X 1 " Dialight	
273-09	WHITE BACK-UP LIGHT MFR	DLG	4" Dialight LED, grommet mounted.	
273-0A	STOP LIGHTS ON WITH RTRDR/REGEN BRAKE	REQ	Required.	
273-0B	STOP LIGHTS ON WITH PARK BRAKE OR INTERLOCK	NFI	When park brake or interlock are engaged.	
273-0E	CENTER STOP / DECELERATION LIGHTS QTY	002	Two	

273-0F	CENTER STOP / DECELERATION LIGHTS LOCATION	BS1	At lower edge of rear crown panel	
273-0H	SIDE TURN SIGNALS,TYPE / QTY PER SIDE	2DL	2 amber Dialight LED Lamps, 12 volt.	
273-0J	SIDE TURN SIGNAL FUNCTIONALITY	BSC	Single intensity, Dialight LED lamps.	
273-0K	SD TURN SGNL GUARD BRKT, MATERIAL/CTG	ALU	Aluminum, painted per paint scheme.	
273-0M	CURBSIDE TURN SIGNALS LOCATION	001	Lamps are aft of front and fore of rear wheelhouses.	
273-0N	STREETSIDE TURN SIGNALS LOCATION	01F	Lamps are fore of all wheelhouses.	
273-0P	KNEELING/RAMP LIGHT AT ENTRANCE	NFI	2.5" Dialight LED.	
273-0T	MARKER / CLEARANCE LIGHTS	001	Dialight LED without guard all around.	
273-0V	REFLECTORS	NFI	Self-adhesive decals installed at NFIL basic positions.	
273-0W	REAR LICENCE PLATE LIGHT	SMT	Smartrend LED.	
273-10	TIMED SHUT-OFF,ENTR AREA LIGHTS	BSC	The program is set to shut the lights off when the door closes.	
273-12	TIMED SHUT-OFF,EXIT AREA LIGHTS	NFI	The program is set to shut the lights off five seconds after the door closes.	
273-1F	CENTER STOP / DECELERATION LIGHTS COLOR	RED	Red	
273-1P	CENTER REAR REFLECTOR QTY	001	One	
273-1R	MARKER / CLEARANCE LIGHTS FUNCTIONALITY	NFI	New Flyer standard marker/clearance light functionality to meet applicable FMVSS/CMVSS regulations.	
273-23	MARKER LIGHTS LOCATION	NFI	New Flyer standard marker light locations to meet applicable FMVSS/CMVSS regulations	
273-25	EXTERIOR LIGHTS	DAY	Day Run, Night Run, and Night Park modes illuminate the tail lamps, marker/clearance lamps, and license plate lamp. Mandatory for Canadian customers.	
273-26	CENTER STOP/DECELERATION LIGHT FUNCTIONALITY	STP	Basic stop functionality.	
273-27	CENTER STOP/DECELERATION LIGHT VOLTAGE	12V	12 Volts.	
273-28	CENTER REAR REFLECTOR LOCATION	DHY	At lower edge of rear crown panel	
277-02	INTERIOR PASSENGER LIGHTING	NFI	NFIL LED lights, 24 VDC.	
277-04	PASSENGER LIGHTING: OUTPUT INTENSITY	001	0% 1st bank on each side, 100% for the remaining banks.	
277-07	EXIT BASEPLATE / ELEC PNL ACCESS	NFI	At each exit door, through removable ad frame.	
277-0B	TINTED LED PASSENGER LIGHT COVERS	WHT	White for all lights.	
277-0C	FAREBOX LIGHT	SMT	One fixed LED light.	

277-0F	DRIVER'S LIGHT	001	One sealed 2.5" white high output Smartrend LED light.	
277-0K	SDS SERVICE LIGHT	1LL	One LED lamp, provided at upper front of SDS enclosure.	
277-0M	SDS SERVICE LIGHT SWITCH CONTROL	BSW	With switch.	
277-0N	PROPULSION COMPARTMENT LIGHTS	SMT	Smartrend, four 1.38" LED lights.	
277-0V	REAR DECK STEP LIGHT	LED	LED.	
277-0W	INTERIOR DOOR HEADER LIGHTS, ANTI-GLARE SHIELD COLOR	BLK	With black anti-glare shield.	
277-0Y	INTERIOR DOOR HEADER LIGHTS/ QUANTITY (ENTRANCE)	SGL	Single strip.	
277-11	INTERIOR DOOR HEADER LIGHTS/ QUANTITY (EXIT)	SGL	Single strip.	
277-1A	REAR PLC AND FUSEBOX SERVICE LIGHTS	NFI	Provided, LED.	
277-2B	CURBSIDE FORWARD HVAC DUCT ORIENTATION ON LIGHT PANEL	BSC	Duct fixed pointed towards the aisle.	
277-2D	INTERIOR LED LIGHT FUNCTIONALITY	001	All banks are dimmable. When doors are open, lights turn on to full intensity. When doors are closed, lights reduce to secondary output intensity.	
280-01	PASSENGER SIGNAL CHIMES	BSC	One basic electronic chime above driver. Chime has single tone which sounds once for regular activation, twice for wheelchair positions.	
280-0E	TOUCHTAPE PASSENGER SIGNALS	YLW	Yellow. Installed on all pier panels and harness covers aft of front wheelhouses.	
280-0T	PASSENGER SIGNAL TYPE AT WHEELCHAIR POSITIONS	BSC	Basic touchtape.	
280-0V	PUSH BUTTON SIGNAL AT EXIT	001	Mounted facing aisle on stanchion fore of exit, low profile recessed button.	
280-19	PUSH BUTTON SIGNAL TYPE	NRQ	Not required.	
284-01	ELECTRONIC CONTROL SYSTEM	NFI	Vansco.	
284-02	SYSTEM VOLTAGE	NFI	24 VDC primary, 12 VDC secondary.	
284-03	SWITCHES	NFI	Water resistant.	
284-04	SPARE INPUT/OUTPUT PORTS FOR MULTIPLEX SYSTEM MODULES	NFI	Minimum 10% input and 10% output, per electrical panel location.	
284-06	HAZARD WARNING LIGHTS	NFI	Front, side and rear lights flash for hazard warning.	
284-0B	SDS ELECTRICAL PANEL ORIENTATION	FCS	Facing curbside.	
284-0D	SDS ELECTRICAL PANEL LOCATION	BSR	Mounted on backside of SDS rack.	
284-0F	ENTRANCE DOOR CONTROLLER	B5P	Basic with 5 position settings.	
284-0N	PROPULSION SYSTEM RESET SWITCH	NRQ	Not required.	

286-01	INSTRUMENT PANEL	BSC	LCD display screen. Acrylic material with luminescent lighting, with Vansco Instrument Panel Cluster module.	
286-02	SHIFT SELECTOR LOCATION	NFI	located on instrument panel.	
286-03	EXTERIOR LAMP TEST	NFI	simultaneously depress both turn signals.	
286-04	SPEEDOMETER	VMI	Part of Vansco instrument panel cluster. Set to display miles. With odometer (the display can be toggled to show Trip1, Trip 2, engine hours). Remove "engine hours" on battery buses.	
286-05	AUDIBLE SOUND FOR TURN SIGNALS/HAZARDS	BSC	Using click sound for turn signal and for hazard warning.	
286-0C	REGENERATIVE BRAKE DISABLE SWITCH LOCATION	DRV	In sawtooth panel above driver.	
286-0D	SILENT ALARM	REQ	Required.	
286-0F	SILENT ALARM SW LOCATION	SCA	At side console.	
286-0K	SILENT ALARM SW TYPE	2X4	2x4 circuit switch required.	
286-0P	DIAGNOSTICS PLUG LOCATIONS	002	Under the front dash (left of the steering column), at fwd face of the SDS barrier (above driver) and at the engine switch box and one BAE diagnostic connector at fwd face of the SDS.	
286-1N	ADDITIONAL IP REQUIREMENTS	BR1	Brake application gauge and 1" red stop request light required on the instrument panel.	
289-01	SECUREMENT OF HARNESSSES	BSC	Hellerman tyton clamps, with Panduit releasable cable ties.	
296-01	WIRING DECAL,REAR PLC AND FUSEBOX	NFI	Provided, laminated.	
296-02	WIRING DECAL,SIDE CONSOLE	LAM	Laminated, shipped loose.	
296-07	SIDE CONSOLE DOOR DECAL LANGUAGE	ENG	English	
298-01	WATER TEST DURATION	010	10 minutes.	
298-02	WATER TEST DURATION A/C	001	Water Test with A/C on.	
304-01	EXTERIOR PAINT TYPE	NFI	Axalta Imron Elite high solids polyurethane.	
304-06	HIGH VOLTAGE SAFETY DECALS	REQ	Required.	
304-07	CORROSION PROTECTION	12Y	Grit blasted frame, moisture cure zinc-rich primer (applied for 12 year protection), anti-chip undercoating, corrosion preventive coating sprayed inside frame tubes up to roof line.	
304-09	EXTERIOR LOGOS,NFIL	REQ	NFI logos and Xcelsior logos in standard locations.	
304-0A	EXT DECALS,CUSTOMER SPECIFIC	REQ	Required. Customer to provide the Engineering paint group with specific requirements.	
304-0D	INTERIOR DECALS, CUSTOMER SPECIFIC	REQ	Required.	
304-0E	PASSENGER COMPARTMENT DECAL LANGUAGE	ENS	English / Spanish. Passenger compartment decals are the decals within the area of the coach designed for the seating of passengers and that are intended primarily for passenger viewing.	
304-0F	INTERIOR FLEET NUMBER DECALS	REQ	Required.	

304-0G	MAINTENANCE DECAL LANGUAGE	ENG	English. Maintenance decals are the decals that will be referenced primarily when performing maintenance on the coach.	
304-0H	KNEELING / RAMP DECALS	BSC	NFIL basic ramp & kneeling decal (red on white) and an arrow decal (red and black) provided near the kneeling / ramp deployment lights.	
304-0J	AIR TANK DECALS	NFI	NFIL basic.	
304-0M	EXT FLEET NUMBERS, NON-ROOF	NRF	Required (non-reflective).	
304-0N	EXTERIOR FLEET NUMBERS, ROOF	NRF	Required (non-reflective).	
304-0U	HYBRID SAFETY DECALS	REQ	Required.	
304-0Z	INTERIOR LOGOS, NFI	REQ	NFI logos at standard location.	
306-02	FIRE EXTINGUISHERS	5US	5 lb ABC class. With gauge, hose and mounting bracket. UL compliant for US customers.	
306-03	FIRE EXTINGUISHER LOCATION	DRV	Mounted on the horizontal surface of the luggage rack fore of the driver's barrier.	
306-05	SAFETY TRIANGLE LOCATION	DRV	Behind the driver.	
306-08	FIRST AID KIT LOCATION	DRV	Behind driver.	
306-09	BLOODBORNE PROTECTION KIT	CSB	Required in CS equipment box.	
350-01	DRIVER'S PEDALS, POSITION / TYPE	BSC	Brake pedal angle set at 45 degrees from pedal to floor. Throttle pedal angle set at 45 degrees from pedal to floor.	
350-04	BRAKE VALVES	NFI	E6.	
350-07	TURN SIGNAL SWITCHES	BSC	Basic switches, floor mounted.	
350-08	DIMMER SWITCH	BSC	Foot switch located beside side console panel.	
350-0D	HAZARD WARNING LIGHT SW LOCATION	BSC	On side console.	
350-0G	STEERING COLUMN	DAT	Douglas Autotech with tilt and telescopic features.	
350-0H	STEERING WHEEL	18B	2 spoke, 18" diameter hard padded.	
350-0M	DUAL HORN	BSC	Provided with splash shield.	
400-01	JACKING / LIFTING PADS	001	4" diameter round pads at front and rear chassis.	
420-02	EXTERIOR SIDE PANELS	NFI	Fiberglass.	
420-05	CURB & STREET ENG,S/CONS DOORS,STRUTS	LOC	Supported by gas struts, one locking.	
420-06	CURB & STREET ENG COMPT, BATTERY DOORS,LATCHES	CRM	Quarter turn chrome plated 5/16" square key latches. Also, used for the separate battery access door.	
420-07	CURBSIDE PROPULSION COMPARTMENT DOOR	001	Includes battery disconnect switch access door (using a gas strut) and a DEF manual fill access door.	
420-09	DEFROSTER ACCESS DOOR LATCHES	CRM	4 quarter turn chrome plated 5/16" square key latches.	
420-0A	STREET SIDE ENGINE (RADIATOR) ACCESS DOOR	WAV	With wavy screen.	
420-0B	BATTERY COMPARTMENT DOOR	SOL	Solid door located aft of the curb side rear wheel, separate from the engine compartment.	
420-0C	DIESEL FUEL FILL DOOR	BSC	Basic hinged door located forward of the curbside rear wheelhouse.	
420-0D	SURGE TANK DOOR	BSC	Basic hinged door.	

420-0F	SIDE CONSOLE DOOR LATCHES	CHR	Quarter turn chrome plated 5/16" square key quad latches.	
420-0G	PROPULSION DOOR	SOL	Solid door with built-in handle.	
420-0H	PROPULSION DOOR STRUTS	TWO	Two, the streetside strut has a locking mechanism.	
420-0J	PROPULSION DOOR LATCHES	CHR	Quarter turn chrome plated 5/16" square key quad latches.	
420-0M	REAR LICENSE PLATE RETENTION	002	Centered with bottom retainer and two upper inserts.	
420-0N	ENGINE DOOR PROXIMITY SWITCH	PCS	Required on curbside.	
420-0P	RAIN GUTTER	NFI	0.44" cross section bonded. drain holes and plugs	
420-0R	ROOF HATCH INSTRUCTION LANGUAGE	ENS	English / Spanish.	
420-0T	ROOF HATCH SIZE,FRONT	X24	24" X 24"	
420-0U	ROOF HATCH TYPE,FRONT	BSC	Basic hatch/vent.	
420-0V	ROOF HATCH VENDOR,FRONT	TRA	Transpec Worldwide.	
420-15	ROOF HATCH SIZE,REAR	X24	24" X 24"	
420-16	ROOF HATCH TYPE,REAR	BSC	Basic hatch/vent.	
420-17	ROOF HATCH VENDOR,REAR	TRA	Transpec Worldwide.	
420-1B	WIPERS	SMT	Comotech motors 24 volt electric with Smartrend wet arm wipers. Intermittent.	
420-1E	WINDSHIELD WASHER BOTTLE	5US	5 US gallon with electric powered pump mounted using 4 weld nuts.	
420-1F	WINDSHIELD WASHER FILL LOCATION	NFI	Accessed via a flip-out door built into the exterior side console access door.	
420-1G	LOWER DRIVER'S VENT	REQ	Provided.	
420-1H	FENDERS	MOL	Molded polyurethane.	
420-1M	EXTERIOR UPPER REAR	PNL	Fiberglass panel with no door and no window.	
420-1T	FRONT LICENSE PLATE LOCATION	CEN	On center of defroster door.	
420-1U	FRONT LICENSE PLATE RETENTION	004	Four inserts.	
420-24	WIPERS, MOTOR ARM LENGTH	A01	34" long arm.	
420-25	WIPERS, WIPER BLADE LENGTH	W01	26" long blade.	
420-26	WIPERS, SPRAY STREAMS PER ARM	S02	2 streams per arm.	
420-2B	DRIP EDGE FOR REAR CROWN PANEL/HVAC DOOR	REQ	Drip Edge along the bottom edge of the Rear Crown Panel/HVAC door to divert water entering the engine/propulsion compartment.	
420-2C	SS REAR UPPER CORNER PILLAR VENTING	4RD	4 round screened openings.	
420-2D	UPPER CORNER PILLAR DOOR LATCHES	BSC	Quarter turn chrome plate 5/16" square key latches.	
421-01	INSULATION,SIDEWALL AND ROOF	POL	Polyisocyanurate foam. meets Docket 90 spec.	
421-02	INSULATION,EXHAUST CAVITY	BGF	Heat-resistant fiberglass mat.	
421-03	INSULATION, PROPULSION COMPARTMENT	ACO	Noise reduction acoustical foam, retained by perforated aluminum panels.	

422-02	CEILING PNLS AFT OF FRT W/HS INCL RR PLC	WHT	Antique white plastic, SST trim.	
422-03	CEILING / HVAC COVER PANELS ABOVE FRT W/HS	WHT	Antique White fiberglass.	
422-04	HVAC RTN AIR GRILLE DOOR LOCK	1QL	2 quad latches.	
422-05	ENTRANCE / DRIVER'S AREA PANELS COLOUR	BLK	Black. Includes dash, dest sign c/out, ent. mech. box, driver's o/head panels. and if used, ent. floor heat duct, frt. RH harness cover is black powder coated alum.	
422-06	DRIVER'S CEILING PANEL MATERIAL	MEL	Melamine.	
422-07	INTERIOR PIER PANEL MATERIAL	THE	Thermoplastic.	
422-08	PIER PANEL COLOUR	WHT	Antique white	
422-0A	INTERIOR LWR SIDEWALL MATERIAL	MEL	Melamine	
422-0C	INTERIOR SIDEWALL MELAMINE	CHA	Charcoal Grey Gloss	
422-0D	INTERIOR PROPULSION COMPT ACCESS PANEL	HIN	A single hinged panel under the rear seat	
422-0E	INTERIOR UPPER REAR PANEL	CND	Bulkhead panel covered with carpet / fabric material. Does not have large central access door.	
422-0F	CARPET / FABRIC,UPR REAR INT PANEL	CHA	Charcoal Grey carpet with 1/2" plywood backing.	
422-0K	C/S,S/S RR BULKHEAD ACCESS PANELS	CPT	Carpeted DB plywood.	
422-0M	HRNS/AIR LINE COVERS AT UPPER DECK	PFB	Painted flat black.	
422-0N	FRT DEST SIGN DOOR LATCHES	SQL	Short wing quad latches.	
422-0P	DRIVER'S OVERHEAD PANEL	NFI	With locker.	
422-0R	DRIVER'S LOCKER LATCH	SQL	Short wing quad latch.	
422-0T	DRIVER'S COAT HOOK AND STRAP	FWD	Located on the forward face of the harness cover behind the driver.	
422-0U	SECURE DIAGNOSTIC STATION	SDS	Above street side front wheelhouse. Incorporates driver's barrier. With four Take One pockets. Quantity of trays as per customer and / or as per electronic equipment within compartment.	
422-0V	SDS ENCLOSURE COLOUR	BLK	Flat Black.	
422-0W	SDS ENCLOSURE DOOR LATCHES	KEY	5/16" square key quad latch.	
422-13	FRONT SUNVISOR / ROLLERBLINDS	B01	Black rollerblind. Scissor type with 20" travel and 44" wide.	
422-14	SIDE SUNVISOR/ROLLERBLIND	B18	Black rollerblind. Scissor type with 20" travel. 24" width covering the rear half of the window.	
422-15	SQUARE KEY T-HANDLE	DRV	Located at lower left of driver.	
422-16	ENTRANCE MECHANISM BOX DOOR LATCH	2SW	Two short wing quad latches.	
422-18	GRAB HANDLE NEAR FRONT ROOF HATCH	REQ	Required.	
422-19	FLOOR HEAT DUCT MATERIAL	LEA	Leathergrain textured SST.	

422-1B	C/S,S/S REAR BULKHEAD ACCESS PANELS, OPENING METHOD	REM	Removable access panels.	
422-1R	FRONT DASH, ACCESS PANEL LATCH	BSC	Quarter turn, black powder coated 5/16" square key quad latches.	
422-1W	INTERIOR UPPER REAR PANEL, TRIM OPTIONS	FLT	Flat Trim Design	
422-23	REAR PLC ENCLOSURE, LATCHES	001	5/16" square key quad latch.	
423-01	REAR EXTERIOR AD FRAME SIZE AND LOADING SIDE	R01	Frame size 15"x66". Loading side, bottom.	
423-02	SS EXTERIOR AD FRAME SIZE AND LOADING SIDE	S03	Frame size 30"x144". Loading side, right.	
423-05	CS EXTERIOR AD FRAME SIZE AND LOADING SIDE	C07	Frame size 30"x108". Loading side, left.	
450-02	FLOORING	PLY	Lower deck uses pressure treated NT ACQ plywood. Upper deck uses composite for step and floor to the rear wheelhouses and NT DB ACQ plywood to the rear.	
450-03	DRIVESHAFT / TRANSMISSION / DRIVE MOTOR ACCESS PANELS	2AC	Two panels set in the floor, one to access the driveshaft and the other to access the transmission.	
450-06	ALTRO FLOOR COVERING	001	Black TFM 27892 (2.7 mm / 0.11" thick) for aisle and underseats.	
450-0A	STEP TO UPPER DECK	YLW	Yellow anti-slip coating is applied to the edges and vertical faces of the step.	
450-0B	FRONT AXLE STANDEE LINE	YLW	One yellow flooring safety line provided fore of the hump at the front axle.	
450-0C	ENTRANCE NOSING	B01	Nosing is 2" wide yellow anti-skid applied to the ramp.	
450-0D	EXIT NOSING	ALT	2.5" yellow nosing for Altro / Tarabus flooring.	
450-0F	REAR SEAT RISER COVERING MATERIAL	B01	Same material and colour as used for the flooring.	
450-0J	DRIVER'S PLATFORM FLOORING	A01	Altro, Black TFM 27892 (2.7 mm / 0.11" thick)	
450-0K	DRIVER'S PLATFORM TRIM	SST	SST.	
450-0M	OUTER WHEELHOUSES	A01	SST front and rear. The rear have provisions for tire chain clearance.	
450-0N	INTERIOR FRONT W/HOUSE (LUGG RACK) COLOURS	B01	Matte black, painted stipple. An LED aisle light is provided on the streetside. Also, SST scuff guards are provided.	
450-0T	TRIM UPPER DECK	ALU	Aluminum.	
450-13	INTERIOR FRONT W/HOUSE (LUGG RACK), SCUFF GUARDS	BSC	Standard height scuff guard	
450-14	EXIT DOOR, WHEELHOUSE AND UPPER DECK TRIM, MATERIAL	ALU	Aluminum Trim	
460-01	WINDSHIELDS	72B	72% light transmittance green laminated. With blue shade band for street and curb sides.	
460-02	WINDSHIELD PROTECTIVE FILM	REQ	Required for coach delivery beyond a 500 mile radius of Final Assembly.	
460-04	PASS / DRVR'S WINDOWS MANUFACTURER	AGN	Arow Global frame mounted.	

460-06	FRAMED PASSENGER WINDOWS	BFT	Bottom is fixed, top tip-in.	
460-07	SDS WINDOW	BSC	Bottom is fixed, top is fixed. Glazing matches passenger window.	
460-09	FRAMED WINDOW GLAZING	N01	Grey, 44% light transmittance, laminated.	
460-0B	FRAMED WINDOW LOCKS	001	Locking set-screw.	
460-0C	WINDOW FRAME COLOUR	BLK	All window frames are black anodized.	
460-0D	WINDOW EMERGENCY EGRESS	NFI	Minimum quantity based on FMVSS requirements, local, state/provincial, federal regulations or customer spec whichever is greater.	
460-0E	SIDE DESTINATION SIGN WINDOWS	CSN	Curb side. Fixed clear top and fixed bottom. Bottom matches passenger window glazing. (review 470 for side sign details).	
460-0G	WINDOW GLAZING REPLACEMENT	RAP	Rapid replacement.	
460-0H	PASS WINDOW LINERS AND COATINGS	A06	3M multi-layer film on all windows.	
460-0J	PASS WINDOW THICKNESS	6MM	6 mm.	
460-0M	DRIVER'S WINDOW,FRAMED	DSN	With fore and aft sliding sashes. The forward sash has exterior and interior handles. Non-egress.	
460-0N	AFT SASH,FRAMED DRIVER'S WINDOW	HLA	With interior handle and latch.	
460-0P	DRIVER'S WINDOW GLAZING	LAM	Laminated with minimum 70% light transmittance.	
470-01	DESTINATION SIGNS MFR	H03	Hanover, LED display system, EG4	
470-02	DEST SIGN CONTROL UNIT LOCATION	OVR	Under driver's overhead panel at forward position of sawtooth panel.	
470-06	HANOVER FRT.DEST.SIGNS	A01	Amber LED, 17 x 160 pixels.	
470-07	FRONT DESTINATION SIGN GLASS	LAM	Laminated.	
470-0A	CURB SIDE DESTINATION SIGN LOCATION	2WI	At the second window, aft of the entrance door.	
470-0D	HANOVER CURBSIDE DEST.SIGNS	A03	Amber LED, 15 X 112	
470-0G	FRONT ROUTE SIGN	HA2	Hanover LED, amber, 10 x 36	
470-0H	REAR ROUTE SIGN,LOCATION	UCS	At the upper curb side.	
470-0M	HANOVER REAR ROUTE SIGNS	A01	Amber LED, 15 x 48.	
470-0P	AVA / AVL SYSTEM	TRA	Trapeze Vontas (formerly Continental / Siemens) system	
470-10	AVA/AVL LED SIGN LOCATION	REQ	Required on the HVAC overhead enclosure at front.	
470-11	AUTO VEHICLE MONITORING SYSTEM (AVM)	ZON	Zonar	
470-16	NEW FLYER CONNECT-DIAGNOSTIC & MONITORING SYSTEM	WOD	Required without driver maneuver awareness system (DMAS).	
470-20	NF CONNECT SUBSCRIPTION TERM	002	2 years.	
470-22	GEOFENCE REQUIREMENT	NRQ	Not required	

480-02	EXTERIOR MIRROR MANUFACTURER	HAD	Hadley.	
480-03	EXTERIOR SS MIRROR GLASS STYLE	2PC	2/1 (upper portion is flat, lower portion is convex).	
480-04	EXTERIOR SS MIRROR GLASS SIZE	815	8" x 15"	
480-05	EXTERIOR SS MIRROR HEATING REQUIREMENTS	REQ	Heated.	
480-06	EXTERIOR SS MIRROR POWER OPTIONS	DUR	Dual remote control. (The upper and lower portions are remote controlled.)	
480-08	EXTERIOR SS MIRROR ARM FUNCTIONALITY	PUL	Pull back. Mirror arm is manually returned to its previously set position after deflection.	
480-09	STREET SIDE MIRROR MOUNT	HIG	High mount.	
480-0E	EXTERIOR CS MIRROR GLASS STYLE	2PC	2/1 (upper portion is flat, lower portion is convex).	
480-0F	EXTERIOR CS MIRROR GLASS SIZE	815	8" x 15"	
480-0G	EXTERIOR CS MIRROR HEATING REQUIREMENTS	REQ	Heated.	
480-0H	CURB SIDE MIRROR POWER OPTIONS	DUR	Dual remote control. (The upper and lower portions are remote controlled.)	
480-0K	EXTERIOR CS MIRROR ARM FUNCTIONALITY	PUL	Pull back. Mirror arm is manually returned to its previously set position after deflection.	
480-11	STREET / CURB SIDE HEATED MIRROR ACTIVATION	SSC	Controlled by switch at the side console with a light.	
480-13	DRIVER'S REAR VIEW MIRROR	BC4	4 3/4" x 15 7/8", black, convex.	
480-14	SPOT MIRROR	6DF	6" diameter flat mirror with short arm, located at curbside front.	
480-15	EXIT DOOR MIRROR	12C	Convex, 12" diameter, mounted on curved modesty panel stanchion.	
480-26	STREET/ CURB SIDE MIRROR ARM MATERIAL	CAR	Carbon steel	
490-01	ENTRANCE DOOR DRIVE SYS	PNE	Pneumatic	
490-02	ENTRANCE DOOR	VAP	Vapor slide glide.	
490-03	ENTRANCE DOOR LIMIT SWITCH SET-UP	MIC	Micro-switch (mechanical).	
490-04	ENTRANCE EMERGENCY RELEASE VALVE	PVD	Within mech box.	
490-05	ENTRANCE DOOR MAGNETIC DUMP VALVE	REQ	required, located at baseplate venting entrance door	
490-07	ENTR/EXIT FRANG.COVER,LANGUAGE	ESP	English and Spanish.	
490-09	ENTRANCE DOOR COLOUR, INTERIOR	BLK	Black	
490-0B	ENTRANCE DOOR HANDLES	YLW	Yellow powder coated.	
490-0K	ENTRANCE DOOR GLAZING	BSC	Full length single piece, 72% green.	
490-0V	ENTR/EXIT FRANG.COVER	PER	Perforated cover.	
490-0W	ENT AND EXIT DOORS, INTERIOR AND EXTERIOR PANEL COLOR	BLK	Black Powder Coat	

491-01	EXIT DOOR DRIVE SYS	PNE	Pneumatic	
491-02	EXIT DOOR	MED	One rear curbside exit door. Medium Ameriview Vapor Slide Glide, 34.8" between panels.	
491-03	SLIDE GLIDE EXIT LIMIT SWITCH	MIC	Micro-switch (mechanical).	
491-04	EXIT DOOR CONTROL	CLA	Vapor Class Acoustic Sensing System. Activates door opening and detects obstruction on closing.	
491-05	CLASS SYSTEM INSTRUCTION DECAL	ESP	English and Spanish, text and characters as per customer requirement.	
491-06	CLASS SYSTEM VOICE ANNUNCIATION	FES	Female voice. English and Spanish instructions programmed as per customer requirement.	
491-0D	EXIT DOOR SENSITIVE EDGE	SVE	Pneumatic sensitive vertical edge sensor provided at all exit doors.	
491-0H	EXIT FRANGIBLE COVER SECUREMENT	MAG	Magnetic latch.	
491-0M	EXIT DOOR ASSIST HANDLES	004	Yellow powdercoated, UPA-3 Aluminum	
491-0P	EXIT DOOR GREEN LIGHT	LED	LED green light indicates that the exit door is set to open.	
491-0T	EXIT DOOR ALARM	B01	Buzzer and red 'rear door open' indicator at the instrument panel activated when the sensitive edge is triggered.	
491-0U	EXIT DOOR GLASS SIZE	FUL	Full length.	
491-0V	EXIT DOOR GLAZING	6MM	6 mm	
491-12	EXIT DOOR GREEN LIGHT MOUNTING ORIENTATION	HOR	Exit door green light mounted horizontally on baseplate	
526-01	40' PASSENGER SEAT QUANTITY	040	40	
526-04	PASSENGER SEAT MANUFACTURER	USS	United State Seating	
526-05	USS PASSENGER SEAT MODEL	CIT	Citipro seats.	
526-09	REAR BENCH SEAT	NFI	1-3-1 hinged seat.	
526-0A	PASSENGER SEAT MOUNTING	CAN	Cantilever	
526-0B	SEAT MOUNTED GRABRAIL	THE	Thermoplastic	
526-0C	FIRST SEAT,CURBSIDE UPPER REAR	FFA	Forward facing.	
526-0D	FIRST SEAT,STREETSIDE UPPER REAR	FFA	Forward facing.	
526-0F	PASSENGER SEATING BARRIER	PED	Pedestal mounted barrier.	
526-0G	SEAT POSITION,FORWARD OF REAR EXIT	FFA	Forward facing.	
526-0U	RECARO DRIVER'S SEAT MODEL	A02	Ergo MC2	
526-0V	DRIVER'S SEATBELT EXTENDER	REQ	Required.	
526-0W	DRIVER'S SEAT COVER	VNL	All vinyl.	
526-0Y	DRIVER'S SEAT BELT	LHS	Lap belt with retractor on left hand side.	
526-10	DRIVER'S SEAT BELT COLOR	ORA	Orange	
526-14	DRIVER'S SEAT BASE RISER MATERIAL	BLK	Black powdercoated steel.	

526-17	DRIVER'S SEAT HEADREST	VNL	Required, vinyl headrest.	
526-18	WHEELCHAIR POSITIONS, QUANTITY	B01	Two. At basic locations, one aft of the curbside and one aft of the streetside front wheelhouses.	
526-19	CS WHEELCHAIR RESTRAINT SYSTEM	VPR	Forward facing barrier with V-Pro front restraint.	
526-1A	SS WHEELCHAIR RESTRAINT SYSTEM	VPR	Forward facing barrier with V-Pro front restraint.	
526-1D	SHOULDER HARNESS, W/CHR RESTRAINTS	FIX	Secured to structure (pier panel), one on curbside and one on streetside. High mount harness location for aisle facing seats.	
526-1F	STANCHION / GRABRAIL STYLE	CUR	Curved style vertical stanchions. Using cast SST fittings for vertical and horizontal stanchions.	
526-1G	OVERHEAD HORIZONTAL GRABRAILS	SST	SST	
526-1H	OVERHEAD GRABRAIL HANDHOLD STRAPS	GRY	Flexible grey PVC straps, secured to horizontal stanchions, locations as per customer spec.	
526-1J	OVERHEAD GRABRAIL HANDHOLD STRAPS, QUANTITY	014	Fourteen	
526-1K	COLOR - STANCHIONS AT EXITS & RR RISER STEP	YLW	Yellow SST	
526-1N	VERT AFT OF S/S FRT W/HOUSE	VSS	To match colour of vertical seat stanchions (see Option 526-1T).	
526-1P	VERT FORE OF C/S FRT W/HOUSE	YLW	Yellow SST	
526-1R	VERT AFT OF C/S FRT W/HOUSE	SEA	To match colour of vertical seat stanchions (see option 526-1T).	
526-1T	COLOR - VERTICAL STANCHIONS AT SEATS	SST	SST	
526-22	FRONT CURBSIDE LUGGAGE RACK	001	Horizontal tube wrapping around fore, aisle, and aft sides	
526-23	FAREBOX GRABRAIL STYLE	005	Wrap around stanchion, with black padding and basic dash stanchion.	
526-25	MODESTY PANEL MATERIAL	MEL	Melamine.	
526-26	MODESTY PANEL MELAMINE COLOR	CGG	Charcoal Grey Gloss.	
526-27	C/SIDE FORE UPR DECK MOD PNL, GAP	NFI	Approximately 2" diagonally.	
526-29	BARRIER AT STREET SIDE REAR RISER	MOD	Modesty panel (material and color per 526-25/526-26).	
526-2J	DRIVER'S DOOR	ARE	One piece, full height Arow Global driver's door with extended sliding glass top.	
526-2M	BARRIER FWD OF EXIT(S)	UPB	Upper panel, 0.5" clear polycarbonate, basic width.	
526-2T	EMERGENCY INSTRUCTIONS	ESP	English / Spanish.	
526-32	DRIVER'S SEAT, FORE/AFT SEAT TRAVEL	FA5	The fore / aft seat travel is 9".	
526-35	DRIVER'S DOOR PANEL MATERIAL	T01	5/16" AS2 Tempered glass.	
526-37	FRONT CURBSIDE LUGGAGE RACK COLOR	SST	SST	
526-3B	FAREBOX GRABRAIL COLOR	BLK	Black	
526-3J	DRIVER'S SEAT HEATED	REQ	Required.	

526-3V	SEAT FWD OF REAR BENCH SEAT	FWD	Forward facing.	
549-01	HVAC UNIT 1	TK6	Thermo King RLFE rooftop A/C unit. Safety-Walk is provided for rooftop units.	
549-04	HVAC UNIT MOTOR TYPE	NFI	Brushless motor for primary heating & cooling system.	
549-05	REFRIGERANT	407	R-407C freon.	
549-06	HVAC AIR INTAKE	AIR	Recirculated air only.	
549-07	HVAC RETURN AIR FILTER	RPF	TK polyester (disposable) filter.	
549-0C	HVAC SYSTEM VALVES	BVB	Brass ball valves with basic handles.	
549-0D	A/C AND HEATER LINE CLAMPS	IDE	Ideal.	
549-0E	A/C COMPRESSOR	TND	Electric driven compressors integrated into the main HVAC unit.	
549-0J	HVAC ELECTRONICS	TK1	Thermo King Intelligaire 3, valid for A/C or heater units. With limited diagnostic capabilities.	
549-0K	HVAC CONTROL PANELS	TKH	Thermo King, installed at the HVAC unit.	
549-0N	A/C PRESSURE READINGS	TK1	Obtained via the Thermo King Intelligaire 3 control panel.	
549-16	BOOSTER PUMP	260	Valeo SPump 260W CAN capable.	
549-1A	DEFROSTER	004	MCC 3 speed brushless SPAL blower, plastic end-caps, electrically controlled damper with on/off interlock.	
549-1E	AUXILIARY/CABIN HEATER	EV1	Valeo Thermo DC 200 (20 kw) @ 690V electric heater.	
549-1G	AUXILIARY HEATER AIR INTAKE	DIF	In engine compartment, with diffuser.	
549-1M	AUX HTR BYPASS FOR ENGINE	REQ	Required to route auxiliary heated coolant to engine when interior of coach is warm.	
549-1R	ENTRANCE DOOR RAMP HEATER	SIN	Single speed, defroster controlled.	
549-20	FRONT CURB SIDE FLOOR HEATER SYSTEM	MS2	Mobile Climate Control unit with low noise Spal blower. The casing is SST with plain finish with black plastic end caps. (note: exact position may be dependant on seating layout.)	
549-22	FRONT STREET SIDE FLOOR HEATER SYSTEM	MS2	Mobile Climate Control unit with low noise Spal blower. The casing is SST with plain finish with black plastic end caps. (note: exact position may be dependant on seating layout.)	
580-01	FRONT WHEELCHAIR RAMP	NFF	NFIL ramp at front door. 32" wide, with 1:7 slope.	
580-02	FRONT RAMP CONTROL	SWI	Ramp switch at driver's instrument panel.	
580-08	WHEELCHAIR RAMP,SURFACE	FMJ	Covered with Full Metal Jacket anti-skid treatment. The leading edge is yellow FMJ, the side flanges are painted yellow.	
580-0G	KNEELING/RAMP DEPLOYMENT WARNING BEEPER	MED	IP68-rated beeper, medium loud fast beep.	
580-0H	FRONT KNEELING/RAMP DEPLOYMENT WARNING BEEPER LOCATION	BSC	Curbside under front mask.	
600-05	BACK-UP ALARM	BSC	Basic alarm located on curbside.	
600-0J	SDS TRAY QUANTITY	004	Four trays total.	
600-0M	FAREBOX PEDESTAL	004	Stainless Steel Material. Driver's Step Length = 35"; Width = 12.44"; Height = 6"; Pedestal Length = 12.38"; Width = 12.30"; Height = 1.12"	
600-0N	FAREBOX	GF3	41" Genfare FastFare	

600-0P	FAREBOX,SUPPLIED BY	001	Supplied and installed by NFIL.	
600-0R	FAREBOX POSITION / HOLES	NFI	Located in NFIL preferred position whether installed by NFIL or by customer.	
600-1D	CURBSIDE FRONT EQUIPMENT BOX	001	Standard box.	
600-23	COFFEE CUP HOLDER/TRAY	CH4	Round coffee cup holder, black.	
600-26	RADIO,COMMUNICATION SYSTEM	AVA	Included in the AVA/AVL system.	
600-29	TRAFFIC SIGNAL CONTROL SYSTEM	G02	Model 2101 computer connected to GPS based system required.	
600-2G	VIDEO SURVEILLANCE SYSTEM	CIE	Interior and exterior cameras.	
600-2H	VIDEO SURVEILLANCE SYSTEM,MFR	SFL	SafeFleet (MobileView)	
600-31	FIRE SUPPRESSION	AMM	Amerex Modular system.	
600-32	FIRE SUPPRESSION BOTTLE LOCATION	BSC	Streetside behind light panels.	
600-33	FIRE DETECTION SENSORS	A03	Amerex fire detection sensors - two at streetside and one at curbside of engine compartment.	
600-34	FIRE SUPPRESSION BOTTLE	A25	25 lb Amerex ABC dry chemical agent tank without inline blowout adapter.	
600-36	FIRE SUPPRESSION DISPLAY PANEL LOCATION	MID	Under driver's overhead panel at middle position of sawtooth panel.	
600-3V	BICYCLE RACK MANUFACTURER/MODEL	A3F	Sportworks, APEX3, front mounted. Review with engineering about the allowable projection by State.	
600-3W	BICYCLE RACK MOUNTING	BOL	Bolted slide-in standoff.	
600-3Y	BICYCLE RACK REMOVAL	BOL	Bolted rack.	
600-3Z	BICYCLE RACK MATL/COLOR	SAT	SST, satin anti glare finish.	
600-42	BICYCLE RACK INSTRUCTIONS	ESP	English / Spanish	
600-4Y	PASSENGER USB CHARGERS	REQ	Required.	
600-4Z	PASSENGER USB CHARGER LOCATION	SEA	Incorporated (where available) into seats.	
600-5A	AUTOMATIC PASSENGER COUNTER SYSTEM	FUL	Full system.	
600-5B	AUTOMATIC PASSENGER COUNTER VENDOR	IR3	IRIS/IRMA (provided by Trapeze)	
600-5K	AUTOMATIC PASSENGER COUNTER (APC) EXIT DOOR BASEPLATE SENSOR, QTY	ONE	One	
600-5M	IRIS/IRMA AUTOMATIC PASSENGER COUNTER (APC) MODEL	IRM	Matrix	
600-6F	FAREBOX PEDESTAL TREATMENT	BFM	Black full metal jacket.	
600-6G	FAREBOX PEDESTAL NOSING	YFM	Yellow full metal jacket.	
600-6H	FAREBOX ORIENTATION	FED	Facing entrance door.	
600-6J	FAREBOX OPTION, OCU	REQ	Required.	
600-6K	FAREBOX OPTION, ELECTRONIC LOCK	REQ	Required.	
600-6M	FAREBOX OPTION, TRIM	REQ	Required.	

600-6N	FAREBOX OPTION, OCU MOUNTING LOCATION	LRM	L-bracket, RAM mount	
600-6R	COFFEE CUP HOLDER/TRAY LOCATION	CL2	On side face of side console.	
600-6V	CURBSIDE FRONT EQUIPMENT BOX. LOCK/LATCH TYPE	001	Paddle latch, no lock.	
600-7C	FAREBOX OPTION, SMART CARD READER	REQ	Required.	
600-7E	FAREBOX OPTION, 2D BAR CODE READER	REQ	Required.	
600-7G	CURBSIDE FRONT EQUIPMENT BOX, COLOR	BLK	Black	
600-7N	CURBSIDE FRONT EQUIPMENT BOX. HINGE ORIENTATION	001	Parallel to curbside window.	
600-86	INSTANT TIRE CHAINS	001	Retractable tire chains for rear tires.	



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.5.3

To: Regional Transportation Commission

From: James Gee, Director of Public Transportation and Operations

SUBJECT: Construction/Maintenance Quarterly Update on Transit Stops

RECOMMENDED ACTION

Acknowledge receipt of this quarterly Construction/Maintenance update on Transit Stops as presented to the Citizens Multimodal Advisory Committee on August 7, 2024.

BACKGROUND AND DISCUSSION

The Citizens Multimodal Advisory Committee (CMAC) provides information and advice regarding the construction, installation and maintenance of benches, shelters and transit stops for passengers of the RTC transit system as required by Nevada Assembly Bill 214 (2023). The Committee will have this topic as a discussion item at least four times a year.

At the CMAC meeting on August 7, 2024, RTC staff gave a presentation to the Citizens Multimodal Advisory Committee regarding the following:

Improvements Between April and July 2024

- Schedules were updated for the May Service Change.
 - A new stop at Linden and Havard on Route 13 was installed as part of service change.
 - The bus stop at W. 4th after Ralston on Route 11 was removed due to new landscaping being installed. This stop previously had low ridership.
 - The bus stop at W. 8th and N. Virginia on Route 7 was removed as suggested by a Keolis driver due to safety and low ridership.
 - The bus stop at S. Virginia and Peckham was relocated, away from the parking lot entrance.
 - The bus stop at McCarran after Mae Anne was relocated, away from Truckee Meadows Water Authority (TMWA)'S facility.
 - Five shelters were installed at Valley and Sadleir (Route 2), 21st and Glendale (Route 9, 18), Edison and S. Rock (Route 14), Lemmon Dr. after N. Virginia (Route 7), Havard and Villanova (Route 13).
 - Trash cans were installed at McCarran & W. 7th and McCarran & Mae Anne on Route 11.
 - A bench was installed at Linden & Kietzke for Route 13.
-

- Fixed damaged benches, shelter, signs.
- The bus stops on Selmi Dr. have been improved as part of RTC's Selmi Dr. Rehabilitation Project.

Future/Ongoing Improvements

- New bus stop signs are being installed.
- New BRT signs will be installed.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.6.1

To: Regional Transportation Commission

From: Laura Freed, Director of Administrative Services

SUBJECT: Employee Health Insurance Memorandum of Understanding

RECOMMENDED ACTION

Approve a Memorandum of Understanding between the Regional Transportation Commission (RTC) and Washoe County to formalize the terms and conditions upon which RTC will purchase employee health insurance coverage from Washoe County.

BACKGROUND AND DISCUSSION

According to staff research, the RTC has purchased health insurance for its employees since RTC became its own separate entity. This is fiscally prudent since the RTC active employees and retirees are a small group, and purchasing its own insurance would be much costlier to RTC. However, staff could not find any documentation of this relationship with Washoe County. Therefore, this MOU seeks to formalize the relationship that has existed between RTC and Washoe County for over 40 years. The MOU sets out the duties and responsibilities of each entity with respect to open enrollment periods, notification of qualifying events, notification of plan design changes, and billing, among other topics.

The effective date of this MOU would be September 1, 2024. Washoe County staff is presenting this MOU at the August 20, 2024, Board of County Commissioners for its consideration.

FISCAL IMPACT

The cost of health insurance premiums has been included in the approved budget.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.

INTERLOCAL COOPERATIVE AGREEMENT

This Agreement is dated and effective as of September 1, 2024, by and between the Washoe County, Nevada (“COUNTY”) and the Regional Transportation Commission of Washoe County, Nevada (“RTC”).

WITNESSETH:

WHEREAS, the parties to this Agreement are public agencies and authorized to enter into agreements in accordance with Chapter 277 of NRS; and

WHEREAS, RTC has paid COUNTY to participate in COUNTY’S program of health insurance coverage, including medical, dental, vision, and basic and manager’s life insurance coverage, for a number of years without a formal agreement; and

WHEREAS, RTC wishes to continue purchasing health insurance coverage from COUNTY to ensure both taxpayer value and continuity of service for RTC employees and eligible retirees; and

WHEREAS, RTC and COUNTY wish to formalize their agreement in writing; and

NOW, THEREFORE, in consideration of the promises and of the mutual covenants herein contained, it is mutually agreed by and between the parties as follows:

RTC AGREES:

1. To pay the cost of health insurance coverage as invoiced by COUNTY each month for each qualified RTC participant no later than the 20th day of the month for which the premiums provide coverage.
2. To provide to COUNTY:
 - a. Initial enrollment and eligibility information for each RTC employee within 10 business days of the employees’ date of hire.
 - b. Enrollment and eligibility information for each eligible RTC employee during open enrollment periods, to be provided to COUNTY no later than the last day of the open enrollment period as specified by COUNTY.
 - c. Enrollment and eligibility information and documentation whenever an RTC employee experiences a Qualifying Event within 30-days of the Qualifying Event.
3. To provide open enrollment information to all RTC employees as soon as practicable after COUNTY determines plan design changes for a given plan year.

4. To inform COUNTY of any changes to RTC's policies regarding health insurance coverage, RTC employee or retiree eligibility, or other RTC policies that pertain to employee or retiree health care benefits no later than 60-days prior to the effective date of such change.

5. To inform COUNTY no later than June 30 of any plan year of RTC's intention to remove or add any health plan offering (i.e. intention to include the Washoe County Self-Funded QHDHP coverage for RTC employees and eligible RTC retirees) effective January 1 of the following year.

6. To indemnify and hold the COUNTY harmless for errors or omissions made by RTC with respect to plan management and payments, including but not limited to: Failure to pay for the cost of health insurance premiums for RTC employees, untimely enrollment or failure to enroll their employees into the COUNTY's program(s), misinforming RTC's employees regarding the details of their benefit plans and/or eligibility information.

COUNTY AGREES:

1. To permit RTC to buy into the COUNTY program of health insurance group coverage, including, but not necessarily limited to: medical, dental, vision, and basic and manager's life insurance coverage, for all eligible RTC employees and eligible retirees.

2. To provide to RTC the invoice for enrollees' coverage by the 5th of each month

3. To notify RTC within 10 business days of Board of County Commission approval of the following calendar year's Health Benefits Program which will include plan premium rates, plan benefit changes, changes in plan offerings, and changes in COUNTY-contracted medical or pharmacy third-party administrator or health plan carrier.

4. To provide at least 30 days' notice to RTC of any special offerings to COUNTY employees (e.g., wellness benefits, health fairs) for RTC's voluntary participation in such offerings.

a. NOTE: Offerings may be billable to RTC beyond the health plan premiums for covered RTC members. Voluntary participation in such offerings shall be invoiced by COUNTY to RTC at a pass-through rate of the charges for such offerings.

IT IS MUTUALLY AGREED:

1. That the term of this Agreement shall commence upon approval by both the Board of Commissioners of RTC and the Board of Commissioners of COUNTY and continue until such time as either RTC or COUNTY notices the other party of intent to dissolve this Agreement.

2. That either party may terminate this agreement with 180 business days' notice to the other party.

3. That each party will cooperate with the other party and their employees and agents in carrying out their respective responsibilities under this Agreement.

4. That all communications/notices required pursuant to the Agreement shall be given as hereinafter provided, unless written notice of a new designee is sent certified or registered mail, to the other party, as follows:

RTC: Laura Freed, Administrative Services Director
 or
 Christian Schonlau, Finance Director
 Regional Transportation Commission
 1105 Terminal Way
 Reno, Nevada 89502
 (775) 332-9520

COUNTY: Ashley Berrington, HR Manager - Benefits
 Washoe County
 1001 E. Ninth Street, Building A
 Reno, Nevada 89512
 (775) 433-5935

4. Subject to the limitations of Chapter 41, each party agrees to indemnify, defend and hold harmless the other party from and against any liability including, but not limited to, property damage and personal injury or death, proximately caused by the negligent acts or omissions of its officers, employees and agents arising out of the performance of this Agreement.

5. That the laws of the State of Nevada shall be applied in interpreting and construing this Agreement.

6. That the legality or invalidity of any provision or portion of this Agreement shall not affect the validity of the remainder of the Agreement.

7. That this Agreement constitutes the entire contract between the parties and shall not be modified unless in writing and signed by the parties.

8. That it is not intended, and this Agreement shall not be construed, to provide any

person or entity not a party to this Agreement, with any benefits or cause of action or to obligate the parties to this Agreement to any entity or person not a party to this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their authorized officers the day and year first above written.

**BOARD OF COMMISSIONERS, REGIONAL
TRANSPORTATION COMMISSION OF WASHOE
COUNTY, NEVADA**

Ed Lawson, Chair

**BOARD OF COMMISSIONERS OF WASHOE
COUNTY, NEVADA**

Alexis Hill, Chair



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.6.2

To: Regional Transportation Commission

From: Andy Chao, Sr. Accountant

SUBJECT: Asset Donation Log Q4-23 through the Q2-24

RECOMMENDED ACTION

Acknowledge receipt of the Asset Donation Log for the fourth quarter of calendar year 2023 through the second quarter of calendar year 2024.

BACKGROUND AND DISCUSSION

The log lists the items that were donated as outlined in RTC Management Policy P-58, effective November 1, 2023, through June 30, 2024. The Board requested that it be notified of any asset donations. The attached document details last three quarters' donations made to charity or other government agencies. Staff feels the donations are appropriate and that there is a benefit to the community. This quarter's donations were made to Reno Host Lions Club and Computer Corps.

Reno Host Lions Club is a non-profit and a 100% volunteer organization. Its mission is to give children a chance to be part of the 21st Century by giving them computers in their homes through their Computers for Kids program. The Reno Host Lions Club accepts donations of used computers and gives them away preloaded with Linux to underprivileged children in Northern Nevada.

ComputerCorps is a 501(c)(3) Non-Profit Organization that provides access to computers, training to underserved families, and is dedicated to helping provide job opportunities to individuals in the community while eliminating eWaste in our nation's landfills.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

10/19/2018 Amended RTC Management Policy P-58 to allow for donation of unusable or obsolete assets and directed staff to present a quarterly list of all donations.

ATTACHMENT A
ASSET DONATION LOG - NOV 1 2023 - JUN 30 2024

Qty	Item Description	Donated To	Reason for Disposal	Year Purchased
	WORKSTATION			
16	Dell OptiPlex 7060	RENO HOST LIONS CLUB	OBSOLETE	(1)
2	Dell OptiPlex 7050	RENO HOST LIONS CLUB	OBSOLETE	(1)
3	Dell OptiPlex 7040	RENO HOST LIONS CLUB	OBSOLETE	(1)
1	Dell OptiPlex 9020	RENO HOST LIONS CLUB	OBSOLETE	(1)
	LAPTOP			
1	Dell Precision 5530 Laptop	RENO HOST LIONS CLUB	OBSOLETE	(1)
1	Dell Latitude C640	COMPUTERCORPS	OBSOLETE	(1)
1	Dell XPS 13 9300	COMPUTERCORPS	OBSOLETE	(1)
1	Dell Precision 5820 Tower	RENO HOST LIONS CLUB	OBSOLETE	(1)
	PRINTERS			
1	HP LaserJet Pro 500 M570DN	COMPUTERCORPS	OBSOLETE	(1)
1	HP LaserJet M479FDW	COMPUTERCORPS	OBSOLETE	(1)
1	Dell Latitude 5480			
	SERVERS			
8	Shoretel Switch	COMPUTERCORPS	OBSOLETE	(1)
1	Supermicro Super Server	COMPUTERCORPS	OBSOLETE	(1)
10	CISCO Catalyst Switch	COMPUTERCORPS	OBSOLETE	(1)
	OTHER			
5	iPAD	COMPUTERCORPS	OBSOLETE	(1)
2	EPSON PowerLite 765C Projector	COMPUTERCORPS	OBSOLETE	(1)
1	TrippLite 8-Port KVM	COMPUTERCORPS	OBSOLETE	(1)
2	Infocus Projector	COMPUTERCORPS	OBSOLETE	(1)
1	Samsung DVD/VCR	COMPUTERCORPS	OBSOLETE	(1)
1	Microsoft Surface Pro	RENO HOST LIONS CLUB	OBSOLETE	(1)

(1) Expensed when purchased; date of purchase not tracked
IT supplies/equipment replacement schedule is 5 years
Printers are not replaced until broken or not cost effective



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 4.6.3

To: Regional Transportation Commission

From: Bill Thomas, AICP, Executive Director

SUBJECT: Quarterly RTC Agency Goals and Strategic Roadmap Report

RECOMMENDED ACTION

Acknowledge receipt of a report regarding quarterly progress on the RTC Agency Goals and Strategic Roadmap - FY 2024 (Q4).

BACKGROUND AND DISCUSSION

The RTC Strategic Roadmap outlines workplans for staff to accomplish the Board's direction. These workplans include detailed outcomes, champions, approaches, objectives, and measures of success for all goals. The Board also sets performance goals for the Agency on an annual basis. These goals are aligned with the Strategic Roadmap and reflect the Board's priorities for the Agency. When approving the most recent Strategic Roadmap and Agency Goals (FY25), the Board requested quarterly status updates on both items. This is the next requested quarterly update and includes the status of RTC Agency Goals and Strategic Roadmap for FY 2024 (Q4).

FISCAL IMPACT

Funding for this item is included in the approved FY 2024 budget, and there is no additional cost in connection with this agenda item.

PREVIOUS BOARD ACTION

5/17/2024 Received report regarding quarterly progress on RTC Agency Goals and Strategic Roadmap FY 2024 (Q3).

RTC Organizational Performance Summary				
Strategic Roadmap Goals				
Objective	Valued Public Transportation	Goal	YTD Progress	Status
1.1	Inclusive: Enhance mobility for all residents of Washoe County. KPI: Increase in passenger miles (RIDE). KPI: Increase in jobs accessible with transit. KPI: Increase in population with transit.	↑ ↑ ↑	12% 2.2K 20K	Achieved
1.2	Focused: Ensure that service is safe, reliable, comfortable, and customer focused. KPI: On-time performance (RIDE). KPI: On-time performance (FlexRIDE). KPI: On-time performance (ACCESS).	85% 85% 85%	89% 92% 89%	Achieved
1.3	Efficient: Deliver service cost-effectively. KPI: Passengers per service hour (RIDE). KPI: Passengers per service hour (FlexRIDE). KPI: Passengers per service hour (ACCESS).	21 3.25 2	21 3.36 2	Achieved
1.4	Sustainable: Promote transit service as part of a sustainable future in Washoe County. KPI: Increase in ridership across all modes.	↑	200K	Achieved
Objective	Enhance RTC's Role in Anticipating and Meeting Future Transportation Needs	Goal	YTD Progress	Status
2.1	NDOT Partnership: Strengthen our partnership with NDOT through funding agreements and shared strategic priorities to improved shared roads and take collective responsibility for the regional network. KPI: Number of NDOT roadways under design. KPI: Number of NDOT roadways under construction.	9 4	7 4	Off Target
2.2	Fair and Equitable Project Delivery: Establish a common agreement among the regional partners of the core elements of RTC projects. KPI: Sq. Ft. of pavement preservation completed.	15M	15M	Achieved
2.3	Regional Approach to Traffic Management: Reduce traffic delays, support transportation needs, and increase efficiencies through active regional traffic management. KPI: % of signals connected to high-speed fiber.	80%	77%	Achieved
Objective	Improve Our Community's Network Experience	Goal	YTD Progress	Status
3.1	RTP Process: Engage the community and partners to re-envision the regional network experience through a streamlined, data-based Regional Transportation Plan update. KPI: Number of projects under construction within RTP timeframe.	7	7	Achieved
3.2	Regional Transportation Network: Better define the regional transportation network. KPI: Average trip time (in McCarran) KPI: Average trip time (regional urban area)	20 30	11 11	Achieved
3.3	Regional Unfunded Needs Analysis: Conduct an unfunded needs analysis (including maintenance) with our regional partners and NDOT. Q1 Milestone: Develop scope of work. Q2 Milestone: Negotiation of contract. Q3 Milestone: Board approval of consultant contract. Q4 Milestone: Project kickoff.	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	Achieved
3.4	Public Engagement: Evolve our public engagement process with outreach that is robust, early, and context sensitive. KPI: Number of public engagement interactions - 2-way conversations.	24	30	Achieved
Objective	Financial and Organizational Stewardship	Goal	YTD Progress	Status
4.1	One Year Planning: Achieve annual budget adherence within 5% (Capital). KPI: Annual budget adherence within 5% (Street & Highway).	95%	73%	Off Target
4.2	Five Year Planning: Reach an Ending Fund Balance of two years of debt and one year of operating expenses through more thoughtful budgeting of capital projects. KPI: Funding available to deliver scheduled projects coming within 5% of estimate (Capital Improvement Projects).	95%	63%	Off Target
4.3	Long-Range Planning: Expand the use of the long-range financial plan to be used as a decision-making tool for the agency. Q1 Milestone: Work with PFM to understand bonding capacity. Q2 Milestone: Align financial plan with RTIP update. Q3 Milestone: Gather consensus at Director Retreat. Q4 Milestone: Present data to Board.	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	Achieved
4.4	Fuel Tax: Actively work with state and regional partners to replace funding source. Q1 Milestone: Obtain legal opinion on statutory requirements of WC fee implementation. Q2 Milestone: Identify partner to evaluate approaches. Q3 Milestone: Agree on scope and receive proposal from partner/consultant. Q4 Milestone: Solicit scope of work and evaluate SIRC funding for future study.	✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	Achieved

RTC Organizational Performance Summary			
FY 2024 RTC Goals			
Objective	Engineering		Status
5.1	Begin Design:		Achieved
	Lemmon Drive Segment 2 Traffic Improvements and Resiliency	Jul-23	
	Military Road Capacity Project	Jan-24	
	Pembroke Drive Capacity & Safety	Jul-23	
	Sun Valley Boulevard Improvements	Oct-23	
5.2	Begin Project Construction:		Achieved
	2024 Pavement Preservation Program	May-24	
	S Virginia Street & I580 Exit 29 Capacity & Safety	Jun-24	
	Steamboat Parkway Improvement & South Meadows Traffic Enhancements	Apr-24	
5.3	Complete Project Construction:		Achieved
	2023 Pavement Preservation Program	Jan-24	
	4th Street & Woodland Avenue Roundabout	Sep-23	
	Arrowcreek Parkway Rehabilitation	Sep-23	
	Oddie / Wells Corridor Multi-Modal Improvements	Jun-24	
	Sky Vista Parkway Widening & Rehabilitation	Dec-23	
5.4	Execute a Memorandum of Understanding with the Nevada Department of Transportation, City of Reno, City of Sparks, and Washoe County to begin implementation of ITS Strategic Master Plan to operate the regional traffic signal system as a whole.		Achieved
	Q1 Milestone: Develop scope of work.	✓	
	Q2 Milestone: RTC Board approval.	✓	
	Q3 Milestone: Local jurisdiction approval.	✓	
5.5	Following adoption by RTC Board, implement the Street & Highway Policy, including detailed project timeframes for stakeholder information.		Achieved
	KPI: Scope additions after 60% design.	✓	
5.6	Identify and begin design on Reno Downtown Micromode project(s).		Achieved
	Q1 Milestone: Create recommendation.	✓	
	Q2 Milestone: Reno City Council and RTC Board Approval.	✓	
	Q4 Milestone: Submission of ATIIIP Grant application.	✓	
Objective	Planning		Status
6.1	Initiate:		Achieved
	Regional Freight Plan	Aug-23	
	Regional Travel Characteristics Study	Sep-23	
6.2	Complete:		Off Target
	South Virginia Street Transit Oriented Development (TOD) Study	80%	
	Active Transportation Plan	80%	
6.3	Complete a workplan for RTP update with tasks and milestones, including scenarios, alternative outcomes, and public engagement.		Achieved
	Q1 Milestone: Director workshop of RTP update plan and schedule.	✓	
	Q2 Milestone: Project kick-off with consultant and schedule developed.	✓	
	Q3 Milestone: Board workshop including scenario development, visioning, and public engagement.	✓	
	Q4 Milestone: Engagement with public and local jurisdictions.	✓	
6.4	Complete the Predictive Safety Tool to improve decision-making for the TE Spot Program.		Off Target
	Q1 Milestone: Begin initial data collections and stakeholder engagement (UNR, NDOT).	✓	
	Q2 Milestone: Establish formal funding agreement with stakeholders.	✓	
	Q3 Milestone: Implementation of tool to make decisions about TE Spot Program.	✓	
	Q4 Milestone: Monitor and track progress post-implementation.	90%	
6.5	Complete upcoming MPO certification with FHWA.		Achieved
	Q1 Milestone: Begin process initiation with FHWA.	✓	
	Q2 Milestone: Provide documentation.	✓	
	Q3 Milestone: Presentation to committee.	✓	
	Q4 Milestone: Board review of certification report.	✓	
6.6	Update and modernize RTC website.		Achieved
	Q1 Milestone: Complete site mapping.	✓	
	Q2 Milestone: Updated website goes live December 1.	✓	

Objective	Public Transportation	Status
7.1	Complete implementation of hydrogen fueling infrastructure. Q1 Milestone: Plans and permits completed and approved. 95% Q2 Milestone: Complete construction of the maintenance bay. 65% Q3 Milestone: Complete construction of the station. 50% Q4 Milestone: Open station. 0%	Off Target
7.2	Expand south Reno transit improvements (RIDE and FlexRIDE). Q1 Milestone: Evaluate staffing and ridership; Develop recommendation. ✓ Q2 Milestone: Finalize proposal. ✓ Q3 Milestone: Hold Public Hearing. ✓ Q4 Milestone: Implement recommended expansion. ✓	Achieved
7.3	Identify and implement methods to enhance contractor-employee morale. Q1 Milestone: Complete employee morale survey; Start Employee Feedback Committee. ✓ Q2 Milestone: Implement Employee morale incentives, feedback, and improvements. ✓ Q3 Milestone: Participate in Local Bus Roadeo. ✓ Q4 Milestone: Participate in National Bus Roadeo. ✓	Achieved
7.4	Implement the TOPS Marketing & Communications Plan, with a focus on the "Spanish-First" Campaign highlighted in the Plan. Q1 Milestone: Finalize and release solicitation. ✓ Q2 Milestone: Receive Board approval of consultant. ✓ Q4 Milestone: Evaluate success. ✓	Achieved
7.5	Increase population with transit services, jobs accessible with transit services, and passenger miles. Q1 Milestone: Report. ✓ Q2 Milestone: Service change. ✓ Q3 Milestone: Report. ✓ Q4 Milestone: Service change. ✓	Achieved
7.6	Explore transportation solutions to reduce vehicle miles traveled in the Washoe County Tahoe Area. KPI: Number of van pools to Tahoe. 12 19 KPI: Total vehicle miles traveled (Tahoe). ↑ 78K	Achieved
Objective	Executive	Status
8.1	Actively work with state and regional partners to SUPPLEMENT fuel tax funding source. Q1 Milestone: Compile current RUC charge implementations throughout US. ✓ Q2 Milestone: Identify partner to evaluate approaches. ✓ Q3 Milestone: Agree on scope and receive proposal from partner/consultant. ✓ Q4 Milestone: Task State Lobbyist with BDR research efforts. ✓	Achieved
8.2	Analyze local and regional maintenance needs and potential solutions via maintenance study. Q1 Milestone: Develop scope of work. ✓ Q2 Milestone: Negotiation of contract. ✓ Q3 Milestone: Board approval of consultant contract. ✓ Q4 Milestone: Project kickoff. ✓	Achieved
8.3	Better align anticipated budget expenditures to street & highway project timelines. Q1 Milestone: Re-baseline eBuilder Project cost and budget estimates. ✓ Q2 Milestone: Update and maintain fund level fund mapping to track current year expenditures. ✓ Q3 Milestone: Use fund maps and eBuilder data combined to better align FY 25 budget with expected project expenditures. ✓	Achieved
8.4	Complete Climate Study of the Agency as a whole. Q1 Milestone: RFP & vendor negotiation completed. ✓ Q3 Milestone: Complete Study. ✓ Q3 Milestone: Present findings to Board. ✓	Achieved
8.5	Lead a multi-county effort to define transportation future related to Washoe County, Tahoe-Reno Industrial Center, and Fernley. Q1 Milestone: Meet with chief executives from stakeholder agencies. ✓ Q2 Milestone: Secure consultant to prepare application for future roadway needs. ✓ Q3 Milestone: Define shared view of future transportation with stakeholders. ✓ Q4 Milestone: Outline next steps for multi-county transportation efforts in FY25. ✓	Achieved
8.6	Make annual report to three local governments - Reno, Sparks, and Washoe County. Reno ✓ Sparks ✓ Washoe County ✓	Achieved
8.7	Update Personnel Rules and Board By-laws, including a documented process for Executive Director annual review. Q1 Milestone: Draft updated p-rules identified as most urgent for recruiting/retention. ✓ Q2 Milestone: Board approval of recruiting/retention p-rules updates. ✓ Q3 Milestone: Board approval of updated bylaws, including Executive Director annual review. ✓ Q4 Milestone: Select format/outline for Personnel Rules re-write, to occur in FY 25. ✓	Achieved
8.8	Work with regional partners to define a grants program to solicit federal earmarks for local street improvements/preservation. Q1 Milestone: Redefine RTC grants management role to include grant opportunity identification. ✓ Q2 Milestone: Train new grants management staff on resources and notices. ✓ Q3 Milestone: Create earmark application guide for local jurisdictions. ✓ Q4 Milestone: Set up recurring grants opportunity email to jurisdiction on available funding opportunities and offer assistance in application where appropriate. 0%	Off Target
8.9	Strategically adjust goals as needed throughout the year to respond to Board direction in a prompt manner.	Achieved



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 5.1.

To: Regional Transportation Commission

From: Dale Keller, Director of Engineering

SUBJECT: Public Hearing and Resolution Approving the Sale of Property to City of Reno

RECOMMENDED ACTION

Conduct a public hearing and adopt a resolution approving a purchase and sale agreement for the sale of property (APN 004-082-18; APN 004-061-29; APN 004-061-20; APN 004-061-26; APN 004-061-22; and APN 035-033-02) to the City of Reno.

BACKGROUND AND DISCUSSION

RTC acquired certain property between 1999 and 2004 for a planned US 395/Clear Acre/Sutro Interchange Improvement Project which was only partially completed. RTC no longer needs the property for the project or another roadway project.

On July 19, 2024 the RTC Board adopted a resolution declaring an intention to sell property (APN 004-082-18; APN 004-061-29; APN 004-061-20; APN 004-061-26; APN 004-061-22; and APN 035-033-02) to the City of Reno (“City”) as required by NRS 277.050(5). That resolution set this meeting as the time and place for a public hearing at which objections to the sale may be made by the electors of Washoe County as required by NRS 277.050(5)(c). Staff published notice of the adoption of the resolution and the time and place of this meeting pursuant to NRS 277.050(6).

The “Purchase and Sale Agreement” is attached to this resolution. The sale price is \$2,256,000. Following a public hearing on this item, the adoption of this resolution will approve the agreement and satisfy the requirements in NRS 277.050(7). The City Council is expected to consider approval of the agreement at its meeting on August 28. RTC and the City would then enter into the agreement and complete the sale. As part of the sale, the RTC Chair would execute and deliver a quitclaim deed conveying the Property as directed in this resolution and as required by NRS 277.055(7). The sale would be expected to be completed before the end of October.

FISCAL IMPACT

The proceeds of the sale will be returned to the Street and Highway Fund and will be used for capital outlay on future roadway projects.

PREVIOUS BOARD ACTION

- 7/19/2024 Adopted a resolution declaring an intention to sell property (APN 004-082-18; APN 004-061-29; APN 004-061-20; APN 004-061-26; APN 004-061-22; and APN 035-033-02) to the City of Reno.
- 10/20/2023 Authorized the Executive Director to negotiate the terms and conditions of the following agreements related to RTC property acquired as part of a planned US 395/Clear Acre/Sutro Interchange Improvement Project (APNs: 004-061-20, 004-061-22, 004-061-26, 004-061-28, 004-082-18, 035-033-02): (1) a property exchange agreement with the Truckee Meadows Water Authority (TMWA) whereby TMWA will acquire a portion of the RTC property for a water tank site and facilities project, and RTC will acquire a TMWA parcel located at 9675 Western Skies Drive (APN: 140-051-23) for a planned roadway project; and (2) a purchase and sale agreement with the City of Reno for the sale of the remaining RTC property to the City of Reno for a public use related to affordable housing.

RESOLUTION NO. 24-10

**A RESOLUTION APPROVING A PURCHASE AND SALE AGREEMENT
BETWEEN THE REGIONAL TRANSPORTATION COMMISSION AND
THE CITY OF RENO**

WHEREAS, the Regional Transportation Commission of Washoe County, Nevada (“RTC”) acquired certain property for a planned US 395/Clear Acre/Sutro Interchange Improvement Project that was only partially completed; and

WHEREAS, the property was purchased under the threat of eminent domain proceedings by RTC pursuant to chapter 37 of the Nevada Revised Statutes (“NRS”); and

WHEREAS, RTC no longer needs APN 004-082-18; APN 004-061-29; APN 004-061-20; APN 004-061-26; APN 004-061-22; and APN 035-033-02 (the “Property”) for the project or another roadway project; and

WHEREAS, the City of Reno (“City”) has represented that it intends to purchase the Property for a public use and purpose related to affordable housing; and

WHEREAS, on July 19, 2024, the RTC Board of Commissioners adopted a resolution declaring RTC’s intention to sell the Property to the City pursuant to NRS 277A.255(1)(c) and NRS 277.050; and

WHEREAS, on August 16, 2024, the RTC Board of Commissioners held a public hearing at which objections to the sale could be made by the electors of Washoe County.

**NOW, THEREFORE, BE IT RESOLVED BY THE REGIONAL
TRANSPORTATION COMMISSION OF WASHOE COUNTY, NEVADA:**

Section 1. RTC hereby approves the sale of the Property to the City at a price of \$2,256,000 upon the terms of the “Purchase and Sale Agreement” attached hereto as Exhibit A (the “Purchase and Sale Agreement”).

Section 2. The Executive Director is hereby authorized to execute and deliver the Purchase and Sale Agreement, and such additional agreements, certificates, and instruments as the Executive Director may deem necessary or desirable to give effect to the terms and conditions of the Purchase and Sale Agreement and the transactions contemplated thereby.

Section 3. The Executive Director is authorized to take such further actions to give effect to the transactions contemplated by the Purchase and Sale Agreement as the Executive Director may deem desirable in his discretion.

Section 4. As required by NRS 277.050(7), upon the performance and compliance by the City of all the terms and conditions of the Purchase and Sale Agreement, the RTC Chair is hereby directed to execute and deliver a quitclaim deed conveying the Property to the City.

Section 5. This resolution shall become effective on its passage and adoption.

PASSED, ADOPTED AND APPROVED on August 16, 2024.

Chair
Regional Transportation Commission of
Washoe County

Exhibit A

Purchase and Sale Agreement

PURCHASE AND SALE AGREEMENT

This PURCHASE AND SALE AGREEMENT (the “**Agreement**”) is made and entered into as of the Effective Date (defined below), by and between the Regional Transportation Commission of Washoe County, Nevada, a regional transportation commission governed by Nevada Revised Statutes Chapter 277A (“**Seller**” or “**RTC**”), and City of Reno (“**Buyer**”) (Seller and Buyer each a “**Party**” and collectively, the “**Parties**”).

RECITALS

WHEREAS, as part of Seller’s US 395/Clear Acre/Sutro Interchange Improvement Project (“**Project**”), Seller acquired title to certain parcels located at the southwest corner of Clear Acre Lane and Scottsdale Road in Reno, Nevada: APN 004-082-18; APN 004-061-29; APN 004-061-20; APN 004-061-26; APN 004-061-22; and APN 035-033-02 (collectively, the “**Parcels**”).

WHEREAS, Buyer has represented that it intends to purchase the property for a public use and purpose related to affordable housing.

WHEREAS, on July 19, 2024, Seller’s Board of Commissioners adopted a resolution declaring Seller’s intention to sell the Parcels to Buyer.

WHEREAS, on August 16, 2024, Seller’s Board of Commissioners heard objections, if any, to the proposed sale of the Parcels to Buyer. Seller’s Board of Commissioners thereafter adopted a resolution approving the sale of all of Seller’s right, title, and interest in and to the Parcels to Buyer, authorizing the RTC Executive Director to execute this Agreement, and authorizing the RTC Chair to execute and deliver a quitclaim deed conveying the Parcels to Buyer upon performance of all of the terms and conditions of this Agreement.

WHEREAS, on August 28, 2024, Buyer’s City Council approved the purchase.

NOW THEREFORE, for valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and subject only to the contingencies set forth herein, Buyer and Seller agree as follows:

AGREEMENT

1. Definitions. For the purpose of this Agreement, the following terms shall have the following definitions:

1.1. “Affiliate” shall mean, with respect to any Person, a Person that directly or indirectly, through one or more intermediaries, has control of, is controlled by, or is under common control with, such Person. For these purposes, “control” means the possession, directly or indirectly, of the power to direct or cause the direction of the management of any Person, whether through the ownership of voting securities, by contract or otherwise.

1.2. “Closing Date” means the date upon which Closing (defined below) actually occurs, as such date may be modified pursuant to mutual agreement of Buyer and Seller; provided that such date is on or before October 31, 2024 (the “**Outer Closing Date**”).

1.3. “Effective Date” means the later of (i) the date on which the Parties deliver a copy of this Agreement to Escrow Holder executed by both Buyer and Seller, and (ii) notice of such delivery and execution is given to each Party along with a copy of such executed Agreement. For the purposes of determining the “Effective Date,” the date on which the Escrow Holder sends an email to all Parties notifying them of the opening of escrow shall be deemed notice to each Party of the execution and delivery of the Agreement.

1.4. “Escrow Holder” means Ticor Title of Nevada, Inc., 5441 Kietzke Lane, Suite 100, Reno, Nevada 89511 (attention: Luann Barnes).

1.5. “Hazardous Substances” means any and all substances, materials and wastes which are regulated as hazardous or toxic under applicable local, state or federal law or which are classified as hazardous or toxic under local, state or federal laws or regulations, including, without limitation, (i) those substances included within the definitions of “hazardous substances,” “hazardous materials,” “toxic substances,” “solid waste,” “pollutant” or “contaminant” as such terms are defined by or listed in the Comprehensive Environmental Response Compensation and Liability Act of 1980 (42 U.S.C. § 9601 et seq.) (“CERCLA”), as amended by Superfund Amendments and Reauthorization Act of 1986 (Pub. L. 99-499 100 Stat. 1613) (“SARA”), the Hazardous Materials Transportation Act (49 U.S.C. § 1801 et seq.), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. § 6901 et seq.) (“RCRA”), the Toxic Substance Control Act (15 U.S.C. § 2601 et seq.), the Federal Insecticide, Fungicide and Rodenticide Control Act (7 U.S.C. § 136 et seq.), the Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 et seq.), the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. § 11001 et seq.), the Hazardous and Solid Waste Amendments of 1984 (Public Law 86-616 Nov. 9, 1984), the Federal Clean Air Act (42 U.S.C. § 7401 et seq.), and in the regulations promulgated pursuant to such laws, all as amended, (ii) those substances listed in the United States Department of Transportation Table (49 CFR 172.101) or 40 CFR Part 302, both as amended, and (iii) any material, waste or substance which is (A) oil, gas or any petroleum or petroleum by-product, (B) asbestos, in any form, (C) polychlorinated biphenyls, (D) designated as a “hazardous substance” pursuant to Section 311 of the Clean Water Act (33 U.S.C. § 1251 et seq.), as amended, (E) flammable explosives, or (F) radioactive materials.

1.6. “Inspection Period” means the period beginning on the Effective Date and ending at 5:00 p.m. (Pacific Time) on the forty-fifth (45th) calendar day following the Effective Date.

1.7. “Person” shall mean all natural persons, corporations, limited partnerships, general partnerships, limited liability companies, joint stock companies, joint ventures, associations, companies, trusts, banks, trust companies, land trusts, business trusts or other organizations, whether or not legal entities, and governments and branches agencies and political subdivisions thereof.

1.8. “**Title Company**” means Ticor Title of Nevada, Inc., 5441 Kietzke Lane, Suite 100, Reno, Nevada 89511 (attention: Luann Barnes).

2. **Sale of Property; Purchase Price.**

2.1. **Sale of Property.** Subject to the terms, covenants and conditions of this Agreement, Seller shall sell to Buyer, and Buyer shall purchase from Seller, all of Seller’s right, title and interest in and to the Parcels, as more particularly described in Exhibit A and depicted in Exhibit B, with all of Seller's right, title and interest in and to all water, air and mineral rights, interests, privileges, entitlements, utility deposits, easements, rights, improvements, hereditaments and appurtenances to said Parcels (collectively the “**Property**”).

2.2. **Purchase Price.** The purchase price to be paid by Buyer to Seller for the Property is Two Million Two Hundred Fifty-Six Thousand and no/100 Dollars (US \$2,256,000.00), which shall be in cash or other immediately available funds (the “**Purchase Price**”).

2.3. **No Financing Contingency.** Buyer acknowledges that the Buyer’s obligation to consummate the transaction contemplated hereby is not contingent upon Buyer’s ability to obtain financing and that the Closing (defined below) will not be deferred to allow Buyer time to obtain financing. Buyer further acknowledges that no financing for this transaction will be provided by Seller, nor shall Buyer be permitted to assume Seller’s existing financing, if any.

2.4. **Payment of the Purchase Price.** The Purchase Price shall be payable as follows:

2.4.1. **Deposit.** On or before the date that is ten (10) calendar days after the Effective Date, Buyer shall initiate a wire transfer to Escrow Holder in the amount of five thousand and no/100 dollars (US \$5,000.00) as a good faith deposit (the “**Deposit**”), which shall be applicable to the Purchase Price at Closing. The Deposit shall be nonrefundable after the expiration of the Inspection Period (if Buyer has not terminated the Agreement), except on account of the failure of any of Buyer’s Closing Conditions (defined below) and as otherwise set forth herein. The benefit of the Deposit shall be retained by Seller pursuant to Section 10.1 if this Agreement is terminated or if the Closing does not occur by the Closing Date for any reason other than (a) upon the failure of a contingency or condition contained in Sections 3 or 4.1, or (b) if this Agreement is terminated by Buyer in accordance with any of Sections 4.1.2, 6.1, 6.2, 9.1, or 10.2, in which case the Deposit shall be immediately refunded by Escrow Holder to Buyer.

2.4.2. **Balance of Purchase Price.** Buyer shall deposit into Escrow an amount equal to the Purchase Price, plus Buyer’s Closing Cost, minus the amount of the Deposit, less credits due to Buyer under Section 3.9 hereof (the “**Cash Balance**”) in the form of immediately available United States federal funds no later than the Closing Date.

2.5. Interest. All funds received from or for the account of Buyer shall be deposited by Escrow Holder in an interest-bearing account with a federally insured state or national bank, redeemable on not more than one day's notice. Interest shall accrue for the benefit of Buyer.

3. Escrow; Closing Conditions and Other Closing Matters.

3.1. Escrow. Upon the execution of this Agreement by Buyer and Seller, and the acceptance of this Agreement by Escrow Holder in writing, this Agreement shall constitute the joint escrow instructions of Buyer and Seller to Escrow Holder to open escrow (the "**Escrow**") for the consummation of the sale of the Property to Buyer pursuant to this Agreement. Upon Escrow Holder's receipt of the Deposit and Escrow Holder's written acceptance of this Agreement, Escrow Holder shall send email confirmation of the opening of Escrow to all Parties in accordance with Section 1.3 above, and is authorized to act in accordance with the terms of this Agreement. If required by Escrow Holder, Buyer and Seller shall promptly execute general escrow instructions based upon this Agreement; provided, however, that if there is any conflict or inconsistency between such general escrow instructions and this Agreement, this Agreement shall control. Any disbursements made to the Parties by Escrow Holder shall be made with immediately available United States federal funds. Notwithstanding the foregoing, Buyer and Seller shall retain the right to deliver supplemental escrow instructions to Escrow Holder pertaining to the delivery and release of documents and similar matters.

3.2. Closing Date. The consummation of the sale of the Property through Escrow shall close (the "**Closing**" or "**Close of Escrow**") on the Closing Date (or such other date as may be agreed upon by the Parties) provided that all conditions to the Closing set forth in this Agreement have been satisfied or waived in writing by the Party intended to be benefited thereby. In the event that the Closing does not occur on or before the Outer Closing Date, this Agreement shall terminate and neither Party shall have any further obligation to the other except to the extent that failure to close was caused by default of Buyer or Seller, in which case the Parties shall have the remedies upon default described in Sections 10.1 and 10.2.

3.3. Buyer's Conditions to Closing. The Closing is subject to and contingent on the satisfaction of only the following conditions (collectively, "**Buyer's Conditions to Closing**") or the waiver of the same by Buyer in writing:

3.3.1. Accuracy of Seller's Representations and Warranties. All of the representations and warranties of Seller contained in this Agreement shall be true and correct in all material respects as of the date made and as of the Closing.

3.3.2. Seller's Performance. Seller shall have timely performed, satisfied and complied in all material respects with all material covenants, agreements and conditions required by this Agreement to be performed or complied with by Seller on or before the Closing Date.

3.3.3. Title Policy. The Title Company is willing to issue the Title Policy complying with the requirements of Section 4.2 upon the payment of the premium therefor and the provision of any information or assurances from Seller required by the Title Company.

3.3.4. No Adverse Action. There shall exist no pending or threatened action, suit or proceeding with respect to Seller or the Property before or by any court or administrative agency which seeks to restrain or prohibit, or to obtain damages or a discovery order with respect to, this Agreement or the consummation of the transaction contemplated hereby.

3.4. Seller's Conditions to Closing. The obligations of Seller to consummate the transactions provided for herein are subject to and contingent upon the satisfaction only of the following conditions or the waiver of same by Seller in writing:

3.4.1. Accuracy of Buyer's Representations and Warranties. All of the representations and warranties of Buyer contained in this Agreement shall be true and correct in all material respects as of the date made and as of the Closing.

3.4.2. Buyer's Performance. Buyer shall have timely performed, satisfied and complied in all material respects with all material covenants, agreements and conditions required by this Agreement to be performed or complied with by Buyer on or before the Closing Date.

3.5. Closing Costs and Charges.

3.5.1. Seller's Costs. None.

3.5.2. Buyer's Costs. Buyer shall pay (a) all of the Escrow Holder's escrow fees in connection with the Escrow; (b) recording fees payable in connection with the transfer of the Property to Buyer from Seller; (c) the cost of the Title Policy (including the cost of any endorsements); (d) the costs of any due diligence investigations conducted by or for the benefit of Buyer; and (e) all documentary and/or transfer taxes on the Deed, if any.

3.5.3. Other Costs. All other costs relating to the Closing, if any, shall be borne by Buyer; provided, however, that, except as otherwise expressly set forth in this Agreement, each Party hereto shall be responsible for its own attorney's fees and costs in connection herewith.

3.6. Deposit of Documents by Seller. On or before the Closing Date, Seller shall deposit the following items into Escrow, each of which shall be duly executed and acknowledged by Seller where appropriate:

- (a) The Quitclaim Deed;
- (b) A Certification of Non-Foreign Status (the "**Certification**");
- (c) All other documents as may reasonably be required by Escrow Holder or Buyer to close the Escrow in accordance with this Agreement.

3.7. **Deposit of Documents and Funds by Buyer.** On or before the Closing Date, Buyer shall deposit the following items into Escrow, each of which shall be duly executed and acknowledged by Buyer where appropriate:

- (a) The Cash Balance;
- (b) All other funds and documents as may reasonably be required by Escrow Holder or Seller to close the Escrow in accordance with this Agreement.

3.8. **Delivery of Documents and Funds at Closing.** Provided that all conditions to Closing set forth in this Agreement have been satisfied or, as to any condition not satisfied, waived by the Party intended to be benefited thereby, on the Closing Date, Escrow Holder shall conduct the Closing by recording and/or distributing the following documents and funds in the following manner:

3.8.1. **Recorded Documents.** Record the Quitclaim Deed in the Official Records of Washoe County, Nevada;

3.8.2. **Purchase Price.** Deliver to Seller the Purchase Price and such other funds, if any, as may be due to Seller by reason of net credits under this Agreement;

3.8.3. **Buyer's Documents.** Deliver to Buyer: (a) the original Title Policy (as soon as practicable after Closing, but in any event not later than ten (10) calendar days following the Closing); (b) the original Certification; and (c) a counterpart of the recorded Quitclaim Deed;

3.8.4. **Seller's Documents.** Deliver to Seller an original fully executed counterpart of every document executed by Buyer and copies of every other document delivered to Buyer.

3.9. **Prorations and Adjustments.** Those items described below shall be adjusted and prorated and apportioned between the Parties on an accrual basis and/or other reasonable method, taking into account the extent to which the same are attributable to periods before and after the Closing Date. Net credits in favor of Buyer shall be deducted from the Purchase Price and net credits in favor of Seller shall be paid to Seller in cash through Escrow at the Closing.

3.9.1. **Taxes and Assessments.** All real estate taxes and assessments (including without limitation ad valorem, school, intangible and use taxes) relating to the Property shall be prorated based on the current year's tax bills.

3.9.2. **Operating Expenses.** Any and all deposits and charges for services, utilities, or any other expenses incurred in the operation of the Property shall be prorated between the Parties. Seller and Buyer shall obtain billings and meter readings available as of the Closing Date to aid in any such prorations, if available.

4. Title Matters: Conveyance of the Property.

4.1. Preliminary Title Report. Within five (5) calendar days of the Effective Date, Title Company shall cause to be provided to Buyer and Seller a preliminary title report for title insurance to be issued by Title Company with respect to the Property, together with copies of all underlying title documents described in such preliminary title report (collectively, the “PTR”).

4.1.1. If Buyer disapproves of any item in the PTR, then Buyer shall so notify Seller in writing on or before the date that is seven (7) calendar days prior to the expiration of the Inspection Period. If Buyer does not timely object in writing to any exception or other matter in the PTR, then Buyer shall be deemed to have approved the PTR. Seller shall be obligated to cure any of Buyer’s objections as to monetary encumbrances, and shall have the right, but not the obligation, to notify Buyer on or before the date which is three (3) business days following receipt of any Buyer objections that Seller that Seller will cure any exception objected to by Buyer and, in such case, shall provide such documents or funds as shall reasonably be required by the Title Company to remove or to cure such disapproved items, and/or to obtain a bond or title commitment (or endorsement, subject to Buyer’s approval, which shall not be unreasonably withheld) removing the effect of such items as exceptions from the Title Policy. Seller’s failure to deliver such notice to Buyer with respect to any disapproved item shall be deemed to be an election by Seller not to so remove or to cure such non-monetary encumbrance or obtain such a bond, title commitment or endorsement.

4.1.2. If Seller elects not to remove or to cure any non-monetary encumbrance (or is otherwise deemed to have elected not to so remove or to cure the same), then Buyer shall have the right exercisable on or before the expiration of the Inspection Period to either (i) waive such exceptions to the Title Policy, and proceed to take title to the Property (and accept the Title Policy) subject to such exceptions, without any deduction or offset in the Purchase Price, and without any claim or cause of action against Seller, or (ii) terminate this Agreement, in which case the Deposit shall promptly be returned to Buyer, this Agreement shall terminate and the parties shall have no further rights or obligations hereunder, except those that are expressly stated to survive the Closing.

4.2. Buyer’s Title Policy. At the Closing, Escrow Holder shall cause the Title Company, at Buyer’s sole cost, to issue to Buyer an ALTA Owner’s Policy of Title Insurance (the “Title Policy”) which shall be written with liability in the amount of the Purchase Price, and contain only such exceptions as are acceptable to Buyer in accordance with its title review pursuant to Section 4.1, and subject to Seller’s election to remove or not remove Buyer’s disapproved items pursuant to Section 4.1.1, and such endorsements as Buyer may require. If Buyer elects to obtain an ALTA Extended Coverage Policy of Title Insurance, Buyer shall also be responsible for the cost of any endorsements to the Title Policy Buyer may request. Escrow Holder shall cause a pro forma policy to be delivered to Buyer upon request.

4.2.1. Conveyance of the Property. Seller shall convey title to the Property to Buyer by quitclaim deed in the form of Exhibit C attached hereto (the “Quitclaim Deed” or “Deed”).

4.3. Delivery of Possession. Seller shall deliver possession of the Property to Buyer at the Closing.

5. Commissions. Buyer and Seller each represent and warrant to the other that there are no commissions, finder's fees or brokerage fees arising out of the transactions contemplated by this Agreement as a result of Seller's or Buyer's actions. Seller shall be solely responsible for any and all liabilities, claims, demands, costs and expenses, including, without limitation, reasonable attorneys' fees and costs in connection with claims for any such commissions, finders' fees or brokerage fees arising out of Seller's actions. Buyer shall be solely responsible for any and all liabilities, claims, demands, damages, costs and expenses, including, without limitation, reasonable attorneys' fees and court costs, in connection with claims for any such commissions, finders' fees or brokerage fees arising out of Buyer's actions.

6. Damage or Destruction; Condemnation.

6.1. Casualty Damage. If the Property is damaged by any casualty prior to the Close of Escrow, and the cost to repair such damage is in excess of \$50,000.00, Buyer shall have the right, by giving notice to Seller before the Closing Date, to terminate this Agreement, in which case the Deposit shall promptly be returned to Buyer, this Agreement shall terminate and the parties shall have no further rights or obligations hereunder, except those that are expressly stated to survive the Closing. If Buyer does not elect to terminate this Agreement on account of a casualty, then this Agreement shall remain in full force and effect and, at the Closing, Buyer shall take title to the Property subject to such casualty without any reduction or offset to the Purchase Price; provided, however, that in such event, Seller shall assign all insurance proceeds relating to such casualty event, if any, to Buyer at Closing, together with the amount of any deductible.

6.2. Eminent Domain. If written notice from a governmental entity is received by Seller evidencing notice of intent to exercise its power of eminent domain of all or any portion of the Property or proceedings are commenced for the taking by exercise of the power of eminent domain of all or any portion of the Property, Buyer shall have the right, by giving notice to Seller, to terminate this Agreement, in which case the Deposit shall promptly be returned to Buyer, this Agreement shall terminate and the parties shall have no further rights or obligations hereunder, except those that are expressly stated to survive the Closing. If there is any right to terminate this Agreement pursuant to the preceding sentence but neither Party exercises such right, then this Agreement shall remain in full force and effect, and Buyer shall take title to the Property subject to such taking without any reduction or offset to the Purchase Price, but with an assignment of all rights to awards and compensation (and/or any awards and/or compensation received) on account of any such taking.

6.3. Effect of Section 6. This Section is intended as an express provision with respect to the destruction, damage, or condemnation of the Property which supersedes the provisions of the Nevada Uniform Vendor and Purchaser Act, NRS 113.030 et seq.

7. Seller's Representations and Warranties. Seller represents and warrants to Buyer that as of the Effective Date and as of the Closing Date:

7.1. Seller has the full power and authority to execute, deliver and perform its obligations under this Agreement;

7.2. This Agreement and all agreements, instruments and documents herein provided to be executed by Seller, as the case may be, are and as of the Closing shall be duly authorized, executed and delivered by and are and shall be binding upon Seller;

7.3. Seller is not a “foreign person”, “foreign partnership”, “foreign trust”, “foreign estate” or “disregarded entity” as those terms are defined in Section 1445 of the Internal Revenue Code;

7.4. Seller has no knowledge of any condition on the Property that is or has been in violation of any environmental law and has not received any formal or informal notice from any governmental authority alleging that any condition on the Property is or has been in violation of any environmental law, or informing Seller that the Property is subject to investigation or inquiry regarding Hazardous Substances on the Property;

7.5. There are no parties other than Seller in possession of any portion of the Property;

7.6. During the term of this Agreement, Seller will not transfer the Property, or any part thereof, or create on the Property any easements, liens, mortgages, encumbrances, or other interests adversely affecting the use of the Property that will survive Closing or permit any changes in the zoning classification of the Property;

7.7. There are no pending condemnations, litigation or other proceedings against or affecting any part of the Property of which Seller has actual notice, and to Seller’s actual knowledge no such actions or proceedings are threatened; and

7.8. There are no service, maintenance, supply, management, or other contracts related to the operation of the Property by which Buyer or the Property will be bound after the Closing other than those contracts identified in the PTR.

8. Buyer’s Representations and Warranties. Buyer represents and warrants to Seller that as of the date of this Agreement and as of the Closing Date:

8.1. Buyer has the full power and authority to execute, deliver and perform Buyer’s obligations under this Agreement;

8.2. This Agreement and all agreements, instruments and documents herein provided to be executed by Buyer, as the case may be, are and as of the Closing shall be duly authorized, executed and delivered by and are and shall be binding upon Buyer; and

8.3. Buyer is not, nor will Buyer become, a person or entity with whom U.S. persons or entities are restricted from doing business under regulations of OFAC of the Department of the Treasury (including those named on OFAC’s Specially Designated Nationals and Blocked

Persons List) or under any statute, executive order (including the September 24, 2001, Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), or other governmental action and is not and will not engage in any dealings or transactions or be otherwise associated with such persons or entities.

9. Inspection and Review; Access to the Property.

9.1. Inspection of the Property. Buyer shall have until the expiration of the Inspection Period to make physical inspections of the Property; provided, however, Buyer shall notify Seller's designated representative of its inspection activities and a representative of Seller shall have the right (but not obligation) to be present at any such inspections. If Buyer determines, in its sole discretion, that the Property is not suitable for Buyer's intended use, Buyer may, subject to the terms hereof, terminate this Agreement by delivering written notice of its intent to terminate this Agreement to Seller before the expiration of the Inspection Period, in which case the Deposit shall promptly be returned to Buyer, this Agreement shall terminate and the parties shall have no further rights or obligations hereunder, except those that are expressly stated to survive the Closing. In the event that Buyer fails to deliver such termination notice before the expiration of the Inspection Period, Buyer will be deemed to have elected to move forward with the transaction. In the event that Buyer elects to terminate this Agreement for any reason, Buyer shall cause any reports, investigations, studies or other materials hired or prepared by or for Buyer relating to the Property ("**Property Studies**") to be furnished to Seller promptly after such election. Access to the Property shall be subject to the following additional limitations and conditions:

9.1.1. Buyer (or its agent as the case may be) shall possess worker's compensation insurance reasonably in accordance with applicable law, and Buyer's agent(s) shall possess commercial general liability or other appropriate insurance in an amount not less than \$1,000,000 per occurrence;

9.1.2. Buyer shall, at its own expense, promptly repair any damage caused by its investigation of the Property;

9.1.3. To the extent limited in accordance with NRS 41.0305 to NRS 41.039, inclusive, and only to such extent, Buyer shall protect, indemnify, defend and hold the Seller and Seller's commissioners, officers, employees, and agents free and harmless from and against any and all claims, damages, liens, stop notices, liabilities, losses, costs and expenses, including reasonable attorneys' fees and court costs, directly arising from Buyer's inspection and testing of the Property. Buyer will assert the defense of sovereign immunity as appropriate in all cases, including indemnity actions. Buyer's indemnity obligation for actions sounding in tort is limited in accordance with the provisions of NRS 41.035 or other applicable provisions or limitations;

9.1.4. Buyer shall be responsible for the costs of repairing any and all damages to any portion of the Property arising from Buyer's conducting such due diligence, inspections, surveys, tests, and studies. Buyer shall keep the Property free and clear of any mechanics' liens or materialmen's liens related to Buyers' right of inspection and the activities contemplated by Section 9.1 of this Agreement;

9.1.5. Without Seller's prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed, Buyer shall not drill any test wells or engage in any other invasive testing or sampling of the Property; and

9.2. Buyer acknowledges that prior to the Closing: (i) Buyer has or will have conducted such surveys and inspections, and made such tests and other studies of the Property to the extent Buyer deems necessary or advisable, and (ii) Seller has or will have provided Buyer with adequate opportunity to make such inspections and investigations concerning the Property, to the extent Buyer has, in Buyer's discretion, deemed necessary or advisable as a condition precedent to Buyer's purchase of the Property and to determine the physical, environmental, land use and other characteristics of the Property (including, without limitation, its subsurface) and its suitability for Buyer's intended use.

10. Default.

10.1. BUYER DEFAULT. NOTWITHSTANDING ANYTHING TO THE CONTRARY CONTAINED IN THIS AGREEMENT, IF BUYER HAS NOT TERMINATED THIS AGREEMENT IN WRITING PRIOR TO THE EXPIRATION OF THE INSPECTION PERIOD AND IF THE SALE OF THE PROPERTY TO BUYER IS NOT CONSUMMATED AS AND WHEN CONTEMPLATED HEREIN (TIME BEING OF THE ESSENCE) FOR ANY REASON OTHER THAN (A) SELLER'S DEFAULT UNDER THIS AGREEMENT WHICH IS NOT PROMPTLY CURED AS PROVIDED IN SECTION 10.2 BELOW, OR (B) A TERMINATION PURSUANT TO AND IN ACCORDANCE WITH ANY SECTIONS HEREOF, OR (C) A FAILURE OF ANY CONTINGENCY OR CONDITION (OTHER THAN A FAILURE TO PERFORM BY SELLER, WHICH SHALL BE SUBJECT TO NOTICE AND CURE RIGHTS AS SET FORTH IN SECTION 10.2 BELOW) THEN FOLLOWING WRITTEN NOTICE TO BUYER AND THE EXPIRATION OF A TEN (10) CALENDAR DAY CURE PERIOD, SELLER SHALL HAVE NO FURTHER OBLIGATIONS OR LIABILITIES TO BUYER UNDER THIS AGREEMENT OR OTHERWISE (EXCEPT AS TO THOSE THAT EXPRESSLY SURVIVE TERMINATION OF THIS AGREEMENT) AND SELLER SHALL BE ENTITLED, AS ITS SOLE AND EXCLUSIVE REMEDY, TO RETAIN THE DEPOSIT (INCLUDING ANY INTEREST THEREON) AS SELLER'S LIQUIDATED DAMAGES. THE PARTIES AGREE THAT IT WOULD BE IMPRACTICABLE AND EXTREMELY DIFFICULT TO ASCERTAIN THE ACTUAL DAMAGES SUFFERED BY SELLER AS A RESULT OF BUYER'S FAILURE TO COMPLETE THE PURCHASE OF THE PROPERTY PURSUANT TO THIS AGREEMENT, AND THAT UNDER THE CIRCUMSTANCES EXISTING AS OF THE DATE OF THIS AGREEMENT, THE LIQUIDATED DAMAGES PROVIDED FOR IN THIS SECTION REPRESENTS A REASONABLE ESTIMATE OF THE DAMAGES WHICH SELLER WILL INCUR AS A RESULT OF SUCH FAILURE. THE PARTIES ACKNOWLEDGE THAT THE PAYMENT OF SUCH LIQUIDATED DAMAGES IS NOT INTENDED AS A FORFEITURE OR PENALTY, BUT IS INTENDED TO CONSTITUTE LIQUIDATED DAMAGES TO SELLER.

THE PARTIES HAVE SET FORTH THEIR INITIALS BELOW TO INDICATE THEIR AGREEMENT WITH THE LIQUIDATED DAMAGES PROVISION CONTAINED IN THIS SECTION.

SELLER'S INITIALS

BUYER'S INITIALS

10.2. Seller Default. In the event Seller breaches or defaults with respect to any provision of this Agreement, including but not limited to the failure of any of Seller's representations and warranties to be accurate (for the purposes of this Section 10.2, collectively, a "breach"), then Buyer shall be entitled to deliver to Seller written notice of such breach, which notice shall set forth information about the nature of the breach. Seller shall have a period of ten (10) calendar days to cure such breach. If such breach remains uncured beyond the cure period described above, then Buyer may elect to terminate this Agreement by written notice to Seller and Escrow Agent, in which event an amount equal to the Deposit shall be refunded to Buyer as Buyer's sole remedy.

10.3. No Contesting Liquidated Damages. As material consideration to each Party's agreement to the liquidated damages provisions stated above, each Party hereby agrees to and does hereby waive any and all rights whatsoever to contest the validity of the liquidated damage provisions for any reason whatsoever, including, but not limited to, that such provision was unreasonable under the circumstances existing at the time this Agreement was made.

11. Property "AS IS". BUYER ACKNOWLEDGES AND AGREES THAT, EXCEPT AS SPECIFICALLY PROVIDED IN SECTION 7, THE PROPERTY IS BEING SOLD "AS IS", "WHERE IS" AND "WITH ALL FAULTS" AS OF CLOSING, WITHOUT ANY REPRESENTATION OR WARRANTY WHATSOEVER AS TO ITS CONDITION, FITNESS FOR ANY PARTICULAR PURPOSE, MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED. SELLER SPECIFICALLY DISCLAIMS ANY WARRANTY, GUARANTY OR REPRESENTATION, ORAL OR WRITTEN, PAST OR PRESENT, EXPRESS OR IMPLIED, CONCERNING THE PROPERTY, EXCEPT AS SPECIFICALLY SET FORTH IN THIS AGREEMENT. BUYER ACKNOWLEDGES THAT BUYER IS PURCHASING THE PROPERTY BASED SOLELY UPON BUYER'S OWN INDEPENDENT INVESTIGATIONS AND FINDINGS AND NOT IN RELIANCE UPON ANY INFORMATION PROVIDED BY SELLER OR SELLER'S AGENTS OR CONTRACTORS, UNLESS SPECIFICALLY SET FORTH IN THIS AGREEMENT.

12. Additional Covenants and Agreements.

12.1. Operating Covenants. From the Effective Date through the Closing Date, Seller shall cause the Property to be operated and maintained in a manner consistent with current practice and shall maintain such insurance policies with respect to the Property as would a reasonably prudent property owner.

12.2. Termination of Insurance. The policies of insurance currently in effect with respect to the Property (with such modifications as Seller deems appropriate) shall be terminated at or after the Closing, at Seller's option in its sole and absolute discretion.

13. Notices. All notices, demands, approvals, and other communications provided for in this Agreement shall be in writing and shall be effective upon the earliest of the following to occur when delivered to the recipient whether by (a) a nationally recognized overnight-guaranteed delivery service; or (b) United States mail. If the date on which any notice to be given hereunder falls on a Saturday, Sunday or legal holiday, then such date shall automatically be extended to the next business day immediately following such Saturday, Sunday or legal holiday. The following addresses may be changed by written notice given in accordance with this Section:

If to Seller: Regional Transportation Commission
Attn: Bill Thomas
1105 Terminal Way, Suite 211
Reno, Nevada 89502

If to Buyer: City of Reno
Attn: Jackie Bryant
1 East Second Street
Reno City Hall
Reno, NV 895201

If to Escrow Holder: Ticor Title of Nevada, Inc.
Attn: Luann Barnes
5441 Kietzke Lane, Suite 100
Reno Nevada 89511

14. Amendment: Complete Agreement. All amendments and supplements to this Agreement must be in writing and executed by Buyer and Seller. This Agreement, including the exhibits, attachments, documents and agreements to be delivered pursuant hereto, contains the entire agreement and understanding between Buyer and Seller concerning the subject matter of this Agreement and supersedes all prior agreements, terms, understandings, conditions, representations and warranties, whether written or oral, made by Buyer or Seller concerning the Property or the other matters which are the subject of this Agreement, including, without limitation, matters contained in any offering circular or marketing materials relating to the Property.

15. Governing Law: Venue. This Agreement shall be governed by and interpreted in accordance with the internal laws of the State of Nevada without regard to rules concerning conflicts of law. The exclusive venue for any action to enforce or interpret this Agreement shall be the Second Judicial District, Washoe County, Nevada.

16. Severability. If any provision of this Agreement or the application thereof to any Person or circumstance shall to any extent be invalid or unenforceable, the remainder of this Agreement (including the application of such provision to Persons or circumstances other than

those with respect to which it is held invalid or unenforceable) shall not be affected thereby, and each provision of this Agreement shall be valid and enforced to the fullest extent permitted by law. Without limiting the foregoing, to the extent any provision of this Agreement is prohibited by Nevada law, or is otherwise not authorized by Nevada law due to Buyer's or Seller's status as an instrumentality of the State of Nevada, such provision is unenforceable against such Party.

17. **Counterparts; Electronic Delivery.** This Agreement may be executed in counterparts, each of which shall be an original, but all of which together shall constitute one agreement. Facsimile, DocuSign or other electronic copies of this Agreement and facsimile, DocuSign and other electronic signatures thereon shall have the same force, effect, and legal status of originals.

18. **Headings.** The headings to sections of this Agreement are for convenient reference only and shall not be used in interpreting this Agreement.

19. **Time of Essence.** Time is of the essence of this Agreement.

20. **Waiver.** Except as expressly stated that a failure to act shall constitute to a waiver, no waiver by Buyer or Seller of any of the terms or conditions of this Agreement or any of their respective rights under this Agreement shall be effective unless such waiver is in writing and signed by the Party charged with the waiver.

21. **Third Parties.** This Agreement is entered into for the sole benefit of Buyer and Seller and their respective permitted successors and assigns. No party other than Buyer and Seller and such permitted successors and assigns shall have any right of action under or rights or remedies by reason of this Agreement.

22. **Additional Documents; Further Assurances.** Each Party agrees to perform any further acts and to execute and deliver such further documents which may be reasonably necessary to carry out the terms of this Agreement.

23. **Independent Counsel.** Buyer and Seller each acknowledge that: (i) they have been represented by independent counsel in connection with this Agreement; (ii) they have executed this Agreement with the advice of such counsel; and (iii) this Agreement is the result of negotiations between the Parties hereto and the advice and assistance of their respective counsel. The Parties further acknowledge and agree that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement or any amendments or Exhibits hereto.

24. **Assignment.** Buyer shall neither assign its rights nor delegate its obligations hereunder without obtaining Seller's prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed. Any purported or attempted assignment or delegation made in violation of this Section shall be void and of no effect.

25. **Reservation.** Nothing contained in this Agreement shall be construed to waive or limit either Party's defense of sovereign immunity, which defense is hereby expressly reserved, nor to waive or limit the protections afforded to either Party under NRS 41.0305 to 41.039.

26. **Successors and Assigns.** Subject to the restrictions on transfer set forth herein, this Agreement shall be binding upon and inure to the benefits of the heirs, successors and assigns of the Parties hereto.

27. **Exhibits.** Each reference to a Section, Exhibit or Schedule in this Agreement shall mean the sections of this Agreement and the exhibits and schedules attached to this Agreement, unless the context requires otherwise. Each such exhibit and schedule is incorporated herein by this reference.

28. **Business Days.** If the date on which any act or event hereunder is to occur falls on a Saturday, Sunday or legal holiday, then such date shall automatically be extended to the next business day immediately following such Saturday, Sunday or legal holiday.

29. **Force Majeure.** Except as provided elsewhere herein, if an Event of Force Majeure or Covid-19 Event of Force Majeure (as hereinafter defined) makes performance of an obligation or cure of a breach or default impossible, such performance or cure is excused for the duration of the event of force majeure provided that the obligated Party (i) within ten (10) business days after the commencement of the force majeure notifies the other Party of the nature of the event of force majeure, when it commenced, why it makes performance or cure impossible, and the expected duration (if known), and (ii) agrees to and does in fact diligently pursue remediation of the effects of the force majeure, and (iii) agrees to notify the other Party immediately when it becomes possible to commence efforts to cure the default. "Event of Force Majeure" means strikes, lockouts, war, civil unrest, rioting, government restrictions or moratoria, inclement weather, unavailability of labor or material despite reasonable diligence, material interruption of utility services, disease event, acts of God, terrorism or other similar events, provided that the same are (a) not reasonably foreseeable at the time of the execution of this Agreement (other than a COVID-19 Event of Force Majeure, which Buyer and Seller acknowledge and agree is an Event of Force Majeure for purposes of this Agreement); and (b) beyond the reasonable control of Buyer or Seller, and not caused by the negligent or other intentional act or omission of Buyer or Seller. "COVID-19 Event of Force Majeure" means an Event of Force Majeure caused by the COVID-19 pandemic in existence as of the Effective Date, and any subsequent Events of Force Majeure caused by or resulting from such COVID-19 pandemic, including measures taken by any governmental authority having jurisdiction that limits or prohibits the transactions contemplated under this Agreement.

30. **No Back-Up Offers.** From and after the Effective Date until the earlier to occur of the Closing or termination of this Agreement, Seller shall deal exclusively and in good faith with Buyer and neither Seller nor any of its representatives, brokers, agents, affiliates and employees shall directly or indirectly make, accept, negotiate, entertain or otherwise pursue any back-up offers to sell the Property or engage in any other financing or other capital transaction regarding the Property.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the date first above written.

SELLER:

Regional Transportation Commission of Washoe
County, Nevada

By: _____
Bill Thomas, AICP
Executive Director

Date: _____

[SIGNATURE PAGES CONTINUED ON NEXT PAGE]

BUYER:

City of Reno

Approved:

By: _____
Hillary L. Shieve, Mayor

Date: _____

Approved as to form:

By: _____
Jasmine Mehta, Deputy City Attorney

[SIGNATURE PAGES CONTINUED ON NEXT PAGE]

By its execution below, Escrow Holder acknowledges receipt of the Deposit described in this Agreement, and agrees to hold and deliver the same and perform its other duties pursuant to the provisions of this Agreement.

ACCEPTANCE BY ESCROW HOLDER:

TICOR TITLE OF NEVADA, INC.

By: _____

Name: _____

Its: _____

Date: _____

EXHIBIT A
LEGAL DESCRIPTIONS

EXHIBIT A

LEGAL DESCRIPTION APN:035-033-02

All that certain real property situate within a portion of the Northwest One-Quarter (NW 1/4) of the Northwest One-Quarter (NW 1/4) of Section Thirty-One (31), Township Twenty (20) North, Range Twenty (20) East, M.D.M., County of Washoe, State of Nevada, being more particularly described as follows:

BEGINNING at the Northwest Corner of said Section 31;

THENCE along the North Line of said Section 31 South 89°41'01" East a distance of 679.39 feet to the westerly right-of-way of Clear Acre Lane;

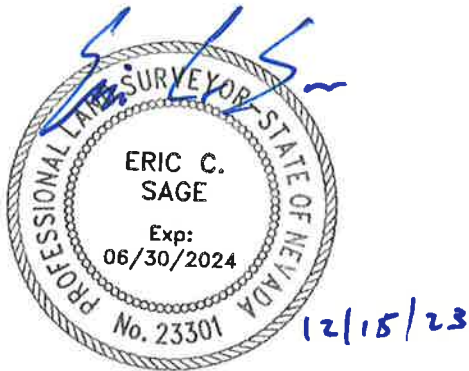
THENCE along said westerly right-of-way South 50°53'30" West a distance of 837.81 feet;

THENCE continuing along said westerly right-of-way South 43°32'43" East a distance of 54.41 feet to the West Line of said Section 31;

THENCE along said West Line North 0°49'24" East a distance of 571.73 feet to the **POINT OF BEGINNING**;

Containing 4.39 acres of land, more or less.

Prepared by:
Wood Rodgers, Inc.
1361 Corporate Blvd.
Reno, NV 89502



Eric C. Sage P.L.S.
Nevada Certificate No. 23301

EXHIBIT A

LEGAL DESCRIPTION APN:004-061-26

All that certain real property situate within a portion of the Northeast One-Quarter (NE 1/4) of the Northeast One-Quarter (NE 1/4) of Section Thirty-Six (36), Township Twenty (20) North, Range Nineteen (19) East, M.D.M., County of Washoe, State of Nevada, being more particularly described as follows:

BEGINNING on the North Line of said Section 36 from which the Northeast Corner of said Section 36 bears South 89°29'50" East a distance of 244.08 feet;

THENCE leaving said North Line South 0°50'53" West a distance of 188.81 feet;

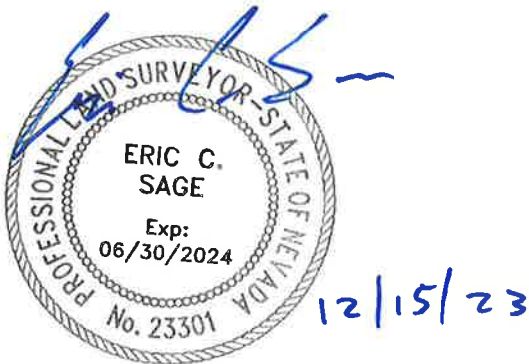
THENCE South 88°44'53" West a distance of 132.09 feet;

THENCE North 0°50'55" East a distance of 192.86 feet to said North Line;

THENCE along said North Line South 89°29'50" East a distance of 132.00 feet to the **POINT OF BEGINNING**;

Containing 25,190 square feet of land, more or less.

Prepared by:
Wood Rodgers, Inc.
1361 Corporate Blvd.
Reno, NV 89502



Eric C. Sage P.L.S.
Nevada Certificate No. 23301

EXHIBIT A

LEGAL DESCRIPTION APN:004-061-22

All that certain real property situate within a portion of the Northeast One-Quarter (NE 1/4) of the Northeast One-Quarter (NE 1/4) of Section Thirty-Six (36), Township Twenty (20) North, Range Nineteen (19) East, M.D.M., County of Washoe, State of Nevada, being more particularly described as follows:

BEGINNING at the Northeast Corner of said Section 36;

THENCE leaving said Northeast Corner South 0°49'24" West a distance of 203.80 feet to the beginning of a non-tangent 40.19 foot radius curve to the left;

THENCE along said curve from which the radius bears South 62°33'43" West an arc distance of 44.76 feet through a central angle of 63°48'50";

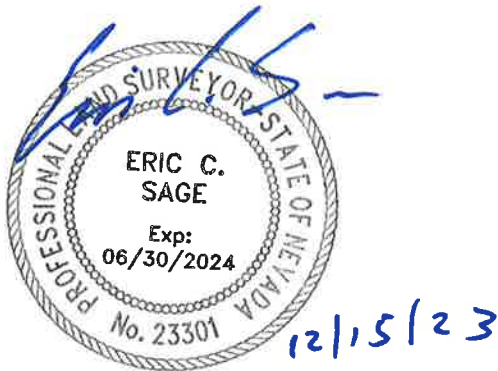
THENCE South 88°44'53" West a distance of 207.44 feet;

THENCE North 0°50'53" East a distance of 188.81 feet to the North Line of said Section 36;

THENCE along said North Line South 89°29'50" East a distance of 244.08 feet to the **POINT OF BEGINNING**;

Containing 45,419 square feet of land, more or less.

Prepared by:
Wood Rodgers, Inc.
1361 Corporate Blvd.
Reno, NV 89502



Eric C. Sage P.L.S.
Nevada Certificate No. 23301

EXHIBIT A

LEGAL DESCRIPTION APN:004-061-20

All that certain real property situate within a portion of the Northeast One-Quarter (NE 1/4) of the Northeast One-Quarter (NE 1/4) of Section Thirty-Six (36), Township Twenty (20) North, Range Nineteen (19) East, M.D.M., County of Washoe, State of Nevada, being Parcel 1 as described in Final Order of Condemnation recorded June 2, 2004 as Document No. 3047767 in the Office of the Recorder of Washoe County, Stat of Nevada, being more particularly described as follows:

BEGINNING on the North Line of said Section 36 from which the Northeast Corner of Section 36 bears South 89°29'50" East a distance of 376.08 feet;

THENCE leaving said North Line South 0°50'55" West a distance of 192.86 feet;

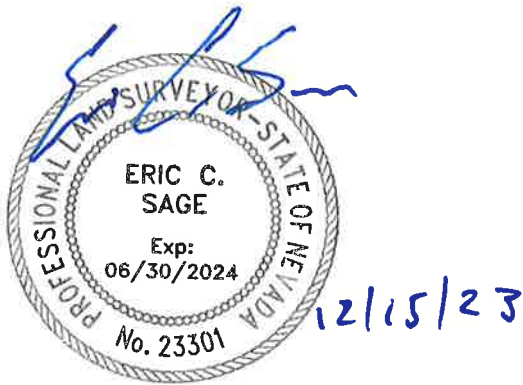
THENCE South 88°44'53" West a distance of 938.00 feet;

THENCE North 0°53'02" East a distance of 220.84 feet to said North Line;

THENCE along said North Line South 89°29'50" East a distance of 937.25 feet to the **POINT OF BEGINNING**;

Containing 4.44 acres of land, more or less.

Prepared by:
Wood Rodgers, Inc.
1361 Corporate Blvd.
Reno, NV 89502



Eric C. Sage P.L.S.
Nevada Certificate No. 23301

**EXHIBIT A
LEGAL DESCRIPTION
APN: 004-061-29**

All that certain real property situate within a portion of the Northwest One-Quarter (NW 1/4) of the Northeast One-Quarter (NE 1/4) of Section Thirty-Six (36), Township Twenty (20) North, Range Nineteen (19) East, M.D.M., County of Washoe, State of Nevada, being more particularly described as follows:

Being Parcel A as shown on Parcel Map No. 5731, recorded April 4, 2024 as File No. 5446556 in the Official Records of Washoe County, State of Nevada.

Together with an Access Easement, as set forth and contained in that Document entitled Grant of Public Access Easement, recorded November 21, 1995 in Book 4436, Page 811, as Document No. 1944037, Official Records Washoe County, State of Nevada.

Containing 16.31 acres of land, more or less.

Prepared by:
Wood Rodgers, Inc.
1361 Corporate Blvd.
Reno, NV 89502



Eric C. Sage P.L.S.
Nevada Certificate No. 23301

EXHIBIT A
LEGAL DESCRIPTION APN:004-082-18

All that certain real property situate within a portion of the Northeast One-Quarter (NE 1/4) of the Northwest One-Quarter (NW 1/4) of Section Thirty-Six (36), Township Twenty (20) North, Range Nineteen (19) East, M.D.M., County of Washoe, State of Nevada, being a portion of that particular parcel of land as described in that Grant, Bargain, Sale Deed recorded August 22, 2003 as Document No. 2909419 and excepting there from a Quitclaim Deed to the State of Nevada recorded April 11, 2022 as Document No. 5293484 both in the Office of the Recorder of Washoe County, Stat of Nevada, being more particularly described as follows:

BEGINNING at the North quarter corner of said Section 36 being a one-inch Iron Pin as shown on Parcel Map No. 5731 recorded April 4, 2024 as File No. 5446556 in the Office of the Recorder of Washoe County, Stat of Nevada;

THENCE leaving said North quarter corner along the North-South quarter section line of said Section 36 South 0°55'40" West a distance of 188.15 feet to a 5/8 inch Rebar with a plastic cap stamped P.L.S. 19052 as shown on said Parcel Map, being on the Northerly right of way line of US 395 North per Nevada Department of Transportation Highway Right of Way Plans, Project No. NH-STP-CM 395-2(032) dated February 2003.

THENCE along said right of way North 52°22'06" West a distance of 333.46 feet to the Northerly line of said Section 36;

THENCE along said Northerly line South 89°15'02" East a distance of 251.34 feet to the **POINT OF BEGINNING**;

Containing 23,645 square feet of land, more or less.

Prepared by:
Wood Rodgers, Inc.
1361 Corporate Blvd.
Reno, NV 89502



Eric C. Sage P.L.S.
Nevada Certificate No. 23301

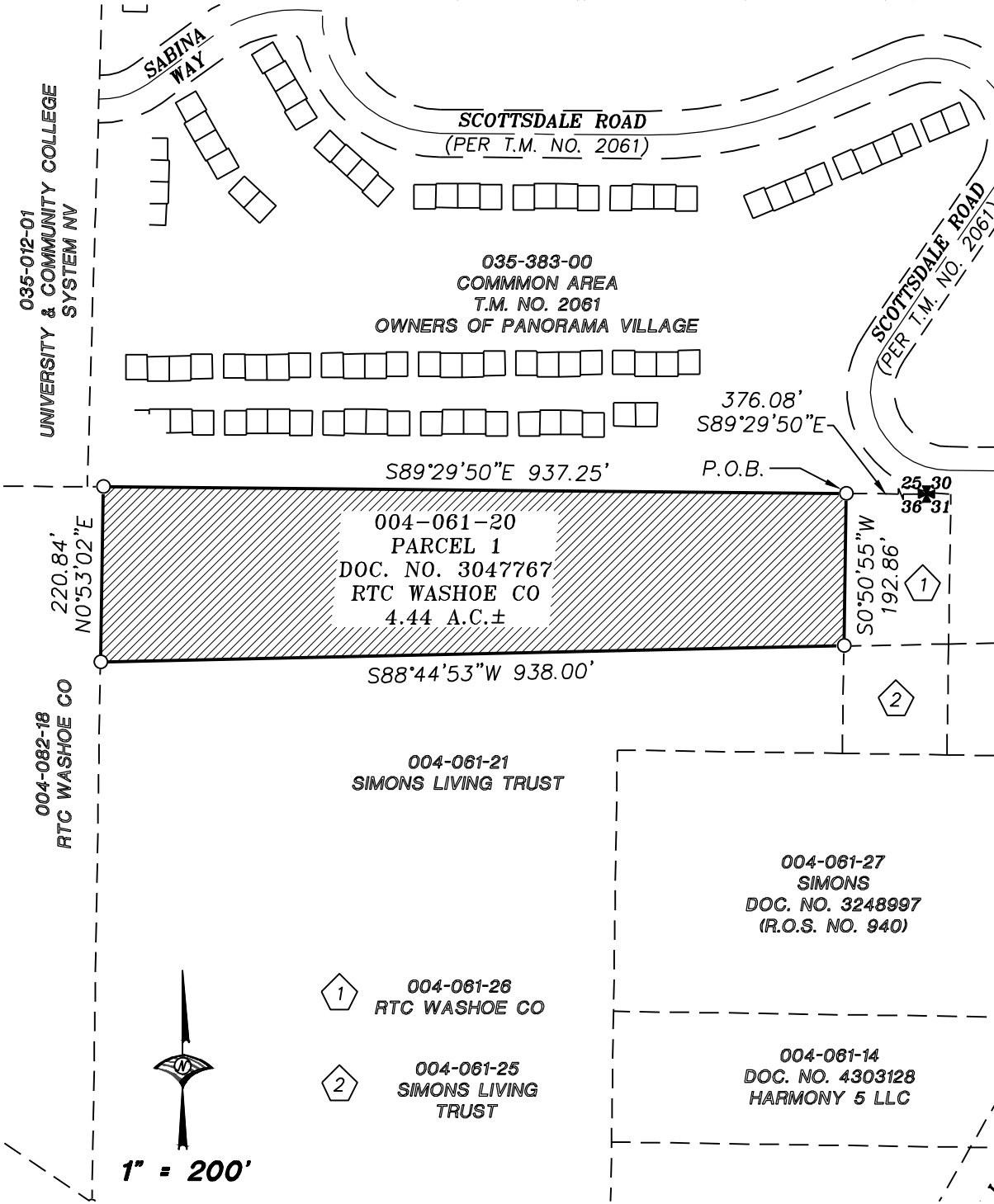
EXHIBIT B

MAPS

EXHIBIT A-1

PLAT TO ACCOMPANY

RTC TRANSFER PARCEL (APN 004-061-20)
 BEING A PORTION OF THE NE 1/4 OF SECTION 36
 TOWNSHIP 20 NORTH, RANGE 19 EAST, M.D.M.
 RENO WASHOE COUNTY NEVADA



1" = 200'

JOB NO. 8312048
 SHEET 1 OF 1



WOOD RODGERS
 BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

1361 Corporate Blvd
 Reno, NV 89502

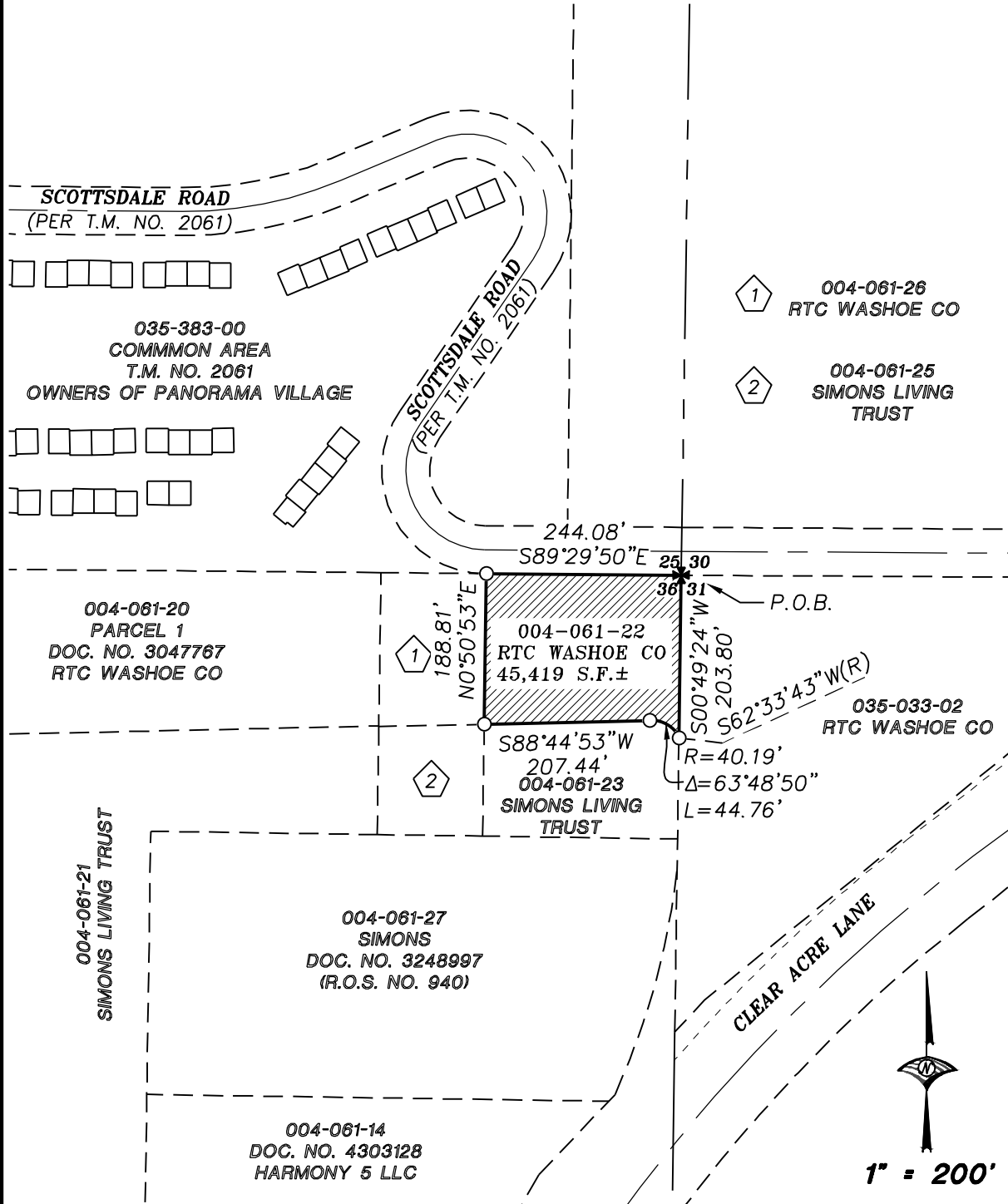
Tel 775.823.4068
 Fax 775.823.4066

J:\Jobs\8312_RTC Of Washoe County\8312048_Clear_Arce_Parcel\Geomatics\legals_exhibits_RTC_TransferParcel_Legal(004-061-20).dwg 12/12/2023 10:14 AM Eric Scoge

EXHIBIT A-1

PLAT TO ACCOMPANY

RTC TRANSFER PARCEL (APN 004-061-22)
BEING A PORTION OF THE NE 1/4 OF SECTION 36
TOWNSHIP 20 NORTH, RANGE 19 EAST, M.D.M.
RENO WASHOE COUNTY NEVADA



JOB NO. 8312048
SHEET 1 OF 1



WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

1361 Corporate Blvd
Reno, NV 89502

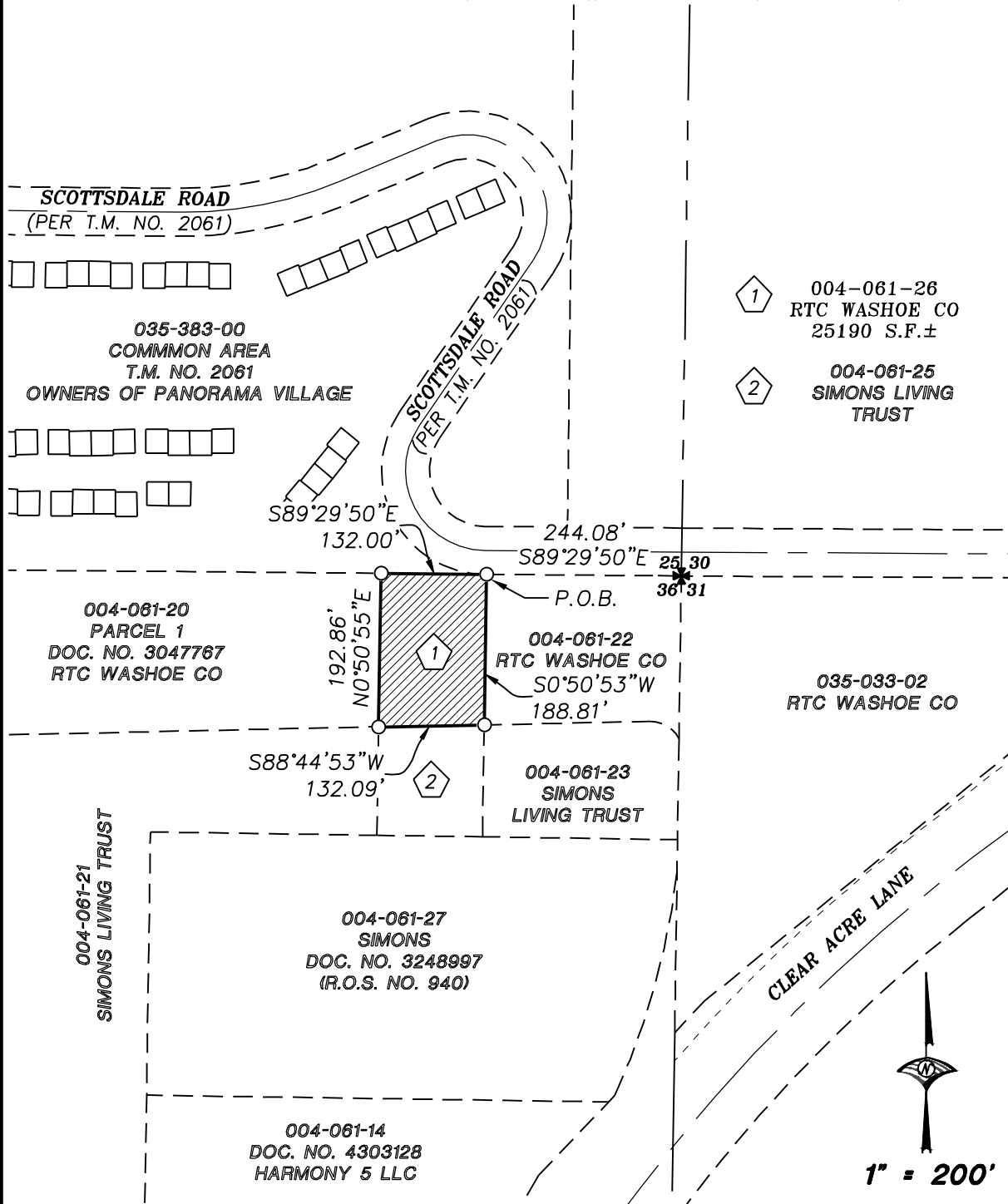
Tel 775.823.4068
Fax 775.823.4068

J:\Jobs\8312_RTC Of Washoe County\8312048_Clear_Acre_Parcels\Geomatics\legals_exhibits\RTC_TransferParcel_Legal(004-061-22).dwg 12/15/2023 8:30 AM Eric Sage

EXHIBIT A-1

PLAT TO ACCOMPANY

RTC TRANSFER PARCEL (APN 004-061-26)
BEING A PORTION OF THE NE 1/4 OF SECTION 36
TOWNSHIP 20 NORTH, RANGE 19 EAST, M.D.M.
RENO WASHOE COUNTY NEVADA



JOB NO. 8312048
SHEET 1 OF 1



WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

1361 Corporate Blvd
Reno, NV 89502

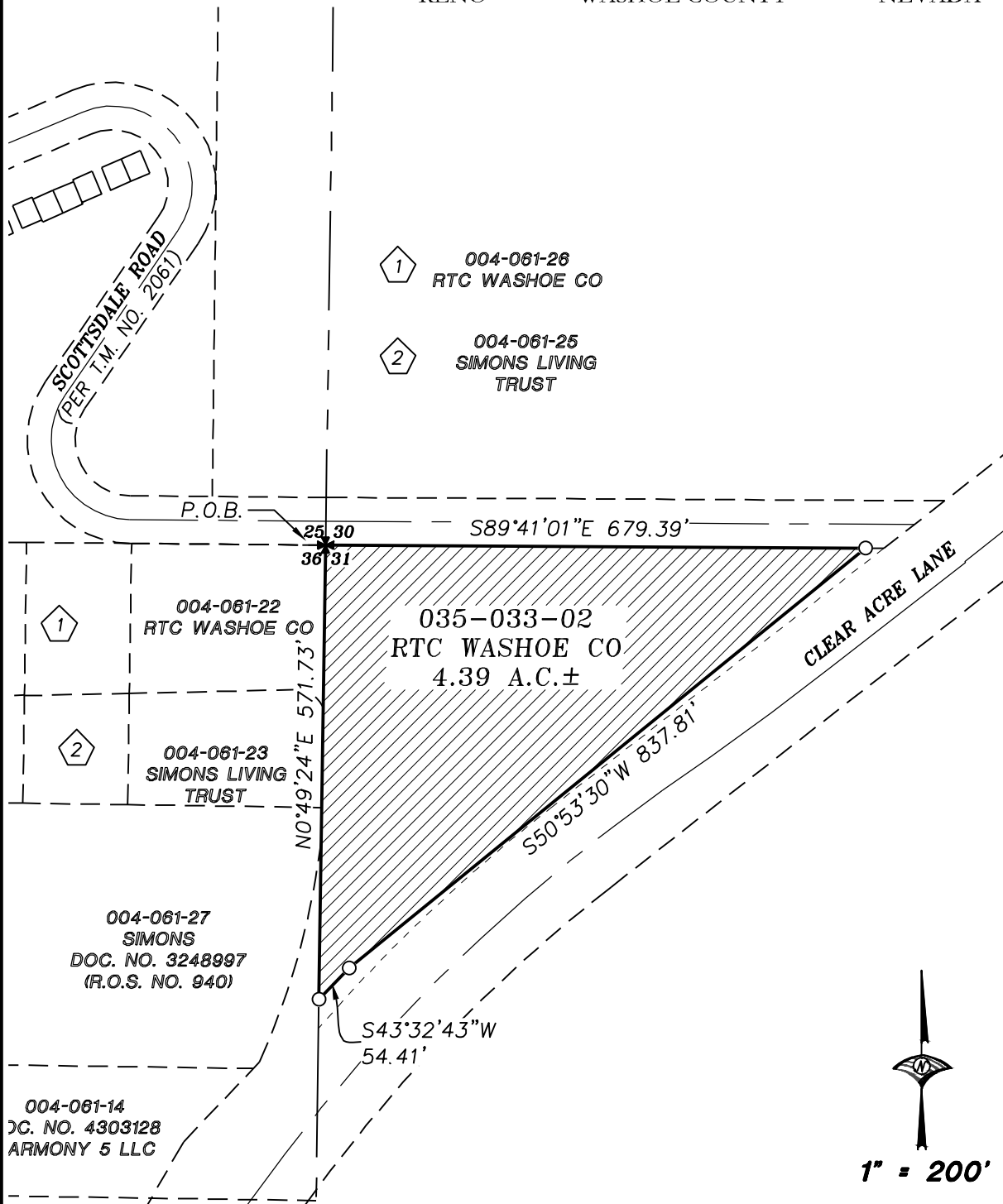
Tel 775.823.4068
Fax 775.823.4066

J:\Jobs\8312_RTC Of Washoe County\8312048_Clear_Acre_Parcels\Geomatics\legals_exhibits\RTC_TransferParcel_Legal(004-061-26).dwg 12/12/2023 10:15 AM Eric Scoge

EXHIBIT A-1

PLAT TO ACCOMPANY

RTC TRANSFER PARCEL (APN 035-033-02)
BEING A PORTION OF THE NW 1/4 OF SECTION 31
TOWNSHIP 20 NORTH, RANGE 20 EAST, M.D.M.
RENO WASHOE COUNTY NEVADA



JOB NO. 8312048
SHEET 1 OF 1



WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

1361 Corporate Blvd
Reno, NV 89502

Tel 775.823.4068
Fax 775.823.4066

J:\Jobs\8312_RTC Of Washoe County\8312048_Clear_Acre_Parcels\Geomatics\legals_exhibits\RTC_TransferParcel_Legal(035-033-02).dwg 12/12/2023 10:44 AM Eric Sage

OWNER'S CERTIFICATE:

THIS IS TO CERTIFY THAT THE UNDERSIGNED, REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY IS THE OWNER OF THE TRACT OF LAND REPRESENTED ON THIS PLAT AND HAS CONSENTED TO THE PREPARATION AND RECORDATION OF THIS PLAT AND THAT THE SAME IS EXECUTED IN COMPLIANCE WITH AND SUBJECT TO THE PROVISIONS OF N.R.S. CHAPTER 278. THE PUBLIC UTILITY EASEMENTS AS SHOWN HEREON ARE HEREBY GRANTED TOGETHER WITH THE RIGHT OF ACCESS TO ALL PUBLIC UTILITY, CABLE TV COMPANIES AND TRUCKEE MEADOWS WATER AUTHORITY, THEIR SUCCESSORS AND ASSIGNS. THE OWNER AND ITS ASSIGNS AGREE TO THE USE OF RESIDENTIAL WATER METERS.

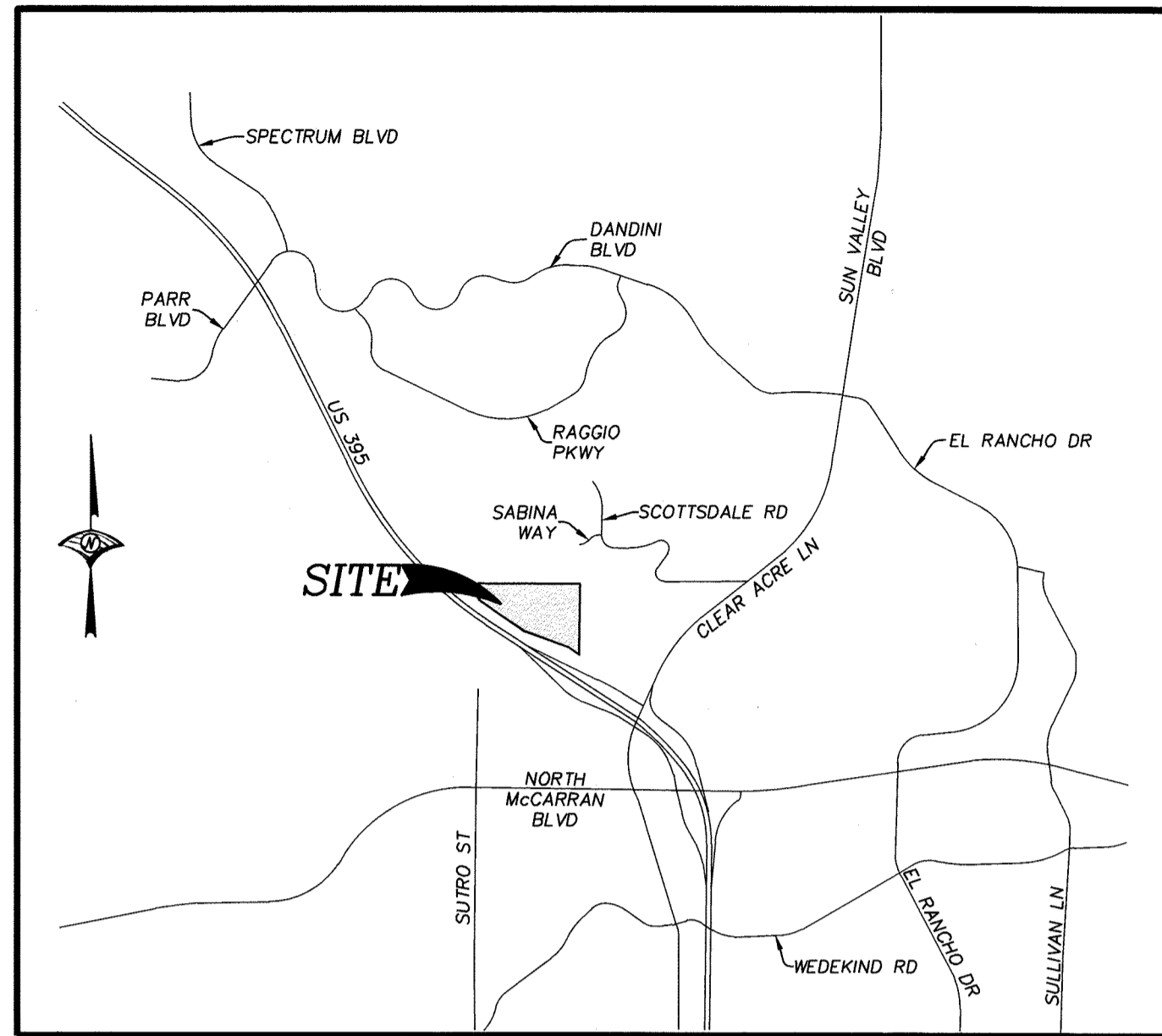
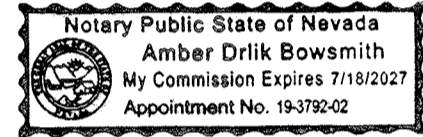
REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY
 BY: [Signature]
William Thomas EXECUTIVE DIRECTOR
 NAME/TITLE (PRINT)

3/22/24
 DATE

NOTARY CERTIFICATE:

STATE OF Nevada }
 COUNTY OF Washoe } SS
 THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THE 22nd DAY OF March, 2024.
 BY William Thomas AS Executive Director REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY.

BY: [Signature]
 NOTARY PUBLIC
03/22/24
 DATE



VICINITY MAP
 NOT TO SCALE

UTILITY COMPANIES' CERTIFICATE:

THE UTILITY EASEMENTS AS SHOWN ON THIS PLAT HAVE BEEN CHECKED, ACCEPTED, APPROVED BY THE UNDERSIGNED CABLE TV AND PUBLIC UTILITY COMPANIES AND TRUCKEE MEADOWS WATER AUTHORITY.

[Signature] 3/6/24
 CHARTER COMMUNICATIONS
 NAME/TITLE (PRINT) DATE

[Signature] 2/29/2024
 ARMANDO ESPINO CONSTRUCTION INC
 NAME/TITLE (PRINT) DATE

[Signature] 3/11/2024
 CLIFF COOPER SR. SPECIALIST CSP DESIGN ENGINEER
 NAME/TITLE (PRINT) DATE

[Signature] 3/11/2024
 SIERRA PACIFIC POWER COMPANY D/B/A NV ENERGY
 NAME/TITLE (PRINT) DATE

[Signature] 3/14/2024
 CHRIS ROBINSON SENIOR RIGHT OF WAY AGENT
 NAME/TITLE (PRINT) DATE

[Signature] 3/14/2024
 HEATHER EDMUNSON LANDS ADMINISTRATOR
 TRUCKEE MEADOWS WATER AUTHORITY
 NAME/TITLE (PRINT) DATE

TITLE COMPANY CERTIFICATE:

THE UNDERSIGNED HEREBY CERTIFIES THAT THIS PLAT HAS BEEN EXAMINED AND THAT REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY OWNS AN INTEREST IN THE LANDS DELINEATED HEREON AND THAT THEY ARE THE ONLY OWNERS OF RECORD OF SAID LAND; THAT ALL THE OWNERS OF RECORD OF THE LAND HAVE SIGNED THE PLAT; AND THAT THERE ARE NO LIENS OF RECORD AGAINST THE LANDS DELINEATED HEREON, OR ANY PART THEREOF, FOR DELINQUENT STATE, COUNTY, MUNICIPAL, FEDERAL, OR LOCAL TAXES COLLECTED AS TAXES OR SPECIAL ASSESSMENTS.

TICOR TITLE OF NEVADA, INC.
 BY: [Signature] 2/28/2024
Shelly Saltz COMMERCIAL TITLE OFFICER
 NAME/TITLE (PRINT) DATE

CITY CERTIFICATE:

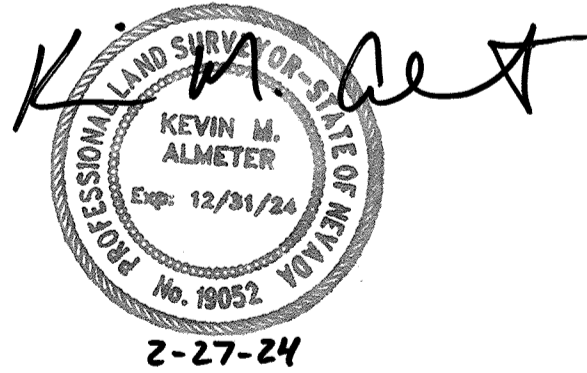
APPROVED AND ACCEPTED BY THE DEVELOPMENT SERVICES DEPARTMENT OF THE CITY OF RENO, WASHOE COUNTY, NEVADA, THIS 22 DAY OF March, 2024.
[Signature] 3/28/2024
 DIRECTOR - DEVELOPMENT SERVICES DATE

DISTRICT BOARD OF HEALTH CERTIFICATE:

THIS MAP IS APPROVED BY THE WASHOE COUNTY DISTRICT BOARD OF HEALTH. THIS APPROVAL CONCERNS SEWAGE DISPOSAL, WATER POLLUTION, WATER QUALITY, AND WATER SUPPLY FACILITIES. THIS MAP HAS BEEN FOUND TO MEET ALL APPLICABLE REQUIREMENTS AND PROVISIONS OF THE ENVIRONMENTAL HEALTH SERVICES DIVISION OF THE WASHOE COUNTY HEALTH DISTRICT.
[Signature] 03/25/2024
 FOR THE DISTRICT BOARD OF HEALTH DATE

SURVEYOR'S CERTIFICATE:

- I, KEVIN M. ALMETER, A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NEVADA, CERTIFY THAT:
- THIS PLAT REPRESENTS THE RESULTS OF A SURVEY CONDUCTED UNDER MY DIRECT SUPERVISION AT THE INSTANCE OF REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY.
 - THE LANDS SURVEYED LIE WITHIN A PORTION OF THE NORTHWEST 1/4 OF NORTHEAST 1/4 OF SECTION 36, TOWNSHIP 20 NORTH, RANGE 19 EAST, M.D.M., CITY OF RENO, WASHOE COUNTY, NEVADA, AND THE SURVEY WAS COMPLETED ON NOVEMBER 8, 2023.
 - THIS PLAT COMPLIES WITH THE APPLICABLE STATE STATUTES AND ANY LOCAL ORDINANCES IN EFFECT ON THE DATE THAT THE GOVERNING BODY GAVE ITS FINAL APPROVAL, AND THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 625 OF THE NEVADA ADMINISTRATIVE CODE.
 - THE MONUMENTS DEPICTED ON THE PLAT ARE OF THE CHARACTER SHOWN, OCCUPY THE POSITIONS INDICATED AND ARE OF SUFFICIENT NUMBER AND DURABILITY.



2-27-24
 KEVIN M. ALMETER P.L.S.
 NEVADA CERTIFICATE NO. 19052

TAX CERTIFICATE:

THE UNDERSIGNED HEREBY CERTIFIES THAT ALL PROPERTY TAXES ON THIS LAND SHOWN HEREON FOR THE FISCAL YEAR HAVE BEEN PAID AND THAT THE FULL AMOUNT OF ANY DEFERRED PROPERTY TAXES FOR THE CONVERSION OF THE PROPERTY FROM AGRICULTURAL USE HAS BEEN PAID PURSUANT TO N.R.S. 361A.265.

APN: 004-061-28
 WASHOE COUNTY TREASURER
 BY: [Signature] 3/12/2024
Lauren Vantis - Deputy Treasurer
 NAME/TITLE (PRINT) DATE

DOC #5446556 04/04/2024 01:37:09 PM Requested By WOOD RODGERS Washoe County Recorder Kalie M. Work Fee: \$45.00 Page 1 of 2	PARCEL MAP FOR REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY A DIVISION OF PARCEL 1 OF DOCUMENT NO. 2410169 EXCEPTING THEREFROM THAT PORTION OF DOCUMENT NO. 5293488 BEING A PORTION OF THE NW 1/4 OF THE NE 1/4 OF SECTION 36 TOWNSHIP 20 NORTH, RANGE 19 EAST, M.D.B.M. RENO WASHOE COUNTY NEVADA JOB NO. 8040058
	SHEET 1 OF 2

P5731

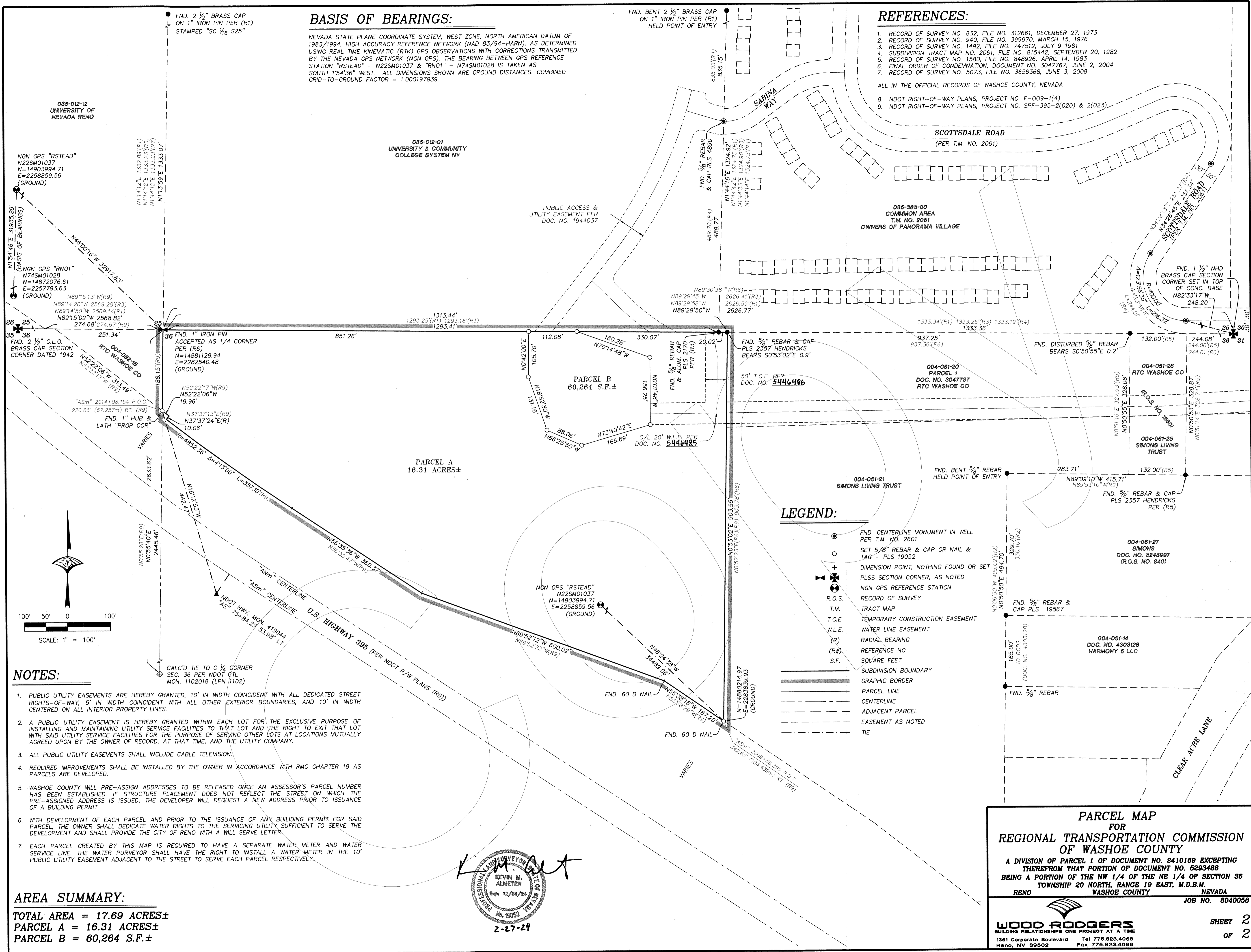
CUMULATIVE INDEXES SHOULD BE EXAMINED FOR ANY SUBSEQUENT CHANGES TO THIS MAP

BASIS OF BEARINGS:

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, HIGH ACCURACY REFERENCE NETWORK (NAD 83/94-HARN), AS DETERMINED USING REAL TIME KINEMATIC (RTK) GPS OBSERVATIONS WITH CORRECTIONS TRANSMITTED BY THE NEVADA GPS NETWORK (NGN GPS). THE BEARING BETWEEN GPS REFERENCE STATION "RSTEAD" - N22SM01037 & "RNO1" - N74SM01028 IS TAKEN AS SOUTH 1°54'36" WEST. ALL DIMENSIONS SHOWN ARE GROUND DISTANCES. COMBINED GRID-TO-GROUND FACTOR = 1.000197939.

REFERENCES:

- RECORD OF SURVEY NO. 832, FILE NO. 312661, DECEMBER 27, 1973
 - RECORD OF SURVEY NO. 940, FILE NO. 399970, MARCH 15, 1976
 - RECORD OF SURVEY NO. 1492, FILE NO. 747512, JULY 9, 1981
 - SUBDIVISION TRACT MAP NO. 2061, FILE NO. 815442, SEPTEMBER 20, 1982
 - RECORD OF SURVEY NO. 1580, FILE NO. 848926, APRIL 14, 1983
 - FINAL ORDER OF CONDEMNATION, DOCUMENT NO. 3047767, JUNE 2, 2004
 - RECORD OF SURVEY NO. 5073, FILE NO. 3656368, JUNE 3, 2008
- ALL IN THE OFFICIAL RECORDS OF WASHOE COUNTY, NEVADA
- NDOT RIGHT-OF-WAY PLANS, PROJECT NO. F-009-1(4)
 - NDOT RIGHT-OF-WAY PLANS, PROJECT NO. SPF-395-2(020) & 2(023)

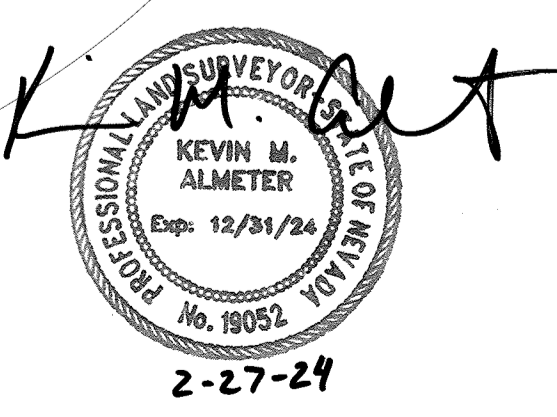


NOTES:

- PUBLIC UTILITY EASEMENTS ARE HEREBY GRANTED, 10' IN WIDTH COINCIDENT WITH ALL DEDICATED STREET RIGHTS-OF-WAY, 5' IN WIDTH COINCIDENT WITH ALL OTHER EXTERIOR BOUNDARIES, AND 10' IN WIDTH CENTERED ON ALL INTERIOR PROPERTY LINES.
- A PUBLIC UTILITY EASEMENT IS HEREBY GRANTED WITHIN EACH LOT FOR THE EXCLUSIVE PURPOSE OF INSTALLING AND MAINTAINING UTILITY SERVICE FACILITIES TO THAT LOT AND THE RIGHT TO EXIT THAT LOT WITH SAID UTILITY SERVICE FACILITIES FOR THE PURPOSE OF SERVING OTHER LOTS AT LOCATIONS MUTUALLY AGREED UPON BY THE OWNER OF RECORD, AT THAT TIME, AND THE UTILITY COMPANY.
- ALL PUBLIC UTILITY EASEMENTS SHALL INCLUDE CABLE TELEVISION.
- REQUIRED IMPROVEMENTS SHALL BE INSTALLED BY THE OWNER IN ACCORDANCE WITH RMC CHAPTER 18 AS PARCELS ARE DEVELOPED.
- WASHOE COUNTY WILL PRE-ASSIGN ADDRESSES TO BE RELEASED ONCE AN ASSESSOR'S PARCEL NUMBER HAS BEEN ESTABLISHED. IF STRUCTURE PLACEMENT DOES NOT REFLECT THE STREET ON WHICH THE PRE-ASSIGNED ADDRESS IS ISSUED, THE DEVELOPER WILL REQUEST A NEW ADDRESS PRIOR TO ISSUANCE OF A BUILDING PERMIT.
- WITH DEVELOPMENT OF EACH PARCEL AND PRIOR TO THE ISSUANCE OF ANY BUILDING PERMIT FOR SAID PARCEL, THE OWNER SHALL DEDICATE WATER RIGHTS TO THE SERVICING UTILITY SUFFICIENT TO SERVE THE DEVELOPMENT AND SHALL PROVIDE THE CITY OF RENO WITH A WILL SERVE LETTER.
- EACH PARCEL CREATED BY THIS MAP IS REQUIRED TO HAVE A SEPARATE WATER METER AND WATER SERVICE LINE. THE WATER PURVEYOR SHALL HAVE THE RIGHT TO INSTALL A WATER METER IN THE 10' PUBLIC UTILITY EASEMENT ADJACENT TO THE STREET TO SERVE EACH PARCEL RESPECTIVELY.

AREA SUMMARY:

TOTAL AREA = 17.69 ACRES±
 PARCEL A = 16.31 ACRES±
 PARCEL B = 60,264 S.F.±



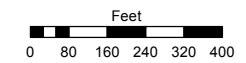
PARCEL MAP FOR REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY

A DIVISION OF PARCEL 1 OF DOCUMENT NO. 2410169 EXCEPTING THEREFROM THAT PORTION OF DOCUMENT NO. 6293488 BEING A PORTION OF THE NW 1/4 OF THE NE 1/4 OF SECTION 36 TOWNSHIP 20 NORTH, RANGE 19 EAST, M.D.B.M. RENO WASHOE COUNTY NEVADA

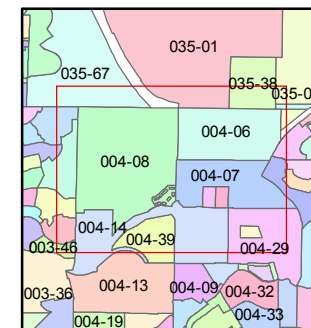
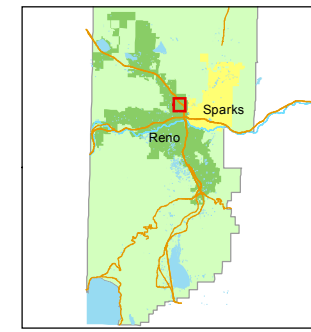
WOOD RODGERS
 BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
 1961 Corporate Boulevard Reno, NV 89502 Tel 776.823.4068 Fax 776.823.4068

JOB NO. 8040058 SHEET 2 OF 2

1001 East Ninth Street
Building D
Reno, Nevada 89512
(775) 328-2231



1 inch = 400 feet



created by: CFB 07/17/2009

last updated: CFB 01/09/2013

area previously shown on map(s)

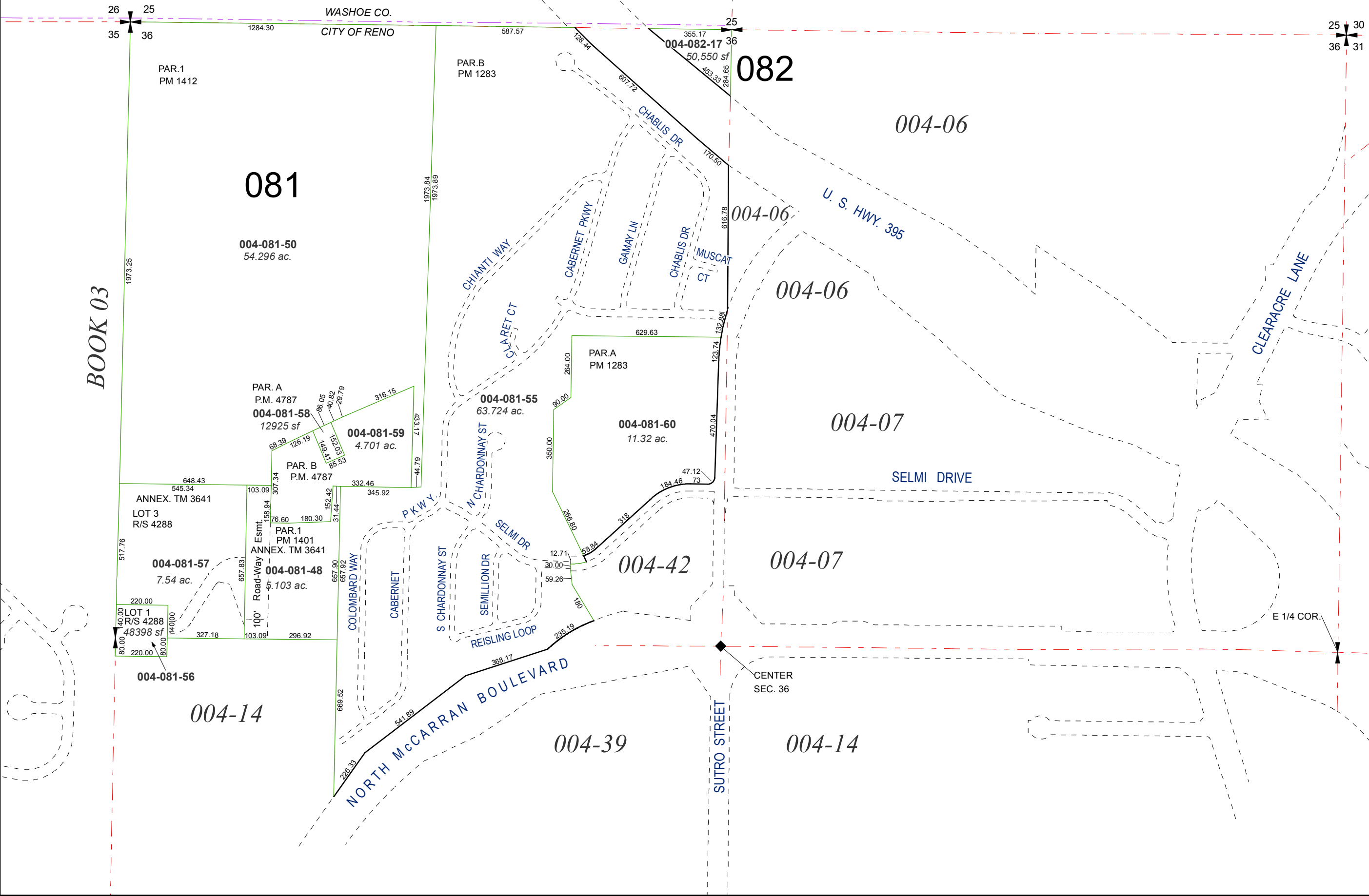
NOTE: This map was prepared for the use of the Washoe County Assessor for assessment and illustrative purposes only. It does not represent a survey of the premises. No liability is assumed as to the sufficiency or accuracy of the data delineated hereon.

POR. W 1/2 SEC. 36
T20N - R19E

BOOK 35

BOOK 35

BOOK 03



WASHOE CO.
CITY OF RENO

NORTH McCARRAN BOULEVARD

SUTRO STREET

SELMI DRIVE

U. S. HWY. 395

CLEARACRE LANE

082

081

004-06

004-06

004-07

004-42

004-07

004-14

004-39

004-14

004-081-50
54.296 ac.

004-081-58
12925 sf

LOT 1
R/S 4288
48398 sf

004-081-57
7.54 ac.

004-081-48
9.103 ac.

004-081-55
63.724 ac.

004-081-60
11.32 ac.

004-082-17
50,550 sf

PAR.1
PM 1412

PAR.B
PM 1283

PAR.A
PM 1283

PAR. A
P.M. 4787

PAR. B
P.M. 4787

ANNEX. TM 3641
LOT 3
R/S 4288

ANNEX. TM 3641
PAR.1
PM 1401

CENTER
SEC. 36

E 1/4 COR.

26 25

35 36

25 30

36 31

25 30

36 31

1284.30

587.57

128.74

355.17

453.33

284.65

1973.84

1973.89

1973.84

1973.89

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36

36



004-082-17
50,550 SF

004-061-12
20.393 Ac

004-061-20
4.447 Ac

004-061-22
45,389 SF

035-033-02
191,664 SF

004-061-26
0.576 Ac

Prosser Valley Ditch

EXHIBIT A-1
PLAT TO ACCOMPANY

RTC TRANSFER PARCEL (APN 004-082-18)
BEING A PORTION OF THE NW 1/4 OF SECTION 36
TOWNSHIP 20 NORTH, RANGE 19 EAST, M.D.M.
RENO WASHOE COUNTY NEVADA

035-012-12
UNIVERSITY OF
NEVADA RENO

035-012-01
UNIVERSITY &
COMMUNITY COLLEGE
SYSTEM NV

US 395 NORTH R/W PER
NDOT R/W PLANS

P.O.B.
QUARTER CORNER
1" IRON PIN

S89°15'02"E 251.34'

25

36

004-082-18
REGIONAL TRANSPORTATION
COMMISSION WASHOE CO.
DEED DOC. NO. 2909419
EXCEPTING THEREFROM
DEED DOC. NO. 5293484
23,645 S.F.±

035-061-29
REGIONAL TRANSPORTATION
COMMISSION WASHOE CO.

N52°22'06"W 313.49'

S0°55'40"W 188.15'

US 395 N
PROJECT NO. NH-STP-CM 395-2(032) FEBRUARY 2003

5/8" REBAR W/P.CAP
P.L.S. 19052

1" = 200'

JOB NO. 8312048
SHEET 1 OF 1

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1361 Corporate Boulevard Tel 775.823.4068
Reno, NV 89502 Fax 775.823.4068

\\Jobs\8312_RTC Of Washoe County\8312048_Clear_Arce_Parcel\Geomatics\legals_exhibits\RTC-TransferParcel_Legal(004-082-18).dwg 6/17/2024 4:19 PM Eric Sage

EXHIBIT C
QUITCLAIM DEED

APNs: 004-082-18, 004-061-29, 004-061-20,
004-061-26, 004-061-22, 035-033-02

WHEN RECORDED RETURN TO:

[City of Reno

Attn:

Address:]

MAIL TAX STATEMENTS TO:

Exempt

QUITCLAIM DEED

THIS DEED, made this _____ day of _____, 2024, between the REGIONAL TRANSPORTATION COMMISSION OF WASHOE COUNTY, hereinafter called GRANTOR, and the CITY OF RENO, hereinafter called GRANTEE,

WITNESSETH:

That the GRANTOR, for and in consideration of the sum of ONE DOLLAR (\$1.00), lawful money of the United States of America and other good and valuable consideration, the receipt whereof is hereby acknowledged, does hereby remise, release and forever quitclaim unto the GRANTEE and to its assigns forever, all of GRANTOR'S right, title and interest in and to that certain real property, said real property, as more particularly described in Exhibit "A" attached hereto and made a part hereof.

TOGETHER with all and singular the tenements, hereditaments and appurtenances thereunto belonging, or in anywise appertaining.

SUBJECT TO any and all utility easements whether of record or not.

IN WITNESS WHEREOF, the said GRANTOR, by and through its officers thereunto duly authorized, has caused these presents to be executed the day and year first above written.

REGIONAL TRANSPORTATION COMMISSION
OF WASHOE COUNTY

By: _____
Ed Lawson, Chair

STATE OF NEVADA
COUNTY OF WASHOE

The above-instrument was acknowledged before me this _____ day of _____, 2024, by Ed Lawson as Chair of the Regional Transportation Commission of Washoe County.

Notary Public

[Exhibits to be attached]



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 6.1.

To: Regional Transportation Commission

From: Graham Dollarhide, Planning Manager

SUBJECT: Draft Regional Freight Plan

RECOMMENDED ACTION

Receive a presentation from staff regarding the draft Regional Freight Plan.

BACKGROUND AND DISCUSSION

The purpose of the Regional Freight Plan is to provide a detailed understanding of the freight network and goods movement patterns in the Reno-Sparks area and to develop a corresponding needs assessment and prioritization process. The Plan will build upon the Nevada Statewide Freight Plan completed by the Nevada Department of Transportation (NDOT) in 2022.

The Plan includes an existing conditions analysis that identifies key elements of Northern Nevada's freight transportation system and how they relate to one another and to the economy. The existing conditions data, coupled with stakeholder input, provide the foundation for development of policy and improvement recommendations through a strengths, weaknesses, opportunities, and threats (SWOT) analysis. The result is a prioritization of freight corridors and investments that will build upon the critical urban freight corridors identified in the Nevada State Freight Plan to validate and expand corridors of significance. The Plan's final recommendations include strategies for implementing these projects, which ultimately move towards meeting the goals of the Plan.

Staff will provide a presentation on the plan, which is being proposed for adoption at the September RTC Board meeting.

The item supports the FY2025 RTC Goal, "Complete: Regional Freight Plan."

FISCAL IMPACT

Funding for the Regional Freight Plan was included in the FY 2022 – FY 2023 Unified Planning Work Program (UPWP) and carried forward to the current UPWP.

PREVIOUS BOARD ACTION

04/21/2023 Approved the FY 2024-2025 UPWP.

08/18/2023 Approved the Professional Services Agreement (PSA) for the Regional Freight Plan.



REGIONAL TRANSPORTATION COMMISSION
of Washoe County, Nevada

REGIONAL FREIGHT PLAN





CONTENTS

- 1 | Introduction 1**
 - 1.1 Project Purpose..... 1
 - 1.2 Vision and Goals 1
 - 1.3 Planning Process..... 2

- 2 | Community Engagement 3**
 - 2.1 Stakeholder Workshops 3
 - Strengths, Weaknesses, Opportunities, and Threats 3
 - 2.2 Partner Agency Engagement..... 5
 - 2.3 RTC Website and Community Survey..... 6
 - 2.4 Advisory Committee Meetings 8

- 3 | Planning Context..... 9**
 - 3.1 Adopted Plans 9
 - 2050 Regional Transportation Plan 9
 - Verdi Area Multimodal Transportation Study 9
 - McCarran Boulevard Corridor Study 9
 - Reno-Tahoe International Airport Master Plan 9
 - One Nevada Transportation Plan..... 10
 - Nevada Freight Plan 10
 - Nevada State Rail Plan..... 10
 - Nevada Truck Parking Implementation Plan..... 11
 - I-80 Multistate Corridor Operations and Management Program 12
 - 3.2 Available Data Sources 12
 - 3.3 Freight Infrastructure 12
 - Roads 12
 - Railroads 15
 - Airports 15
 - Intermodal Connections 17
 - 3.4 Regional Development Patterns 17
 - Zoning and Land Use..... 20
 - 3.5 Workforce Access 20





- 4 | Existing Conditions and Trends22**
 - 4.1 Safety22
 - 4.2 Multimodal Integration24
 - Commodity Flow Analysis24
 - Pass-through Analysis.....27
 - 4.3 Efficiency of Freight Movement29
 - Highway System Performance.....29
 - Pavement Condition.....30
 - Bridge Height and Condition.....31
 - 4.4 Freight Equity32
 - 4.5 Sustainability and Alternative Fuels.....33
 - 4.6 Truck Parking34
 - Peak Hour Parking Demand34
 - I-80 Truck Parking36
 - Emergency Parking and Donner Pass.....36
 - Zero-Emission Fueling and Parking36
 - Urban Truck Parking and Warehouse Districts38
- 5 | Future of Freight39**
 - 5.1 Alternative Fuels39
 - 5.2 Autonomous and Connected Vehicles39
 - 5.3 Last-Mile Delivery Solutions.....40
 - 5.4 Urban Consolidation Centers40
 - 5.5 Digital Transformation41
- 6 | Priority Corridors and Investment Needs42**
 - 6.1 Critical Urban and Rural Freight Corridors in the Region.....42
 - 6.2 Priority Corridor Needs and Gap Analysis43
 - 2050 RTP51
 - I-8051
 - US 395/I-58051
 - North Valleys51
 - Sparks Industrial51
 - South Meadows52



6.3. Investments in Program Implementation to Improve Freight Mobility.....52

7 | Recommendations53

7.1 Improve Safety53

- I-80 Spaghetti Bowl Project53

7.2 Improve Multimodal Integration and rail access54

7.3 Improve Efficiency of Freight Movement54

- South Meadows Extension55
- La Posada Extension.....55
- I-80 Widening east of sparks55
- Regional Freight Advisory Committee56

7.5 Provide for Equity and Sustainability in Freight and Goods Movement56

- Last-Mile Considerations56
- Workforce Access56

7.6 Expand Truck Parking56

- Build or Expand Publicly owned Facilities56
- Encourage On-site Truck Parking at New and Existing Shipper/Receiver Developments 57
- Truck Parking Availability System57
- Allow Emergency Truck Parking at Large Parking Lots when Not in Use58
- Owner-operator Parking58
- Curbside Truck Parking59
- Zero-Emission Fueling and Parking59

1 | Introduction

1.1 PROJECT PURPOSE

This Regional Freight Plan identifies the transportation needs and priorities that will support a thriving regional economy through efficient freight and goods movement as well as workforce access. The Regional Transportation Commission of Washoe County (RTC) initiated the Regional Freight Plan in recognition of the importance of transportation infrastructure and services on the safety and efficiency of the freight movement that supports the Northern Nevada economy. While the RTC's Regional Transportation Plan has incorporated freight transportation for many years, this plan is the first extensive analysis of freight trends and needs for Washoe County. While the plan focuses primarily on Washoe County, the planning area for RTC, it is recognized that freight and its associated economic impacts expand across multiple county and jurisdictional boundaries in Northern Nevada and Northern California. This plan therefore considers needs and opportunities in surrounding counties in addition to the Truckee Meadows.

1.2 VISION AND GOALS

A vision statement was established for this plan in partnership with the Stakeholder Working Group, a group of local agency representatives that provided guidance throughout plan development. The vision for this plan is to:

Foster a thriving and diverse economy in Northern Nevada through safe and efficient freight transportation infrastructure.

The Stakeholder Working Group also helped shape a series of goals for the Regional Freight Plan, which is used to align recommended improvements to

transportation infrastructure and services. The goals include the following:

- » **Improve safety:** Transportation safety is a guiding principle for RTC, and providing for the safety of freight movement on Washoe County roadways is an important element of this plan.
- » **Improve multimodal integration and rail access:** About a quarter of freight activity in Northern Nevada transfers between multiple modes, which could include truck, rail, and/or aviation. Providing for efficient connections between modes is essential. Maintaining rail access to existing industrial properties helps ensure the seamless movement of goods and supports industrial operations. Because rail service is difficult to restore once lost, this plan identifies preservation of rail access as a key priority.
- » **Improve efficiency of freight movement:** Reducing travel delays and improving travel time reliability is important for freight movement, just as it is for all types of transportation in the region.
- » **Provide for equity and sustainability in freight movement:** Freight may have impacts on neighborhoods and the environment that are different from other types of transportation. Potential impacts resulting from noise, air quality, and safety are of particular concern in traditionally underserved areas.
- » **Improve truck parking:** The limited availability of truck parking is one of the most significant and challenging issues facing Northern Nevada. With periodic winter closures on I-80 over the Sierra Nevada, this is a concern that impacts Washoe County in addition to communities along I-80 across Nevada and beyond.

1.3 PLANNING PROCESS

This plan was developed based on technical analysis as well as input from the Stakeholder Working Group and a series of one-on-one meetings with regional specialists in various aspects of freight and economic development. The plan builds upon the foundation of the [2022 Nevada Freight Plan](#), which included analysis of truck movements on all roads in Northern Nevada. Key areas of analysis for freight and goods movement included existing infrastructure and its condition, previously adopted plans, federally available datasets about goods movement, and regional travel demand based on the RTC model.

The initial step was to identify the vision and goals for freight and goods movement. This informed a stakeholder-driven development of a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis for Northern Nevada freight.

The technical analysis identified needs or gaps in the transportation system serving freight. Within the framework of the freight goals, specific project and program investments were recommended to address these needs. It is anticipated that recommendations will be incorporated into the upcoming RTC Regional Transportation Plan update.



Stakeholder meeting



Railroad crossing on Glendale Avenue

2 | Community Engagement

Effective community engagement is a priority for any RTC initiative. This planning process incorporated a variety of strategies to seek and incorporate input from the general public, partner agencies, and experts in freight and economic development across the region.

2.1 STAKEHOLDER WORKSHOPS

The stakeholder group provided a forum for collaboration of partner agencies and industry representatives. This group met at strategic points during the planning process, as listed below:

- » **Kickoff (November 2023):** Reviewed findings of the existing conditions analysis, identified the freight transportation vision and goals, discussed land use and economic development priorities, and identified additional stakeholders.
- » **Performance analysis (January 2024):** Reviewed the analyses of freight operations and performance and conducted a facilitated discussion to support the SWOT analysis.
- » **Recommendations (May 2024):** Reviewed and discussed project and policy draft recommendations.
- » **Plan review (June 2024):** Reviewed draft Regional Freight Plan and provided comments.

Agencies represented on the stakeholder group include the following:

- » Truckee Meadows Regional Planning Agency
- » City of Reno
- » City of Sparks
- » Washoe County
- » Reno-Tahoe International Airport
- » Nevada Department of Transportation

- » Governor's Office of Economic Development (GOED)
- » Economic Development Authority of Western Nevada (EDAWN)
- » The Chamber
- » Commercial Real Estate Development Association (NAIOP)
- » Nevada Trucking Association

STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS

During the January 2024 Stakeholder Workshop, a facilitated discussion was held to identify the SWOT to freight mobility in the region. Strengths and weaknesses tend to be internal factors that regional public agencies and private industry can control, while opportunities and threats tend to be external influences that cannot be controlled, but with foresight and planning can be used to the region's advantage or protected against. This is an important exercise to focus the study analysis and inform the recommendations. Table 1 summarizes the key points which are organized by category.



Table 1: Strengths, Weaknesses, Opportunities, and Threats (SWOT) to Freight Mobility in the Region

Category	Strengths	Weaknesses	Opportunities	Threats
Location / Area	<ul style="list-style-type: none"> Available industrial zoned land (North Virginia Street, North Valleys, Cold Springs) 	<ul style="list-style-type: none"> Not enough industrial zoned land over the long term 	<ul style="list-style-type: none"> Proximity to major markets (especially California) 	<ul style="list-style-type: none"> Dependency on California
Multimodal Access	<ul style="list-style-type: none"> Multimodal access via I-80, Union Pacific Railroad (UPRR), Reno-Tahoe International Airport (RNO) 	<ul style="list-style-type: none"> Limited capacity on/ at I-80, UPRR, RNO Lack of rail access and rail-served properties Lack of truck parking No tolling authority 	<ul style="list-style-type: none"> Dependency on California Preserve existing rail spur access 	<ul style="list-style-type: none"> Limited number of rail providers Limited rail or highway crossroads
Regulatory	<ul style="list-style-type: none"> Favorable tax and regulatory environment 	<ul style="list-style-type: none"> Zoning conflicts 	<ul style="list-style-type: none"> Integrate truck parking into zoning requirements 	<ul style="list-style-type: none"> If the region were to fall into air quality non-attainment status, more strict federal regulations could be implemented on transportation construction.
Economic	<ul style="list-style-type: none"> Growing logistics sector (North Valleys, Sparks, south of RNO, Cold Springs) Strong agency partnerships within the Truckee Meadows Lower cost of living compared to California 	<ul style="list-style-type: none"> Subject to national and California economic trend 	<ul style="list-style-type: none"> Growing manufacturing base Development-friendly zoning policies at local jurisdictions, which allow promotion of workforce housing 	<ul style="list-style-type: none"> Supply chain and economic fluctuations

Category	Strengths	Weaknesses	Opportunities	Threats
Natural Resources	<ul style="list-style-type: none"> Abundant renewable energy resources (solar and geothermal) 	<ul style="list-style-type: none"> 80% of our fuel comes from California California makes it difficult/expensive to produce fuel Strong competition and wage pressure for workforce, due to low unemployment rates 	<ul style="list-style-type: none"> Natural resource availability, including mineral resources such as lithium. 	<ul style="list-style-type: none"> Risk of flooding and weather-related road closures Lack of water in surrounding areas
Workforce	<ul style="list-style-type: none"> Workforce development programs through Nevada System of Higher Education institutions and the Washoe County School District 	<ul style="list-style-type: none"> Challenge for workforce development providers to keep pace with growing employment needs in key industries Workforce access 	<ul style="list-style-type: none"> Lower cost of living than California Mild weather 	<ul style="list-style-type: none"> High cost of living relative to wages

2.2 PARTNER AGENCY ENGAGEMENT

A series of individual or small group meetings were held to seek input from surrounding jurisdictions and other representatives of private industry that are impacted by freight and goods movement. These meetings were held using a combination of in-person and virtual formats.

- » **Economic Development Authority of Western Nevada (EDAWN)** (9/20/2023)
- » **Nevada Department of Transportation (NDOT)** (1/11/2024)
- » **Reno-Tahoe International Airport** (1/31/2024)
- » **Storey County** (1/22/2024)
- » **City of Fernley** (1/26/2024)
- » **Manufacture Nevada** (2/20/2024)

- » **Carson Area Metropolitan Planning Organization (CAMPO)** – CAMPO provided information about freight needs through email.

RTC conducted additional coordination meetings with interested agencies upon request, speaking with representatives from the City of Sparks on June, 20, 2024, and City of Reno on July 24, 2024



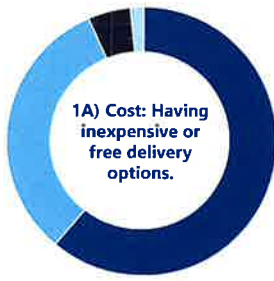
2.3 RTC WEBSITE AND COMMUNITY SURVEY

Information about the Regional Freight Plan was posted to the RTC website, providing the general public with a summary of the planning process and activities. A survey for the general public about their perceptions about freight transportation and ways in which it impacts their daily lives was also provided on the website. There were 62 responses to survey. When asked about their experiences of shopping online, the respondents said that having inexpensive or free delivery options and their delivery be on time were the most important to them. When asked about their opinions on trucking in Northern Nevada, the overwhelming majority said that they understand the importance of trucking in providing stores with

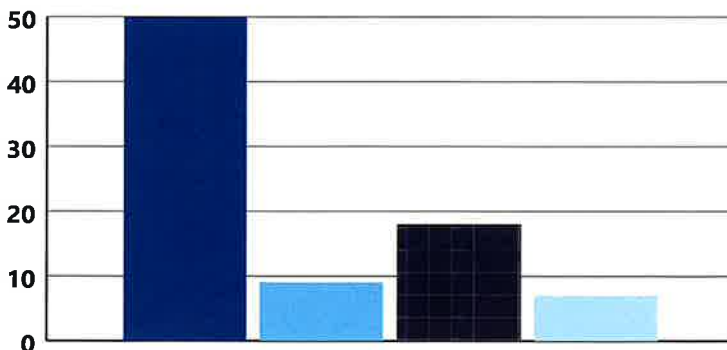
goods. When asked how the RTC should prioritize their limited budget for freight investment to deliver packages and products, the top three responses were that the most important investments should be the safety for all travelers and freight, followed by infrastructure maintenance and mobility.

The last question from the survey asked respondents to provide their thoughts on any freight-related concerns. Major themes from these responses are the concern of safety for all people on the road, including truck drivers, car occupants, and pedestrians. The speed of trucks on the road was mentioned several times in these responses. Keeping freight trucks away from residential areas was a common preference.

1) When you shop online, what are your expectations for receiving packages and products? Please rank from most important (1) to least important (4)

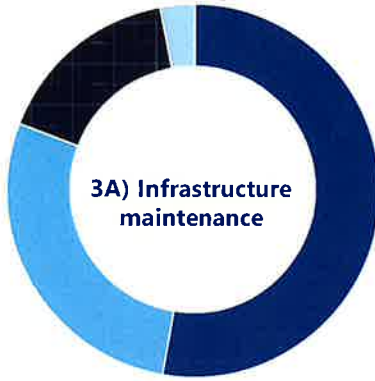


2) What do you think about trucks in Northern Nevada?

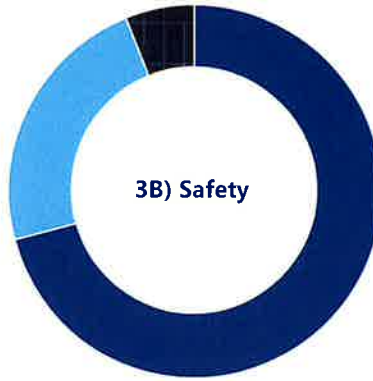


- I know trucks are important to filling store shelves & delivering packages.
- I think truck traffic is a major problem.
- I think trucks sometimes cause traffic problems.
- I don't often think about what trucks are carrying a where they might be going.

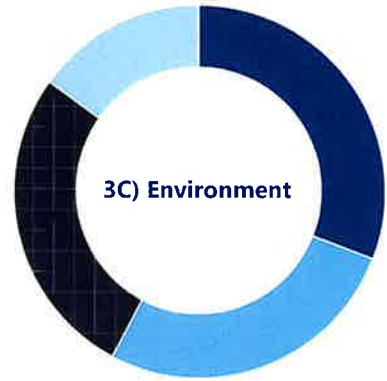
3) How should Washoe RTC prioritize limited transportation dollars to make it easier for freight (truck, plane, rail) to deliver products and packages? Please rank from most important (1) to least important (4)



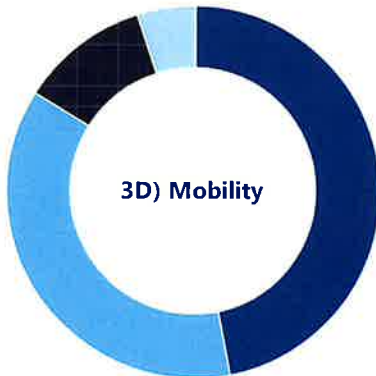
53% ● 1 - Most Important
 28% ● 2
 16% ● 3
 3% ● 4 - Least Important



71% ● 1 - Most Important
 23% ● 2
 6% ● 3
 0% ● 4 - Least Important



31% ● 1 - Most Important
 27% ● 2
 27% ● 3
 15% ● 4 - Least Important



47% ● 1 - Most Important
 37% ● 2
 11% ● 3
 5% ● 4 - Least Important



40% ● 1 - Most Important
 29% ● 2
 24% ● 3
 7% ● 4 - Least Important



43% ● 1 - Most Important
 42% ● 2
 13% ● 3
 2% ● 4 - Least Important

2.4 ADVISORY COMMITTEE MEETINGS

The RTC Citizens Multimodal Advisory Committee (CMAC) and Technical Advisory Committees (TAC) provided opportunities for input on the Regional Freight Plan from both the local resident and partner agency perspectives. During the presentation to CMAC on March 6, 2024, input from committee members included the following:

- » Consider alternatives to expanding highways and trucking to improve sustainability, such as increased use of rail.
- » Separate truck routes from bicycle routes.
- » The construction of an alternative route from South Meadows to the Tahoe-Reno Industrial (TRI) Center is important for the region.
- » Increasing bus and rail options to expand workforce access is important.

The Regional Freight Plan was presented to the TAC on March 7, 2024. Comments from the TAC included the following:

- » A significant proportion of freight is considered intermodal. Improving intermodal freight facilities is important to the region.
- » Maintaining existing rail access for industrial land uses is important for the long-term economic health of the region.



Coordination meeting with RNO

3 | Planning Context

This plan is built upon the foundation of previously adopted transportation plans and considers the land use planning decisions that have led to the industrial land uses served by freight. It incorporates information about publicly and privately operated transit options for industrial employment access.

3.1 ADOPTED PLANS

A summary of relevant plans is provided in this section, along with links to additional information.

2050 REGIONAL TRANSPORTATION PLAN

The [2050 Regional Transportation Plan \(RTP\)](#) recognizes the importance of freight movement for the economic competitiveness of Northern Nevada. In compliance with federal requirements, the RTP promotes coordination with local governments and freight transportation providers and identifies a series of freight performance measures. RTC highlights truck parking shortages as a concern that needs to be addressed as Washoe County has a deficit of truck parking spaces. The RTP is currently in the process of being updated. It is anticipated that the results of this Regional Freight Plan will be incorporated into the upcoming RTP.

VERDI AREA MULTIMODAL TRANSPORTATION STUDY

The [Verdi Area Multimodal Transportation Study](#) is a multimodal plan that identified truck parking and freight movement needs as a key concern. The Verdi Gold Ranch interchange on I-80 serves as a closure point during some winter weather events. Due to a lack of formal truck parking, semi-trucks are often observed parking along I-80, 3rd Street, and other local roads in the Verdi area. Residents expressed concerns about truck idling, emissions, and noise

pollution, as well as unsafe parking configurations. The study recommended that NDOT continue developing and implementing additional truck parking east of Verdi and in Reno.

MCCARRAN BOULEVARD CORRIDOR STUDY

The [McCarran Boulevard Corridor Study](#) identified an area containing primarily industrial land uses from I-80 to Longley Lane as having high truck volumes to accommodate freight traffic exiting I-80. The segment of McCarran Boulevard just north of I-80 extending to Prater Way also sees higher truck traffic volumes (4.8% of total traffic volume) serving the adjacent commercial land uses. The areas just north and south of I-80 on the east side of McCarran Boulevard were also identified as high crash areas. An intersection improvement was recommended at McCarran Boulevard and Prater Way.

RENO-TAHOE INTERNATIONAL AIRPORT MASTER PLAN

The 2017 [Reno-Tahoe International Airport \(RNO\) Master Plan](#) presents the strategy for long term growth at RNO. The air cargo volume at RNO has increased by 31% in the past 10 years and is expected to continue to increase. The plan identifies air cargo growth and the need to expand capacity and modernize air cargo facilities. The existing air cargo facilities are near capacity for normal operations and over capacity during peak times. Future expansion of the current cargo facilities is constrained and its current location limits passenger terminal expansion. The need for additional land dedicated to non-belly freight cargo, plus terminal expansion, necessitates the relocation of RNO air cargo facilities. The plan identifies the Southwest Quadrant, an approximately 100-acre parcel on the southwest portion of the RNO airfield, as the preferred site for the development



REGIONAL FREIGHT PLAN

of new air cargo facilities. Ground access to the Southwest Quadrant is via Moana Lane and Airway Drive.

ONE NEVADA TRANSPORTATION PLAN

The [One Nevada Transportation Plan](#) is the state’s long-range transportation plan, which equips NDOT and its partners with the strategic direction and essential actions to meet Nevada’s current and future transportation needs. The ongoing One Nevada planning process identifies and funds the projects that best achieve NDOT’s six goal areas in a data-driven and transparent manner. The One Nevada goals form the basis for decision-making and investment decisions for all modes of transportation.

Freight projects must meet several of the One Nevada goal areas to be competitive for statewide funding.

NEVADA FREIGHT PLAN

The [Nevada Freight Plan](#) provides a strategic framework for enhancing freight transportation safety, mobility, and sustainability as part of broader efforts to support the economic vitality of freight-related sectors in Nevada. The Nevada Freight Plan also makes specific recommendations on improving the state’s freight infrastructure to strengthen and diversify Nevada’s economy. The vision of the Nevada Freight Plan is to strengthen Nevada’s competitive advantage by creating a multimodal system of superior safety, condition, and performance.

NEVADA STATE RAIL PLAN

NDOT completed the most recent update of the [Nevada State Rail Plan](#) in 2021. The major focus areas for the plan include the following challenges:

- » Funding for rail infrastructure.
- » Organizational structure.
- » Regional marketplace dynamics that hinder rail expansion.

The plan outlined the following key opportunities for Northern Nevada:

- » Aggregate shipper needs into a viable redevelopment strategy for the Nevada Northern Railway.
- » Create a corridor-wide, rail-based land development strategy for I-80 communities, establish freight rail connections with California market and ports, and expand Amtrak services.
- » Support private-sector freight-rail served developments, including investment in an integrated multimodal cargo transfer facility in the Fernley area, and establish public transportation service between Reno, Sparks, and the TRI Center.
- » Focus on connecting existing truckload shippers to rail service.



NDOT One Nevada Goals

NEVADA TRUCK PARKING IMPLEMENTATION PLAN

The [Nevada Truck Parking Implementation Plan](#) was completed in 2019. This plan provides an overview of issues related to statewide truck parking, urban truck parking, technology and data, and special cases. The plan concludes with an overview of the options available to fund or finance plan recommendations. The Federal Highway Administration (FHWA) supported the development of the plan by facilitating truck parking workshops for local agencies and other stakeholders in both Northern and Southern Nevada.

NDOT conducted this study to develop a plan for expanding, improving, and integrating freight truck parking and truck parking communications systems in response to rising demand, changing hours of service requirements, and safety standards. This plan identified the locations where there are no truck parking facilities with amenities within a 2-hour drive, including US 95 between Tonopah and Fernley. It also identified a deficit of more than 250 truck parking spaces in Washoe County. This plan identified Donner Pass on I-80 as lacking emergency parking, especially during winter weather closures.

The following recommendations were made for long-haul (statewide) truck parking needs:

- » Expand and/or enhance existing public truck parking facilities at several rest stops and turnout areas.
- » Add truck parking at new weigh stations.
- » Allow parking at chain-up/brake check/inspection site areas during non-winter months.
- » Convert closed NDOT or Nevada Highway Patrol facilities to truck parking.
- » Add truck parking during highway improvements.
- » Improve multi-state coordination.
- » Develop a public private partnership (P3) model

and a competitive grant or loan program.

The following recommendations were made for urban truck parking needs. These recommendations focus on how NDOT can assist with education and support local efforts.

- » Support efforts to change zoning.
- » Develop a P3 model and a competitive grant or loan program.
- » Evaluate available land for truck parking.

Plan recommendations centered around two main areas:

- » Deploying a statewide truck parking availability system (TPAS).
- » Enhancing truck stop electrification (TSE) levels.

Truck Parking Availability System (TPAS)

A Truck Parking Availability System (TPAS) is a dynamic signage system that shows upcoming available parking sites, distances, and the number of currently available spots at each site along highways. The TPAS contains sensors at parking facilities that detect and report parking space availability. The truck parking information is then displayed on preinstalled digital signs in real time. The real-time truck parking information allows drivers to make better decisions and improve the efficiency on roadways.

NDOT is leading the effort to install detection at truck parking sites within the I-15 and I-80 rights-of-way (ROWs) and corresponding signage along I-15 and I-80 in Nevada.

Source: I-15 Freight Mobility Enhancement Plan; Nevada Truck Parking

The Funding and Financing Options section of the plan described various funding sources available to implement proposed recommendations, including federal funding and grants, state and local funding, direct user fees, P3 models, design-build-finance-operate-maintain structures, sponsorships, and tax incentives.

I-80 MULTISTATE CORRIDOR OPERATIONS AND MANAGEMENT PROGRAM

The I-80 Winter Operations Coalition is a multistate partnership that has brought together state transportation department maintenance, traffic operations and freight planning from five western states. This effort was led by NDOT and includes California, Utah, Wyoming, and Nebraska. The coalition was initiated in 2010 to improve the corridor's safety, mobility, consistency of travel, and the movement of freight along I-80 during the winter months. This program builds on the concept of multistate coordination, expanding it to general road condition information, road closure updates, traffic management strategies, maintenance operations, and consistent traveler information. As part of this coordination effort, a Freight Action Plan was developed by the Freight Strategy Group to ensure these perspectives are integrated with future freight focused activities. The I-80 Winter Operations Coalition successfully secured a federal grant through the Multistate Corridor Operations and Management (MCOM) program, which is funding the current program initiatives.

3.2 AVAILABLE DATA SOURCES

The Regional Freight Plan is built upon a foundation of comprehensive data analysis. A diverse array of data sources have been utilized to construct a holistic understanding of the region's transportation landscape, addressing various elements such as safety, freight mobility, traffic volumes, socioeconomic data, and others.

The 2016–2020 crash data from NDOT was used for safety analysis, which identifies the crash locations, contributing factors, and whether a semitruck was involved. Understanding the flow of goods and services across the region necessitates an examination of truck volumes along key roadways. This information was derived from the 2019 Highway Performance Monitoring System (HPMS) data. The results were cross-referenced and compared with the insights derived from the truck GPS data analysis from the Nevada Freight Plan. NDOT utilized 2021 truck GPS data from the American Transportation Research Institute (ATRI) to compile a list of critical freight corridors within the state of Nevada. This analysis complemented the HPMS data to provide insights into the truck routes within the region, aiding in the identification of key transportation arteries crucial for supporting efficient freight movement.

Ensuring efficient travel time reliability is paramount for enhancing the overall transportation experience. To this end, the plan incorporates 2022 INRIX speed data analysis, offering insights into the congestion hotspots within the region. Population and employment projections, vital for anticipating future transportation needs, are sourced from the RTC travel demand model. Furthermore, FHWA's Freight Analysis Framework (FAF) data were used to provide an overview of commodity flows, aiding in the development of strategies to optimize freight movement and enhance economic competitiveness.

3.3 FREIGHT INFRASTRUCTURE

ROADS

The RTC planning area includes roadways that are owned and operated by NDOT and the jurisdictions of Reno, Sparks, and Washoe County. RTC does not own roadways but is responsible for major capital improvements on regional roads, including capacity expansions, pavement preservation and reconstruction, and multimodal improvements.

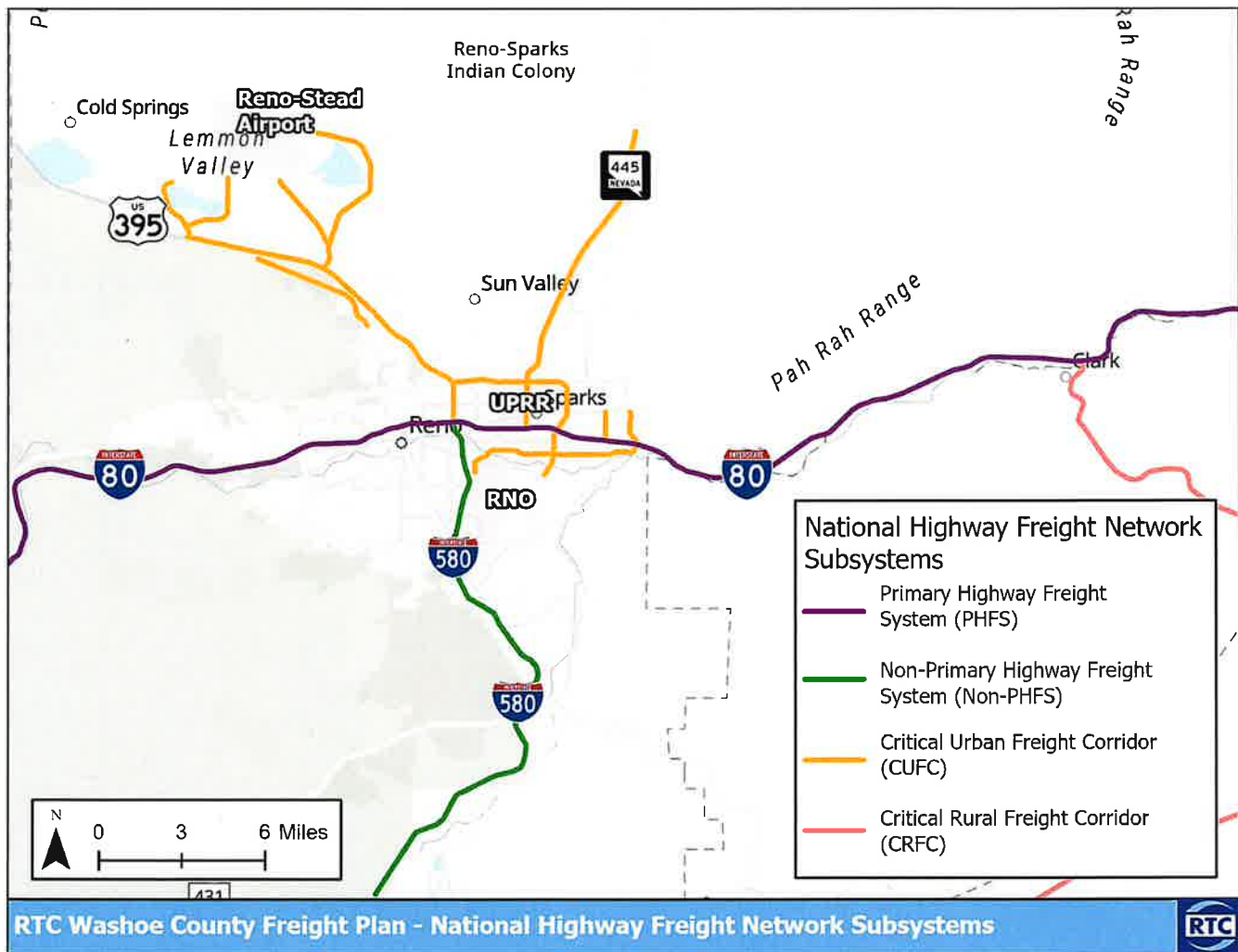
RTC also coordinates the regional intelligent transportation system (ITS) network in partnership with other agencies in the region.

Roadways with the greatest freight volumes are generally NDOT facilities, including I-80, I-580, and US 395. Many state highways also experience high truck volumes, such as McCarran Boulevard, Glendale Avenue, and Pyramid Highway.

Regional roads are defined as arterials providing direct connections between freeways and arterials, collectors with average daily traffic of at least 5,000, industrial roadways with freight movement, and roads with transit routes.

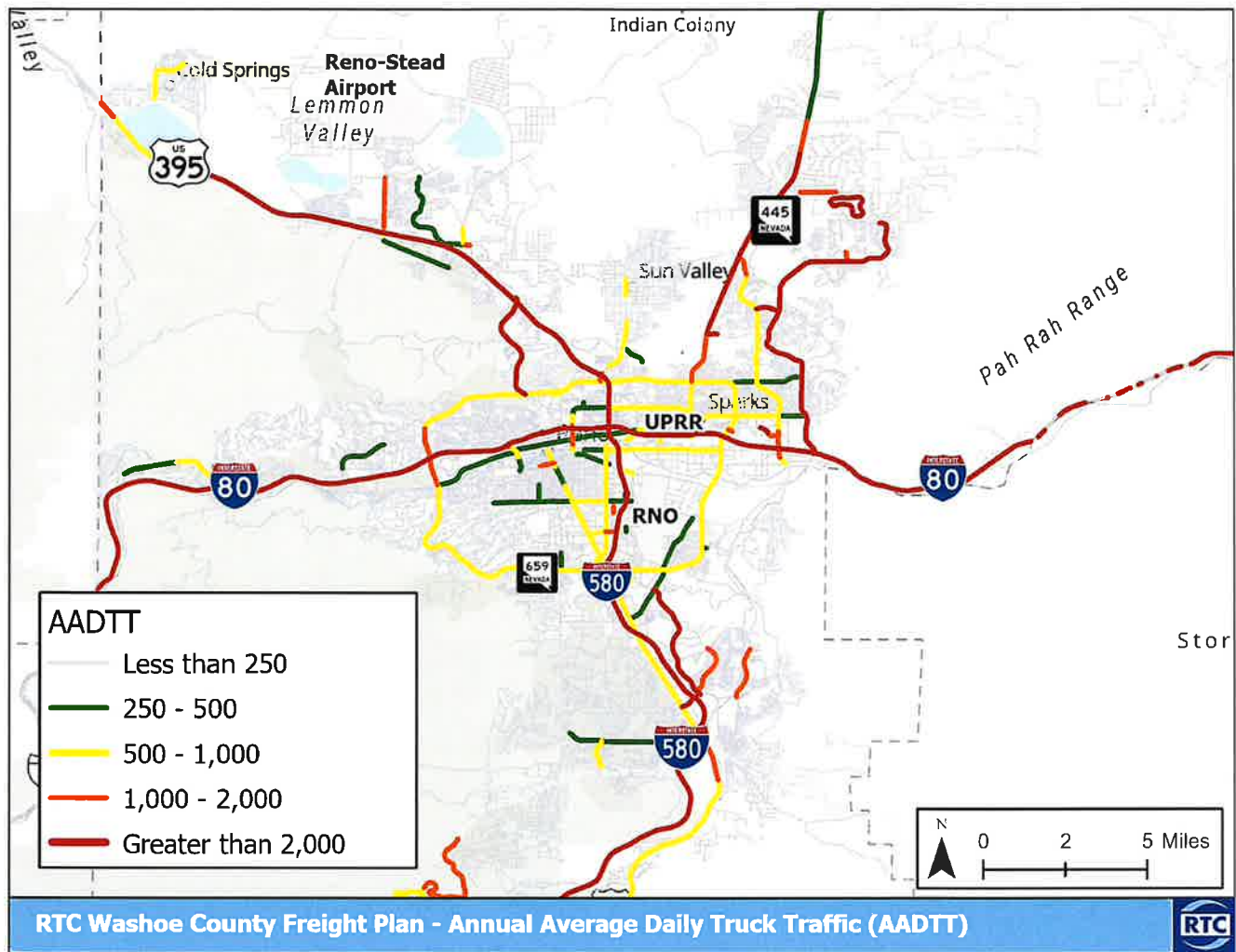
The National Highway Freight Network, as defined by NDOT in coordination with RTC, is shown in Figure 1. Truck volumes by roadway as identified in the HPMS are shown in Figure 2.

Figure 1: National Highway Freight Network



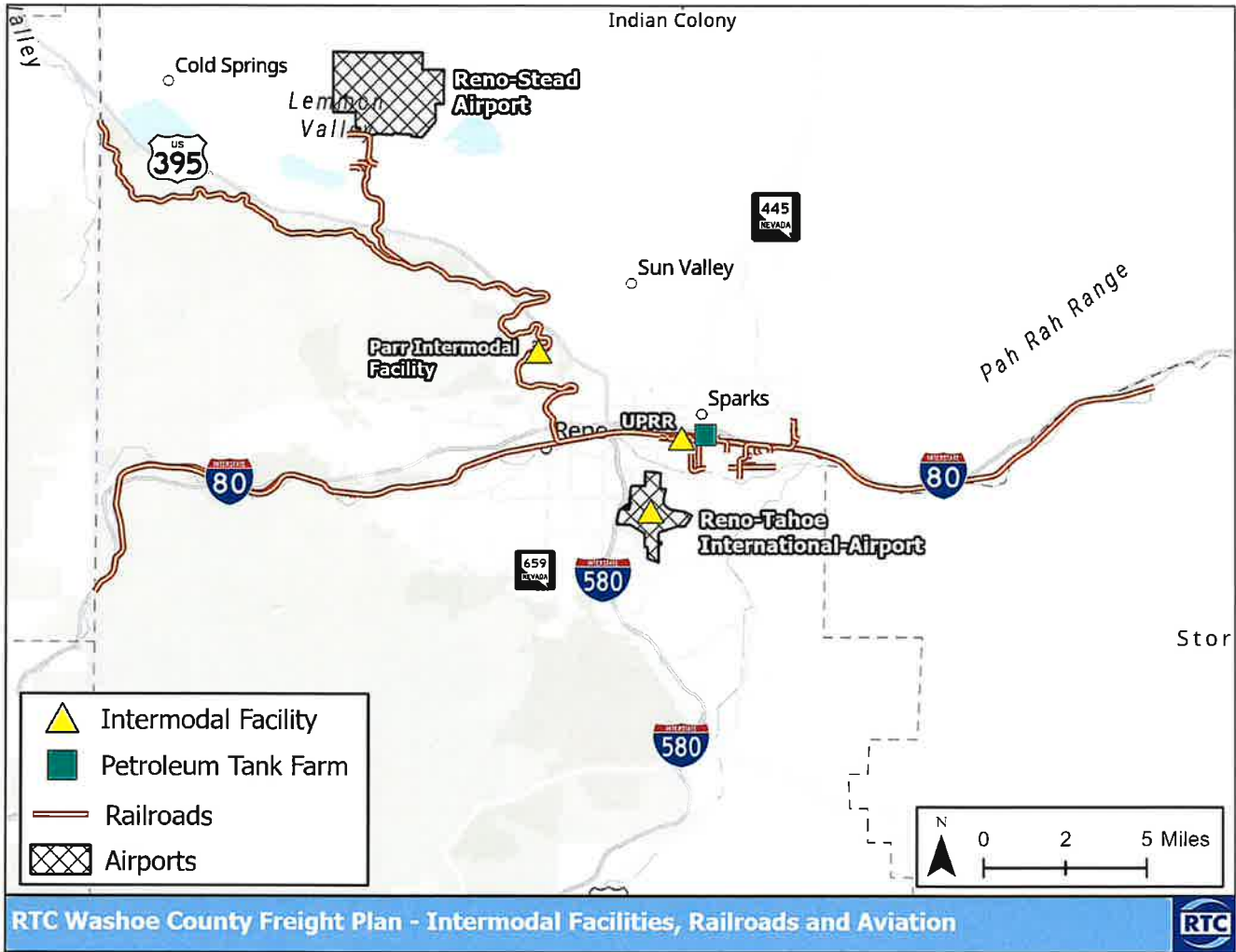
Source: NDOT

Figure 2: Annual Average Daily Truck Traffic



Source: NDOT

Figure 3: Rail Network and Intermodal Facilities in the Region



Source: NDOT

RAILROADS

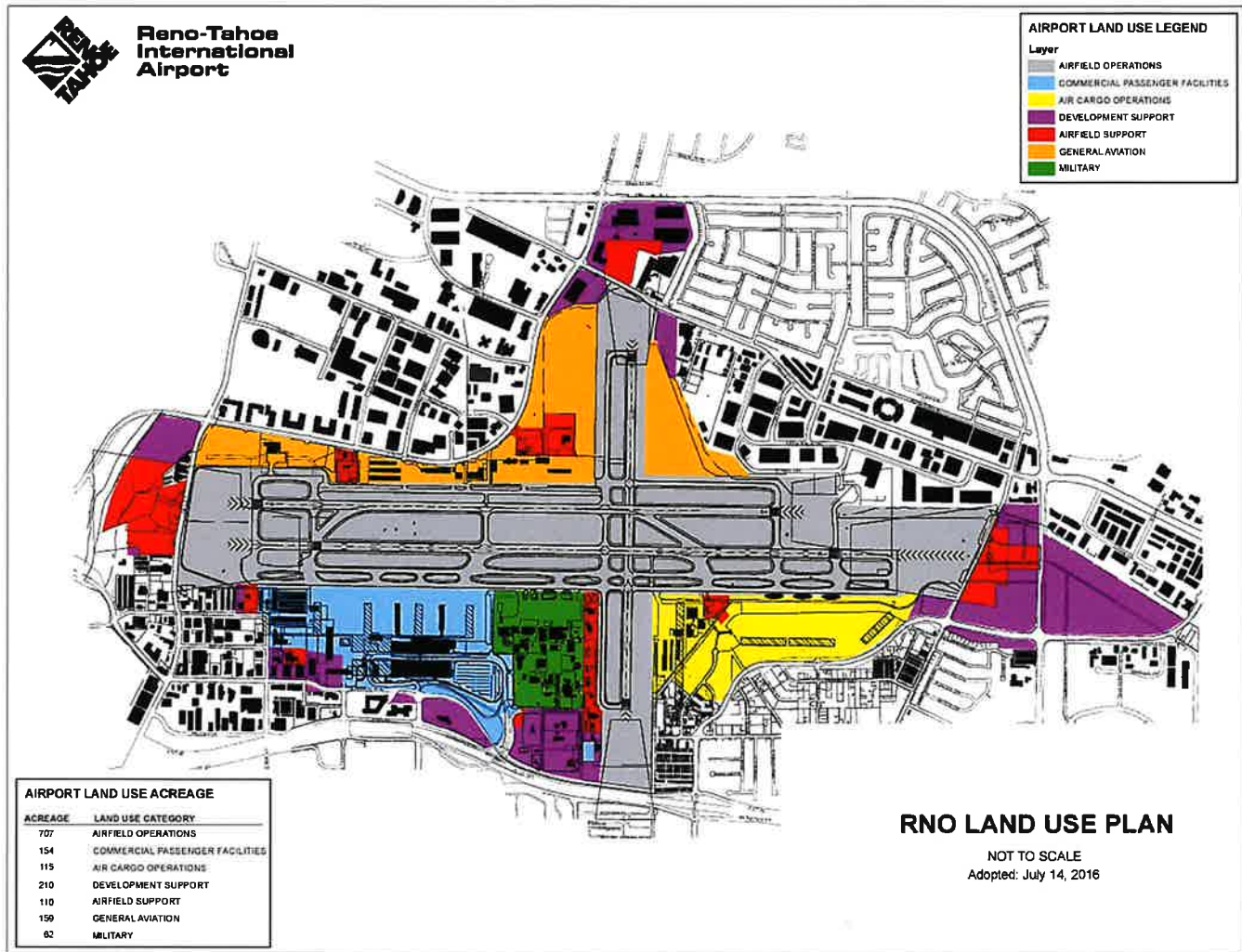
Railroads have been pivotal in the development of Northern Nevada. The Sparks Intermodal Terminal was built in 1904 and has continued to be a major hub. The Union Pacific Railroad (UPRR) is a heavily used freight corridor connecting Reno/Sparks to the Port of Oakland as well as to trading partners in Utah and eastward to Chicago. This route connects in Roseville, California, to UPRR's I-5 corridor with service along the west coast of the U.S. The Burlington Northern Santa Fe (BNSF) Railway operates on nearly three-quarters of the UPRR railways in Nevada. As shown in Figure 3, there is also a spur line connecting to

the North Valleys and rail service to industrial land uses in Sparks. It is important to maintain these rail connections for future industrial development needs.

AIRPORTS

RNO provides passenger and air cargo services. Air freight service tends to serve high-value, lighter weight, time-sensitive, and refrigerated cargo. RNO is not a hub for a domestic all-cargo airline and relies on service to local industry to generate freight demand.

Figure 4: RNO Land Use Plan



RNO's annual tonnage increased by 10,000 metric tons between 2000 and 2015. The Los Angeles International Airport (LAX) dominates the local air cargo market with a total air cargo tonnage of almost 2,000 in 2015, compared to 511 at the next highest in the western U.S. in Oakland and 63 at RNO. FedEx (61%) and UPS (33%) are the primary cargo carriers at RNO, with smaller shares going to DHL (3%) and passenger carriers such as belly cargo. RNO's air cargo serves the domestic market, with international demand served by trucking to LAX and San Francisco International Airport (SFO). The RNO Master Plan assumes a 2.2% annual growth rate for air cargo. This anticipates an increase in air cargo activity from 71,000 metric tons in 2016 to

110,000 metric tons in 2036. The current location of air cargo facilities, as well as future development sites surrounding the airport, are shown in Figure 4.

In addition to RNO, the Reno-Stead Airport (RTS) is strategically developing into a significant economic hub in the North Valleys. This transformation includes the establishment of an airport business park, designed to cater to industries such as aerospace, advanced manufacturing, and logistics. Recognized by the Truckee Meadows Regional Planning Agency as a future regional jobs center, the business park at RTS represents a substantial portion of the region's industrial capacity. Situated approximately 15 miles



north of Reno, it accounts for 60% of the vacant industrial land within the City of Reno and 37% of the vacant industrial land in Washoe County. This development not only underscores the airport's potential to drive economic growth but also highlights its pivotal role in meeting the region's future employment and industrial needs.

INTERMODAL CONNECTIONS

According to the NDOT Freight Plan, the Reno-Sparks metropolitan area includes three multimodal facilities: the Sparks and Parr intermodal yards, and the RNO Air Cargo Center. The Sparks Intermodal Terminal is home to a host of manufacturing, trucking, warehousing, and construction companies, as well as the petroleum products tank farm. With its close proximity to RNO, it combines rail, truck, air, and pipeline in a single location. These intermodal facilities are crucial for the regional and national economy. They attract diverse businesses, boost local employment, and enhance transportation efficiency by integrating rail, truck, air, and pipeline modes.

The Port of Nevada is a new inland port being developed in Fernley. It offers a full intermodal and rail facility with direct access to the Port of Oakland and future rail service to the Ports of Los Angeles/Long Beach. It is served by UPRR and BNSF and handles bulk rail cars and export containers with no weight limits.

3.4 REGIONAL DEVELOPMENT PATTERNS

Northern Nevada has experienced strong growth in advanced manufacturing and logistics industries since 2010. State and regional efforts championing the diversification of the economy have succeeded in bringing new industries and strong employment growth to Northern Nevada. As a result, an expansion of industrial and warehouse development has occurred across the region.

The historic industrial core for the region includes industrial Sparks. Anchored by freight rail service and

the Sparks Intermodal Terminal, this area supports about 25,000 jobs. Many of these early industrial properties were developed with rail spur access. Key industrial corridors include Greg Street, Glendale Avenue, Rock Boulevard, McCarran Boulevard, and Vista Boulevard. Due to proximity to the Truckee River, many of these properties are located in the floodplain and require retrofits to guard against potential flood damage.

The purpose of the [Truckee River Flood Management Project](#) is to create a more resilient community and reduce impacts from major flood events. Implementation of this project will benefit the core industrial employment center in Sparks in addition to safeguarding public health and improving water quality for the larger region.

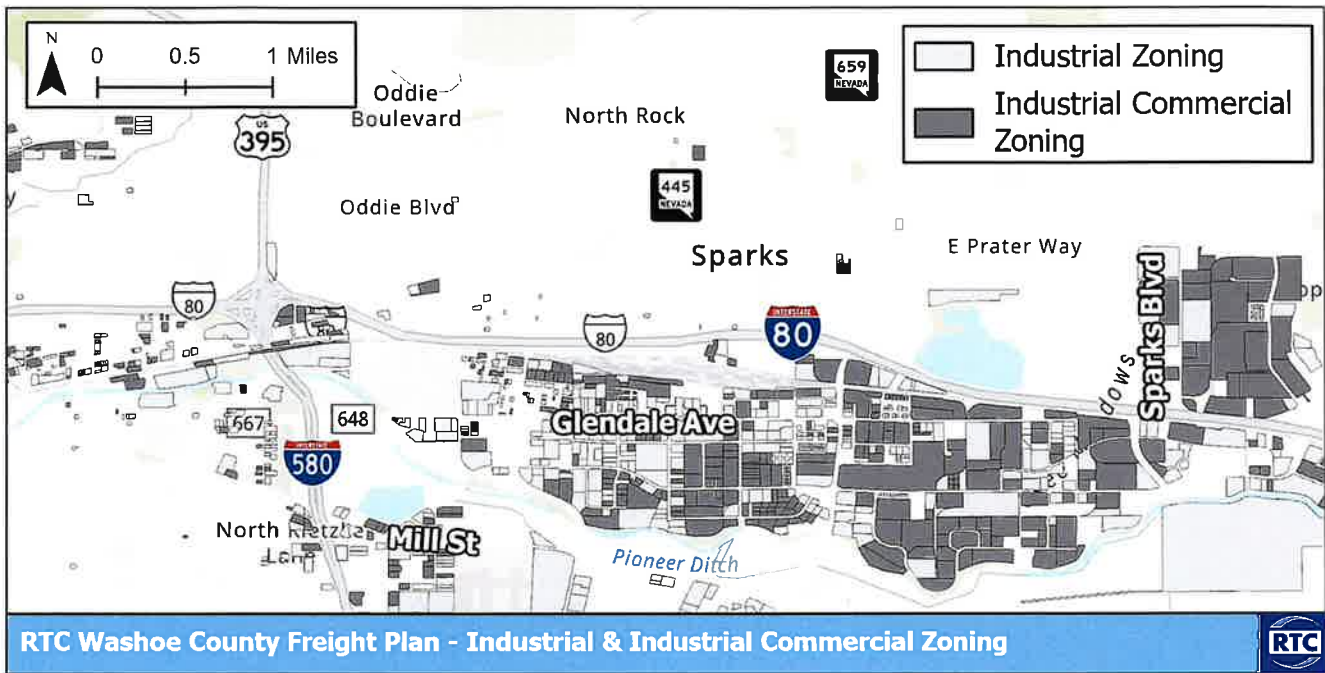


Industrial development in South Reno

The 2050 RTP developed in 2021 included a Sparks Industrial Study (2050 RTP, Appendix H), which identified needs for accessible sidewalk connectivity to bus stops and bicycle connectivity, noting that many people employed in the area rely on transit, walking, and bicycling to get to work. Improvements recommended in the McCarran Boulevard Safety Management Plan are also included in the Sparks Industrial Study.

The City of Sparks has made recent land use planning changes within the Pioneer Meadows and Kiley Ranch developments, which will allow for future warehousing and logistics center development in these areas of northern Sparks.

Figure 5: Industrial and Warehouse Land Use



Development at Longley Lane and McCarran Boulevard, adjacent to RNO Airport

The air cargo market has exhibited strong growth in recent decades as a result of continued expansion of industrial activity in the region. The increased demand has facilitated development of a major distribution hub immediately south of the airport at McCarran Boulevard and Longley Lane.

The region contains multiple third party logistics companies, which are major contributors to the area’s economy and freight traffic.

The South Meadows area developed with major planned unit developments (PUDs) that house industrial and warehouse uses. Located primarily north of South Meadows Parkway and east of I-580, this district houses major logistics centers. More recent industrial and logistics development in South Meadows has spanned both sides of I-580, with a concentration in the area south of Damonte Ranch Parkway.

Over more recent decades, industrial growth has expanded in the North Valleys and Spanish Springs areas. RTC’s 2017 North Valleys Multimodal Transportation Study documented the increase in industrial development and employment in this area, including major logistics centers. Stead Airport, managed by the Reno-Tahoe Airport Authority, is located in the North Valleys and has attracted nearby industrial land uses. A master



Development on McCarran Boulevard

plan for future redevelopment in and around Stead Airport has been developed. The RTC North Valleys Multimodal Transportation Study recommended many improvements that have been implemented or are currently underway, including widening Lemmon Drive and improving its interchange with US 395.

The TRI Center, known as the largest industrial park in the world, is located in Storey County east of Sparks. I-80 provides the only access from Washoe County to this 107,000-acre manufacturing, technology, and logistics hub. TRI Center is home to many major employers, including Tesla, Panasonic, Blockchains, Walmart, Switch, and many others.

The City of Fernley is a growing urban area near I-80 east of Storey County. Fernley received a \$25 million RAISE grant from the U.S. Department of Transportation for the Nevada Pacific Parkway project that will connect I-80 to US 50. This will support development of the Victory Logistics Center, a 4,300-acre industrial park with on-site freight rail service.

EDAWN prepared the Northern Nevada Lands Study in 2021 to estimate the available supply of vacant land for residential and commercial use and determine if a potential scarcity exists. For Washoe, Storey, and Lyon Counties, the study estimated that



USA Parkway in Storey County

over 25,000 developable parcels of at least 20 acres in size were available. The greatest number of parcels are 20 to 60 acres, with a more limited number of larger parcels over 100 acres in size. Within Washoe County, the majority of developable vacant land is located in the North Valleys and Spanish Springs areas. Larger portions of vacant land are available in the Fernley area. The study projected that the land supply for industrial uses would be extremely limited by 2041 and recommended Congressional action to make additional public lands available for development.

Figure 6: Industrial and Warehouse Land Use – Sparks Industrial



ZONING AND LAND USE

Industrial land uses are primarily concentrated in the Sparks Industrial Area, North Valleys, and South Meadows. The Sparks Intermodal Terminal and surrounding locality south of I-80 contain much of the industrial zoned areas in the region. There is also a significant amount of industrial zoned lands near RTS. Industrial commercial zoning, which may include factories and warehouses, can be found around RNO.

3.5 WORKFORCE ACCESS

Workforce access to employment centers continues to be a priority, both within the Washoe County urbanized area and extending to the greater Northern Nevada region.

RTC is the regional transit service provider and operates both fixed route bus and microtransit service. RTC serves over 20,000 trips a day with 27 fixed routes. Industrial employment in Sparks and the North Valleys continues to attract strong transit ridership, including the Lincoln Line bus rapid transit

(BRT) service and Glendale/Greg (Route 18), Stead (Route 7), and East Mill (Route 14). RTC has also launched on-demand RTC FlexRIDE service that provides curb-to-curb service within specific zones, including Sparks/Spanish Springs and North Valleys. A new FlexRIDE zone in South Meadows launched in May of 2024.



Bus stop near industrial employment



REGIONAL FREIGHT PLAN



The RTC Vanpool service is among the most successful in the nation. Over 300 vanpools to, from, or within Washoe County served over 1,600 commuters in 2022, with the TRI Center being a major vanpool destination.

Vanpools allow 5–14 people to commute together at substantially reduced costs compared to driving alone. Vanpooling also helps reduce vehicle miles of travel and associated environmental impacts. The van is driven by one of the members and passengers are picked up at prearranged locations. Expenses for the vehicle and fuel are shared by the riders and subsidized by RTC. Employers have the opportunity to further subsidize the vanpool cost. RTC has partnered with Commute with Enterprise, an organization that supplies the vehicles and provides maintenance and insurance. Vanpools are well suited to long commuting distances, such as between the Reno/Sparks metro area and TRI Center.

[My Ride to Work](#) is privately operated transit that provides commuter service to major employers at the TRI Center. My Ride to Work has 17,486 weekly boardings, making it a major contributor to mobility in Northern Nevada. Their buses pick up and drop off at various regional locations, including at RTC transit stations.

An improved bike and pedestrian network can also foster a more inclusive and environmentally friendly approach to workforce access in the region. By providing safe routes for cyclists and pedestrians, these networks offer accessible transportation options, reduce reliance on cars, alleviate congestion, and promote healthier commuting choices. This not

only enhances inclusivity but also contributes to environmental sustainability by reducing carbon emissions and improving air quality.

Access to industrial areas in the Reno/Sparks area and the greater Northern Nevada region is facilitated by an extensive network of major arterials and highways. An efficient network of arterials and collectors has the potential to enhance workforce access. Optimizing connectivity between industrial areas and residential neighborhoods and reducing travel times and congestion supports economic growth by facilitating the movement of goods and services and benefits employees by providing more efficient transportation options. Additionally, a well-designed network of arterials and collectors enhances overall mobility, contributing to the region's attractiveness for businesses and residents alike.

4 | Existing Conditions and Trends

This section describes existing conditions and trends, including safety, truck parking, and commodity flow analysis.

4.1 SAFETY

The data set used for this analysis comes from NDOT and includes vehicle crashes from 2016 through 2020. In Washoe County during this period, there were 35,655 vehicle crashes. Of these, 630 (1.8%) involved a semitruck. These truck-involved crashes resulted in two fatalities and six serious injuries. The majority of truck-involved collisions were angle (32%) or side-swipe crashes (26%) while 20% were noncollisions (where another vehicle was not struck), 18% were rear-end crashes, 3% were backing crashes, and 1% were head-on crashes.

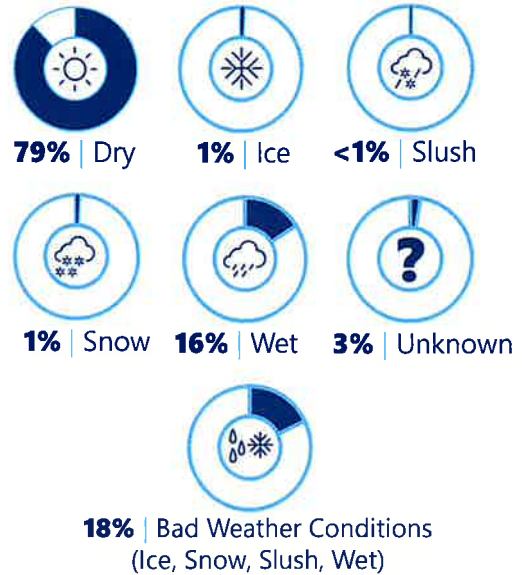
Table 2: Washoe County Crashes, 2016–2020

	Total	Fatal Crashes	Serious Injury Crashes
Total Crashes	35,655	206	572
Semitruck Involved Crashes	630 (1.8%)	2 (<1%)	6 (<1%)

Source: NDOT

The semitruck involved vehicle crashes during this period occurred during a variety of weather conditions. The majority (79%) occurred during dry roadway conditions. Winter weather conditions that could include ice, snow, or slush were present for 18% of crashes and road conditions were wet during 16% of crashes.

Figure 7: Roadway Conditions During Freight Crashes



Washoe County Crashes 2016-2020

Source: NDOT

The majority of these crashes occurred along and near I-80, particularly on the section between the US 395 interchange and Sparks Boulevard. The highest concentration of truck-involved crashes is in the vicinity of the I-80 interchange at McCarran Boulevard in Sparks.

Figure 8: Crash Types

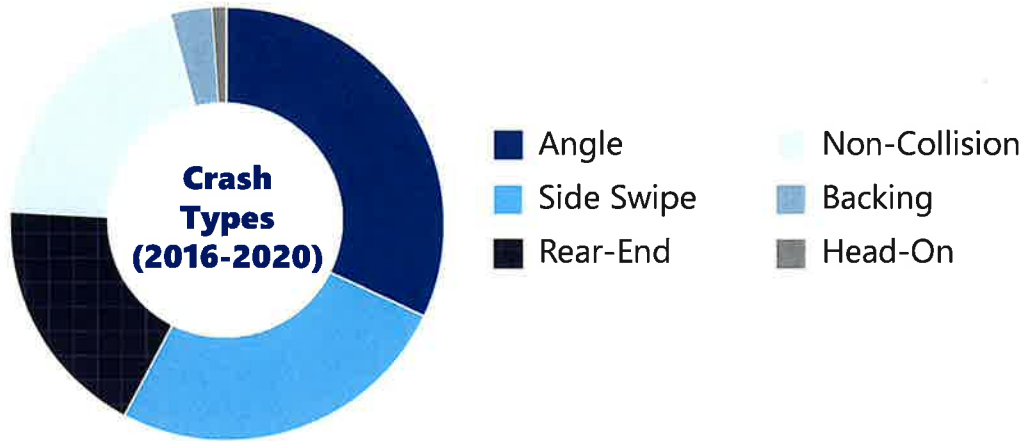


Figure 9: Truck-Involved Crashes in Northern Nevada

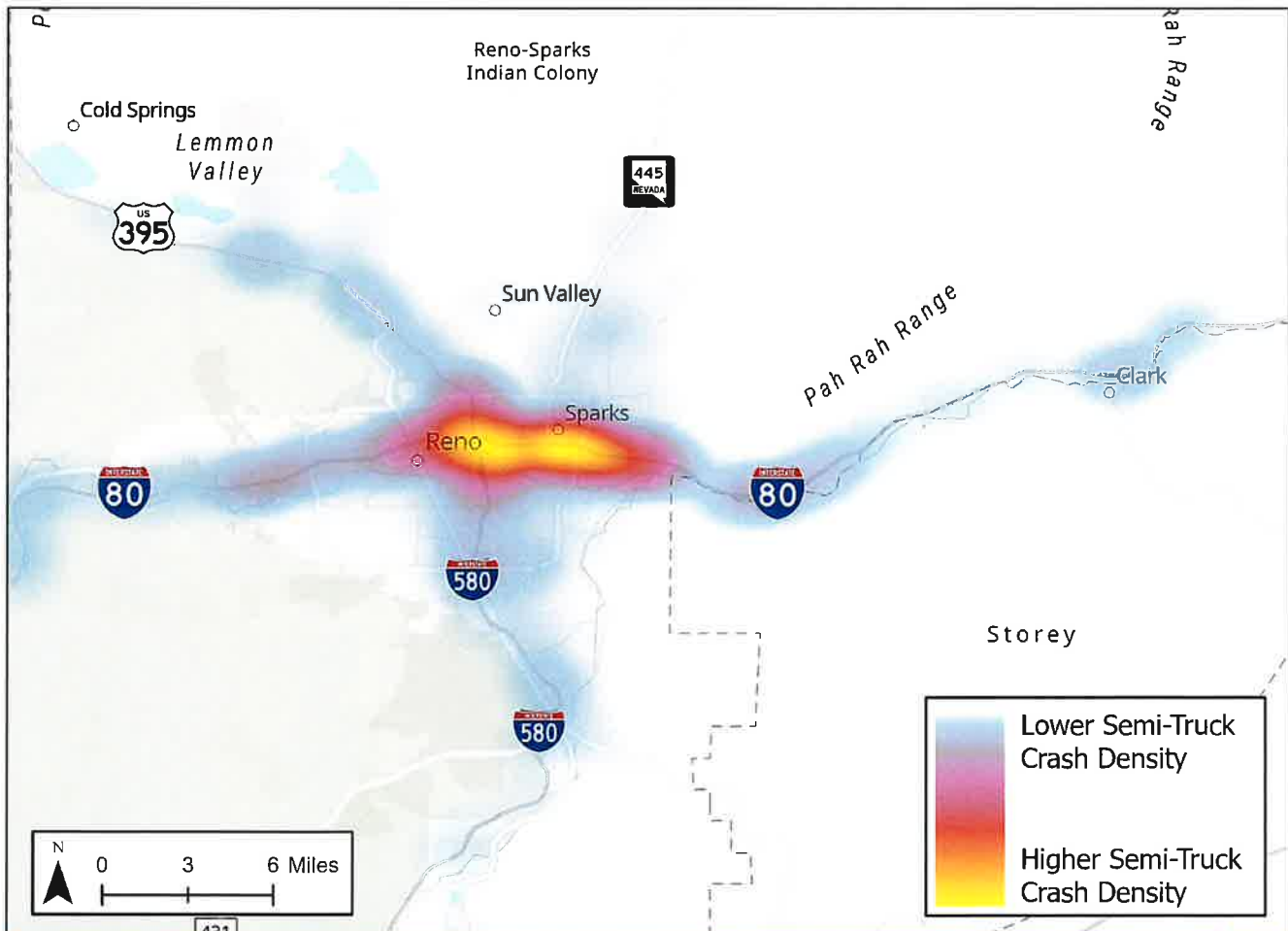
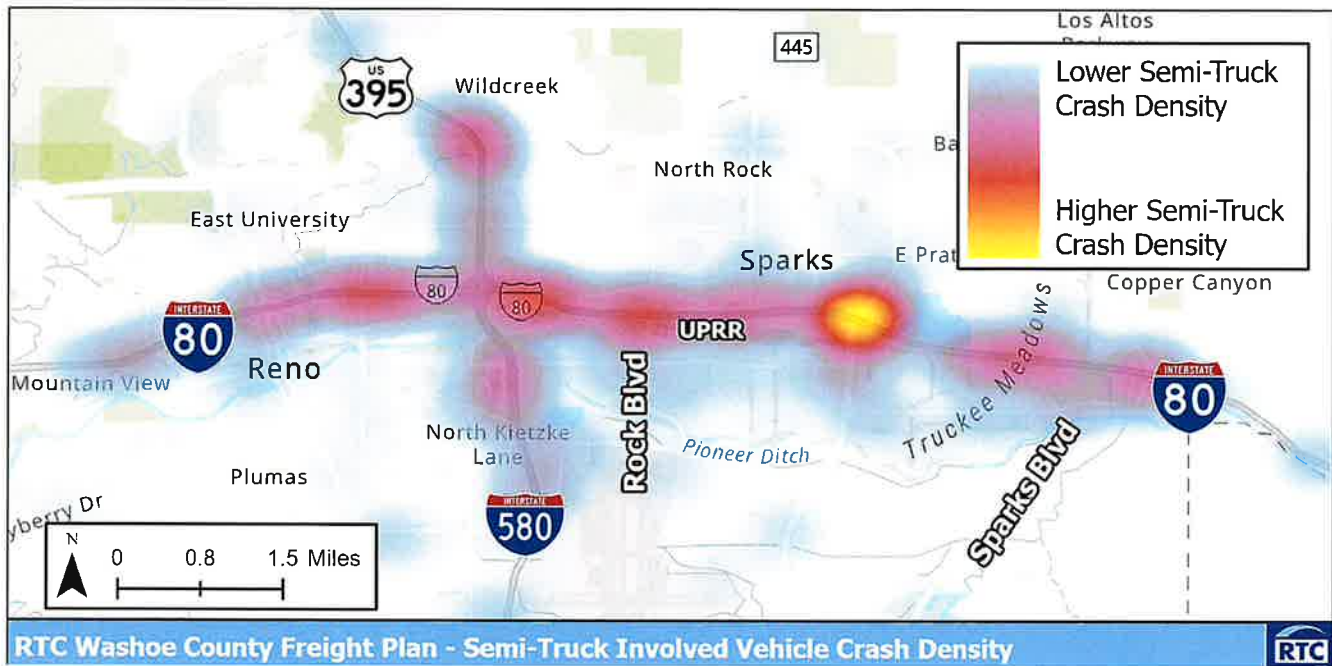


Figure 10: Truck-Involved Crashes in Central Reno and Sparks



4.2 MULTIMODAL INTEGRATION

Analysis of multimodal integration includes commodity flow, the efficiency of freight movement, travel time reliability, pavement condition, as well as equity and sustainability.

COMMODITY FLOW ANALYSIS

This study utilized the Freight Analysis Framework (FAF) data from the Bureau of Transportation Statistics (BTS) to analyze freight movements across states and metropolitan areas, covering all transportation modes and various commodities by tonnage and value. FAF (Version 5) data for 2022, 2030, and 2050 were disaggregated to the county level and analyzed for directional flows, modal split, and top commodities over these years. Directional flow analysis categorized movements into internal (origins and destinations within Washoe County), inbound (to Washoe County), and outbound flows (from Washoe County) based on origins and destinations of commodity. The modal

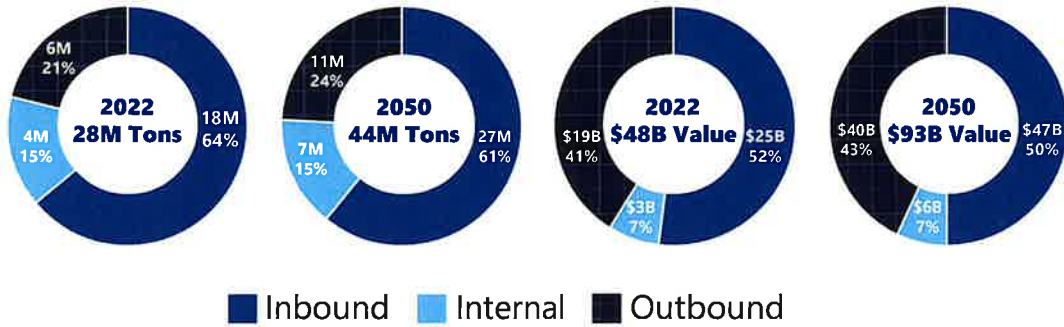
split analysis examined commodity flows across different transportation modes. Top commodities were identified based on tonnage and value using the Standard Classification of Transported Goods (SCTG). More details on the data utilized, analysis methodology, and commodity flow analysis results are provided in the appendix.

Figure 12 shows commodity flows by tonnage and value while Figure 13 shows commodity flows by mode. Trucks dominate in tonnage and value, comprising 91% of tonnage and 69% of value in 2022. Rail follows in tonnage but contributes only 1% to the value due to moving heavier, lower-value goods like coal. Multiple modes and mail as well as air also play significant roles. The 0.02 million tons of goods (less than 1% of total freight tonnage) transported by air accounted for \$3 billion in value (5%). From 2020 to 2050, trucks, multiple modes and mail, and rail maintain their positions in tonnage; while trucks, multiple modes and mail, and air lead in value.

Figure 11: Phase 4 Map: Complete Network [2035-2040], Figure 7 in the National Zero-Emission Freight Corridor Strategy, 2024

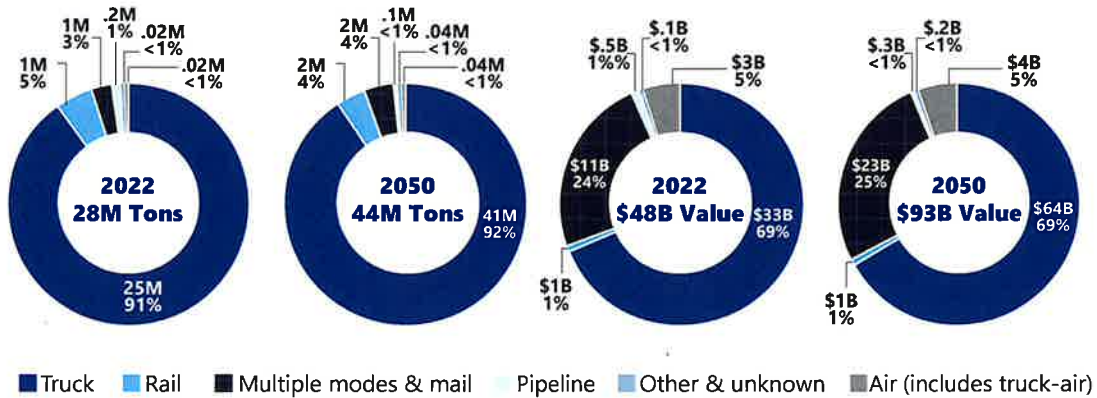


Figure 12: Commodity Flow by Direction in 2022 and 2050 by Value and Tonnage



Source: Freight Analysis Framework 5.4.1, disaggregated by Cambridge Systematics Inc. 2023

Figure 13: Commodity Flow Modal Split in 2022 and 2050 by Tonnage and Value



Source: Freight Analysis Framework 5.4.1, disaggregated by Cambridge Systematics Inc. 2023

The purpose of the top commodity analysis is to understand trade patterns and enhance freight planning by identifying key goods that drive trade flows and their impact on the region's economy. Table 3 and Table 4 detail the top commodities by tonnage and value in 2022 and 2050. In both years, gravel ranks first by tonnage at 5 million and 8 million tons, respectively, followed by nonmetallic

mineral products and natural sands. In 2022 and 2050, electronic and miscellaneous manufactured products lead by value, with miscellaneous manufactured products doubling in value by 2050 to \$15 billion. The top three commodities by tonnage and value are expected to remain unchanged by 2050.

Table 3: Top Commodities by Tonnage and Value in 2022

Top Commodities by Tonnage (Tons)		Top Commodities by Value (USD)	
Gravel	5M	Electronics	\$7B
Nonmetallic Mineral Products	5M	Miscellaneous Manufactured Products	\$7B
Natural Sands	2M	Textiles/Leather	\$4B
Waste/Scrap	2M	Machinery	\$3B
Coal - not elsewhere classified (n.e.c.)	1M	Mixed Freight	\$3B
Top 5 Total	15M	Top 5 Total	\$24B
All Commodities Total	28M	All Commodities Total	\$48B

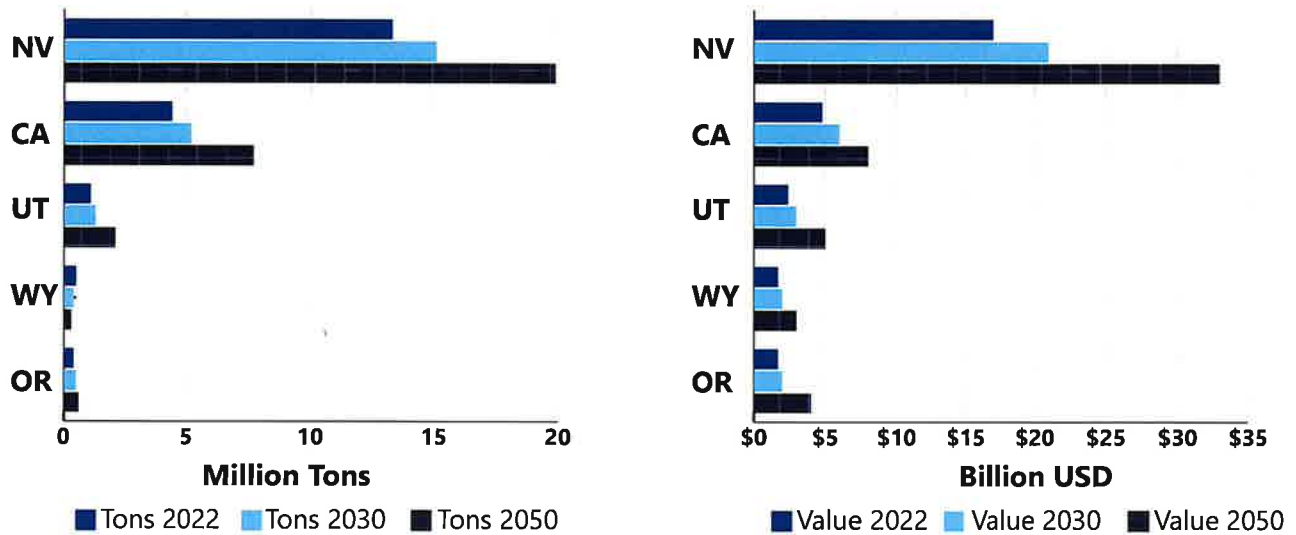
Source: Freight Analysis Framework 5.4.1, disaggregated by Cambridge Systematics Inc. 2023

Table 4: Top Commodities by Tonnage and Value in 2050

Top Commodities by Tonnage (Tons)		Top Commodities by Value (USD)	
Gravel	8M	Miscellaneous Manufactured Products	\$15B
Nonmetallic Mineral Products	8M	Electronics	\$13B
Natural Sands	3M	Textiles/Leather	\$9B
Basic chemicals	3M	Pharmaceuticals	\$6B
Waste/Scrap	2M	Machinery	\$6B
Top 5 Total	24M	Top 5 Total	\$49B
All Commodities Total	44M	All Commodities Total	\$93B

Source: Freight Analysis Framework 5.4.1, disaggregated by Cambridge Systematics Inc. 2023

Figure 14: Top Domestic Trading Partners by Tonnage and Value



The purpose of analyzing the top trading partners is to evaluate trade dynamics, assess economic competitiveness, and inform freight policy decisions by examining the distribution and characteristics of goods exchanged with other regions. Figure 14 shows the top trading partners by tonnage and value (including both inbound and outbound flows). Nevada, California, Utah, Wyoming, and Oregon are the top partners by tonnage, with Texas projected to reach the fourth by 2050. Wyoming's rank dropped out of the top five by 2050. By value, Nevada, California, Utah, Washington, and Texas are the top partners, with Texas expected to surpass Washington by 2050. More than 55% of California's trade by value is with Northern California.⁶ The proximity to Northern California provides significant opportunities for economic growth in the Reno-Sparks area.

In Washoe County, inbound flows dominate with the largest proportion of tonnage and value, although the commodity value of inbound flows tends to be

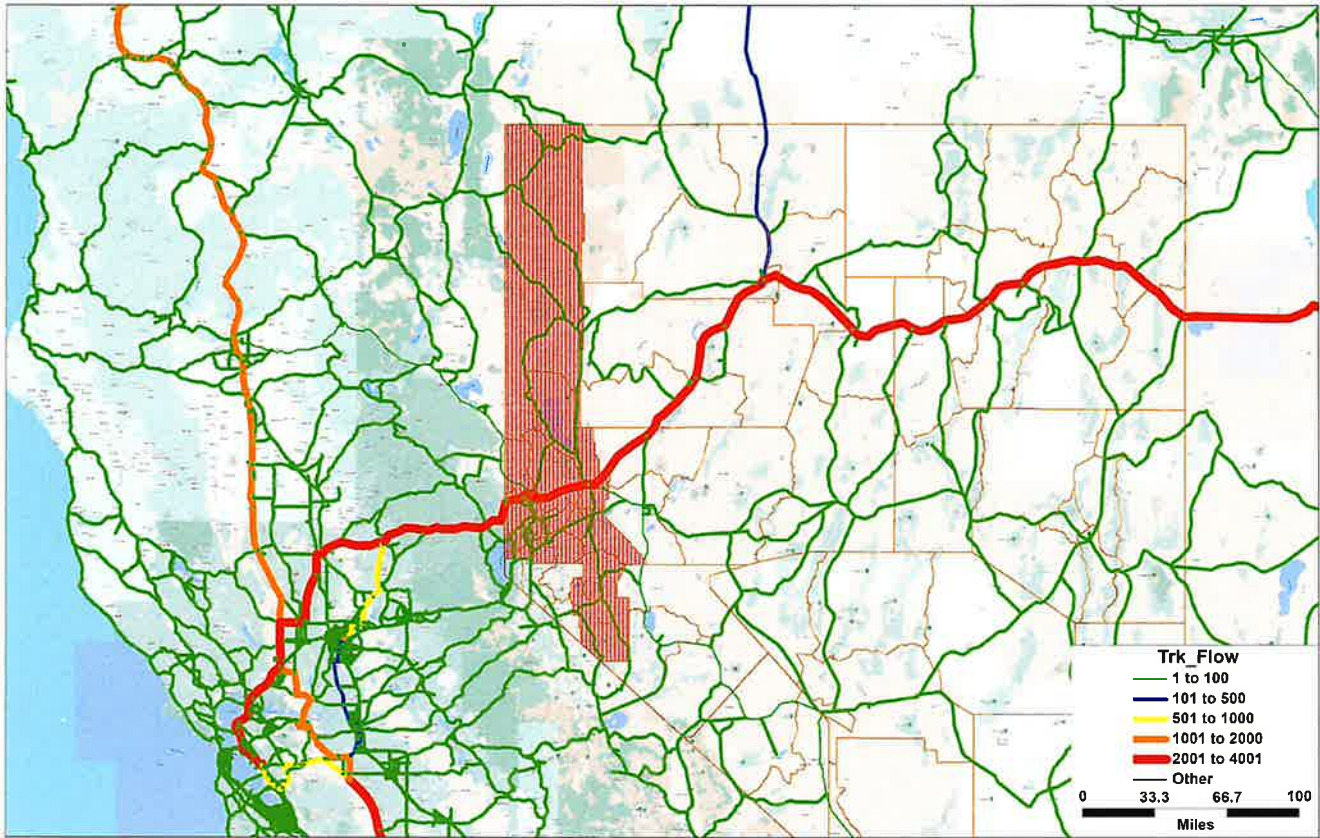
lower compared to other directions. Trucking is the primary mode for freight flows, with multiple modes and mail accounting for 24% of total freight flows by value. The leading commodities transported into, from, and within Washoe County are primary materials like gravel, nonmetallic mineral products, and natural sands, which typically carry lower unit values. Major trading domestic partners include Nevada, California, Utah, Washington, Oregon, and Texas. The appendix offers more in-depth and comprehensive results and findings derived from the commodity flow analysis.

PASS-THROUGH ANALYSIS

A process was used to estimate pass-through truck movements by overlaying FAF origin-destination data onto the FAF network. Figure 15 shows a regional picture of pass-through flows. Based on the pass-through results, there are between 2,000 and 4,000 truck trips passing through the region on an average day on the I-80 Corridor.

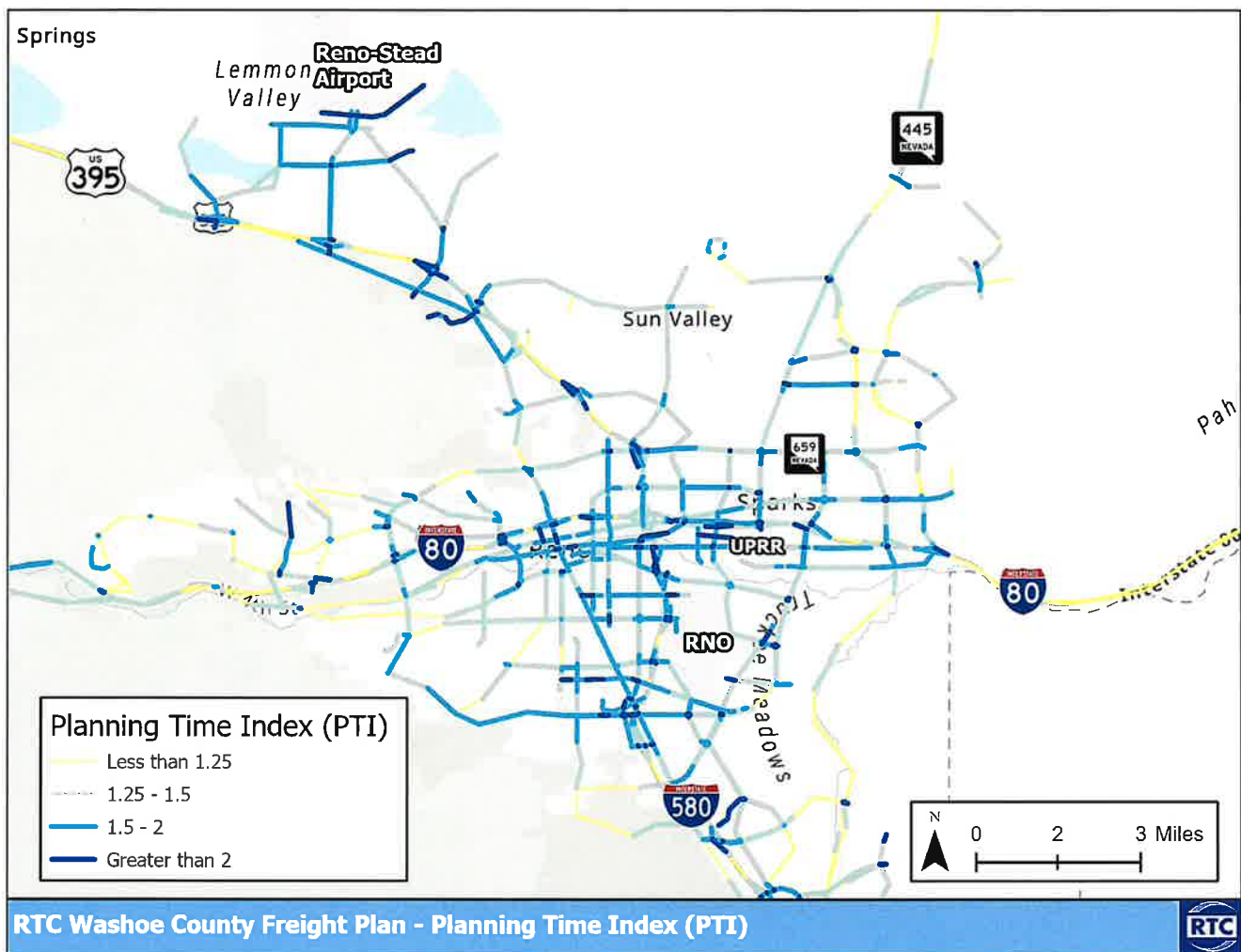
⁶ Northern California refers to Sacramento-Roseville, San Jose-San Francisco-Oakland, and Fresno-Madera. Remainder of California refers to regions other than Sacramento-Roseville, San Jose-San Francisco-Oakland, and Fresno-Madera.

Figure 15: Pass-Through Truck Flows, Average Daily Trucks



Freight Analysis Framework 5.4.1, disaggregated by Cambridge Systematics Inc. 2023

Figure 16: Planning Time Index



4.3 EFFICIENCY OF FREIGHT MOVEMENT

Some of the operational considerations important for moving goods are highway system performance, pavement condition, bridge height and condition, and last-mile delivery, described below.

HIGHWAY SYSTEM PERFORMANCE

Planning travel time index (PTI) and travel time reliability (TTR) are two important metrics for transportation planning, providing insights into congestion levels, route efficiency, and the consistency of travel times. PTI is defined as the

ratio of the 95th percentile of peak period travel time over free flow travel time. In simpler terms, it represents the additional time required to ensure on-time arrival for a certain percentage of trips, relative to the free flow travel time. For example, a PTI of 1.5 means that for a 30-minute trip on a free flow traffic condition, the total time that should be planned for the trip is 45 minutes (i.e., $1.5 \times 30 \text{ minutes} = 45 \text{ minutes}$). Figure 16 shows the PTI in the study region. Intersections and highway interchanges throughout the study region generally show higher PTIs (greater than 2), which can be caused by either traffic signal wait times or traffic slowdowns at intersection approaches. Most of the region has PTI between 1.25 to 1.5, suggesting mild congestion conditions

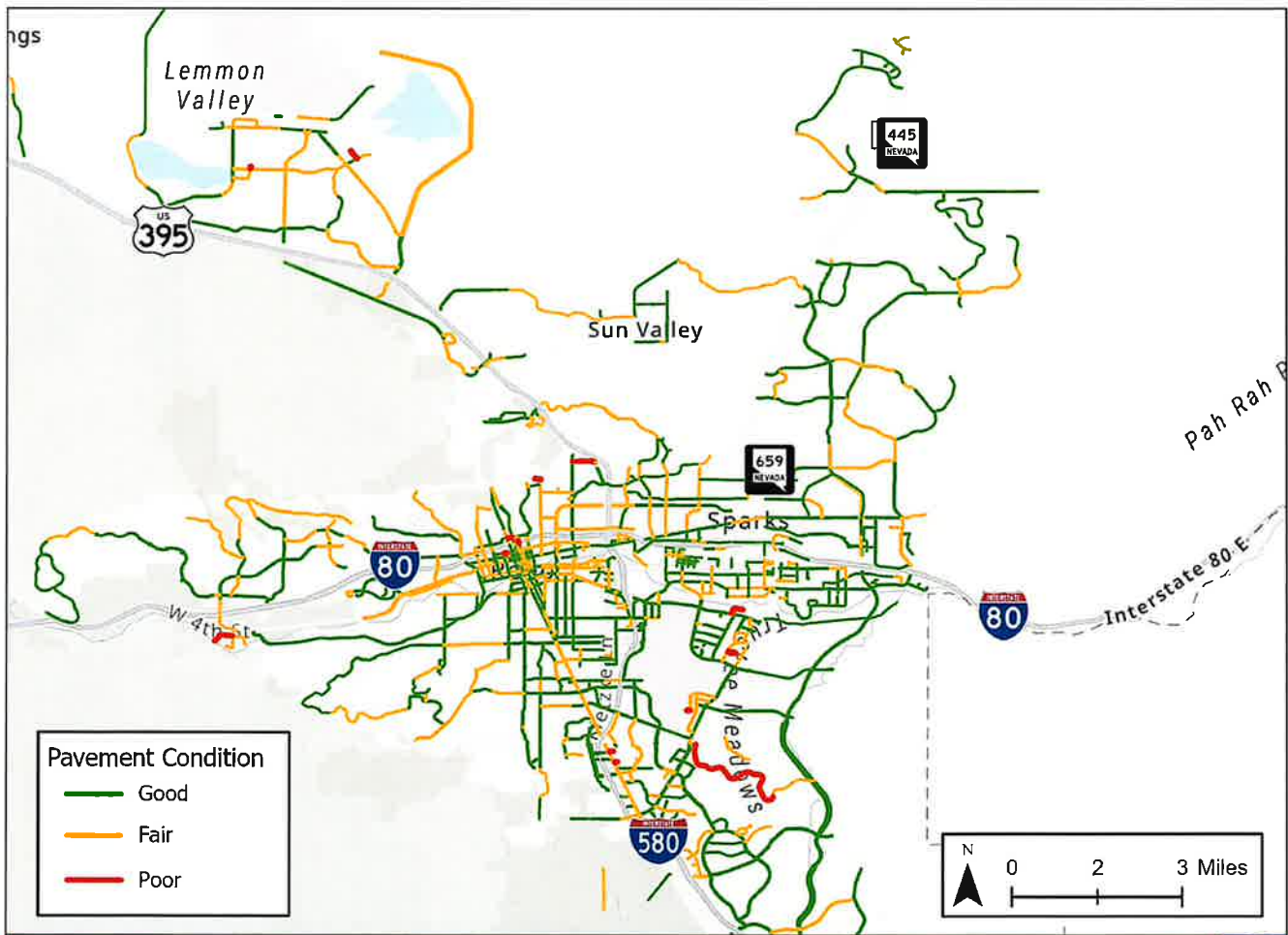
across the region. I-80 Corridor through the study region has the highest portion of roadway segments with significant delays (greater than 2) while it has relatively less congestion outside the urban area.

Truck travel time reliability (TTTR) index, a required RTP performance measure, calculates the average truck travel time relative to the free flow truck travel time for each highway segment. For interstates within the study region, the TTTR is 1.45 in 2023 as derived from INRIX. This is a higher level of service than the RTC's 2020 performance target of 1.5. According to the NDOT 2023 Performance Management Report, the statewide target for TTTR is 1.25 or less. The current statewide average TTTR is 1.32.

PAVEMENT CONDITION

Transportation surface condition plays a significant role in traffic safety, operation, and planning. Trucks move a significant amount of commodities on the road every year and can degrade roadway systems and bridges. Pavement condition refers to the overall state of a road surface, typically evaluated based on factors such as distresses, ride quality, and structural integrity. Figure 17 shows pavement conditions in the study region, which is measured on a scale of good, fair, and poor. The figure highlights that the majority of roadways in the region are rated as either good or fair.

Figure 17: Pavement Condition



RTC Washoe County Freight Plan - Pavement Condition

Source: RTC 2024 Pavement Condition Index Data

Figure 18: Pavement Condition – Sparks Industrial



Source: RTC 2024 Pavement Condition Index Data

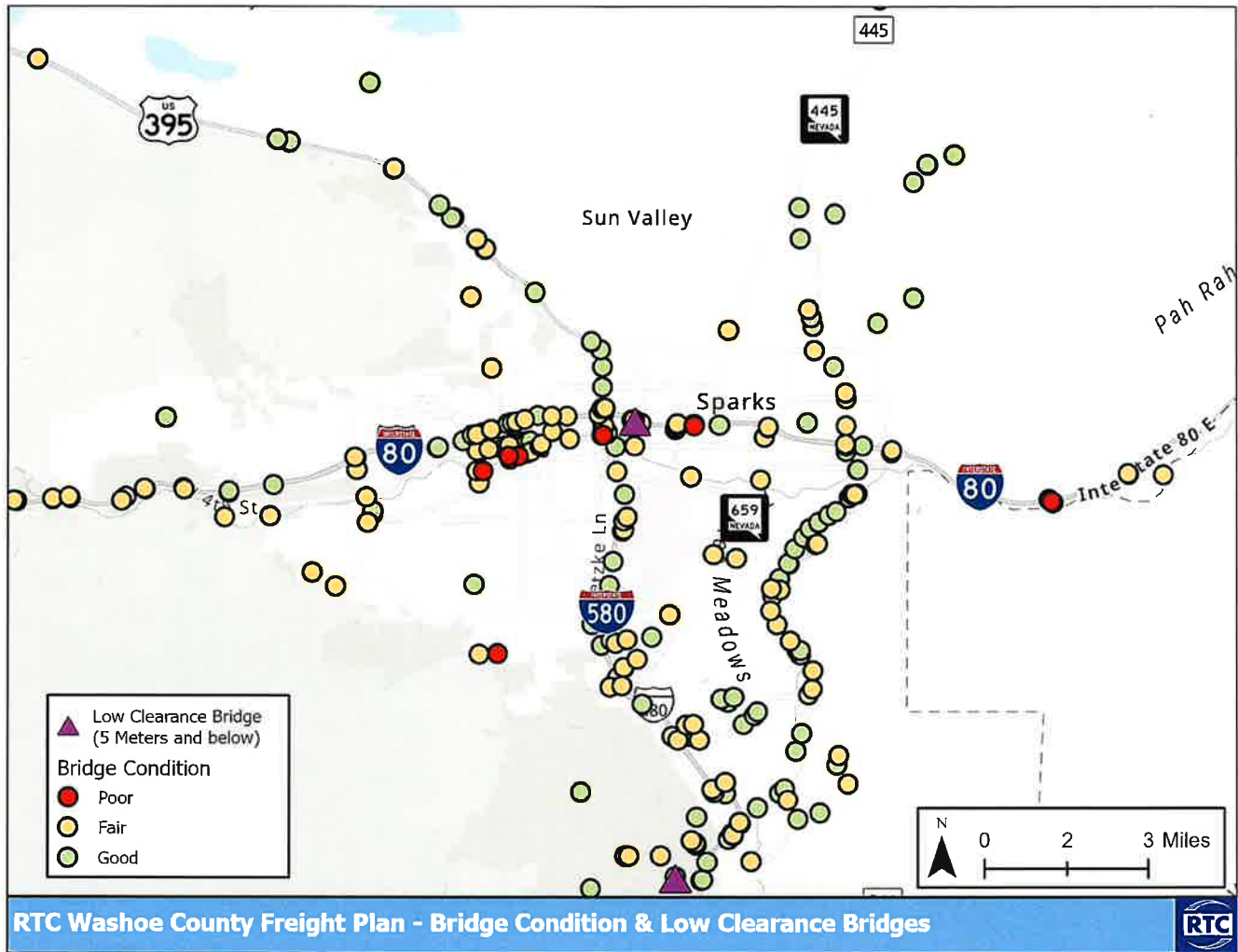
BRIDGE HEIGHT AND CONDITION

Bridge height and condition is another important metric for freight transportation surface condition – it offers insights of bridge conditions from perspectives of weight capacity and vertical clearance. The bridge condition is measured on a scale of good, fair, and poor. Figure 19 shows the bridge conditions in the study region. While most of the bridges are rated as fair or good, there are several bridges in the region rated as poor, including the Truckee River bridges at Keystone Avenue, Arlington Avenue, Sierra Street, and Kietzke Lane, as well as the I-80 Bridge over Victorian Plaza Circle (north of the Nugget Casino).

Bridge height is particularly important for oversize and overweight loads, as insufficient clearance can necessitate long detours around low structures, significantly impacting logistics efficiency and cost. For instance, the I-80 Bridge over Battle Born Way, with a clearance below 16.5 feet, poses a challenge for such loads, underlining the need for careful consideration of bridge heights in freight planning and infrastructure improvements.

As of the publishing of this report, design for the replacement of the Keystone, Arlington, and Sierra Bridges is underway by RTC.

Figure 19: Study Region Bridge Condition and Low Clearance



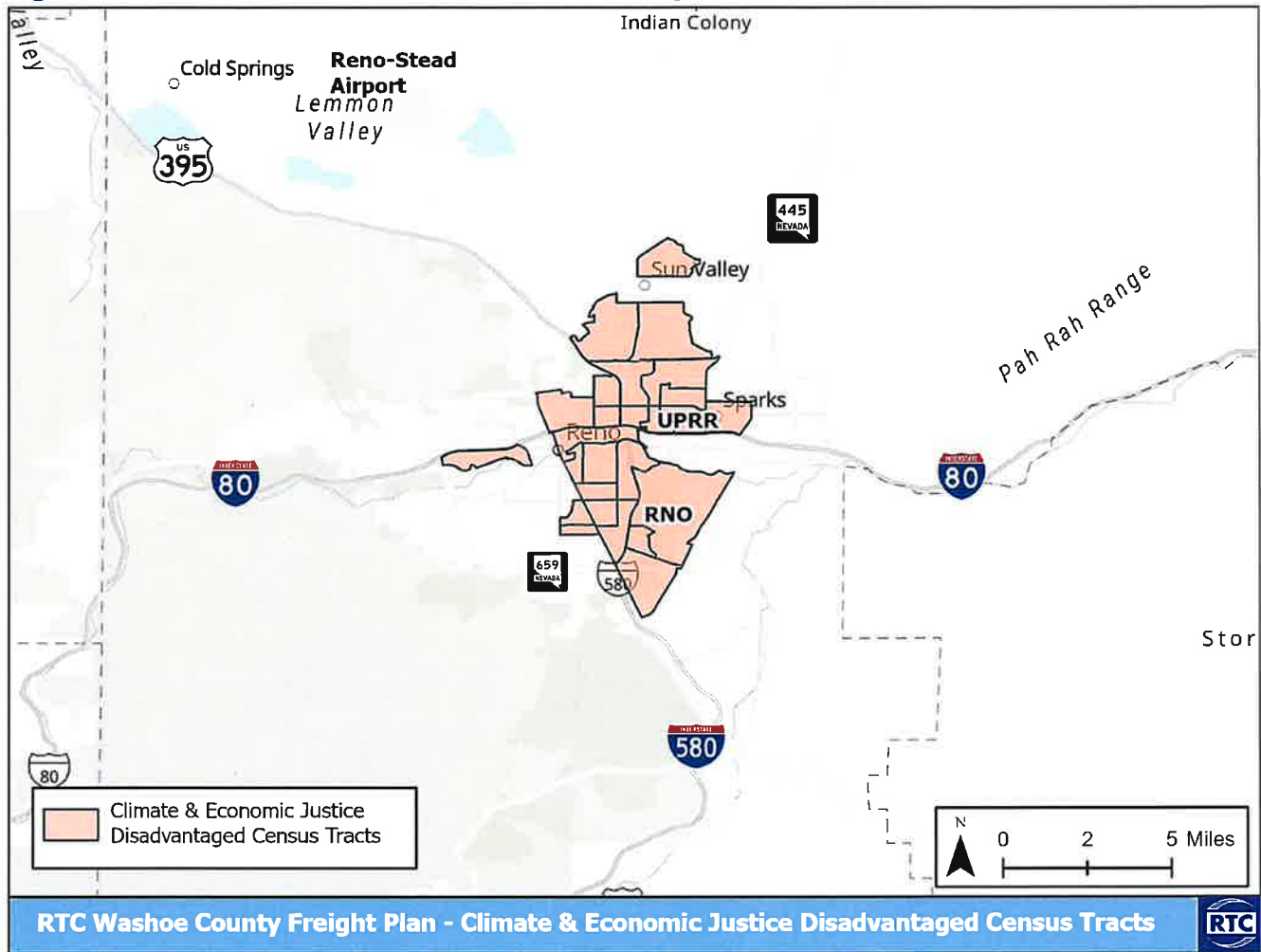
4.4 FREIGHT EQUITY

Equity and sustainability are key federal priorities related to freight movement. Lower income communities have historically experienced disproportionate adverse impacts from noise, pollution, and truck traffic at ports, intermodal facilities, and other industrial areas.

The Climate and Economic Justice Screening Tool (CEJST) was developed for use by federal agencies in addressing the Justice40 Initiative, implemented by Executive Order 14008 in 2021. This tool identified areas that have experienced burdens in the areas of climate change, energy, health, housing, legacy

pollution, transportation, water and wastewater, and workforce development. For the Truckee Meadows, CEJST identifies burdened communities as those in central Reno and Sparks as well as Sun Valley.

Figure 20: Burdened Communities as Identified by CEJST



4.5 SUSTAINABILITY AND ALTERNATIVE FUELS

The National Electric Highway Coalition (NEHC) is working to create a network of direct current fast (DC fast) charging stations connecting major highway systems across the U.S. NEHC utility members agree to ensure efficient and effective fast charging deployment plans that enable long distance electric vehicle (EV) travel, avoiding duplication among coalition utilities, and complement existing corridor DC fast charging sites.

The Nevada Electric Highway (NEH) began as a partnership between the Governor’s Office

of Energy (GOE), NV Energy, and Valley Electric Association. NEH Phase I was initiated in 2015 to electrify Nevada’s highways between Las Vegas and Reno. The five initial sites are along US 95 at Fallon, Hawthorne, Tonopah, Beatty, and Indian Springs. Phase I stations include two Level 2 chargers and one DC fast charger, along with providing free charging. NEH Phase II began in 2017 with the installation of charging stations along US 93. Phase II installations have a minimum of two chargers and require that they be DC fast chargers. As a result of the NEH program, Nevada is one of the leading voices in the intermountain west for transportation electrification and the Regional Electric Vehicle Plan for the West (REV West) partnership.



Between 2017 to 2021, FHWA solicited nominations from state and local officials to designate Alternative Fuel Corridors (AFCs) to help create a national network of plug-in EV charging and hydrogen, propane, and natural gas fueling infrastructure along national highway system corridors. The designations have resulted in 125 nominations, including segments of 134 interstates along with 125 US highways/state roads. The FHWA designates nominated highway corridors as either corridor-ready or corridor-pending. Corridor-ready segments contain a sufficient number of fueling facilities to allow for corridor travel with the designated alternative fuel. Corridors that do not have sufficient alternative fuel facilities to support alternative fuel vehicle travel are designated as corridor-pending. During Rounds 1 to 5 of AFC nominations, FHWA designated Interstates 15, 80, 11 and 580, U.S. highways 50, 93, 95, 395, and state routes 28 and 215 as corridor-ready or corridor-pending AFCs. The complete and updated list of AFCs can be found on FHWA's website⁷.

Beginning in 2022, the nomination process of AFCs is tied to funding provisions under the Bipartisan Infrastructure Law (BIL). The BIL establishes the National Electric Vehicle Infrastructure Formula Program, and a Discretionary Grant Program for Charging and Fueling Infrastructure. In this respect, FHWA established an AFC grant program and released the Round 6 Request for Nomination in February 2022 for designating Electric Vehicle corridors focusing on interstate corridors. During the designation process, FHWA identifies charging and fueling infrastructure, analyzes standardization needs for fuel providers and purchasers, and reestablishes the goal of achieving strategic deployment of fueling infrastructure in the designated corridors.

These initiatives can provide substantial financial incentives and regulatory support for alternative fuel infrastructure. This support encourages freight companies to invest in electric and alternative fuel

vehicles, knowing that the necessary infrastructure will be in place. With strategic deployment of charging infrastructure, freight operators can plan routes more efficiently, avoiding unnecessary detours to find charging stations. This not only reduces operational costs but also improves delivery times and overall logistics efficiency. The transition of freight fleets to electric vehicles will promote sustainability, reduce greenhouse gas emissions, and improve air quality, helping the freight industry comply with increasingly stringent environmental regulations while contributing to broader sustainability goals.

4.6 TRUCK PARKING

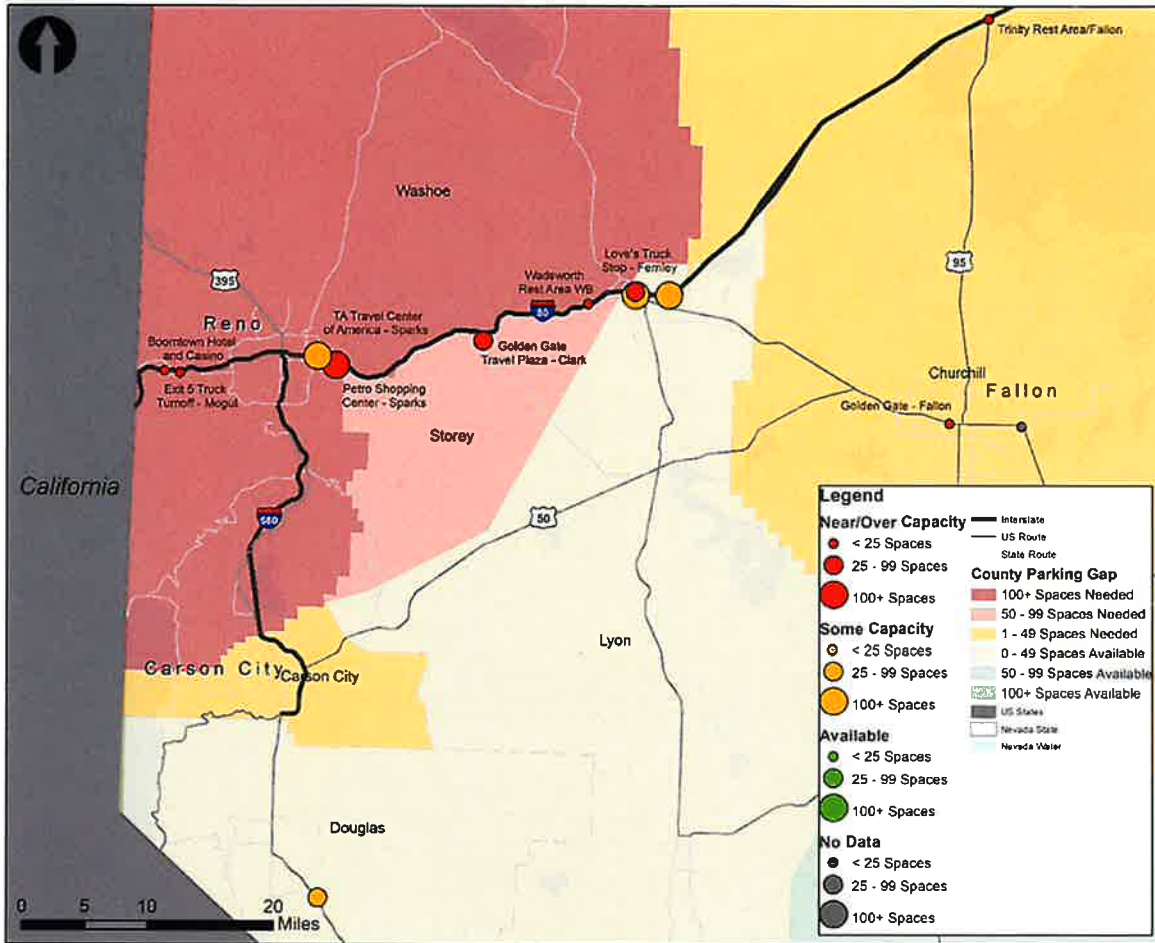
Truck parking is a vital part of supporting safe and efficient freight movement in Washoe County. Truck drivers need safe, secure places to park and take the mandatory rest breaks they require. The Federal Motor Carrier Safety Administration requires truck drivers follow hours of service regulations and mandate stops and parking for different hours driven. Without adequate supply of designated truck parking, tired drivers may be forced to park in unsafe locations or even continue driving while fatigued, significantly increasing the risk of crashes. The National Highway Traffic Safety Administration (NHTSA) estimates that 91,000 police-reported crashes involved drowsy and fatigued drivers in 2017. In addition, parked trucks in unwanted areas can impede other vehicle movements and interrupt the intended use of public space. Washoe County faces a significant shortage of truck parking facilities. Existing spaces are already strained, with many operating at or exceeding capacity.

PEAK HOUR PARKING DEMAND

Peak hour parking demand refers to times when there is the highest demand for commercial vehicle parking, reducing the availability of spaces. This typically happens during the overnight hours between midnight and 2 a.m. Larger trucks are

⁷ https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/all_corridors/

Figure 21: Truck Parking Gap by County and Composite Availability at Authorized Parking Sites- Northwest Nevada



Source, Nevada Statewide Truck Parking Demand and Gap Analysis 2019, NDOT 2029



Winter closure on I-80

particularly challenged due to an especially low supply of parking with sufficient space. Figure 21 shows truck parking facilities that are near/over capacity during the peak hour, have some capacity, or have availability. Short-term staging parking demand is different from long-haul demand in that trucks are parked while waiting to make a pickup or delivery instead of resting for a long period.⁸

⁸ Federal Highway Administration. 2002. Commercial Truck Parking Demand - Study of Adequacy of Commercial Truck Parking Facilities. <https://www.fhwa.dot.gov/publications/research/safety/01158/01158.pdf>



I-80 TRUCK PARKING

The main truck route in Washoe county is along I-80, which connects northern California, including the Port of Oakland, with the eastern states. In 2022, Caltrans identified priority areas for increasing truck parking across the state. Caltrans District 3 priority areas include the I-80 corridor from Sacramento to Truckee (Figure 22), a key route for trucks traveling east to Nevada. The area closest to the border has a deficit of 165 truck parking spots, with a deficit of 2 parking spots per mile, the third highest deficit reported in California.

The plan listed several strategies to address parking shortages in this area, including:

- » Expand safety roadside rest areas (SRRAs).
- » Build dedicated truck parking facilities within highway right-of-way.
- » Partner with the private sector.
- » Develop a TPAS.
- » Allow emergency truck parking at large parking lots when not in use.

The gap in truck parking along I-80 extends into Nevada. NDOT's 2019 Truck Parking Implementation Plan identified an existing and growing gap in truck parking capacity in Washoe county. The greatest need is in the Verdi area, and this need is only exacerbated by emergency truck parking needs along Donner pass when it is closed for inclement weather.

EMERGENCY PARKING AND DONNER PASS

Donner Pass is a crucial transportation corridor along I-80 in the Sierra Nevada with no viable alternative truck routes close by. During the winter months, severe weather conditions often force authorities to close the pass for safety concerns.⁹ This closure

can strand hundreds of trucks traveling the route, creating a major bottleneck for freight movement throughout the region.

When the pass closes, truck drivers have fewer options where they can pull over safely and wait for the pass to reopen. This leads to dangerous situations on the shoulder or nearby roads, causing traffic congestion and potential crashes.¹⁰ It can also prevent the road from reopening when trucks are stuck on the roadway preventing snowplows from operating efficiently.

In March 2024, a severe winter storm caused a multiday closure of Donner Pass along I-80. This closure stranded hundreds of trucks traveling the crucial transportation corridor. The storm presented challenges for rescue efforts, as first responders tried to intervene with extreme snow and wind conditions. These closures demonstrated a recurring problem. There is a need for designated pull-off areas along Donner Pass with sufficient space for trucks. During severe weather, emergency services are already stretched thin and stranded trucks divert resources away from other emergencies.

Truck parking, emergency management, and resiliency strategies can work together to find solutions to alleviate the impact of extreme weather conditions on the roads (congestion or lane closures) and redirect emergency services and other preventative services.

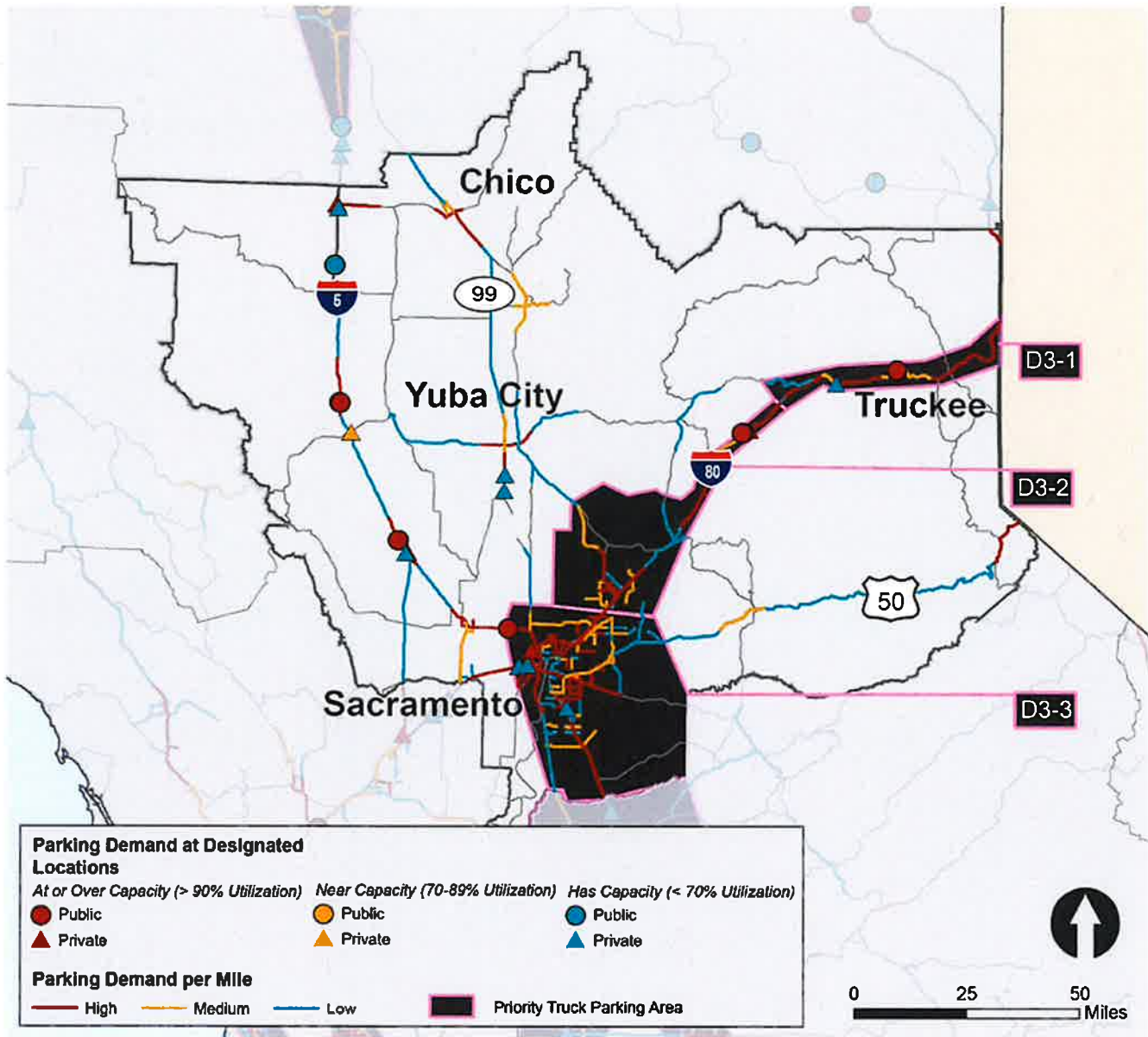
ZERO-EMISSION FUELING AND PARKING

In March of 2024, the Joint Office of Energy and Transportation released the National Zero-Emission Freight Corridor Strategy that prioritizes investment, planning, and deployment for medium- and heavy-duty vehicle fueling infrastructure. Sections of I-80 in Washoe County are identified for truck parking

9 Sonner, S., & Dazio, S. March 1, 2024. Blizzard slams California's Sierra Nevada, stretch of I-80 shut down [News article]. Associated Press. Retrieved from <https://apnews.com/article/california-nevada-pacific-storm-blizzard-warning-7f8892b9f253848b47fa15b8a135b569>

10 MyNews4. March 4, 2024. How supply chain is disrupted when Interstate 80 is closed during severe winter storms [News article]. Retrieved from <https://mynews4.com/news/local/how-supply-chain-is-disrupted-when-interstate-80-is-closed-during-severe-winter-storms-reno-sparks-lake-tahoe-truckee-nevada-california>

Figure 22: Caltrans District 3 Truck Parking Priority Regions and Corridors from Caltrans Truck Parking Study, 2022



infrastructure and intermodal facilities. The plan starts by envisioning battery electric vehicles and then shifts to hydrogen infrastructure. Due to the nature of battery electric charging, where vehicles may need to be parked for extended periods of time to refuel, pairing truck parking and driver facilities (like restaurants, showers, and other vending) with charging infrastructure is a natural fit. The plan outlines connecting California and Utah via I-80

with supporting zero-emission fueling infrastructure in the 2027–2030 timeframe and fully building out supporting infrastructure by 2040. Siting new parking facilities in Washoe County should be coordinated with local utility providers to ensure charging needs can be met.

The areas with the highest levels of long-haul parking demand are mainly in and around the urban



centers, including Washoe and Storey Counties. These counties are also the primary generators of short-term staging parking demand due to higher concentrations of industrial/warehousing/commercial property, higher residential populations, and the higher cost of land, which limits space to develop parking (either on-site or in nearby parking facilities). In addition to long-haul parking needs, stakeholders noted issues with short-term staging and parking.

URBAN TRUCK PARKING AND WAREHOUSE DISTRICTS

Sufficient truck parking in warehouse districts can alleviate bottlenecks, reduce congestion, and improve safety.¹¹ Driving is the primary mode of transportation in Washoe County, which can cause roadway congestion that delays trucks at different

times of the day, particularly during peak hours. Ideally, truck parking facilities should be situated in close proximity to warehousing districts. Designated truck parking areas near warehouses allow trucks to wait for loading or unloading without parking on local roads.

When trucks cannot find designated parking where it is needed, they may resort to parking in unsafe locations on the shoulder or nearby streets. Truck parking facilities should prioritize both safety and efficiency concerns. Well-lit, designated truck parking areas are needed with ample space for maneuvering and overnight stays. Additionally, these facilities should allow for pull-through parking that can improve traffic flow and safety when exiting.¹²

11 Federal Highway Administration. 2024. Truck Parking Development Handbook [PDF]. Retrieved from https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/docs/Truck_Parking_Development_Handbook.pdf

12 Truck parking plays a crucial role in reducing congestion (see, e.g., Federal Highway Administration [FHWA], 2024)

5 | Future of Freight

Technology plays a pivotal role in shaping freight mobility and economic activities in the region. The freight industry in Northern Nevada serves as a significant market impacting various business sectors, presenting ample opportunities for technology investments. Embracing technological innovations is essential as they drive transformations in the logistics industry. The freight transportation system in Northern Nevada is undergoing significant evolution due to factors such as population growth, rising demand for goods, limited industrial warehousing space, increased travel needs, and advancements like larger container ships. Various technological advancements, including alternative fuel usage, emissions reductions, efficiency improvements, and safety enhancements, are being explored or are in the early stages of adoption.

RTC developed an [Electric Vehicle and Alternative Fuel Infrastructure and Advanced Mobility Plan](#) in 2022 that addressed electric vehicle charging infrastructure, connected vehicles, and the various mobility services that rely on technology.

5.1 ALTERNATIVE FUELS

With a growing emphasis on sustainability and environmental responsibility, the integration of electric trucks, hydrogen-powered vehicles, and other alternative fuel technologies is poised to revolutionize the freight industry. These cleaner fuel options offer not only reduced emissions but also greater energy efficiency, contributing to improved air quality and reduced carbon footprint. The diversification of fuel sources enhances energy security and resilience in the freight transportation sector. As Northern Nevada seeks to provide for equity and sustainability in freight movement, the widespread adoption of alternative fuels represents a crucial step towards achieving these goals.

Through strategic investments in infrastructure and supportive policies, the region can unlock the full potential of alternative fuels to drive economic growth, enhance freight mobility, and create a more sustainable future for generations to come. The growing use of renewable energy production in Nevada further reduces the emissions of electric vehicles.

While the benefits of alternative fuels are promising, careful planning and agency coordination will be essential. One key consideration is the need for significant infrastructure investment to support widespread adoption, including the development of charging and refueling stations. Additionally, there may be concerns regarding the availability and reliability of alternative fuel sources, particularly in remote areas. Another challenge is the need for financial incentives or subsidies to incentivize adoption, especially for small businesses and independent operators. Finally, there may be regulatory and policy barriers that need to be addressed to ensure a smooth transition and equitable access to alternative fuel options.

5.2 AUTONOMOUS AND CONNECTED VEHICLES

Nevada has been a pioneer in recognizing the role of autonomous vehicles (AVs) in future transportation endeavors. In 2011, Nevada made history as the first state in the U.S. to authorize the operation of autonomous vehicles through the passage of Assembly Bill 511. Subsequently, in 2017, Assembly Bill 69 further solidified Nevada's commitment to AVs by allowing testing and operation of AVs and driver-assistive platooning technology, where a group of vehicles travel closely together to reduce aerodynamic drag and improve fuel efficiency, contingent upon meeting stringent safety requirements. This legislative support underscores Nevada's proactive



stance in embracing AV technologies to enhance freight mobility and transportation efficiency in the region.

By leveraging AV and CV technologies on both highways and local streets, Northern Nevada is poised to usher in a new era of freight transportation characterized by enhanced safety, efficiency, and environmental responsibility. The emerging trends in AVs and connected vehicle (CV) technologies are reshaping the landscape of freight mobility, as the freight industry embraces low-level AV technologies, such as truck platooning and automated assistance systems, and operational efficiency is expected to improve. Local streets are poised to benefit from advancements aimed at improving safety, efficiency, and connectivity for human drivers and AVs.

5.3 LAST-MILE DELIVERY SOLUTIONS

Last-mile delivery solutions are undergoing a transformative shift driven by innovative technologies such as delivery drones or unmanned aerial vehicles (UAVs). Major retail and logistics players worldwide are embracing drone delivery systems to address the challenges of “last-mile” deliveries, enhancing customer experiences and optimizing supply chain operations. Industry giants like Amazon, UPS, and Walmart are actively developing prototype models that could revolutionize e-commerce deliveries, offering faster and more efficient distribution channels. Drones/UAVs and automated ground vehicles (AGVs) have emerged as innovative solutions for last-mile deliveries, offering distinct benefits and facing unique challenges in the freight mobility landscape.

With advancements in drone technology, including autonomous flight capabilities, the feasibility of drone delivery services is increasingly evident. Drones, characterized by their ability to navigate swiftly through the air, provide unparalleled speed and efficiency in delivering parcels directly to customers’ doorsteps. However, the implementation of drone

delivery services is subject to stringent regulations governed by the Federal Aviation Administration (FAA), ensuring air safety and compliance with established protocols. The FAA is carefully crafting rules for both commercial and noncommercial UAVs, navigating challenges such as airspace congestion and safety concerns.

AGVs offer a versatile solution for last-mile deliveries, leveraging autonomous technology to navigate roadways and deliver parcels directly to customers’ homes or businesses. AGVs can operate in various weather conditions and terrain types, providing delivery services across urban and suburban environments. AGVs can carry larger payloads compared to drones, making them suitable for delivering bulky or heavy items. However, AGVs face challenges related to infrastructure compatibility, pedestrian safety, and public acceptance. Developing robust navigation systems, integrating AGVs with existing transportation networks, and addressing concerns about liability and regulatory compliance are critical steps towards realizing the full potential of AGVs in last-mile delivery operations.

5.4 URBAN CONSOLIDATION CENTERS

Urban consolidation centers (UCCs) serve as pivotal solutions for enhancing freight mobility in densely populated urban areas. These centers function as shared truck parking and staging areas strategically positioned in proximity to urban zones, facilitating the consolidation of inbound freight flows and minimizing the circulation of freight traffic within urban environments. By consolidating cargo at a terminal, UCCs enable carriers to transfer their loads to a neutral entity, which then orchestrates the last leg of deliveries. This approach not only reduces the number of individual carrier trips to urban areas but also optimizes load factors, enhancing the efficiency of last-mile delivery operations.

While UCCs offer compelling environmental and social benefits, including improved air quality and

reduced traffic congestion, their implementation may encounter challenges such as high setup costs and potential monopolistic tendencies, which could lead to increased operational costs and legal complexities. Nonetheless, as urban areas continue to grapple with the complexities of freight mobility, UCCs emerge as indispensable tools for fostering sustainable and efficient urban logistics systems.

5.5 DIGITAL TRANSFORMATION

From big data analytics to artificial intelligence (AI) and the Internet of Things (IoT), freight mobility encompasses a diverse array of technologies that promise to reshape the future of freight transportation. Through the deployment of IoT devices and AI-driven analytics, supply chain management is undergoing a paradigm shift, providing stakeholders with unprecedented visibility into warehouses, distribution centers, and in-transit assets. With real-time monitoring of environmental factors such as temperature and humidity, logistics providers can ensure that goods are stored and transported under optimal conditions, mitigating the risk of spoilage or damage.

Collaboration and information exchange among industry players are essential for effective freight mobility. Cloud computing solutions offer scalability and reliability, enabling seamless communication and coordination across the supply chain. As the freight industry embraces digital transformation, freight mobility stands poised to drive innovation, efficiency, and sustainability in the movement of goods across the globe.

6 | Priority Corridors and Investment Needs

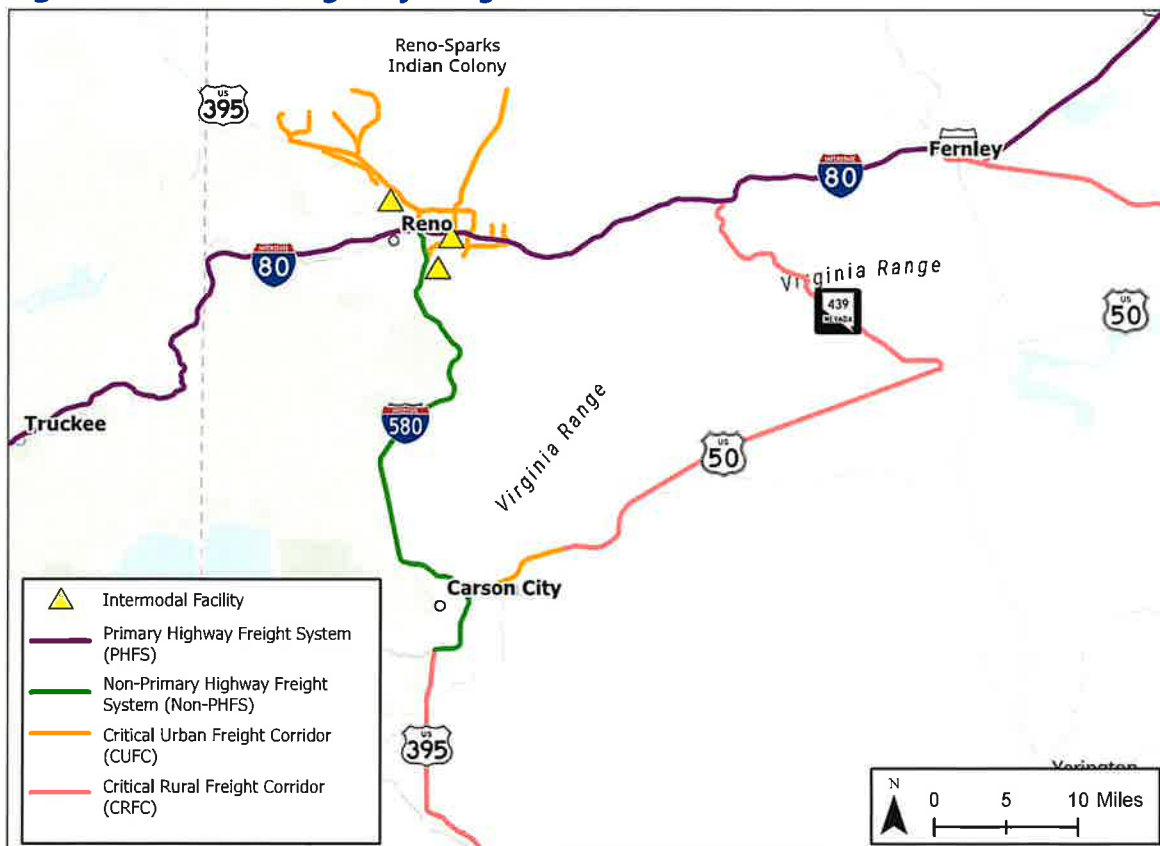
An important component of the Regional Freight Plan is defining the priority corridors and investment needs.

6.1 CRITICAL URBAN AND RURAL FREIGHT CORRIDORS IN THE REGION

The National Highway Freight Program (NHFP) under the BIL is focused on improving the condition and performance of the NHFP. The NHFN defined by FHWA and NDOT includes the following designations:

Primary Highway Freight System (PHFS), other interstate portions not on the PHFS, Critical Urban Freight Corridors (CUFC), and Critical Rural Freight Corridors (CRFC). The BIL determines the state's mileage allocation of CRFCs and CUFCs based on factors such as population density and PHFS mileage. State transportation agencies, in coordination with metropolitan planning organizations (MPOs), are responsible for defining the CRFCs and CUFCs, based on a statewide mileage cap. The Nevada Freight Plan designated 600 miles of CRFCs and 150 miles of CUFCs to complement the PHFS and the

Figure 23: National Highway Freight Network



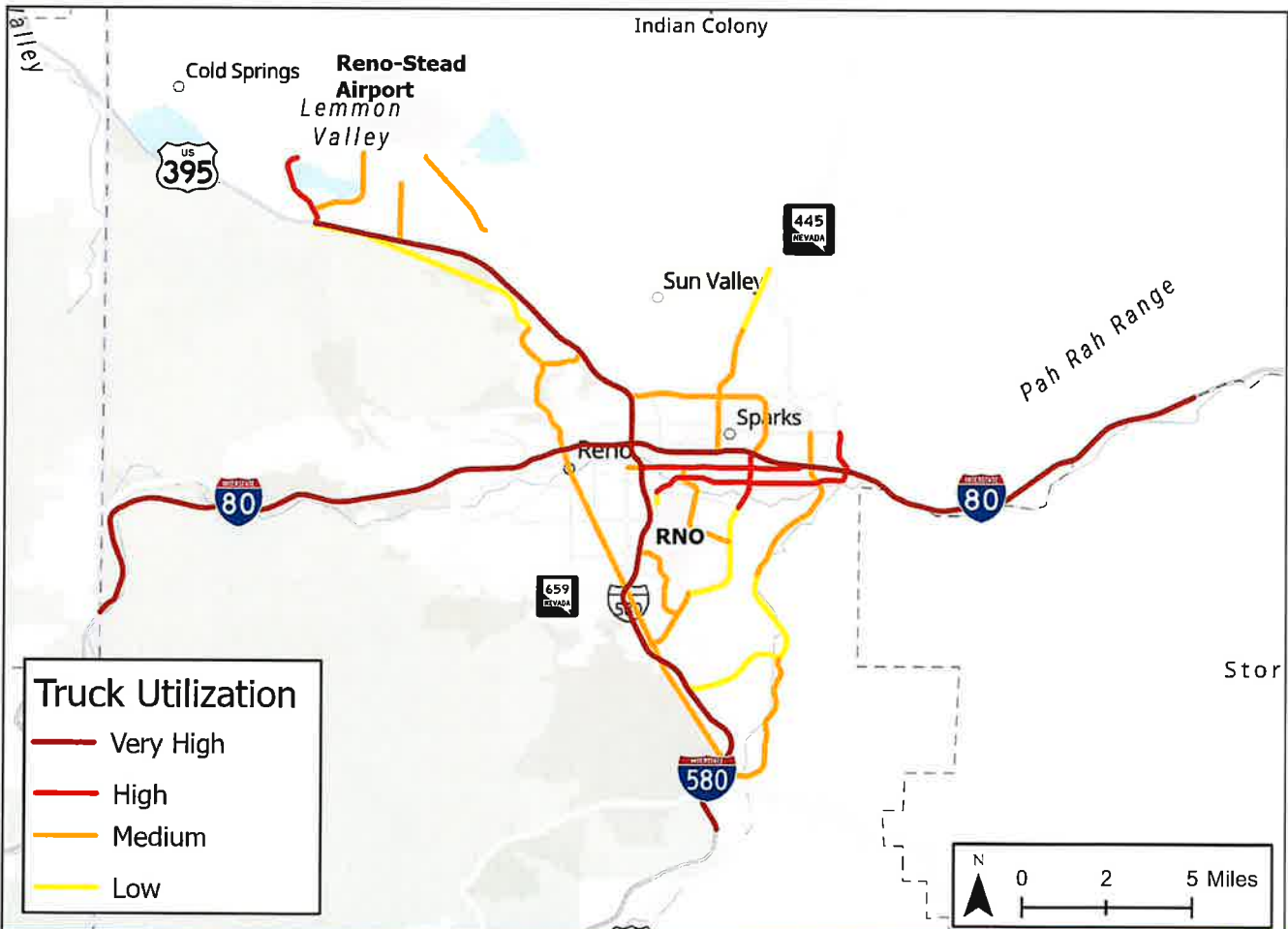
Interstate Highway System to comprise the NHFN. In Washoe County, the NHFN includes I-80, I-580 and approximately 50 miles of CUFCs.

6.2 PRIORITY CORRIDOR NEEDS AND GAP ANALYSIS

Freight priority corridors in urban areas are strategic routes crucial for the efficient movement of goods within and through urban environments. The identification of these corridors requires a comprehensive assessment of various factors, including but not limited to truck utilization, safety, travel time reliability, and pavement conditions.

Safety considerations are paramount in the identification of freight priority corridors. Corridors with lower crash rates and fewer incidents are preferable for facilitating seamless freight flow while minimizing risks to both motorists and cargo. Prioritizing corridors with higher crash records can mitigate the potential for crashes, particularly truck involved crashes, and disruptions to freight operations, thereby enhancing overall transportation network reliability and resilience. Also, truck utilization plays a pivotal role in determining the significance of specific corridors for freight movement. High levels of truck traffic indicate the importance of certain routes as primary arteries for freight transportation. These corridors often

Figure 24: Truck Utilization



serve as vital links connecting industrial centers, distribution hubs, and consumer markets, facilitating the movement of goods throughout urban areas.

Further, travel time reliability emerges as a factor in the designation of freight priority corridors. Corridors characterized by consistent travel times are deemed essential for ensuring timely deliveries and reducing supply chain disruptions. Reliable travel times are especially crucial for time-sensitive freight shipments, such as perishable goods or just-in-time inventory, as any delays can have significant implications for businesses and consumers alike. Pavement conditions also impact freight mobility within urban areas. Well-maintained roads offer smoother and more efficient travel routes for trucks, reducing wear and tear on vehicles and enhancing overall operational efficiency. Additionally, investments in pavement rehabilitation and maintenance contribute to the longevity and resilience of the transportation infrastructure, supporting the continued flow of goods throughout urban areas.

By prioritizing corridors with higher truck utilizations and higher safety, reliability, and pavement needs, the RTC can better enhance the safety, efficiency and predictability of freight movement within the region. For this purpose, the data provided in Chapter 4 (Existing Conditions and Trends) was used to identify such corridors. The list of freight priority corridors includes the designated CUFCs approved by FHWA, and other regional corridors important for freight mobility.

Table 6 provides a list of priority freight corridors in the region including the CUFCs approved by FHWA and other regional corridors deemed essential for freight mobility and enhancing overall transportation network performance. Through targeted investments in these priority corridors, the RTC aims to optimize freight movement, minimize disruptions, and promote economic vitality across the region.

Table 5: Priority Freight Corridors

Corridor	From	To	CUFC	Freight Related Issues	Priority	Programmed Projects
E Parr Boulevard	N Virginia Street	US 395	No		Low	Parr Bridge at US 395 replaced
Greg Street	Mill Street	Vista Boulevard	Yes	High truck volumes and PTI between McCarran & Vista	Low	Greg Street Sidewalks and Bike Lanes
N McCarran Boulevard	US-395	I-80	Yes	Truck involved crashes	Low	McCarran Boulevard widen 4 to 6 lanes
Red Rock Road	Osage Road	US 395	Yes		Low	Red Rock Road widen 2 to 4 lanes
South Meadows Parkway	I-580	Veterans Parkway	No		Low	South Meadows Parkway bike lanes



REGIONAL FREIGHT PLAN

Corridor	From	To	CUFC	Freight Related Issues	Priority	Programmed Projects
Sparks Boulevard	Greg Street	I-80	No	High PTI near I-80	Low	Sparks Boulevard multimodal improvements and widen 4 to 6 lanes, Sparks Boulevard Greg Street to north side of Baring Boulevard
Sparks Boulevard	I-80	Prater Way	Yes	High PTI near I-80	Low	Sparks Boulevard multimodal improvements and widen 4 to 6 lanes, Sparks Boulevard Greg Street to north side of Baring Boulevard
Stead Boulevard	Lear Boulevard	US 395	No	Due to the presence of the O'Brien Middle School zone near the Stead/US 395 interchange, it is preferred that trucks use alternate routes	Low	N/A
Vista Boulevard	Greg Street	E Prater Way	Yes	High PTI near I-80	Low	Widen 4 to 6 lanes, Greg Street sidewalks and bike lanes
Glendale Avenue	Kietzke Lane	US 395	No	High Planning travel time index (PTI) near Kietzke Lane	Medium	N/A
Glendale Avenue	US 395	S McCarran Boulevard	No		Medium	N/A

Corridor	From	To	CUFC	Freight Related Issues	Priority	Programmed Projects
Glendale Avenue	S McCarran Boulevard	Franklin Way	No	High PTI; Railroad crossings; Poor pavement condition near Franklin Way	Medium	N/A
Lemmon Drive	Bravo Avenue	US-395	Yes	Future freight demand expected in the area	Medium	Lemmon Drive A. Widen 4 to 6 lanes; Lemmon Drive Segment 2 Traffic improvements/ Reconstruct; Lemmon Drive - Extension
Military Road	Echo Avenue	Lemmon Drive	Yes	Future freight demand expected in the area	Medium	Military Road Widen 2 to 4 lanes
Moya Boulevard	Echo Avenue	Red Rock Road	Yes	Future freight demand expected in the area	Medium	Moya Boulevard widen 2 to 4 lanes
N Virginia Street	Stead Boulevard	Panther Drive	Yes	High PTI near Stead	Medium	N Virginia Street widening
Pyramid Way	Sparks Boulevard	Los Altos Parkway	Yes		Medium	Pyramid Hwy widen, Pyramid Way Phase 5 widen 2 to 4 lanes

Corridor	From	To	CUFC	Freight Related Issues	Priority	Programmed Projects
US-395	Red Rock Road	I-80	Yes	High PTI near I-80	Medium	US 395 Widening - Design and ROW (Stead to Red Rock Rd), US 395 Additional lane in each direction (Golden Valley to Stead Boulevard), US 395 Add SB Lane - Aux lanes - NB and SB (N McCarran to Lemmon Drive), US395/I-580/I-80 Capacity Expansion at Spaghetti Bowl
Veterans Parkway	South Meadows Parkway	Mira Loma Drive	No		Medium	New facility opened in 2018
Airway Drive	Longley Lane	I-580	No	Future freight demand expected in the area	High	N/A
Longley Lane	I-580	McCarran Boulevard	No	Future freight demand expected in the area; High PTI near Rock & S Virginia Street	High	N/A
Pyramid Way	Los Altos Parkway	N McCarran Boulevard	Yes		High	Queen Way to Pyramid Hwy (Phase 1) - Widen and safety improvements,
Pyramid Way	N McCarran Boulevard	I-80	Yes	High PTI near I-80; Truck involved crashes	High	This segment to be included in future RTC neighborhood network plan



REGIONAL FREIGHT PLAN

Corridor	From	To	CUFC	Freight Related Issues	Priority	Programmed Projects
S McCarran Boulevard	I-80	Mill Street	Yes	High PTI near I-80	High	McCarran Boulevard sidewalks and bike lanes
S McCarran Boulevard	Longley Lane	Mill Street	No		High	N/A
S Rock Boulevard	McCarran Boulevard	Glendale Avenue	No	Future freight demand expected in the area; High PTI near Longley	High	N/A
Terminal Way	Vassar Street	Greg Street	Yes		High	Mill St/Terminal Way multimodal improvements and widening
US 395/I-580	I-80	S Virginia Street	Interstate		High	Spaghetti Bowl Phase 2, Spaghetti Bowl Phases 3-5, US 395/I-580/I-80 capacity expansion at Spaghetti Bowl, I-580 widening
Veterans Parkway	Steamboat Parkway	South Meadows Parkway	No	Mira Loma Drive, which connects to Veterans Parkway, is not a truck route due to adjacent residential development and high levels of pedestrian activity	High	Intersection improvement at Damonte Ranch under development
Veterans Parkway	Mira Loma Drive	Greg Street	No		High	N/A

Figure 25: Regional Transportation Plan Projects

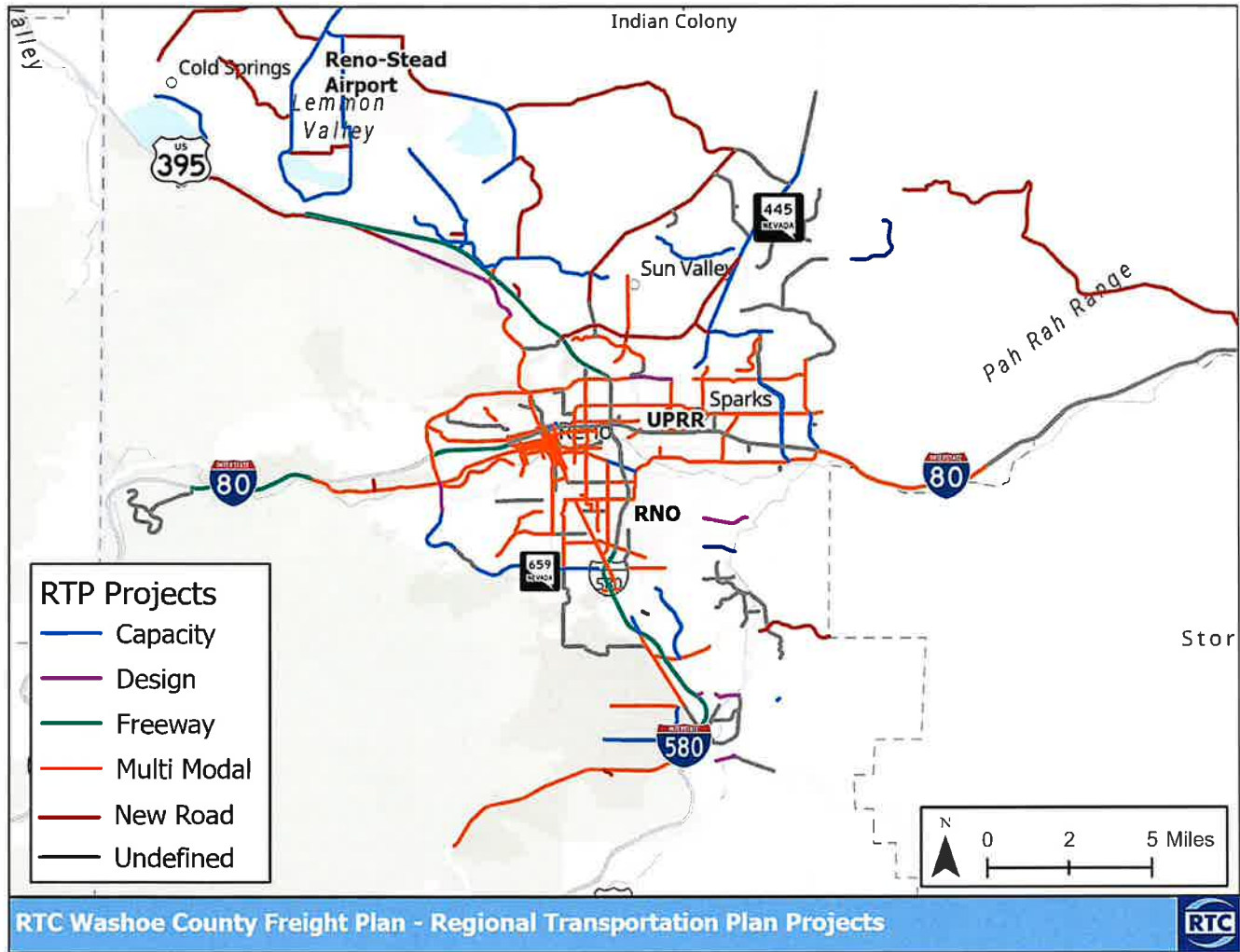
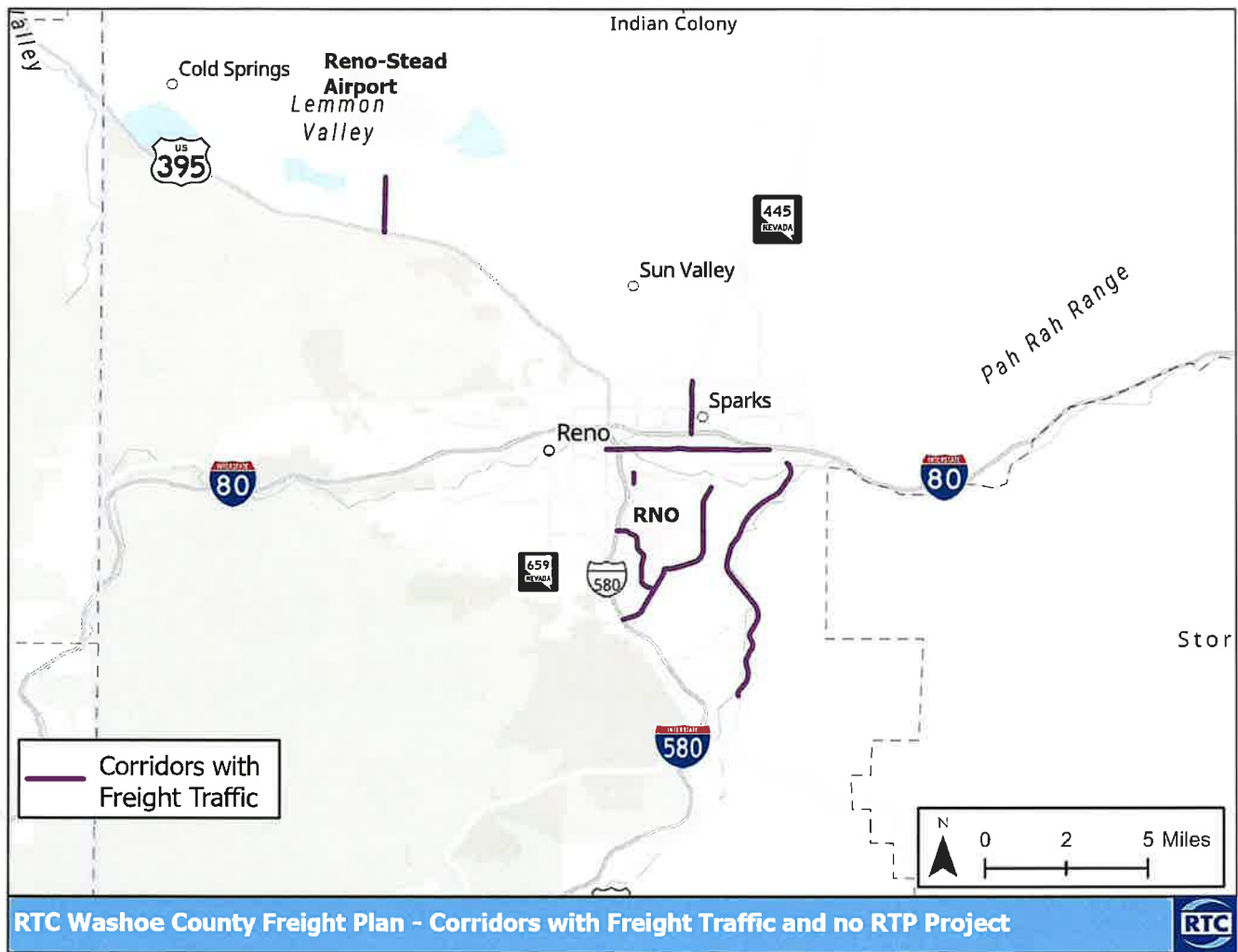


Figure 26: Highly Used Freight Corridors with No RTP Project



RTC Washoe County Freight Plan - Corridors with Freight Traffic and no RTP Project





2050 RTP

The 2050 RTP identifies transportation investment priorities for the region over the long term. Figure 25 depicts the project included the plan. Figure 26 shows the priority freight corridors that are not presently included that are not currently included in the RTP for transportation improvements. It is notable that the majority of the corridors identified in this gap analysis have either had recent major construction completed, such as Glendale Avenue and Veterans Parkway, or are not well suited for truck-focused improvements due to high levels of pedestrian activity and other land use conflicts, such as Stead Boulevard and Pyramid Way. Additional analysis is recommended for Longley Lane and East McCarran Boulevard to address freight mobility and safety needs.

I-80

NDOT has major projects under development in the critical I-80 corridor. Phase 1 of improvements to the Spaghetti Bowl have been completed and Phase 2 includes the widening of the segment eastward to McCarran Boulevard. However, the segment from McCarran Boulevard to Vista Boulevard is not included in this project.

NDOT is also planning for the widening of I-80 east of Sparks to USA Parkway to better accommodate truck and commuter traffic.

US 395/I-580

NDOT and RTC have been successful in obtaining discretionary grant funding for improvements on US 395 North. Completed improvements include the reconstruction of the Parr Boulevard bridge over US 395 and improvements to the US 395/Lemmon Drive interchange.

Future phases include:

- » Widening US 395 between North McCarran and Golden Valley Road, and

- » Widening US 395 between Golden Valley Road and Stead Boulevard.

NORTH VALLEYS

The [North Valleys Regional Transportation Study](#) identified short- and long-term projects to address the rapid growth in the North Valleys. The study noted the increase in industrial and warehouse/distribution land uses in the area. The interchange improvement at Lemmon Drive was recently completed, along with the widening of Lemmon Drive. Other major projects in the plan include widening Military Road, Moya Boulevard, and Red Rock Road.

Complete street and intersection improvements on North Virginia Street are also recommended in the plan.



Lemmon Drive Improvements

SPARKS INDUSTRIAL

As described in the 2050 RTP, the Sparks Industrial area is a major employment center and historic core of the region's manufacturing base. NDOT reconstructed Glendale Avenue and installed Americans with Disabilities Act (ADA accessible sidewalks. Future improvements are planned on Greg Street and McCarran Boulevard. Roadway widenings on Sparks Boulevard and Vista Boulevard are currently under development.



SOUTH MEADOWS

The [South Meadows Multimodal Transportation Study](#) identified recommended transportation improvements to address safety and mobility needs. NDOT is currently studying the feasibility of extending South Meadows Parkway to USA Parkway in Storey County to improve regional mobility and safety.

6.3. INVESTMENTS IN PROGRAM IMPLEMENTATION TO IMPROVE FREIGHT MOBILITY

Ensuring that freight mobility is a core component of regional transportation planning is essential. This involves coordinating with local governments, state agencies, and private sector stakeholders to align efforts and investments. Regional freight strategic investments and initiatives can be consolidated under a potential “Freight Program” managed by the RTC, to address key challenges related to freight mobility for further study and implementation. Creating a specialized freight program (and potentially a rail program) within RTC would ensure focused attention on the unique needs of freight transportation. This program could oversee the integration of freight considerations into broader transportation planning, advocate for necessary infrastructure improvements, and foster collaboration with key stakeholders such as rail operators and freight companies.



7 | Recommendations

RTC is focused on enhancing interregional collaboration on safety, truck parking, intermodal connectivity, and workforce access to address freight mobility needs comprehensively. By working closely with NDOT, other state agencies, local jurisdictions, RNO, and local businesses, RTC aims to create a cohesive strategy that anticipates and addresses the challenges of population growth and increased congestion. This collaborative approach ensures that transportation improvements are not only effective in meeting current freight demands but are also sustainable and adaptable to future needs.

This section details recommendations to address freight mobility needs, such as improving safety measures and expanding truck parking facilities. These recommendations are designed to not only improve the efficiency and reliability of freight transportation, but also to support broader goals of economic development, environmental sustainability, and quality of life for residents.

7.1 IMPROVE SAFETY

I-80 SPAGHETTI BOWL PROJECT

I-80 through downtown Reno and Sparks contains the highest concentrations of truck-involved crashes in the region. NDOT's planned I-80 improvements as part of the Spaghetti Bowl Project are a high priority for improving safety. The first phase of improvements included the Spaghetti Bowl Express, which added a lane to the eastbound existing from I-80 to I/580/US395 southbound. Other operational improvements on I-580 between I-80 and Villanova Drive were completed as part of this early phase.

Future phases, as identified in the project's [environmental impact statement](#) include the following:

Phase 2 (2028-2032): Construct east leg (1015 property acquisitions) from area around the Spaghetti Bowl to McCarran Boulevard, the east limit.

Phase 3 (2032-2038): Construct north leg (200210 property acquisitions) from area around the Spaghetti Bowl to Parr/Dandini Boulevards, the north limit.

Phase 4 (2038-2041): Construct remaining south leg not completed in Phase 1 (5-10 property acquisitions) down to Meadowood Mall Way, the south limit.

Phase 5 (2041-2043): Construct remaining Spaghetti Bowl ramps and west leg (90-100 property acquisitions) to Keystone Avenue, the west limit.

Because the McCarran Boulevard interchange with I-80 in Sparks is a high crash location, it is recommended that safety improvements at this location be included in Phase 2 of the Spaghetti Bowl project or developed a separate project. It is also recommended that a study of I-80 between McCarran Boulevard and Vista Boulevard be conducted to identify safety and operational improvements.

US 395 IMPROVEMENTS

NDOT is improving U.S. 395 from North McCarran Boulevard and Golden Valley Road. This project includes adding a southbound lane, constructing additional merging lanes, and ramp improvements that enhance safety and traffic flow. Future phases of this project will include improvements to the Golden Valley and Stead Boulevard interchanges. These roadway and interchange improvements are recommended as a high priority for enhancing safety.



EAST MCCARRAN BOULEVARD

East McCarran Boulevard from Nugget Avenue to Prater Way is a highly utilized freight corridor and experiences both safety and operational challenges. Proposed improvements recommended in the 2017 NDOT Safety Management Plan for this segment include the following:

- » Implement access management improvements.
- » Construct dedicated right turn lane on southbound McCarran Boulevard at Glendale Avenue.
- » Improve right turn lanes along southbound McCarran Boulevard at Greg Street.
- » Convert existing I-80 interchange to a diverging diamond configuration.
- » Construct a dedicated right turn lane for the westbound I-80 on-ramp.
- » Construct a continuous flow intersection at Glendale Avenue.
- » Extend the multi-use path on the west side of McCarran Boulevard.
- » Provide sidewalks on the east side of McCarran Boulevard between Greg Street and Glendale Avenue.

It is recommended that these previous recommendations be reviewed based on current traffic data and the planned I-80 improvements.

OTHER CORRIDOR IMPROVEMENTS

Safety improvements are also a priority on Greg Street, which has high levels of freight activity in addition to transit service (RTC Route 18) and pedestrian activity. The programmed improvements along Greg Street are focused on active transportation in support of workforce access and safety. Operational improvements that address peak period congestion between McCarran Boulevard and Vista Boulevard are also recommended.

7.2 IMPROVE MULTIMODAL INTEGRATION AND RAIL ACCESS

Multimodal integration is a critical component of the region's transportation strategy, enhancing connectivity and efficiency across various modes of transport. Maintaining rail spur access for businesses ensures seamless movement of goods and supports industrial operations. Airport connectivity to the regional road system also enhances the flow of passengers and freight, linking air travel with surface transportation networks.

Coordinating with land use planners optimizes space for transportation infrastructure, promoting balanced development. For example, the planned Victory Logistics Center in Fernley exemplifies multimodal integration by offering Class A industrial facilities with excellent access to I-80, US 50, and the future I-11 Interstate Highway. These developments will benefit from connectivity to the rail lines and a planned transload facility, supporting the growing needs for manufacturing, distribution, and logistics in Northern Nevada.

7.3 IMPROVE EFFICIENCY OF FREIGHT MOVEMENT

Corridor Improvements are planned in various areas including:

- » Vista Boulevard
- » Pyramid Highway
- » Greg Street
- » North Virginia Street
- » Red Rock Road
- » Moya Boulevard
- » US 395
 - US 395/Stead Interchange
 - US 395/Red Rock Interchange



Existing rail spur crossing Glendale Avenue

SPARKS INDUSTRIAL FREIGHT MOBILITY

The Sparks Industrial area faces significant challenges related to moving freight across the UPRR and I-80. Over the past decade, businesses have relocated from this area due to the difficulty of moving goods in and out of the area efficiently. As a major regional freight district and employment center, additional corridor/area studies and investments along Glendale Avenue, Greg Street, Rock Boulevard, East McCarran Boulevard, and Sparks Boulevard are recommended. Targeted investments along these corridors will enhance the efficiency and safety of the regional freight movement. Additionally enhanced access will support smoother movement of goods in and out of the Sparks Industrial area and benefit overall regional freight flow. There are also a number of investments that are not directly focused on freight but aim to enhance overall efficiency of the transportation system in the region. These initiatives can significantly improve freight mobility. For instance, developing a traffic management center (TMC) would benefit all road users by providing real-time traffic monitoring and incident management, thereby reducing congestion and improving travel times for freight operators.

Similarly, implementing an AI-driven data collection and analysis strategy would offer comprehensive insights into mobility patterns, allowing for optimized routing and better anticipation of traffic disruptions. These improvements not only facilitate more efficient freight movement but also contribute to broader regional goals such as safety, emission reduction, and supporting economic growth. Further, by enhancing transit connectivity between residential areas and employment centers, RTC can ensure reliable and efficient workforce access to industrial areas. Integrating these management practices and initiatives can create a more resilient and responsive transportation network that benefits both freight and general transportation needs.

SOUTH MEADOWS EXTENSION

The proposed South Meadows Connector has the potential to impact freight mobility in the region by providing a new alignment that connects South Meadows Parkway in Southeast Reno to USA Parkway. NDOT is currently conducting a feasibility and alignment study to explore viable alignment alternatives. NDOT is also considering pavement improvements on older segments of USA Parkway.

LA POSADA EXTENSION

An extension of La Posada Drive to USA Parkway is included in the 2050 RTP. This corridor would connect Sparks to USA Parkway in Storey County to the north of I-80. The proposed corridor would provide an alternate route to employment centers and support increased industrial development.

I-80 WIDENING EAST OF SPARKS

As documented by NDOT through the I-80 East Study, the traffic on I-80 has increased by 61% over the past ten years. Between 2023 and 2050 traffic volumes are expected to increase by nearly 30%, with approximately 20% of this traffic being freight.

NDOT is studying the potential to widen I-80 between Vista Boulevard and USA Parkway, including

additional travel lanes and wider shoulders. The proposed improvements will add 25-50 new truck parking stalls within the corridor.

These improvements are recommended to improve safety, traffic operations, and improve workforce access.

REGIONAL FREIGHT ADVISORY COMMITTEE

To further improve coordination on freight planning and other initiatives, it is recommended that RTC consider the creation of a Regional Freight Advisory Committee. This committee would include a combination of public and private sector agencies and organizations with an interest in freight and goods movement. The committee would be used to foster collaboration and information sharing among stakeholders and to guide implementation of the Regional Freight Plan.

7.5 PROVIDE FOR EQUITY AND SUSTAINABILITY IN FREIGHT AND GOODS MOVEMENT

LAST-MILE CONSIDERATIONS

Expanding the options for last-mile deliveries can also improve roadway conditions in Washoe County by reducing truck travel. Last-mile delivery services often use smaller vehicles, such as vans or cargo bikes, that can make more targeted deliveries within specific areas. This reduces the overall number of heavy-duty trucks on the road, leading to smoother traffic flow. These vehicles also make less noise than large trucks and can emit less pollution, making them more neighborhood friendly.

Exploring options to optimize last-mile delivery routes can improve congestion, safety, and efficiency in Washoe County by incorporating multiple delivery mechanisms (owned or controlled by the retailer) such as cargo bikes, air/ground drones, package lockers, and autonomous vehicles. For Washoe

County, future trends indicate a shift from traditional retail to door-to-door consumer services.

WORKFORCE ACCESS

Workforce access is an important aspect of planning for freight and industrial development. While many industrial corridors were initially designed for trucks, many people walk, bicycle, and use transit to access employment opportunities. To support workforce access, industrial corridors are recommended to accommodate safe bicycle and pedestrian connectivity. This may include wider sidewalks and bicycle facilities. Corridors with fixed-route bus service should be considered for bus stop improvements.

7.6 EXPAND TRUCK PARKING

Summarized below are impactful strategies for reducing undesignated truck parking (trucks parked in vacant lots, freeway ramps, and roadside) in the region.



Winter closure on I-80

BUILD OR EXPAND PUBLICLY OWNED FACILITIES

The NDOT Truck Parking Implementation Plan did not identify any locations in Washoe County for building or expanding truck parking facilities; however, three

sites east of the county were recommended:

- » Closed Mustang Check Station Conversion: Convert and expand to include 50 truck parking spaces eastbound and westbound. Restripe existing westbound paved areas to create 10 spaces, as a no- or low-cost early action item.
- » Wadsworth Rest Area Expansion: Up to 50 spaces could be added.
- » Trinity/Fallon Rest Area Expansion: 50–100 spaces could be added.

In addition, the City of Fernley is interested in partnering with NDOT and/or private developers to add truck parking to a proposed industrial park.

ENCOURAGE ON-SITE TRUCK PARKING AT NEW AND EXISTING SHIPPER/RECEIVER DEVELOPMENTS

Local ordinances routinely set employee and customer parking requirements for developments; however, on-site truck parking and staging areas are rarely required. Proactively integrating truck parking needs into the planning process will help meet the parking demand while also helping to spread the costs of providing truck parking. Some options for permitting agencies to encourage shippers and receivers to provide truck parking are noted below.

- » **Ask:** Some agencies have found it successful to merely ask the developer to include parking. Educating developers on the need may be sufficient.
- » **Require Truck Parking be Provided:** In 2017, the Township of Upper Macungie, Pennsylvania, passed a new zoning requirement that requires one off-street truck parking space for every loading dock at a new warehouse or distribution facility.
- » **Require Incorporation of Truck Parking into Traffic Impact Assessments (TIAs):** Public agencies not willing or ready to require inclusion of truck parking may want to start by requiring that truck parking needs be assessed in TIAs

already being conducted. This will bring the need to the attention of the developer. Additionally, the developer could be allowed to address the need as they deem appropriate. It may not be enough, but it is a start.

The [FHWA Truck Parking Development Handbook](#) provides guidance for encouraging on-site truck parking at new and existing shipper/receiver developments.



Trucks parked on street

TRUCK PARKING AVAILABILITY SYSTEM

TPAS are a type of ITS application to assist truck drivers in locating available parking spaces in real-time so they can make informed decisions about their parking needs. The TPAS strategy includes monitoring real-time parking availability at strategic statewide public truck parking areas and publishing parking availability data for freight industry use. Data is usually shared on roadside signs prior to the parking area allowing drivers to see available truck parking in the region. Data availability on a website or mobile application usually complements the information on the sign and can provide a lot of detail at a fairly low cost.

NDOT is implementing a TPAS pilot program at several NDOT truck parking facilities on I-80 and I-15

including the facility on I-80 between exits four and seven.



Source: I-10 Connects, I-10 Corridor Coalition, 2024

ALLOW EMERGENCY TRUCK PARKING AT LARGE PARKING LOTS WHEN NOT IN USE

Extreme weather conditions, hazardous spills, and other unplanned events can close roads temporarily, creating a large demand for truck parking until the road reopens. Building truck parking lots solely for the purpose of accommodating this large but infrequent demand is not a practical use of limited transportation funding. Many large parking facilities such as sports venues and fairgrounds have large parking areas, are easily accessible from the road, and would provide safe emergency parking for trucks if they are allowed to park there. These types of locations have schedules that are known far in advance, often have significant downtime, and are used to accommodate large numbers of vehicles and people in a condensed period. An example of the application of this policy can be found on I-80 on the western slope of Donner Pass. At one time in the past, Caltrans had an arrangement with the Gold Country Fairgrounds & Event Center in Auburn (Figure 3.3), and with the Boreal Ski Resort after 11:00 p.m., to allow trucks to park in their lots during winter closures of I-80.

This concept could be expanded to year-round use of a portion of a large parking lot that is routinely underutilized. For example, [Realize](#), a provider of secure truck parking for a fee, in 2023 established a parking facility on an underutilized paved lot owned by the Las Vegas Speedway that was at near capacity within 3 months of the grand opening.



Truck parked on neighborhood street

OWNER-OPERATOR PARKING

Owner-operators are private contractors who own their vehicle and are not affiliated with a large company fleet. When at home, these drivers need a place to park their truck for a day or more, which is not allowed by major truck stops. Unlike drivers for large trucking companies, they typically don't have access to designated company parking facilities. They rely on finding parking at public rest stops, truck stops, or independent lots. This increases the overall demand for available truck parking spaces. The Owner-Operator Independent Drivers Association (OOIDA) is a trade association that represents independent owner-operator truck drivers.¹ Additional truck parking in these areas would benefit owner-operator independent drivers and other truck drivers.

¹ Owner-Operator Independent Drivers Association. n.d. About Us. <https://www.ooida.com/who-we-are/about-ooida/>

Figure 27: Gold Country Fairgrounds and Event Center Parking Lot



Source: Google Map

CURBSIDE TRUCK PARKING

While local regulations often discourage on-street truck parking, it could be safely accommodated in the right context, such as locations with sufficiently wide streets, industrial or commercial land uses, lack of bicycle and pedestrian traffic, and distance from sensitive land uses such as schools. Smart urban parking zones could be used to designate multiple purposes over the course of the day for curb areas and other applicable parking locations. With use of a mobile app, drivers could locate parking, reserve a spot for a specific time window, and facilitate payment (if applicable). This strategy targets short-term (less than 4 hours) staging when the driver stays with the truck, and long-term parking for owner-operators who leave their truck unattended when home on breaks.

Recognizing the need to help owner-operators who live in the city, the City of Auburn, Washington, designated four areas inside industrial zones where truck parking is acceptable, and issues parking permits to truck drivers who are residents of the city. The designated curbs are appropriately signed, and trucks are allowed to park there for a maximum of 72 hours without any occupants. This has helped to remove parked trucks from residential areas where drivers typically park when home. See [the City's website](#) for more information.

ZERO-EMISSION FUELING AND PARKING

In March of 2024, the Joint Office of Energy and Transportation released the National Zero-Emission Freight Corridor Strategy that prioritizes investment, planning, and deployment for medium- and heavy-duty vehicle fueling infrastructure. Sections of I-80 in Washoe County are identified for truck parking infrastructure and intermodal facilities. The plan starts by envisioning battery electric vehicles and then shifts to hydrogen infrastructure. Due to the nature of battery electric charging, where vehicles may need to be parked for extended periods of time to refuel, pairing truck parking and driver facilities (like restaurants, showers, and other vending) with charging infrastructure is a natural fit. The plan outlines connecting California and Utah via I-80 with supporting zero-emission fueling infrastructure in the 2027–2030 timeframe and fully building out supporting infrastructure by 2040. Siting new parking facilities in Washoe County should be coordinated with local utility providers to ensure charging needs can be met.



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 6.2.

To: Regional Transportation Commission

From: Xuan Wang, PHD, PE, PTP, RSP2, Planning Manager

SUBJECT: 2050 Regional Transportation Plan (RTP) Update

RECOMMENDED ACTION

Receive a presentation from staff regarding the 2050 Regional Transportation Plan (RTP) update.

BACKGROUND AND DISCUSSION

The RTP is the RTC's long-range transportation plan as required under Title 23, Part 450 of the Code of Federal Regulations (CFR). It contains major transportation projects and programs for Washoe County for all modes of travel. It functions as the major tool for implementing long-range transportation planning. The RTP captures the community's vision of the transportation system and identifies the projects, programs, and services necessary to achieve the vision that RTC, member entities, and NDOT will implement.

The RTC initiated the development of the 2050 Regional Transportation Plan Update in the Fall of 2023. The purpose of the process is to identify the long-term guiding principles and goals for the regional transportation system and to identify the projects, programs, and services that will be implemented through 2050. This plan will be based on a robust community engagement process and conducted in collaboration with partner agencies. The plan will address the safety, mobility, connectivity, and traffic operations issues that are resulting from strong population and employment growth in the region. Federal regulations require that the long-range planning document be updated every four years. The current RTP approval extends through March 2025. The schedule for the RTP update process allows for federal review and approval of the plan by March 2025. It is anticipated that the draft plan will be available for public and agency review in January 2025 with Board action by March 2025.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

- 03/22/2024 Board Retreat: RTP process & community input.
- 12/15/2023 Receive an update on the 2050 Regional Transportation Plan (RTP) Update.
- 03/19/2021 Adopted a resolution approving the 2050 Regional Transportation Plan (RTP).



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 6.3.

To: Regional Transportation Commission

From: Marquis Williams, Senior Technical Planner

SUBJECT: Draft Active Transportation Plan

RECOMMENDED ACTION

Receive a presentation from staff regarding the draft Active Transportation Plan.

BACKGROUND AND DISCUSSION

The Active Transportation Plan (ATP) will identify policies, programs and infrastructure options to support active modes as a viable transportation choice, especially for shorter trips. The Plan is to serve as the RTC's strategy for improving non-vehicular mobility throughout urban Washoe County, and provide an overview of best practices, recommended policies, key partnerships, and outreach and educational activities to promote walking and rolling in the region. This plan will inform the Regional Transportation Plan and leverage future funding opportunities.

The Plan calls for the development of neighborhood network plans (NNPs) which will allow for more targeted outreach with information relevant to community members. The NNPs will also recommend active transportation improvements that lead to a connected neighborhood instead of focusing on one individual corridor. As such, the ATP will provide the framework for these NNPs and lay the groundwork for an Active Transportation Program. With a dedicated program manager and funding, RTC plans to streamline the implementation process leading to more miles of high-quality, well-connected active transportation facilities on the road faster.

Staff will provide a presentation on the plan, which is being proposed for adoption at the September RTC Board meeting.

This item supports Strategic Roadmap Goal #2, "Promote neighborhood mobility" and FY2025 RTC Goal, "Establish the Active Transportation Plan program, including tracking of performance measures and collaboration with local jurisdictions' applicable programs."

FISCAL IMPACT

Funding for the Active Transportation Plan was included in the FY 2022 – FY 2023 Unified Planning Work Program (UPWP) and carried forward to the current UPWP.

PREVIOUS BOARD ACTION

- 01/20/2023 Approved Professional Service Agreement with Alta Planning + Design, Inc. for development of the ATP.
- 09/16/2022 Authorized the Request for Proposals for the ATP.
- 02/18/2022 Approved Amendment 1 to the FY 2022-2023 UPWP.
- 04/16/2021 Approved the FY 2022-2023 UPWP.

The background of the cover is a photograph of a paved path in a park, overlaid with a semi-transparent blue filter. In the foreground, a person is walking away from the camera on the right side of the path. In the middle ground, a person is riding a bicycle towards the camera on the left side of the path. The path is lined with trees and a street lamp is visible in the background.

RTC Washoe Active Transportation Plan

PREPARED BY:

alta

WALK & ROLL TRUCKEE MEADOWS



EXECUTIVE SUMMARY

What is the Walk & Roll Truckee Meadows Plan?

This plan presents the vision and goals for active transportation throughout the Truckee Meadows and a focused planning process to apply regional analysis and roadway typologies within neighborhoods across the region. This plan establishes the Neighborhood Network Planning (NNP) process and applicable resources to support that process including regional findings from public engagement, regional data analysis results, and the RTC Street Typology guide which identifies suitable facilities for people walking, biking, and rolling across ten different regional roadway typologies (or types of roads). Going forward, this plan will serve as a guide for agency staff and community members while planning, designing, and implementing accommodations for people walking, biking, and using other active modes throughout the region.

What is in this Plan?

This plan includes the following chapters:

- **Chapter 1 – Introduction:** This chapter sets the context for the plan and identifies the planning approach taken during the development of this plan.
- **Chapter 2 – Where We Are Today:** This chapter provides an analysis of the existing facilities for people walking and biking as well as a review of the existing transit network, and equity considerations throughout the community.
- **Chapter 3 – Community Engagement:** This chapter summarizes the public and stakeholder engagement efforts which helped develop the plan.
- **Chapter 4 – Analyzing the Network:** This chapter presents in-depth analysis of the context and character of the existing facilities in combination with additional data sources such as outputs from the RTC Travel Demand Model.
- **Chapter 5 – Addressing the Issues:** This chapter details the NNP process and identifies the resources which will support that process going forward including the RTC Street Typology Guide which is included in *Appendix C* in its entirety.
- **Chapter 6 – Implementation, Funding, and Performance Metrics:** This chapter includes considerations for maintaining an enhanced active transportation network, identifies potential funding options for various active transportation needs, and establishes performance metrics to track implementation progress.

How was this Plan created?

This plan was created through engagement with partner agencies, stakeholders and community members. The RTC engaged directly with staff from partner agencies through the Agency Working Group and project Technical Advisory Group. The RTC also conducted an interactive engagement process to listen to the community and identify leading barriers to walking and biking as well as local preferences for using active transportation modes (walking, biking, scooting, and using mobility assistance devices). Engagement also focused on the needs of seniors, youth, and those with disabilities through targeted engagement events and outreach. In combination with the stakeholder and public engagement efforts which guided this plan, the project team conducted an in-depth analysis of the existing conditions of the active transportation network to assess the current comfort of the network for people walking, biking, and rolling throughout the community. The resulting NNP process builds off of established programs from peer communities and creates a process unique to the Truckee Meadows which will help guide active transportation improvements in the region going forward.

How will this Plan be implemented?

The primary method of implementation for this plan will be through the newly formed Active Transportation Program and managed by the RTC Active Transportation Manager and guided by the Active Transportation Technical Working Group (ATWG) which will include representatives from the City of Reno, City of Sparks, and Washoe County focused on planning, design, and construction of active transportation improvements. Progress towards implementation will be tracked annually using the performance metrics identified under each goal at the end of this plan (*Chapter 6*).

ACKNOWLEDGMENTS

The Walk & Roll Truckee Meadows Plan was developed through collaboration between the RTC Washoe and agency partners with the support of the project team. This plan would not have been possible without the extensive amount of time and effort expended all parties. Those listed below helped create and guide the development of this plan and will continue to support the implementation of the plan through their various roles at agencies and organizations throughout the community.

RTC WASHOE PROJECT TEAM

- Marquis Williams, RTC Planning
- Graham Dollarhide, RTC Planning
- Sara Going, RTC Engineering
- Dale Keller, RTC Engineering
- Jeffery Wilbrecht, RTC Engineering

AGENCY WORKING GROUP MEMBERS

RTC Washoe project team members were also included in the Agency Working Group

City of Reno

- Angela Fuss
- Catie Harrison
- Grace Mackedong
- Kerri Koski
- Tara Smaltz

City of Sparks

- Amber Sosa
- Andrew Jayankura
- Dani Wray
- Jim Rundle

Washoe County

- Julee Olander
- Mariam Ahmad
- Mitchel Fink

Northern Nevada Public Health

- Stephanie Chen

Nevada Department of Transportation (NDOT)

- Rebecca Kapuler
- Katinka Rauch

RTC Washoe

- James Gee, RTC Public Transportation
- Xuan Wang, RTC Planning

PROJECT TECHNICAL ADVISORY COMMITTEE MEMBERS

Members of the RTC Washoe project team and Agency Working Group were also part of the Project Technical Advisory Group

Reno Sparks Indian Colony

- Candace Stowell

Washoe County School District

- Jennifer Iveson
- Robbie Pape

Truckee Meadows Regional Planning Agency

- Jeremy Smith

ALTA (CONSULTANT TEAM)

- Cole Peiffer
- Chloe Ward
- Dave Foster
- Zoey Mauck

CONTENTS

Introduction 1

- Community Context.....2
- What is Active Transportation?5
- Plan Organization.....8

Where We Are Today 9

- The Regional Roadway Network.....10
- Prioritizing Active Transportation in Washoe County: A Systematic Approach.....11
- Walking & Rolling Network.....14
- Bicycle Network.....17
- Program & Policy Network.....24
- Human Networks.....25
- Safety.....29

Community Engagement 35

- What We Heard.....36

Analyzing the Network 51

- Network Analyses.....52

Addressing the Issues 67

- NNP Framework.....69
- NNP Process.....74
- Final Neighborhood Plan.....78
- AT Technical Working Group & Regional Prioritization.....79
- NNP Framework Summary.....82
- Regional Street Typology Guide.....82
- Recommended Policies & Programs.....83

Implementation, Funding, and Performance Metrics 89

- Implementation Strategies.....90
- Collaboration with Partners.....90
- Maintenance & Operations.....91
- Funding.....93
- Tracking Performance.....97

Appendices 103

- Appendix A: Active Trip Potential
- Appendix B: Data Collection
- Appendix C: RTC Washoe Street Typology Guide
- Appendix D: Federal Funding Opportunities

LIST OF TABLES

Table 2.1	Regional Roadway Mileage Breakdown.....	10	Table 4.1	Regional Typology BLTS (Arterials)	55
Table 2.2	Regional Roadway Typology Characteristics (Arterials).....	12	Table 4.2	Regional Typology BLTS (Collectors),.....	56
Table 2.3	Regional Roadway Typology Characteristics (Collectors)	12	Table 4.3	Regional Typology Pedestrian Experience Index (PEI) (Arterials)	58
Table 2.4	Sidewalk Presence and Marked Crosswalks by Typology (Arterials)	14	Table 4.4	Regional Typology Pedestrian Experience Index (PEI) (Collectors),.....	58
Table 2.5	Sidewalk Presence and Marked Crosswalks by Typology (Collectors).....	14	Table 4.5	Regional Active Transportation Gap Scoring Methodology.....	64
Table 2.6	Sidewalk Presence and Marked Crosswalks by Typology (Collectors).....	17	Table 5.1	Project Prioritization Framework ...	80
Table 2.7	Regional Typology Bicycle Facility Coverage (Arterials).....	19	Table 6.1	Improve Safety - Strategies, Actionable Steps, and Performance Metrics	98
Table 2.8	Regional Typology Bicycle Facility Coverage (Collectors).....	19	Table 6.2	Expand Mode Share - Strategies, Actionable Steps, and Performance Metrics.....	99
Table 2.9	Crash Severity Types and Totals ...	29	Table 6.3	Maintain the System Sustainably - Strategies, Actionable Steps, and Performance Metrics	100
Table 2.10	Pedestrian Crashes - Severity Types and Totals	29	Table 6.4	Enhance the Community - Strategies, Actionable Steps, and Performance Metrics.....	101
Table 2.11	Bicycle Crashes - Severity Types and Totals	29			
Table 2.12	HIN Intersections and Corridors by Land Use Tier	32			

LIST OF FIGURES

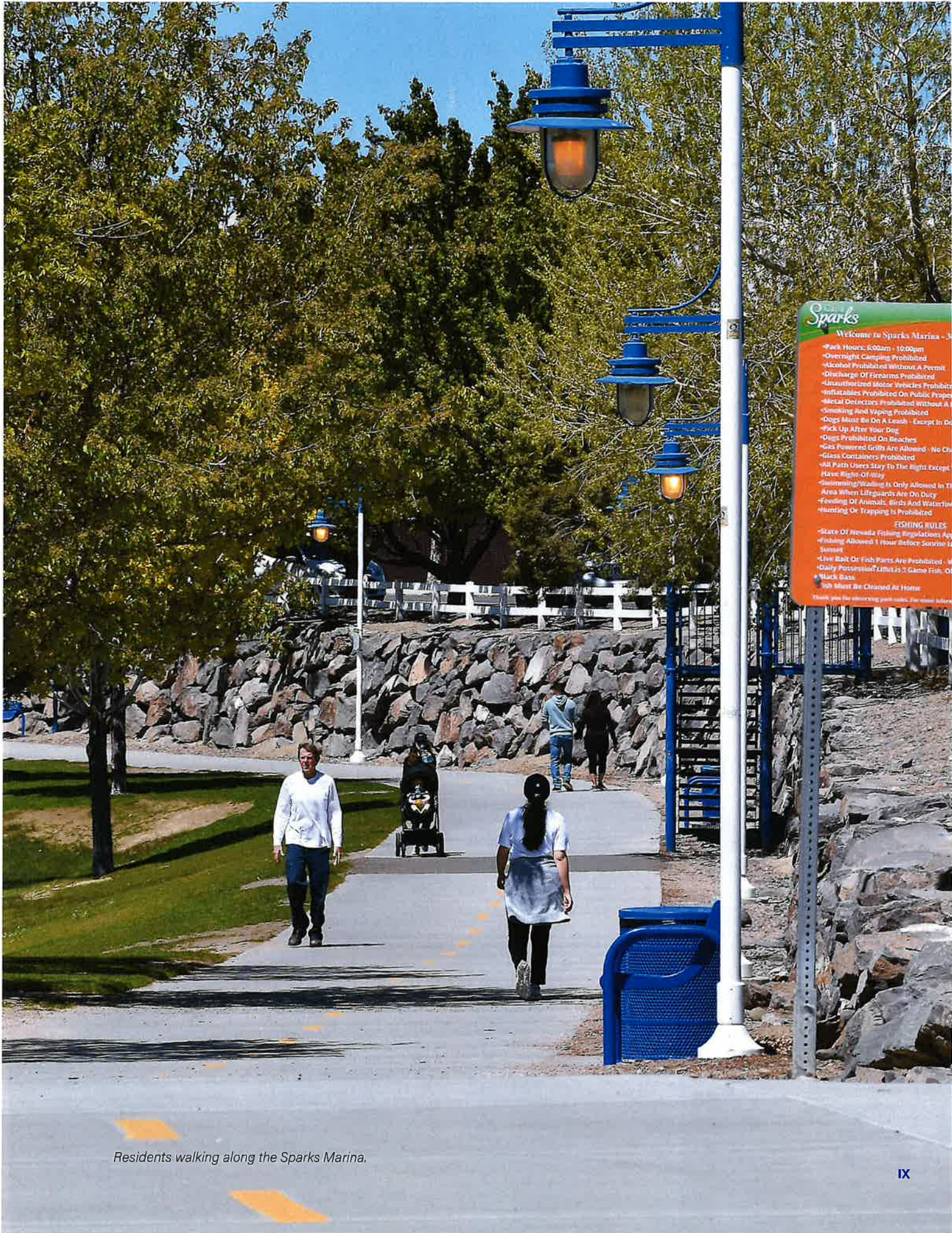
Figure 1.1	TMRPA Regional Plan	4	Figure 3.13	Top Barriers for Walking to School ..	46
Figure 1.2	FHWA Bicyclist Design User Profiles	6	Figure 3.14	Top Barriers for Biking to School ...	46
Figure 2.1	Equity Analysis Variables	26	Figure 3.15	Interactive Web Map	48
Figure 3.1	Project Webpage.....	37	Figure 3.16	Facility Preference by Context for People Walking & Rolling.....	49
Figure 3.2	Virtual Public Meeting	38	Figure 3.17	Facility Preference by Context for People Biking	49
Figure 3.3	Top Barriers for Bicycling	41	Figure 4.1	Low vs High Stress Roadways By Classification (Regional Roads)	53
Figure 3.4	Top Barriers for Walking	42	Figure 4.2	BLTS on Arterials Roads by Land Use Context (Miles).....	55
Figure 3.5	Bicycling and Walking Crashes/Near Misses (within the last year).....	42	Figure 4.3	BLTS on Collector Roads by Land Use Tier (Miles).....	56
Figure 3.6	People who would like to be able to walk more for school / work trips by age.....	43	Figure 4.4	Active Trip Potential Concept Explainer.....	62
Figure 3.7	People who would like to be able to bike more for school / work trips by age.....	43	Figure 4.5	Bicycle Access-sheds (Before (left)/After (right)).	66
Figure 3.8	People who would like to be able to walk more for non-work trips by age	44	Figure 5.1	NNP Area Delineation	72
Figure 3.9	People who would like to be able to bike more for non-work trips by age	44	Figure 5.2	Preferred separation style example included in RTC Street Typology Guide.....	82
Figure 3.10	Level of Difficulty Walking within a Neighborhood.....	45	Figure 5.3	Example of modal filtering on Neighborhood Byway (Provo, UT). ..	85
Figure 3.11	Level of Difficulty Walking To/ From a Neighborhood	45	Figure 5.4	Neighborhood Greenway with reduced speed limit (Portland, OR).	85
Figure 3.12	Level of Difficulty Biking To/ From a Neighborhood based on User Type.....	46	Figure 5.5	E-bike sales in the US (2018 - 2022)	86

LIST OF FIGURES (continued)

Figure 5.6	2021 Bicycle, Pedestrian, and Data Collection Program Report.....	87
Figure 5.7	Eco-Counter Real-Time Display (Source: Eco-Counter).....	88
Figure 6.1	Local shared-use path with significant dirt build up.....	91
Figure 6.2	Small specialized sweeper example (Source: Multihog).....	91
Figure 6.3	City of Sparks maintenance vehicle accessing Rock Park via the Truckee River Path.....	91
Figure 6.4	Vertical Buffer Alignment Placement to Accommodate Wide Bikeway Sweepers.....	92
Figure 6.5	Concrete barrier between shared-use path and vehicle traffic on Sparks Blvd.	92
Figure 6.6	Water-filled barriers on Arlington Ave which can be used for quick-build installations.....	92

LIST OF MAPS

Map 2.1	Road Typology	13
Map 2.2	Sidewalk Coverage.....	15
Map 2.3	Distance between Marked Pedestrian Crossings.....	16
Map 2.4	Existing Bike Facilities	18
Map 2.5	RTC Transit Services	21
Map 2.6	RTC Fixed Route Ridership	22
Map 2.7	Transportation Equity.....	27
Map 2.8	Highest Equity Need Area	28
Map 2.9	Pedestrian Crashes.....	30
Map 2.10	Bike Crashes	31
Map 2.11	High Injury Network	33
Map 4.1	Bicycle Level of Traffic Stress	54
Map 4.2	Total Infrastructure on Regional Roadways	59
Map 4.3	Active Transportation Trip Potential	63
Map 4.4	Active Transportation Gaps	65
Map 5.1	NNP Areas.....	73



Sparks
Welcome to Sparks Marina -

- Park Hours: 6:00am - 10:00pm
- Overnight Camping Prohibited
- Alcohol Prohibited Without A Permit
- Discharge Of Firearms Prohibited
- Unauthorized Motor Vehicles Prohibited
- Inflatables Prohibited On Public Property
- Metal Detectors Prohibited Without A Permit
- Smoking And Vaping Prohibited
- Dogs Must Be On A Leash - Except In Designated Areas
- Dogs Prohibited On Beaches
- Gas Powered Grills Are Allowed - No Charcoal
- Glass Containers Prohibited
- All Path Users Stay To The Right Except When Right-Of-Way
- Swimming/Wading Is Only Allowed In The Designated Area When Lifeguards Are On Duty
- Feeding Of Animals, Birds And Waterfowl
- Hunting Or Trapping Is Prohibited

FISHING RULES

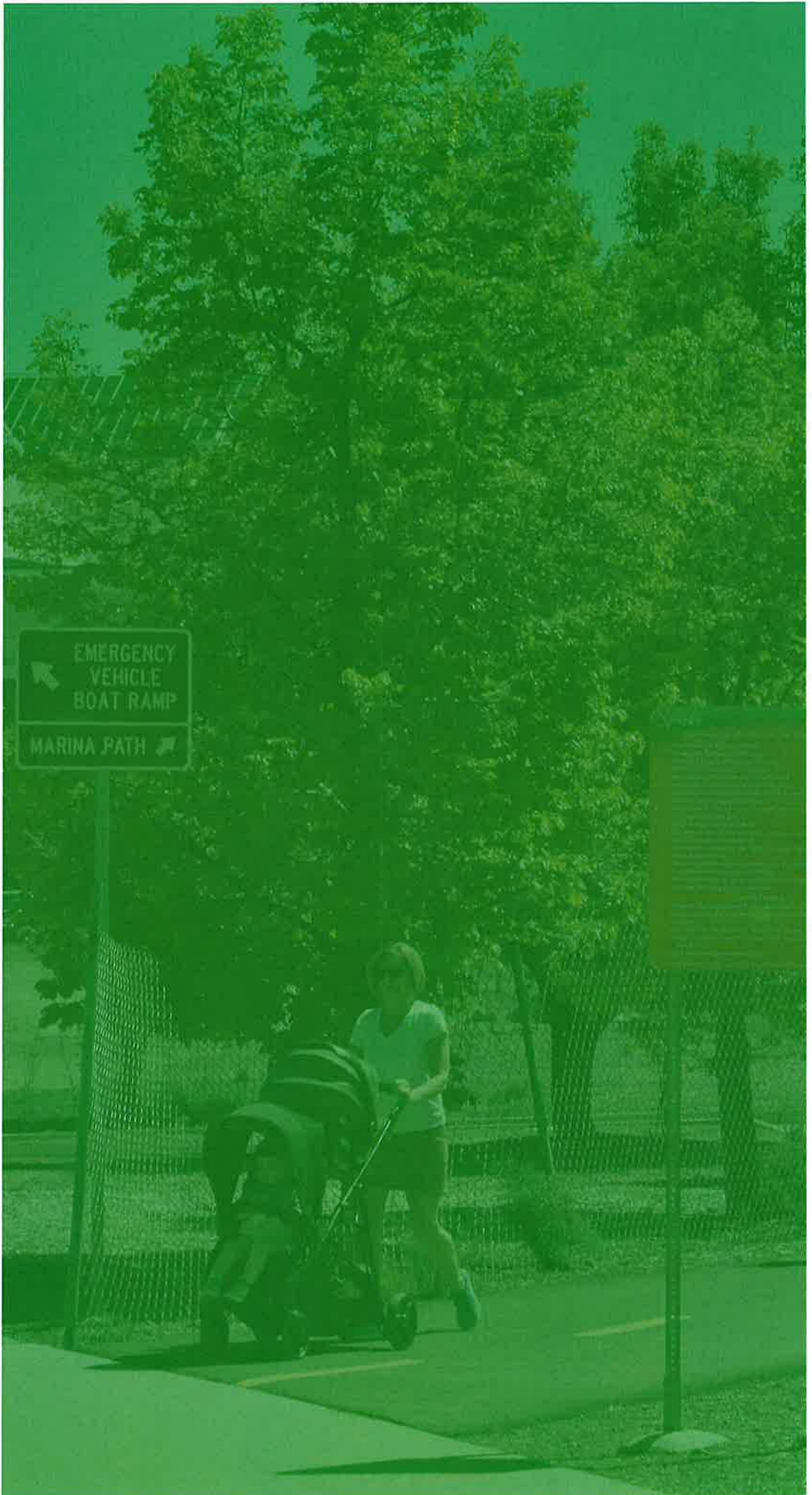
- State Of Nevada Fishing Regulations Apply
- Fishing Allowed 1 Hour Before Sunrise To Sunset
- Live Bait Or Fish Parts Are Prohibited
- Daily Possession Limit Is 3 Game Fish, Of Which 1 Must Be A Striped Bass
- All Fish Must Be Cleaned At Home

Thank you for observing park rules. For more information, please call 775-734-7343.

Residents walking along the Sparks Marina.



Introduction



INTRODUCTION

Community Context

With a population nearing half a million¹, Washoe County hums with urban life in its incorporated cities: Reno and Sparks, while also being home to vibrant suburban neighborhoods and rural landscapes. Nestled along the Truckee River and Lake Tahoe's border, the county's diverse development landscape presents both opportunities and challenges for creating a flexible active transportation system that caters to a variety of needs and environments.

A New Path Forward

This Active Transportation Plan (Walk & Roll Truckee Meadows Plan) establishes a clear vision and goals for the future of active transportation in the Truckee Meadows and introduces a new

approach to active transportation planning and implementation in the region called Neighborhood Network Planning (NNP). This approach, detailed in [Chapter 5](#), will engage residents and stakeholders at the local level to tailor active transportation solutions that address the unique needs of each neighborhood. This process will allow for continued engagement between RTC staff and local residents and provide an opportunity for in-depth analysis of local issues as well as the application of regional datasets and the Regional Street Typology Guide to the local context. This innovative and interactive planning process will inform the creation of a comprehensive and connected active transportation network across the Truckee Meadows for all users.



Pedestrians crossing Keystone Avenue.

¹ 489,180 Population – Truckee Meadows Regional Planning Agency (TMRPA) (2022). Washoe County Consensus Forecast. Retrieved from TMRPA Washoe County Consensus Forecast Dashboard <https://tmrpa.app.box.com/v/WCCF-2022-Final-TMRPA>

Integrating with Regional Development: Contexts & Connection

The Walk & Roll Truckee Meadows Plan supports the regional efforts of partner agencies including the Truckee Meadows Regional Planning Agency (TMRPA). Through the [2019 Regional Plan](#), the TMRPA established regional land use tiers (Shown in [Figure 1.1](#)) to categorize areas based on their overall development patterns and context. In order to align with this regional plan, the RTC utilized the TMRPA Land Use Tiers in this plan to identify three Land Use Contexts (Urban, Suburban, and Rural) with similar characteristics. These areas will help guide implementation of active transportation facilities in a context sensitive manner and are described below.

RTC Walk & Roll Truckee Meadows Plan Land Use Contexts²:

- **Urban** – Defined as the Mixed-Use Core and Tier 1 Land as identified by TMRPA. These areas within the Truckee Meadows Service Area (TMSA) represent the most intense development and prioritize investment in walkable streetscapes, high to mid-rise buildings, and multi-modal connectivity.
- **Suburban** – Defined as Tier 2 Land as identified by TMRPA. These areas are characterized by a mix of residential and commercial development, with lower-density housing compared to urban areas.
- **Rural** – Defined as Tier 3 Land as identified by TMRPA. These areas are characterized by low-density development with a focus on agriculture, open space, and natural resource preservation.

Using this approach, the RTC developed 10 roadway typologies for regional roadways including

suitable accommodations for people walking and biking on regional roads with similar characteristics within the Regional Street Typology Guide. This guide, included in [Chapter 5](#), establishes a starting point for accommodating active transportation on regional roads during planning and design.

Relation to Other Plans

This plan builds on existing AT plans from the RTC and supersedes previous Bicycle & Pedestrian Master Plans. As such, the project team reviewed the following existing documents to help inform the development of this plan.

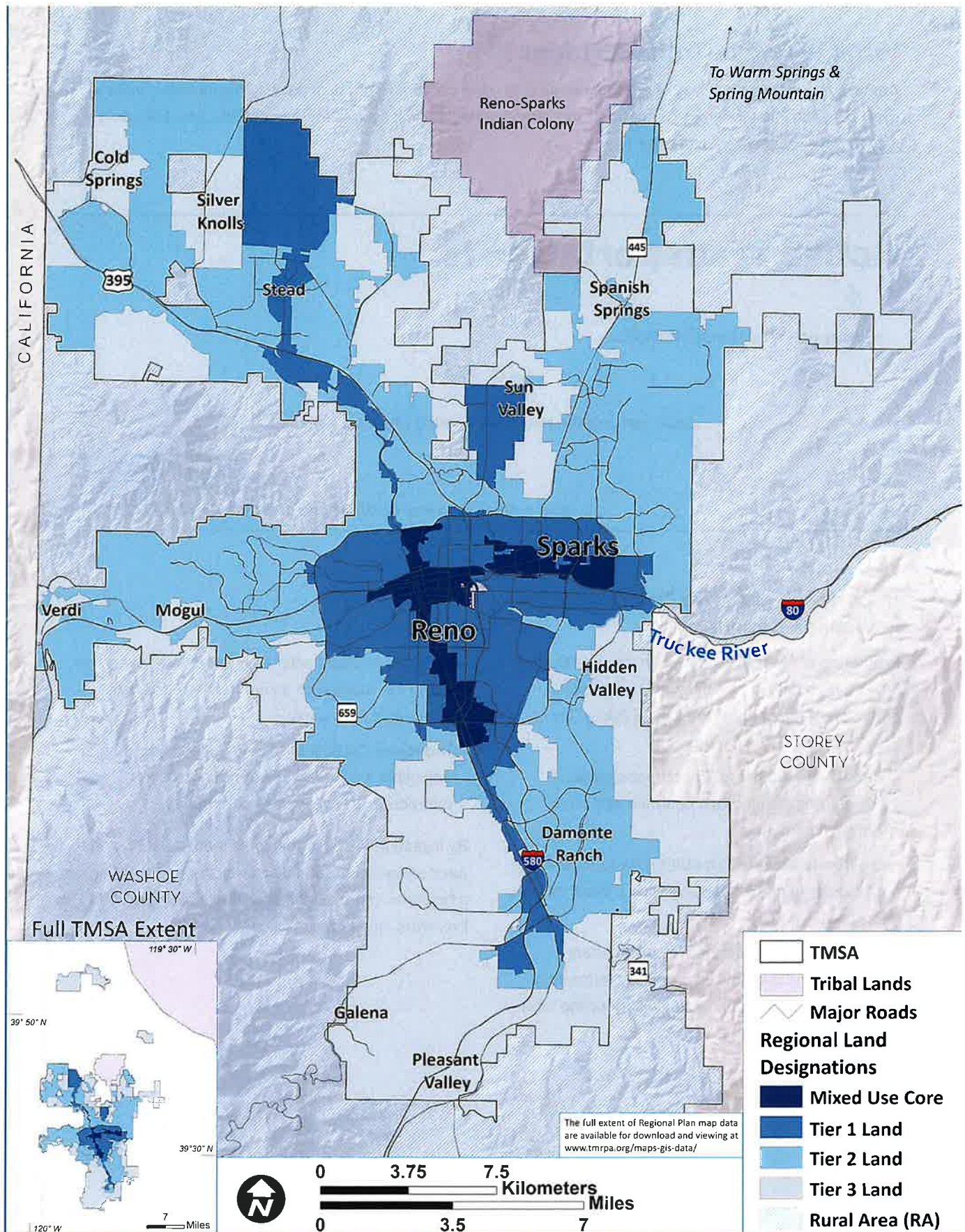
- Vision Zero Action Plan (2022)
- Transit Optimization Plan (2022)
- Regional Transportation Plan (2021)
- ADA Transition Plan (2020)
- Bicycle & Pedestrian Master Plan (2017)
- Complete Streets Master Plan (2016)
- City of Sparks Comprehensive Plan (2016)
- City of Reno Master Plan (ReImagine Reno) - 2017
- Washoe County Master Plan - 2020



Bicyclists crossing 4th Street at Sutro Street.

² Areas identified by TMRPA with the Rural Area (RA) designation have the lowest development priority and limited public services. Accommodation of bicycle and pedestrian needs in these areas are intended to be addressed on a case-by-case basis through the application of rural design considerations from the FHWA Small Town and Rural Multi-modal Networks Guide and FHWA Bikeway Selection Guide.

Figure 1.1 TMRPA Regional Plan (Map 2) - Adopted Dec. 14, 2023



What is Active Transportation?

Active transportation is a way of getting around that relies on human physical power. This includes walking, cycling, rolling (skateboarding, scooters), and using a wheelchair. It's a healthy, sustainable, and enjoyable way to travel, especially for shorter trips.

Active Transportation Is:



Importance of Active Transportation in Washoe County

Promoting active transportation in Washoe County offers a multitude of benefits which align with and support the goals of the City of Reno, City of Sparks, and Washoe County:

- **Health and Wellness:** Encourages physical activity, contributing to a healthier and more vibrant community.
- **Environmental Sustainability:** Reduces reliance on cars, leading to cleaner air and a lower carbon footprint.
- **Economic Development:** Creates a more walkable and bikeable environment, attracting businesses and residents while supporting local shops and restaurants.

- **Safety:** Creates a safer environment for everyone using the roads with an emphasis on the most vulnerable road users.
- **Improved Quality of Life:** Provides a more enjoyable way to travel, promoting social interaction and a sense of community.

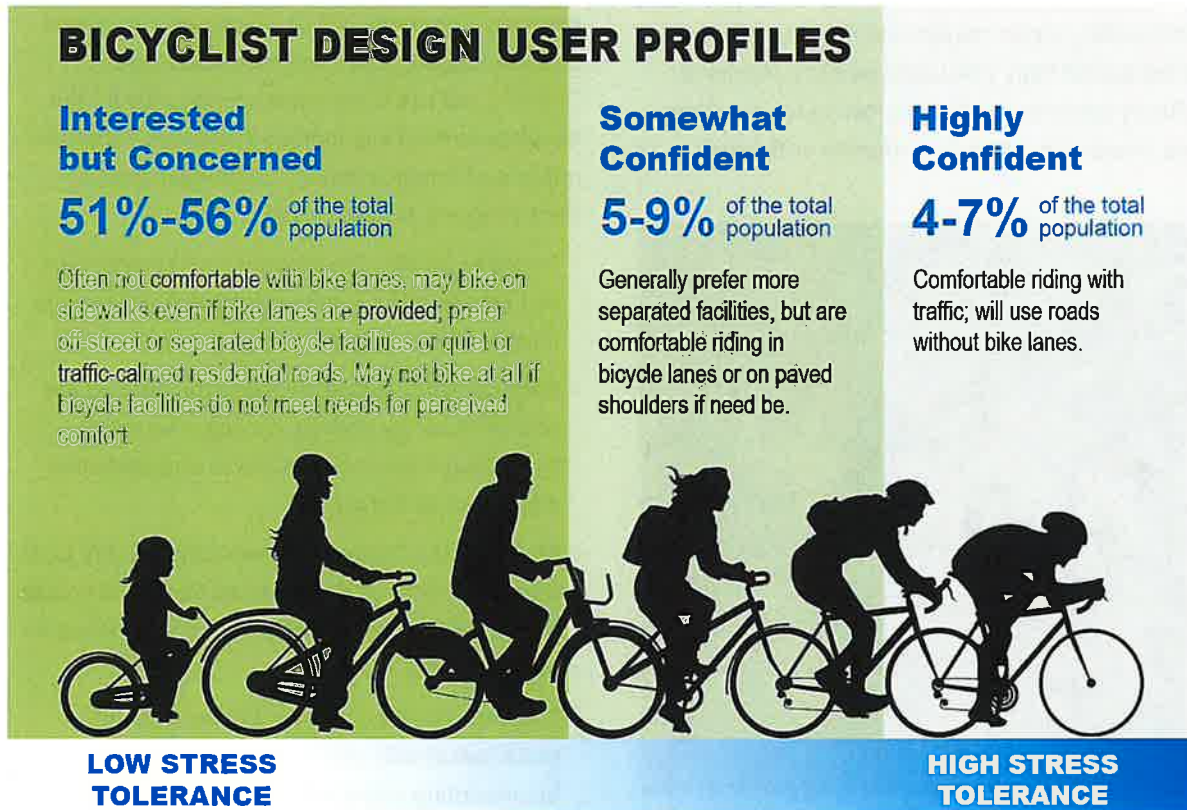
By investing in active transportation, the RTC and partner agencies can take direct steps to creating a healthier, more sustainable, and vibrant place to live, work, and play.

Different Types of Users: Keeping Everyone in Mind

Understanding the diverse needs of people who walk and bike is crucial for creating a safe and inclusive transportation network. This includes recognizing a spectrum of user types, with varying comfort levels, skills, ages, and trip purposes. In order to achieve growth in the number of people walking and biking it is important to design facilities which meet the needs of a broad spectrum of the population beyond those who are already using the existing network. To that end, this plan focuses on designing for users of all ages and abilities including children, seniors, people of color, low-income transit-riders, people with disabilities, people riding bike share / scooter share, as well as confident bicyclists and pedestrians who are already traveling along the existing network.

Planning and designing facilities for the most vulnerable roadway users will provide a system that accommodates people across all ages and abilities and allow for those who may be interested in walking or biking more, but have been concerned about their safety to use their mode of choice. In terms of bicycling, this represents the majority of the adult population with up to 56% of adults being categorized as “Interested but Concerned” bicyclists by the FHWA as shown in *Figure 1.2* on the following page.

Figure 1.2 FHWA Bicyclist Design User Profiles



Plan Vision & Goals: Shaping the Future of Active Transportation in Washoe County

The RTC collaborated with partner agencies and community stakeholders to develop a broad reaching vision for the future of active transportation within the Truckee Meadows. Through this process, the RTC established the following regional vision for active transportation:

Vision:

"We envision a connected network of comfortable, convenient, and consistent facilities for people of all ages and abilities walking, bicycling, and rolling on a mobility device which prioritizes accessibility to schools, jobs, shopping, neighborhoods, community facilities, parks, and regional trails within the Truckee Meadows."

This guiding vision helped lead the development of the overall Plan. This vision paints a picture of a future where active transportation is a seamless and accessible option for everyone in Truckee



Pedestrian escorting a family of ducks in a crosswalk across California Avenue.



Bicyclist using arm powered adaptive bicycle.

Meadows.

Goals:

Building on the established vision for active transportation and supporting broader RTC goals, the following project goals identify the four key areas of focus for active transportation for the RTC. These goals were developed and ranked through input from the public and the project Technical Advisory Committee (TAC) which was comprised of partner agency staff and technical experts. The RTC will use these goals as the guide for the development of Neighborhood Network Plans and utilize performance metrics under each goal to track progress towards each:

- **Improve Safety:** Create a safe environment for all users by reducing the risk of death or serious injury on the transportation network.
- **Expand Mode Share:** Increase the percentage of trips made by walking, cycling, and rolling, by making these modes a viable and attractive alternative to driving.
- **Maintain the System Sustainably:** Identify long-term maintenance and repair strategies to ensure the network remains functional and appealing for years to come.
- **Enhance the Community:** Foster a healthier, more sustainable, and more vibrant community by promoting active transportation as a way to connect with neighbors and enjoy the outdoors and integrate physical activity into daily life..

Plan Organization

The following chapters of this plan detail the planning process, analysis, and roadmap for enhancing active transportation infrastructure and improving the pedestrian experience. Here's an overview of each chapter:

Chapter 2: Where We Are Today?

This chapter provides an overview of the current state of active transportation infrastructure and programs. It includes an analysis of the roadway network, existing typologies, walking and biking networks, transit services, as well as program and policy networks. Additionally, it encompasses an equity and health analysis and summarizes safety issues.

Chapter 3: Community Engagement

Summarizing the community engagement process, this covers the outreach strategy, engagement phases, public and stakeholder activities, and key findings from engagement efforts for the Walk & Roll Truckee Meadows Plan.

Chapter 4: Analyzing the Network

Presenting the outcomes of network analysis, this chapter includes assessments of bicycle stress levels, pedestrian experience, areas with high potential for active trips, and regional active transportation network gaps.

Chapter 5: Addressing the Issues

Focused on addressing identified needs, this chapter discusses the Neighborhood Planning Framework, presents the Regional Street Typologies Guide, and recommends policies and programs for enhancing active transportation.

Chapter 6: Implementation, Funding, and Performance Measures

Covering implementation strategies, funding considerations, maintenance, scenario planning, available funding programs, and performance measures for monitoring progress.



A shared-use path running parallel to McCarran Boulevard.

2

Where We Are Today



WHERE WE ARE TODAY

The Regional Roadway Network

The initial phase of the Walk & Roll Truckee Meadows Plan development involved an existing conditions analysis of the regional roadway network within Washoe County. This analysis focused on the regional road system as defined by the RTC. The classification of these roads utilized the criteria outlined in [Appendix D](#) of the RTC Regional Transportation Plan (RTP). This system categorizes roads into four primary classifications:

- **Arterials:** These high-capacity roads provide the most direct connections between freeways and other major roads, facilitating long-distance travel within the region.
- **Collectors:** These mid-capacity roads typically carry an average daily traffic (ADT) of 5,000 vehicles and play a crucial role in the transportation network. They may cross significant barriers like the Truckee River or freeways or connect to major regional facilities.
- **Industrial Roads:** These roads are specifically designed to support the movement of freight within the region. Industrial roadways are considered by their functional classification within this plan.
- **Transit Routes:** These roads prioritize public transportation by incorporating established bus routes or other forms of mass transit. Transit Route roadways are considered by their functional classification within this plan.

Understanding these road classifications is essential for developing a comprehensive Walk & Roll Truckee Meadows Plan that considers the different needs of various road types and ensures a safe and efficient transportation system for all users. In this analysis of the roadway, the focus was on collector and arterial level roadways based on their functional classification. The total lane miles of each classification within each of land use context is highlighted below in [Table 2.1](#).

Table 2.1 Regional Roadway Mileage Breakdown

Roadway Type	Rural	Suburban	Urban	Grand Total
Arterial	91	113	166	370
Collector	10	25	25	61
Grand Total	101	139	191	431

Prioritizing Active Transportation in Washoe County: A Systematic Approach

Many streets in the Truckee Meadows serve diverse purposes, from high-volume freight corridors to minor collectors which connect to neighborhood streets. In order to provide a context sensitive approach across the wide variety of streets, this project used a typological approach by dividing the regional roadway network into 10 distinct Street Typologies.

What is a Typology?

Street typologies categorize streets based on similar characteristics like their functional classification, traffic volume, speed limits, street widths, and surrounding land uses. The Walk & Roll Truckee Meadows Plan identifies 10 different types of streets or “typologies” based on this information which address all the different contexts that may be found throughout the Truckee Meadows on regional roads. Typologies are summarized below based on their key characteristics and further analyzed in [Chapter 4](#). Suitable facilities for people walking and biking are presented for each typology within [Chapter 5](#) in the Regional Street Typology Guide. The facilities are intended to create a safer and more comfortable network for people walking and biking of all ages and abilities.



Bicyclist traveling along Booth Street in the rain.

TYOLOGY DESCRIPTIONS:

Arterials:

Urban Arterial Major - Largest urban roads for moving people efficiently surrounded by high/medium density uses (office, commercial, residential, industrial).

- Examples: N. Virginia St - 9th St to Liberty St

Urban Arterial Minor - Large urban roads for movement of people with high/medium densities of commercial, residential, and office uses.

- Examples: W. 2nd St - Keystone Ave to S Wells Ave

Suburban Arterial Major - Largest suburban roads with medium density commercial, residential, and auto-oriented land uses.

- Examples: South Meadows Pkwy - I-580 to Veteran Pkwy

Suburban Arterial Minor - Large suburban roads connecting primarily suburban residential areas with higher speed roadways.

- Examples: Sharlands Ave - Robb Dr to Mae Anne Ave

Rural Arterial - High speed roads connecting rural neighborhoods to outlying areas and suburban neighborhoods. Typically surrounded by low-density residential or industrial land uses.

- Examples: Geiger Grade - Toll Rd to Virginia City

Collectors:

Urban Collector Commercial - Connecting urban residential and high/medium density commercial areas with higher speed roads.

- Examples: Lake St - Mill St to 6th St

Urban Collector Residential - Small regional roads primarily with residential uses connecting to higher speed roads.

- Examples: Wedekind Rd - Sutro St to McCarran Blvd

Suburban Collector Major - Provides connection between suburban residential or low density commercial / office land uses with higher speed arterial roadways.

- Examples: Mira Loma Dr - Boynton Ln to Veterans Pkwy

Suburban Collector Minor - These small regional roads provide connections between suburban residential neighborhoods and higher speed roadways.

- Examples: Silver Lake Rd - Red Rock Rd to Stead Blvd

Rural Collector - Connecting rural neighborhoods with higher speed roadways like rural arterials. Typically surrounded by low-density residential land uses.

- Examples: W. Calle De La Plata - Pyramid Hwy to Eagle Canyon Dr

Map 2.1 on the following page shows the typology for each regional roadway as defined above. **Tables 2.2** and **2.3** present information about the five arterial typologies and five collector typologies in terms of their characteristics and existing infrastructure. It includes details such as the average right-of-way (ROW) width, typical number of lanes, average annual daily traffic (AADT) ranges, posted speed limits.

As shown in these tables, Major Urban Arterials typically have wider right-of-ways compared to rural or suburban roads, with a typical range of 129 to 88 feet. Arterials typically have posted speed limits between 35 – 45 miles per hours (mph); minor arterials in the urban environment generally have lower speed limits of 30 mph.

Table 2.2 Regional Roadway Typology Characteristics (Arterials)

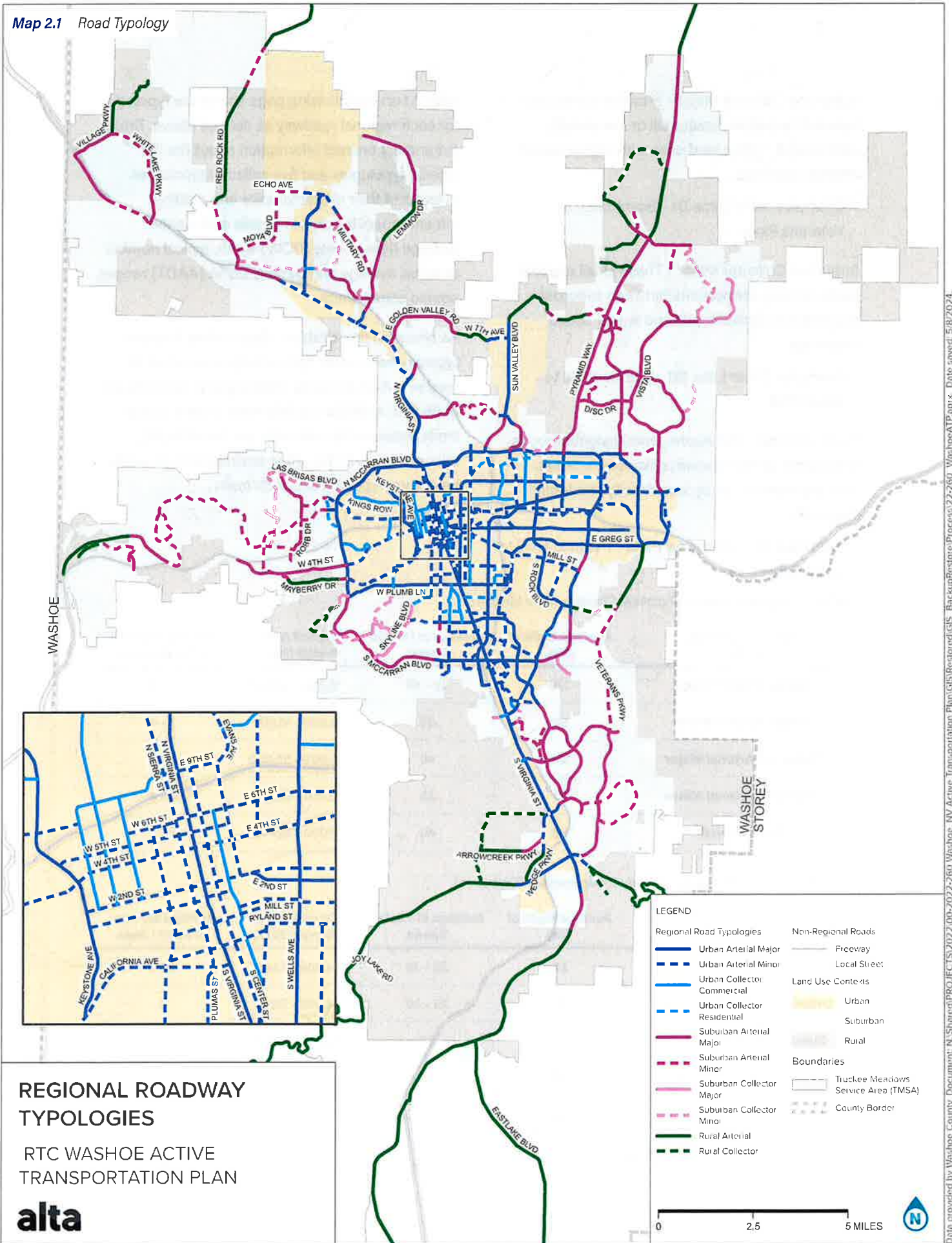
Regional Typology (Arterials)	Average Right of Way	Average of Posted Speed	Typical AADT Range (2019) ¹	Average Number of Road Lanes
Urban Arterial Major	129	35 - 45	18,000 - 31,500	4 - 6
Urban Arterial Minor	88	30	6,600 - 14,000	3 - 4
Suburban Arterial Major	135	40	15,500 - 50,000	4 - 5
Suburban Arterial Minor	71	35	6,750 - 13,350	3 - 4
Rural Arterial	115	40	7,000 - 18,750	2 - 4

Table 2.3 Regional Roadway Typology Characteristics (Collectors)

Regional Typology (Collectors)	Average Right of Way	Average of Posted Speed	Typical AADT Range (2019)	Average Number of Road Lanes
Urban Collector Commercial	88	25 - 30	4,000 - 7,500	2 - 3
Urban Collector Residential	65	25 - 30	4,000 - 7,000	2
Suburban Collector Major	100	30	6,500 - 20,500	2 - 3
Suburban Collector Minor	63	30	3,400 - 5,250	2
Rural Collector	78	30 - 35	3,875 - 5,900	2

¹Data obtained from NDOT TRINA database.

Map 2.1 Road Typology



Walking & Rolling Network

Sidewalks and Crossings

The pedestrian network on regional roads is largely made up of sidewalks. The presence of a sidewalk can provide a safety benefit for pedestrians and access for those using a mobility scooter or similar device. The RTC acquired updated sidewalk location data using satellite imagery to identify the location and widths of sidewalks along regional roads and marked crossing locations. [Tables 2.4 and 2.5](#) highlight the results of this analysis. In the urban context, sidewalk coverage on both sides of the road may be intermittent as development occurs and fills in existing gaps in the sidewalk

network. Suburban arterials, both major and minor, typically have a sidewalk on one side of the street where rural arterials typically lack a fully connected sidewalk on either side of the street. Urban roads tend to have more frequent marked crossing opportunities as block lengths are typically shorter in denser areas like downtown Reno or Midtown. Suburban roadways typically have marked crosswalks every third to half of a mile. With a lower overall demand for pedestrian crossings in the rural context, marked crosswalks are less frequent than compared to the suburban and urban contexts.

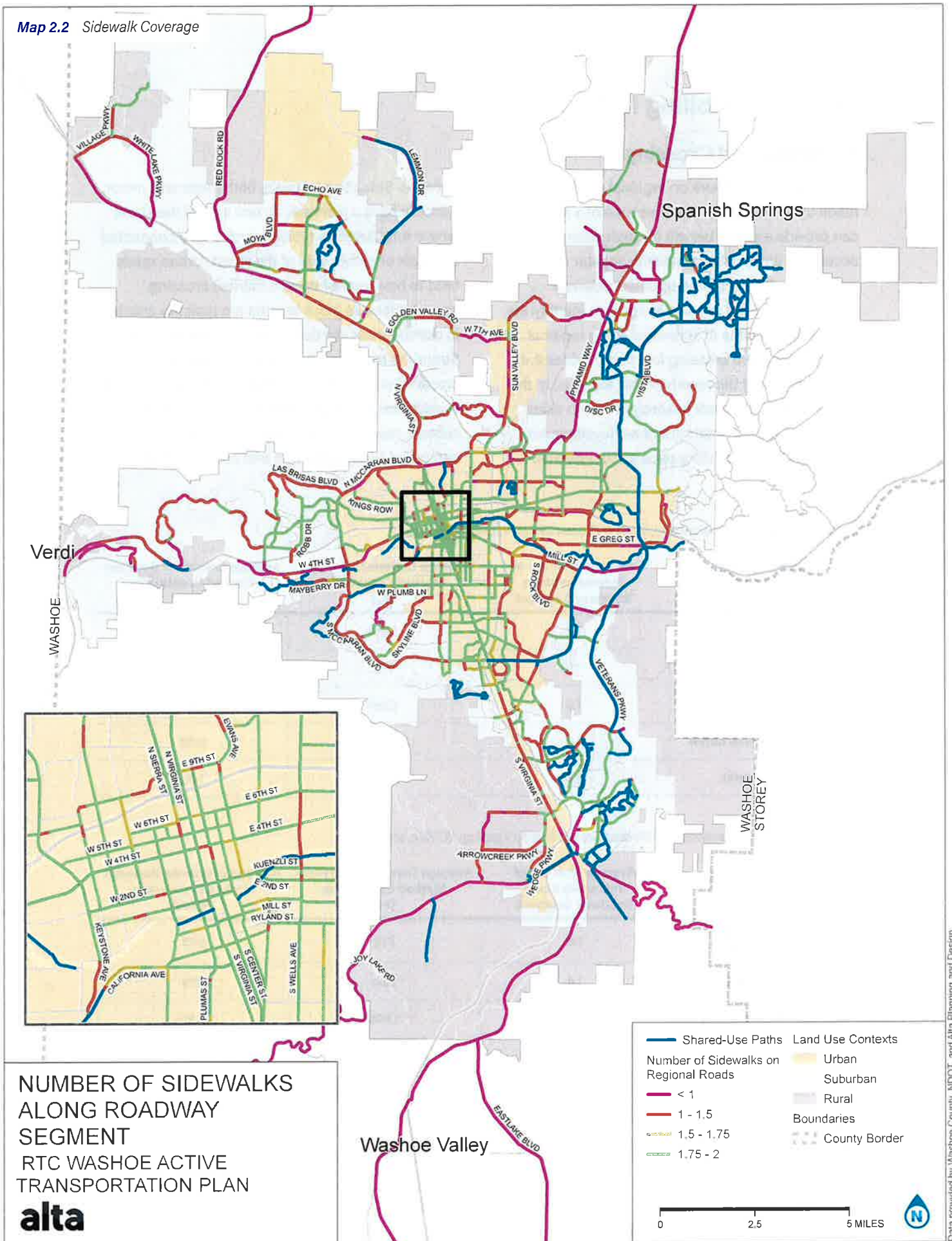
Table 2.4 Sidewalk Presence and Marked Crosswalks by Typology (Arterials)

Regional Typology (Arterials)	Average Number of Sidewalks along Roadway Segment	Average Distances Between Marked Crosswalks (Ft)	Average Distances Between Marked Crosswalks (Miles)
Urban Arterial Major	1.3	1,381	0.26
Urban Arterial Minor	1.6	935	0.18
Suburban Arterial Major	1.0	2,591	0.49
Suburban Arterial Minor	1.0	1,676	0.32
Rural Arterial	0.3	9,746	1.85

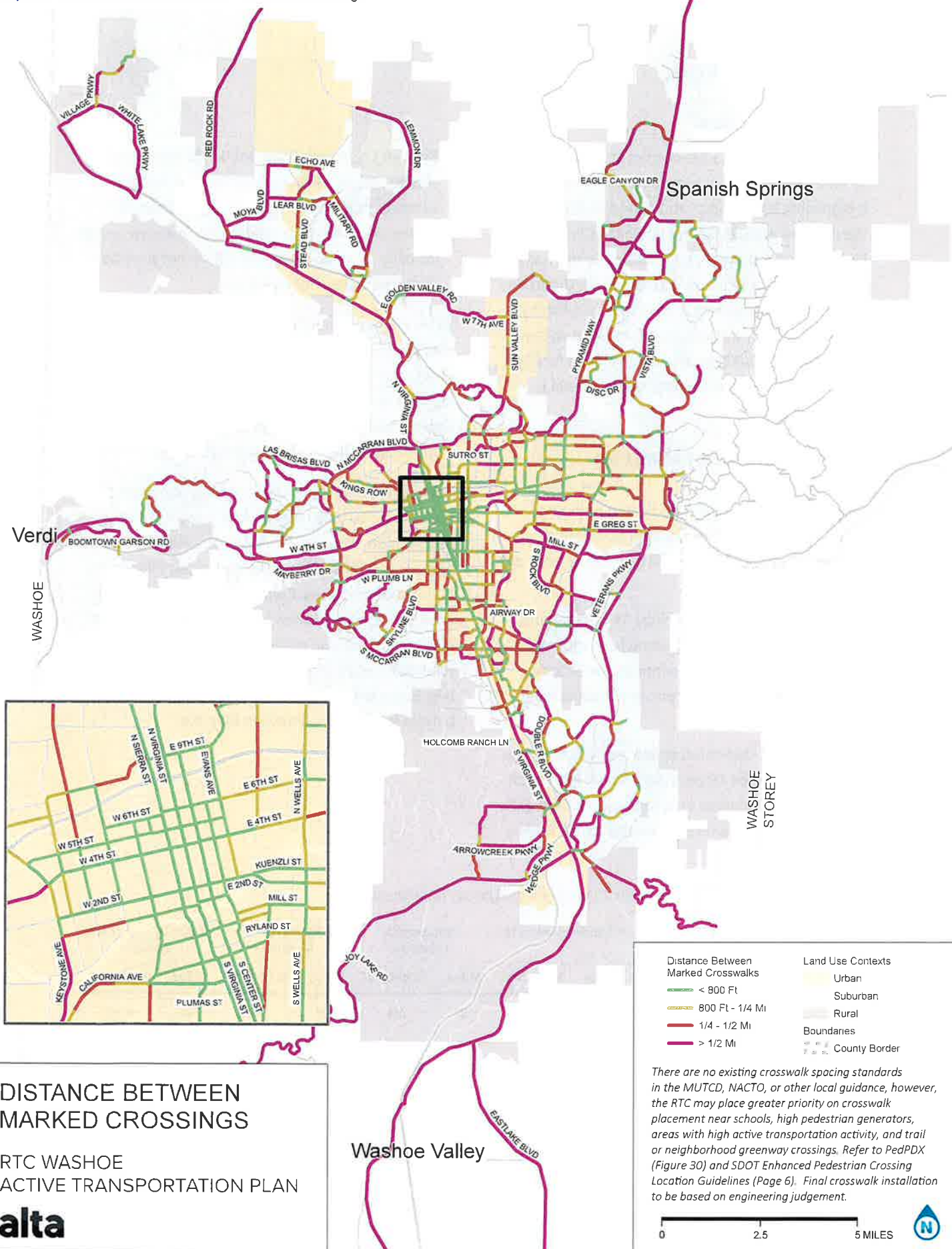
Table 2.5 Sidewalk Presence and Marked Crosswalks by Typology (Collectors)

Regional Typology (Arterials)	Average Number of Sidewalks along Roadway Segment	Average Distances Between Marked Crosswalks (Ft)	Average Distances Between Marked Crosswalks (Miles)
Urban Collector Commercial	1.8	770	0.15
Urban Collector Residential	1.4	984	0.19
Suburban Collector Major	1.3	1,598	0.30
Suburban Collector Minor	1.1	1,750	0.33
Rural Collector	0.8	4,104	0.78

Map 2.2 Sidewalk Coverage



Map 2.3 Distance between Marked Pedestrian Crossings



DISTANCE BETWEEN MARKED CROSSINGS

RTC WASHOE
ACTIVE TRANSPORTATION PLAN



- | | |
|---|---|
| Distance Between Marked Crosswalks | Land Use Contexts |
| — < 800 Ft | Urban |
| — 800 Ft - 1/4 Mi | Suburban |
| — 1/4 - 1/2 Mi | Rural |
| — > 1/2 Mi | Boundaries |
| | County Border |

There are no existing crosswalk spacing standards in the MUTCD, NACTO, or other local guidance, however, the RTC may place greater priority on crosswalk placement near schools, high pedestrian generators, areas with high active transportation activity, and trail or neighborhood greenway crossings. Refer to PedPDX (Figure 30) and SDOT Enhanced Pedestrian Crossing Location Guidelines (Page 6). Final crosswalk installation to be based on engineering judgement.



Bicycle Network

Bicycle Facilities

This review examines the current state of bicycle facilities across urban, suburban, and rural areas. It highlights key findings and connects them to the network analysis section (refer to [Chapter 4](#) Network Analysis section for details on high-stress areas divided by high-speed roadways). Urban and Suburban arterials tend to have a bicycle facility, which is typically a standard bicycle lane. In the rural area, arterials typically lack a bicycle facility compared to collectors which typically have a bicycle facility.

TYPES OF BICYCLE FACILITIES (DEFINITIONS):

- **Separated Bikeway:** A dedicated path for bicyclists, physically separated from traffic by a barrier. May also be referred to as cycle track or protected bike lane.
- **Shared-Use Path:** A pathway for pedestrians, bicyclists, and others, separate from motorized traffic including making connections outside of the right of way (example: the Truckee River Path).
- **Bike Lane:** A dedicated space for cyclists on the roadway, marked by pavement markings, which may be accompanied by additional signage. Bike lanes follow the same direction as motor vehicle traffic.

- **Shared Lane Markings:** Markings indicating shared-use of a lane by bicycles and motor vehicles including "sharrows", signed bicycle routes, and bike / bus lanes. They improve cyclist visibility to varying degrees but do not provide dedicated space for bicyclists.

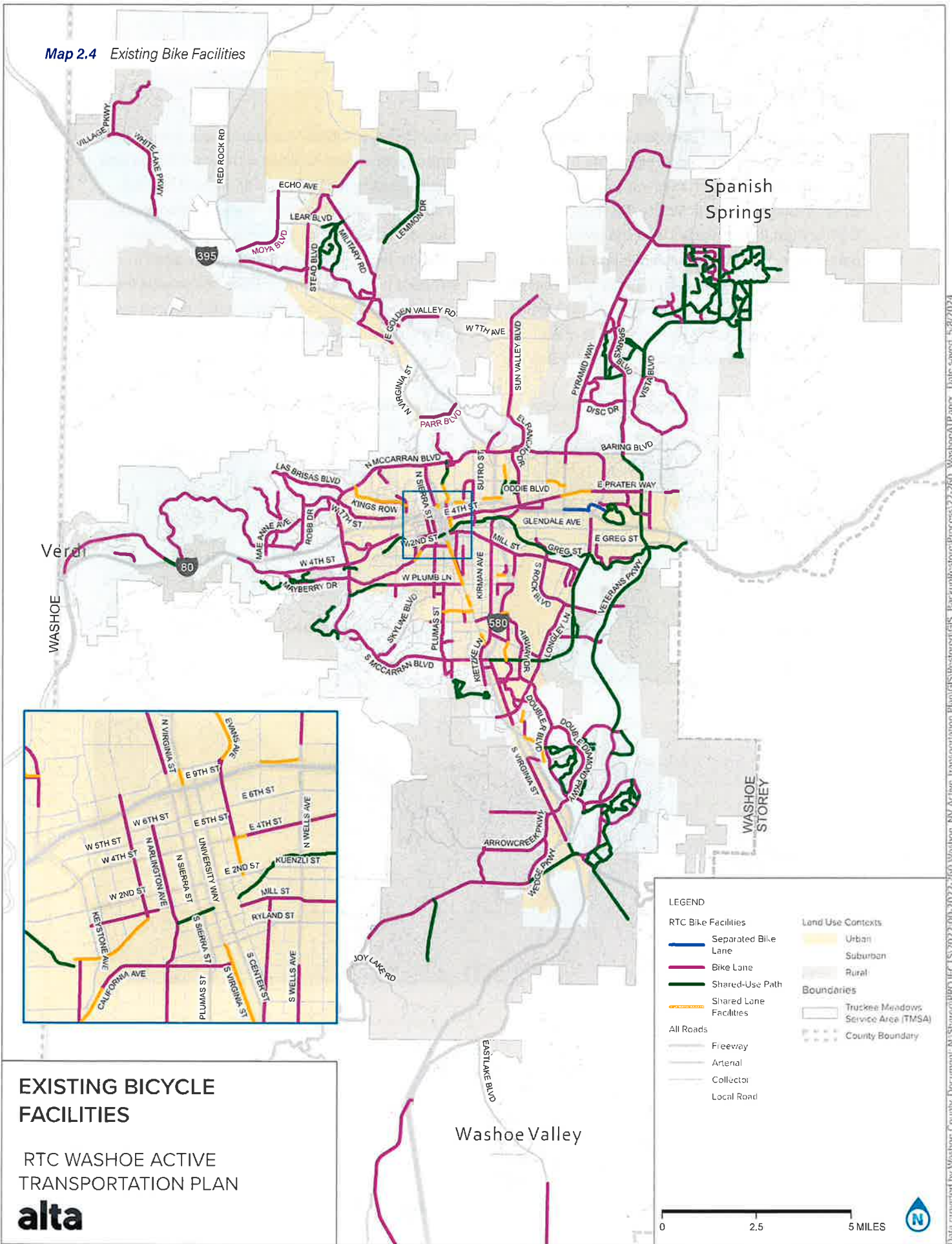
[Table 2.6](#) highlights the bicycle facilities on regional roads within each of land use context. As shown below, the significant majority (84%) of bicycle facilities on regional roadways are bike lanes with approximately 10% of the total facilities being either shared-use paths or separated bikeways.

The urban context has the largest percentage of the existing bicycle network with a total of 144 miles which includes 18 miles of shared-use paths and approximately 2 miles of separated bikeway. In the suburban area, there are a total of 110 miles of bicycle facilities which includes a total of seven miles of shared-use paths. The rural area includes a total of 63 miles of bicycle facilities with 59 miles of bike lanes and 4 miles of shared-use paths. Existing bicycle facilities are shown in [Map 2.4](#).

Table 2.6 Sidewalk Presence and Marked Crosswalks by Typology (Collectors)

Regional Typology (Arterials)	Bike Lane		Shared-Use Path		Separated Bikeway		Shared Lane Markings		Total By Land Use Context	
	Miles	% of total	Miles	% of total	Miles	% of total	Miles	% of total	Miles	% of total
Urban	106	33%	18	6%	2	1%	18	6%	144	45%
Suburban	101	32%	7	2%	0	0%	2	0%	110	35%
Rural	59	19%	4	1%	0	0%	0	0%	63	20%
Total by Facility Type	266	84%	29	9%	2	1%	20	6%	316	100%

Map 2.4 Existing Bike Facilities



EXISTING BICYCLE FACILITIES

RTC WASHOE ACTIVE TRANSPORTATION PLAN



Data provided by Washoe County. Document: N:\Shared\PROJECTS\2022-260 Washoe NV Active Transportation Plan\GIS\Subarea\GIS_Backup\kioskator\Process\22-260_WashoeATP.aprx. Date saved: 5/8/2024

Facility Coverage by Roadway Typology

Comparing the existing bicycle facility locations with the roadway typologies, highlights the total percentage of each roadway typology which includes a bicycle facility. **Table 2.7 and 2.8** highlight the typologies with the greatest percentage of bicycle facility coverage are the Urban Arterial Major and Rural Collectors. Outside of major urban arterials, no other typology within the urban context has a majority of lane miles which include a bicycle facility. In the suburban

context, major suburban arterials have the greatest coverage of bicycle facilities with two-thirds of lane miles including a bicycle facility; a small majority of suburban collector minor roadways also include a bicycle facility. While these typologies provide a bicycle facility, the facility provided is often a standard bicycle lane which does not provide the level of separation from vehicle traffic desired by the 'interested but concerned' portion of bicyclists.

Table 2.7 Regional Typology Bicycle Facility Coverage (Arterials)

Regional Typology (Arterials)	Average Bicycle Facility Coverage (0 - 100%)
Urban Arterial Major	67%
Urban Arterial Minor	39%
Suburban Arterial Major	66%
Suburban Arterial Minor	41%
Rural Arterial	41%

Table 2.8 Regional Typology Bicycle Facility Coverage (Collectors)

Regional Typology (Arterials)	Average Bicycle Facility Coverage (0 - 100%)
Urban Collector Commercial	36%
Urban Collector Residential	41%
Suburban Collector Major	48%
Suburban Collector Minor	55%
Rural Collector	73%



Bicyclist traveling in bike lane on S. McCarran Blvd.

Transit Network

This section provides an overview of the existing transit services offered by the Regional Transportation Commission (RTC) of Washoe County, with a focus on identifying opportunities to support transit service within increased bicycle and pedestrian accommodations. Currently, the RTC provides a range of transit services including fixed-route transit (RTC RIDE & RTC RAPID), FlexRide, Vanpool, and ADA services known as RTC ACCESS, shown in [Map 2.5](#).

SYSTEM STRUCTURE

RTC Fixed Routes (RIDE, RAPID, and Regional Connector):

The RTC Washoe operates a comprehensive fixed-route system consisting of:

- **RTC RIDE (22 Local Bus Routes):** These routes make up the RTC RIDE network and provide frequent service within urban and suburban areas.
- **RTC RAPID (2 Bus Rapid Transit (BRT) Routes):** The RTC RAPID routes include the Virginia Line and Lincoln Line which offer faster and more limited-stop service on high-demand corridors.
- **RTC Regional Connector (1 Regional Route):** The RTC Regional Connector links Washoe County with the state capitol, Carson City, to the south.

The system is anchored by major transit centers, including 4th Street Station, Centennial Plaza, and Meadowood Mall. These hubs facilitate transfers between routes and offer connections to other transportation options. Local bus routes typically operate on regular headways between 30 and 60 minutes, ensuring a predictable service frequency. All RTC RIDE, RAPID, and Regional Connector vehicles include bike racks on the front of the bus which can accommodate between two and three bicycles at a time.



RTC RIDE bus with double bicycle racks which enable linked bicycle and transit trips.

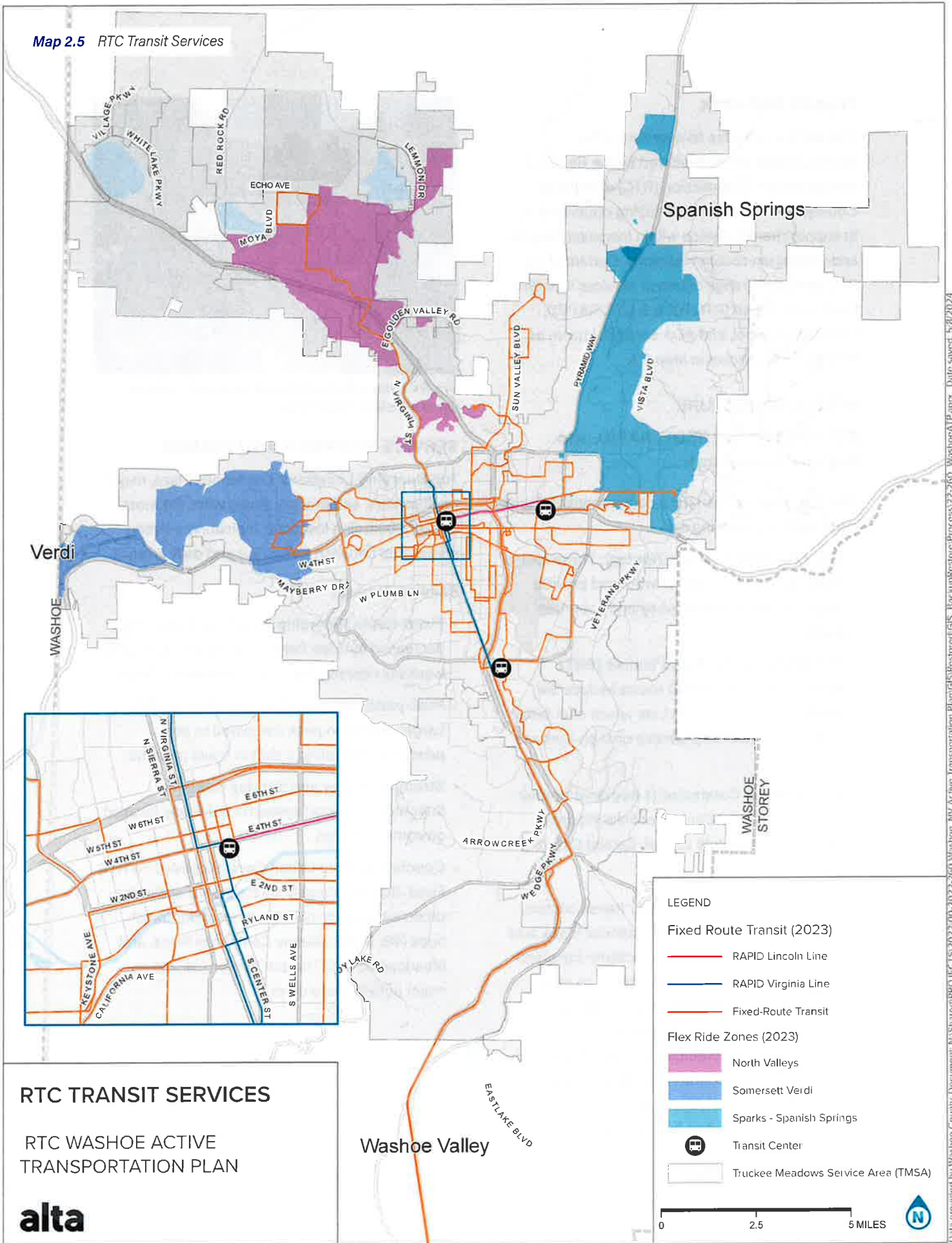
SERVICE RIDERSHIP AND TRENDS

Top Boarding Locations: Centennial Plaza, major retail centers, and grocery stores were the most frequent boarding locations, indicating a strong connection between transit use and daily errands.

Service Trends:

- **Fixed-Route Ridership:** Fixed-route ridership decreased by 3.9% between 2010 and 2019. Total weekday ridership from 2021 is shown in [Map 2.6](#).
- **Post-pandemic weekday ridership in 2021:** Larger afternoon peak compared to pre-pandemic, indicating a shift in travel patterns.
- **Strong Saturday and Sunday ridership:** Suggests the transit system is not solely focused on commuter trips.
- **Concentration in Urban Core:** Ridership on RTC Fixed-Routes is largely concentrated within the urban area which includes three major transit hubs (4th Street Station, Centennial Plaza, and Meadowood Mall Transfer Station) as well as major activity generators.

Map 2.5 RTC Transit Services

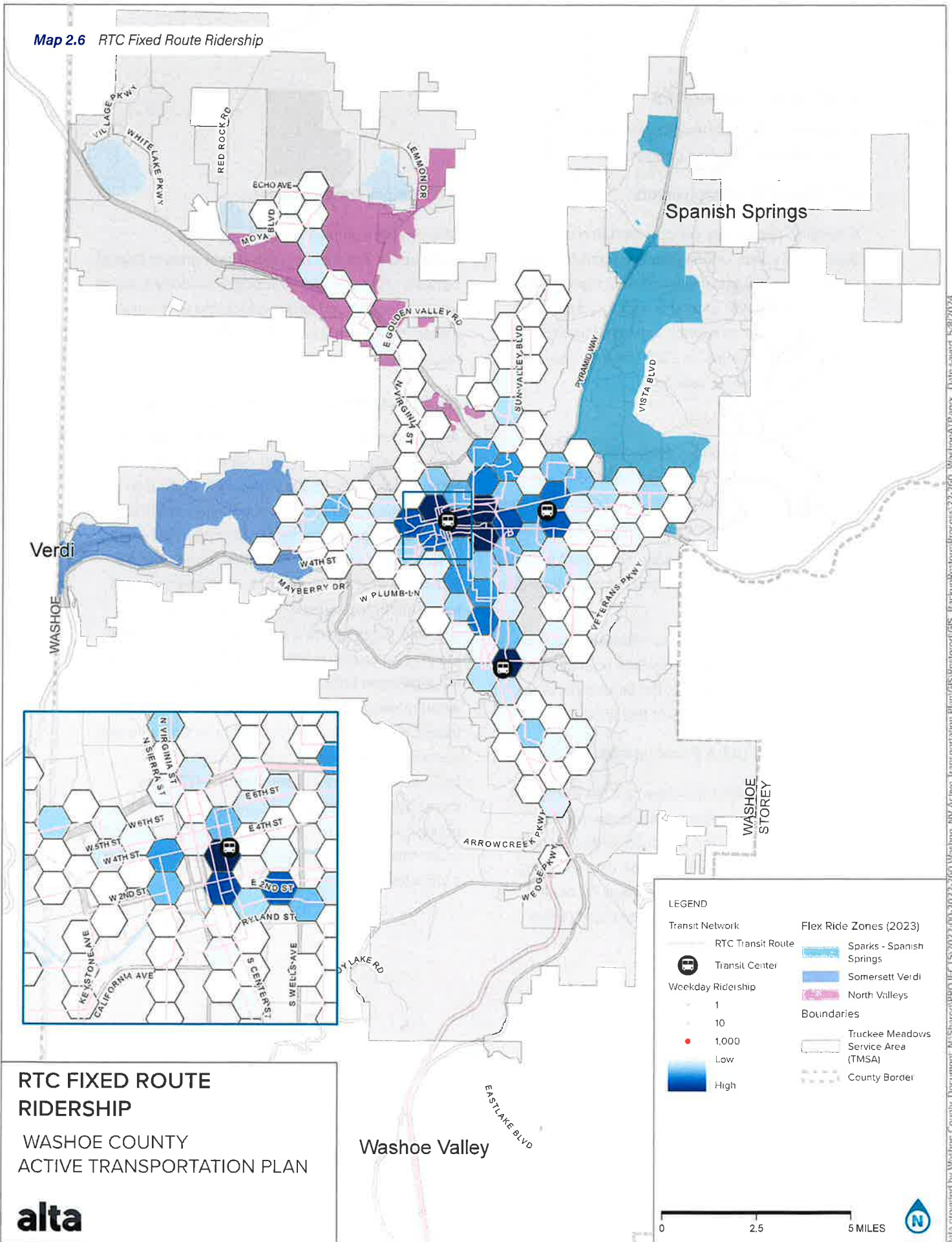


RTC TRANSIT SERVICES

RTC WASHOE ACTIVE
TRANSPORTATION PLAN



Map 2.6 RTC Fixed Route Ridership



**RTC FIXED ROUTE
RIDERSHIP**
WASHOE COUNTY
ACTIVE TRANSPORTATION PLAN



LEGEND

RTC Transit Route	Sparks - Spanish Springs
Transit Center	Somersett Verdi
1	North Valleys
10	Boundaries
1,000	Truckee Meadows Service Area (TMSA)
Low	County Border
High	



Data provided by Washoe County, Document: N:\Share\PROJECT\15\2022\00-2022-260_Washoe_NV_Active_Transportation_Plan\GIS\Heated\GIS_Backup\atom\Process\22-260_Washoe\A1.Papr. Date saved: 5/8/2024

SPECIALIZED SERVICES

Beyond the core fixed-route system, the RTC offers additional transportation options:

RTC FlexRIDE Microtransit:

A demand-responsive service operating in designated zones, offering flexible point-to-point connections. While current ridership represents a small portion (1.4%) of total boardings, it provides an alternative for those with limited access to traditional fixed routes. In 2021, this service averaged 256 weekly boardings.

Geographic Distribution:

- Sparks/Spanish Springs Zone: This zone accounted for 53% of the total FlexRide boardings. This highlights the success of this zone which was the first to be implemented by the RTC.
- North Valleys Zone: This zone accounts for 46% of total FlexRide boardings, representing ridership in the northern suburbs.
- Verdi/Somerset Zone: This relatively new zone accounts for 2% of total FlexRide boardings which is expected to increase as the service becomes more familiar to residents in this area.

RTC ACCESS (ADA Paratransit):

ACCESS paratransit trips grew by 5.6% during the same period, suggesting an increased demand for services catering to individuals with disabilities and the aging population. Top boarding locations for paratransit riders include facilities for adult day health care, vocational services, and dialysis centers.

RTC Smart Trips Vanpool:

This program offers a vanpool option for commuters, experiencing significant growth (158%) between 2017 and 2021. Vanpools currently account for 9% of total boardings, highlighting their value as a cost-effective and convenient mode for reaching major employment centers.

CHALLENGES AND OPPORTUNITIES:

An analysis of ridership data reveals a significant concentration of service and ridership along urban arterial roadways. This is particularly evident on the Virginia Street corridor, accounting for 20% of total boardings. While the concentration of transit resources on urban arterials offers more efficient transit service, it's important to consider potential issues for active transportation such as limited sidewalk connections to bus stops, higher rates of crashes on arterial roadways, and a greater desire for separation between active modes and vehicles when making intermodal linkages (i.e. accessing transit with a bike or on foot). By providing sidewalk connections for pedestrians and more robust facilities with greater separation, the RTC may increase the potential for bicycle to bus trips for a greater portion of the population and enhance first / last mile connections for people walking or using a wheelchair.

Program & Policy Network

This section provides an overview of the existing programs and policies which are applicable within Washoe County and help to improve the walking and bicycling networks in the Truckee Meadows. This is not intended to be an exhaustive list of all bicycle and pedestrian supportive programs but a highlight of the major policies and available programs which the RTC may use or leverage to improve active transportation in the Truckee Meadows moving forward. This section is intended to provide a broad understanding of the program and policy landscape for active transportation planning and design within the Truckee Meadows. Links are provided to outside resources and programs where available.

[Washoe County Safe Routes to School Program](#)

This program aims to increase the number of students safely walking, biking, and using alternative transportation to school, while reducing car traffic around schools. A collaborative committee made up of representatives from various departments and organizations oversees the program. This includes city traffic engineers, planners, police departments, the school district, and even local bike advocacy groups. Overall, SRTS in Washoe County provides a framework and collaborative effort to create a safer and healthier way for students to get to school.

Bicycle, Pedestrian, and Wheelchair Data Collection Program

This program has been collecting bicycle, pedestrian, and wheelchair count data since 2013 to monitor changes in mode behavior at locations throughout the Truckee Meadows and along key corridors including South Virginia Street and the 4th / Prater corridor. This data collection method has evolved from manual video counts to using cutting-edge LiDAR² sensors in partnership with researchers at the University of Nevada, Reno. Going forward, the RTC will consider enhancements to the methods of collection and strategies to leverage the data to more directly inform planning and monitoring of trends in active transportation usage throughout the Truckee Meadows.

RTC Complete Streets Plan & Policy

RTC's Complete Streets Master Plan, adopted in 2016, aims to transform streets into inclusive spaces accessible to all community members. The plan, informed by community input, proposes various enhancements, including bike lanes, wider sidewalks, and improved transit options. This initiative builds on RTC's ongoing efforts since 2008 to create safer streets, with notable projects like the Virginia Street Corridor and the Southeast Connector contributing to improved safety and accessibility. The RTC Complete Street Policy contained in various sections of the plan may benefit from consolidation into a single policy document for clarity.

² Light Detection and Ranging (LiDAR)

Human Networks

Equity & Health Analysis

Transportation planning has historically prioritized project benefits without critically assessing their equitable distribution. A focus on equity aims to rectify this by ensuring transportation investments benefit all community members. This plan includes a transportation-focused equity analysis to measure equity through various data points encompassing metrics that are related to or impacted by active transportation usage such as health outcomes and socioeconomic factors like car ownership and environmental impact.

As shown in *Figure 2.1*, each variable was assigned a percentile rank relative to the entire study area, then multiplied by a predetermined weight to account for its relative importance. These weighted values are then summed to create a final composite index for the entire study area. This index is mapped in *Map 2.7* to highlight areas with the greatest transportation-equity needs.

The areas in the top 20% of rankings represent the highest equity need areas which include Downtown Reno, the area between Virginia Street and the Reno Tahoe Airport, Sun Valley, Central Sparks, and the area surrounding the Lemmon Drive and N Virginia Street intersection. These areas have a substantially higher level of need compared to Washoe County as a whole including:

Median Household Income:

- \$71,301 (Washoe County) vs \$38,319 (High Equity Need Areas)

People living at 200% the poverty level or below

- 30% (Washoe County) vs 57% (High Equity Need Areas)

City of Reno, Sparks, and Washoe County Traffic Calming Policies

The RTC does not maintain or provide funding for active transportation improvements on locally owned streets but has been supportive of traffic calming policies by the local jurisdictions. The City of Reno³, City of Sparks⁴, and Washoe County⁵ all have traffic calming policies provide local residents with a process to petition for an engineering study and traffic calming improvements if a need is identified and their neighbors are supportive. Despite slight variation between policies the underlying goal of providing responsive traffic engineering and traffic calming elements is the same across all three. These policies will provide an avenue for creating linkages to regional roadway improvements through local neighborhood streets during the NNP process.

NDOT Complete Streets Policy

The NDOT Complete Streets policy, established in 2017, serves as a guiding framework for the development and enhancement of transportation facilities across Nevada. It directs the integration of Complete Streets principles into the planning, design, construction, and operation of both new and existing transportation infrastructure. This policy underscores NDOT's commitment to promoting safety, accessibility, and mobility for all users, aligning with the evolving needs of communities and travelers since its implementation. This policy will be integral when working with NDOT on NDOT funded projects and those which are within or adjacent to NDOT rights of way.

³ City of Reno Traffic Calming Policy: <https://www.reno.gov/home/showpublisheddocument/28795/635198081788730000>

⁴ City of Sparks Traffic Calming Guidelines: https://www.cityofsparks.us/Document_Center/Department/Engineering%20Services/Transportation%20and%20Traffic%20Engineering/traffic-calming-guidelines.pdf

⁵ Washoe County Traffic Calming and Engineering Request Policy: https://www.washoecounty.gov/CABS/SS_CAB/2022/files/Washoe-County-Traffic-Calming-Traffic-Engineering-Request-Policy.pdf

Hispanic population

- 23% (Washoe County) vs 45% (High Equity Need Areas)

Housing Ownership vs. Renting

- 60% Owner vs 40% Renter (Washoe County)
- 28% Owner vs 72% Renter (High Equity Areas)

People reporting a 'Lack of physical activity'

- 21% (Washoe County) vs. 29% (High Equity Need Areas)

People lacking access to a vehicle

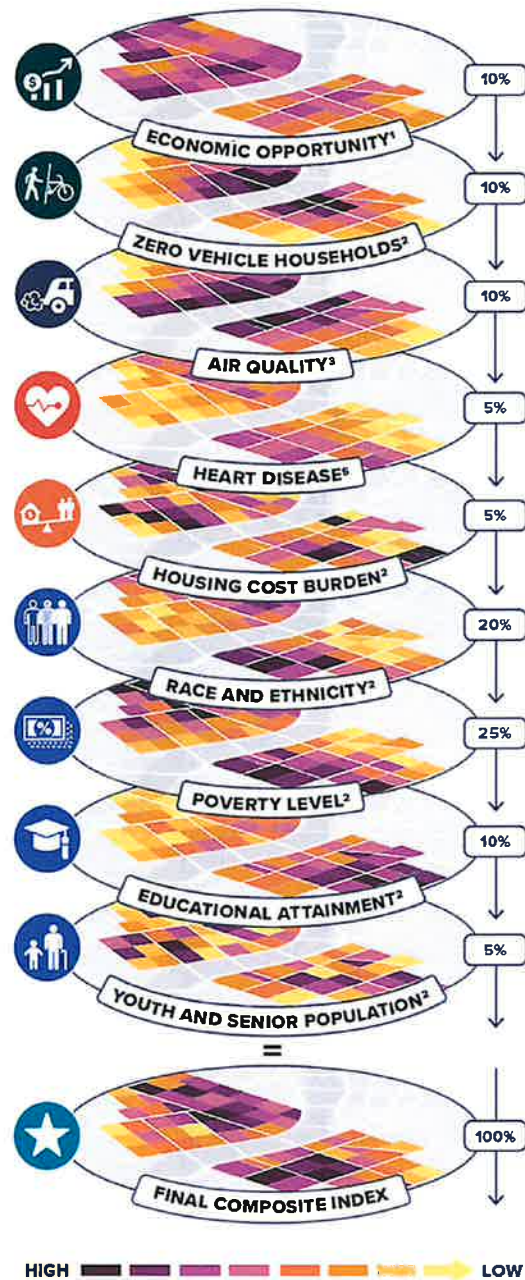
- 7% (Washoe County) vs 17% (High Equity Need Areas)

This data suggests that residents in these areas are more likely to be low-income, transit-dependent, and potentially experiencing health disparities due to limited mobility options. Limited access to transportation can further exacerbate these challenges by hindering access to jobs, healthcare, and education.

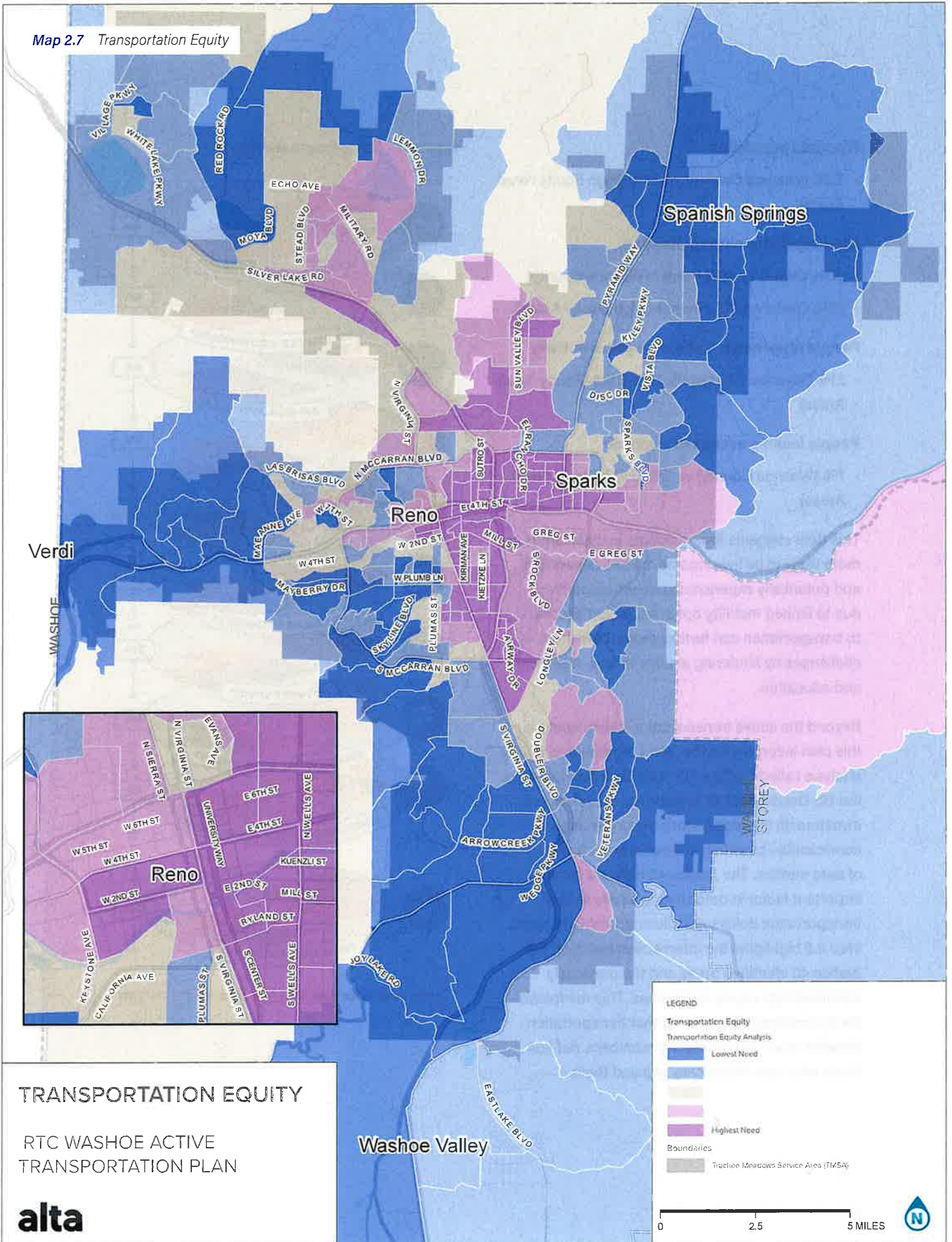
Beyond the active transportation equity analysis, this plan incorporates the latest federal-level equity analysis called "Justice 40". This tool, developed by the US Department of Transportation, prioritizes investments towards historically underserved communities based on a broader assortment of data metrics. The Justice 40 data will be an important factor in determining where federal transportation dollars are allocated going forward.

Map 2.8 highlights the intersection between the Justice 40 identified areas and the previously identified high equity need areas. This reinforces the commitment to ensuring that transportation benefits reach all community members, not just those who have historically enjoyed them.

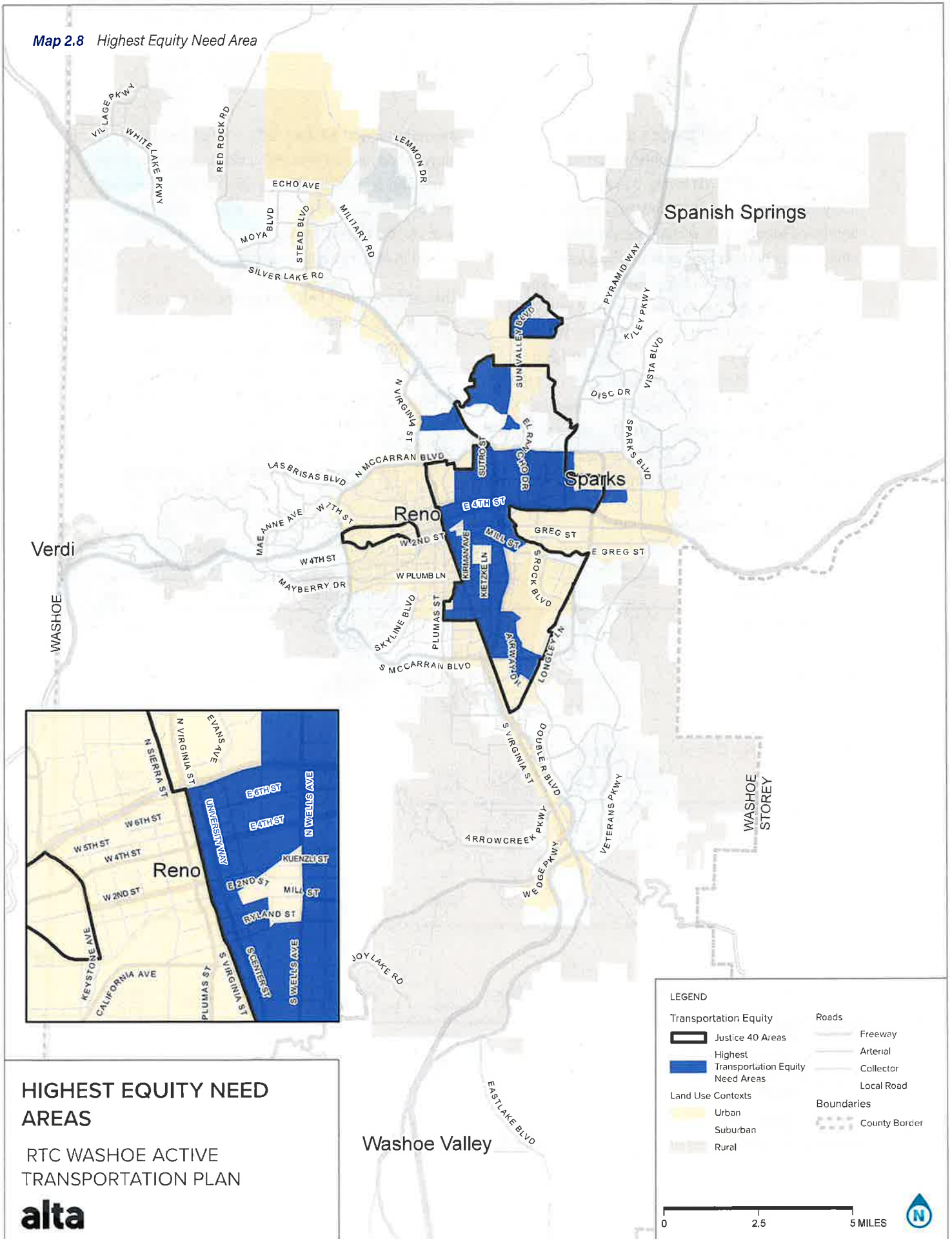
Figure 2.1 Equity Analysis Variables



Map 2.7 Transportation Equity



Map 2.8 Highest Equity Need Area



HIGHEST EQUITY NEED AREAS

RTC WASHOE ACTIVE TRANSPORTATION PLAN



Washoe Valley

0 2.5 5 MILES



Safety

This study included an analysis of available crash data from 2016 – 2020. As traffic patterns are returning to pre-COVID levels, this analysis remains a key indication of where safety may be improved and helps identify overarching trends related to which types of roadways present the greatest safety risk for people walking, biking, and rolling. As shown in [Table 2.9](#) below, between 2016 and 2020, a total of 35,766 crashes occurred within Washoe County including 13,122 injury crashes and 205 fatal crashes. Pedestrians represent 1.44% of total crashes (516 crashes) but are over represented in the number of fatal crashes with 45 total fatalities which accounts for nearly 22% of all fatal crashes across the county during this time period. Over

the same period a total of 287 crashes involving bicyclists occurred with 257 of those resulting in an injury and 3 fatalities. The location of all pedestrian and bicycle crashes as well as their relationship to land use contexts (Urban, Suburban, and Rural) are shown in [Map 2.9](#) and [Map 2.10](#).

The urban context had the greatest portion of pedestrian and bicyclist involved crashes with 82% of pedestrian crashes and 80% of bicycle crashes occurring in the urban area (see [Tables 2.10](#) and [2.11](#) below). The suburban context accounted for nearly all of the remaining bicycle and pedestrian involved crashes where the rural environment accounted for between one and two percent of bicycle and

Table 2.9 Crash Severity Types and Totals

Crash Severity	All Washoe County Crashes (2016 - 2020)	Pedestrian Crashes (2016 - 2020)		Bicyclist Crashes (2016 - 2020)	
	Total	Total	% All Crashes	Total	% All Crashes
Fatal Accident	205	45	21.95%	3	1.46%
Injury Accident	13,122	423	3.22%	257	1.96%
Property Damage Only	22,439	48	0.21%	27	0.12%
Total	35,766	516	1.44%	287	0.80%

Table 2.10 Pedestrian Crashes - Severity Types and Totals

	Fatal Crash	% of total	Injury Crash	% of total	Property Damage Only	% of total	Total	% of total
Urban	31	70%	353	84%	36	77%	420	82%
Suburban	10	23%	66	16%	7	15%	83	16%
Rural	3	7%	3	1%	4	9%	10	2%
Total	44	100%	422	100%	47	100%	513*	100%

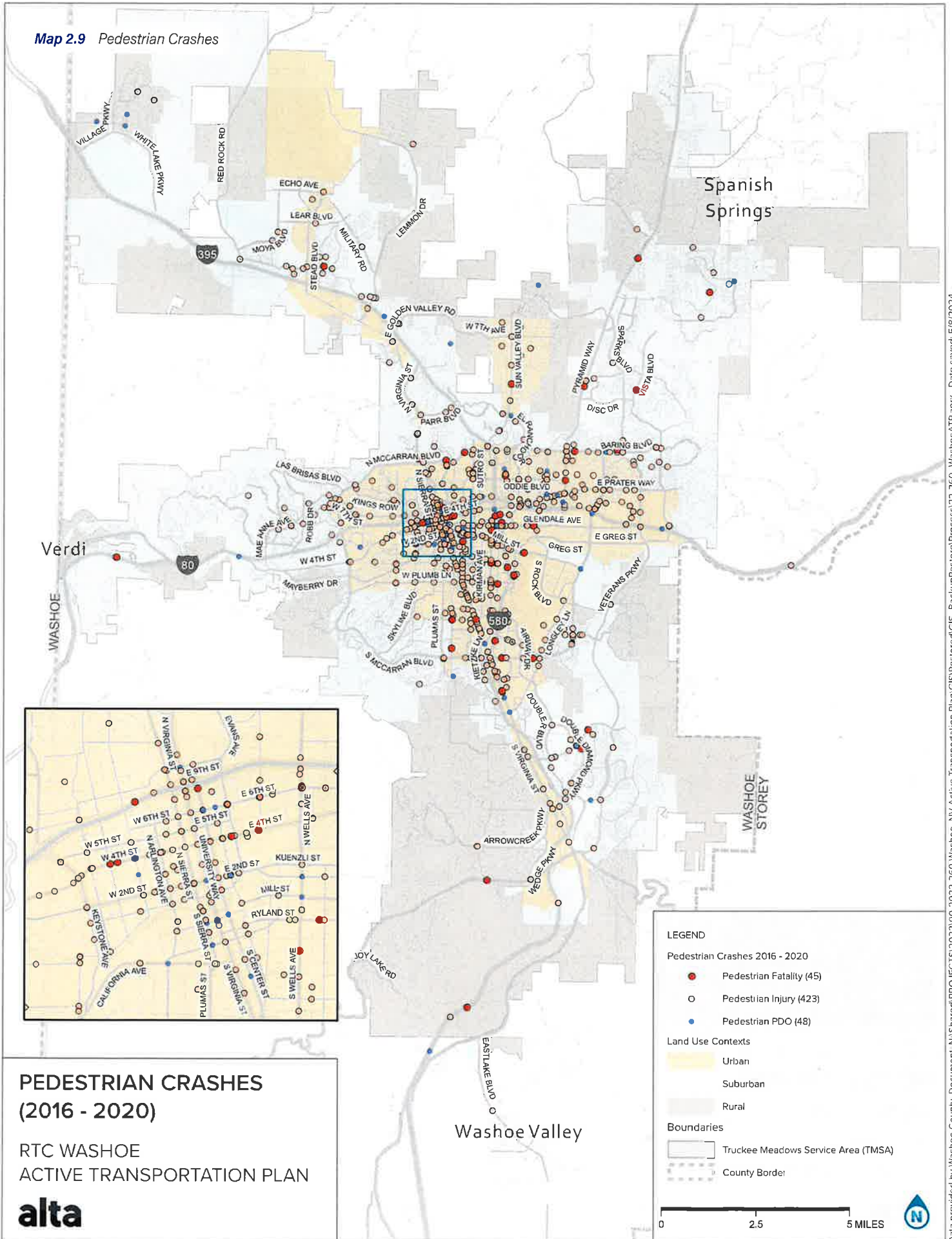
*Three pedestrian crashes occurred outside of the Truckee Meadows Service Area which is the area used for this analysis.

Table 2.11 Bicycle Crashes - Severity Types and Totals

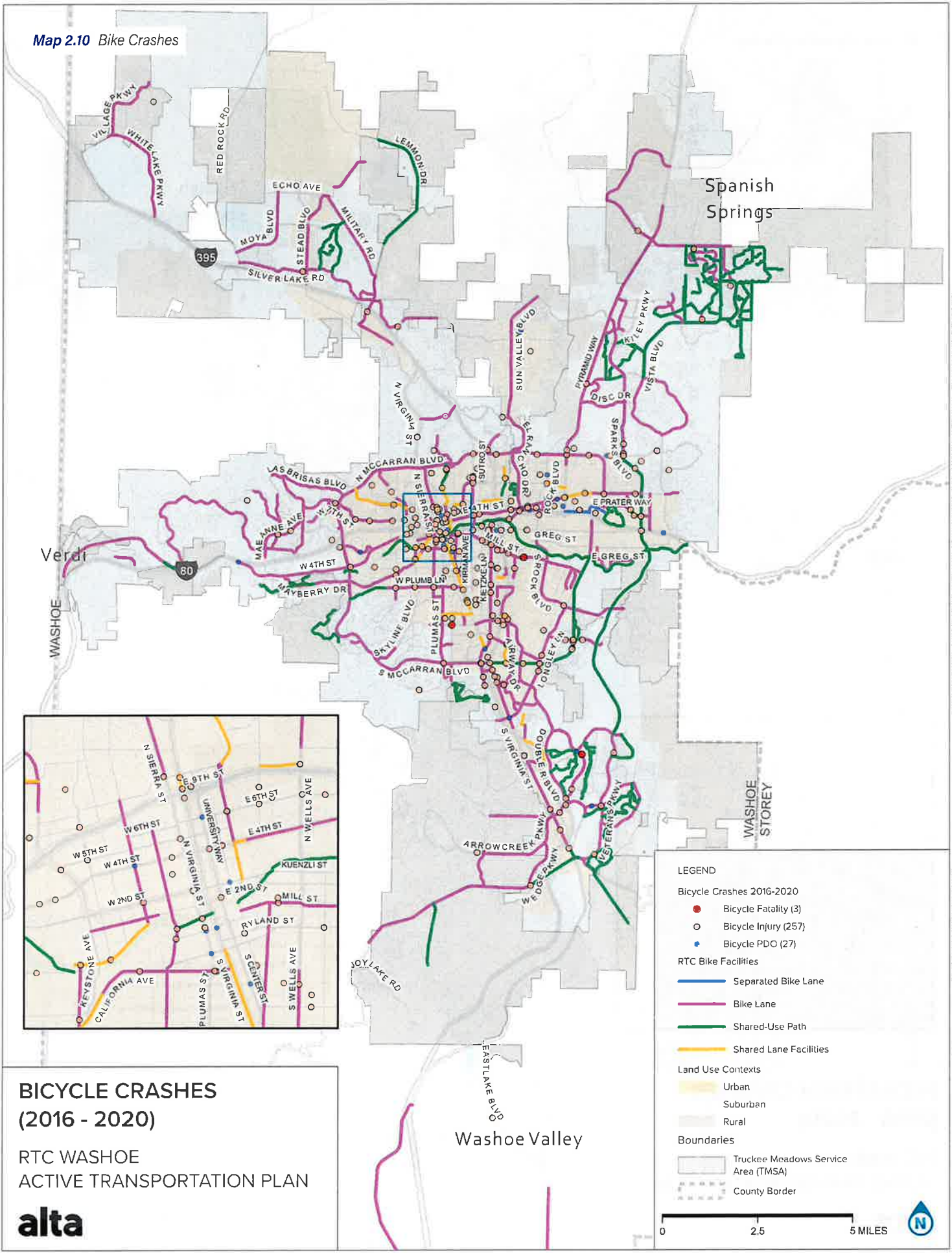
	Fatal Crash	% of total	Injury Crash	% of total	Property Damage Only	% of total	Total	% of total
Urban	2	67%	199	80%	22	81%	223	80%
Suburban	1	33%	48	19%	4	15%	53	19%
Rural	0	0%	3	1%	1	4%	4	1%
Total	3	100%	250	100%	27	100%	280*	100%

*Seven bicycle crashes occurred outside of the Truckee Meadows Service area which is the area used for this analysis.

Map 2.9 Pedestrian Crashes



Map 2.10 Bike Crashes



pedestrian crashes. This highlights the importance of focusing safety improvements for pedestrians and bicyclists within the urban environment in order to affect the greatest benefit to safety for active modes.

Analyzing the locations of crashes helps to get a better sense of areas for improvement within the roadway network. Based on the available data, arterial roadways accounted to 13% of the total roadway miles in Washoe County, however, 74% of bicycle crashes and 79% of pedestrian crashes occurred on arterial roads between 2016 and 2020. Half of the bicycle and pedestrian crashes during this time occurred within 250 feet of an intersection. The significant majority of crashes at intersections occurred at intersections with arterial roadways. A total of 77% of bicycle intersection crashes and 88% of pedestrian intersection crashes occurring at these locations. Roadway speed and volumes also played a role in the number of crashes for pedestrians and bicyclists. Medium-volume roadways which carry between 10,000 and 15,000 vehicles a day represent 2% of the total roadway network but accounted for 24% of bicycle crashes and 22% of pedestrian crashes between 2016 and 2020. Similarly, roadways with posted speed limits of 35 mph account for just 5% of the roadway network but have experienced 32% of all pedestrian crashes in Washoe County during the study period. Based on this analysis, arterial roadways and intersections, especially those with posted speeds of 35 mph and roadway volumes above 10,000 vehicles a day are leading areas of focus to improve safety for pedestrians and bicyclists across

the Truckee Meadows. Furthermore, bicycle and pedestrian crashes are concentrated in areas with high transportation equity needs. These areas, which represent approximately 34% of the the total population of Washoe County accounted for 54% of all pedestrian injury crashes (229 crashes) and 48% of all pedestrian fatalities (22 crashes) between 2016 and 2020. Across the same time period, 46% of all bicycle crashes occurred within these areas (133 crashes) including 45% of all bicycle injury crashes (117 crashes).

High Injury Network (HIN)

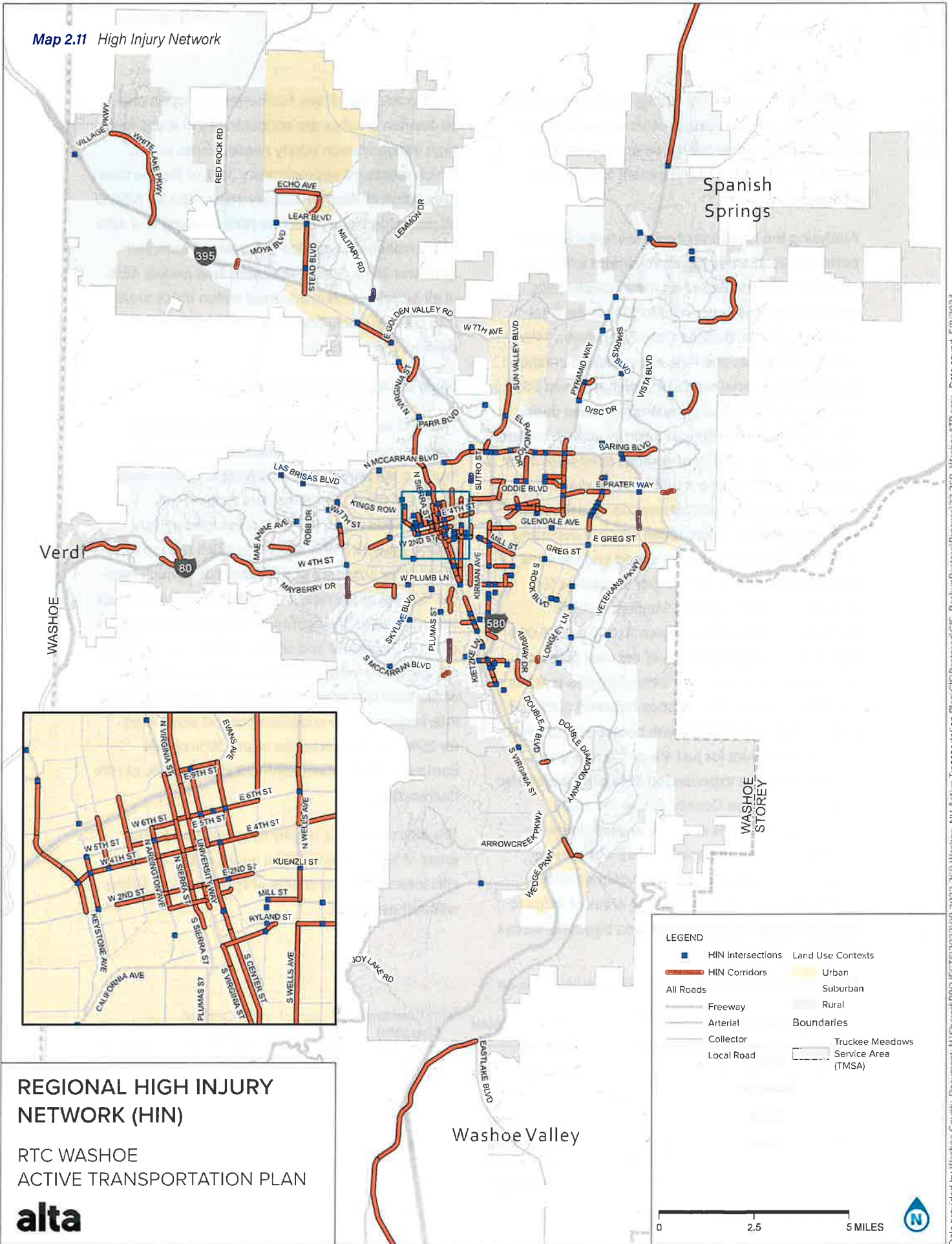
The RTC has conducted substantial analysis to identify roadways and intersections across the Truckee Meadows with the greatest safety needs as part of the 2022 Vision Zero Action Plan. Through this effort, the RTC developed a High-Injury Network (HIN) which identifies the top 25% of roadway corridors and intersections which have the highest crash rate, level of frequency, and crash severity across the county. This network, broken down in [Table 2.12](#) and shown in [Map 2.11](#), is largely concentrated within the urban context with 75% of the total HIN corridor miles and 72% of the HIN intersections . The suburban context accounted for 25% of HIN intersections and 30% of HIN corridors; the rural environment included 3% of HIN intersections.

The HIN network is largely concentrated within areas of high transportation equity with 45% of all HIN intersections and 64% of HIN corridors falling within these areas.

Table 2.12 HIN Intersections and Corridors by Land Use Tier

Land Use Context	HIN Intersections (Top 25%)	% of total	HIN Corridors (Top 25%)	% of total	HIN Corridor Miles	% of total
Urban	101	72%	43	70%	31.8	75%
Suburban	35	25%	18	30%	10.6	25%
Rural	4	3%	0	0%	0.0	0%
Total	140	100%	61	100%	42.4	100%

Map 2.11 High Injury Network



REGIONAL HIGH INJURY NETWORK (HIN)

RTC WASHOE
ACTIVE TRANSPORTATION PLAN



- LEGEND**
- HIN Intersections
 - HIN Corridors
 - All Roads
 - Freeway
 - Arterial
 - Collector
 - Local Road
 - Land Use Contexts
 - Suburban
 - Rural
 - Boundaries
 - Truckee Meadows Service Area (TMSA)

0 2.5 5 MILES



Summary of Where We Are Today

Arterial roadways and intersections present the greatest safety issue for pedestrians and bicyclists across the Truckee Meadows. These facilities include high levels of vehicle traffic moving at rates of speed often significantly above those of people walking and biking which creates a greater potential for severe injury and death when they experience a crash with a vehicle.

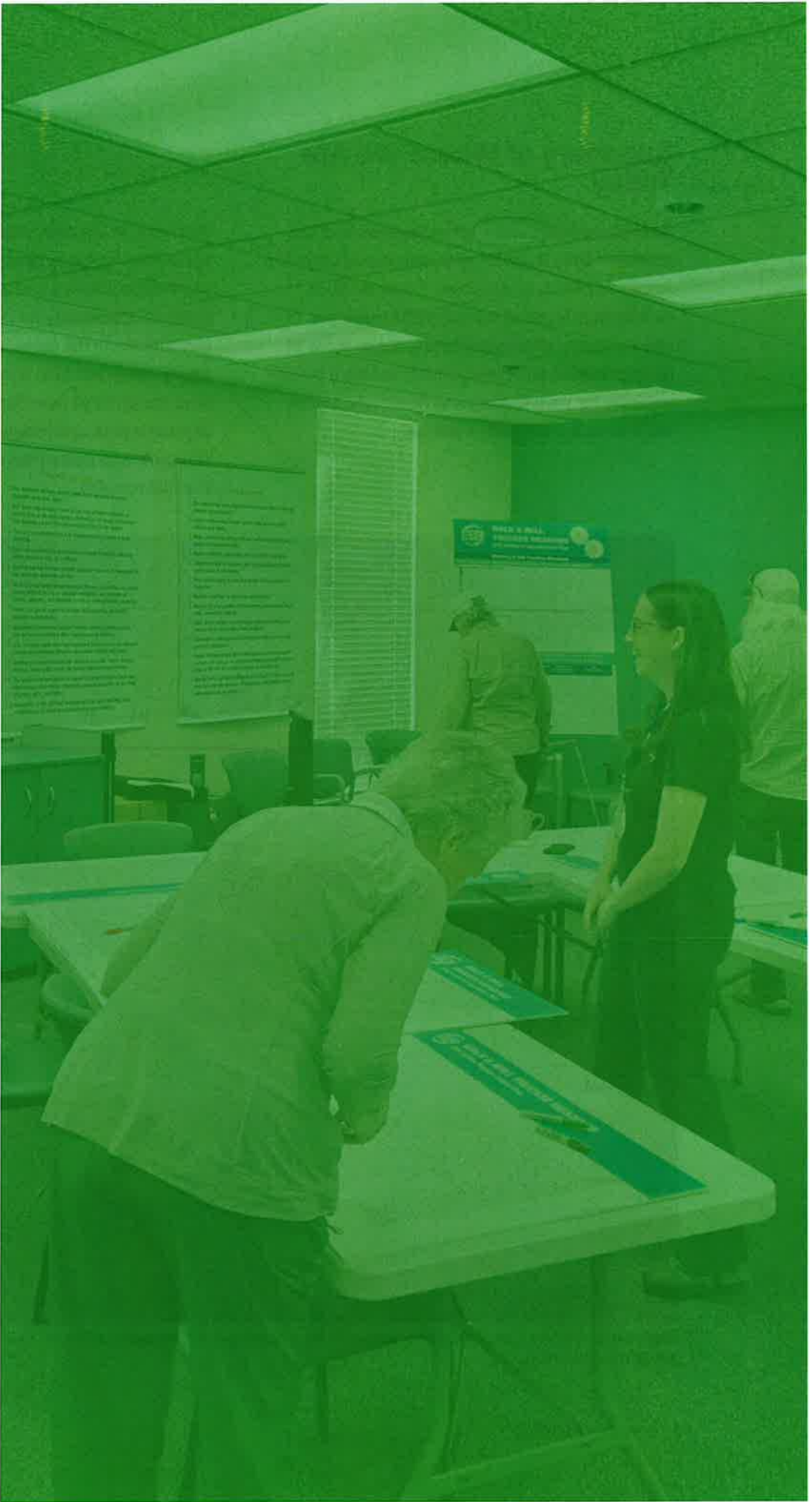
As shown in the data, urban arterials have accounted for the largest portion of pedestrian and bicycle crashes and also provide the greatest opportunity for improvements. Focusing investments in the areas identified with the highest equity needs will help target communities which have the greatest need for active transportation improvements, and include an over-representation of bicycle and pedestrian crashes and proportion of the HIN network.



Pedestrians and bicyclists across the spectrum of ages crossing in the crosswalk at Double Diamond Pkwy and South Meadows Pkwy.



Community Engagement



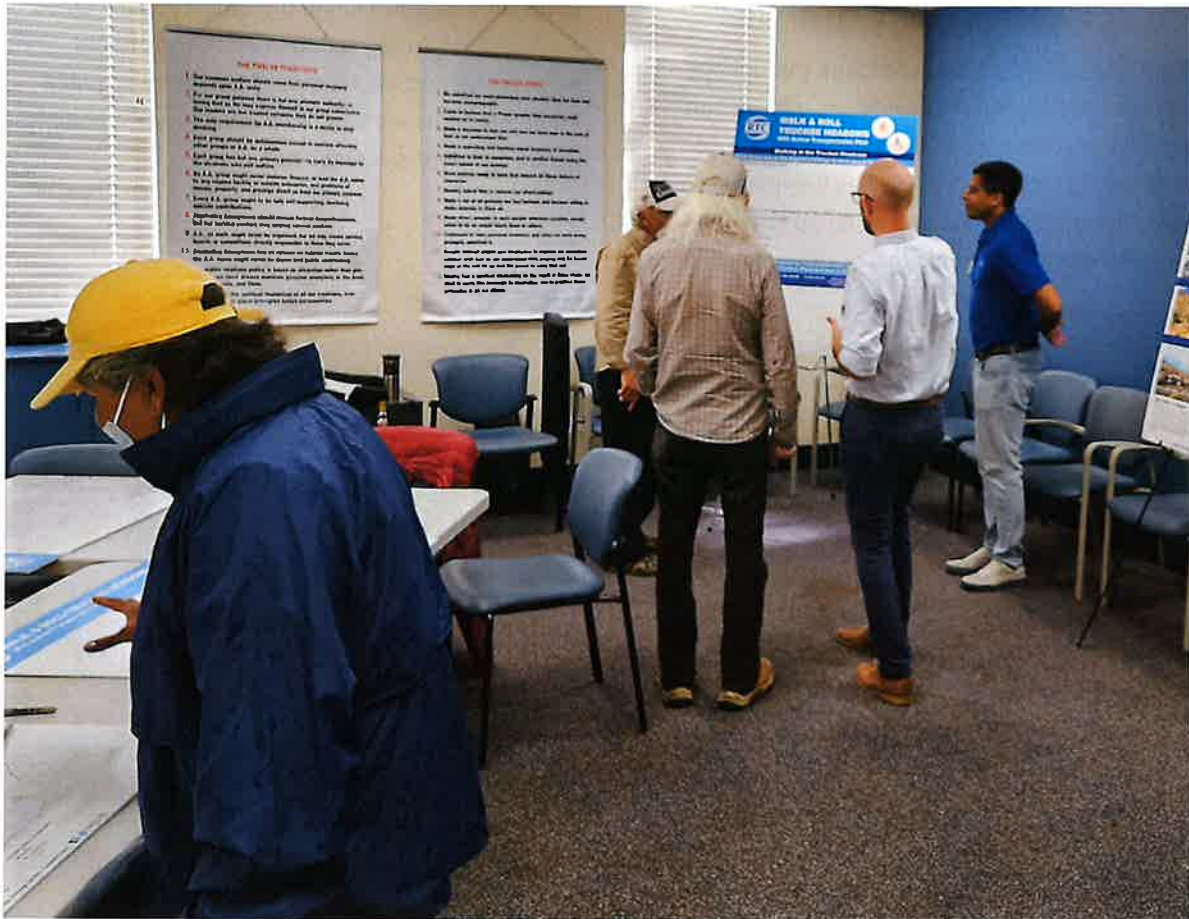
COMMUNITY ENGAGEMENT

This section details the comprehensive outreach strategy undertaken to actively engage the Truckee Meadows community in the development of the Walk & Roll Truckee Meadows Plan. The plan prioritized open communication and ensured diverse participation throughout the planning process through a multifaceted outreach approach including in-person and virtual meetings as well as resources available online throughout the life of the plan.

This section highlights the specific meeting locations, dates, and times and provides a summary of feedback gathered from across these efforts.

What We Heard

Residents in the Truckee Meadows are interested in walking and bicycling more often in their daily lives but have concerns about their safety while doing so on the existing facilities. From survey responses to individual feedback gathered during the community meetings, most residents have a difficult time when traveling between neighborhoods while walking or biking. This can be attributed to larger arterial level roadways which provide space for vehicles to travel quickly but can be stressful environments for people walking or biking.



Disability & Senior Focused in-person meeting at the Washoe County Senior Center.

Engagement Opportunities

The project team engaged with residents during this project to develop the plan vision, goals, and develop a regional understanding of active transportation needs and concerns of residents across the region. The first phase comprised the majority of direct engagement with residents who were instrumental in establishing the overarching vision for the plan and providing their experience and knowledge with the local active transportation network. The second phase of engagement provided the community an opportunity to review the draft plan and provide input on the new NNP process. During both phases of outreach the RTC provided project information and resources through the project webpage as well as social media outlets. Each phase and the feedback received are detailed in the following sections.

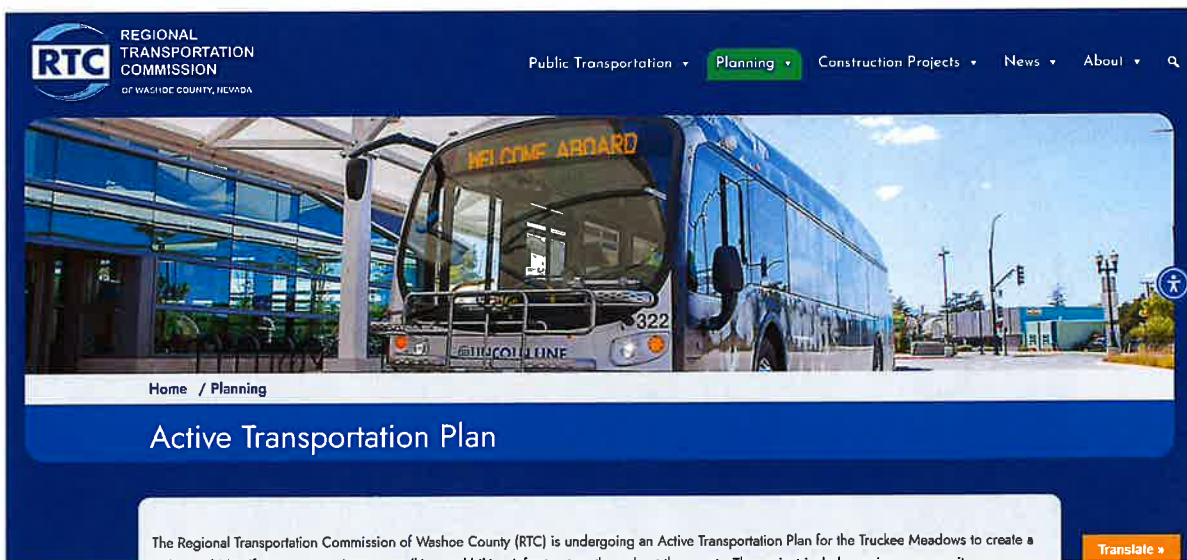
PROJECT WEBPAGE & TEAM EMAIL:

The RTC hosted a project webpage throughout the life of this project to provide key information and links to resources such as recorded public meetings and materials as well as the interactive online mapping tool and survey for specific input. Residents were able to view the recorded

community-wide public meeting in English and Spanish through the webpage and were also provided with the project team email address (WalkAndRoll@rtcwashoe.com) which notified all project team members and allowed for direct dialogue between the project team and community members. The project webpage, shown in [Figure 3.1](#), will continue to provide information on NNP efforts and can be accessed through the RTC Washoe webpage¹.

The major engagement effort for this plan occurred between May and August 2023 with a focus on listening to the community and soliciting feedback on existing conditions, key destinations, and community concerns. The RTC worked with members of the public as well as community and agency stakeholders to develop the vision and goals for this plan. During the second phase of engagement during spring of 2024, the project team presented the Neighborhood Network Area Planning framework and Regional Street Typologies Guide for feedback and input.

Figure 3.1 Project Webpage



¹ Active Transportation Plan Webpage: <https://rtcwashoe.com/planning/active-transportation-plan/>

PUBLIC ENGAGEMENT OPPORTUNITIES:

In this phase, the RTC provided the community with both virtual and in-person engagement opportunities:

Community Wide Active Transportation Survey - (May - June)

- The RTC provided the public with a community wide survey which included questions regarding their typical mode of travel, preferences for different facilities, as well as an interactive mapping component which allowed users to pinpoint locations where they had concerns as well as areas with preferred facilities. A total of 442 community wide surveys were submitted through this online survey. Findings from this survey are summarized in the section below.

WCSD Focused Active Transportation Survey - (May - June)

- In collaboration with the Washoe County School District Safe Routes to School Program, the RTC provided a targeted survey to parents and faculty across the district as well as middle school and high school students. The purpose of the survey was to identify their primary concerns and issues related to walking and biking both in the community generally and to school specifically. A total of 788 survey responses were received including 585 parents, 162 faculty, and 20 students. Findings from this survey are summarized below. Results from this survey and the Community-Wide survey will help to inform the understanding of issues and concerns during Neighborhood Network Area Planning.

Community-Wide Virtual Public Meeting - May 24th, 2023

- The RTC provided a community-wide virtual meeting through Zoom (screenshot shown in [Figure 3.2](#)) which included a brief presentation about existing conditions and initial vision and goals of the plan. During this meeting, the project team engaged with residents through a visual preference exercise which asked participants to envision different types of roads with various speeds and select which type of facility they would feel most comfortable using as a pedestrian or bicyclist. This meeting also included an option for break out rooms to discuss specific issues in more detail. The meeting was provided in both English and Spanish with recorded versions and the meeting materials posted on the project website for those unable to attend.

Figure 3.2 Virtual Public Meeting



Focused Meetings

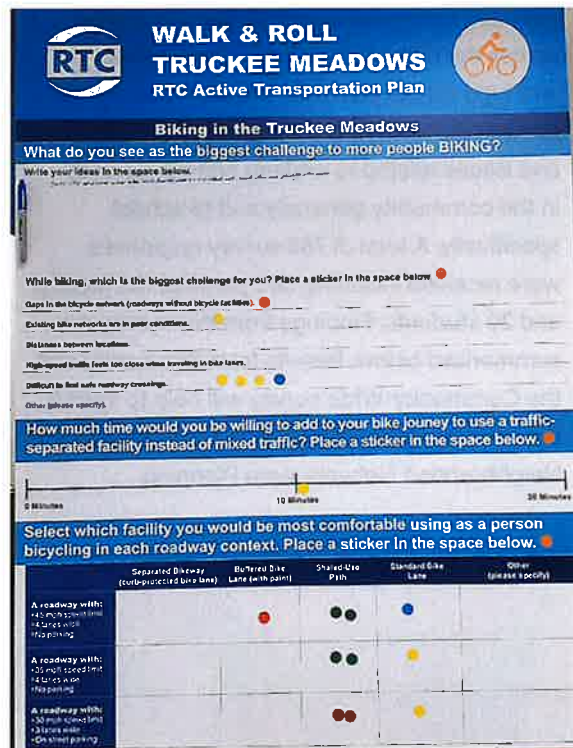
- In order to dive deeper into specific needs of some of the most vulnerable roadway users, the RTC conducted a youth-focused public meeting and a meeting focused on the needs of seniors and those with disabilities. The Youth-Focused meeting followed a similar format to the Community-Wide Virtual Public Meeting including the visual preference exercise to identify which facilities youth members of the community prefer. This meeting was held virtually through Zoom on June 13th, 2023. The following day, June 14th, 2023, the RTC hosted the Disability & Senior Focused in-person meeting at the Washoe County Senior Center on 9th Street in Reno which included a brief presentation and provided in-person versions of the virtual engagement resources including area maps to identify specific locations of concern and the visual preference exercise to select their preferred facility types on different roadways.



Disability & Senior Focused in-person meeting at the Washoe County Senior Center.

RTC Advisory Committees

- The RTC also presented information regarding the project to the RTC Advisory Committees which were an additional forum for public input and feedback for the Walk & Roll Truckee Meadows Plan. The project team presented an overview of the project and highlighted upcoming engagement opportunities at the RTC Technical Advisory Committee (TAC) and the Citizens Multimodal Advisory Committee meetings in May 2023. The project team returned to the TAC and CMAC in April 2024 to present an overview of the progress to date and highlight the Neighborhood Network Area Planning process and Regional Street Typology guide.
- RTC TAC Meetings
 - May 4th, 2023
 - April 4th, 2024
- RTC CMAC Meetings
 - May 3rd, 2023
 - April 3rd, 2024



Interactive engagement activity.

Draft Plan Public Information Presentation

The RTC presented the community with an opportunity to review and comment on the draft version of the Walk & Roll Truckee Meadows Plan during June 2024. This presentation included an overview of the work completed to develop the plan and future Neighborhood Network Area Planning process which will rely on continued engagement with the community.

RTC Attended Events

RTC Staff also attended community events during the summer and fall of 2023 to promote and discuss the Walk & Roll Truckee Meadows Plan and encourage residents to engage through the various opportunities listed above.



Disability & Senior Focused in-person meeting at the Washoe County Senior Center.

STAKEHOLDER ENGAGEMENT MEETINGS

The RTC convened community and agency stakeholders through the Project Technical Advisory Group and Agency Working Group at key points during this project. These groups provided important feedback regarding the plan Vision and Goals as well as the Regional Street Typologies and Neighborhood Network Area Planning process. The Project TAC and Agency Working Group included members from the following agencies:

- City of Reno – Public Works and Community Development Departments
- City of Sparks – Engineering and Planning Departments
- Washoe County – Water Resources and Community Services Departments
- Washoe County School District – Safe Routes to School
- Reno Sparks Indian Colony
- Truckee Meadows Regional Planning Agency
- Washoe County Health District

CONTINUING THE ENGAGEMENT THROUGH NEIGHBORHOOD NETWORK AREA PLANNING

Building upon the foundation established through the earlier outreach phases, the project will leverage Neighborhood Network Area Planning process to refine regionally identified community concerns at the local level. This process will leverage targeted engagement with residents within specific neighborhoods, enabling them to identify their unique needs and priorities for active transportation infrastructure and programs. The specific process for neighborhood network area planning and targeted engagement is included in [Chapter 5](#).

Public Engagement Results

COMMUNITY-WIDE SURVEY

The Community Wide survey focused on identifying top concerns and barriers for people walking and biking and also sought to evaluate community members existing desire to use active modes. The survey allowed respondents to self-identify based on their level of confidence as a bicyclist which helps to bring context into the needs of those who would like to walk or bicycle more but may be concerned to do so for safety reasons.

Barriers

Bicycling - Survey respondents identified the top two barriers for bicycling in the Truckee Meadows as a perceived lack of safety due to the presence of high speed or aggressive driving (27.5%) and the condition or lack of dedicated bicycle facilities (22%). *Figure 3.3* highlights the results of the survey which indicate parking concerns as well as distance and weather are not the leading barriers to bicycling for residents within the Truckee Meadows.

Walking & Rolling - When considering barriers to walking and rolling, survey respondents identified traffic and high speed vehicles (17%) and the lack of sidewalks (13%) as the leading environmental barriers to walking or rolling for a specific trip (*Figure 3.4*). Additionally, respondents also identified feeling unsafe which crossing roadways as a barrier to walking and rolling. Unlike with bicycling, the overall distance of a trip was identified as a leading barrier for respondents to select walking as their mode of choice. With the typical walking trip falling around 1 mile,² it is important to highlight that pedestrian needs are and barriers are typically more localized surrounding the origin of a trip such as an individuals home or place of work.

² 2017 National Household Travel Survey Estimated Person Trips (ORNL, n.d.)



Figure 3.3 Top Barriers for Bicycling

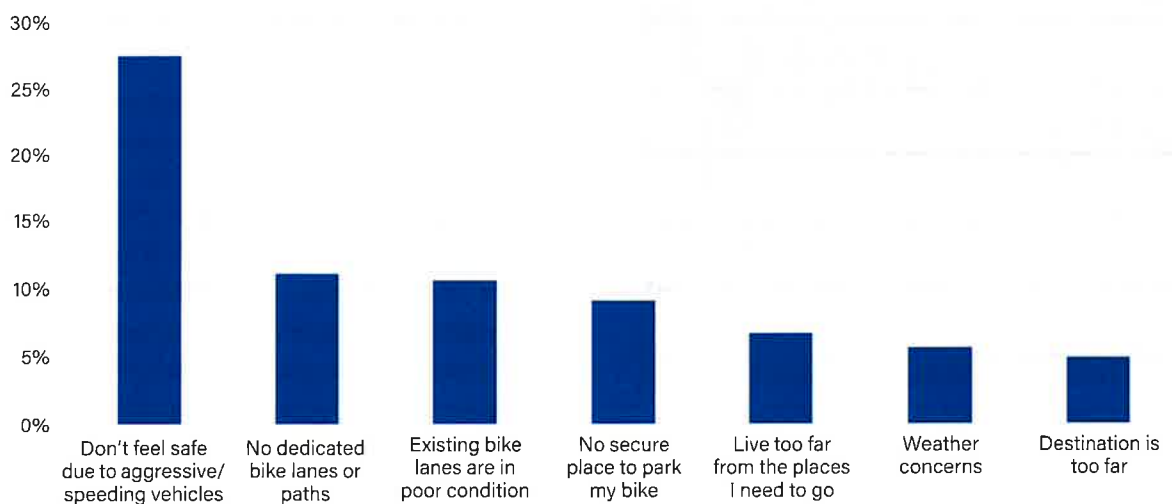
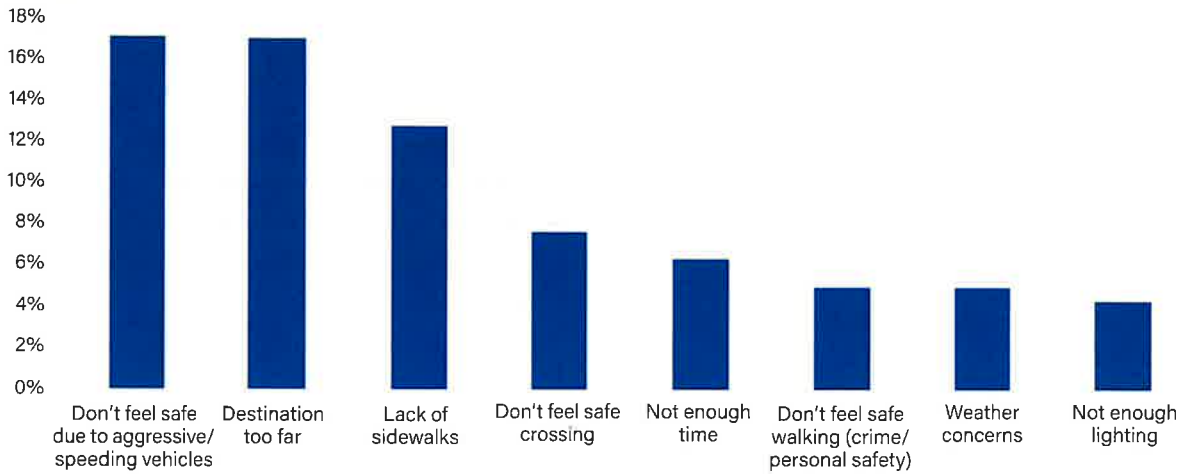




Figure 3.4 Top Barriers for Walking



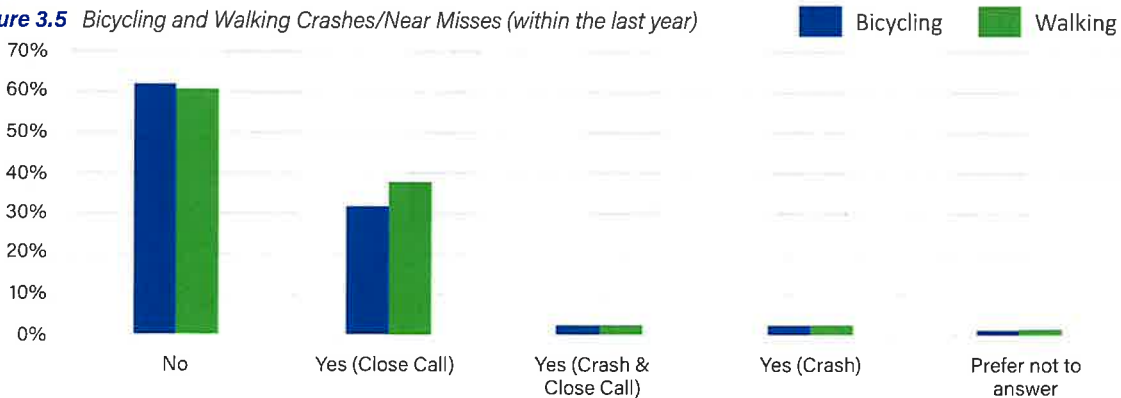
Near-Misses

Related to the level of perceived safety for people walking and biking in the Truckee Meadows, the survey asked respondents whether they had been involved in or nearly involved in a crash as a pedestrian or bicyclist in the last year. The determination of being 'nearly' involved in crash (or having a near-miss) is entirely subjective based on the survey respondents experience. As pedestrian and bicyclist involved crashes are often under-reported,³ this anecdotal evidence is helpful to contextualize the perceived level of safety for people walking and biking which has a significant impact on whether an individual selects walking or biking as their mode of choice.

Shown in *Figure 3.5*, approximately one-third of all survey respondents (32% of bicyclists and 36% of pedestrians) indicated that they had been nearly involved in a crash as either a pedestrian or bicyclist in the past year. In comparison, a fraction of these respondents indicated they had been directly involved in a crash with 5% of bicyclists stating they had been in a crash and just over 3% of pedestrians indicating their had been in a crash over the last year. This result suggests that for each crash with an active mode there may be a significant number of highly uncomfortable experiences for pedestrians and bicyclists as they travel; this level of perceived safety risk can have a significant impact on mode selection.



Figure 3.5 Bicycling and Walking Crashes/Near Misses (within the last year)



³ Winters, Branion-Calles, *Cycling safety: Quantifying the under reporting of cycling incidents in Vancouver, British Columbia, Journal of Transport & Health, Volume 7, Part A, 2017, 48-53*
 Edwards, M., & Gutierrez, M. (2023). *The incidence burden of unreported pedestrian crashes in Illinois. Traffic Injury Prevention, 24(1), 82-88.*

Desired Levels of Walking and Biking

The RTC asked respondents whether they would like to walk or bike more frequently for different types of trips such as school / work trips as well as non-work/school related trips. Responses indicate that the majority of people under 34 years of age have an interest in walking more frequently for either work or school trips (*Figure 3.6*) and the majority of people under the age of 54 work like

to bicycle more frequently for work/school related trips (*Figure 3.7*).

Across all different ages groups, survey respondents indicated a strong desire to walk and bike more frequently for non-work related trips such as access entertainment or social events (*Figure 3.8* and *3.9*).



Figure 3.6 People who would like to be able to walk more for school / work trips by age

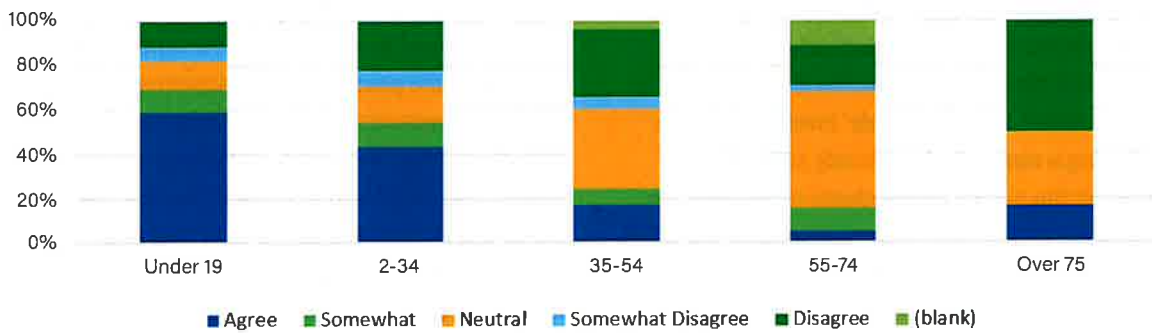


Figure 3.7 People who would like to be able to bike more for school / work trips by age

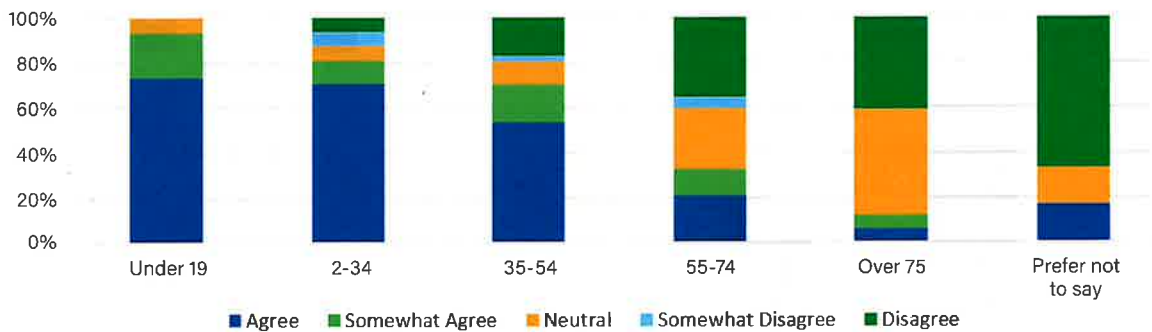




Figure 3.8 People who would like to be able to walk more for non-work trips by age

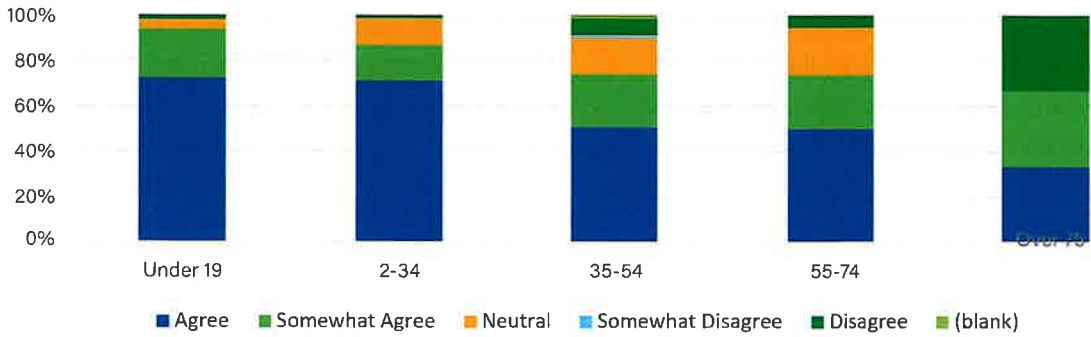
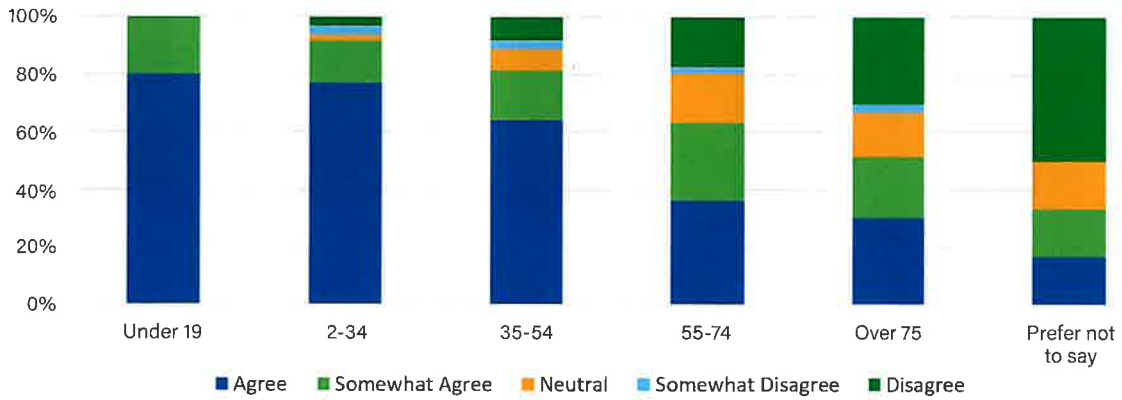


Figure 3.9 People who would like to be able to bike more for non-work trips by age



Traveling Within and Between Neighborhoods

The community survey asked respondents to rank how easily they are able to travel within their neighborhood and to adjoining neighborhoods with as a pedestrian or bicyclists. While traveling within a neighborhood as a pedestrian was identified as being a relatively easy task for the majority of respondents (Figure 3.10), the results appear quite different when considering traveling between neighborhoods (Figure 3.11). Across all respondents 77% stated that it was easy or moderately easy to walk within their neighborhood compared to just 42% of respondents stating it is easy or moderately easy to walk between neighborhoods.

Furthermore, respondents who identified as “Interested but Concerned” bicyclists, who are the largest group of the population according to the user type definitions from the FHWA (refer to Figure 1.2), indicate that traveling between neighborhoods on a bicycle is a relatively difficult task (Figure 3.12). Just 22% of this user group indicated that traveling between neighborhoods is either ‘Easy’ or ‘Very Easy’ with 52% indicating that it would be either moderately or very difficult to travel between neighborhoods by bike.



Figure 3.10 Level of Difficulty Walking within a Neighborhood

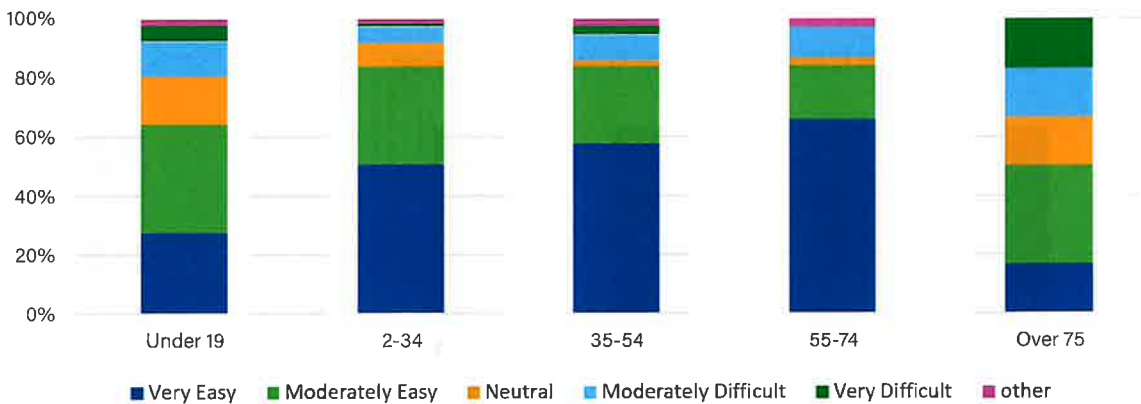


Figure 3.11 Level of Difficulty Walking To/From a Neighborhood

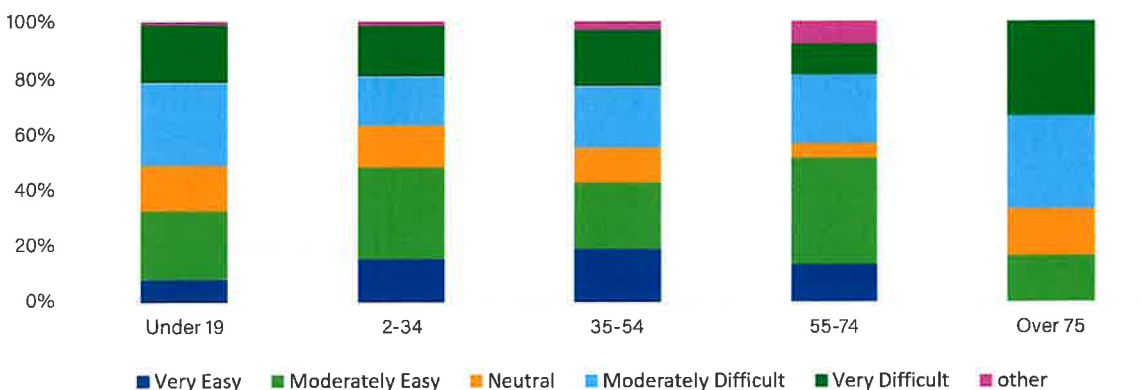
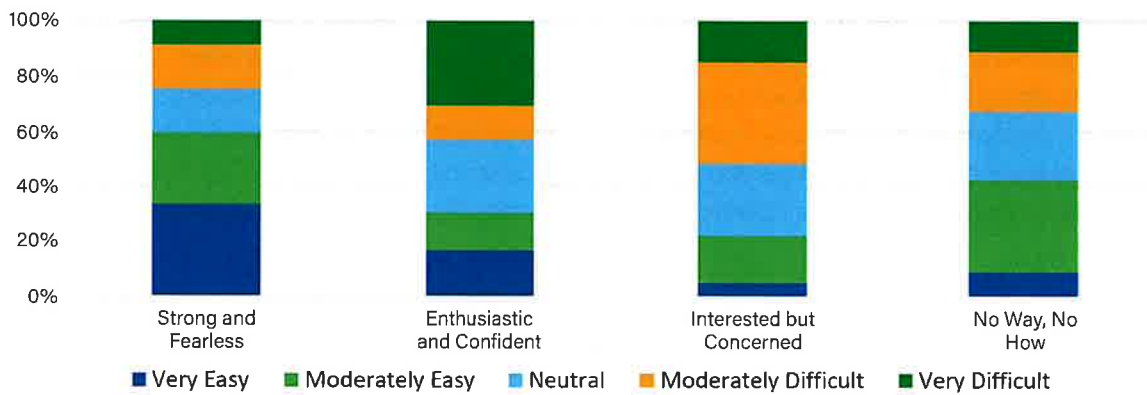




Figure 3.12 Level of Difficulty Biking To/From a Neighborhood based on User Type



WCSD PARENT, FACULTY, AND STUDENT SURVEY

Responses from the Parent, Faculty, and Student focused survey align with the results of the Community-Wide survey with safety being the leading barrier for walking and biking to school. A majority of respondents (52% walking and 50%

biking) identified feeling unsafe due to the presence of traffic and speeding vehicles as the leading barrier for using active modes to get to school (*Figure 3.13* and *3.14*).



Figure 3.13 Top Barriers for Walking to School

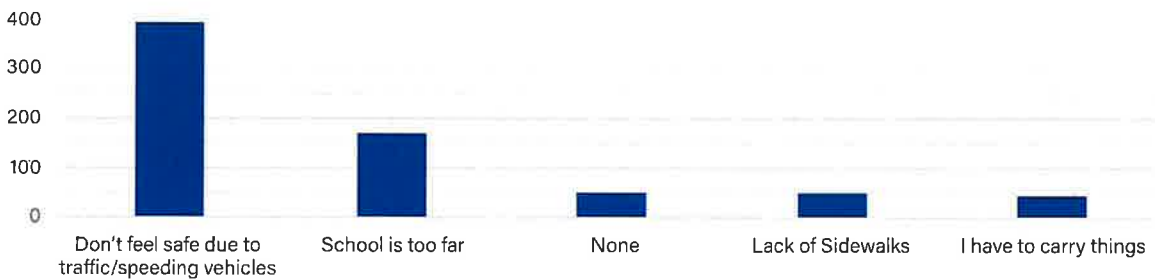
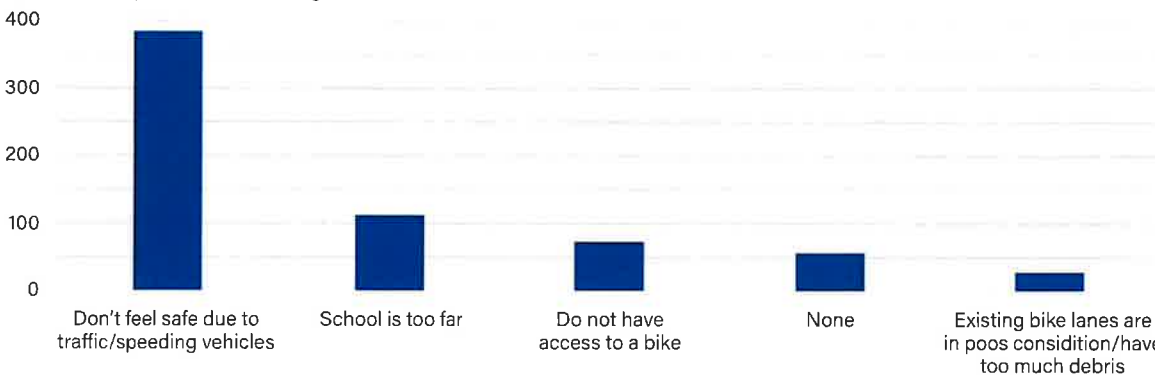


Figure 3.14 Top Barriers for Biking to School



Future School Focused Analysis

The results of this school focused survey will continue to help the RTC identify issues and concerns related to active transportation concerns, specifically related to school trips. Each survey response is categorized by school which will help focus on localized concerns and issues during future Neighborhood Network Area Planning efforts.

SURVEY FINDINGS SUMMARY

The results of the community-wide survey indicate that there is a strong desire to walk and bike more frequently for a variety of trips through out the community but that residents often do not feel comfortable or safe enough while walking or biking to destinations, especially those in adjoining neighborhoods, to select walking or biking as their mode of choice.

Interactive Map

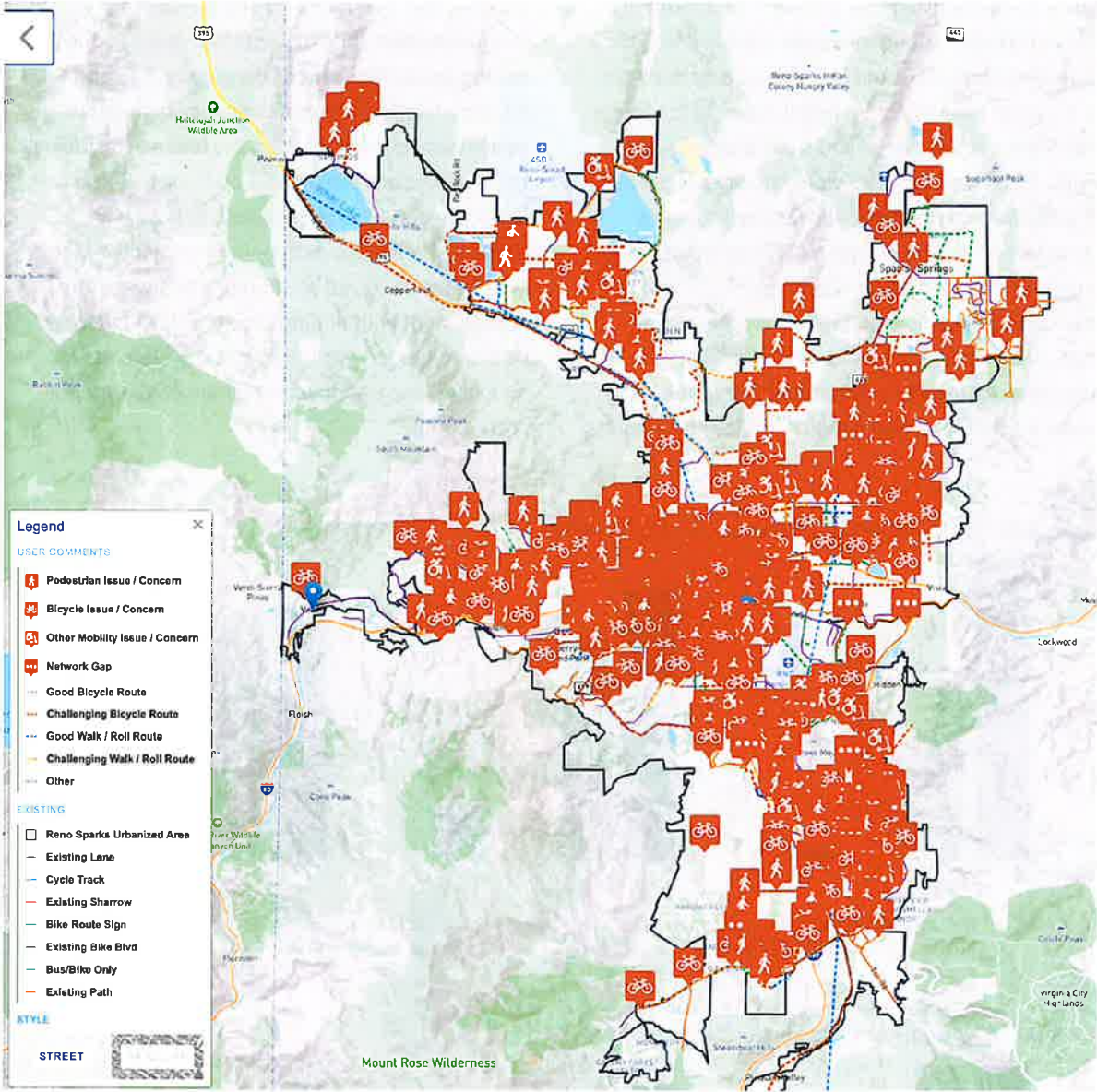
Following the survey, respondents were able to use an interactive map (Shown in [Figure 3.15](#)) to pinpoint specific locations which were either difficult or concerning as a bicyclist or pedestrian as well as those locations which currently have good or comfortable facilities. With 442 total interactions, the data revealed valuable insights:

- **Bicycle Issues & Concerns** - Residents identified 234 issues identified related to bicycling. Nearly half (111) were concentrated within the urban area. Issues identified were highly localized and included areas with debris, issues with signal timings, and suggested wayfinding signage. Respondents also identified 129 frequently used bike routes which were challenging.
- **Pedestrian Issues & Concerns** - Respondents identified 222 pedestrian issues which were spread throughout the urban and suburban areas. The issues identified focused on areas where walking felt unsafe due to high speed vehicles and locations where sidewalk is missing.



Adult and youth waiting to cross W. Plumb Lane.

Figure 3.15 Interactive Web Map



Public Meeting Findings

Public meeting attendees across the Community-wide and focus-group meetings provided feedback regarding their preferred facilities as a pedestrian or bicyclist traveling on different types of roadways with different number of lanes and posted speed limits. Meeting attendees were shown a picture of a representative street and listened to audio recorded on location to get a good sense of being out on the roadway. After studying the picture of the roadway and listening to the sounds of the road, respondents selected which facility type they would feel most comfortable using or having present as either a pedestrian or a bicyclist. Results

indicate that the desire for separation from vehicles for pedestrians and bicyclists increases as the posted speed limits increase (*Figure 3.16* and *3.17*). As shown below the preferred facility to improve pedestrian comfort was the presence of a sidewalk buffer. Bicyclists preferred a curb protected bike lane between 30 and 35 miles per hour with either a shared-use path or curb-protected bike lane being preferred on 45 mph roadways. This is consistent with findings in the FHWA bikeway selection guide which highlight a preference for increased separation with higher vehicle speeds and volumes.⁴



Figure 3.16 Facility Preference by Context for People Walking & Rolling

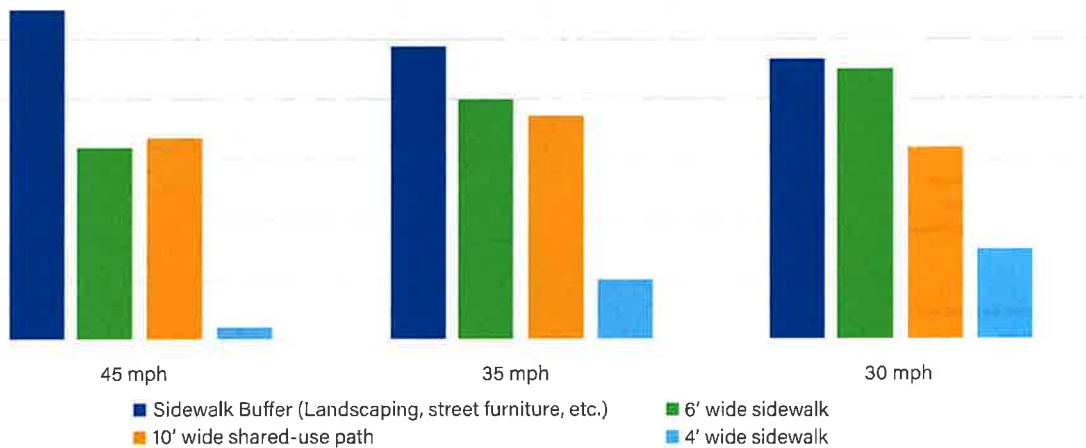
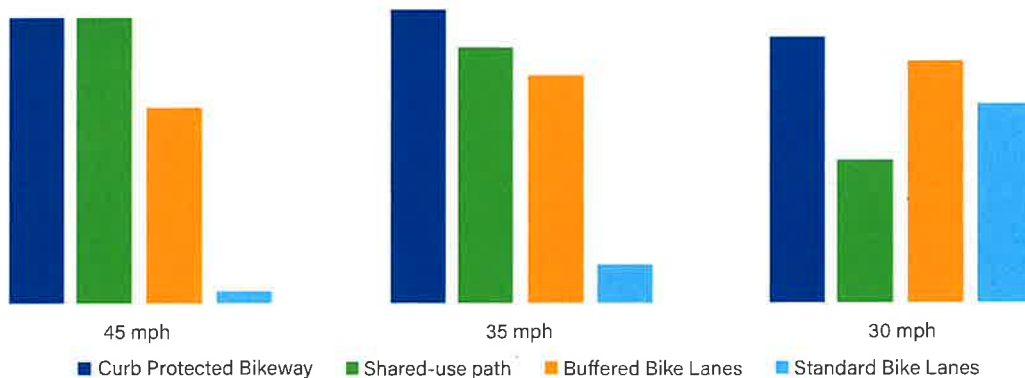


Figure 3.17 Facility Preference by Context for People Biking



⁴ Dill, D. and N. McNeil. *Revisiting the Four Types of Cyclists*. In *Transportation Research Record 2587*. TRB, National Research Council, Washington, DC, 2016.

This page intentionally left blank

4

Analyzing the Network



ANALYZING THE NETWORK

The RTC conducted extensive analysis on the regional roadway network using the latest available data for sidewalks, bicycle facilities, regional travel demand model outputs, and roadway characteristics including posted speeds and number of lanes. This data was used to conduct focused analyses across the regional roadway network to assess which sections of road present the greatest challenges to people walking and biking and may act as barriers to active transportation within and between neighborhoods. These analyses include:

- Bicycle Level of Traffic Stress¹
- Pedestrian Experience Index
- Active Trip Potential

The results of these analyses were combined with the identified High-Injury Network and equity areas to identify primary active transportation network gaps across the Truckee Meadows. Primary network gaps and the results of completed analyses will help to inform NNPs going forward as well as enabling the RTC to conduct future scenario planning using custom GIS analysis tools.

This section summarizes the methodology and results of each unique analysis as well as the identified active transportation network gaps. This section highlights the future use of analysis results in NNPs and scenario planning.

Network Analyses

Bicycle Level of Traffic Stress (BLTS)

The bicycle level of traffic stress (BLTS) analysis estimates the level of comfort for people biking on a given roadway segment. The BLTS analysis identifies where “gaps” or deficiencies in a bike network exist, and provides a measure of how likely different types of riders, based on ability and comfort level, are to use the facility.

METHODOLOGY

The methodology used for this BLTS analysis was adapted from the 2012 Mineta Transportation Institute Report 11-19: Low-Stress Bicycling and Network Connectivity². BLTS is determined by characteristics of a given roadway segment that affect a bicyclist's perception of safety and comfort, including posted speed limit, number of travel lanes, and the presence and character of bicycle lanes. The combination of this criteria classifies a road segment into one of four levels of traffic stress:

- BLTS 1 represents roadways where bicyclists of all ages and abilities would feel comfortable riding; separated shared-use paths and separated bike lanes for bicycles also fall into this category.
- BLTS 2 represents slightly less comfortable roadways, where most adults would feel comfortable riding.
- BLTS 3 represents moderately uncomfortable roadways, where most experienced bicyclists would feel comfortable riding.
- BLTS 4 represents high-stress roadways where only strong and fearless bicyclists would feel comfortable riding. These roadways are generally characterized by high volumes, high speeds, several travel lanes, and complex transitions approaching and crossing intersections.

¹ Analysis conducted by researchers at University of Nevada, Reno Mineta Institute. Mekuria M., Furth P., Nixon H. Low-Stress Bicycling and Network Connectivity. 2012. <https://transweb.sjsu.edu/research/>

² [Low-Stress-Bicycling-and-Network-Connectivity](#)

The results of the BLTS analysis identify existing areas that are low stress for many bicyclists, as well as the degree to which roadways must be improved in order to provide a comfortable experience for riders of all ages and abilities. The results of this analysis are summarized below and highlighted in [Map 4.1](#).

SUMMARY OF FINDINGS

The results of the BLTS analysis highlight that regional roadways with high vehicle speeds (above 35 mph) and high traffic volumes which either have no facility or provide a facility that does not fit the roadway context are stressful for the average

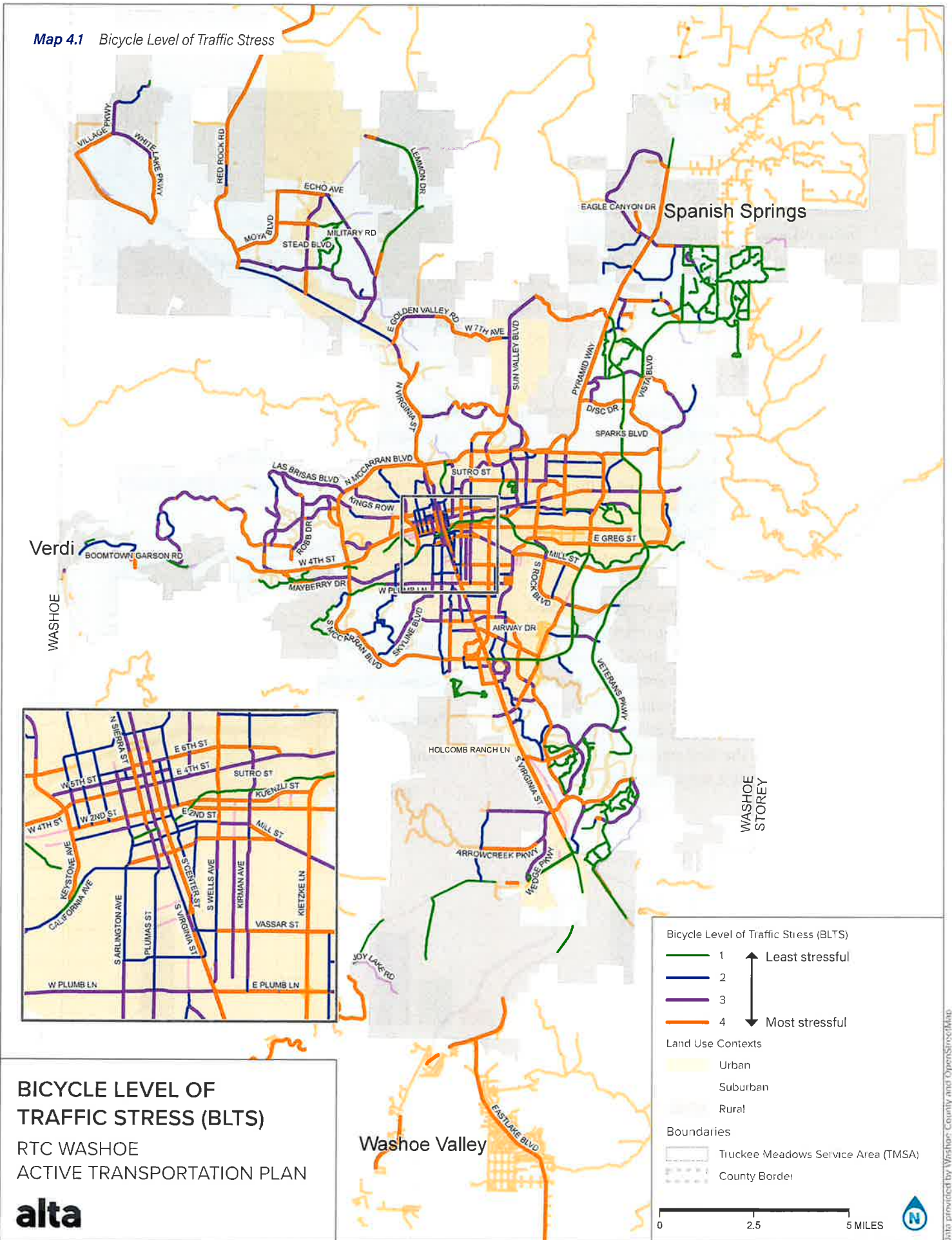
bicyclist. These roadways can act as barriers to people bicycling between neighborhoods if they do not feel comfortable riding along the roadway or crossing the roadway. Within neighborhoods there are often a large number of roadways that are 'low-stress' but often can act as islands without a strong low-stress connection to other neighborhoods. Focusing on the regional roadway network, a total of 341 miles are classified as being 'high-stress' or BLTS 3 or 4; this accounts for 78% of all regional roadways. Arterial roads have the largest portion of high-stress roads with a total of 84% of arterials (315 miles) being classified as high-stress roads; 42% of collectors were classified as high-stress.

Figure 4.1 Low vs High Stress Roadways By Classification (Regional Roads)



Shared-use paths such as the Truckee River Path provide low-stress connections for people of all ages and abilities.

Map 4.1 Bicycle Level of Traffic Stress



Bicycle Level of Traffic Stress by Land Use Context

Reviewing the BLTS results by land use context presents a strong picture of which areas have the greatest portion of high-stress roads. The section below reviews the BLTS results through the lens of the urban, suburban, and rural land use contexts. Results for arterials and collectors are presented separately due to their differing roadway contexts and needs.

Arterials - BLTS

Arterial roadways have the greatest proportion and number of lanes miles of 'high-stress' roads which are spread across the urban, suburban, and rural areas (Figure 4.2). The typical level of traffic stress for bicyclists within these contexts vary with the Urban context including the widest variety of levels of stress on arterials. Nearly one-quarter of arterial roadways within the urban context are classified as 'low-stress' with 37.7 miles of roads between BLTS 1 and 2. Conversely, 128 miles of arterials in the urban context are 'high-stress' roadways with a BLTS between 3 and 4. The suburban context has a slightly higher proportion of arterials which are 'high-stress' with nearly 88% being BLTS 3 or 4. Arterials in the rural context have a similar proportion with 86% being classified as 'high-



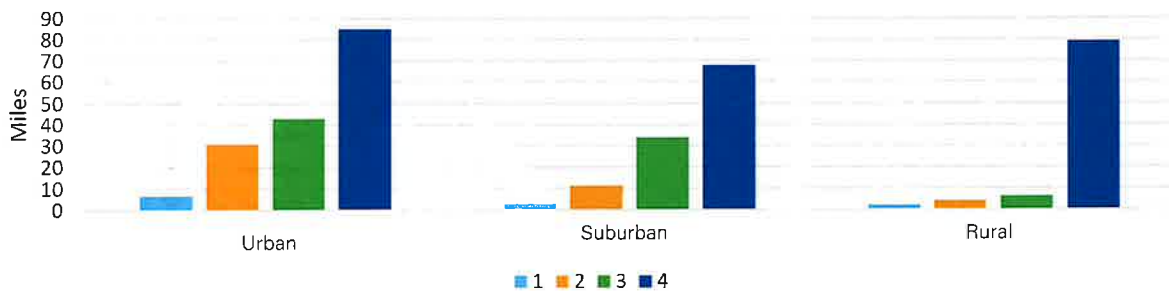
The Sparks Blvd shared-use path provides a low-stress environment for bicyclists traveling along this arterial roadway.

stress'. The average BLTS for each arterial typology is highlighted in Table 4.1. This highlights that Major Arterials in the urban and suburban context as well as rural arterials typically high the highest levels of traffic stress for bicyclists.

Table 4.1 Regional Typology BLTS (Arterials)

Regional Typology (Arterials)	Average Bicycle Level of Traffic Stress (0.0 - 4.0)
Urban Arterial Major	3.6
Urban Arterial Minor	2.9
Suburban Arterial Major	3.4
Suburban Arterial Minor	3.0
Rural Arterial	3.5

Figure 4.2 BLTS on Arterials Roads by Land Use Context (Miles)



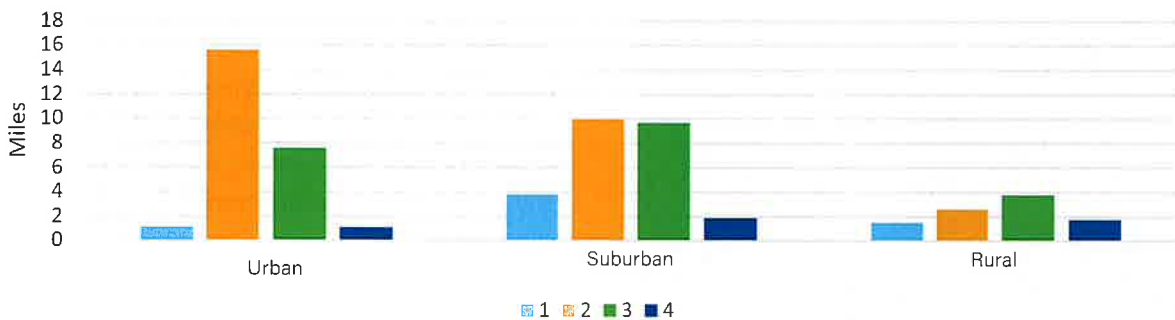
Collectors – BLTS

Collector roadways typically have a lower level of traffic stress for bicyclists due to lower speeds and a fewer number of lanes. This results in a higher proportion of collectors which are 'low-stress' roadways with BLTS between 1 and 2. In the urban and suburban context, the majority of regional roadways are low-stress (Figure 4.3). The majority of rural collectors are classified as high-stress with approximately 57% being BLTS 3 or 4. As shown in Table 4.2, the average level of stress for bicyclists on collector typologies falls between BLTS 2 and 3.

Table 4.2 Regional Typology BLTS (Collectors)

Regional Typology (Collectors)	Average Bicycle Level of Traffic Stress (0.0 - 4.0)
Urban Collector Commercial	2.3
Urban Collector Residential	2.3
Suburban Collector Major	2.4
Suburban Collector Minor	2.3
Rural Collector	2.8

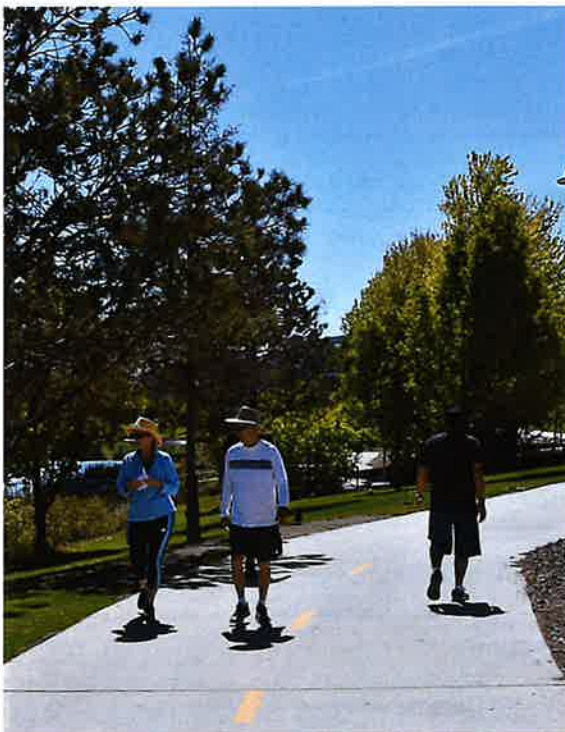
Figure 4.3 BLTS on Collector Roads by Land Use Tier (Miles)



Providing greater separation for bicyclists at intersections helps bicyclists navigate through these junctions.

PEDESTRIAN EXPERIENCE INDEX (PEI)

The RTC Washoe collaborated with researchers from UNR to develop a robust analysis of the Pedestrian Experience throughout the Truckee Meadows. The full analysis database includes information regarding key aspects of the roadway and pedestrian environment that can impact the overall experience and comfort for people walking or rolling along the road. The analysis framework is intended to provide a planning level understanding of the existing experience for pedestrians and to help identify areas for improvements.



The greatest pedestrian experience occurs with separation from vehicle traffic such as on shared-use paths.

Methodology

Pedestrian Experience scores represent how comfortable a typical pedestrian would be when traveling along the roadway based on the presence of a sidewalk and associated width, existing buffer from moving vehicles (i.e. landscaping or on-street parking), the posted roadway speed, and number of vehicle lanes. This analysis, conducted by UNR, assigns a score between 0 and 85 to each side of the roadway based on those variety of factors³. For the purpose of this analysis, PEI scores should be interpreted in the following ranges:

- PEI 0 – 20: Sidewalks may not be present, buffers between vehicles and pedestrians are not provided⁴, and roadways are high-speed with multiple vehicle lanes
- PEI 21 – 40: Sidewalks when present are between 4 – 6 feet and may be intermittent, buffers between vehicles and pedestrians are not typical, and roadways high multiple vehicle lanes of high-speed traffic
- PEI 41 – 60: Sidewalks are typically 5-6 feet wide and present on one or both sides, buffers between vehicles and pedestrians may be intermittent or speeds and number of lanes may be higher
- PEI 60 – 85: Sidewalks are typically 5-6 feet wide and present on both sides with buffers (landscaping or on-street parking) between people walking and high-speed vehicles or a low posted speed

The RTC used an updated sidewalk database developed through high-quality satellite imagery to verify the inputs and final results of the PEI dataset. This section highlights the results of the pedestrian experience index for each roadway typology with arterials and collectors reported separately due to their different contexts and needs.

³Total Infrastructure Score was used for regional analysis in lieu of regionally complete data for attributes which comprise the UNR defined Pedestrian Experience Index.

⁴It is important to note that on-street parking is prohibited on arterials which limits potential buffers to landscaping strips alone.

Summary of Findings

As shown in [Table 4.3](#), the typical level of PEI on arterials varies between the urban, suburban, and rural contexts. Arterials in the urban context range between PEI 11 and 71 with minor arterials typically having a higher PEI due to lower roadway speeds and fewer number of lanes. The highest ranked urban arterials provide a comfortable pedestrian experience however, on average major urban arterials may benefit from increased buffers between vehicles and pedestrians and sidewalk gap closure when gaps are present. In the suburban and rural contexts, arterials range from

0 to 76 with an average PEI between 33 and 38. This highlights a potential need for greater buffers between vehicles and pedestrians as well as filling sidewalk gaps when present. Collector roadways typically provide a more comfortable experience for people walking due to lower vehicle speeds, fewer lanes, and a greater presence of on-street parking which acts as a buffer between pedestrians and vehicles ([Table 4.4](#)). Regional PEI results are displayed in [Map 4.2](#).

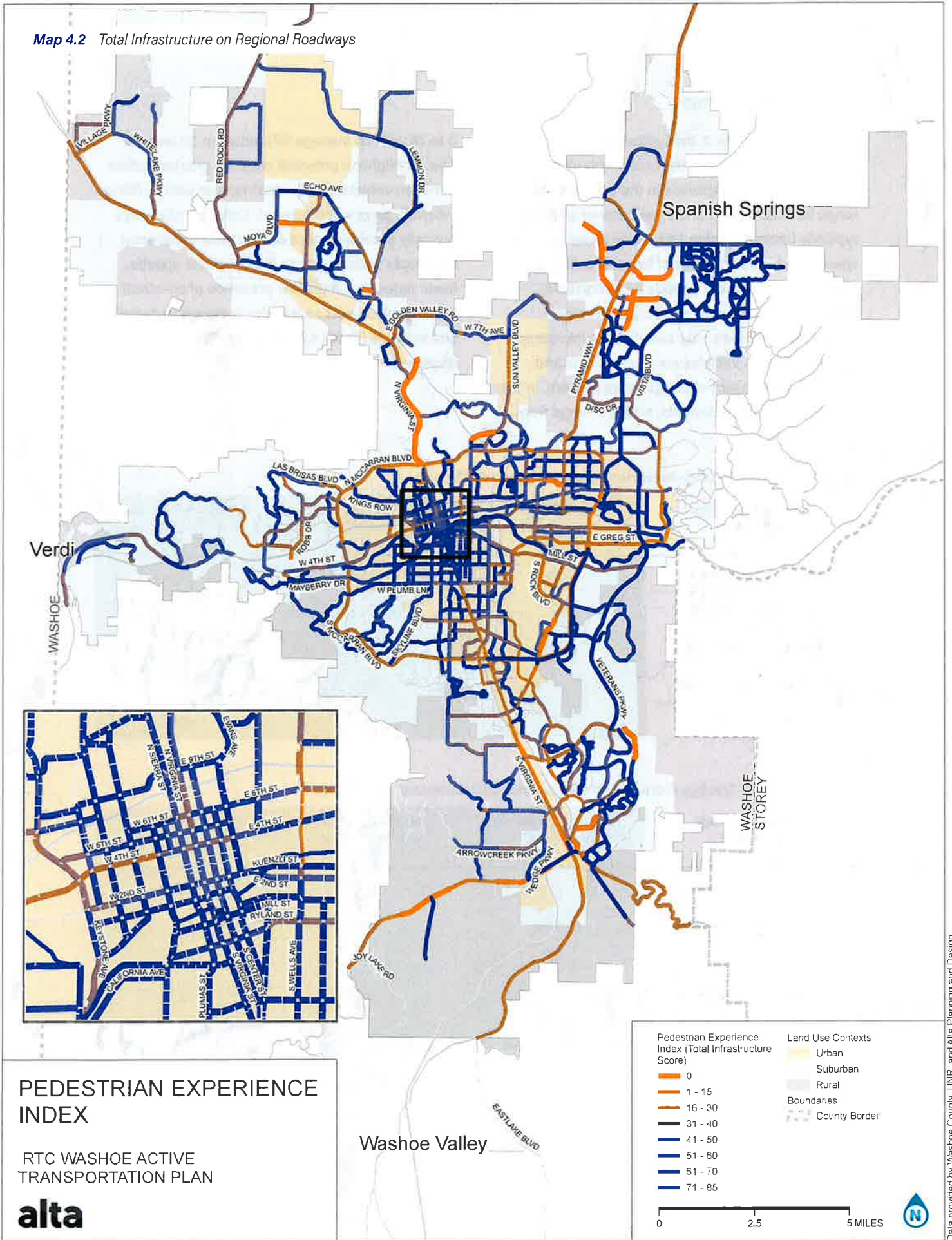
Table 4.3 Regional Typology Pedestrian Experience Index (PEI) (Arterials)

Regional Typology (Arterials)	Lowest Pedestrian Experience Score (0 - 100)	Average Pedestrian Experience Score (0 - 100)	Highest Pedestrian Experience Score (0 - 100)
Urban Arterial Major	11	36	65
Urban Arterial Minor	11	50	71
Suburban Arterial Major	0	33	60
Suburban Arterial Minor	0	38	76
Rural Arterial	0	33	60

Table 4.4 Regional Typology Pedestrian Experience Index (PEI) (Collectors)

Regional Typology (Arterials)	Lowest Pedestrian Experience Score (0 - 100)	Average Pedestrian Experience Score (0 - 100)	Highest Pedestrian Experience Score (0 - 100)
Urban Collector Commercial	23	53	69
Urban Collector Residential	50	57	70
Suburban Collector Major	32	45	62
Suburban Collector Minor	35	59	75
Rural Collector	26	42	62

Map 4.2 Total Infrastructure on Regional Roadways



ACTIVE TRIP POTENTIAL

Active modes often fill first- and last-mile gaps for transit trips and on their own may provide more flexibility for short trips that are not well-served by transit. Understanding demand for active transportation can help Washoe County guide growth and development to support sustainable transportation in two ways:

- Identifying areas where latent demand for active transportation exists, and supportive infrastructure could encourage more people to convert motor vehicle trips to active trips; and
- Identifying areas where many active trips are already made, and more development around those areas could build on existing strengths in the transportation network.

Not all locations can support active transportation modes easily because of unsupportive infrastructure or long distances from key destinations. While emerging technologies such as e-bikes and e-scooters provide new options, ranges, and convenience, their ability to affect change is still dependent on the surrounding land use and transportation context.

The RTC conducted an active trip potential analysis to identify areas of Washoe County where people make a high level of short vehicle trips and there is strongest potential to see a reduction of these trips if supportive infrastructure were available for people to choose active modes of travel.



Bicyclist waiting for green light at McCarran Blvd / Kietzke Ave intersection.

Methodology

This analysis used travel demand data from Washoe RTC travel demand model including :

- Average distances between each Traffic Analysis Zone (TAZ);
- Trips taken between each TAZ

This data was filtered for private vehicle trips within the Truckee Meadows modeled area and aggregated based on the TAZ-level geometries. The two data sources from Washoe RTC were joined so that the final data contained the origin TAZ, the destination TAZ, the average distance, and the number of auto trips.

Figure 4.4 on the following page illustrates the philosophy behind the classifications of trips, where trip distance is an indicator of the suitability for various mode shifts. Each pair was assigned an active trip mode based on the distance field:

- Trips less than 1 mile: Potential Walking Trips
- Trips 1 to 3 miles: Potential Biking Trips
- Trips 3 to 6 miles: Potential E-Bike Trips
- Trips over 6 miles: Not Suitable for Active Mode

The number and percent of trips for each TAZ was identified by mode shift suitability category. This helps to understand the starting and ending points of vehicle trips which may be accomplished with various active modes. The results of this analysis are presented [online](#) for dynamic visualization of origin-destination pairs and trip volumes. The results for each mode shift suitability category help provide a better understanding of the potential for active trips of any mode. Overall, the project team focused on the results of trips which are three miles or less which are highlighted in [Map 4.3](#). Detailed maps of the active trip potential across the Truckee Meadows are included in [Appendix A](#).

Summary of Findings

The results of this analysis highlight areas which have the greatest potential for capturing a high percentage of vehicle trips with active modes with supportive infrastructure investments. These results highlight the areas which have the greatest potential to shift vehicle trips to active modes helping to reduce vehicle emissions and providing a higher level of congestion relief on regional roadways.



Areas with short trip distances and dense destinations are prime locations for active transportation trips.

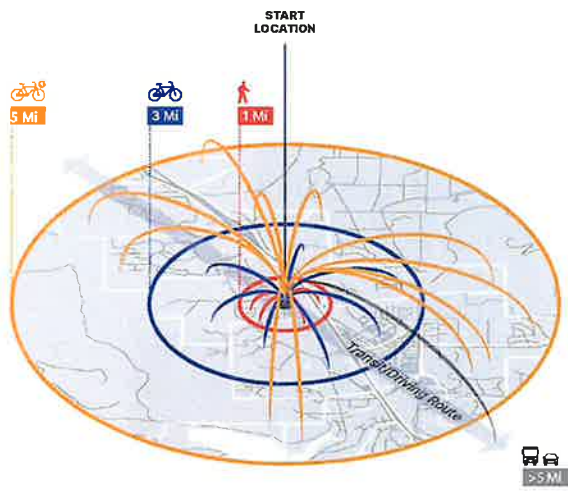
Walking - Active Trip Potential (ATP)

When considering areas with a high potential for walking trips, Central Reno, Central Sparks, West Reno, South Reno, and Sun Valley all have high proportions of trips which are under 1 mile which is within an achievable distance for people walking. The areas with the highest overall level of walking trip potential (trips 1 mile and under) are between the University of Nevada, Reno, downtown Reno, and Midtown. The area between Plumb Lane and Moana Lane and surrounding Meadowood Mall also have strong potential for converting short vehicle trips to walking trips.

Biking - Active Trip Potential (ATP)

A large proportion of trips within the Truckee Meadows that are currently completed with a vehicle fall between 1 and 3 miles which highlights the significant potential for shifting vehicle trips to this mode. The areas with the greatest bike potential are between South Reno and Central Reno and between the Grand Sierra Resort, Renown Medical, and downtown Reno. Additionally, the areas of higher density surrounding S. Virginia Street also have relatively large proportions of vehicle trips between 1 and 3 miles.

Figure 4.4 Active Trip Potential Concept Explainer







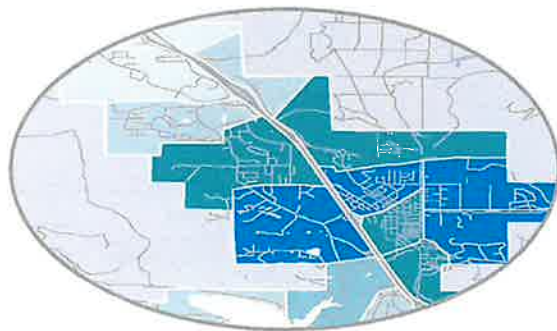
Active Trip Potential (ATP)

Identifies trips whose distances are short enough to be accommodated by walking or biking.

Our evaluation of ATP includes looking at the number of trips less than 3 miles.

Different modes are suitable for different trips based on the transportation options that support them.

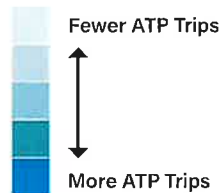
-  Walk Trip Potential (0-1mi)
-  Bike Trip Potential (1-3mi)
-  E-Bike Trip Potential (3-5mi)
-  Drive and Transit Trip Potential (>6mi)



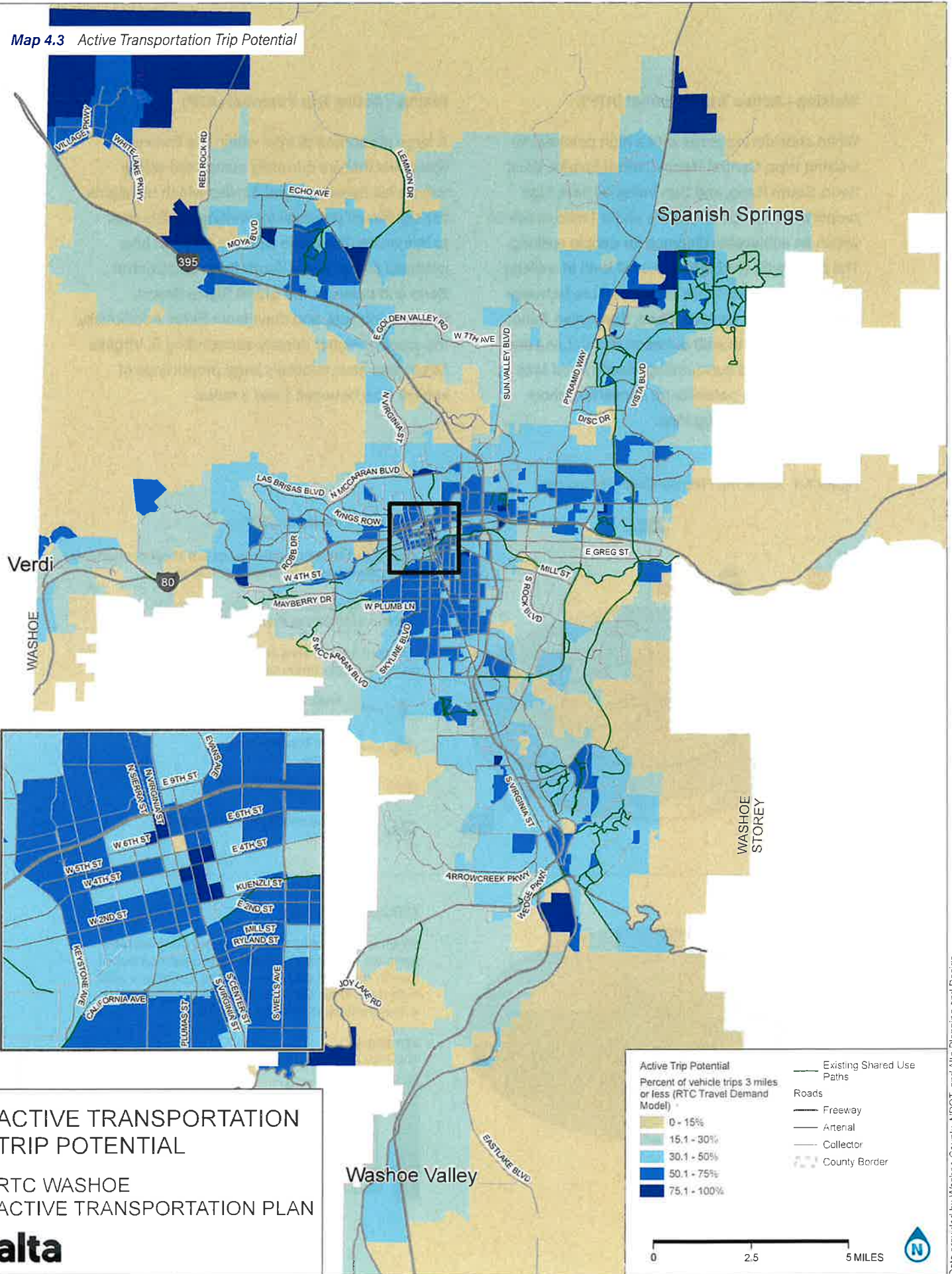
ATP Zonal Summary

When we look at all the activity occurring within a zone, we scrutinize both the estimated number of trips in the zone and their lengths. Locations with high rates short trips are potential candidates for active transportation investments.

ATP TRIPS
% of Trips less than or equal to 3mi



Map 4.3 Active Transportation Trip Potential



Data provided by Washoe County, NDOT, and Alta Planning and Design.

REGIONAL ACTIVE TRANSPORTATION GAPS

The RTC combine the results of each analysis above with the safety and equity needs identified in [Chapter 2](#) to create an overall understanding of where gaps within the active transportation network are within the Truckee Meadows. For the purposes of this analysis, the term “gap” represents a roadway section that acts as a barrier to active transportation in the region and has the potential to address equity needs and significant potential to support shifting vehicle trips to active modes with investments in supportive infrastructure through sidewalks, greater pedestrian buffer space, and low-stress bicycle facilities.

To identify gaps, the RTC combined the results of each analysis using the following methodology ([Table 4.5](#)). After assigning a score for each data metric, the roadway segments which scored within the highest 20% of all regional roadways were identified as Active Transportation Network Gaps with roadways with the top 5% of roadways acting as the most significant barriers in the Truckee Meadows. Gaps are highlighted on [Map 4.4](#) with the top 5% highlighted in red and those in the top 5 – 20% highlighted in orange.

These gaps will help inform the development of recommendations during NNP as key areas of focus. The RTC and stakeholders will work with the Active Transportation Technical Working Group to identify potential solutions for these identified gaps and other issues which may come to light during the neighborhood focus process.

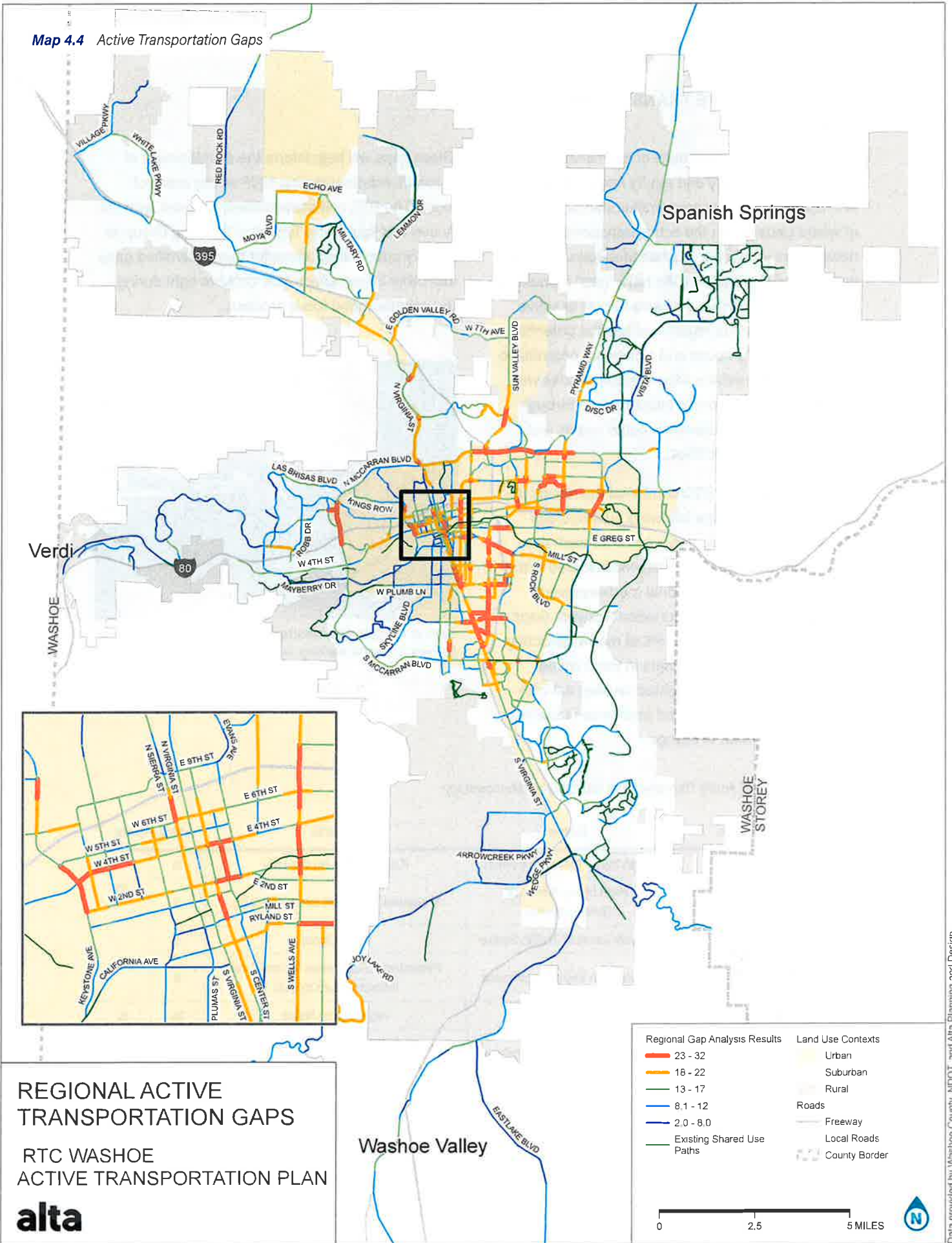


Gaps in the active transportation network can act as barriers to people walking, biking, and rolling.

Table 4.5 Regional Active Transportation Gap Scoring Methodology

Analysis Focus	Metric	Criteria	Max Points	
Safety	High Injury Network (roads)	If segment is on the HIN	5	10
	High Injury Network (intersections)	If segment has HIN intersection(s)	5	
Active Transportation Experience	Bicycle Level of Traffic Stress	BLTS Score	5	10
	Pedestrian Experience Index	Pedestrian Experience Index (Total Infrastructure Score)	5	
Equity	Equity Analysis	High Equity Need	10	10
Active Transportation Potential	Active Trip Potential Analysis	High Active Trip Potential in TAZ (average of those it touches)	10	10

Map 4.4 Active Transportation Gaps



REGIONAL ACTIVE
TRANSPORTATION GAPS
RTC WASHOE
ACTIVE TRANSPORTATION PLAN
alta

- | Regional Gap Analysis Results | Land Use Contexts |
|--|--|
| — 23 - 32 | Urban |
| — 18 - 22 | Suburban |
| — 13 - 17 | Rural |
| — 8.1 - 12 | Roads |
| — 2.0 - 8.0 | Freeway |
| — Existing Shared Use Paths | Local Roads |
| | County Border |



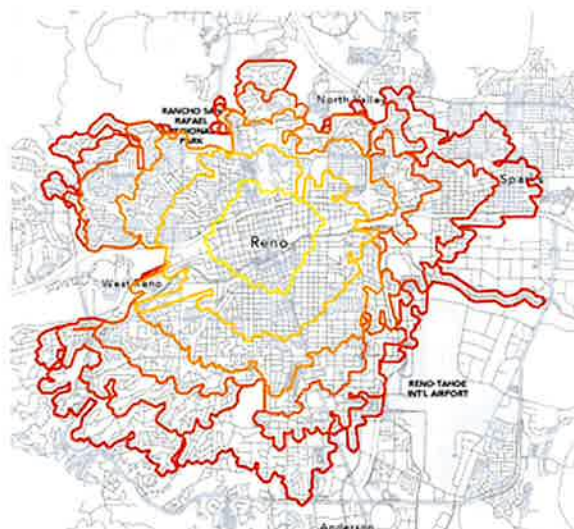
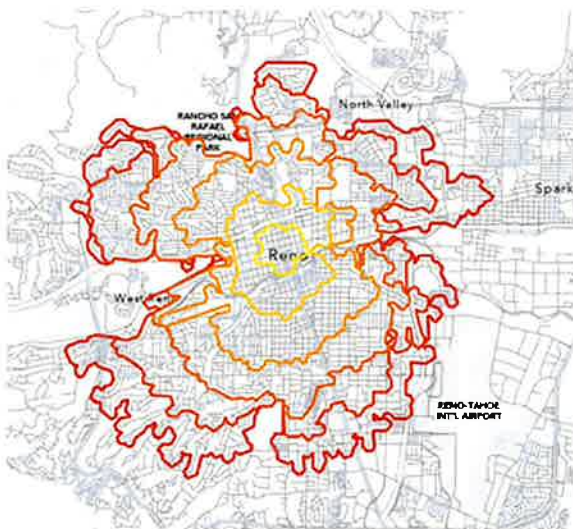
SCENARIO PLANNING

The RTC and project team collaborated to develop a custom GIS analysis toolbox which allows for scenario planning to identify the potential benefits to vehicle miles traveled, greenhouse gas emissions, and new bicycling trips from projects which enhance the bicycle level of traffic stress. By comparing the current levels of traffic stress on the network with the proposed or planned levels of traffic stress, the toolbox runs a comparative analysis to quantify potential benefits. This toolbox will allow the RTC to understand the larger benefits of linking projects together and assess the potential increases in access through low-stress bicycle facilities to key destinations such as schools, parks, government resources, and other community destinations. By leveraging the BLTS analysis results, the RTC can maintain an accurate baseline of the current network as projects come on line and continue to assess the future benefits of projects individually and compared to each other. This analysis toolbox will allow the RTC to focus resources in areas which provide the greatest benefit to active transportation across the network.

Furthermore, this toolbox will allow the RTC to assess how the low-stress network is growing within NNP areas and track performance metrics related to accessibility to key destinations through a low-stress network.

A representation of the outputs generated through this toolbox are highlighted in [Figure 4.5](#) below. The picture to the left highlights the potential distance traveled by a bicyclist from the center of Reno using the existing networks in five minute increments (bicycle access-sheds). This is compared with a scenario that envisions a network of low-stress bicycle facilities throughout downtown Reno. As shown, the potential increase in the distance traveled is significant including extending the furthest access-shed to South McCarran, South East McCarran, and into central Sparks. The results shown here highlight the potential benefits for a single location based on improvements to the network. When conducting full-scale scenario planning, the benefits across the Truckee Meadows are aggregated together to assess the holistic benefit across the network.

Figure 4.5 Bicycle Access-sheds (Before (left)/After (right))



5

Addressing the Issues



ADDRESSING THE ISSUES

This chapter presents the process that the RTC will apply throughout the Truckee Meadows to enhance the existing active transportation network and address issues identified through the existing conditions analysis (*Chapter 2*), public engagement process (*Chapter 3*), and in-depth network analysis (*Chapter 4*). What we heard through the public engagement process and what we see based on the multiple layers of data analysis can be summarized in the following points:

1. Residents within Washoe County are interested in walking and biking for a greater number of trips throughout their daily lives but generally do not feel comfortable traveling across major and minor arterials which are located between neighborhoods.
2. Arterial roadways throughout the urban, suburban, and rural contexts are uncomfortable for the average person walking and biking based on the lack of a connected network of bicycle and pedestrian facilities which include sufficient separation between high-volumes of automobile traveling at comparatively high-speeds and people walking or biking.
3. Addressing active transportation challenges within areas that have a history of safety issues, represent high levels of equity needs, and include a large proportion of short-vehicle trips present the greatest opportunities for enhancing the active transportation network and providing the greatest levels of benefits to the community in terms of increased access for people walking and biking.

In addition to the NNP Framework, this chapter presents recommended policies and programs which help to facilitate collaborative planning with local agency partners and provide supportive resources for people walking and biking. These recommendations will be further refined prior to implementation by the RTC based on collaboration with stakeholders and identification of potential funding streams.



Most bicyclists desire increased separation from vehicles on high-speed roads such as Airport Road.

NNP Framework

Introduction

Recognizing the unique transportation demands of individual neighborhoods, the NNP approach aims to create neighborhood-scaled bike and pedestrian plans. Each plan will assess existing conditions, identify transportation needs, and incorporate public input to establish a list of transportation improvement projects.

Key outcomes of the Neighborhood Active Transportation planning process include:

Active Transportation Network

Recommendations:

- Comprehensive proposals for enhancing and developing the active transportation network infrastructure, encompassing bike lanes, pedestrian pathways, and other modes of non-motorized transport.

Project-Specific Cost Projections:

- An estimation of the financial resources required for the implementation of specific projects within the Active Transportation Plan, helping in budgetary planning and allocation.

Prioritized Neighborhood Projects:

- A ranked list of projects based on predetermined criteria, ensuring that the most critical or impactful initiatives are addressed first, aligning with the overall goals of the neighborhood and the regional plan.

Identified Quick-Build Opportunities:

- Recognizing and highlighting projects that can be rapidly implemented with relatively low resources, facilitating quick improvements to the active transportation infrastructure, and addressing immediate community needs.

Localized initiatives for education and encouragement:

- Each plan will identify strategies for the RTC to engage the public including education campaigns and encouragement events based on the localized needs of the neighborhood.

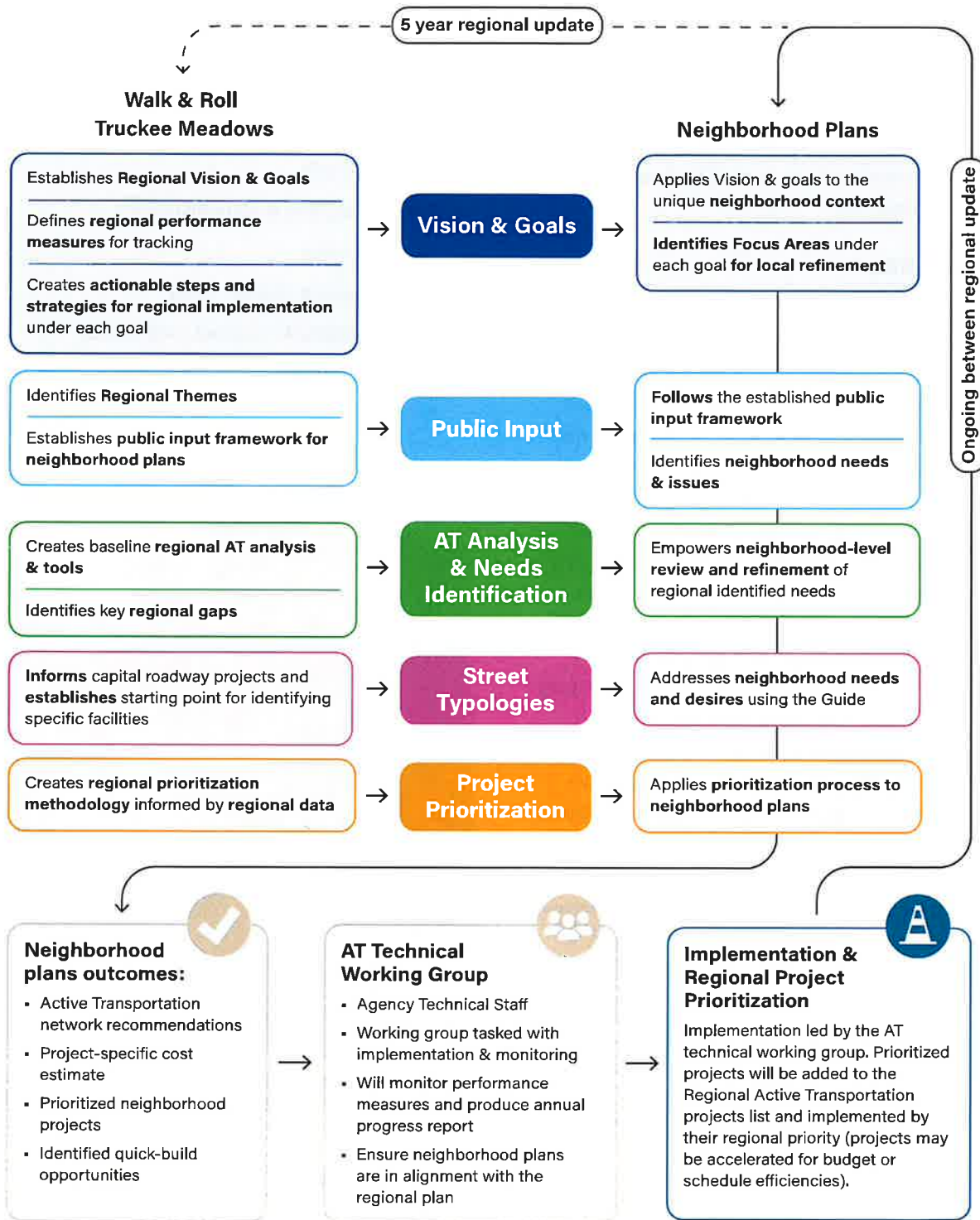
RELATIONSHIP WITH THE REGIONAL ATP

The Regional ATP establishes vision and goals and defines regional measures for tracking performance. The Regional ATP will inform Neighborhood Plans through the development of region-wide analysis data layers and the creation of a scenario testing tool to gauge benefits to accessibility and mode shift potential based on improvements to the bicycle network. The Neighborhood Plans will apply the regional vision, goals, prioritization, and street typology guide developed through the Regional ATP to the neighborhood context to identify the specific recommendations that will address neighborhood needs. The Regional ATP will establish the framework for conducting Neighborhood Plans including the process for reviewing existing conditions, engaging with the community, developing recommendations, and applying the regional prioritization to identified neighborhood projects. This process will mirror itself across each of the twelve distinct neighborhoods outlined in this plan. This approach aims to both identify opportunities for collaboration and synergy within each neighborhood and guarantee regional connectivity by coordinating with other Neighborhood Plans at a network level.

PEER-CITY EXAMPLES OF NNP:

- Boise, ID - The Ada County Highway District (ACHD) conducts neighborhood planning and results from each plan are included in their Integrated Five-Year Work Plan (IFYWP).
- Denver, CO - Denver's Community Transportation Networks initiative identifies three areas for focused engagement to facilitate community collaboration in planning active transportation networks.

Walk & Roll Neighborhood Planning Process



IMPORTANCE OF EQUITABLE PLANNING

Each of the twelve identified neighborhoods has unique needs and desires regarding active transportation as well as different needs for engagement. To create a deeper understanding of needs across the community, the RTC will tailor engagement strategies and methods to the needs of each neighborhood including providing language-specific outreach materials and staff at engagement events as needed from neighborhood to neighborhood.

NNP AREAS

To facilitate targeted engagement and analysis within focused areas, the Truckee Meadows region has been subdivided into twelve generalized NNP Areas. Each area will be the focus of a targeted Neighborhood Plan which follows the framework laid out in this section. Neighborhood Plan areas were selected based on the existing areas of high active trip potential, geographic distance, and typical distribution of short trips as well as existing geographic boundaries and political borders. Boundaries of neighborhood plans are intended to be flexible to allow RTC to proactively plan connections to nearby destinations or incorporate other planned improvements within a short distance of the NNP Area boundary. [Figure 5.1](#) - NNP Area Boundary Selection visually shows how various datasets are considered to formulate the planning areas. The twelve NNP Areas listed to the right and shown in [Map 5.1](#) - NNP Areas. These areas are subject to change or be combined for planning efficiencies when necessary or advantageous as determined by the RTC Washoe.

Neighborhood Plan Areas:

1. North Valleys
2. Sun Valley & Panther Valley
3. Spanish Springs
4. Verdi / Mogul
5. West Reno
6. Downtown Reno & UNR
7. Central Sparks
8. Southwest Reno & Caughlin Ranch
9. Midtown Reno
10. Meadowood & Hidden Valley
11. Bartley Ranch, Arrowcreek, and Galena
12. South Meadows



Neighborhood Network Plans will help create connections within and between neighborhoods for people walking, biking, and scooting.

Neighborhood Planning Areas in Truckee Meadows Delineation Process

The Truckee Meadows Region has been divided into twelve focused Neighborhood Planning Areas for analysis, engagement, and development of recommendations:

- High-need equity zones: Health, socioeconomic, and environmental data inform transportation decision-making in these areas to address inequalities.
- School zones to align with existing boundaries for school-related transportation trips.
- Existing active trip demand: these include areas with frequent walking, biking, and local travel to encourage sustainable transport options.
- Municipal boundaries

Boundaries can be subject to adjustments/changes to plan connections and incorporate nearby improvements for optimal connectivity.

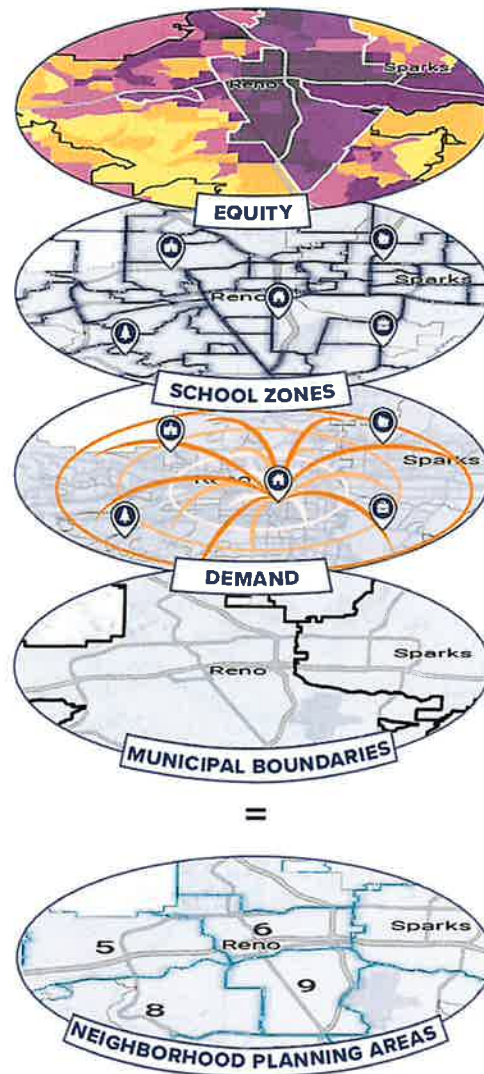
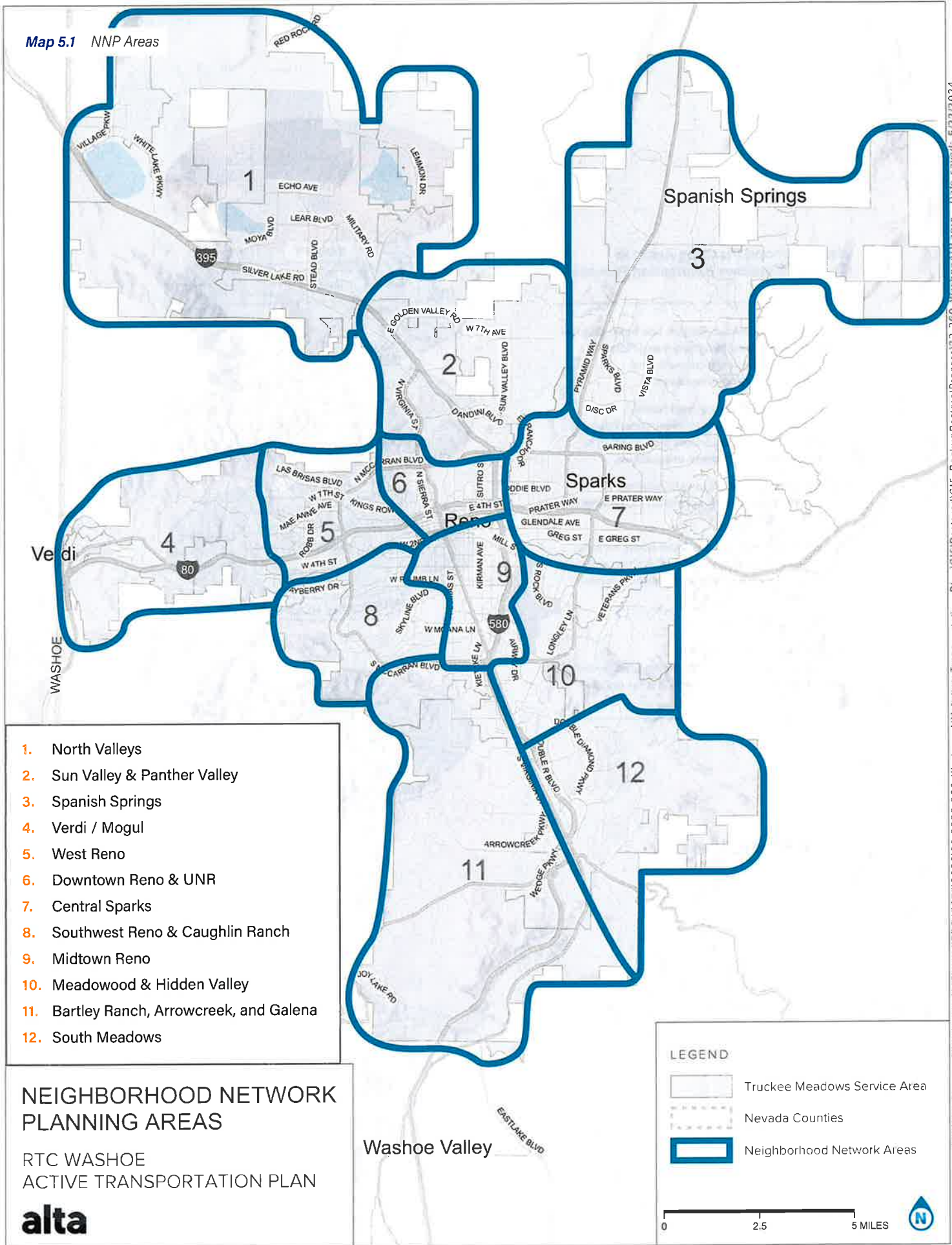


Figure 5.1 NNP Area Delineation

Map 5.1 NNP Areas



- 1. North Valleys
- 2. Sun Valley & Panther Valley
- 3. Spanish Springs
- 4. Verdi / Mogul
- 5. West Reno
- 6. Downtown Reno & UNR
- 7. Central Sparks
- 8. Southwest Reno & Caughtlin Ranch
- 9. Midtown Reno
- 10. Meadowood & Hidden Valley
- 11. Bartley Ranch, Arrowcreek, and Galena
- 12. South Meadows

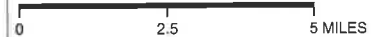
**NEIGHBORHOOD NETWORK
PLANNING AREAS**

RTC WASHOE
ACTIVE TRANSPORTATION PLAN



LEGEND

- Truckee Meadows Service Area
- Nevada Counties
- Neighborhood Network Areas



NNP Process

Interpretation of Regional Vision & Goals

Neighborhood plans will adapt the regional vision and goals to the local context while aligning with overall objectives. The Vision and Goals identified in the Walk & Roll Truckee Meadows Plan represent the goals for active transportation across the Truckee Meadows region, however, the interpretation of the regional vision and goals is intended to be applied through the unique lens of each neighborhood. While the overarching vision and goals for the Walk & Roll Truckee Meadows plan will inform the Neighborhood Plans, each neighborhood may choose to emphasize certain goals based on the unique context and values of the respective neighborhood. This flexibility allows neighborhood-level customization while aligning with the overall regional goals of the Walk & Roll Truckee Meadows Plan. This process will help guide the development of recommendations and their implementation when considering neighborhood projects at a regional level.

PUBLIC INPUT

Utilizing Regional Public Input Framework

Neighborhood plans are intended to be mini-active transportation plans conducted within the small neighborhood area which brings neighbors together to identify issues and solutions to improving the streets and trails they know intimately. To empower strong collaboration with members of the community, the RTC will follow a typical outreach framework including virtual and in-person engagement options used during the regional ATP and multiple touchpoints throughout the neighborhood plan process. Each Neighborhood Plan will follow a similar framework to provide a consistent approach to engagement

across the Truckee Meadows. This will ensure that each Neighborhood Plan includes the following baseline elements for engagement during a Neighborhood Plan:

- **Public Engagement Plan** - Prior to undertaking a Neighborhood Plan, the RTC should develop a public engagement plan specific to the neighborhood. This outline for public engagement should specify the specific stakeholders, organizations, touch points, and outreach methods that will be most effective for reaching and engaging the public.
- **Public workshops**
 - ◆ **Listening Workshop** - The development of each neighborhood plan will include a public workshop at the beginning of the plan intended to gather direct feedback and assess the needs from local neighborhood residents. This will include an opportunity to review regionally identified needs and provide comments or identify potential solutions.
 - ◆ **Solutions Workshop** - Following the identification of neighborhood needs and review of regional data by neighborhood residents, the RTC will conduct another public workshop to collaborate with the public to address identified needs starting with concepts included in the Regional Streets Typology Guide.
- **Online/social media** - The RTC will use social media to help advertise and promote in-person and online outreach efforts for each Neighborhood Plan.

- **Neighborhood Plan Webpage** – All information and materials for each Neighborhood Plan will be hosted on the RTC website with a dedicated webpage for each Neighborhood Plan. The RTC will develop each webpage in concert with the development of the Neighborhood Plan. Once the plan is completed, the RTC will continue to maintain the page with relevant information and a copy of the completed plan.
- **Survey and Interactive Comment Map** – To augment the public workshops, the RTC will provide an online interactive map for identifying specific needs and issues throughout the neighborhood. This information will provide context for network planning during the recommendations phase of the neighborhood plan.

Identification of Neighborhood-Specific Engagement Methods

The specific methods used within each neighborhood may vary based on the needs of the community including providing language-specific outreach or a greater reliance on in-person or paper-based outreach for seniors. While the general approach to engagement will follow the Public Input Framework identified in the Regional ATP, each Neighborhood Plan may involve a different blend of engagement offerings based on the needs of the community. Before the kick-off of each Neighborhood Plan, the RTC will conduct a high-level review of socioeconomic data to gauge the level of need for unique or tailored outreach strategies or materials and create a custom Neighborhood Engagement Plan to guide the outreach for the Neighborhood Plan, such strategies may include the following:

- Focus groups with specific target groups to assess needs and issues (ex. Seniors, Youth, Latinx community).
- Postcard mailers in English and Spanish sent to all residents in the neighborhood with a link and QR code to the project webpage.
- Yard Signs provided for visibility including project webpage link and QR code.
- Additional public workshops as needed for consideration of issues or potential solutions.
- Intercept surveys
- Compensation for public participation in areas with equity concerns

ACTIVE TRANSPORTATION ANALYSIS

The Regional ATP represents a comprehensive approach to walking and bicycling infrastructure and programs across Truckee Meadows. Regional networks link communities and connect to local networks to support shorter trips for both pedestrians and bicyclists.

The Regional Active Transportation Plan provides a comprehensive baseline analysis of active transportation networks and needs across the Truckee Meadows region to help inform decision-making during Neighborhood Plans. This analysis is summarized below and described in detail within [Chapters 3 and 4](#). The baseline analysis includes the following datasets:

- **Bicycle Level of Traffic Stress (BLTS)** – Scores level of comfort for streets for cyclists, considering factors like traffic speed, volume, and infrastructure (bike lanes, etc.).
- **Pedestrian Experience Index** – Similar to BLTS, this evaluates the level of comfort for streets and areas, considering factors like sidewalk quality, safety crossings, and access to amenities.
- **Transportation Equity Analysis** – Examines level of equity based on composite scores of opportunities + accessibility, affordability, vulnerability, engagement, health + safety, and environmental justice.
- **Active Trip Potential** – Identifies trips whose distances are short enough to be accommodated by walking or biking.
- **Regional High Injury Network (Intersections & Road Segments)** - Identifies intersections and road segments with high rates of crashes and injuries, focusing on specific regions.
- **Regional Gap Analysis** – This summary layer combines the five metrics above into a single analysis layer which identifies the regional roadways which act as the greatest barriers to active transportation in the region.

These datasets will help to inform the needs identification and network planning process of the Neighborhood Plans. Additionally, the Regional Active Transportation Plan included the creation of a scenario testing tool that allows the RTC to evaluate before and after enhancements in accessibility and modal shifts from improvements to the bicycle network. Using this tool, the RTC

will be able to conduct scenario testing which may combine projects linking neighborhoods and those across multiple neighborhoods to assess the benefit to the larger community.

Neighborhood-Specific AT Analysis

Neighborhood plans will use the regional-level data layers to help identify existing neighborhood needs and desires for active transportation. This process will include working with the neighborhood community to identify key connections and consider existing concerns or gaps within the network that may present opportunities for improvement. This process will help to contextualize the regional-level analysis and identify the most pressing need for those living within each neighborhood.

BASIS FOR RECOMMENDATIONS

Street Typology Guide Application

The NNP process will focus on regionally identified needs within the transportation network and help facilitate a discussion between RTC staff and local residents to identify the best options for addressing those needs while fitting within the neighborhood context. This discussion will be informed by the Street Typology Guide ([Appendix C](#)) which identifies generally suitable facilities for pedestrians and bicyclists on regional roadways of various sizes (Arterial/Collector, Major/Minor) in different development contexts (urban / suburban / rural); this provides a starting point for identifying planning-level corridor improvements on regional roadways. While the typology guide identifies appropriate active transportation elements for a given roadway, it is also intended to allow flexibility to respond to unique corridor characteristics such as ROW widths, the presence of transit, or other unique characteristics. This process will help to select facility recommendations which fit within the neighborhood context as determined by local neighborhood residents¹.

Quick-Build Opportunities Identification

During the development of project recommendations, the RTC will collaborate with neighborhood residents and stakeholders to identify opportunities to install quick-build style improvements to provide rapid response to identified needs. Quick-build style improvements use low-cost materials to reformat roadway space into more designs which are more accommodating for pedestrians and bicyclists while not requiring significant investments of capital through extensive construction efforts. Quick-build projects provide a strong opportunity to test community generated recommendations and adjust the design prior to constructing long-term improvements. This is a strong option for projects which have a high estimated cost and a high identified regional priority. Installing a quick-build style improvement of the identified recommendation will allow the RTC and community to recognize immediate benefits while designing and allocating funding for a more long-term improvement. These improvements can also build momentum and trust in the planning process.

Cost Projections for Recommended Improvements

Projects recommended within each Neighborhood Plan will include a planning-level cost estimate to identify a high-level cost for developing the improvement. This information will be based on the latest available information and will be a key input for guiding the implementation of the recommendation. The RTC will use the estimate cost to help inform funding and implementation decisions including the consideration of quick-build style improvements and the most appropriate source of funding.

Consideration of Funding Sources

Projects identified through the NNP process may be eligible for different sets of funding based on their location, identified needs, conceptual design, and overall complexity. Each Neighborhood Plan will identify potential funding sources for each identified project which will be used by the Active Transportation Technical Working Group (ATWG) to apply appropriate funding to different projects.

Neighborhood Project Prioritization Process

The prioritization process identified under the Walk & Roll Truckee Meadows Plan represents the regional transportation priorities for implementing improvements for people walking and rolling in the community. Each neighborhood plan will apply the regional prioritization process to the identified recommendations to highlight the projects of the greatest need within the community.

Local Community-Driven Projects

Though the NNP process is intended to identify improvements on regional roads, this process may identify projects which require adjustments to local or private roads. Projects such as these will be an opportunity to coordination with local agency partners at the City or County to communicate the identified need and create options for addressing it.



The 5th Street project is an example of local quick-build project implementation.

¹ Final recommendations will be approved based on engineering judgement and best practices. The RTC will provide design guidance and direction to identify feasible recommendations which support the project goals to the extent practicable.

Final Neighborhood Plan

Once completed, a Neighborhood Plan will include the following items to inform active transportation projects going forward:

Community Vision and Priorities

- This will include summaries of key goals and aspirations for the neighborhood's active transportation network, aligning with the goals of the Regional Walk & Roll Truckee Meadows Plan.
- May include highlighting recurring themes and suggestions gathered through public engagement, highlighting neighborhood-specific community participation.

Regional Connections

- Neighborhood plans should consider regional connections and adjacent neighborhoods to foster seamless travel, expand access to destinations across the region, and contribute to a more vibrant and interconnected community.
- This collaborative approach ensures broader impact and informs the development of subsequent plans, maximizing their effectiveness.

Prioritized Neighborhood-Project List

- Each plan will provide a ranked list of specific projects deemed critical for achieving the neighborhood's key goals based on the regional prioritization process.

Neighborhood Quick-Build Opportunities

- Identified projects that can be implemented swiftly and economically, generating early wins and encouraging further investment.
 - ♦ Examples: Crosswalk enhancements, temporary protected bike lanes, and neighborhood traffic calming elements.

Implementation Strategies

- An outline of the steps and resources needed to bring priority projects to fruition.
 - ♦ These may consider partnerships with local organizations, funding opportunities, identifying construction timelines that align with ongoing development, etc.

Neighborhood-Specific Education and Encouragement Activities

- Neighborhood plans will highlight existing education and encouragement activities and identify potential new initiatives within the community based on local community input and needs.

These outputs will be carried forward to the Active Transportation Technical Working Group for consideration and potential allocation of funding for identified projects. The AT Technical Working Group is described in further detail below.

AT Technical Working Group & Regional Prioritization

AT TECHNICAL WORKING GROUP COMPOSITION & ROLE

The Active Transportation Technical Working Group (ATWG) is intended to be an interagency group responsible for prioritizing the active transportation projects identified in Neighborhood Plans at a regional level. The group is based on similar regional implementation groups such as the Pavement Preservation Committee and its composition ensures representation for each city and the county for diverse perspectives and expertise when allocating funding and resources.

The ATWG will be comprised of planning, engineering, and maintenance staff from the Regional Transportation Commission, City of Reno, City of Sparks, Washoe County, and the Nevada Department of Transportation as appropriate. Additional members may include planning staff from the Washoe County School District, Reno-Sparks Indian Colony, or others as deemed necessary by the RTC.

NNP Involvement

The ATWG will support project prioritization and oversight of active transportation projects across the region and provide high-level oversight of the NNP process. This group will support NNP by providing feedback on draft plans and providing technical guidance and support as needed related to facility selection and design. Furthermore, this group will provide input on the sequencing of neighborhood plans with an emphasis on areas with the greatest equity needs, issues of pedestrian and bicycle safety, potential for active transportation trips, and identified gaps in the active transportation network.

REGIONAL PRIORITIZATION FRAMEWORK

Projects identified through Neighborhood Network Plans will be addressed in a variety of ways based on their overall complexity, existing projects, and funding availability. Projects identified by the ATWG as standalone Active Transportation projects (i.e. requiring RTIP programming or discretionary grant funding) will be prioritized on a regional basis to ensure the RTC focuses funds on those projects which provide the greatest benefits to the active transportation network based on a data-driven approach (*Table 5.1*). This prioritization process is based on the community and stakeholder identified goals in this plan and help support the on-going performance measures for active transportation highlighted in *Chapter 6*.

MONITORING AND ADAPTATION

Performance Metrics

The ATWG plays a crucial role in guaranteeing the impact of this plan aligns with its intended goals. By conducting in-depth analyses of connectivity, safety, and usage data, the ATWG will use the performance metrics in this plan (see *Chapter 6*) to assess the effectiveness of each initiative. This data-driven approach will not only reveal opportunities for improvement but also ensure transparency to the public regarding the actionability and real-world impact of these plans.

In essence, these plans will embrace an adaptable approach. Real-world data and resident feedback serve as constant sources of improvement, informing ongoing revisions to the plan. The ATWG acts as a dedicated monitoring body at the heart of this process.

Table 5.1 Project Prioritization Framework

Type	Question	Pts by Type	Percent of Total
Safety	Is the project include improvements on a High Injury Network roadway?	15	30%
	How many miles of the HIN will this project address?		
	Does this project include improvements at High Injury Network intersections? If so, how many?		
	If so, how many?		
Equity	Is the project in a federally defined Justice 40 zone?	10	20%
	Is the project in an Equity Priority Zone (Alta identified disadvantaged area)?		
Network Enhancement	What is the estimated improvement in the level of bicycle stress from this project?	10	20%
	Does this project address an existing sidewalk gap?		
Regional Network Gaps	Does the project address existing regional gaps in the active transportation network?	5	10%
Transit Connections	Is the project on an existing fixed route transit line?	5	10%
	If so, does the route have higher than average ridership?		
	Are there ADA deficient Bus Stops along the corridor within the project limits? (If so, how many?)		
	1 - 2		
	3 - 5		
	6+		
Community Connections	Is the project within 1,000 feet of essential services including governmental services, affordable housing, medical services, educational services, or other?	5	10%
	Is the project within 1,000 feet of a Washoe County School District school?		
	Additional points for each school within 1,000 feet of the project (up to 2 additional points)		

Annual Progress Reports

The ATWG will oversee development of an annual progress report summarizing progress completed in the previous year on active transportation planning and implementation over the previous year. The progress report will be available to stakeholders, community organizations, elected officials, and the general public in order to enhance transparency and accountability. These reports will serve as a clear and concise snapshot of the community's progress towards enhancing the active transportation network. By presenting a comprehensive annual progress report, the aim is to foster trust and collaboration with stakeholders, ensuring the plan remains accountable and responsive to the needs of the community. Reports will include updated tracking of performance metrics and an overview of recently completed projects and plans over the past calendar year. For example, Blueprint Denver produces an annual progress report in the form of a storymap available in an accessible web format for Denver residents.

Neighborhood Network Plan Updates

Neighborhood Network Plans are intended to be living documents updated on a semi-regular basis or approximately every 5 years between updates to the regional active transportation plan to reflect changing needs and circumstances. Updating Neighborhood Network Plans may involve completing a new plan or reviewing and updating the previous plan based on changing needs and circumstances within each neighborhood area and at the discretion of the RTC.

A light revision might be sufficient for addressing minor changes or incorporating new information. However, comprehensive updates or even entirely new plans may be necessary for neighborhoods experiencing significant transformations, such as rapid growth, major infrastructure projects, or identified equity concerns.

Neighborhood Network Plan Updates may be prioritized based on several key factors such as:

- **Equity:** Ensuring underserved areas receive timely attention to address historical inequities.
- **Safety:** Focusing on neighborhoods with high accident rates or lacking safe infrastructure.
- **Growth:** Prioritizing areas experiencing rapid development or population increases.
- **Capital Projects:** Aligning plan updates with major infrastructure projects for optimal synergy.

By adopting a flexible and data-driven approach to updates and prioritization, RTC can ensure that each neighborhood has a plan that effectively reflects its unique needs and aspirations.

NNP Framework Summary

The NNP Framework and implementation outlined above represent steps to create a more connected active transportation network through community-driven action and vision. The new Active Transportation program managed by the ATWG will oversee planning and implementation throughout the region moving forward which will result in a more streamlined and efficient process for planning and constructing active transportation improvements within neighborhoods across the Truckee Meadows. Through collaborative efforts, strategic partnerships, and ongoing monitoring, the NNP process will ensure that active transportation planning meets the various active transportation needs of the Truckee Meadow's diverse neighborhoods while aligning with regional goals and priorities.

Regional Street Typology Guide

The RTC Street Typology Guide, included in [Appendix C](#), represents a systematic approach to prioritizing the safety and comfort of pedestrians and cyclists on regional roads in Washoe County. The guide is a starting point to inform design decisions and support a collaborative planning process during Neighborhood Network Plans.

The guide illustrates practical examples of strategies to accommodate active transportation across all ten regional roadway typologies. The guide describes the preferred strategy for separating modes on regional roads based on the land use context. Additionally, the guide notes the preferred facility type as well as the preferred widths for each facility and any required buffers; minimum widths are also noted for constrained locations. In order to support quick-build project implementation, the guide highlights potential treatments and strategies for using quick-build materials.

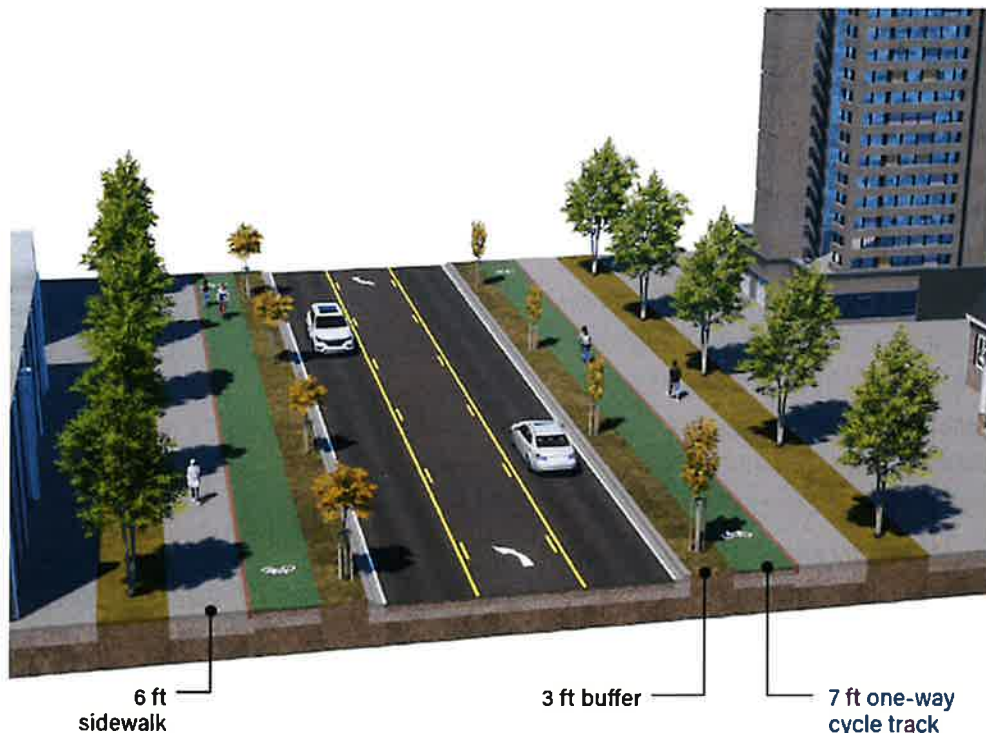


Figure 5.2 Preferred separation style example included in RTC Street Typology Guide.

Recommended Policies & Programs

Complete Streets Policy

The RTC Washoe adopted the Complete Streets Master Plan in July 2016 which includes the definition of, vision for, and general approach to implementation of Complete Streets within the Truckee Meadows. While this plan includes many of the ten elements of a comprehensive Complete Streets Policy, these are spread throughout the document and not contained within a single cohesive statement of policy. It is recommended that the RTC and local agency partners refine their Complete Streets Policy to be a cohesive and standalone policy document that clearly identifies all ten elements identified by the National Complete Streets Coalition² of a model Complete Streets Policy as listed below.

1. **Vision and Intent** – Specifies an equitable vision and need for creating a complete, connected, network for active modes.
2. **Diverse Users** – Focuses benefits on all users equitably, particularly for vulnerable users and underinvested communities.
3. **Commitment in all projects and phases** – Applies to all new, retrofit / reconstruction, maintenance, and on-going projects.
4. **Clear, accountable expectations** – Identifies a procedure for when exceptions to Complete Street designs including high-level approval and public notice of granted exceptions.
5. **Jurisdiction** – Requires interagency coordination between government departments and partner agencies.
6. **Design** – Directs the use of the latest and best design criteria and guidelines.
7. **Land Use and Context Sensitivity** – Considers surrounding community's current and expected land use and transportation needs.
8. **Performance Measures** – Establishes performance standards that are specific, equitable, and available to the public.
9. **Project Selection Criteria** – Provides specific criteria to encourage funding prioritization for Complete Street implementation.
10. **Implementation Steps** – Includes specific next steps for implementation of the policy.

Formalizing the shared vision for and commitment to design and implementation of Complete Streets across transportation projects will help to ensure that streets are safe for people of all ages and abilities and balance the needs to different modes across the Truckee Meadows. Once formalized and adopted by the RTC and local jurisdictions, this policy should remain available online for easy reference by agency partners and the community at large.



²The Elements of a Complete Streets Policy, Smart Growth America and National Complete Streets Coalition, (2023). Pg. 1 (<https://smartgrowthamerica.org/wp-content/uploads/2018/02/Complete-Streets-Policy-Framework.pdf>).

Local Roadway Standards

The RTC Streets & Highways Policy presents the strategy to implementing projects on regional roads throughout the Truckee Meadows through specific project types. This policy provides conformity on implementation throughout the region while working within the existing local zoning codes and roadway standards. All three local entities (City of Reno, City of Sparks, and Washoe County) maintain standards for the construction of roadways within their jurisdiction including typical cross-sections, lane widths, and accommodations for pedestrians and bicyclists. While these standards are largely similar, they vary slightly in their requirements for overall roadway widths and pedestrian and bicycle accommodations. Currently, Washoe County roadway standards indicate that bicycle facilities should be provided in accordance with the RTC Bicycle and Pedestrian element of the Regional Transportation Plan.

There is an on-going regional effort to update local roadway standards for a greater level of consistency across all three jurisdictions which could include updating the standards from both City entities to provide bicycle facilities in accordance with the RTC Bicycle and Pedestrian element of the Regional Transportation Plan. This would help to ensure a consistent application of active transportation facilities on regional roadways throughout the Truckee Meadows. It is important to note that the Regional Streets Typology Guide is intended to complement the local design standards within each partner jurisdiction and work within local zoning codes, ordinances, and design standards as they are maintained and updated by local partners.



Cyclists, pedestrians, and drivers traveling comfortably along tree lined Riverside Drive

RTC Neighborhood Greenways Program

While the RTC maintains regional roadways in the Truckee Meadows, the NNP process may consider connections on local neighborhood roads to create low-stress connections while larger scale projects on regional roads are designed and constructed or longer-term improvements when regional roads have significant constraints which may prevent the implementation of a low-stress facility. In these instances, it is recommended that the RTC partner with the local roadway owner (City of Reno, City of Sparks, or Washoe County) to implement traffic calming improvements to create a low-stress connection on local streets also known as a Neighborhood Greenway or Neighborhood Byway. This type of program has been applied in cities across the country to provide important connections between and within neighborhoods as longer-term improvements are planned, designed, and funded for construction.

Using this strategy, the RTC and local entity would collaboratively identify appropriate traffic calming measures for the local street which adhere to each entities traffic calming policy or guide (further detailed below). Additionally, these projects would identify crossing improvements at intersections with higher level streets (arterials and collectors). These improvements could include crossing improvements such as signals, crosswalks, curb extensions, curb ramps, signage, and street markings as well as way-finding signage, modal filtering, and connections to nearby bicycle routes. Neighborhood Greenways may not be appropriate on all local streets and should be prioritized on streets with the following characteristics:

- Direct connections between neighborhood destinations
- Low vehicle speeds
- Low traffic volumes



Figure 5.3 Example of modal filtering on Neighborhood Byway (Provo, UT).



Figure 5.4 Neighborhood Greenway with reduced speed limit (Portland, OR).

- Greening or shade elements including trees and other landscaping along the route (when available)

To support the implementation of neighborhood greenways, the RTC may consider modifying existing policy or developing a focused grant program for local entities. This could include adding a definition for neighborhood greenways as part of the existing definition of regional roads to support usage of existing additional funding for traffic calming improvements on these select roadways. In developing a focused grant program for local entities specifically for traffic calming on neighborhood greenways, the RTC could ensure the implementation of high-quality improvements on candidate streets.

RTC E-bike Incentive Program

Electric bikes (e-bikes) have grown significantly in popularity in the past five years and have been shown to encourage increased levels of bicycle usage and replacement of vehicle trips⁴ as well as empowering seniors to bicycle⁵. In order to encourage greater adoption of this mode and make these vehicles more affordable for those who wish to use an e-bike, local and state entities from across the country have implemented incentive programs of various forms since 2018. Programs such as these have been implemented in areas as various as Hawaii, Iowa, Maine, Wisconsin, Colorado, and North Carolina⁶. These programs provide either a point-of-sale or post-sale discount on electric bikes directly to the consumer and some programs provide higher rebates based on income levels. Research into the effectiveness and benefits of these incentive programs from the National Center for Sustainable Transportation highlight that

those who received a rebate to purchase an e-bike engaged in an increased level of bicycle activity after purchasing an e-bike and nearly 40% replaced at least one weekly vehicle trip⁷.

It is recommended that the RTC and local partners develop an e-bike incentive program similar to those implemented in states and localities across the US to further encourage the use of e-bikes in order to support shifting vehicle trips to active modes and bolstering mobility for seniors. Existing federal funding through the Transportation Alternatives (TA) or Congestion Management and Air Quality (CMAQ) programs present the greatest potential for developing this incentive program (See [Denver, CO](#) and [Salt Lake County, UT](#)). Implementing a pilot program and tracking the effectiveness locally may be a beneficial step to help gauge local interest and set appropriate income thresholds and incentive levels.

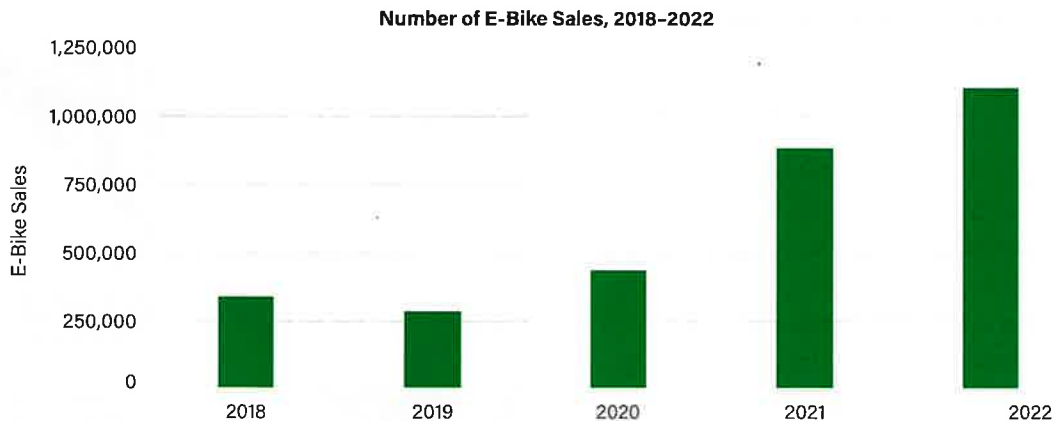


Figure 5.5 E-bike sales in the US (2018 - 2022) - Office of Energy Efficiency & Renewable Energy (2023)

⁴ Aslak Fyhri, Nils Fearnley, Effects of e-bikes on bicycle use and mode share, *Transportation Research Part D: Transport and Environment*, Volume 36, 2015, Pages 45-52

Rérat, P. (2021). The rise of the e-bike: Towards an extension of the practice of cycling? *Mobilities*, 16(3), 423-439. <https://doi.org/10.1080/17450101.2021.1897236>

⁵ Samantha J. Leger, Jennifer L. Dean, Sara Edge, Jeffrey M. Casello,

"If I had a regular bicycle, I wouldn't be out riding anymore": Perspectives on the potential of e-bikes to support active living and independent mobility among older adults in Waterloo, Canada, *Transportation Research Part A: Policy and Practice*, Volume 123, 2019, Pages 240-254,

⁶ A full list of E-bike incentive programs in North America produced by Transportation Research and Education Center at Portland State University is available as a google doc which is periodically updated [here](#).

⁷ Examining e-Bike Rebates in California, UCD-CT-FAST-060, National Center for Sustainable Transportation (2022). Available at: <https://ncst.ucdavis.edu/project/examining-e-bike-rebates-california>

RTC Bicycle, Pedestrian, and Wheelchair Data Collection Program

The previous iteration of the RTC Washoe Bicycle, Pedestrian, and Wheelchair data collection program focused on collecting short-term two-hour count data using manual video counts during key months of activity throughout the year. While this approach mirrors the standard practices at the time of program inception from the National Bicycle and Pedestrian Documentation Program (NBPDP), advancements in data collection, storage, and processing have significantly changed the landscape of available data and reasonable analysis approaches. Additionally, collecting two-hour count data exclusively may be overly impacted by fluctuations in usage by time of year, weather, adverse climate events (i.e., extreme heat events or poor air quality days), and other factors to draw conclusions about long-term trends in active transportation across the region. Recent adjustments to the data collection program include using LiDAR sensors to extend the data collection period to multiple days which expands the total amount of day collected but does not provide insights into fluctuations throughout a week, month, or year. By expanding the program to incorporate continuous data collection, the RTC will be able to identify how active transportation activity is changing over time on a holistic sense as compared to small windows of time. Furthermore, incorporating data collection equipment into regular roadway maintenance programs and roadway construction projects will help the RTC to significantly increase the amount of data collected across the region at regular intervals at a lower overall cost per piece of data collection equipment than installing single counters into existing roadways outside of a roadway reconstruction, maintenance. This may be accomplished by implementing the following methods:

PAVEMENT PRESERVATION & MAINTENANCE PROGRAM

The Pavement Preservation & Maintenance Program will be a primary vehicle for implementing active transportation improvements throughout the Truckee Meadows such as quick-builds and bolstering the RTC's data collection efforts. The RTC repaves all regional roads on a seven-year cycle which provides a clear path to incorporate continuous data collection technology within on-street bicycle facilities within a relatively short timeframe with relatively low implementation costs. In order to program this change, the RTC may establish an internal policy to install continuous bicycle counters at regular intervals along any on-street bicycle facility that is installed, repaved or resurfaced as part of the pavement preservation or maintenance program. Continuous bicycle counters that the RTC could consider under this strategy include radar sensors (Sensys Network – FlexRadar/MicroRadar) or inductive loops (EcoCounter – ZELT).



Figure 5.6 2021 Bicycle, Pedestrian, and Data Collection Program Report.

TRAFFIC SIGNAL VIDEO CAMERA COUNT TECHNOLOGY

Traffic signals which utilize video detection may incorporate technology which allows for additional passive data collection for active transportation. This includes the GridSmart Bell Camera and Iteris Vantage video detection systems which utilize AI to count movements from vehicles and may be calibrated to count pedestrians and bicyclists with the purchase of an additional module. The City of Reno currently uses GridSmart Bell Cameras for video detection at multiple traffic signals within the City and has access to the specialized bicycle and pedestrian module. It is recommended that the RTC work with the City of Reno to obtain access to this data or receive regular data updates in order to leverage this data which is currently passively collected but has been under-utilized.

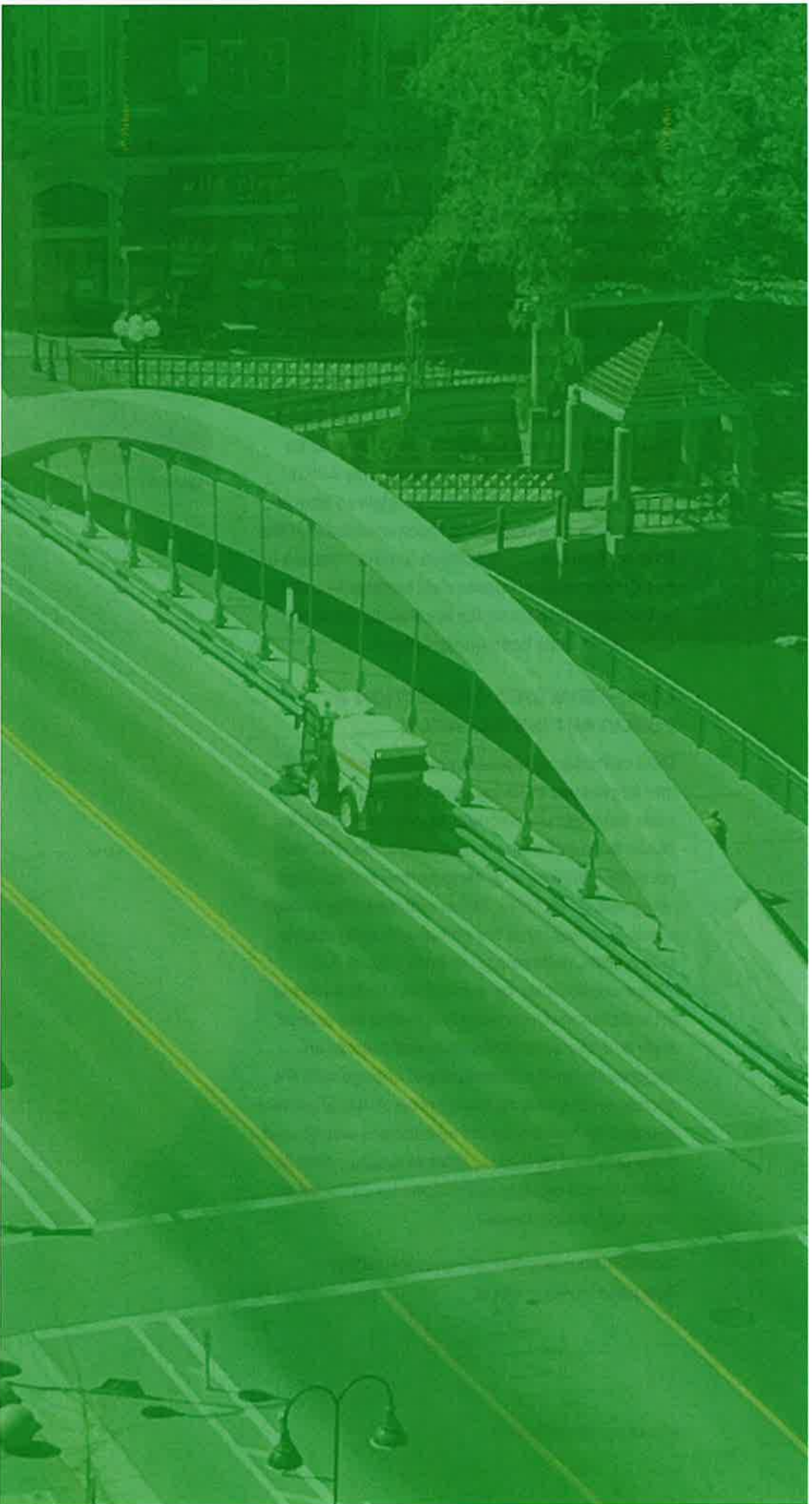
LONG-TERM DATA COLLECTION & PUBLIC ART INSTALLATION

Data collection equipment may also be included into large-scale roadway construction projects or other activities which could incorporate space for public art installations. For example, the RTC may consider installing long-term permanent counters along bicycle facilities. These counters may include a real-time display of the annual and daily counts of bicyclists, pedestrians, or both (*Figure 5.7*). These displays may be incorporated into a unique art installation which would represent the unique style and character of the area and provide an opportunity for the community to engage with the corresponding bicycle facility project. It is important to note that funding for art installations would need to be provided by local entities or another outside source due to existing restrictions for RTCs' local, state, and federal funds.

Available counting technologies are further described in [Appendix B](#).



Figure 5.7 Eco-Counter Real-Time Display
(Source: Eco-Counter).



9

Implementation, Funding, and Performance Metrics

IMPLEMENTATION, FUNDING, AND PERFORMANCE METRICS

This section will provide an overview of different options for implementing identified projects including highlighting quick-build opportunities and project synergies with maintenance projects when feasible. This section will highlight considerations of funding for Active Transportation projects and include the identified performance metrics for tracking the success of implementation.

Implementation Strategies

Active transportation improvements identified in Neighborhood Network Plans will be implemented in two primary ways:

1. Quick build improvements or long-term enhancements that can be completed within the curb-to-curb extents of regional roadways will be implemented through the pavement preservation and maintenance program with additional funding for active transportation specific elements coming from the RTC Active Transportation Program.
2. Identified projects on regional roadways without an upcoming planned pavement preservation or maintenance project will be programmed through the RTIP based on priority and funded using applicable funding streams such as Congestion Mitigation and Air Quality (CMAQ) or through pursuit of state and federal discretionary grant programs. The RTC will pursue grant funds when projects are identified as strong candidates as determined by the RTC and based on available grant opportunities on a case-by-case basis.



Collaboration with Partners

The RTC and local entities collaborate across project planning, design, and implementation due to the unique relationship between these entities and the management and maintenance of regional roads. In order to implement the concepts included in the Regional Street Typology guide in a consistent method across the region, the RTC will need to leverage and enhance collaborative efforts focused on active transportation. The primary opportunity for this increased collaboration will be the ATWG in addition to the on-going NNP process which will include the entity or entities which are included within the NNP area under review. These opportunities will help to foster a strong working dialogue to proactively assess issues with design, implementation, and maintenance specifically related to active transportation facilities which will be vital for a consistent application of the Street Typology Guide across the Truckee Meadows.



Bicyclist connecting with the Truckee River Path.



Maintenance & Operations

Providing regular sweeping of bicycle facilities is vital to maintaining a useful and comfortable network for people choosing to ride. Bicycle facilities can become full of dirt and other roadway debris which creates a hazard for people biking, scooting, or using a mobility scooter and can obscure the location of the path or facility as shown in [Figure 6.1](#).

A key consideration related specifically to bicycle facility design is the type of maintenance vehicle that can be used to maintain the facility. Sweeping bikeways free of dirt and other debris may need to be accomplished with specialized maintenance equipment (see [Figure 6.2](#)) unless the facility is wide enough to accommodate more standard maintenance vehicles such as a light-duty pick-up truck. A light-duty pick-up truck with a sweeper attachment is typically an efficient option for maintenance when a separated bikeway or shared-use path is wide enough (seven feet or wider between the curb and vertical buffer element)¹. In order to fit within the bikeway width, the front-facing maintenance attachment may be attached at an angle.

AASHTO allows for vertical delineators to be placed at the edge of the buffer space on separated bikeways to provide a greater level of operational space for maintenance vehicles (as depicted on [Figure 6.2](#)). It is important to note however, that seven (7) feet represents the absolute minimum width for a pick-up mounted sweeper to maintain a separated bikeway lane and this may require angling of the sweeper attachment. Ten feet of operational space is the preferred minimum width for bikeways to accommodate light-duty pick-up trucks with mounted sweepers.



Figure 6.1 Local shared-use path with significant dirt build up.



Figure 6.2 Small specialized sweeper example (Source: Multihog).



Figure 6.3 City of Sparks maintenance vehicle accessing Rock Park via the Truckee River Path.

¹ FHWA Separated Bike Lane Guide, 2015, pg. 77

Constructing a connected network of separated bikeways may also provide maintenance efficiencies by allowing specialized sweeping equipment to avoid being loaded onto a trailer and transported to the next separated bikeway. The additional staff hours and equipment for maintaining bikeways may be provided through the general fund or through a focused special assessment for a specific area. Beyond separated bikeways, the addition of paved shoulders with intermittent rumble strips in the rural context provides multiple benefits² including reduced maintenance requirements³. Existing shared-use paths are generally wide-enough to accommodate most maintenance vehicles considering the lack of vertical buffer elements (see *Figure 6.4*). The ATWG will lead efforts to identify agency maintenance responsibilities and common practices for active transportation facilities and supportive landscaping elements in the Truckee Meadows.

Facility Materials

Barriers which provide vertical separation for people bicycling can also have a maintenance impact as painted buffers must be restriped each time the roadway is resurfaced compared to a shared-use path or curb-protected bike lane which can be resurfaced independently from vehicle travel lanes. The installation of robust barriers (concrete barrier *Figure 6.5* or water-filled barrier for quick-build projects *Figure 6.5*) often increases initial capital costs which may be offset by reduced long-term maintenance of that facility. Additionally, the RTC may elect to use permeable pavement treatments on permanent bikeway installations to help reduce ongoing maintenance needs and improve stormwater management. This treatment has higher initial capital costs but typically results in lower long-term maintenance costs.

² AASHTO *Bike Guide* 2012, p. 4-7

³ AASHTO *Flexibility Guide* 2004, p. 66



Figure 6.4 Vertical Buffer Alignment Placement to Accommodate Wide Bikeway Sweepers (Source: Google (Imagery - August 2019), W. Kinzie Street looking east at N. Jefferson Street).



Figure 6.5 Concrete barrier between shared-use path and vehicle traffic on Sparks Blvd.



Figure 6.6 Water-filled barriers on Arlington Ave which can be used for quick-build installations.

Funding

Establishing the Active Transportation Program and implementing projects identified through Neighborhood Network Plans will require two separate but inter-related approaches in regards to funding. These approaches are based on the existing local, state, and federal funding landscape for active transportation projects which may shift as new legislation is enacted and when new federal programs through the Bipartisan Infrastructure Law come to an end.

This section describes the overall approaches to applying existing funding for the new Active Transportation Program and securing funding for large-scale or stand-alone active transportation projects. In addition to the resources identified below, a table of all federal funding options for a variety of active transportation plans and projects is included in [Appendix D](#).



A child using the Victorian Avenue cycle track with their parent.

Active Transportation Program

ACTIVE TRANSPORTATION PROGRAM MANAGER

The Active Transportation Program Manager will oversee the development, implementation, and on-going operation of the Active Transportation Program including leading Neighborhood Network Plans, convening the ATWG, and being the primary liason for bicycle and pedestrian projects between the RTC and community. This newly formed position within the RTC will be integral to the success of the Active Transportation Program. The RTC will utilize existing funding resources such as CMAQ or MPO Planning funds to support staffing this position.

NEIGHBORHOOD NETWORK PLANS

The on-going NNP process will take the place of the periodic development of a large-scale countywide Active Transportation Plan. As such, the funding typically allocated for the large-scale Active Transportation Plan will be refocused towards conducting more focused and dynamic Neighborhood Network Plans, largely conducted by RTC in-house staff and led by the Active Transportation Program Manager.

ACTIVE TRANSPORTATION SPOT IMPROVEMENTS

The NNP process will identify a variety of projects throughout the twelve different planning areas identified in [Chapter 5](#). These projects will be of a wide variety of scales and complexities from large-scale corridor improvement projects to focused enhancements such as updating crosswalks or making targeted safety improvements at select intersections. In order to address focused enhancements identified through Neighborhood Network Plans, the RTC will establish an annual allocation for active transportation spot improvements. This funding source is intended to be an on-going way for the RTC to make targeted improvements which respond to community identified needs in a more nimble way in instances when implementation does not require more detailed analysis or design. Funding for this program may be allocated from the RTC-5 fuel tax or federal funding such as CMAQ or STBG.



The Truckee River Path creates a comfortable connection for active modes of all ages and abilities.

Active Transportation Projects

Projects identified through the NNP process which are complex will often require funding from existing federal formula funding sources or through obtaining federal or state discretionary grants. These grants programs are competitive applications which require an entity such as the RTC to develop a robust grant application for a specific project based on the requirements for each grant. In order to obtain these grants, the RTC can leverage existing local funding from the RTC-5 fuel tax or other local funding source to provide the matching funds which are required for nearly all grant programs.

Existing federal formula funds and local funding are listed below as well as current discretionary grant programs which represent the best opportunities for funding active transportation projects. Beyond these identified programs [Appendix D](#) provides a comprehensive table of available federal discretionary grant programs and their applicability for various active transportation activities and projects.

FEDERAL FORMULA FUNDS ADMINISTERED BY NDOT AND RTC

Carbon Reduction Program

Under this program, the FHWA provides funds for projects designed to reduce transportation emissions from on-road highway sources through a variety of strategies including constructing active transportation facilities. *State funds are programmed by NDOT, local Carbon Reduction Program funds are programmed by RTC.*

Congestion Mitigation and Air Quality Improvement (CMAQ) Program

CMAQ funding supports projects that reduce congestion and help jurisdictions meet National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter. Projects must

be included in the local Metropolitan Planning Organization's transportation improvement plan. *Funds are programmed by NDOT and the RTC.*

Surface Transportation Block Grants (STBG)

These grants are used to maintain and improve the performance on any federal-aid highway, bridges, and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects. Additional Transportation Alternatives set aside funds for active transportation, and active transportation access to transit improvements are also available through NDOT. *Funds are programmed by NDOT and the RTC.*

LOCAL FUNDING:

RTC-5 Fuel Tax

This local funding source applies an inflation adjusted tax at the pump for gasoline sold within Washoe County based on the Producer Price Index (PPI). This voter approved tax is the primary local funding source for roadway improvements and helps the RTC to construct improvements on regional roads that support congestion relief. *Funds are programmed by the RTC. Federal and State*

The Nevada Legislature passed AB 145 in 2013 which created allows local residents to donate \$2 while registering or renewing their registration for their vehicle at their local Department of Motor Vehicles (DMV) towards Complete Streets initiatives. Each Regional Transportation Commission collects the funds which are donated through vehicle registrations in their respective jurisdictions. The RTC Washoe collects funding from this program donated through the Washoe County DMV which helps fund Complete Street initiatives within Washoe County. This dedicated funding stream presents another opportunity for the RTC to fund Complete Street projects and programs going forward."

DISCRETIONARY GRANT PROGRAMS:

Safe Streets and Roads for All

Established under the Bipartisan Infrastructure Law, this discretionary program funds regional, local, and tribal initiatives to prevent roadway deaths and serious injuries. Grant types include Planning and Demonstration Grants as well as Implementation Grants. Eligible activities include pilot and demonstration projects, data analytics, creating safe routes to school, promotional and education materials, and expanding bicycle networks. An eligible Safety Action Plan must be developed prior to applying for Implementation Grants under this program. *Funds are awarded by the US Department of Transportation.*

Reconnecting Communities Pilot Program

This federal program provides funds to local, regional, and state entities to reconnect communities that were previously cut off from economic opportunities by transportation facilities such as a rail line or highway. This funding supports planning, design, and implementation for



Two people going for a walk and jog along a shared-used path.

addressing identified barriers. *Funds are awarded by the US Department of Transportation.*

RAISE Grants

The Rebuilding America Infrastructure with Sustainability and Equity (RAISE) program supports projects that improve transportation system safety, accessibility, and sustainability. Eligible projects must have quantifiable environmental benefits, serve disadvantaged communities, and address equity concerns in the project's design. Eligible projects range between \$5 million and \$25 million. RAISE grants can fund both planning and capital projects. A 20% local match is required except in rural areas. *Funds are programmed by the United States Department of Transportation.*

Active Transportation Infrastructure Investment Program (ATIIP)

This new competitive grant program, created through the Bipartisan Infrastructure Law, is focused on supporting efforts to plan, design and construct safe and connected active transportation facilities and networks including trails, pedestrian facilities, bikeways, and other routes which create connections within and between communities. This program provides funding in Planning and Design Grants and Construction Grants. Planning and Design grants fund projects over one-hundred thousand dollars and construction grants provide funding for projects which are at least \$15 million. The program requires a 20% local match for all projects but may cover up to 100% of project costs for projects serving communities with a poverty rate of over 40% based on the majority of census tracts. *Funds are programmed by the United States Department of Transportation.*

NDOT Transportation Alternatives Program (TAP)

The TAP program administered by NDOT provides federal funds for small-scale non-traditional, and community-based transportation projects that improve safety, expand travel choices, and enhance the transportation experience. These FHWA funds are provided to each state and are administered by NDOT through a bi-annual grant program. NDOT provides extensive resources for those looking to apply for infrastructure, non-infrastructure, and planning projects through their website. *Funds are programmed by NDOT.*



The Veterans Parkway shared-use path provides a low-stress connection for people walking and biking.



Tracking Performance

In order to track how successful the NNP process is at affecting real-world change within the Truckee Meadows, it is important to measure progress towards meeting the project goals identified in this plan. This section highlights the active transportation specific performance metrics which the RTC will track on a regular basis to assess how effective the process of planning and designing for active modes is working.

The RTC will achieve these goals by implementing specific strategies with actionable steps and tracking the successful implementation of each through primary or secondary performance metrics.

- Strategies represent a more specific approach to achieving the plan goals with actionable steps detailing the ways in which strategies will be implemented and actions that the RTC and partners will take.
- Priority performance metrics represent datapoints which the RTC and partners are most directly able to affect and track; secondary performance metrics represent important data metrics which can be affected by RTC actions but may also be impacted by factors outside of RTC's control. Some strategies have both a primary and secondary performance metric but all have at least one performance metric identified.

Strategies, actionable steps, and performance metrics for each project goal are listed in [Table 6.1](#) to [Table 6.4](#) on the following pages.

Table 6.1 Improve Safety - Strategies, Actionable Steps, and Performance Metrics

GOAL: IMPROVE SAFETY

Strategy 1		Prioritize low-stress facilities for active transportation across applicable RTC projects
Actionable Steps	Develop Annual Safety Report to track safety data and progress toward Vision Zero goal.	
Primary Metric	<ul style="list-style-type: none"> • Number of bicyclist fatalities • Number of pedestrian fatalities • Number of bicyclist serious injuries • Number of pedestrian serious injuries • Number of bicyclist fatalities within the McCarran Loop • Number of pedestrian fatalities within the McCarran Loop • Number of bicyclist serious injuries within the McCarran Loop • Number of pedestrian serious injuries within the McCarran Loop • Total miles of sidewalk gaps closed • Total miles of bicycle network gaps closed • Total miles of sidewalk gaps closed in Equity Focus Area • Total miles of bicycle network gaps closed in Equity Focus Area • Percentage of total bicycle network which is separated from vehicle traffic • Annual number of miles of bicycle facilities constructed • Annual number of miles of pedestrian facilities constructed 	
Secondary Metric	<ul style="list-style-type: none"> • Number of Washoe County Schools accessible on a low-stress network for the average resident • Number of Washoe County Schools accessible on a low-stress network for the residents within Equity Focus Areas 	
Strategy 2		Implement proactive safety improvements on high-crash corridors and at high-crash intersections
Actionable Steps	Collaborate with partners through the Vision Zero Task Force to implement proactive traffic calming measures in areas with identified safety concerns.	
Primary Metric	Number of the specific traffic safety / traffic calming measures implemented	
Secondary Metric	Track the time taken to implement traffic safety / traffic calming measures after safety concerns are identified.	
Strategy 3		Education (Promote increased engagement, understanding, and inclusivity of walking and biking by implementing programs designed for individuals of all ages and abilities.)
Actionable Steps	<ul style="list-style-type: none"> • Host a regular bicycle safety course through the League of American Bicyclists for bicyclists in the community. • Develop an education program promoting awareness of bicycle and pedestrian laws and responsibilities geared toward all roadway users; Collaborate with stakeholders and jurisdictions to promote and offer education regarding bike safety 	
Secondary Metric	Participation Rates; the number of individuals who participate in the education program; can be measured through sign-up sheets, online registrations, or attendance at events.	

Table 6.2 Expand Mode Share - Strategies, Actionable Steps, and Performance Metrics

GOAL: EXPAND MODE SHARE	
Strategy 1	Conduct Neighborhood Plans to identify specific facility recommendations based on regional typologies and neighborhood network connections
Actionable Steps	Conduct a profile analysis of active transportation users in the community to highlight their stories.
Primary Metric	Total Neighborhood Plans completed or in-progress
Strategy 2	Construct low-stress facilities which connect to major employment centers and community destinations
Actionable Steps	Establish an Active Transportation Technical Working Group (ATWG) and conduct an annual prioritization process of identified projects from Neighborhood Network Plans.
Secondary Metric	<ul style="list-style-type: none"> • Number of residents within a 15-minute ride from a school on a low-stress network • Estimated number of jobs accessible for the average resident on a low-stress network
Strategy 3	Prioritize projects in Equity Focus Areas through the Active Transportation Program
Actionable Steps	Develop and operate the Bicycle Assistance Grant program (potentially collaboration with the Reno Bike project) to provide financial assistance for people purchasing a bicycle with an emphasis on low-income individuals and families.
Secondary Metric	Estimated number of jobs accessible for the average resident in an Equity Focus Area on a low-stress network
Strategy 4	Monitor the performance of active transportation projects to ensure goals identified in the Neighborhood Plans are being met
Actionable Steps	<ul style="list-style-type: none"> • Construct low-stress facilities within 2 miles of school bus zones. • Implement expanded data collection program by integrating long-term automatic counter installation into pavement preservation program, rehabilitation, and capacity projects which include active transportation element. • Conduct user intercept survey to regularly assess trip purposes on multi-use paths. • Install long-term automatic counters on regionally significant multi-use paths to track levels of overall usage.
Primary Metric	Total bicycle and pedestrian usage on regional paths / trails (Truckee River Path, Sparks Blvd Path, SouthEast Connector Path)
Secondary Metric	<ul style="list-style-type: none"> • Active Transportation mode share along key multimodal corridors 4th Street & Virginia Street • Active Transportation mode share within the McCarran Loop
Strategy 5	Construct low-stress network prioritizing facilities in high Active Trip Potential Areas
Actionable Steps	Develop and maintain public facing annual report detailing the completed and in-progress pedestrian and bicycle facilities from each year including breakdown of facilities completed in Equity Focus Areas, jurisdictions, and neighborhood areas.
Secondary Metric	Average census block group connectivity ratio (ratio of a perfect circle to bikeshed)
Strategy 6	Collaborate with City of Reno, City of Sparks, and Washoe County to promote end of trip facilities
Actionable Steps	Develop and maintain Reimagined Parking Space Program which offers business owners an opportunity to install a bicycle parking rack in a vehicle parking space
Secondary Metric	Total number of bicycle parking spaces or racks

Table 6.3 Maintain the System Sustainably - Strategies, Actionable Steps, and Performance Metrics

GOAL: MAINTAIN THE SYSTEM SUSTAINABLY

Strategy 1	Develop and maintain Active Transportation Program which combines available funding sources (CMAQ, SRTS, STBG) into a funding program for active transportation projects.
Actionable Steps	Develop and maintain annual implementation tracking report which highlights the projects completed and allocated funding for active transportation projects.
Primary Metric	Annual number of miles of bicycle/pedestrian facilities constructed
Strategy 2	Establish Active Transportation Program Manager position to manage and implement the Active Transportation Program and other active transportation initiatives.
Actionable Steps	Conduct annual comprehensive budget analysis to assess the current funding allocated to sustainable infrastructure maintenance, including bike lanes and sidewalks.
Primary Metric	Total funding allocated to sidewalk maintenance & replacement
Secondary Metric	Total funding allocated to bike lane maintenance
Strategy 3	Develop a sustainable and comprehensive framework for maintaining the active transportation network
Actionable Steps	<ul style="list-style-type: none"> Establish regional maintenance standards for bicycle and pedestrian facility maintenance frequency Establish regional maintenance fund to promote maintenance of low-stress facilities.
Primary Metric	<ul style="list-style-type: none"> Total number of 311 calls related to bicycle lane debris Total number of 311 calls related to sidewalk maintenance Total funding allocated to Active Transportation Program projects through Active Transportation Program



Bicyclist riding on a shared-use path.

Table 6.4 Enhance the Community - Strategies, Actionable Steps, and Performance Metrics

GOAL: ENHANCE THE COMMUNITY

Strategy 1	Achieve a silver level bicycle friendly community status.
Actionable Steps	Collaborate with the Reno Housing Authority, CARES Campus, KIWANIS, Truckee Meadows Bicycle Alliance, Washoe County Health District and others to expand events promoting active transportation, such as Bike to Work/Everywhere Days and Bike to Work Month.
Primary Metric	Apply for Bicycle Friendly Community Status annually and track specific progress on recommendations identified in the BFC report.
Strategy 2	Collaborate with Jurisdictions to incorporate opportunities for public art, green spaces, and other placemaking elements into RTC projects.
Actionable Steps	Collaborate with WCSO SRTS Coordinator to expand SRTS events, educational opportunities, and regular rides to school
Secondary Metric	<ul style="list-style-type: none"> • Public Value of the Arts - Truckee Meadows Tomorrow • Park Acreage Rate - Truckee Meadows Tomorrow
Strategy 3	Collaborate with local community organizations to achieve secondary benefits such as improved public health, increased quality of life, and thriving neighborhood economies.
Actionable Steps	<ul style="list-style-type: none"> • Conduct a local before-and-after study to quantitatively measure the health benefits within neighborhoods affected by major active transportation projects.
Secondary Metric	<ul style="list-style-type: none"> • Access to Exercise - Access to Exercise Opportunities • Public Health - Health Equity Index • Health / Mental Health - Truckee Meadows Tomorrow • County Health Rankings - Conduent Healthy Communities Institute • Transportation - Truckee Meadows Tomorrow • Economy - Cost of Living Index

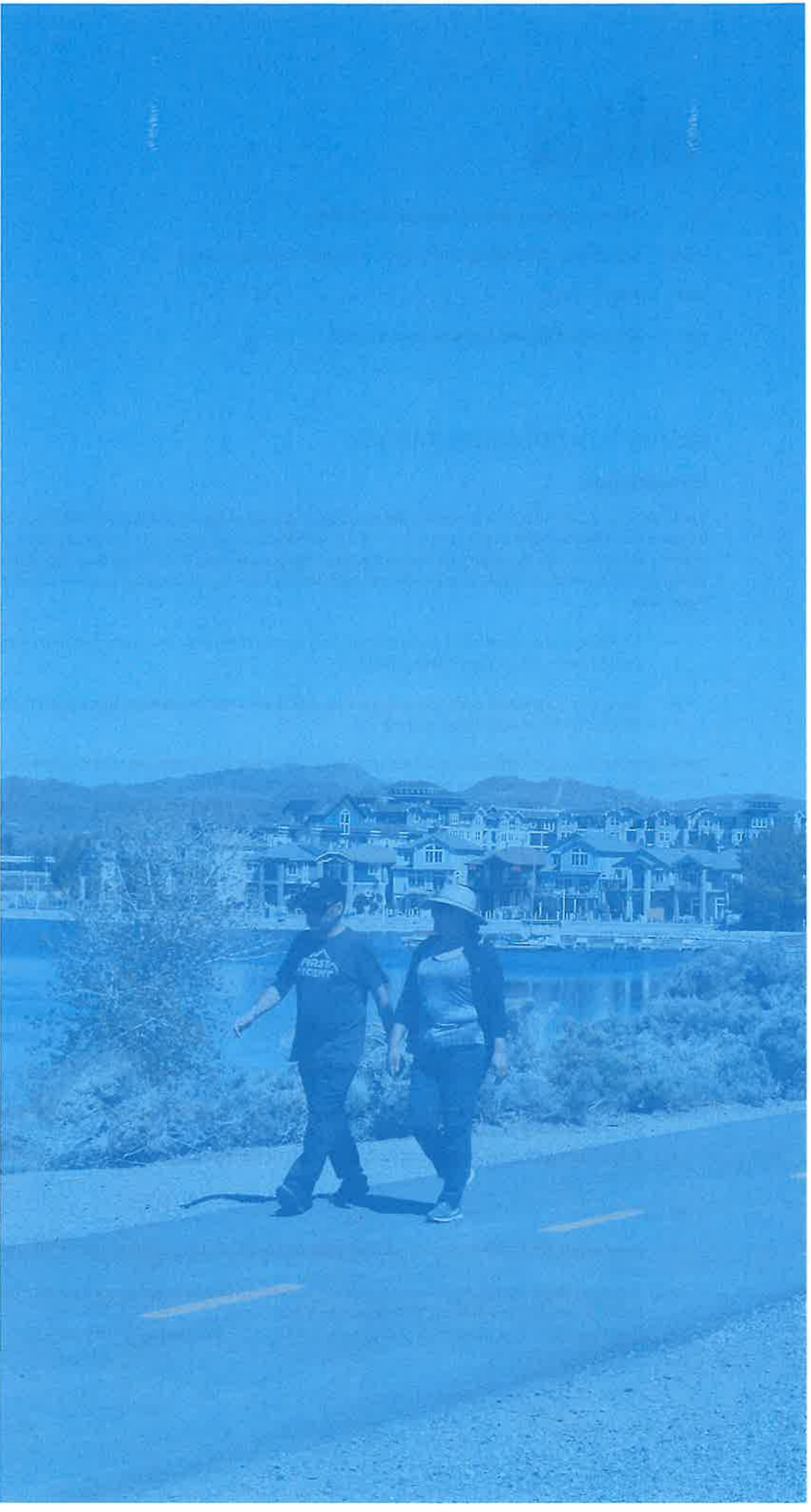


Residents walking on a shared-use path around the Sparks Marina.

This page intentionally left blank



Appendix A: Active Trip Potential





To: Marquis Williams, Project Manager, RTC Washoe
From: Cole Peiffer, David Wasserman, Izzy Youngs, Alta Planning + Design
Date: May 15, 2024
Re: Active Trip Potential Technical Memorandum

Active Trip Potential Analysis

Introduction

Sustainable transportation is a key part of a climate strategy that involves reducing carbon emissions from transportation. Sustainable transportation includes public transit as well as active transportation modes: walking, bicycling, bike share, and scooter share. Active modes often fill first- and last-mile gaps for transit trips and on their own may provide more flexibility for short trips that are not well-served by transit. Understanding demand for active transportation can help Washoe County guide growth and development to support sustainable transportation in two ways:

- Identifying areas where latent demand for active transportation exists, and supportive infrastructure could encourage more people to convert motor vehicle trips to active trips; and
- Identifying areas where many active trips are already made, and more development around those areas could build on existing strengths in the transportation network.

Not all locations can support active transportation modes easily because of unsupportive infrastructure or long distances from key destinations. While emerging technologies such as e-bikes and e-scooters provide new options, ranges, and convenience, their ability to affect change is still dependent on the surrounding land use and transportation context. The results of this analysis can be used to estimate how different land use scenarios would impact greenhouse gas emissions.

Alta conducted an active trip potential analysis to identify areas of Washoe County where people make a high level of short trips and there is strongest potential to see a reduction in vehicle trips if supportive infrastructure were available for people to choose active modes of travel for these short trips. This memo presents findings and methodology for that analysis.

Key Findings

Short Trips < 1 Mile

- Central Reno, Central Sparks, some areas of Cold Springs, West Reno, South Reno, and Sun Valley have a high concentration of trips under 1 mile.
- The origin-destination pairs with greatest walking trip potential are between the University of Nevada, Reno, downtown Reno, and Midtown.
- There are also a significant number of short trips between Plumb Lane and Moana Lane as well as South Reno around Meadowood Mall and South Meadows.
- These areas are typically commercial developments or planned communities where amenities are built adjacent to housing and job centers.

Trips 1 – 3 Miles

- A significant proportion of trips across the region are between 1 and 3 miles, making this a particularly suitable modality to focus on.
- The origin-destination pairs with the greatest bike potential are between South Reno and Central Reno and between the Grand Sierra Resort, Renown Medical, and downtown Reno.
- There are also a large proportion of trips between 1 and 3 miles along South Virginia Street.



Trips 3 – 6 Miles

- Southwest Reno has the largest proportion of trips between 3 and 6 miles in the region.
- The origin-destination pairs with the greatest e-bike potential are between Central Sparks and Central Reno, South Meadows and Central Reno, and Northwest Reno and Central Reno.

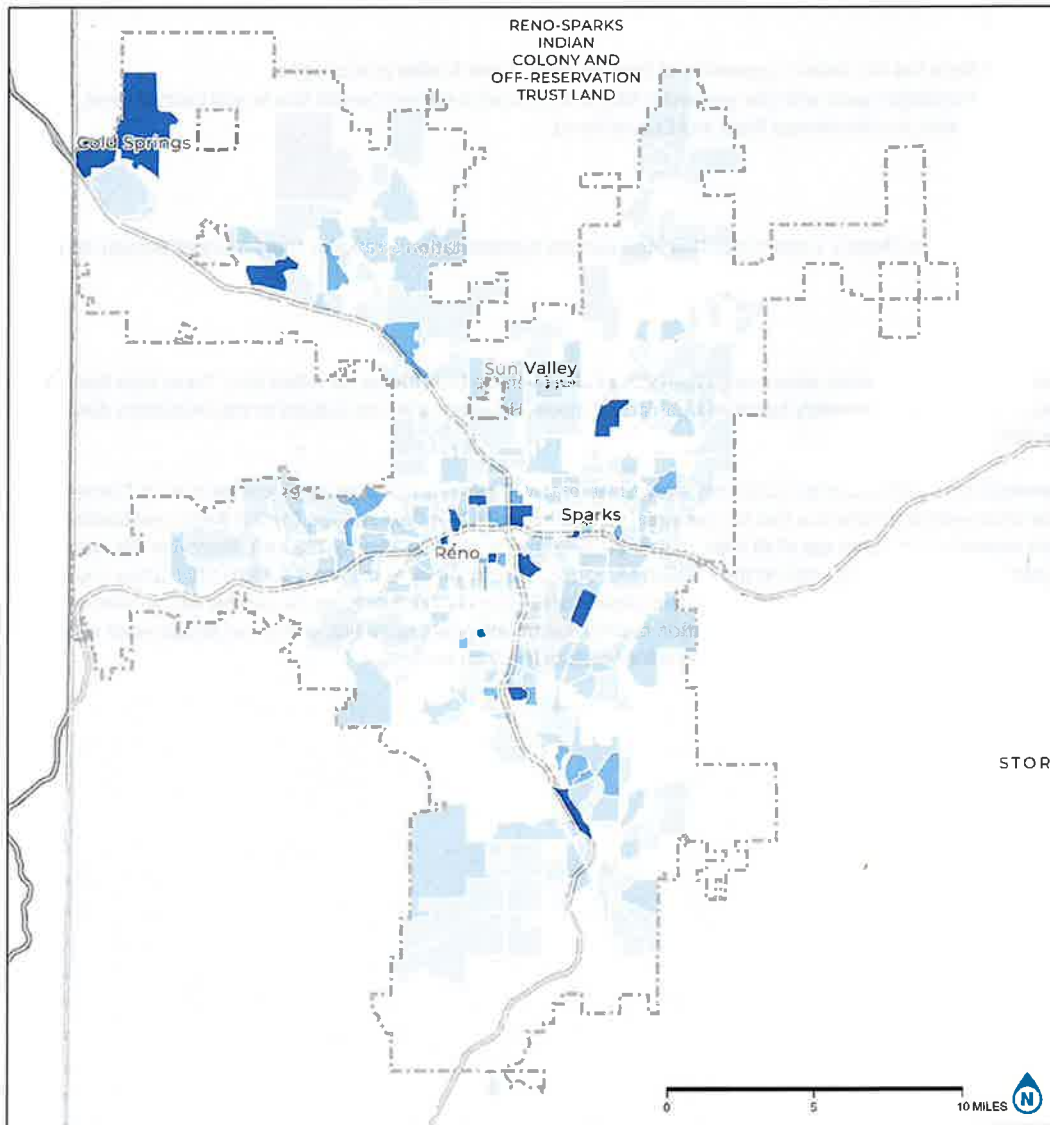
Results

This analysis identifies where there are short trips that land use and transportation strategies could more effectively convert to active trips.

Active Trip Potential

Active trip potential maps show areas where large numbers of short vehicle trips (under six miles) end. These trips have distances that are short enough for the trips to possibly be taken by an active mode. However, they are subject to the limitations described in the Limitations section.

Figure 1, the analysis of overall active trip potential, shows all motor vehicle trips under six miles ending in each Transportation Analysis Zone (TAZ). The areas with the highest active trip potential include some TAZs in Cold Springs, Central Reno, and South Reno. When short vehicle trips are viewed as a percentage of all trips, the spatial distribution changes slightly. **Figure 2** illustrates the number of motor vehicle trips under 3 miles per square mile in the Truckee Meadows modeled area. Some areas such as Cold Springs have a high number of trips suitable for active transportation, but due to the suburban/ex-urban context may not be suitable for pedestrian or bicycle infrastructure. Additional measures such as intersection density, community demographics, and street design need to be evaluated against the potential benefits of active transportation infrastructure investments.



**ACTIVE
TRANSPORTATION
POTENTIAL**
WASHOE COUNTY
ACTIVE TRANSPORTATION
PLAN

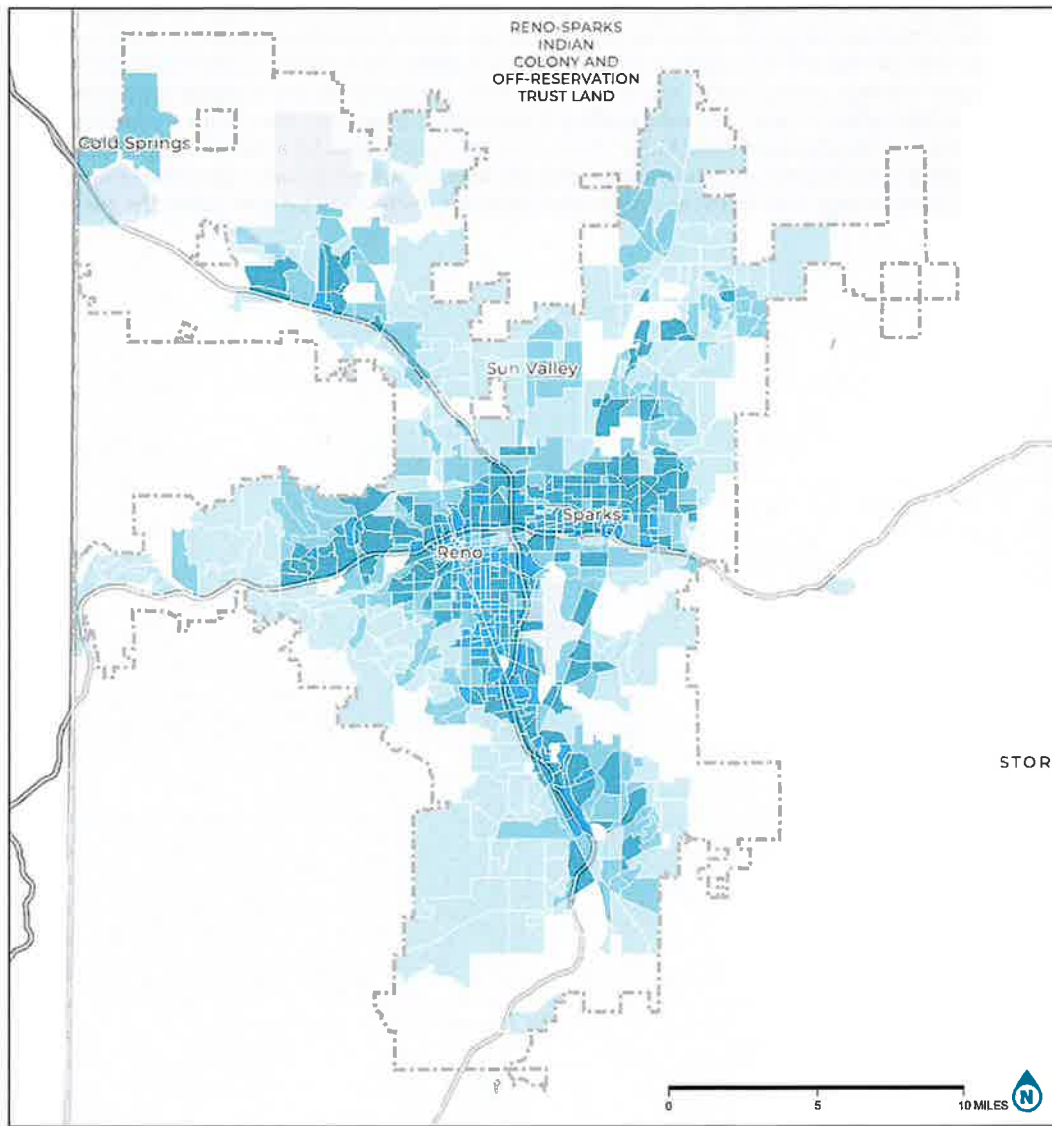
LEGEND

Truckee Meadows Service Area

Motor vehicle trips under 6 miles

Lightest Blue	< 500
Medium-Light Blue	501 - 1,500
Medium Blue	1,501 - 3,000
Dark Blue	3,001 - 4,500
Darkest Blue	> 4,500

Figure 1: Motor Vehicle Trips Under 6 miles



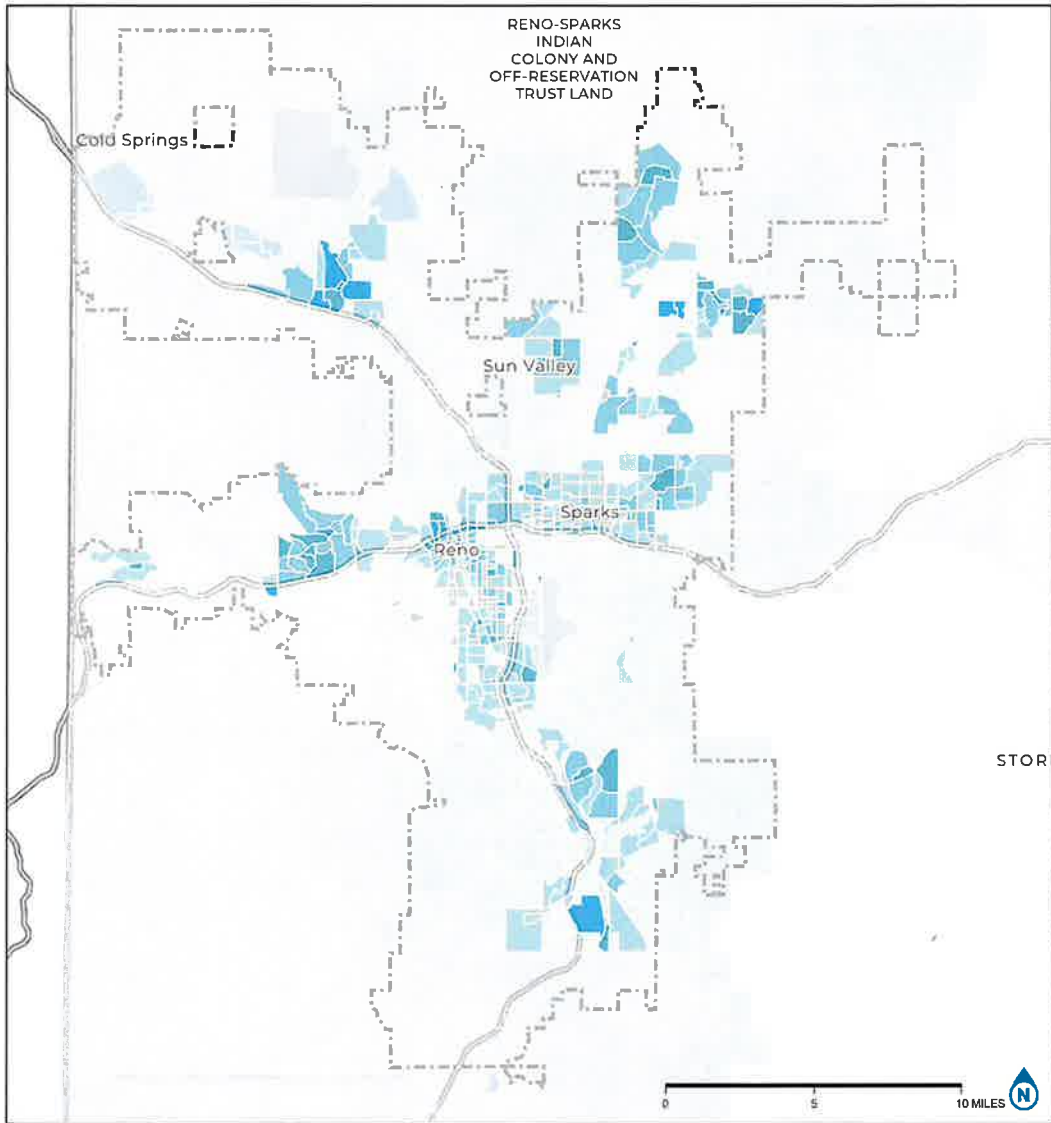
**ACTIVE
TRANSPORTATION
POTENTIAL**
WASHOE COUNTY
ACTIVE TRANSPORTATION
PLAN

- LEGEND**
- Truckee Meadows Service Area
 - Motor vehicle trips under 3 miles per square mile
 - < 50 trips
 - 51 - 1,000 trips
 - 1,001 - 3,000 trips
 - 3,001 - 10,000 trips
 - > 10,000 trips

Figure 2: Motor Vehicle Trips Under 3 Miles per Square Mile



Figure 3 highlights the percent of motor vehicle trips which are under 1 mile. These areas of active trip potential are not necessarily TAZs with the highest number of trips but where street grids are generally denser and local amenities and jobs are closer so that long trips are not as necessary. These TAZs are generally suitable for a shift to a walking modality. Central Reno, Central Sparks, West Reno, South Reno, North Valleys, Spanish Springs, and Sun Valley have a high concentration of trips under 1 mile. **Figure 4** and **Figure 5** illustrate the percent of motor vehicle trips between 1 and 3 miles and between 3 and 6 miles, respectively. Most of the Truckee Meadows modeled area has a high concentration of trips between 1 and 3 miles. These areas are most suitable for a shift to biking modes and may be areas where investing in additional bike infrastructure could increase ridership. As distance from the urban core increases, the share of short trips decreases, and the share of longer trips (between 3 and 6 miles) increases. These areas are most suitable for e-biking modes.



**ACTIVE
TRANSPORTATION
POTENTIAL**
WASHOE COUNTY
ACTIVE TRANSPORTATION
PLAN

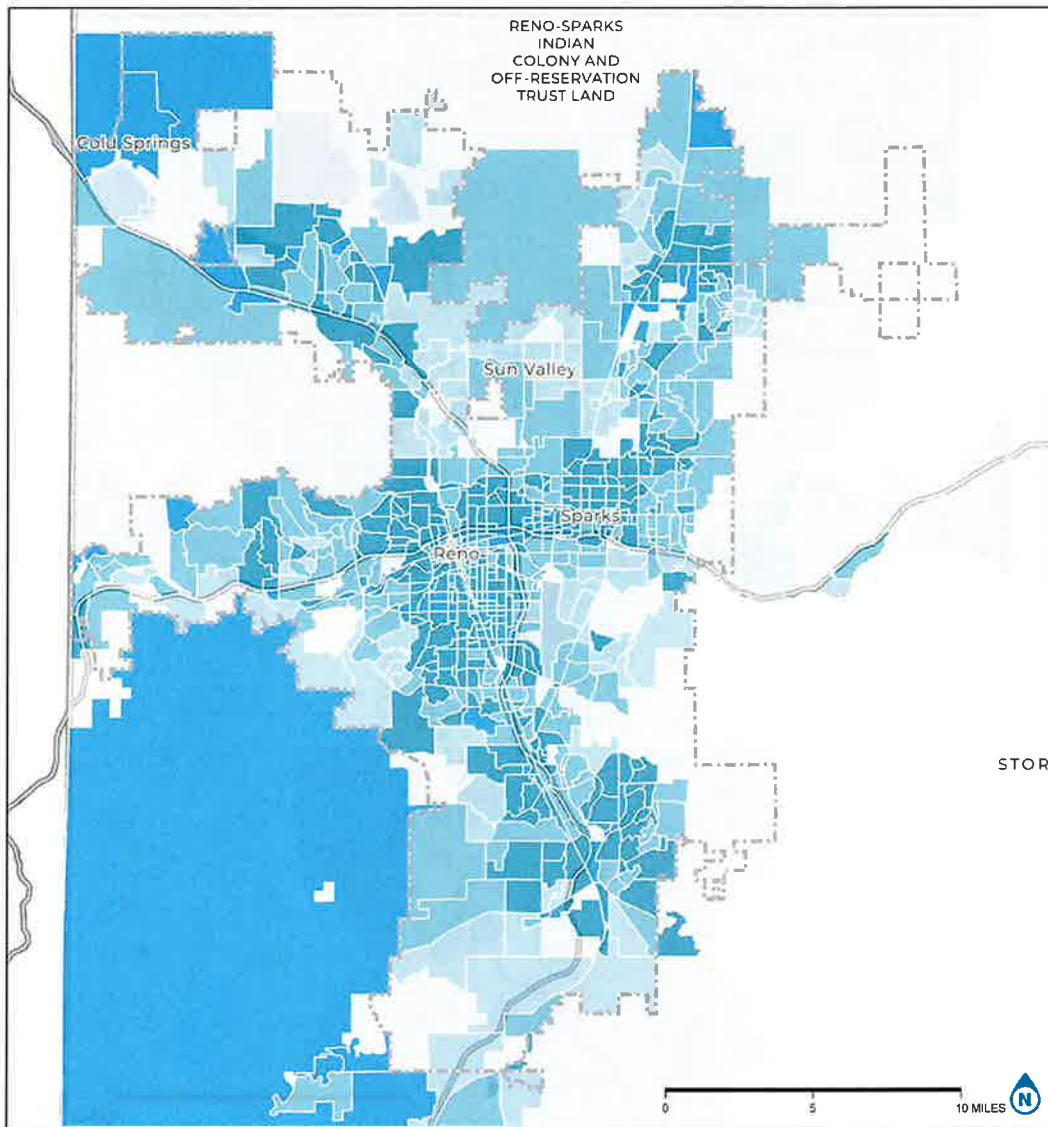
LEGEND

Truckee Meadows Service Area

% of motor vehicle trips under 1 mile

[Lightest Blue]	< 10%
[Light Blue]	11% - 15%
[Medium Blue]	16% - 20%
[Dark Blue]	21% - 25%
[Darkest Blue]	> 25%

Figure 3: Percent of Motor Vehicle Trips Under 1 Mile



**ACTIVE
TRANSPORTATION
POTENTIAL**
WASHOE COUNTY
ACTIVE TRANSPORTATION
PLAN

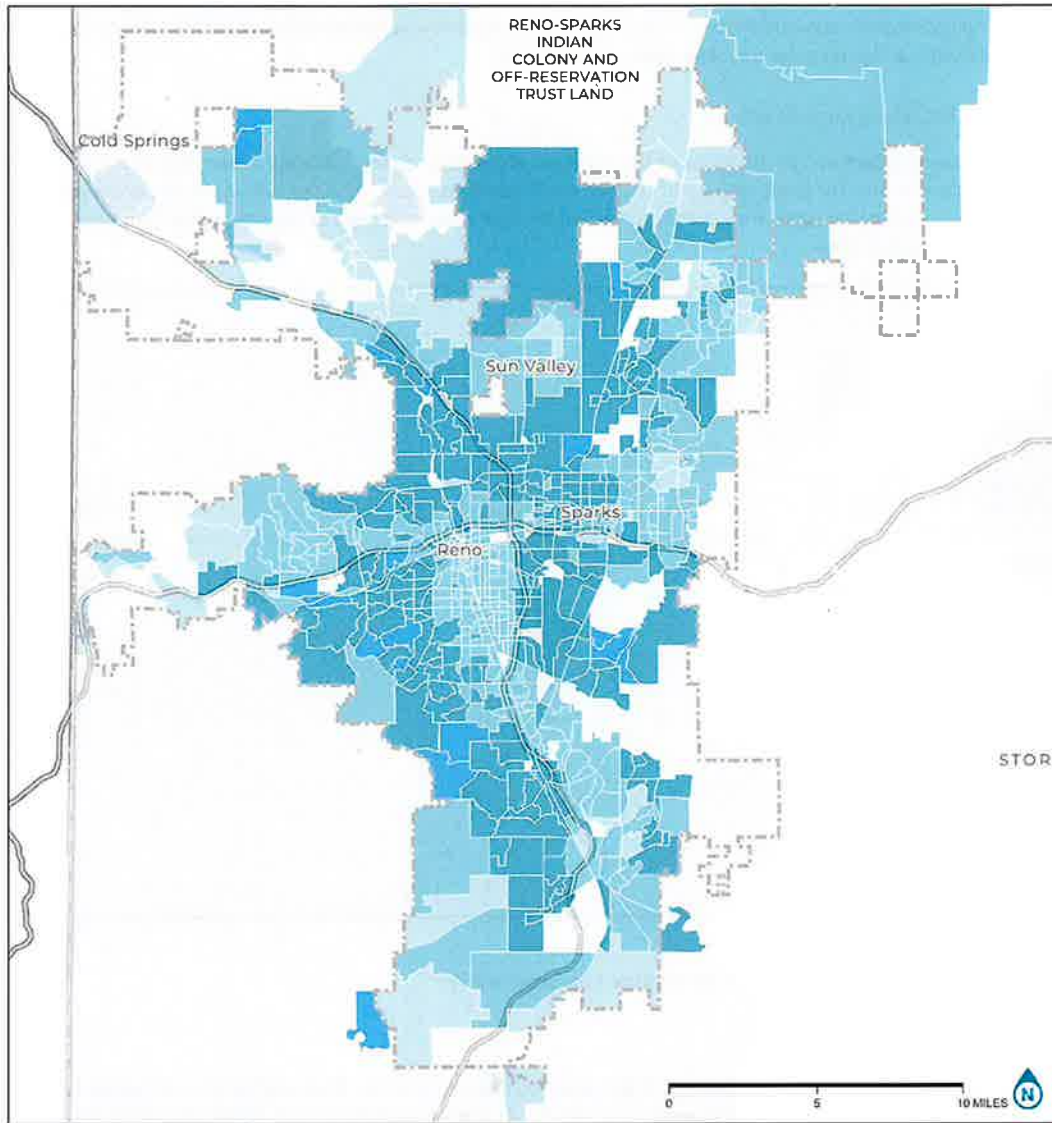
LEGEND

Truckee Meadows Service Area

% of motor vehicle trips 1 - 3 miles

[Lightest Blue]	< 10%
[Light Blue]	11% - 20%
[Medium Blue]	21% - 30%
[Dark Blue]	31% - 50%
[Darkest Blue]	> 50%

Figure 4: Percent of Motor Vehicle Trips Between 1 and 3 Miles



**ACTIVE
TRANSPORTATION
POTENTIAL**
WASHOE COUNTY
ACTIVE TRANSPORTATION
PLAN

LEGEND

Truckee Meadows Service Area

% of motor vehicle trips 3 - 6 miles

[Lightest Blue]	< 10%
[Light Blue]	11% - 20%
[Medium Blue]	21% - 30%
[Dark Blue]	31% - 50%
[Darkest Blue]	> 50%

Figure 5: Percent of Motor Vehicle Trips Between 3 and 6 Miles

Appendix A shows a more detailed breakdown of the active trip potential breakdown for TAZs across the Truckee Meadows. Maps for active trip potential by mode suitability are provided in **Appendix B**. These maps individually show short vehicle trips that could convert to e-bike, bike, or walking trips. Active trip potential for individual modes is distributed similarly to active trip potential for all active modes combined, meaning that all areas mentioned above have high potential for e-bike, bike, and walk trips.

Active Trip Potential Desire Line Maps

Alta prepared maps showing origins and destinations of short motor vehicle trips, again indicating active trip potential.¹ Origins and destinations are aggregated to the TAZ level, with points placed in the middle of each TAZ. Trips within the TAZ are represented as dots. **Figure 6** shows that hubs of potential active trips are found in TAZs in Central Reno, as well as trips along the South Virginia corridor. These locations are hubs for short trips.

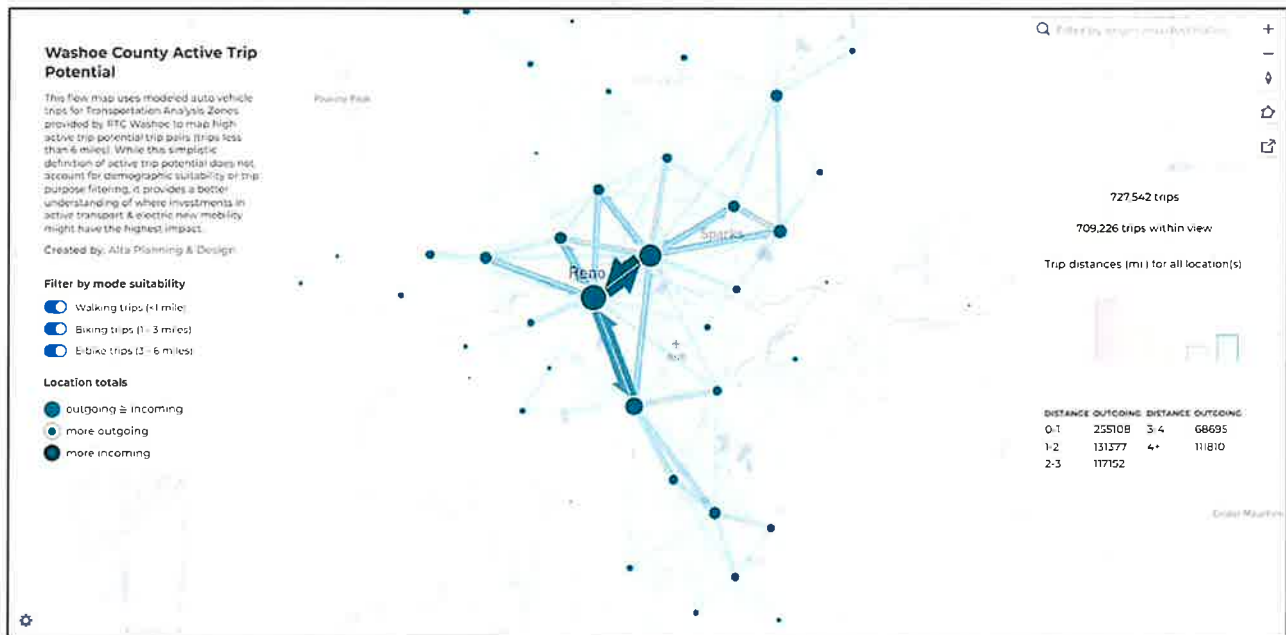


Figure 6: Origins-Destinations of Active Trip Potential: Vehicle trips under 6 miles

Methodology

Alta used modeled trips from Washoe RTC for this analysis. There were two data sets received from Washoe RTC: 1) Average distances between each Traffic Analysis Zone (TAZ); and 2) Trips taken between each TAZ. The data was filtered for private vehicle trips within the Truckee Meadows modeled area. Data was aggregated and analyzed based on the TAZ-level geometries. The two data sources from Washoe RTC were joined so that the final data contained the origin TAZ, the destination TAZ, the average distance, and the number of auto trips. An example of the data structure is in **Table 1**.

¹ <https://flowmap.altago.site/1aStEUrcghRX2GivrVVjEubzMxftp2OmbkYqmRP5Q1ADE/5b36ff8>



Table 1: Example Origin-Destination Data Structure

Origin TAZ	Destination TAZ	Count of Auto Trips	Average Distance
101	101	74	.239 miles
101	102	72	.347 miles
101	103	60	.329 miles

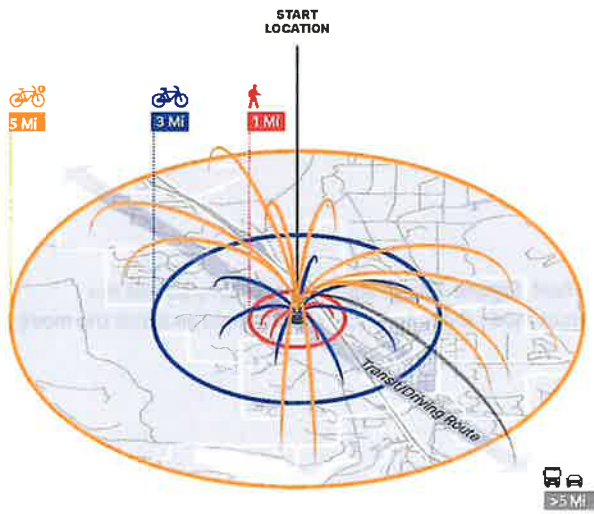
Each origin-destination pair was classified based on the average distance field. **Figure 7** illustrates the philosophy behind the classifications, where trip distance is an indicator of the suitability for various mode shifts. Each pair was assigned an active trip mode based on the distance field:

- **Trips less than 1 mile:** Potential Walking Trips
- **Trips 1 to 3 miles:** Potential Biking Trips
- **Trips 3 to 6 miles:** Potential E-Bike Trips
- **Trips over 6 miles:** Not Suitable for Active Trip Mode

Alta then counted the number and percent of trips for each TAZ by mode shift suitability category. This allowed Alta to understand the starting and ending points of vehicle trips under six miles. To create these origin-destination lines, Alta used an open-source tool called [Flowmap.Blue](#) which allows for dynamic visualization of origin-destination pairs and trip volumes for custom geographies. Alta’s maps provided in the body of this memo show estimates of potential for active trips of any mode. Maps in the appendix show active trip potential for specific modes based on the trip distance assumptions noted above.

Alta Civic Analytics Explainer

Active Trip Potential



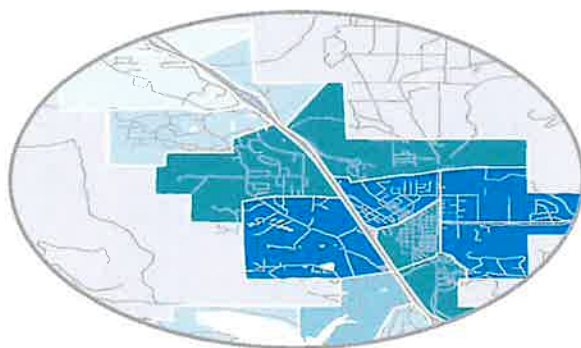
Active Trip Potential (ATP)

Identifies trips whose distances are short enough to be accommodated by walking or biking.

Our evaluation of ATP includes looking at the number of trips less than 3 miles.

Different modes are suitable for different trips based on the transportation options that support them.

- Walk Trip Potential (0-1mi)
- Bike Trip Potential (1-3mi)
- E-Bike Trip Potential (3-5mi)
- Drive and Transit Trip Potential (>6mi)



ATP Zonal Summary

When we look at all the activity occurring within a zone, we scrutinize both the estimated number of trips in the zone and their lengths. Locations with high rates short trips are potential candidates for active transportation investments.

ATP TRIPS
% of Trips less than or equal to 3mi

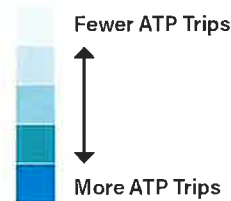


Figure 7: This Active Trip Potential Explainer helps illustrate the concept behind stratifying trips by trip distance to understand whether they could be met by walking, biking, or e-biking.

Limitations of Active Trip Potential

While short trips are indicators of trips that can potentially be met using active modes, it is unrealistic to expect all short trips can be converted to active transportation. Even if supportive infrastructure is provided, there are a number of reasons why a trip would still be made by non-active modes, including:

- **Heavy Loads.** In many cases, cargo bikes can support many types of grocery or shopping trips, but some heavy loads are often bulky or heavy enough to warrant the use of the vehicle.
- **Multiple Passengers.** While some cargo bikes can accommodate small children, people carrying multiple passengers or who do not feel comfortable navigating a loaded cargo bike (which can make it more difficult to maintain balance) may still opt for a vehicle.
- **Trip Chaining.** Some trips are chained in a way that make it difficult to envision using active transportation for the entire tour/trip. For example, if one leg of a trip that is part of a chain of trips is too long to consider using an active mode, the entire tour/trip may be better made using a vehicle. For example, a pedestrian typically walks half a mile to work on most days but on occasion needs to travel from work to a doctor’s appointment that is two miles away. On these days, they might drive rather than walk.
- **Physical Impairment.** Some members of the community may have an impairment that prevents them from comfortably walking or may not know how to ride a bicycle.
- **Seasonal Weather.** Active trips become more difficult to accomplish in some weather conditions. While walking and biking trips may still be viable in many instances, there may be sometimes where it is inadvisable, such as in heavy rain, a heat wave or unhealthy air conditions.
- **Formal occasions.** If someone needs to wear formal clothing for an event, including work, they may be less inclined to walk or ride a bike if they would need to shower or change clothes at their destination.
- **Structural barriers:** Some people experience structural barriers to active travel, regardless of the specific trip. These include concerns about the security of one’s bike while parked, harassment from police or passerby, or street crime.
- **Personal Preference.** Some members of the community may elect to never bike or walk even if an all ages and ability network is provided in a community.

Conclusion

Active transportation supports climate goals by reducing vehicle trips and facilitating access to transit. The Truckee Meadows is rich with opportunities to support more active trips. The hubs of current activity highlighted here are areas that could support new development that support even more active trips. Meanwhile, the active trip potential shows areas that, with more infrastructure investment, could help convert vehicle trips to active modes.

Appendix A

Active Trip Potential by Outreach Area

ACTIVE TRANSPORTATION POTENTIAL SUN VALLEY

LEGEND

Percent of motor vehicle trips < 6 miles



- Walk Trip Potential (0-1mi)
- Bike Trip Potential (1-3mi)
- E-Bike Trip Potential (3-6mi)
- Drive and Transit Trip Potential (>6mi)

% of motor vehicle trips < 6 miles

- 0% - 20%
- 21% - 40%
- 41% - 60%
- 61% - 80%
- 81% - 100%



alta 0 0.25 0.5 MILES

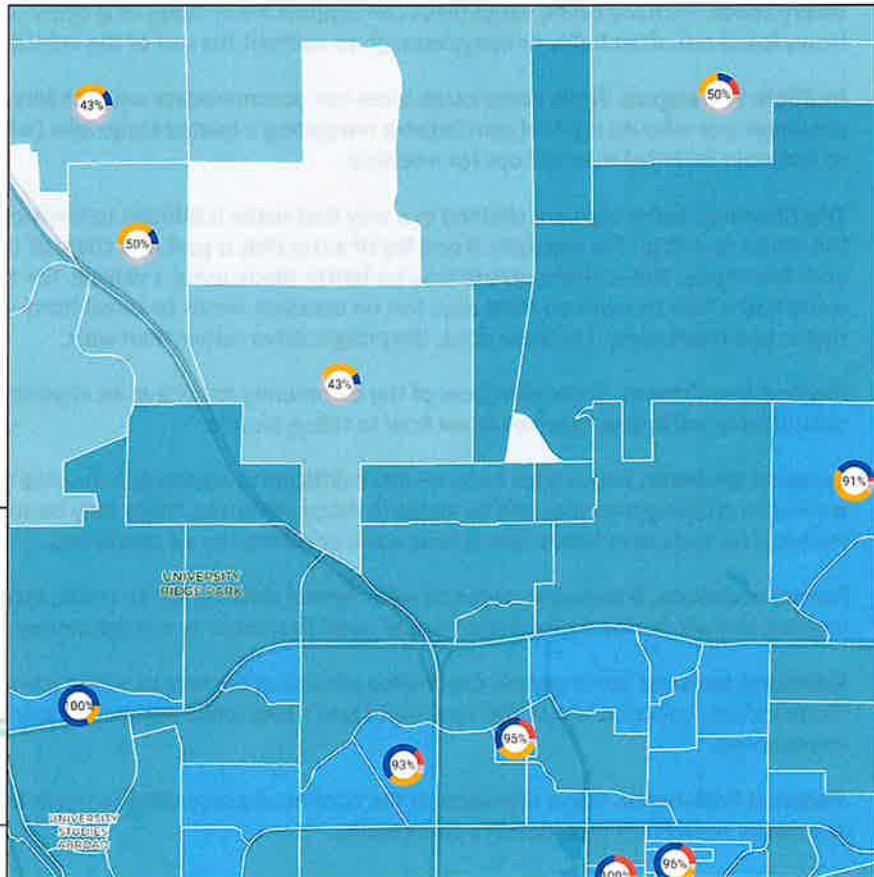


Figure 8: Active Trip Potential in Sun Valley

**ACTIVE
TRANSPORTATION
POTENTIAL**

VERDI

LEGEND

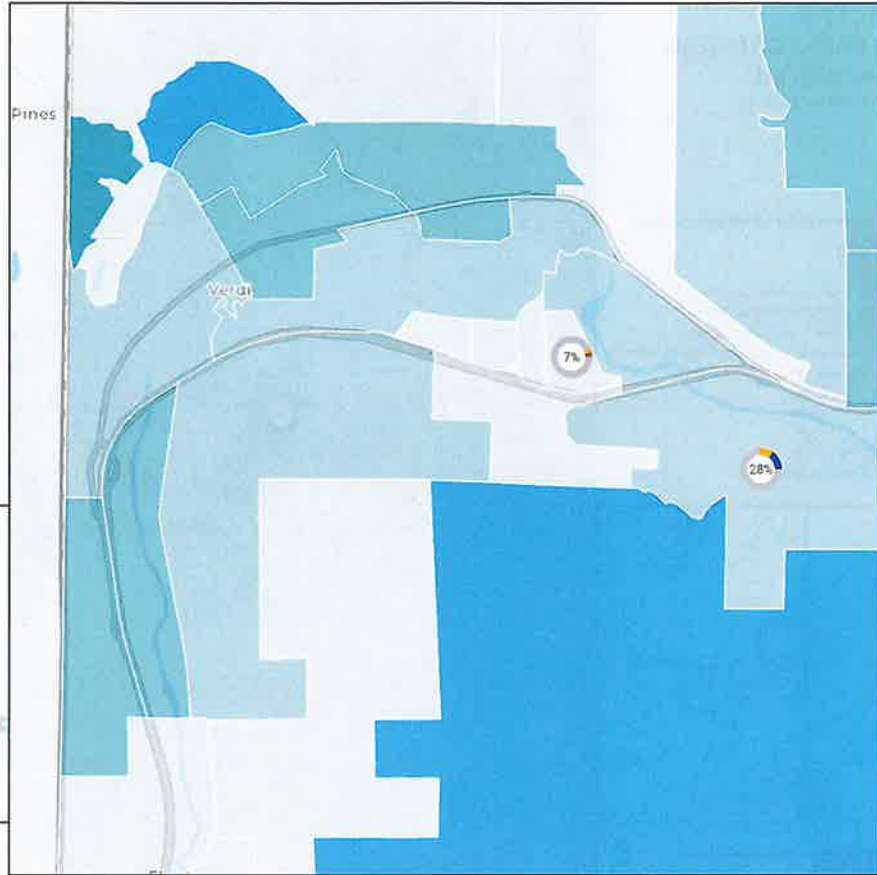
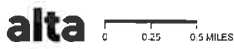
Percent of motor vehicle trips < 6 miles



- Walk Trip Potential (0-1mi)
- Bike Trip Potential (1-3mi)
- E-Bike Trip Potential (3-6mi)
- Drive and Transit Trip Potential (>6mi)

% of motor vehicle trips < 6 miles

- 0% - 20%
- 21% - 40%
- 41% - 60%
- 61% - 80%
- 81% - 100%



DATA SOURCE: U.S. BUREAU OF ECONOMIC ANALYSIS, NATIONAL PERSONAL AND HOUSEHOLD TRAVEL SURVEY, 2001-2010. SOURCE: ALTA PLANNING + DESIGN, INC. DATE: 1/27/2012

Figure 9: Active Trip Potential in Verdi

**ACTIVE
TRANSPORTATION
POTENTIAL
NORTH VALLEYS**

LEGEND

Percent of motor vehicle trips < 6 miles



- Walk Trip Potential (0-1mi)
- Bike Trip Potential (1-3mi)
- E-Bike Trip Potential (3-6mi)
- Drive and Transit Trip Potential (>6mi)

% of motor vehicle trips < 6 miles

- 0% - 20%
- 21% - 40%
- 41% - 60%
- 61% - 80%
- 81% - 100%

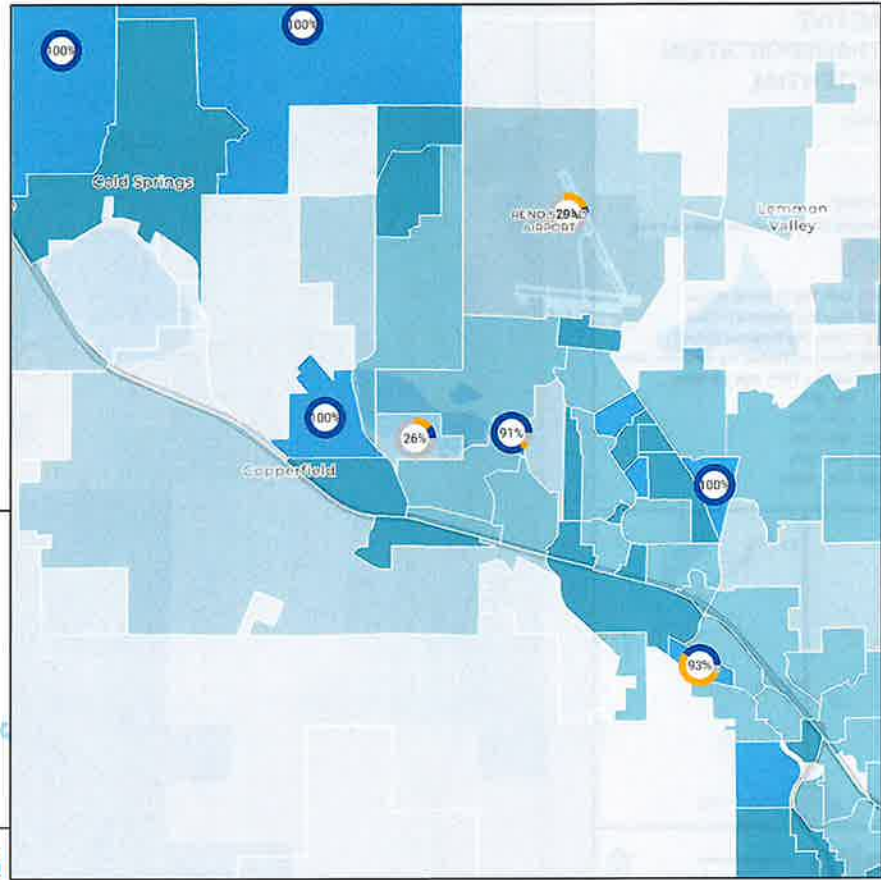


Figure 10: Active Trip Potential in North Valleys

**ACTIVE
TRANSPORTATION
POTENTIAL
SOUTH RENO**

LEGEND

Percent of motor vehicle trips < 6 miles



- Walk Trip Potential (0-1mi)
- Bike Trip Potential (1-3mi)
- E-Bike Trip Potential (3-6mi)
- Drive and Transit Trip Potential (>6mi)

% of motor vehicle trips < 6 miles

- 0% - 20%
- 21% - 40%
- 41% - 60%
- 61% - 80%
- 81% - 100%



alta

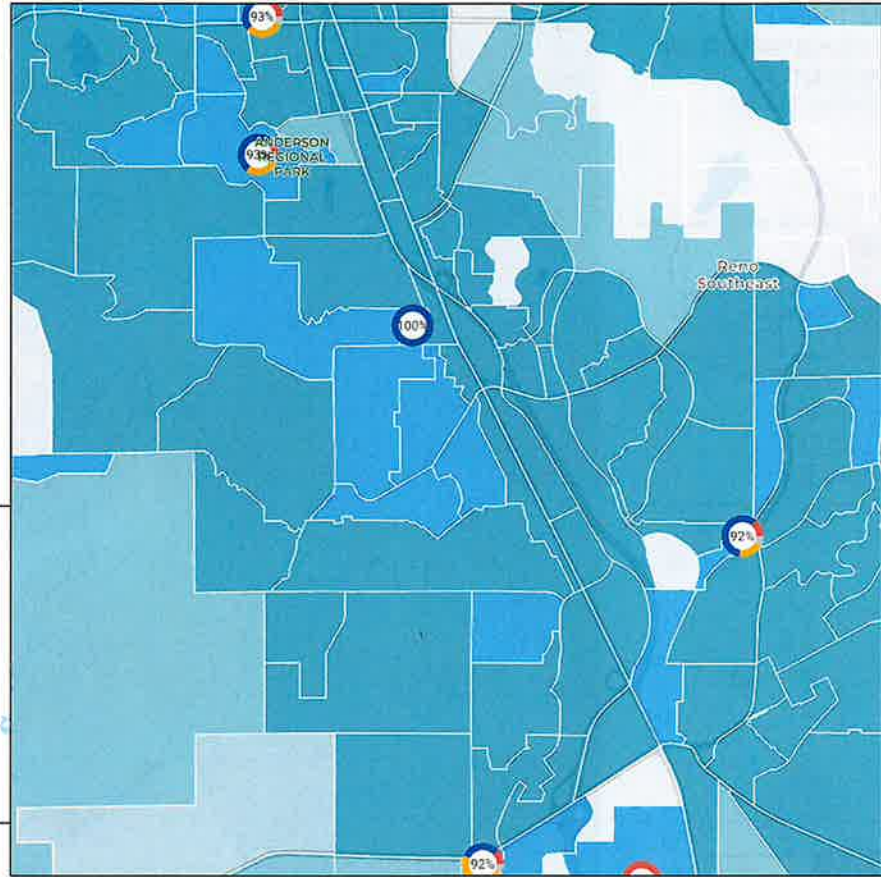


Figure 11: Active Trip Potential in South Reno

**ACTIVE
TRANSPORTATION
POTENTIAL
CENTRAL SPARKS**

LEGEND

Percent of motor vehicle trips < 6 miles



- Walk Trip Potential (0-1mi)
- Bike Trip Potential (1-3mi)
- E-Bike Trip Potential (3-6mi)
- Drive and Transit Trip Potential (>6mi)

% of motor vehicle trips < 6 miles

- 0% - 20%
- 21% - 40%
- 41% - 60%
- 61% - 80%
- 81% - 100%



alta 0 0.25 0.5 MILES

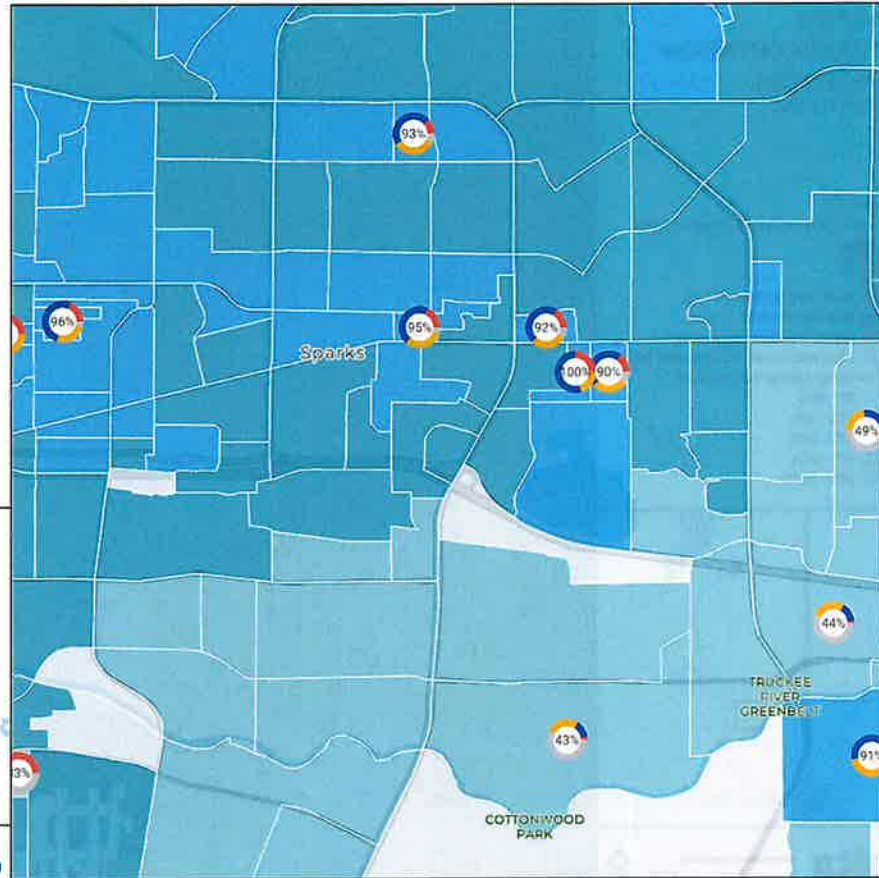


Figure 12: Active Trip Potential in Central Sparks

ACTIVE TRANSPORTATION POTENTIAL MCCARRAN LOOP

LEGEND

Percent of motor vehicle trips < 6 miles



- Walk Trip Potential (0-1mi)
- Bike Trip Potential (1-3mi)
- E-Bike Trip Potential (3-6mi)
- Drive and Transit Trip Potential (>6mi)

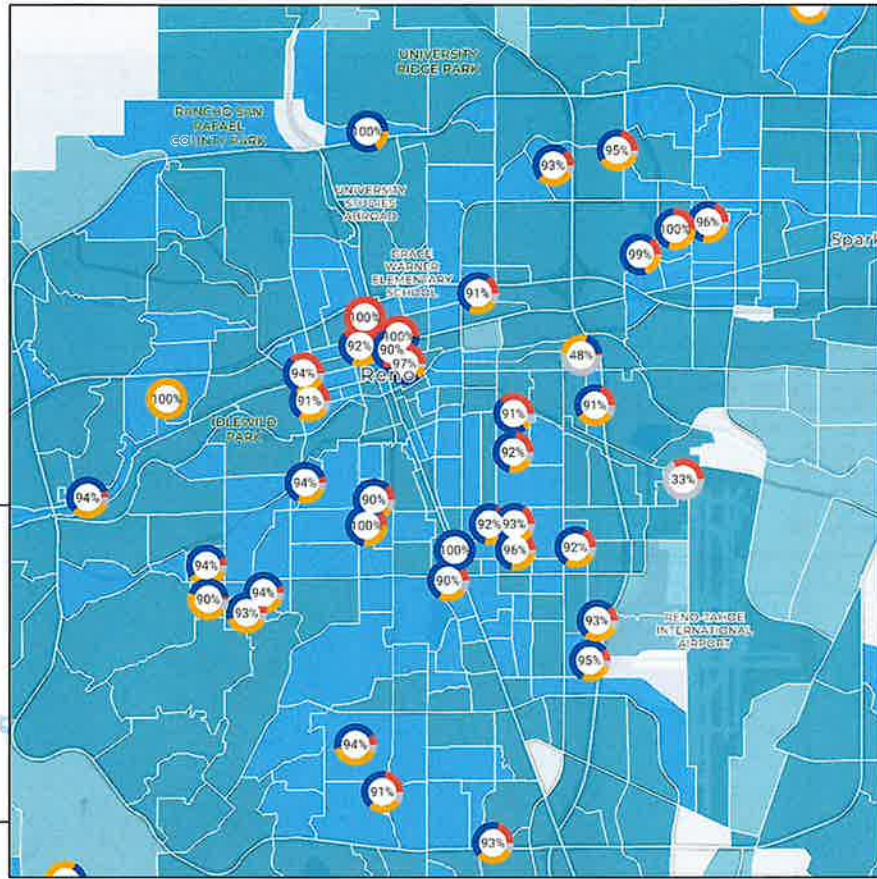
% of motor vehicle trips < 6 miles

- 0% - 20%
- 21% - 40%
- 41% - 60%
- 61% - 80%
- 81% - 100%



alta

0 0.5 1 MILES



3/15/2024 10:48:10 AM C:\Users\alta\OneDrive\Documents\Washoe RTC Active Transportation Plan\Map\Map - 3/15/2024 10:48:10 AM

Figure 13: Active Trip Potential in the McCarran Loop

ACTIVE TRANSPORTATION POTENTIAL
SPANISH SPRINGS

LEGEND

Percent of motor vehicle trips < 6 miles



- Walk Trip Potential (0-1mi)
- Bike Trip Potential (1-3mi)
- E-Bike Trip Potential (3-6mi)
- Drive and Transit Trip Potential (>6mi)

% of motor vehicle trips < 6 miles

- 0% - 20%
- 21% - 40%
- 41% - 60%
- 61% - 80%
- 81% - 100%



0 0.5 1 MILES

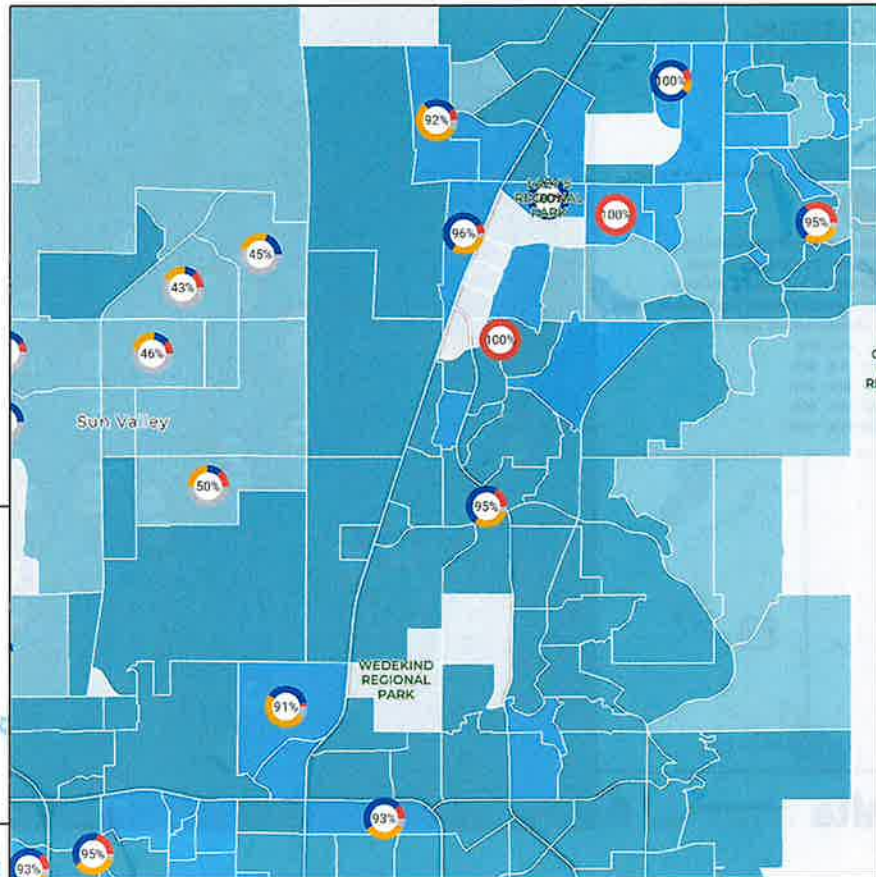


Figure 14: Active Trip Potential in Spanish Springs

Appendix B

Active Trip Potential by Mode Suitability

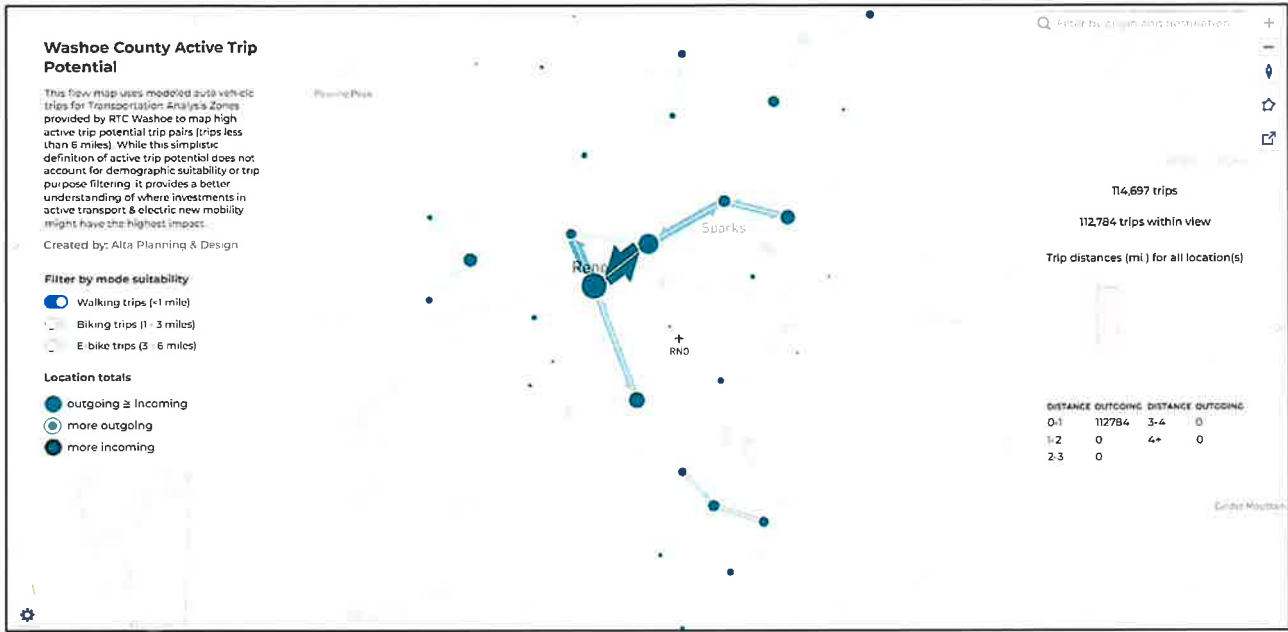


Figure 15: Walk Trip Potential: Daily motor vehicle trips under 1 mile

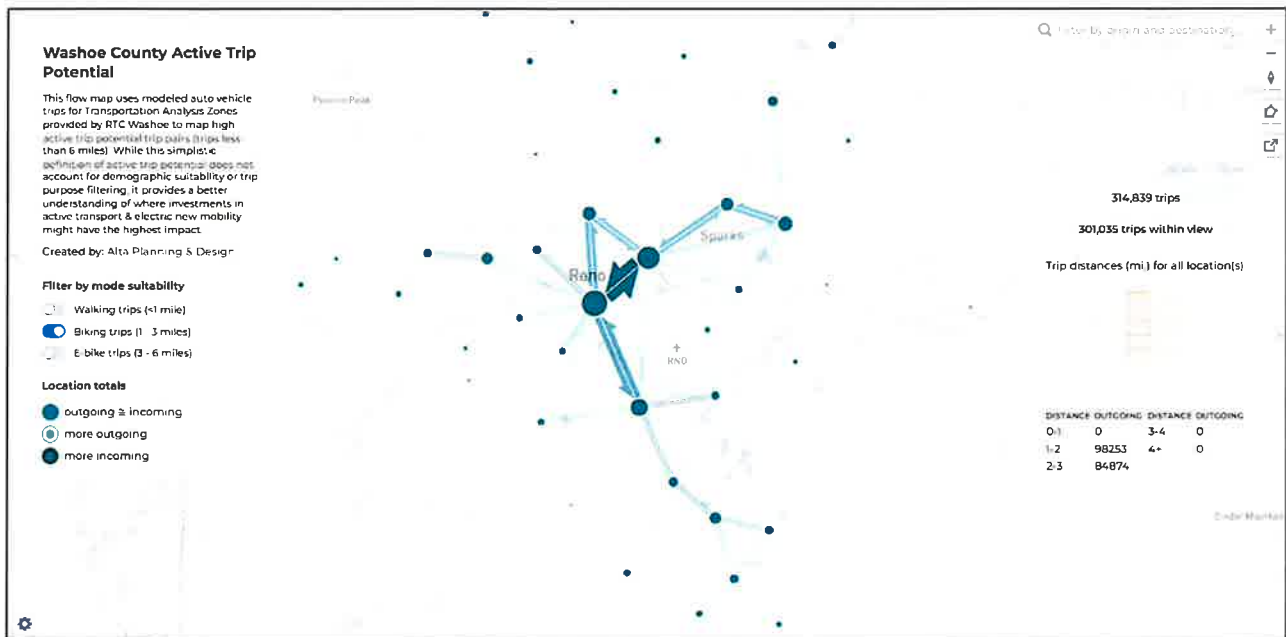


Figure 16: Bike Trip Potential: Vehicle trips between 1 and 3 miles

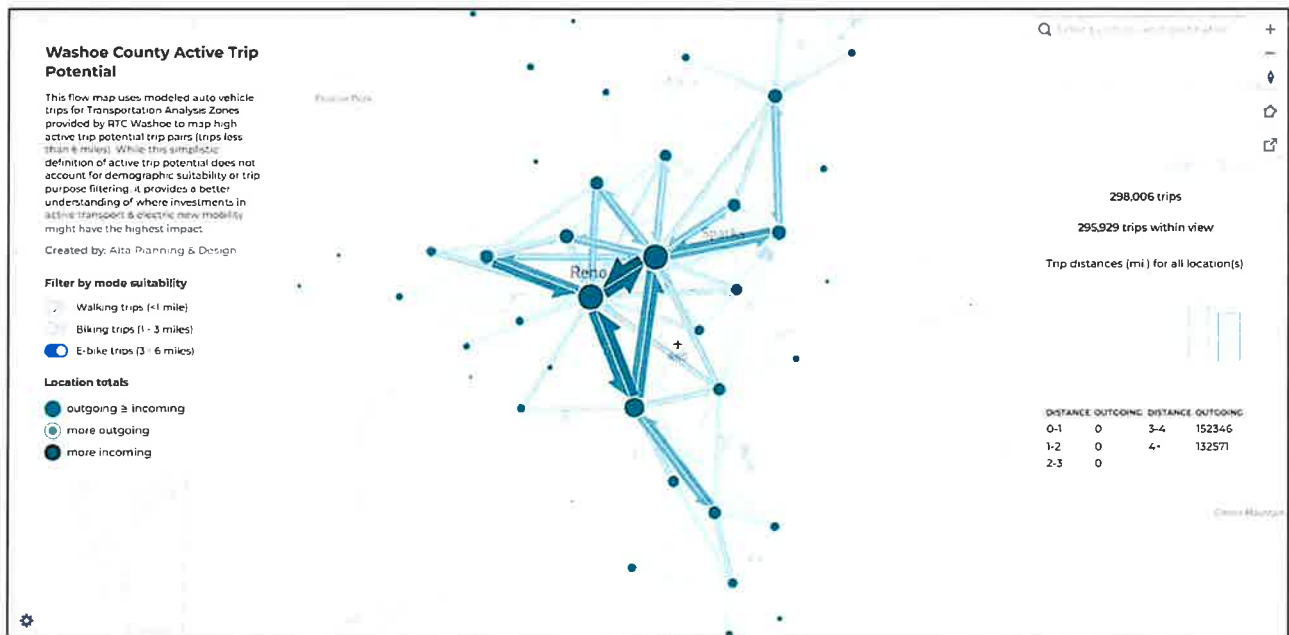
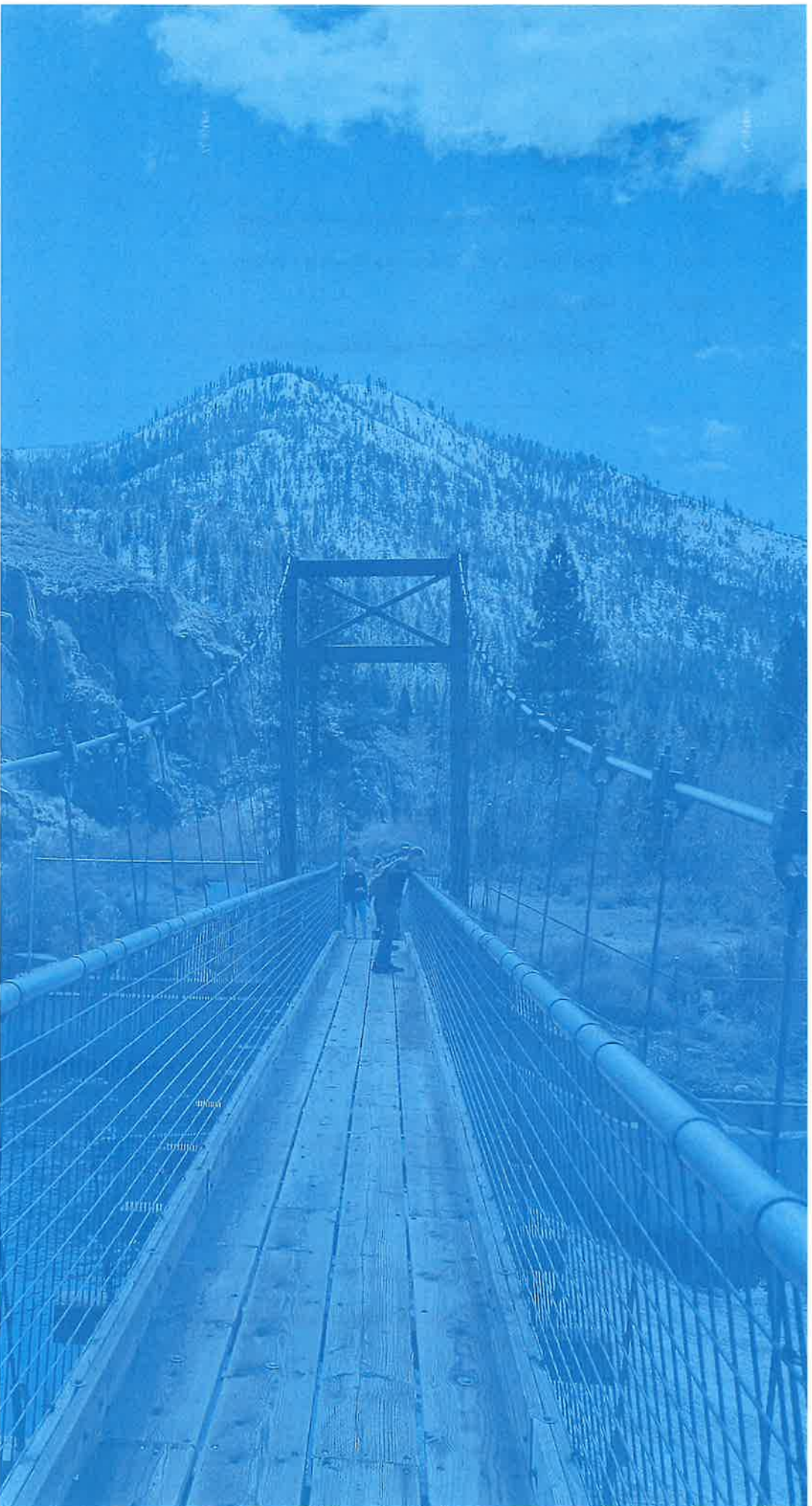


Figure 17: E-bike Trip Potential: Vehicle trips between 3 and 6 miles.



Appendix B: Data Collection



To: Marquis Williams, Project Manager, RTC Washoe
From: Cole Peiffer, Zoey Mauck, Alta Planning + Design
Date: May 15, 2024
Re: Data Collection Methodology Recommendations

Data Collection Methodology Recommendations

The RTC has engaged in data collection for bicycle, pedestrian, and wheelchair users for numerous years utilizing a similar method. While the data collected through this program has been a beneficial input for planning purposes, the RTC desires to leverage this program to collect more robust and informative data which can provide deeper insights into long-term trends for active transportation, project specific analysis, and tracking of performance metrics. The RTC recently shifted to using LiDAR technology for this data collection program instead of the prior method of manual screenline counts. This memo includes a discussion of the potential additional benefits of LiDAR data collection, ways that other agencies are using this technology for counts, and highlights LiDAR equipment for long-term bicycle and pedestrian data collection. The second section highlights recommendations for long-term and continuous data collection strategies which would allow the RTC to track performance measures and generate estimates of total usage throughout the area.

LiDAR Technology for Conducting Bicycle and Pedestrian Counts

Background

The Regional Transportation Commission of Washoe County (RTC) is currently using LiDAR systems from the University of Nevada Reno (UNR) to document year-to-year trends in the number of people using active transportation modes and generate estimates of overall mode shares at comparison locations. In addition to these counts, they have been able to track other roadway data like travel speeds, near misses, and crashes.

While the data gathered from this tracking process provides helpful information about roadway use and experience, tracking equipment is typically only out in the field for approximately three days per selected location. This memo discusses how the existing LiDAR counting operation could be improved by sharing methods for making LiDAR use most effective, highlighting other communities that are using LiDAR technology in their transportation work, exploring different companies/products producing effective LiDAR systems, and reviewing a variety of ways that LiDAR technology can be used beyond what RTC Washoe is already doing.

The Full Potential of LiDAR

With its ability to capture 3D images in real time, LiDAR is one of the most advanced tracking systems available that can be used by communities to improve the safety and function of roadways for all roadway users. Beyond bicycle and pedestrian counts, LiDAR technology can track a wide variety of additional roadway characteristics and interactions which may benefit the RTC including:

Vehicular Movement

- **Turning movement counts:** Turning movement counts can be tracked using LiDAR technology as a check to the travel demand model.
- **Compliance with traffic signals and stop signs:** LiDAR systems can record how frequently cars are obeying traffic signals and stop signs.



- **Vehicle to Everything (V2X) Applications:** This technology could support V2X applications and deliver the data collected to drivers to enable real-time decisions on the road¹. This data transfer will be beneficial as more autonomous vehicles enter roadways.

Bicycle and Pedestrian Movement

- **Curb ramp data collection:** LiDAR can be used to assess how compliant a curb ramp is with ADA standards by looking at cross slopes and other elements of the curb ramp.
- **E-Bike use:** With some products, like Smart Sensor Solutions’s BiCo 1.0, a high refresh rate means that faster micromobility vehicles, such as e-bikes, can be recorded. This can provide the RTC with an understanding of what percentage of bicycle users are using e-bikes.
- **Pedestrian jaywalking:** LiDAR technology can record the location of pedestrians as they cross, revealing areas with high levels of pedestrian jaywalking. This could indicate where pedestrian crossings should be considered or where existing crossing should be improved.
- **Crossing signal timing:** The timing needed for bicycles or pedestrians to cross the roadway at a signalized intersection can be made safer for those crossing by understanding how long crossings typically take based on LiDAR data.

Bicycle and Pedestrian/Vehicle Interaction

- **Conducting risk or exposure analyses:** potential to measure pedestrian exposure [to vehicular conflict] based on the number of pedestrians observed in the roadway.
- **Adjusting length of flashing yellow arrows (FYA):** where a FYA is present as a method for controlling left turns, push buttons activated by a pedestrian can temporarily turn off the FYA, but to allow for efficient flow of traffic, LiDAR technology can track when the pedestrian has completed their crossing of the street, then automatically turn the FYA back on^{2 3}.

Other

- **Understanding pavement condition:** with its 3D visualization capabilities, LiDAR technology can be used to assess quality of pavement on both roadways and sidewalks/bike lanes and paths.

It should be noted that tracking these types of data is possible with some types of LiDAR technology and not others, and these types of data may not be able to be gathered for every project included in the ‘LiDAR Technology Options’ section. RTC may wish to collaborate with UNR in order to develop algorithms which support these expanded analyses or reach out to an equipment vendor listed below to review their capabilities for in-house analysis as well as functional control of traffic control devices such as traffic signals and pedestrian activated push buttons.

¹ <https://www.masstransitmag.com/technology/article/21236672/how-lidar-is-making-roads-safer-for-pedestrians-and-cyclists>

² <https://nitc.trec.pdx.edu/news/new-lidar-system-pinpoints-pedestrian-behavior-improve-efficiency-and-safety-intersections>

³ <https://ascelibrary.org/doi/epdf/10.1061/JTEPBS.TEENG-7457>



Structural Adjustments to LiDAR Data Collection System

While the RTC is already benefiting from the short-term LiDAR tracking timeframe, they could expand the existing program to provide even more useful data for longer time periods using the following strategies:

Use Multiple LiDAR Sensors to Capture the Entirety of the Location

With just one LiDAR sensor in place, certain movements could be missed if the sensor is temporarily blocked or shifted out of place. Installing multiple LiDAR sensors or bringing in additional temporary LiDAR sensor setups at a project location, while providing some overlapping imagery, will provide multiple views of the same study area that can be combined to make sure the whole picture is being captured.

Installing Semi-permanent LiDAR Trackers

The mobility of RTC Washoe's current LiDAR system provides flexibility in tracking, but by installing a more permanent LiDAR system in key locations, a greater breadth and timeline of data can be gathered. A semi-permanent system that runs on for long periods of time makes for more accurate findings since anomalies can be ruled out as one-off occurrences. This will make road safety and bike & pedestrian experience improvements more effective since they are data-based. While these more permanent solutions will provide more robust data to communities, they also tend to come at a higher cost that will need to be considered by the agency. Several semi-permanent LiDAR options are detailed in "Other LiDAR Technology Options" below.

Other Agencies Using LiDAR Technology for Bicycle/Pedestrian Count Programs

National Institute for Transportation and Communities (NITC) Research Team in Arlington, TX

As part of a LiDAR pilot study, a group of researchers set up LiDAR devices at two intersections in Arlington, Texas to explore both pedestrian behavior and how to separate permissive left-turning vehicles from concurrent crossing pedestrians using a new signaling solution (explained in more detail under "What Else LiDAR Can Track" below).

Utah Department of Transportation (UDOT)

Based on the outcomes of the NITC project detailed above, UDOT employed a LiDAR project in Salt Lake City to detect pedestrian movements at signalized intersections. This is just one of the three LiDAR-based projects in the city that UDOT is working on to better understand how LiDAR has the potential to improve the flow and safety of traffic. UDOT is also working with LiDAR on more rural roadways (in collaboration with [Mandli Communications](#)) to deploy collection methods to improve roadway safety, maintenance, and preservation. UDOT feels that their use of LiDAR technology provides more return on investment than other tracking technologies or strategies used in the past due to its high level of accuracy and quality.

Chattanooga, TN (Department of Innovation Delivery and Performance)

The City of Chattanooga, TN has plans to work with Seoul Robotics to add LiDAR sensors to 86 intersections, an undertaking that is considered the largest-scale project of this variety in the United States⁴. This project aims to accommodate the growing popularity of electric vehicles all while pulling out data that can inform important lessons for infrastructure safety and design.

⁴ <https://www.emergingtechbrew.com/stories/2023/02/21/why-chattanooga-is-betting-on-lidar-for-traffic-management>



The City of Madison, WI

The City of Madison worked with Mandli and their LiDAR product, Maverick, to collect data along the Capital City Bike Trail. The goal of the project was to find flaws in the trail’s pavement, look for plant life that was encroaching onto the trail, and other characteristics that could be improved to make for a better trail experience. The City also used Maverick attached to a Segway to collect data in areas that were not accessible by car, including sidewalks and walkways around the Wisconsin State Capitol building and the Monona Terrace. The LiDAR technology collected a series of data points including compliance with the Americans with Disabilities Act (ADA) safety standards, including sidewalk width, cross-slops, curb ramps, trip hazards, damage to pavement, and encroachment of plant life⁵.

San Francisco Metro Transit Authority (SFMTA)

SFMTA began a pilot project in 2021 to use LiDAR technology to balance the needs of all roadway users. The project aimed to prioritize transit, emergency vehicle and pedestrian flows, and build dashboards to improve data-driven decision-making processes⁶.

LiDAR Technology Options

A wide variety of LiDAR sensors and corresponding analysis software are currently available, and with the growing use of LiDAR systems, the technology available will only continue to improve. Table 1, below, highlights a few of the many options that RTC Washoe might consider using to expand their program.

Table 1. Other LiDAR Technology Options

Company	Product	Description	Benefits	Links
Clearview Intelligence	Connex Active (LiDAR Option)	The Connex Active is a real-time bicycle and pedestrian detector that uses LiDAR technology to count and differentiate between the two modes.	<ul style="list-style-type: none"> • Non-invasive installation • Real-time data • Can be solar-powered • Long-term and continuous data collection 	<ul style="list-style-type: none"> • Product Webpage • Spec Sheet:
Smart Sensor Solutions	3D LiDAR Pedestrian and Bike Counter (BiCo 1.0)	The BiCo 1.0 uses 3D laser technology and ensures reliable bicycle counting with a counting accuracy of up to 97%. Its reliable 3D technology captures any scenes and objects in the infrastructure area.	<ul style="list-style-type: none"> • Can also record faster bikes such as e-bikes • Weather resistant • Long-term and continuous data collection 	<ul style="list-style-type: none"> • Product Webpage • Spec Sheet

⁵ <https://www.mandli.com/maverick/use-cases/sidewalk/>

⁶ <https://www.sfmta.com/blog/smarter-traffic-signals-prioritize-transit-and-people>



Company	Product	Description	Benefits	Links
Velodyne Lidar	BlueCity (LiDAR + AI)	BlueCity is a cost-effective solution for capturing multimodal traffic data in real-time using lidar technology and an AI-based perception software layer.	<ul style="list-style-type: none">• Non-invasive installation• 3D LiDAR sensors combine with AI software to provide helpful visualization of the data• Long-term and continuous data collection	<ul style="list-style-type: none">• Product Webpage• Product Video
Mandli	Maverick	The Mandli Maverick is a LiDAR system that can be mounted on a vehicle to provide mobile data collection.	<ul style="list-style-type: none">• Mobile option that can be easily installed on any vehicle• Real-time feedback and data viewing for in-field QC	<ul style="list-style-type: none">• Product Webpage• Spec Sheet

LiDAR Data Collection Summary

LiDAR technology is an efficient way of collecting bike and pedestrian counts that can also be used to understand roadway quality, safety, and performance. With the rise of autonomous vehicle technology that involves LiDAR sensors, and the growing list of roadway characteristics that LiDAR can help track, it is likely that this technology is here to stay and will only become more useful with time. RTC Washoe could consider expanding and improving their LiDAR tracking system to gather more roadway data, and thus, producing more data-driven roadway projects in the future.



Continuous Long-Term Data Collection for Performance Measure Tracking

The previous iteration of the RTC Washoe Bicycle, Pedestrian, and Wheelchair data collection program focused on collecting short-term two-hour count data using manual video counts during key months of activity throughout the year. While this approach mirrors the standard practices at the time of program inception from the National Bicycle and Pedestrian Documentation Program (NBPDP), advancements in data collection, storage, and processing have significantly changed the landscape of available data and reasonable analysis approaches. Additionally, collecting two-hour count data exclusively may be overly impacted by fluctuations in usage by time of year, weather, adverse climate events (i.e., extreme heat events or poor air quality days), and other factors to draw conclusions about long-term trends in active transportation across the region. Recent adjustments to the data collection program include using LiDAR sensors to extend the data collection period to multiple days which expands the total amount of day collected but does not provide insights into fluctuations throughout a week, month, or year. By expanding the program to incorporate continuous data collection, the RTC will be able to identify how active transportation activity is changing over time on a holistic sense as compared to small windows of time. Furthermore, incorporating data collection equipment into regular roadway maintenance programs and roadway construction projects will help the RTC to significantly increase the amount of data collected across the region at regular intervals at a lower overall cost per piece of data collection equipment than installing single counters into existing roadways outside of a roadway reconstruction, maintenance.

In order to gain a deeper understanding of long-term trends of active transportation in the Truckee Meadows, it is recommended that the RTC incorporate long-term data collection methods into the Bicycle, Pedestrian, and Wheelchair count program. This may be accomplished by implementing the following methods:

Pavement Preservation & Maintenance Program

The RTC repaves all regional roads on a seven-year cycle which provides a clear path to incorporate continuous data collection technology within on-street bicycle facilities within a relatively short timeframe with relatively low implementation costs. This would be accomplished by establishing an RTC policy to install continuous bicycle counters at regular intervals along any on-street bicycle facility that is repaved or resurfaced as part of the pavement preservation program. Continuous bicycle counters that the RTC could consider under this strategy include radar sensors (Sensys Network – FlexRadar/MicroRadar) or inductive loops (EcoCounter – ZELT).

Traffic Signal Video Camera Count Technology

Traffic signals which utilize video detection may incorporate technology which allows for additional passive data collection for active transportation. This includes the GridSmart Bell Camera and Iteris Vantage video detection systems which utilize AI to count movements from vehicles and may be calibrated to count pedestrians and bicyclists with the purchase of an additional module. The City of Reno currently uses GridSmart Bell Cameras for video detection at multiple traffic signals within the City and has some level of access to the specialized bicycle and pedestrian module. It is recommended that the City of Reno provide regular data updates or direct access to this data for the RTC in order to leverage this data which is currently passively collected but has been under utilized locally to date.

Long-term Data Collection & Public Art Installation

Data collection may also be incorporated with other activities such as public art installations. For example, the RTC may consider installing long-term permanent counters along bicycle facilities. These counters may include a real-time display of the annual and daily counts of bicyclists, as shown in Figure 1, or without a display such as the LiDAR data collection technologies identified in Table 1 (above). These displays may be incorporated into a unique art installation which would represent the unique style and character of the area and provide an opportunity for the community to engage with the corresponding bicycle facility project. These counters would be strong indicators of the commitment to improving bicycling from local entities while providing long-term continuous data to support future decision making. It is important to note that funding for art installations would need to be provided by local entities or another outside source due to existing restrictions for RTCs’ local, state, and federal funds.



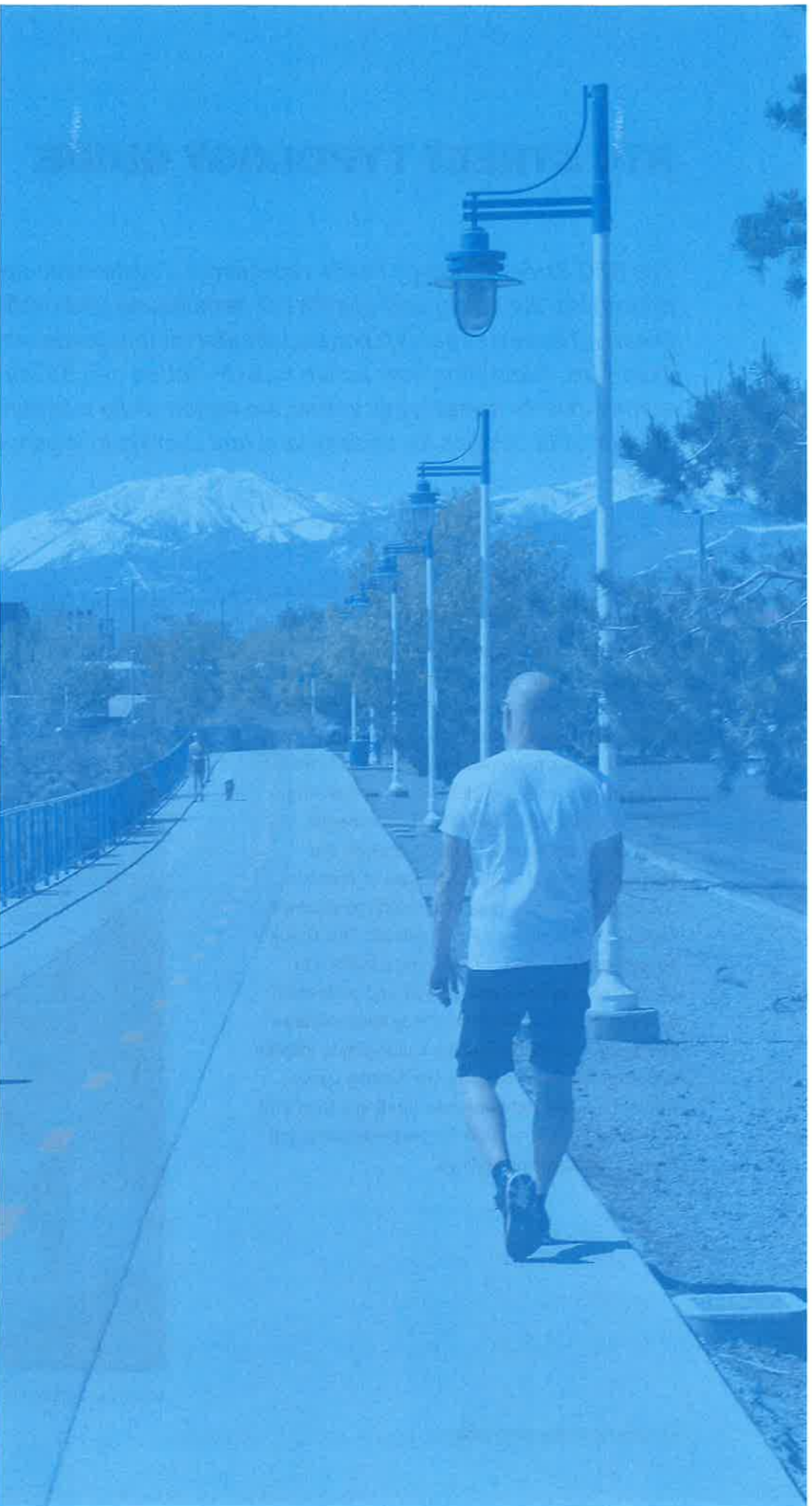
Figure 1. Eco-Counter Real-Time Display (Source: Eco-Counter)

User Reported Data & Local Extrapolation

The smartphone application Strava allows users to self-report and record walking and biking trips either for recreation or for commuting. While this data represents a small portion of the total bicycle or pedestrian trips in an area and may be slightly skewed towards recreation-based trips, it provides an opportunity for the RTC to develop regional wide estimates for total annual usage. This is accomplished by installing short-term counting equipment, such as the EcoCounter Mobile MULTI, at a select number of locations with active transportation users over a period of a month or more; this should include at least five locations to control for variations across the region and each counter should be calibrated to ensure accuracy. Collected data from these counters will identify the total number of bicyclists and/or pedestrians who traveled along that route during the select period and can be compared with Strava data⁷. From this comparison of actual volumes and Strava reported volumes the RTC would establish an adjustment factor to be applied to Strava data across the Truckee Meadows.

⁷ StravaMetro is a free resource provided to public entities who are working to improve bicycle and pedestrian transportation following a short application process.

Appendix C: RTC Washoe Street Typology Guide

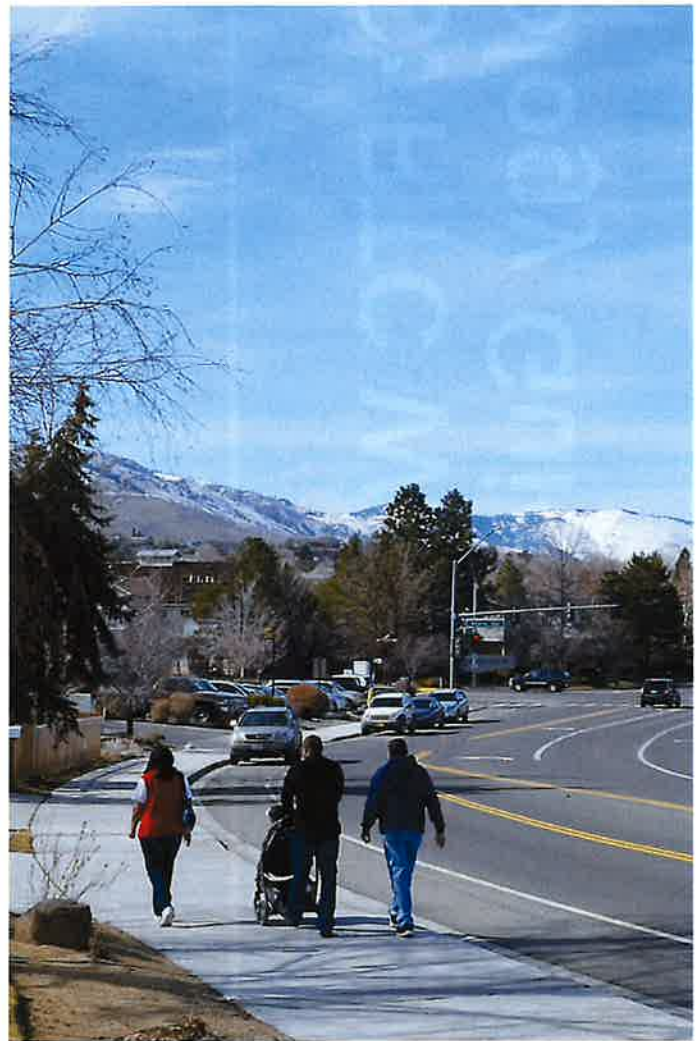


RTC STREET TYPOLOGY GUIDE

The RTC Street Typology Guide represents a systematic approach to prioritizing the safety and comfort of pedestrians and cyclists in Washoe County. The ten street typologies included in this guide serve as practical examples, illustrating how active transportation can be implemented across diverse street types within the region while exemplifying safe and comfortable designs for pedestrians and cyclists in Washoe County.

What is a Typology?

Streets and roads throughout the Truckee Meadows serve a variety of purposes and needs; from a major six-lane roadway facilitating freight traffic and high volumes of vehicles through industrial zones to two-lane neighborhood streets with a mix of people walking, biking, and driving to their destinations. While the specific needs along each road vary from block to block, the plan has identified 10 different types of streets or “typologies,” considering factors such as volumes, speeds, widths, and land use contexts. This Guide addresses this variety by providing a toolbox to practitioners for improving bicycle and pedestrian experiences in a variety of roadway environments. The designs considered in this Guide aim to identify opportunities for reassigning the existing space within the public rights-of-way, creating a safer and more comfortable network for people walking and biking of all ages and abilities.



Plumb Lane (Reno, NV)

How were the typologies developed?

The street typologies included in this section were developed following an in-depth analysis of the existing roadway network functional classifications, average annual daily traffic, posted speeds, and the existing standard roadway design details from the City of Reno, City of Sparks, and Washoe County. Existing regional roadways¹ were divided into ten categories to provide practitioners and the public with a sufficiently broad array of options to address various contexts and roadway types.

Preferred active transportation facilities and spatial dimensions are identified for each street typology based on the most recent guidance available from a variety of national best practice documents including:

- FHWA Bikeway Selection Guide
- FHWA Small Town and Rural Multimodal Networks
- FHWA Safe Transportation for Every Pedestrian (STEP)
- FHWA Proven Safety Countermeasures
- NACTO Don't Give Up At the Intersections
- NACTO Urban Bicycle Design Guide
- NACTO Designing for All Ages & Abilities

While the preferred facility is identified as the most appropriate for this street type, some circumstances or local conditions may prevent the implementation of the most preferred facility type for people walking or biking, which may require consideration of alternative design options.

¹ New regional roadways will be assigned a typology based on identified functional classification and land use context.

How should this guide be used?

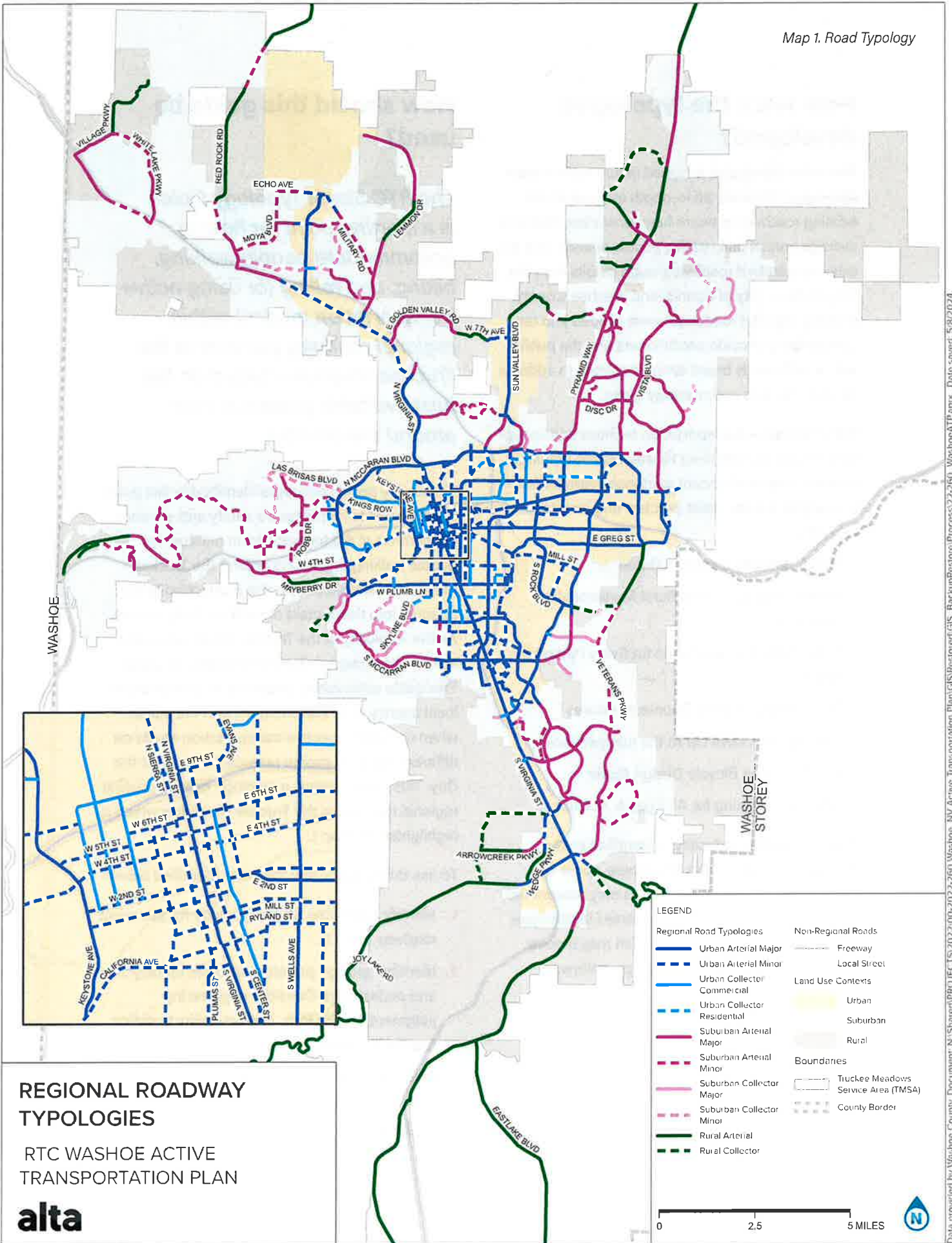
The RTC Street Typology Guide is a starting point for how to accommodate people walking, biking, and rolling (or using active transportation modes) within regional roadway projects in the Truckee Meadows based on the best available guidance from around the country.

The facility design concepts identified in this guide are intended to help improve safety and enhance the comfort of the transportation network for people walking and rolling around the Truckee Meadows, however, this guide is intended to be adapted into the context of each roadway project. As the variability of the Truckee Meadows is vast, so too is the adaptability of the typologies guide. This guide establishes a baseline for practitioners, local agency staff, stakeholders, and the public when considering active transportation needs on different roadway design projects throughout the City. This guide assigns a typology to each existing regional roadway in the Truckee Meadows which is highlighted on Map 1.

To use this guide, follow the steps identified below:

1. Identify applicable Street Typology for the select roadway (Map 1).
2. Identify typology preferred facilities for bicyclists and pedestrians. Consider engineering judgment, local needs, and feasibility to define final facility type.
3. Select applicable design enhancements for the select roadway (Table 2) based on engineering judgement

Map 1. Road Typology



REGIONAL ROADWAY TYPOLOGIES

RTC WASHOE ACTIVE TRANSPORTATION PLAN



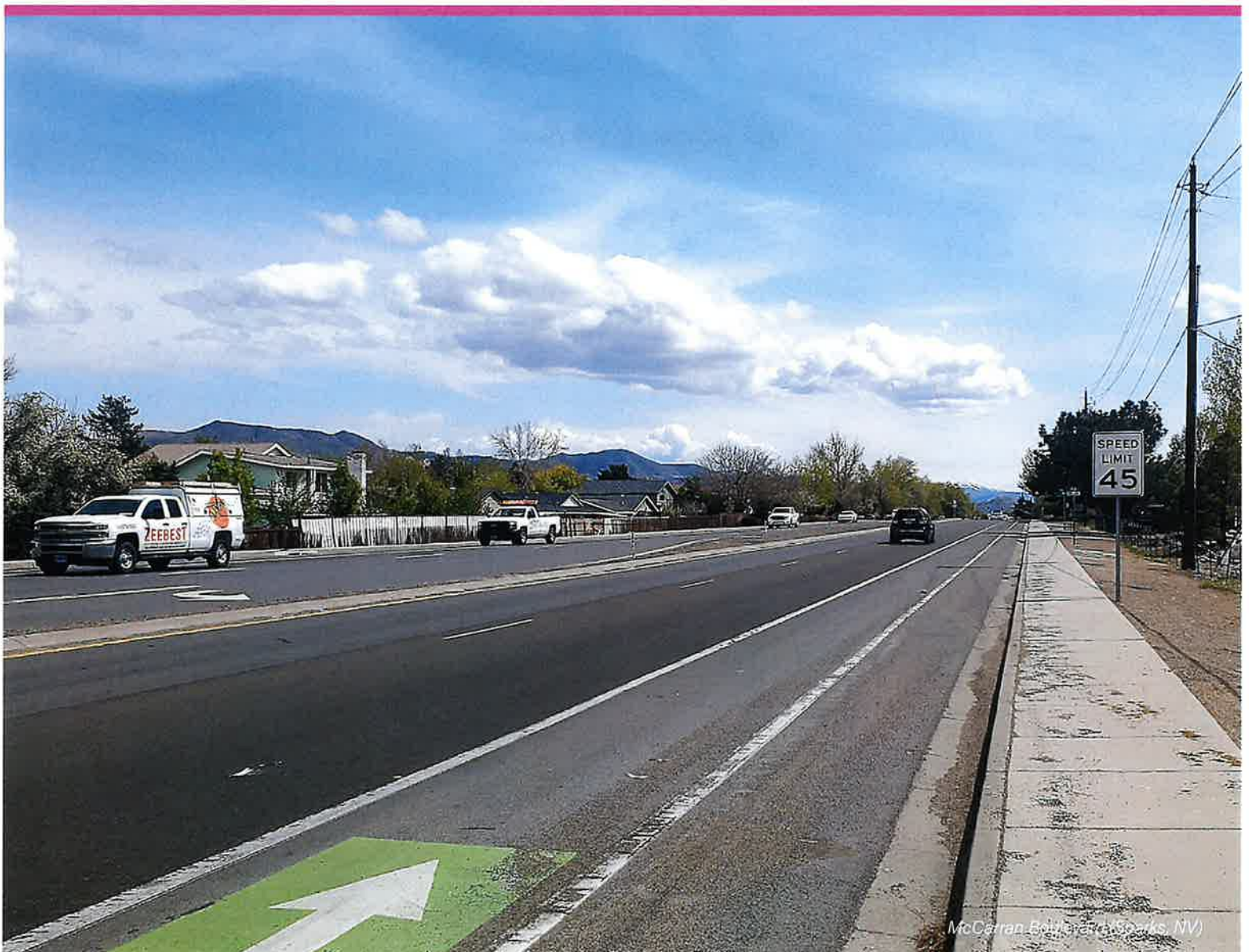
LEGEND

- | Regional Road Typologies | | Non-Regional Roads | |
|--------------------------|-----------------------------|--------------------------|------------------------------------|
| | Urban Arterial Major | | Freeway |
| | Urban Arterial Minor | | Local Street |
| | Urban Collector Commercial | Land Use Contexts | |
| | Urban Collector Residential | | Urban |
| | Suburban Arterial Major | | Suburban |
| | Suburban Arterial Minor | | Rural |
| | Suburban Collector Major | Boundaries | |
| | Suburban Collector Minor | | Tuckee Meadows Service Area (TMSA) |
| | Rural Arterial | | County Border |
| | Rural Collector | | |



What does this guide NOT do?

1. This guide **does NOT** address all issues which may arise in roadway design; engineering judgement must be used to review, refine, and evaluate recommendations for each roadway.
2. This guide **does NOT** supersede established design manuals or guidance.
3. This guide **does NOT** override engineering judgement or neighborhood desires.
4. This guide **does NOT** prescribe a specific design for all street types.



Page left Intentionally Blank

Street Typology—Roadway and Intersection Design Elements

The design of our roadways significantly impacts the experience of pedestrians and cyclists. Elements like lane widths, crosswalk design, and dedicated bike lanes can influence safety, comfort, and overall ease of navigating the streets. To assist in creating a more welcoming environment for all users, this table presents the typical appropriateness of various design elements for corridors and intersections. This table is not meant as a one-size-fits-all solution, but rather an array of options to consider and review during the design process, allowing for tailored solutions for each unique corridor segment. Table 2, included on the following page, provides additional guidance on the applicability of common crossing improvements for people walking and biking.

Table 1. Roadway and Intersection Design Elements

	Rural		Suburban				Urban				Additional Resources
	Arterial	Collector	Arterial Major	Arterial Minor	Collector Major	Collector Minor	Arterial Major	Arterial Minor	Collector Com.	Collector Res.	
Speed Management											
This strategy focuses on placing objects in the roadway which result in either a horizontal (neckdowns, chicanes, median islands) or vertical deflection (Speed Tables / Speed Humps / Speed Cushions). Special consideration should be taken for vertical deflection to avoid impacts to emergency vehicle routes.											
Neckdowns	■	★	■	■	●	★	■	■	●	★	FHWA Traffic Calming ePrimer 3.17
Chicanes	■	★	■	■	●	★	■	■	●	★	FHWA Traffic Calming ePrimer 3.5 & 4.3
Median Islands	★	★	★	★	★	★	★	★	★	★	FHWA Traffic Calming ePrimer 3.18
Speed Tables / Speed Humps / Speed Cushions	■	★	■	■	●	★	■	■	●	★	FHWA Traffic Calming ePrimer 4.1

- ★ Element likely appropriate for consideration based on guidance
 - Element may be appropriate, requires further engineering review
 - Element not appropriate
- ¹ Except slip lanes

FHWA Safe Transportation for Every Pedestrian (STEP)

FHWA Proven Safety Countermeasures (PSC)

NACTO Urban Bikeway Design Guide (UBDG)

NACTO Don't Give Up At The Intersection (DGUAI)

NACTO Urban Street Design Guide (USDG)

	Rural		Suburban				Urban				Additional Resources
	Arterial	Collector	Arterial Major	Arterial Minor	Collector Major	Collector Minor	Arterial Major	Arterial Minor	Collector Com.	Collector Res.	

Intersection Geometry

Adjusting specific dimensions of an intersection or the overall design can help to reducing speeds for vehicles while they enter the intersection thus reducing the intensity of crashes. The methods below can be applied to reduce speeds and volumes of vehicles travel through intersections. An engineering study must be performed prior to implementing a change of intersection control type (i.e. roundabout)

Curb Radii	★	★	★	★	★	★	★	★	★	★	★	NACTO USDG
Diverters / Modal Filtering	■	●	■	■	■	●	■	■	■	●		FHWA Traffic Calming ePrimer 3.21
Neighborhood Traffic Circles	■	■	■	■	★	★	■	■	★	★		FHWA Traffic Calming ePrimer 3.7 & 4.4
Roundabouts	★	★	★	★	★	★	★	★	★	★	★	FHWA Traffic Calming ePrimer 3.

Crossings

Increasing the visibility of crossings and reducing total crossing distances can help to improve crossing safety for active modes and enhance connectivity. These strategies can be applied at existing or new crossing locations.

Marked Crosswalks	★	★	★	★	★	★	★	★	★	★	★	FHWA PSC
Curb Extensions	★	★	★	★	★	★	★	★	★	★	★	NACTO USDG
Raised Crosswalks	■ ¹	●	■ ¹	■ ¹	●	●	■ ¹	■ ¹	●	●		FHWA Traffic Calming ePrimer 3.14
Median Crossing Islands	★	★	★	★	★	★	★	★	★	★	★	FHWA STEP & PSC
Rectangular Rapid-Flashing Beacons	●	★	●	●	★	★	●	●	★	★		FHWA STEP & PSC

Bike Intersection Treatments

The following treatments provide additional safety for bicyclists at intersections by providing clear crossing paths and space at intersections. The application of bicycle treatments below should be considered at all intersections of high-separation bicycle facilities (shared use paths & cycle tracks)

Bike Signals	★	★	★	★	★	★	★	★	★	★	★	NACTO - UBDG
Bike Boxes	■	★	■	■	★	★	■	■	★	★		NACTO - UBDG
Two-stage Turn boxes	★	★	★	★	★	★	★	★	★	★	★	NACTO - UBDG
Protected Intersections	●	●	★	★	★	★	★	★	★	★	★	NACTO - DGUAI

★ Element likely appropriate for consideration based on guidance

● Element may be appropriate, requires further engineering review

■ Element not appropriate

¹ Except slip lanes

[FHWA Safe Transportation for Every Pedestrian \(STEP\)](#)

[FHWA Proven Safety Countermeasures \(PSC\)](#)

[NACTO Urban Bikeway Design Guide \(UBDG\)](#)

[NACTO Don't Give Up At The Intersection \(DGUAI\)](#)

[NACTO Urban Street Design Guide \(USDG\)](#)

Table 2 provides additional guidance from the [FHWA](#) on the applicability of common crossing improvements for people walking and biking. This table is included to help provide a starting point for identifying appropriate crossing measures during the neighborhood planning process.

Table 2. Application of Pedestrian Crash Countermeasures by Roadway Feature

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	① 2 4 5 6	① 5 6 7 9	① 5 6 7 9	① 4 5 6 7 9	① 5 6 7 9	① 5 6 7 9	① 4 5 6 7 9	① 5 6 7 9	① 5 6 7 9
3 lanes with raised median (1 lane in each direction)	① 2 3 4 5	① ③ 5 7 9	① ③ 5 7 9	① 3 4 5 7 9	① ③ 5 7 9	① ③ 5 7 9	① ③ 4 5 7 9	① ③ 5 7 9	① ③ 5 7 9
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	① 2 3 4 5 6 7 9	① ③ 5 6 7 9	① ③ 5 6 7 9	① 3 4 5 6 7 9	① ③ 5 6 7 9	① ③ 5 6 7 9	① ③ 4 5 6 7 9	① ③ 5 6 7 9	① ③ 5 6 7 9
4+ lanes with raised median (2 or more lanes in each direction)	① ③ 5 7 8 9	① ③ 5 7 8 9	① ③ 5 8 9	① ③ 5 7 8 9	① ③ 5 7 8 9	① ③ 5 7 8 9	① ③ 5 7 8 9	① ③ 5 8 9	① ③ 5 8 9
4+ lanes w/o raised median (2 or more lanes in each direction)	① ③ 5 6 7 8 9	① ③ 5 6 7 8 9	① ③ 5 6 8 9	① ③ 5 6 7 8 9	① ③ 5 6 7 8 9	① ③ 5 6 7 8 9	① ③ 5 6 7 8 9	① ③ 5 6 8 9	① ③ 5 6 8 9
Given the set of conditions in a cell, # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location. ● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location. ○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.* The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.					1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs 2 Raised crosswalk 3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line 4 In-Street Pedestrian Crossing sign 5 Curb extension 6 Pedestrian refuge island 7 Rectangular Rapid-Flashing Beacon (RRFB)** 8 Road Diet 9 Pedestrian Hybrid Beacon (PHB)**				

*Refer to Chapter 4, 'Using Table 1 and Table 2 to Select Countermeasures,' for more information about using multiple countermeasures.

**It should be noted that the PHB and RRFB are not both installed at the same crossing location.

This table was developed using information from: Zegeer, C.V., J.R. Stewart, H.H. Huang, P.A. Lagerwey, J. Feaganes, and B.J. Campbell. (2005). Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines. FHWA, No. FHWA-HRT-04-100, Washington, D.C.; FHWA. Manual on Uniform Traffic Control Devices, 2009 Edition, (revised 2012). Chapter 4F, Pedestrian Hybrid Beacons. FHWA, Washington, D.C.; FHWA. Crash Modification Factors (CMF) Clearinghouse. <http://www.cmfclearinghouse.org/>; FHWA. Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE). <http://www.pedbikesafe.org/PEDSAFE/>; Zegeer, C., R. Srinivasan, B. Lan, D. Carter, S. Smith, C. Sundstrom, N.J. Thirsk, J. Zegeer, C. Lyon, E. Ferguson, and R. Van Houten. (2017). NCHRP Report 841: Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments. Transportation Research Board, Washington, D.C.; Thomas, Thirsk, and Zegeer. (2016). NCHRP Synthesis 498: Application of Pedestrian Crossing Treatments for Streets and Highways. Transportation Research Board, Washington, D.C.; and personal interviews with selected pedestrian safety practitioners.

Street Typology Guide Considerations and Notes

Street typology design concepts and facility preferred widths are a starting point but must be applied to the real-world contexts of each individual street. RTC will help guide the application of the typology guide to streets while considering overall feasibility and constructability compared to the community desire and engineering judgement. This section identifies key considerations for the application of the Street Typology Guide. These considerations apply to all typologies included in this guide.

1. The RTC and local agency may adjust the facility design type based on engineering judgement, local needs, and issues of constructability.
2. While it may not be feasible to incorporate significant improvements into all RTC projects, the RTC will identify the scale of improvement which is most appropriate for implementation within upcoming projects² and identify future projects to address more significant improvements which may require additional funding and planning. RTC will program identified projects based on priority and community need of the improvement(s).
3. A comprehensive review of safety and traffic operations is required to determine the optimal configuration for each project. This includes factors like the appropriate number of travel lanes, the presence and design of bicycle lanes, the selection of pedestrian crossing facilities, and the implementation of countermeasures detailed in Table 1. Engineering judgement, relevant guidelines, and community desires will all be considered when making these crucial decisions on a project-by-project basis.

² Under the current Streets & Highways policy, the RTC considers active transportation elements within each new roadway project, capacity roadway project, active transportation project, and pavement preservation project.

Street Typology Notes and Disclaimers

1. Absolute minimum bicyclable width of ridable surface for two-way bicycle facilities in pinchpoints / constrained areas should be 8 feet – absolute minimum widths should only be applied at pinchpoints / constrained areas. The minimum bicyclable width (ridable surface) for two-way facilities should be 10 feet, with a preferred width of 12+ feet.
2. Absolute minimum bicyclable width of ridable surface for one-way facilities is 4 feet, to be used in pinchpoints / constrained areas – absolute minimum bicyclable widths should only be applied at pinchpoints / constrained areas.
3. Shared Use Paths and Cycle Track widths should be wider than preferred widths when significant bicycle & pedestrian volumes are present or anticipated. Additional separation may be required between pedestrians and bicyclists in areas with high volumes of people walking and biking. Therefore, Shared Use Paths may not be appropriate or feasible in dense urban areas without being appropriately sized with space clearly delineated. Separate facilities are recommended within dense urban environment.
4. The ridable facility width as identified in this guide is not inclusive of the gutter pan.

Which High-Separation Facility is the right one?

RTC Washoe is dedicated to providing a low-stress and connected network for people walking and biking in the Truckee Meadows through a context sensitive application of the latest national guidance. As such, the RTC Typology Guide identifies high-separation facilities including Cycle Tracks (One-way or Two-way) and Shared Use Paths as the preferred way to accommodate people walking and biking on collectors and arterials. These facilities provide the highest level of separation and comfort for the user on regional roads and provide the preferred level of comfort and separation across all typologies. Due to the variety of bicycle and pedestrian activity levels and intensity of development patterns present across urban, suburban, and rural contexts the need for separation between people walking, biking, and driving on regional roads will vary by context. In urban areas where volumes of people walking and biking are typically higher it is preferred to provide separate space for people walking, biking, and driving through the use of a sidewalk, cycle track, and vehicle lanes. In suburban and rural areas where volumes of people walking and biking are typically lower than urban areas, a shared-use path is typically optimal for both people walking and biking as the smaller number of users can more easily share the same space. RTC's approach to providing separation between user groups across the three different land use contexts is highlighted in Table 3. As shown, the preference is to separate all modes in urban areas and separate people driving and people using active modes in suburban and rural contexts. The secondary levels of separation also provide high levels of comfort when properly designed in the given context. The least preferred level of separation allows vehicles and bicyclists to mix in the same space or provide separation through paint alone. Without adequate traffic calming measures to reduce vehicle speeds and volumes, this level of separation may result in higher levels of traffic stress than desired. When adequate speed and volume management strategies are applied to keep calm vehicle traffic on neighborhood roads, this level of separation can provide a valuable connection on local roadways.



Specific facilities will be identified for individual regional roads during the Neighborhood Planning process which will consider the area land use, the potential conflicts with driveways, right-of-way constraints, and the level of access required for destinations on each side of the roadway. Table 4 presents typical applications for each facility type and key factors for practitioners to consider when selecting the right high-separation facility on regional roadways. Practitioners are encouraged to consider all high-separation facilities during the conceptual design process and use the table below as a starting point for selecting the facility that is most appropriate to the specific corridor context.

Table 3. Preferred Separation of Modes on regional roads by Land Use Context in the Truckee Meadows

Separation of modes			Example facility / facilities	Urban	Suburban	Rural
			One-way Cycle Tracks and sidewalk	★ ★ ★	★ ★	★ ★
			Shared Use Path	★ ★	★ ★ ★	★ ★ ★
			Bike lanes, traffic calmed streets	★	★	★

★ ★ ★ - Optimal level ★ ★ - Secondary level ★ - Least preferred level

Table 4. High-Separation Bicycle and Pedestrian Facilities in the Truckee Meadows

Facility	One-Way Cycle Track	Two-Way Cycle Track	Shared Use Path
Typical Applications	<ul style="list-style-type: none"> Streets with parking lanes Streets with high bicycle volumes Streets with high motor vehicle volumes and / or speeds Most appropriate in urban areas 	<ul style="list-style-type: none"> Streets with few conflicts such as driveways or cross-streets on one side of the street Streets which lack room for a one-way cycle track on both sides of the street One-way streets where contra-flow bicycle travel is desired Streets with more destinations on one side of the street Streets with extra right of way on one side Most appropriate in urban areas 	<ul style="list-style-type: none"> Streets with parking lanes Streets with medium to high bicycle volumes Streets with high motor vehicle volumes and / or speeds Most appropriate in areas with low to moderate pedestrian volumes and limited conflicts with fronting land uses. Streets with additional right-of-way Along parks, rivers, green space, highways or corridors where there are limited conflicts with vehicles
Considerations	<ul style="list-style-type: none"> Special consideration should be given at transit stops to manage bicycle and pedestrian interactions May not be appropriate in areas with low-bicycle demand 	<ul style="list-style-type: none"> Most appropriate on one-way streets. May be applied on two-way streets where conflicts with the two-way cycletrack can be minimized through bike signals and other intersection treatments. Require additional consideration on streets with significant number of commercial driveways and side-street crossings Special consideration should be given at transit stops to manage bicycle and pedestrian interactions Require good signage to alert drivers to contraflow bicycle traffic Require bicycle signals at signalized intersections May not be appropriate in areas with low-bicycle demand 	<ul style="list-style-type: none"> Where Shared Use Paths terminate it may be necessary to transition users to a facility on the opposite side of the road Potential for conflicts at commercial driveways with contra-flow bicyclists Require additional consideration on streets with significant number of commercial driveways and side-street crossings Where sufficient roadway width or right of way is available in the rural context, designers may consider simultaneous provision of both shared-use path and bicycle accessible shoulders to serve a diverse range of user types

CYCLE TRACKS:

Land Use - For use inside built-up urban areas where a moderate to high volume of bicyclist and pedestrians is expected



SHARED USE PATHS:

Land Use - Generally appropriate outside of densely built-up areas, and also as a corridor connection within built-up areas.



NACTO, "Urban Bikeway Design Guide - 2nd Edition. Pages 27 - 41", Island Press (2014). Available at <https://nacto.org/publication/urban-bikeway-design-guide/>

FHWA, "Small Towns & Rural Multimodal Networks Guide. Pages 4-3 to 4-18", FHWA, (2016). Available at <https://ruraldesignguide.com/>

Street Typology Cutsheets—A How To Guide:

Each street typology is presented in a two-page cutsheet below which includes four key elements to help identify the right typology, select the preferred facility and consider examples of potential configurations. This section provides a brief explanation of each element of the cutsheet.



ROADWAY CHARACTERISTICS

Provides a concise overview of essential road characteristics that are typical to roads within each typology. Characteristics include the right of way (ROW) width, number of typical lanes, average to maximum daily traffic counts, and a range of typical low to high posted speed limits.



BIKE FACILITIES

Highlights preferred facilities in green and secondary facilities in blue; additional facilities to accommodate bicyclists are also included for consideration. All facilities include a preferred and minimum widths for the facility and associated buffer. Facilities which are feasible but may not achieve the identified goals are also highlighted.



CROSS-SECTIONS (EXISTING & CONCEPTUAL)

Showcases a cross-section of typical existing condition for each typology including the typical pedestrian and bicycle facility types, number of lanes, and a sampling of typical land uses which are found along the typology. Conceptual configurations of the existing conditions are also included in this section for consideration of different improvements types. Concepts include both long-term and quick-build style improvements.



PEDESTRIAN FACILITIES

Details the facility types that designate dedicated space and space buffer for pedestrians. The table includes preferred and minimum facility widths required for each facility type.

Quick-build improvements are included in typologies in to showcase potential configurations; more information on this style of improvements is provided on the following page.

Quick-build Improvements

Quick-build rapidly implements cost-effective safety enhancements for bicycles, pedestrians, or traffic, using adaptable materials that can be easily modified or removed. These initiatives typically transition from concept to reality within relatively short timeframes, providing immediate benefits in walking and bicycling safety. This allows local governments to test design concepts which reallocate street space.

RTC's approach to reallocating street space focuses on leveraging opportunities for more efficient use of space by applying the following hierarchy:

1. Utilize available shoulders
2. Narrow travel lanes
3. Remove excess travel lanes
4. Remove excess / underutilized parking
5. Reallocate / adjust vehicle capacity
6. Remove highly utilized vehicle parking - Strategies for off-setting potential impacts to vehicle parking that can be incorporated into quick build project designs include:
 - Removing parking on only one side
 - Converting parallel parking to reverse-angle parking on one-side

Quick-build projects can last for years with proper maintenance or reconstruction using more durable materials. Quick-build improvements allow for projects from neighborhood plans to be swiftly implemented with potential for enduring improvements guided by public input and usage patterns.

The overarching aim is to more rapidly establish a secure, interconnected network of comfortable, protected, and connected facilities for walking, bicycling, and micromobility than would otherwise be possible when exclusively using permanent materials.

Quick-build improvements can be implemented using a wide variety of low-cost materials based on the length of the project and overall need for protection on the road. Common materials which have proven effective in installations across the country are show on the following pages and highlighted within the typologies to showcase the potential applications for different quick build treatments. Quick-build projects are intended to be located in high use areas in order to focus resources in areas with the greatest need and potential users.

When designing a quick-build project, practitioners should take care to identify materials that match the proposed duration of the project. More durable materials should be used on projects with longer proposed durations in order to reduce maintenance needs and potential safety hazards from barrier materials which may be damaged.

For more information regarding materials and considerations for quick-build projects, please see the following resources:

- [NACTO - Urban Street Design Guide - Interim Design Strategies](#)
- [California Bicycle Coalition—Quick-build Guide](#)
- [Tactical Urbanist's Guides: Tactical Urbanism Materials and Design Guide](#)
- [People for Bikes: Quick-build for Better Streets](#)



The recent quick build project on 5th St (above) in Reno helped the RTC test the parking protected bike lane design

Common Quick Build Materials

Surface Mounted Flexible Guide Posts - \$

Primary Use: Bikeway separation (spacing 8' to 20' (50' max) intervals)

Additional Uses: Bike Corrals, Median Island, Curb Extension, Pedestrian Plaza Spaces, Parklets, Mini Roundabout, Traffic Circles

Durability: Very durable due to plastic material and flexibility

Maintenance: Requires occasional maintenance, repair/replace when damaged, may be removed for winter and snow clearing.



Parking Curbs (Pre-Cast Concrete Curbs) - \$\$

Primary Use: Spatial separation / barrier for bikeways (2' to 10' (50' max) intervals) and pedestrian facilities

Additional Uses: Bike Parking, Curb Extensions, Median Islands

Durability: Highly durable, Concrete and welded rebar frame makes this highly durable

Maintenance: Rare maintenance required, Install vertical delineators (with posts &/or ribbons) at 25' to 50' intervals to help identify curb location.

Large Planters - \$\$-\$\$\$

Primary Use: Spatial separation / barrier for bikeways and pedestrian facilities

Additional Uses: Bike Corrals, Median Island, Curb Extension, Pedestrian Plaza Spaces, Parklets.

Durability: Level of durability varies based on material (fiberglass, plastic, concrete)

Maintenance: Requires occasional maintenance, repair/replace when damaged, refer to manufacturing specification for water system maintenance.



Common Quick Build Materials



Impact Resistant Delineator Posts - \$\$

Primary Use: Spatial separation / barrier for bike ways (spacing 8' to 20' (50' max) intervals)

Additional Uses: Median Island, Curb Extension, Pedestrian Plaza Spaces, Mini Roundabout, Traffic Circles

Durability: Very durable due to plastic material and flexibility

Maintenance: Requires occasional maintenance, repair/replace when damaged, may be removed for winter and snow clearing.

Water Filled Plastic Barriers - \$\$

Primary Use: Spatial separation / barrier for bikeways. Can be used for pedestrian facilities if there are no gaps between each unit.

Additional Uses: Median Island, Roadway Closures, Parklets

Durability: Plastic material can withstand vehicular impact. Filled with water or sand to enhance stability.

Maintenance: Low maintenance, repair/replace when damaged, Sand advised for areas with freezing temperatures.



Concrete Jersey Barriers - \$\$-\$\$\$

Primary Use: Spatial separation / barrier for bikeways. Can be used for pedestrian facilities if there are no gaps between each unit.

Additional Uses: Median Island, Bridge, Pedestrian Plaza Spaces, Intersections

Durability: Highly durable, Concrete and welded rebar frame makes this highly durable

Maintenance: Low/rare maintenance, repair/replace when damaged

URBAN ARTERIAL (MAJOR)

Typical Existing Roadway

Average of Right-of-Way (ROW): 129 feet

Typical Lanes: 4 to 6 lanes

Average to Maximum ADT: 18,000 to 31,500

Posted Speed Limits: 35-45 mph

Description: Largest urban roads for moving people efficiently surrounded by high/medium density uses (office, commercial, residential, industrial).

Examples:

- S. Virginia Street
- Wells Avenue
- N. McCarran Boulevard
- Prater Way

	Preferred	Minimum
One-Way Cycle Track (track/buffer)	12' (7'/5')	9' (6'/3')
Two-Way Cycle Track (track/buffer)	16'+ (12'/4+')	13' (10'/3')
Shared-Use Path (path/buffer)	19' (12'/7')	15' (10'/5')
Buffered bicycle lane (includes buffer)	12' (7'/5')	9' (6'/3')
Bicycle Lane (On-Street parking not permitted, curb and gutter present)	7'	5'

	Preferred	Minimum
Sidewalk	8 - 12'	6'
Sidewalk Buffer (travel lane)	5' - 7'	5'

LEGEND:

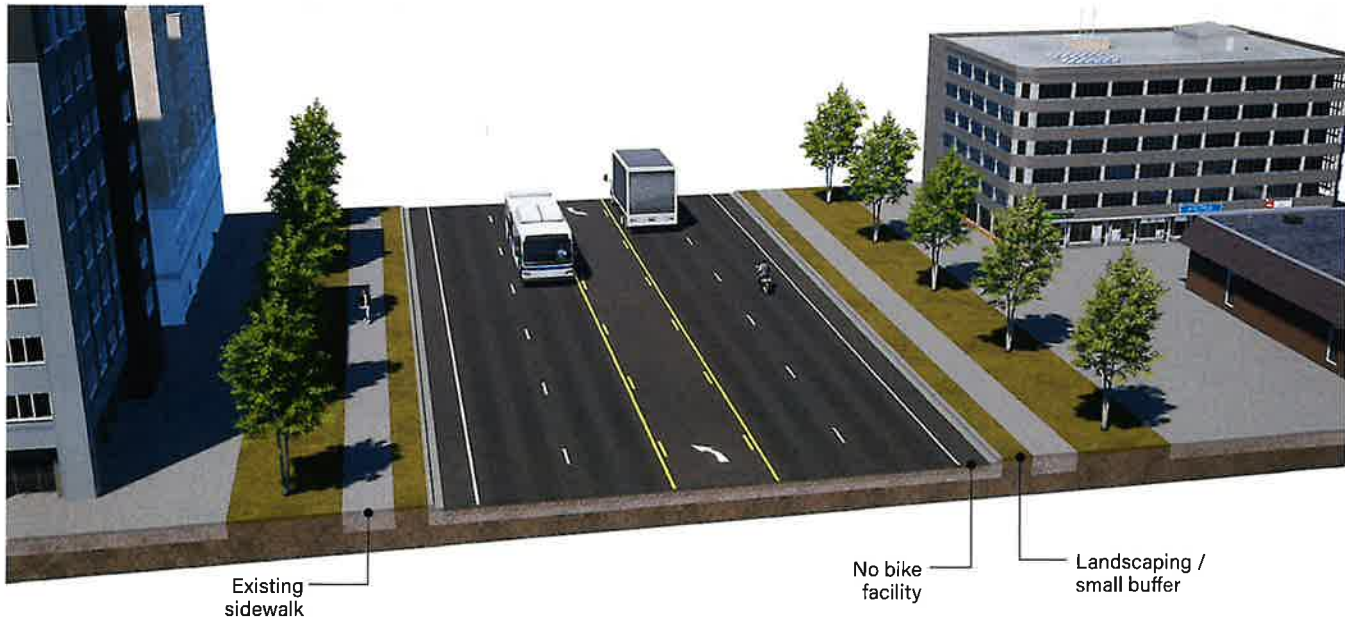
Preferred Facility Type

Secondary Facility Type

Additional Facility Types for Consideration

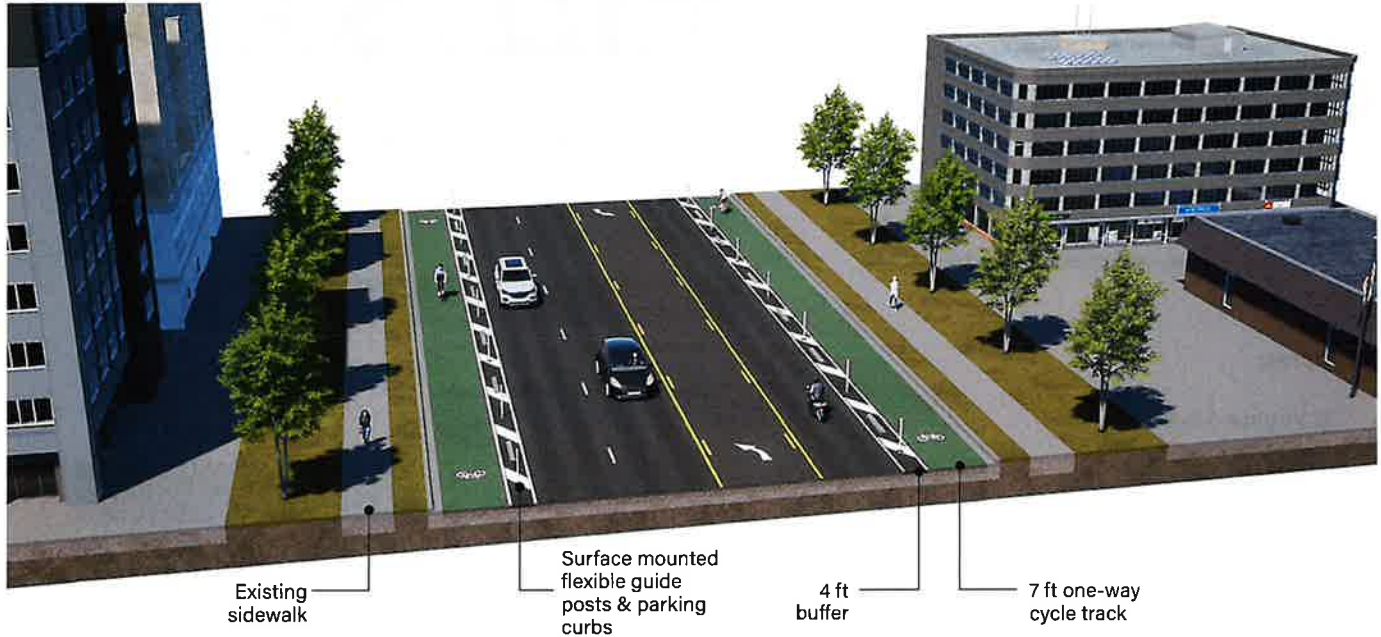
Facilities which may not satisfy goals or FHWA Guidance

EXAMPLE OF A TYPICAL EXISTING URBAN ARTERIAL (MAJOR)



Examples of Potential Configurations

EXAMPLE OF QUICK-BUILD STYLE* IMPROVEMENT



EXAMPLE OF PREFERRED SEPARATION STYLE



*QUICK BUILD STYLE IMPROVEMENT ONLY APPLIES WITHIN EXISTING CURBS
BIKE LANES ARE SHOWN AS GREEN FOR DIAGRAMMATIC PURPOSES ONLY

URBAN ARTERIAL (MINOR)

Typical Existing Roadway

Average of Right-of-Way (ROW): 88 feet

Typical Lanes: 3 to 4 lanes

Average to Maximum ADT: 6,600 to 14,000

Posted Speed Limits: 30 mph

Description: Large urban roads for movement of people with medium densities of commercial, residential, and office uses.

Examples:

- W. 7th Street
- Plumas Street
- El Rancho Drive

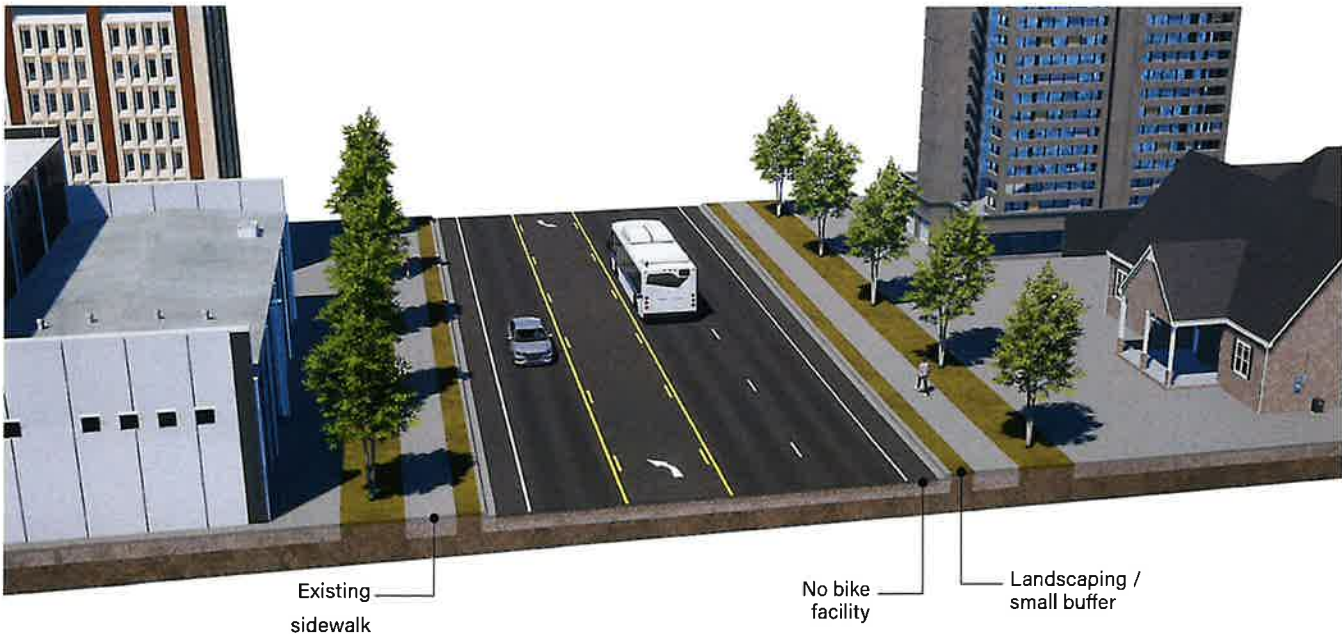
	Preferred	Minimum
One-Way Cycle Track (track/buffer)	10' (7'3')	7' (5'2')
Two-Way Cycle Track (track/buffer)	15'+ (12'3')	12' (10'2')
Shared-Use Path (path/buffer)	19' (12'7')	15' (10'5')
Buffered bicycle lane (includes buffer)	9' (6'3'+)	7' (5'2')
Bicycle Lane (On-Street parking not permitted, curb and gutter present)	6'	5'

	Preferred	Minimum
Sidewalk	6' - 8'	6'
Sidewalk Buffer (travel lane)	5' - 7'	5'

LEGEND:

- Preferred Facility Type
- Secondary Facility Type
- Additional Facility Types for Consideration
- Facilities which may not satisfy goals or FHWA Guidance

EXAMPLE OF A TYPICAL EXISTING URBAN ARTERIAL (MINOR)



Examples of Potential Configurations

EXAMPLE OF QUICK BUILD* IMPROVEMENT



EXAMPLE OF PREFERRED SEPARATION STYLE



*QUICK BUILD STYLE IMPROVEMENT ONLY APPLIES WITHIN EXISTING CURBS
BIKE LANES ARE SHOWN AS GREEN FOR DIAGRAMMATIC PURPOSES ONLY

URBAN COLLECTOR (COMMERCIAL)

Typical Existing Roadway

Average of Right-of-Way (ROW): 88 feet

Typical Lanes: 2 to 3 lanes

Average to Maximum ADT: 4,000 to 7,500

Posted Speed Limits: 25-30 mph

Description: Connecting urban residential and low-density commercial areas with higher speed roads.

Examples:

- Kirman Avenue
- Sullivan Lane
- York Way

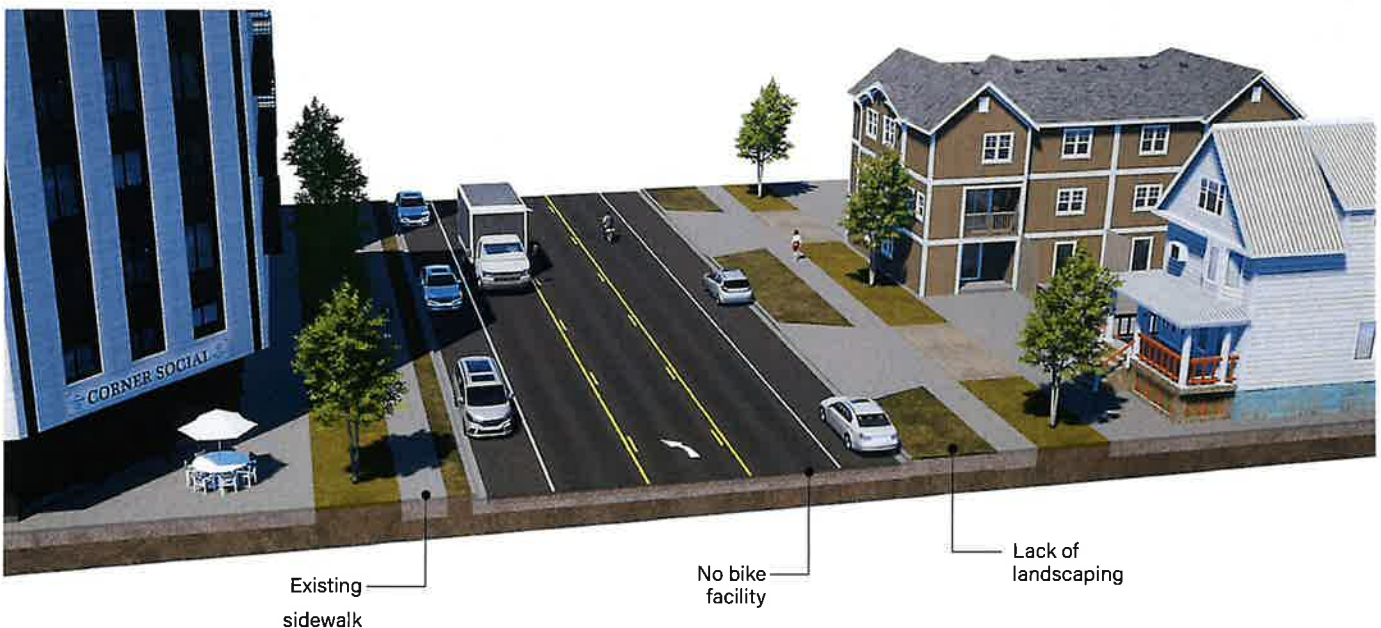
	Preferred	Minimum
One-Way Cycle Track (track/buffer)	10' (7'3')	7' (5'2')
Two-Way Cycle Track (track/buffer)	15'+ (12'3')	12' (10'2')
Shared-Use Path (path/buffer)	19' (12'7')	15' (10'5')
Buffered bicycle lane (includes buffer)	9' (6'3'+)	7' (5'2')
Bicycle Lane (On-Street parking not permitted, curb and gutter present)	6'	5'
Bicycle Lane (On-Street parking permitted)	6'	5'
Traffic Calmed Street *	n/a	n/a

	Preferred	Minimum
Sidewalk	6' - 10'	6'
Sidewalk Buffer (on-street parking)	6' - 10'	5'
Sidewalk Buffer (travel lane)	5' - 7'	5'

LEGEND:

- Preferred Facility Type
- Secondary Facility Type
- Additional Facility Types for Consideration
- Facilities which may not satisfy goals or FHWA Guidance

EXAMPLE OF A TYPICAL EXISTING URBAN COLLECTOR (COMMERCIAL)



Examples of Potential Configurations

EXAMPLE OF QUICK-BUILD STYLE* IMPROVEMENT



EXAMPLE OF PREFERRED SEPARATION STYLE



*QUICK BUILD STYLE IMPROVEMENT ONLY APPLIES WITHIN EXISTING CURBS

BIKE LANES ARE SHOWN AS GREEN FOR DIAGRAMMATIC PURPOSES ONLY

REMOVAL OF VEHICLE TRAVEL LANE TO BE BASED ON EXISTING VEHICLE OPERATIONS AND NEED

URBAN COLLECTOR (RESIDENTIAL)

Typical Existing Roadway

Average of Right-of-Way (ROW): 65 feet

Typical Lanes: 2 lanes

Average to Maximum ADT: 4,000 to 7,100

Posted Speed Limits: 25-30 mph

Description: Small regional roads primarily with residential uses connecting to higher speed roads.

Examples:

- Wedekind Road
- Greenbrae Drive

	Preferred	Minimum
One-Way Cycle Track (track/buffer)	10' (7'3')	7' (5'2')
Two-Way Cycle Track (track/buffer)	15'+ (12'3')	12' (10'2')
Shared-Use Path (path/buffer)	19' (12'7')	15' (10'5')
Buffered bicycle lane (includes buffer)	9' (6'3'+)	7' (5'2')
Bicycle Lane (On-Street parking not permitted, curb and gutter present)	6'	5'
Bicycle Lane (On-Street parking permitted)	6'	5'
Traffic Calmed Street *	n/a	n/a

	Preferred	Minimum
Sidewalk	6' - 8'	6'
Sidewalk Buffer (on-street parking)	5' - 7'	5'
Sidewalk Buffer (travel lane)	5' - 7'	5'

LEGEND:

Preferred Facility Type

Secondary Facility Type

Additional Facility Types for Consideration

Facilities which may not satisfy goals or FHWA Guidance

EXAMPLE OF A TYPICAL EXISTING URBAN COLLECTOR (RESIDENTIAL)

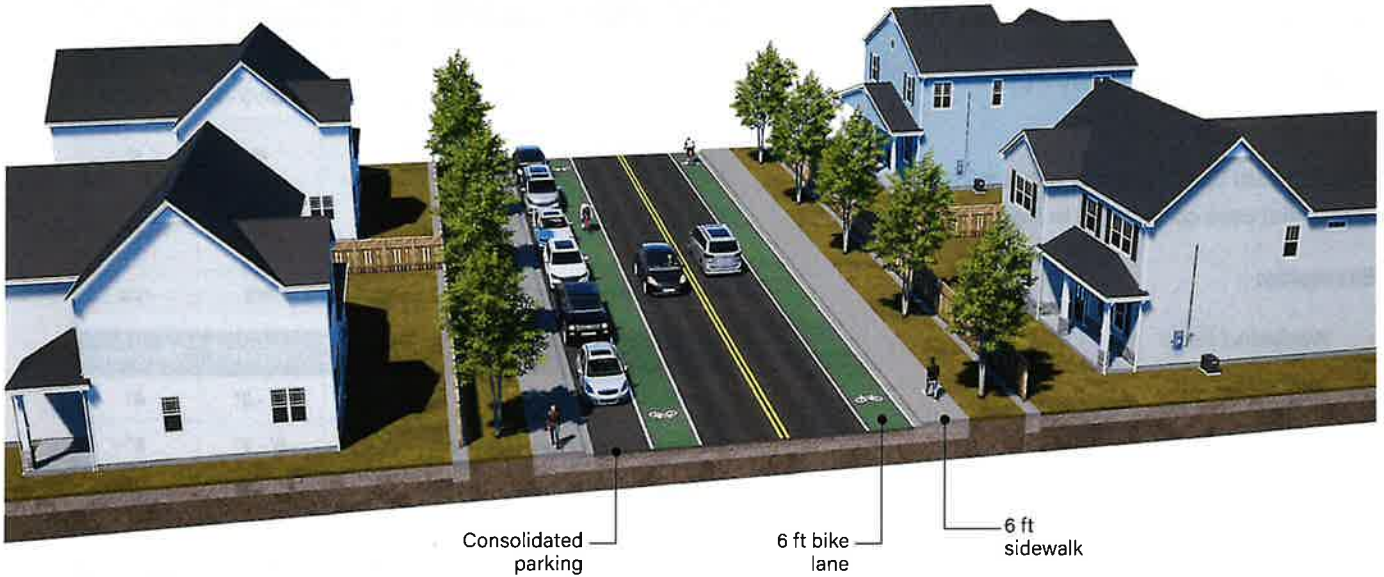


Existing sidewalk

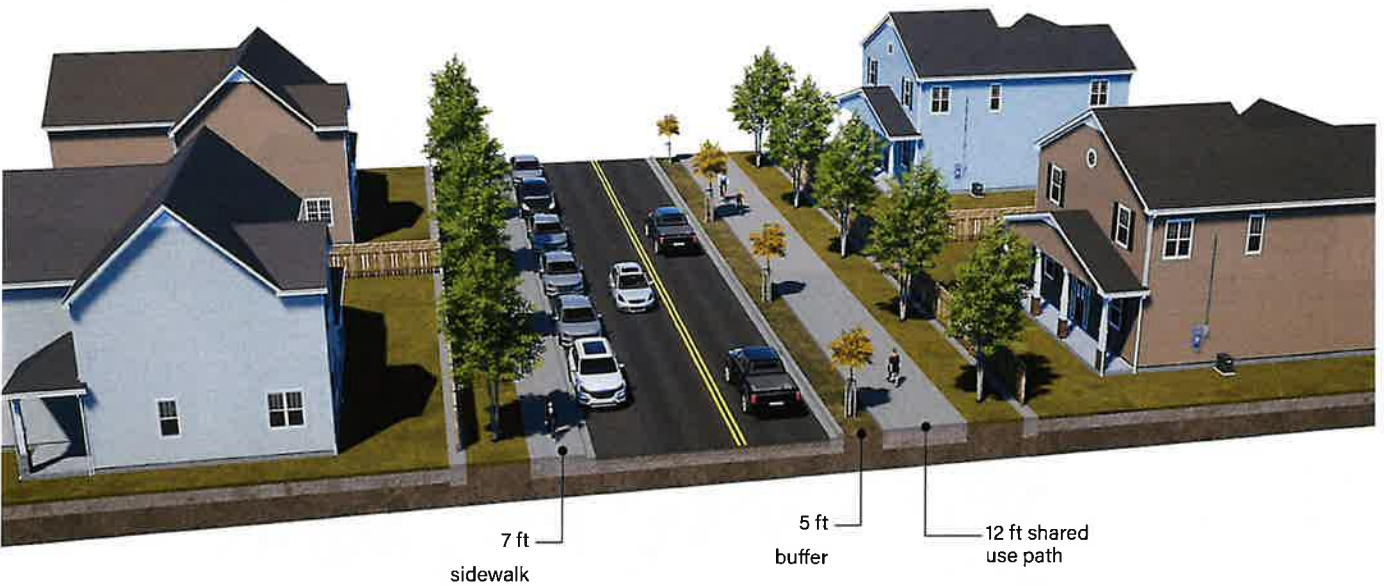
No bike facility

Examples of Potential Configurations

EXAMPLE OF QUICK BUILD* IMPROVEMENT IN CONSTRAINED ENVIRONMENT



EXAMPLE OF SHARED PATH IN CONSTRAINED ENVIRONMENT**



*QUICK BUILD STYLE IMPROVEMENT ONLY APPLIES WITHIN EXISTING CURBS
BIKE LANES ARE SHOWN AS GREEN FOR DIAGRAMMATIC PURPOSES ONLY

**SHARED USE PATHS MAY BE PREFERRED IN CONSTRAINED RIGHTS OF WAY TO REDUCE IMPACTS

SUBURBAN ARTERIAL (MAJOR)

Typical Existing Roadway

Average of Right-of-Way (ROW): 135 feet

Typical Lanes: 4 to 5 lanes

Average to Maximum ADT: 15,500 to 50,000

Posted Speed Limits: 40+ mph

Description: Largest suburban roads with medium density commercial, residential, and auto-oriented land uses.

Examples:

- S. Meadows Parkway
- Disc Drive
- Sky Vista Parkway

	Preferred	Minimum
Shared-Use Path (path/buffer)	19' (12'/7')	15' (10'/5')
One-Way Cycle Track (track/buffer)	11'+ (7'/4'+)	10' (6'/4')
Two-Way Cycle Track (track/buffer)	16'+ (12'/4'+)	14' (10'/4')
Buffered bicycle lane (includes buffer)	12' (7'/5')	10' (6'/4')
Bicycle Lane / Paved Shoulder (On-Street parking not permitted, no curb and gutter)	8'	6'
Bicycle Lane (On-Street parking not permitted, curb and gutter present)	7'	6'

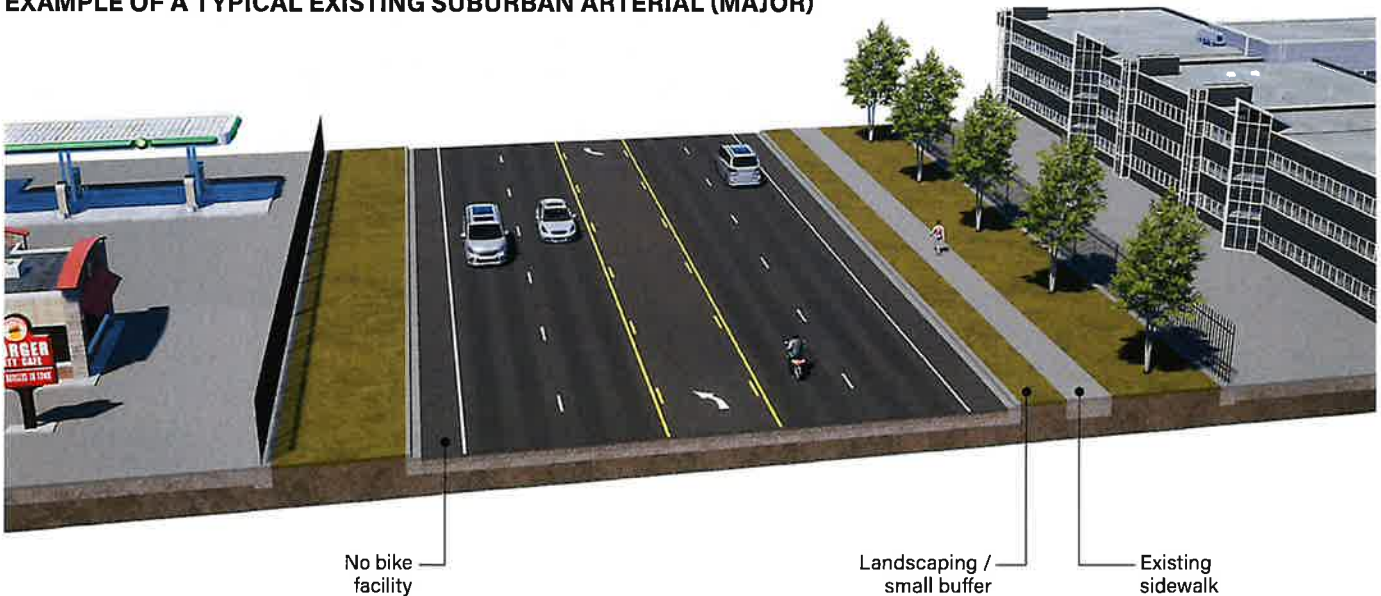
	Preferred	Minimum
Sidewalk	6' - 10'	5'
Sidewalk Buffer (travel lane)	5' - 7'	5'

LEGEND:

- Preferred Facility Type
- Secondary Facility Type

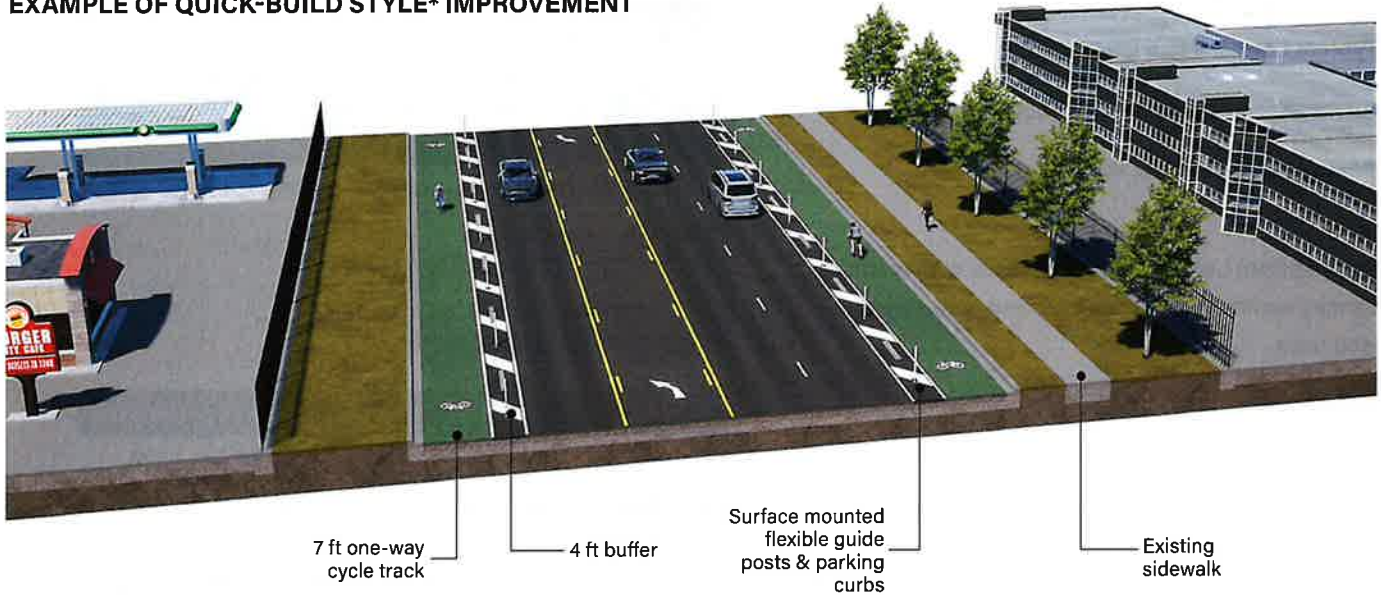
Additional Facility Types for Consideration
Facilities which may not satisfy goals or FHWA Guidance

EXAMPLE OF A TYPICAL EXISTING SUBURBAN ARTERIAL (MAJOR)



Examples of Potential Configurations

EXAMPLE OF QUICK-BUILD STYLE* IMPROVEMENT



EXAMPLE OF PREFERRED SEPARATION STYLE



*QUICK BUILD STYLE IMPROVEMENT ONLY APPLIES WITHIN EXISTING CURBS

BIKE LANES ARE SHOWN AS GREEN FOR DIAGRAMMATIC PURPOSES ONLY

REMOVAL OF VEHICLE TRAVEL LANE TO BE BASED ON EXISTING VEHICLE OPERATIONS AND NEED

SUBURBAN ARTERIAL (MINOR)

Typical Existing Roadway

Average of Right-of-Way (ROW): 71 feet

Typical Lanes: 3 to 4 lanes

Average to Maximum ADT: 6,750 to 13,350

Posted Speed Limits: 35 mph

Description: Large suburban roads connecting primarily suburban residential areas with higher speed roadways.

Examples:

- Rio Wrangler Parkway
- Baring Boulevard

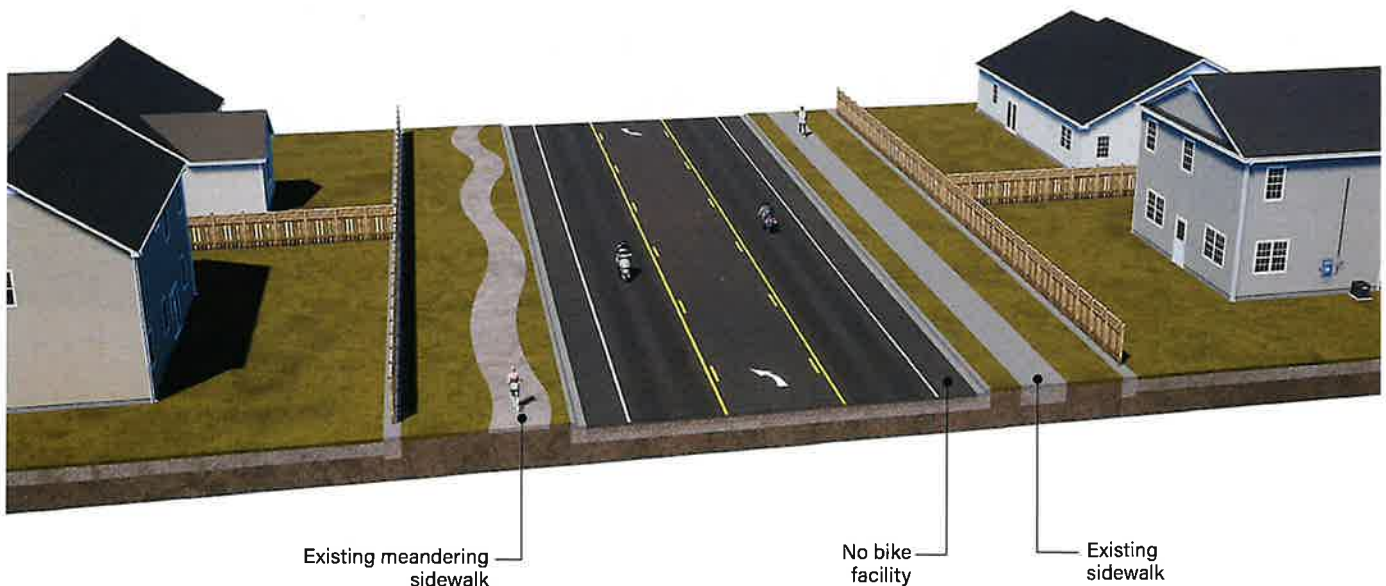
	Preferred	Minimum
Shared-Use Path (path/buffer)	19' (12'/7')	15' (10'/5')
One-Way Cycle Track (track/buffer)	12' (7'/5')	9' (6'/3')
Two-Way Cycle Track (track/buffer)	15'+ (12'/3'+)	13' (10'/3')
Buffered bicycle lane (includes buffer)	12' (7'/5')	9' (6'/3')
Bicycle Lane / Paved Shoulder (On-Street parking not permitted, no curb and gutter)	8'	6'
Bicycle Lane (On-Street parking not permitted, curb and gutter present)	8'	6'

	Preferred	Minimum
Sidewalk	5' - 10'	5'
Sidewalk Buffer (travel lane)	5' - 7'	5'

LEGEND:

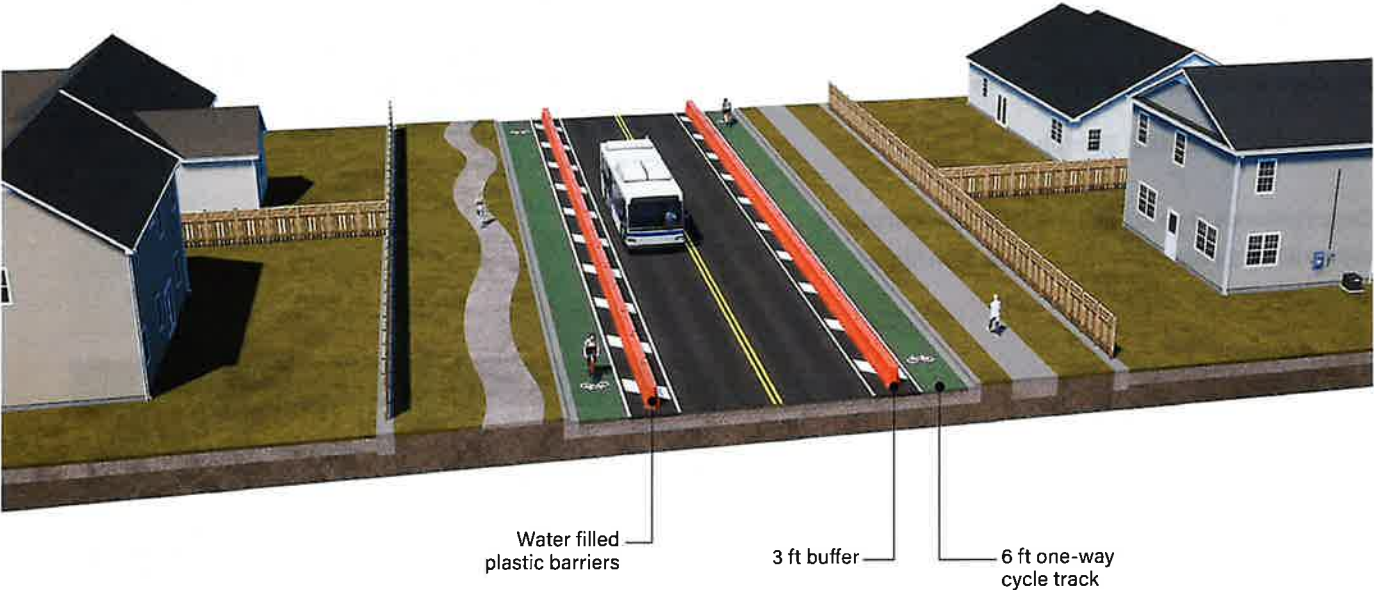
- Preferred Facility Type
- Secondary Facility Type
- Additional Facility Types for Consideration
- Facilities which may not satisfy goals or FHWA Guidance

EXAMPLE OF A TYPICAL EXISTING SUBURBAN ARTERIAL (MINOR)

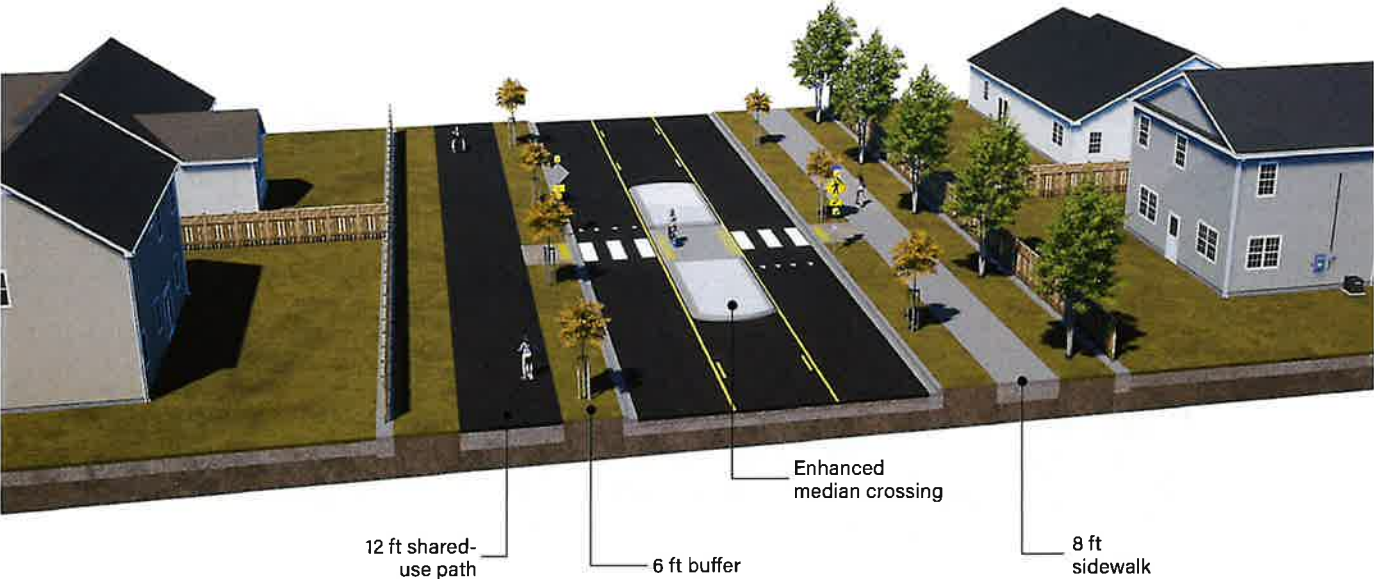


Examples of Potential Configurations

EXAMPLE OF QUICK BUILD STYLE* IMPROVEMENT



EXAMPLE OF PREFERRED SEPARATION STYLE AND MIDBLOCK CROSSING** IMPROVEMENT



*QUICK BUILD STYLE IMPROVEMENT ONLY APPLIES WITHIN EXISTING CURBS
BIKE LANES ARE SHOWN AS GREEN FOR DIAGRAMMATIC PURPOSES ONLY

**REFER TO ENGINEERING GUIDANCE FOR FHWA APPLICATION OF CROSSING TREATMENTS (TABLE 2)

SUBURBAN COLLECTOR (MAJOR)

Typical Existing Roadway

Average of Right-of-Way (ROW): 100 feet

Typical Lanes: 2 to 3 lanes

Average to Maximum ADT: 6,500 to 20,500

Posted Speed Limits: 30 mph

Description: Provides connection between suburban residential or low density commercial / office land uses with higher speed arterial roadways.

Examples:

- Mira Loma Drive
- Cashill Boulevard

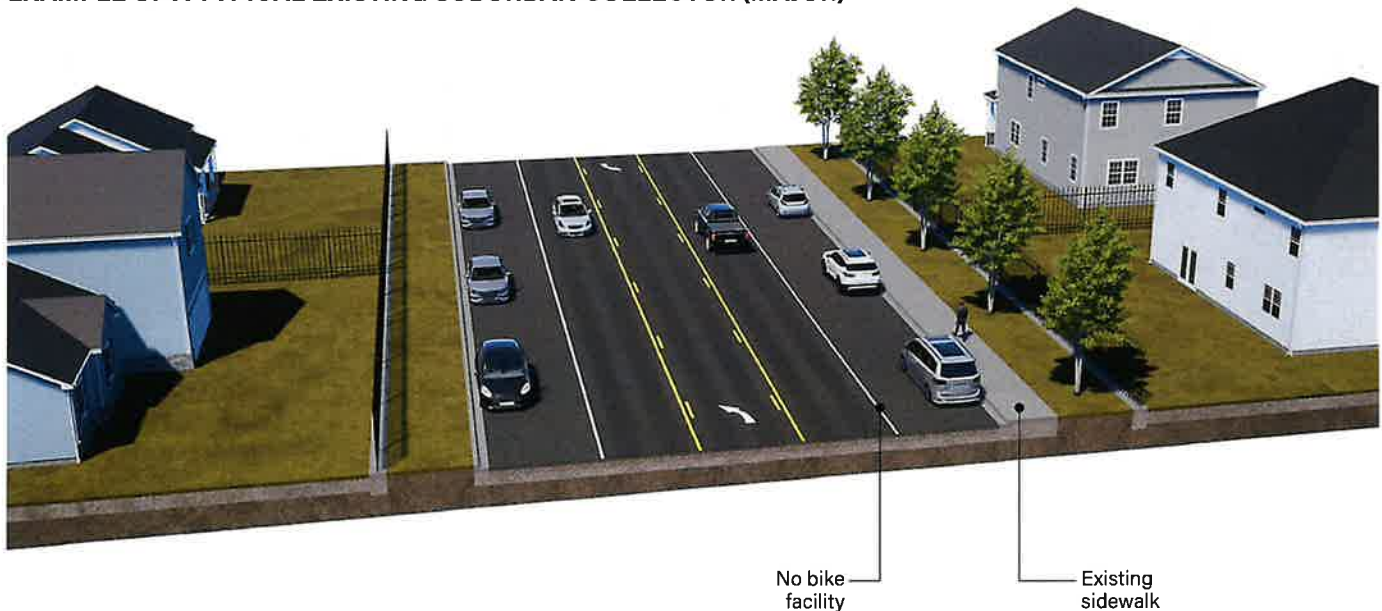
	Preferred	Minimum
Shared-Use Path	19' (12'/7')	15' (10'/5')
One-Way Cycle Track (track/buffer)	10' (7'/3')	7' (5'/2')
Two-Way Cycle Track (track/buffer)	15'+ (12'/3'+)	12' (10'/3')
Buffered bicycle lane (includes buffer)	9' (6'/3'+)	7' (5'/2')
<i>Bicycle Lane / Paved Shoulder (On-Street parking not permitted, no curb and gutter)</i>	8'	4'
<i>Bicycle Lane (On-Street parking not permitted, curb and gutter present)</i>	6'	5'
<i>Bicycle Lane (On-Street parking permitted)</i>	6'	5'
<i>Traffic Calmed Street *</i>	n/a	n/a

	Preferred	Minimum
Sidewalk	5' - 10'	5'
Sidewalk Buffer (on-street parking)	6'	3'
Sidewalk Buffer (travel lane)	5' - 7'	5'

LEGEND:

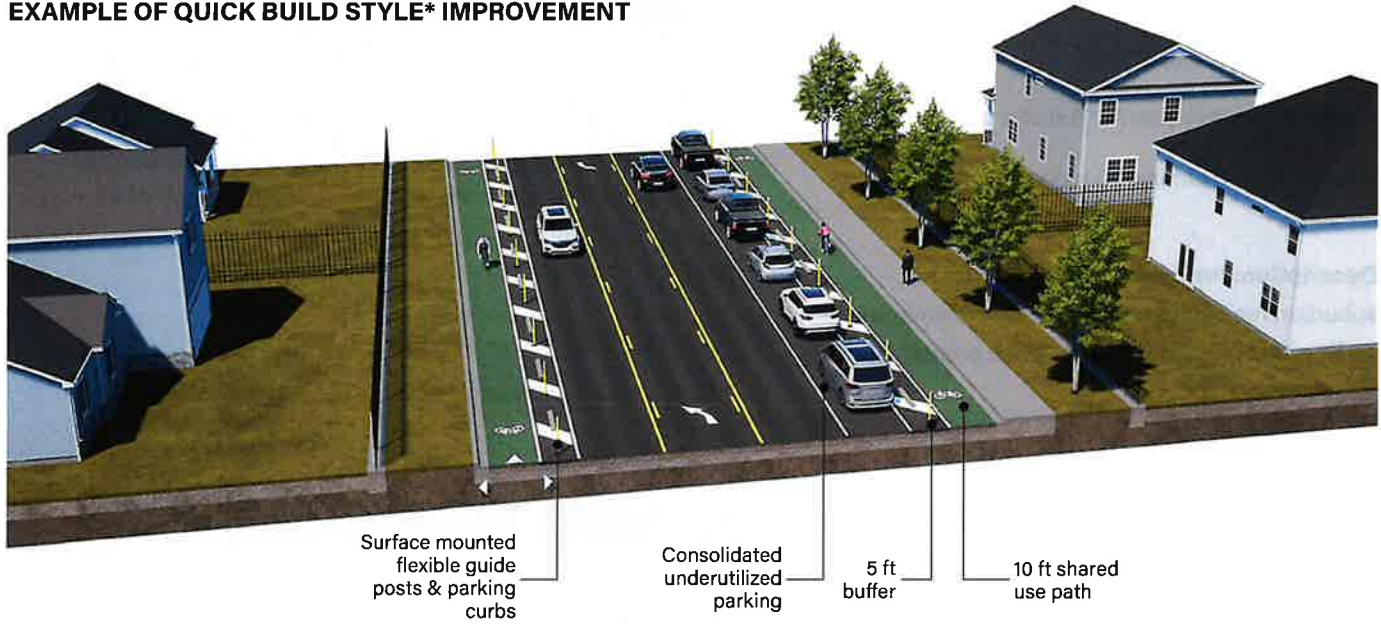
- Preferred Facility Type
- Secondary Facility Type
- Additional Facility Types for Consideration
- Facilities which may not satisfy goals or FHWA Guidance

EXAMPLE OF A TYPICAL EXISTING SUBURBAN COLLECTOR (MAJOR)

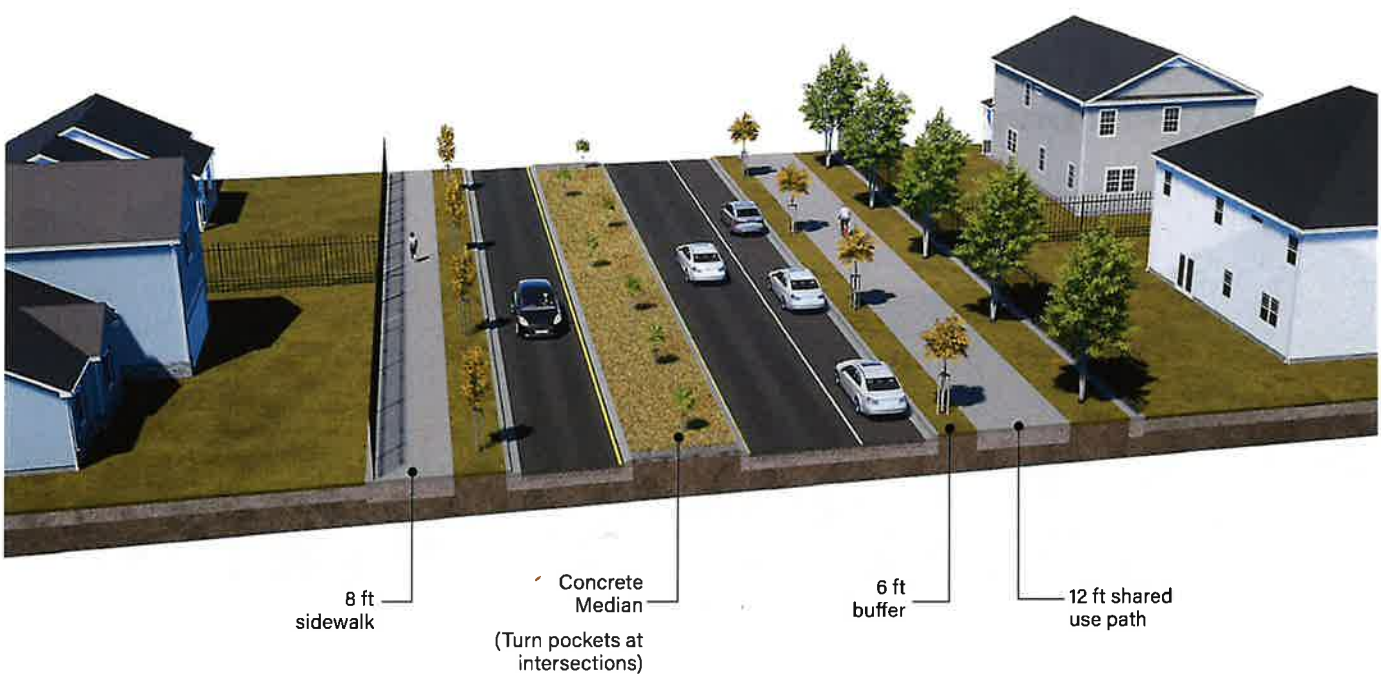


Examples of Potential Configurations

EXAMPLE OF QUICK BUILD STYLE* IMPROVEMENT



EXAMPLE OF PREFERRED SEPARATION STYLE, SIDEWALK, AND MEDIAN IMPROVEMENT



*QUICK BUILD STYLE IMPROVEMENT ONLY APPLIES WITHIN EXISTING CURBS

BIKE LANES ARE SHOWN AS GREEN FOR DIAGRAMMATIC PURPOSES ONLY

REMOVAL OF CENTER TURN LANE TO BE BASED ON EXISTING VEHICLE OPERATIONS AND NEED

SUBURBAN COLLECTOR (MINOR)

Typical Existing Roadway

Average of Right-of-Way (ROW): 63 feet

Typical Lanes: 2 lanes

Average to Maximum ADT: 3,400 to 5,250

Posted Speed Limits: 30 mph

Description: These small regional roads provide connections between suburban residential neighborhoods and higher speed roadways.

Examples:

- Skyline Boulevard
- Silver Lake Road
- Wingfield Springs Road

	Preferred	Minimum
Shared-Use Path	19' (12'/7')	15' (10'/5')
One-Way Cycle Track (track/buffer)	10' (7'/3')	7' (5'/2')
Two-Way Cycle Track (track/buffer)	15'+ (12'/3'+)	12' (10'/2')
Buffered bicycle lane (includes buffer)	9' (6'/3'+)	7' (5'/2')
<i>Bicycle Lane / Paved Shoulder (On-Street parking not permitted, no curb and gutter)</i>	8'	4'
<i>Bicycle Lane (On-Street parking not permitted, curb and gutter present)</i>	6'	5'
<i>Bicycle Lane (On-Street parking permitted)</i>	6'	5'
<i>Traffic Calmed Street*</i>	n/a	n/a

	Preferred	Minimum
Sidewalk	5' - 10'	5'
Sidewalk Buffer (on-street parking)	6'	3'
Sidewalk Buffer (travel lane)	5' - 7'	5'

LEGEND:

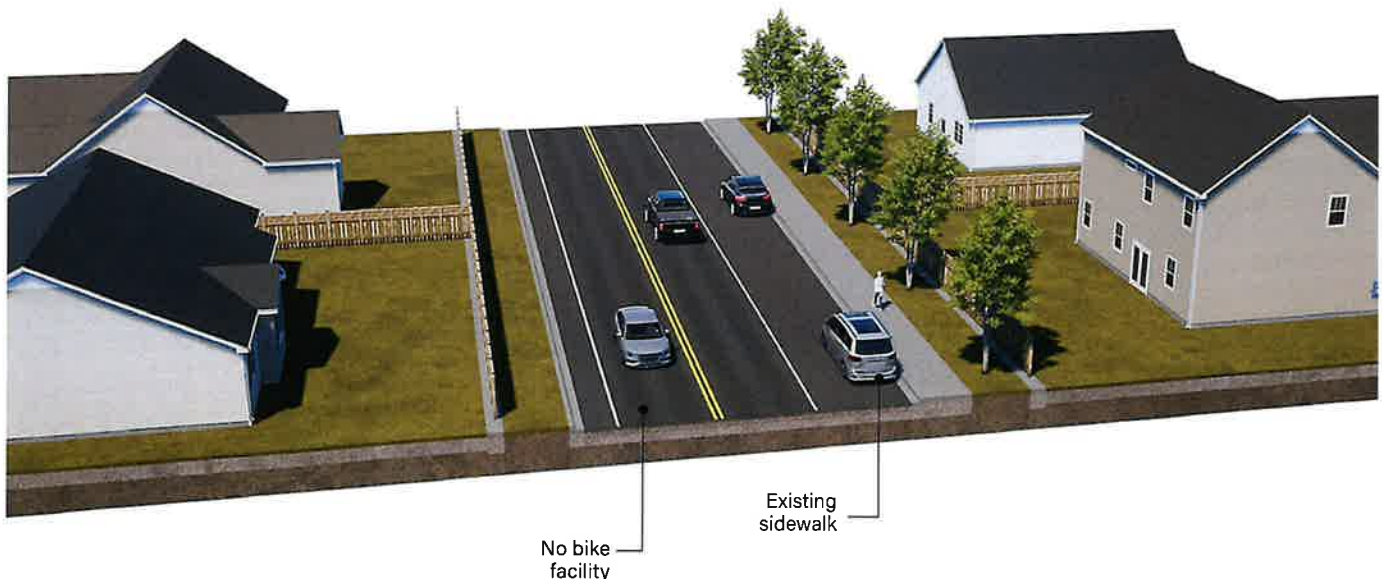
Preferred Facility Type

Secondary Facility Type

Additional Facility Types for Consideration

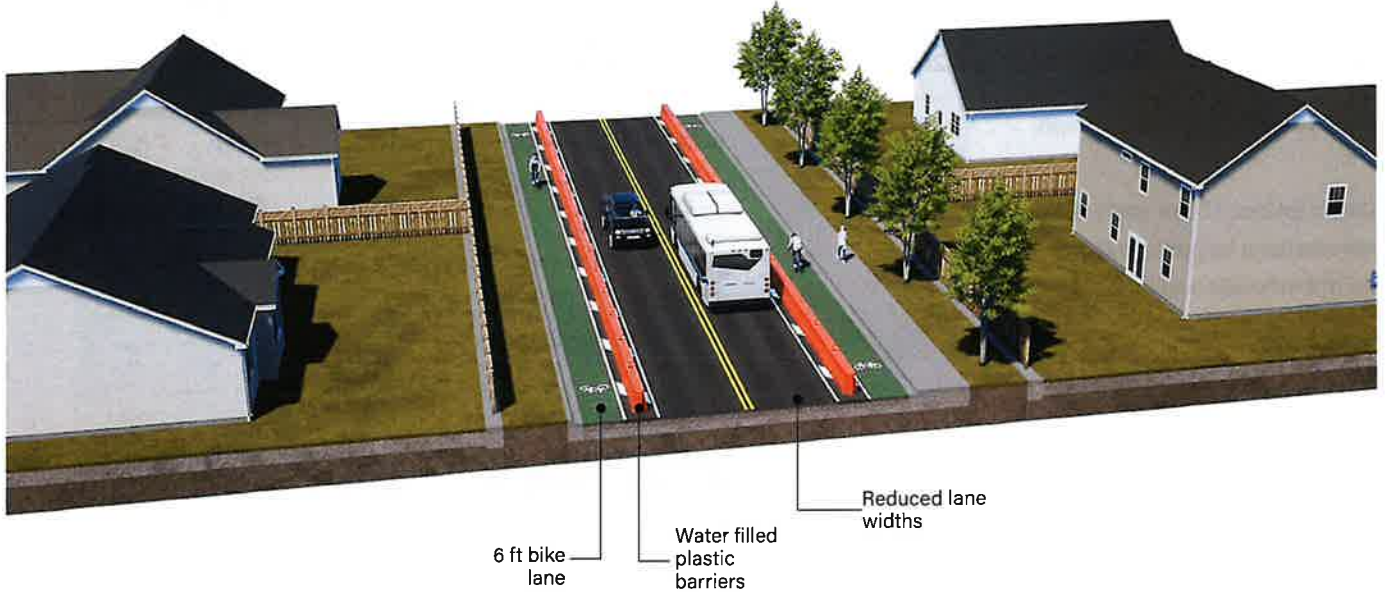
Facilities which may not satisfy goals or FHWA Guidance

EXAMPLE OF A TYPICAL EXISTING SUBURBAN COLLECTOR (MINOR)

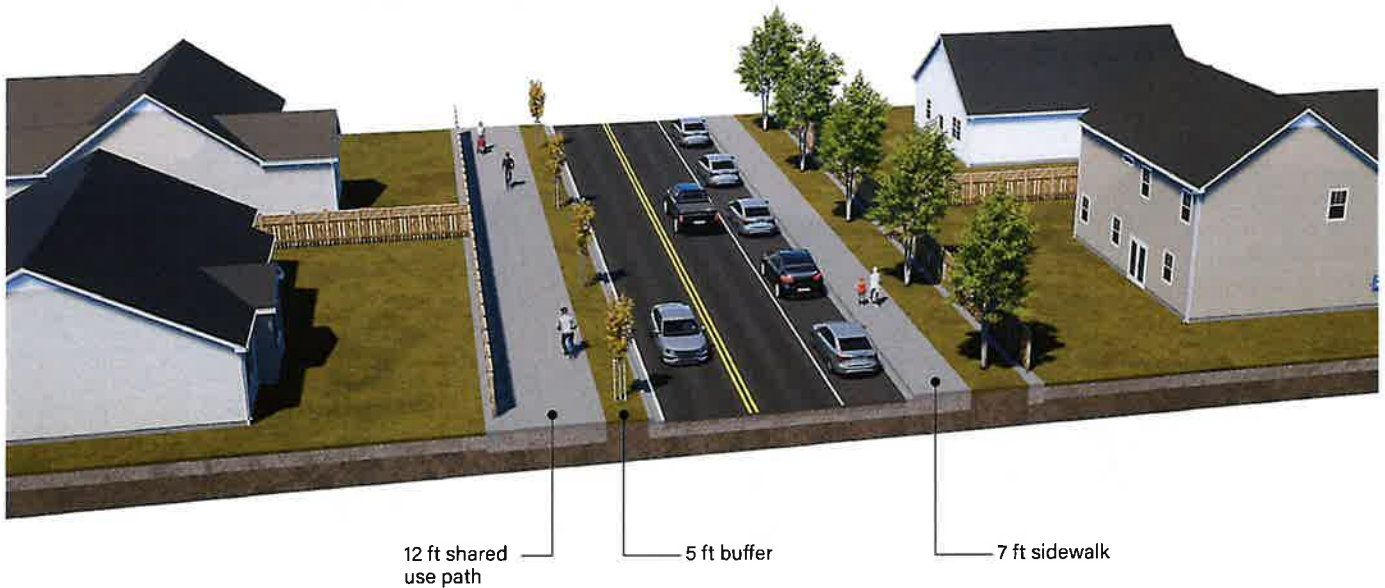


Examples of Potential Configurations

EXAMPLE OF QUICK BUILD* IMPROVEMENT



EXAMPLE OF PREFERRED SEPARATION STYLE



RURAL ARTERIAL

Typical Existing Roadway

Average of Right-of-Way (ROW): 115 feet

Typical Lanes: 2 to 4 lanes

Average to Maximum ADT: 7,000 to 18,750

Posted Speed Limits: 40+ mph

Description: Rural arterials are high speed rural roadways which connect rural areas to outlying areas and suburban neighborhoods; characterised by low-density residential or industrial land uses.

Examples:

- Red Rock Road
- Pyramid Highway

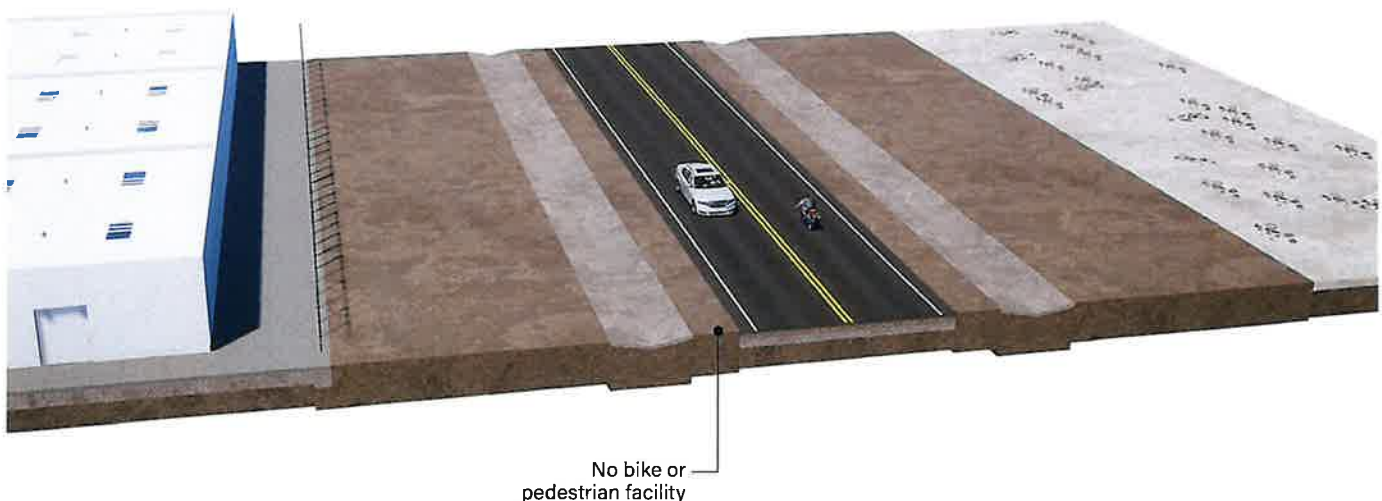
	Preferred	Minimum
Shared-Use Path	19' (12'/7')	15' (10'/5')
One-Way Cycle Track (track/buffer)	11'+ (7'/4'+)	8' (5'/3')
Two-Way Cycle Track (track/buffer)	15'+ (12'/3'+)	13' (10'/3')
Buffered bicycle lane (includes buffer)	10' (6'/4'+)	8' (5'/3')
Bicycle Lane / Paved Shoulder (On-Street parking not permitted, no curb and gutter)	8'	5'

	Preferred	Minimum
Sidewalk	5' - 7'	5'
Sidewalk Buffer (travel lane)	5' - 7'	5'

LEGEND:

- Preferred Facility Type
- Secondary Facility Type
- Additional Facility Types for Consideration
- Facilities which may not satisfy goals or FHWA Guidance

EXAMPLE OF A TYPICAL EXISTING RURAL ARTERIAL



Examples of Potential Configurations

EXAMPLE OF PREFERRED SEPARATION STYLE



RURAL COLLECTOR

Typical Existing Roadway

Average of Right-of-Way (ROW): 78 feet

Typical Lanes: 2 lanes

Average to Maximum ADT: 3,875 to 5,900

Posted Speed Limits: 30-35 mph

Description: Connecting rural neighborhoods with higher speed roadways like rural arterials. Typically surrounded by low-density residential land uses.

Examples:

- Thomas Creek Road
- Calle De La Plata

	Preferred	Minimum
Shared-Use Path	19' (12'/7')	15' (10'/5')
One-Way Cycle Track (track/buffer)	10' (7'/3')	7' (5'/2')
Two-Way Cycle Track (track/buffer)	15'+ (12'/3')	12' (10'/2')
Buffered bicycle lane (includes buffer)	9' (6'/3'+)	7' (5'/2')
Bicycle Lane / Paved Shoulder (On-Street parking not permitted, no curb and gutter)	6'	5'
Bicycle Lane (On-Street parking not permitted, curb and gutter present)	6'	5'

	Preferred	Minimum
Sidewalk	5' - 7'	5'
Sidewalk Buffer (on-street parking)	5' - 7'	3'
Sidewalk Buffer (travel lane)	5' - 7'	5'

LEGEND:

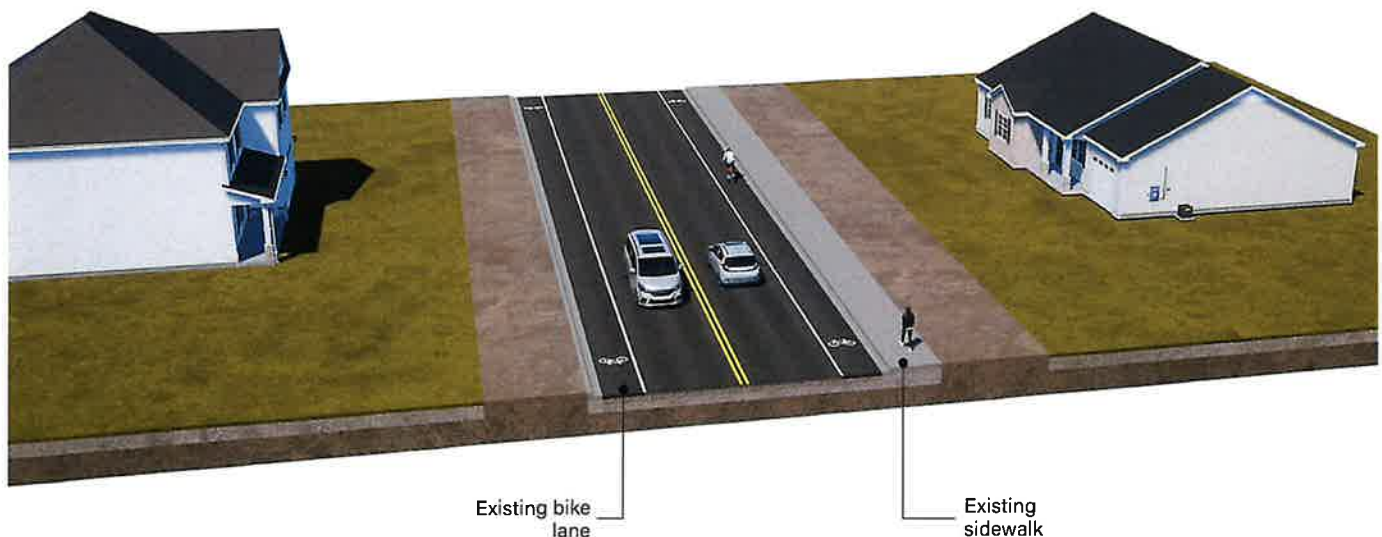
Preferred Facility Type

Secondary Facility Type

Additional Facility Types for Consideration

Facilities which may not satisfy goals or FHWA Guidance

EXAMPLE OF A TYPICAL EXISTING RURAL COLLECTOR

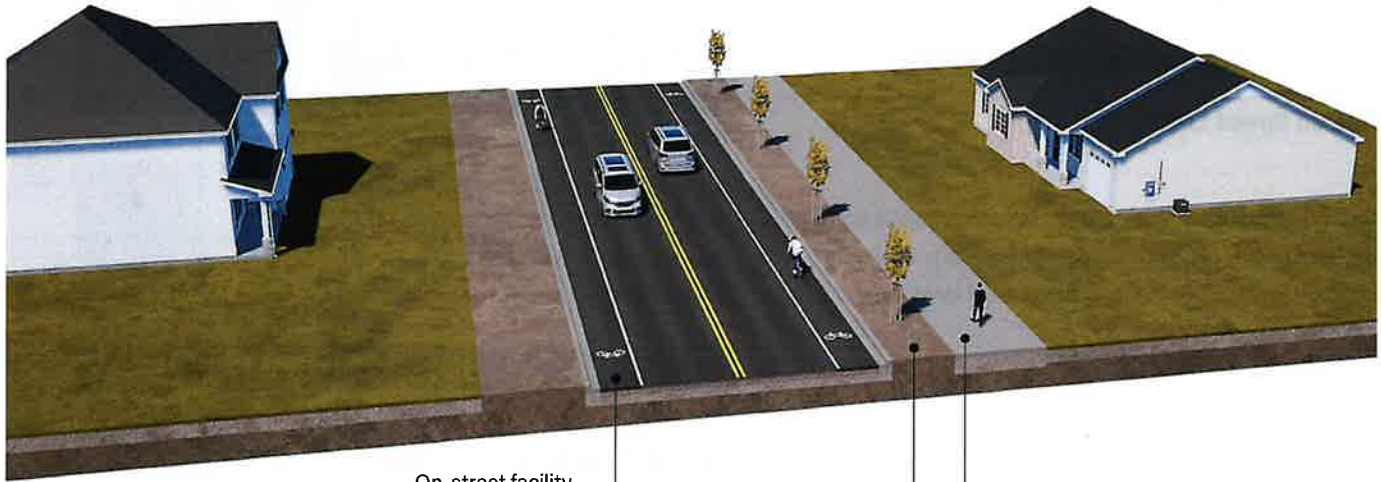


Existing bike lane

Existing sidewalk

Examples of Potential Configurations

EXAMPLE OF PREFERRED SEPARATION STYLE



On-street facility provided in rural context for confident cyclists

7 ft buffer

10 ft shared use path

Appendix D: Federal Funding



		Pedestrian and Bicycle Funding Opportunities: Highway, Transit, and Safety Funds																															
		Key: \$ = Activity likely eligible. Restrictions may apply. see program notes and guidance. -\$ = Eligible, but not competitive unless part of a larger project.																															
		Federal Highway Administration											Federal Lands					OST Grant				OST Loan		FTA		NHTSA							
Activity or Project Type		ATLIP	BRIC	CRP	CMAQ	HSIP	RHCP	NHPP	PROT	STBG	TASA	RTP	SRTS	PLAN	NSBP	FLTTP	TTP	TPSP	INFRA	RAISE	RCN	SSJA	SMART	Thovx	RRIF	IFIA	FTA	AoPP	TOE	402	405		
Rail at-grade crossings		\$	\$			\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$	\$	\$	\$	\$										
Recreational trails		\$							\$	\$	\$	\$			\$	\$	\$			\$	\$	\$	\$										
Resilience improvements to pedestrian and bicycle facilities or to protect or enhance use. REVISED		\$	-\$	-\$	-\$			\$	\$	\$	\$	\$	note		\$	\$	\$		\$	\$	\$	\$	-\$	-\$		-\$	-\$						
Road Diets (pedestrian and bicycle portions)		\$	\$	\$	\$			\$	\$	\$	\$	\$				\$	\$	\$	\$	\$	\$	\$	\$										
Road Safety Assessment for pedestrians and bicyclists		\$				\$	\$			\$	\$					\$	\$	\$						TA			-\$	-\$					
Safety education and awareness activities and programs to inform pedestrians, bicyclists, and motorists on ped/bike traffic safety laws		-\$				\$				\$	\$	SSRTS	\$	\$									\$						-\$	-\$	\$	\$	
Safety education positions												SSRTS	SSRTS																				
Safety enforcement (including police patrols)												SSRTS	SSRTS																				
Safety program technical assessment (for peds/bicyclists)		-\$				\$						SSRTS	SSRTS		\$									TA									
Separated bicycle lanes		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$	\$	\$	\$	\$	\$				-\$	-\$	\$				
Shared use paths / transportation trails		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$	\$	\$	\$	\$	\$				-\$	-\$	\$				
Sidewalks (new or retrofit)		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$	\$	\$	\$	\$	\$				-\$	-\$	\$				
Signs, signals, signal improvements (incl accessible pedestrian signals) see note		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$	\$	\$	\$	\$	\$			-\$	-\$	\$					
Signing for pedestrian or bicycle routes		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$	\$	\$	\$	\$	\$			-\$	-\$	\$					
Spot improvement programs (programs of small projects to enhance pedestrian and bicycle use) REVISED		\$	\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$	\$	\$	\$	-\$	\$	-\$	-\$	-\$	-\$	\$					
Stormwater mitigation related to pedestrian and bicycle project impacts REVISED		\$				\$	\$	\$	\$	\$	\$	\$	note		\$	\$	\$	\$	\$	\$	\$	-\$				-\$	-\$	\$	note	note			
Technical Assistance (see Cross-cutting notes) NEW		-\$		-\$	\$					\$	\$	\$	note		\$	\$					-\$	-\$	-\$	TA									
Traffic calming		\$	\$		\$	\$	\$	\$	\$	\$	\$	\$			\$	\$	\$	\$	\$	\$	\$	\$	\$				-\$	-\$	\$				
Trail bridges		\$	\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$			\$	\$	\$	\$	\$	\$	\$	-\$					-\$	-\$	\$				
Trail construction and maintenance equipment		\$	\$									\$	\$														-\$	-\$					
Trail/highway crossings and intersections		\$	\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$			\$	\$	\$	\$	\$	\$	\$	\$	\$				-\$	-\$					
Trailside/trailhead facilities (restrooms, water, but not general park amenities)		\$		-\$						\$	\$	\$			\$	\$	\$					-\$					-\$	-\$					
Training		-\$		\$	\$					\$	\$	\$	\$										\$	TA			-\$	-\$	\$				
Training for law enforcement on ped/bicyclist safety laws		-\$		-\$	\$							SSRTS	SSRTS										\$				-\$	-\$	\$				
Tunnels / underpasses for pedestrians and/or bicyclists		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		\$	\$	\$	\$	\$	\$	\$	\$	\$				\$	\$	\$				
Vulnerable Road User Safety Assessment		\$				\$				\$	\$	\$	\$											TA			-\$	-\$					

Abbreviations (alphabetical order)	
ADA/504: Americans with Disabilities Act of 1990 / Section 504 of the Rehabilitation Act of 1973	PLAN: Statewide Planning and Research (SPR) or Metropolitan Planning funds (FHWA and/or FTA funding)
AoPP: Areas of Persistent Poverty Program	PROTECT: Promoting Resilient Operations for Transformative, Efficient, and Cost Saving Transportation
ATLIP: Active Transportation Infrastructure Investment Program [web link under development]	RAISE: Rebuilding American Infrastructure with Sustainability and Equity
BI: Bipartisan Infrastructure Law (Infrastructure Investment and Jobs Act (Pub. L. 117-58))	RCN: Reconnecting Communities and Neighborhoods Grant Program (includes Reconnecting Communities Pilot Program (RCP) and Neighborhood Access and Equity programs)
BRI: Bridge Programs, including: BFP: Bridge Formula Program; BIP: Bridge Investment Program; BRB: Bridge Replacement and Rehabilitation Program	RHCP: Railway-Highway Crossings (Section 130) Program
CMAQ: Congestion Mitigation and Air Quality Improvement Program	RRIF: Railroad Rehabilitation and Improvement Financing (loans)
CRP: Carbon Reduction Program	RTP: Recreational Trails Program
ELTTP: Federal Lands and Tribal Transportation Programs: Federal Lands Access Program, Federal Lands Transportation Program, Tribal Transportation Program, Federal Lands Planning Program and related programs for Federal and Tribal lands such as the Nationally Significant Federal Lands and Tribal Projects program	SMART: Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program
FTA: Federal Transit Administration Capital Funds	SRTS: Safe Routes to School Program (and related activities)
	SSJA: Safe Streets and Roads for All
	STBG: Surface Transportation Block Grant Program

<p>HSIP: Highway Safety Improvement Program</p> <p>IJA: Infrastructure Investment and Jobs Act (Pub. L. 117-58), also known as the Bipartisan Infrastructure Law</p> <p>INFRA: Infrastructure for Rebuilding America Discretionary Grant Program</p> <p>NAE: Neighborhood Access and Equity Program</p> <p>NHPP: National Highway Performance Program</p> <p>NHTSA 402: National Highway Traffic Safety Administration State and Community Highway Safety Grant Program</p> <p>NHTSA 403(e): National Highway Traffic Safety Administration National Priority Safety Programs (Nonmotorized safety)</p> <p>NSBP: National Scenic Byways Program</p>	<p>TASA: Transportation Alternatives Set-Aside (formerly Transportation Alternatives Program, Transportation Enhancements)</p> <p>Thrive: Thriving Communities Initiative (TA: Technical Assistance)</p> <p>TIFA: Transportation Infrastructure Finance and Innovation Act (loans)</p> <p>TOD: Transit-Oriented Development</p> <p>TTP: Tribal Transportation Program</p> <p>TTPSF: Tribal Transportation Program Safety Fund</p>
---	---

Cross-cutting notes

This table indicates likely eligibility for pedestrian, bicycle, and micromobility activities and projects under U.S. Department of Transportation surface transportation funding programs. Activities and projects must meet program eligibility requirements. See notes and links to program information below. Although the primary focus of this table is stand-alone activities and projects, programs can also fund pedestrian and bicycle facilities as part of larger projects. Project sponsors are encouraged to consider [Complete Streets](#) and Networks that routinely integrate the safety, accessibility, equity, and convenience of walking and bicycling into surface transportation projects. The Federal-aid eligibility of the pedestrian and bicycle elements are considered under the eligibility criteria applicable to the larger highway project. Pedestrian and bicycle activities also may be characterized as environmental mitigation for larger highway projects, especially in response to impacts to a Section 4(f) property or work zone safety, mobility, and accessibility impacts on bicyclists and pedestrians.

- See FHWA's [Policy on Using Bipartisan Infrastructure Law Resources to Build a Better America](#).
- See [FHWA Bicycle and Pedestrian Planning, Program, and Project Development](#) (Guidance), [Publications, Pedestrian and Bicyclist Safety](#), and Bicycle transportation and pedestrian walkways statute at [23 U.S.C. 217](#).
- Bicycle Project Purpose: 23 U.S.C. 217(i) requires that bicycle facilities "be principally for transportation, rather than recreation, purposes". However, 23 U.S.C. 133(b)(7) and 133(h) authorize recreational trails under [STBG](#) and [TASA](#), therefore, 23 U.S.C. 217(i) does not apply to trail projects (including for bicycle use) using [STBG](#) or [TASA](#) funds. Section 217(i) applies to bicycle facilities other than trail-related projects, and section 217(i) applies to bicycle facilities using other programs ([NHPP](#), [HSIP](#), [CMAQ](#)). The transportation requirement under section 217(i) only applies to bicycle projects, not to any other trail use or transportation mode.
- Signs, signals, signal improvements includes ensuring accessibility for persons with disabilities. See [Accessible Pedestrian Signals](#). See also [Proven Safety Countermeasures](#), such as [Crosswalk Visibility Enhancements](#), [Leading Pedestrian Interval](#) signals, [Lighting, Pedestrian Hybrid Beacons](#), and [Rectangular Rapid Flashing Beacons](#).
- Technical Assistance includes assisting local agencies and other potential grantees to identify pedestrian and bicycle safety and infrastructure issues, and to help them develop and implement successful projects. Technical assistance may be authorized under a program or sometimes as a limited portion of a program. See FHWA links to [Technical Assistance and Local Support](#).
- The [DOT Navigator](#) is a resource to help communities understand the best ways to apply for grants, and to plan for and deliver transformative infrastructure projects and services.
- Aspects of DOT initiatives may be eligible as individual projects. Activities above may benefit safe, comfortable, multimodal networks; environmental justice; and equity.
- Occasional DOT or agency incentive grants may be available for specific research or technical assistance purposes.
- Operation costs: In general, ongoing and routine operation costs (such as ongoing costs for bike sharing or scooter sharing) are not eligible unless specified within program legislation. See links to program guidance for more information.

Program-specific notes

DOT funding programs have specific requirements that activities and projects must meet. Eligibility must be determined on a case-by-case basis. See links to program guidance for more information.

FHWA Programs

- [ATIP](#) (IIJA § 11529): Subject to appropriations. Projects costing at least \$15,000,000 to develop or complete active transportation networks and spines, or at least \$100,000 to plan or design for active transportation networks and spines.
- [BRJ: BFP](#) (IIJA, Div. J, title VIII, para. (1)), [BIP](#) (23 U.S.C. 124), [BRR](#) (Department of Transportation Appropriations Act, 2022): For specific highway bridge projects and highway bridge projects that will replace or rehabilitate a bridge; project must consider pedestrian and bicycle access as part of the project and costs related to their inclusion are eligible under these programs.
- [CRP](#) (23 U.S.C. 175): Projects should support the reduction of carbon dioxide emissions from on-road highway sources.
- [CMAQ](#) (23 U.S.C. 149): Projects must demonstrate emissions reduction and benefit air quality. See the [CMAQ guidance](#) for a list of projects that may be eligible for CMAQ funds. CMAQ funds may be used for shared use paths, but not for trails that are primarily for recreational use.
- [HSIP](#) (23 U.S.C. 148): Projects must be consistent with a State's [Strategic Highway Safety Plan](#) and (1) correct or improve a hazardous road location or feature, or (2) address a highway safety problem. Certain noninfrastructure safety projects can also be funded using HSIP funds as specified safety projects.
- [RHCP](#) (23 U.S.C. 130): Projects at all public railroad crossings including roadways, bike trails, and pedestrian paths.
- [NHPP](#) (23 U.S.C. 119): Projects must benefit National Highway System (NHS) corridors and must be located on land adjacent to any highway on the National Highway System (23 U.S.C. 217(b)).
- [PROTECT](#) (23 U.S.C. 176): Funds can only be used for activities that are primarily for the purpose of resilience or inherently resilience related. With certain exceptions, the focus must be on supporting the incremental cost of making assets more resilient.
- [STBG](#) (23 U.S.C. 133): Broad eligibility for pedestrian, bicycle, and micromobility projects under 23 U.S.C. 206, 208, and 217 (23 U.S.C. 133(b)(7)). Activities marked "SSRTS" means eligible only as an SRTS project benefiting schools for kindergarten through 12th grade. Nonconstruction projects related to safe access for bicyclists and pedestrians (such as bicycle and pedestrian education) are eligible under STBG (23 U.S.C. 217(a)).

- [TASA](#) (23 U.S.C. 133(h)): Broad eligibility for pedestrian, bicycle, and micromobility projects. Activities marked “\$SRTS” means eligible only as an SRTS project benefiting schools for kindergarten through 12th grade.
- [RTP](#) (23 U.S.C. 206): Projects for trails and trailside and trailhead facilities for any recreational trail use. RTP projects are eligible under TA Set-Aside and STBG.
- [SRTS](#) (23 U.S.C. 208): Projects for any SRTS activity. FY 2012 was the last year for dedicated - funds, but funds are available until expended. SRTS projects are eligible under TA Set-Aside and STBG.
- [PLAN](#) (23 U.S.C. 134 and 135): Funds must be used for planning purposes, for example: Maps: System maps and GIS; Safety education and awareness: for transportation safety planning; Safety program technical assessment: for transportation safety planning; Training: bicycle and pedestrian system planning training. Transportation planning associated with activities would be eligible, SPR and PL funds are not available for project implementation or construction.
- [NSBP](#) (23 U.S.C. 162): Discretionary program subject to annual appropriations. Projects must directly benefit and be located on or near an eligible designated scenic byway.

EHWA Federal Lands Programs

- [ELTTP](#) (23 U.S.C. 201-204): Projects must provide access to or within Federal or Tribal lands. Programs include: Federal Lands and Tribal Transportation Programs ([Federal Lands Access Program](#), [Federal Lands Transportation Program](#), [Federal Lands Planning Program](#)) and related programs for Federal and Tribal lands such as the [Nationally Significant Federal Lands and Tribal Projects](#) (NSFLTP) program.
 - [Federal Lands Transportation Program](#) (23 U.S.C. 203): For Federal agencies for projects that provide access within Federal lands.
 - [Federal Lands Access Program](#) (FLAP) (23 U.S.C. 204): For State and local entities for projects that provide access to or within Federal or Tribal lands.
- [TTP](#) (23 U.S.C. 202): For federally recognized Tribal governments for projects within Tribal boundaries and public roads that access Tribal lands.
- [TTPSF](#) (23 U.S.C. 202(e)(1) and 23 U.S.C. 148(a)(4)): Grants available to federally recognized Indian Tribes through a competitive, discretionary program to plan and implement transportation safety projects.

OST Grant Programs

- [INFRA](#) (IIJA § 11110): Funds projects that improve safety, generate economic benefits, reduce congestion, enhance resiliency, and hold the greatest promise to eliminate freight bottlenecks and improve critical freight movements.
- [RAISE](#) (IIJA § 21202): Funds capital and planning grants to help communities build transportation projects that have significant local or regional impact and improve safety and equity.
- [RCN](#): Combines [RCP](#) (IIJA § 11509 and div. J, title VIII, Highway Infrastructure Programs, para. (7)), which provides funds for planning grants and capital construction grants that relate to a transportation facility that creates a barrier to community connectivity and [Neighborhood Access and Equity Grant Program](#), Inflation Reduction Act (IRA) § 60501; enacted as Pub. L. 117-169, 23 U.S.C. 177, which provides funds for projects that improve walkability, safety, and affordable transportation access and funding for planning and capacity building activities in disadvantaged or underserved communities.
- [SMART](#) (IIJA § 25005): Provides grants to eligible public sector agencies to conduct demonstration projects focused on advanced smart community technologies and systems in order to improve transportation efficiency and safety.
- [SS4A](#) (IIJA § 24112): Discretionary program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. Projects must be identified in a comprehensive safety action plan (§ 24112(a)(3)).
- [Thrive](#) (Department of Transportation Appropriations Act, 2022 (Pub. L. 117-103, div. L, title I). Technical assistance, planning, and capacity-building support in selected communities.

OST Loan Programs

- [RRIF](#) (Chapter 224 of title 49 U.S.C.): Program offers direct loans and loan guarantees for capital projects related to rail facilities, stations, or crossings. Pedestrian and bicycle infrastructure components of “economic development” projects located within ½-mile of qualifying rail stations may be eligible. May be combined with other grant sources.
- [TIFIA](#) (Chapter 6 of title 23 U.S.C.): Program offers secured loans, loan guarantees, or standby lines of credit for capital projects. Minimum total project size is \$10 million; multiple surface transportation projects may be bundled to meet cost threshold, under the condition that all projects have a common repayment pledge. May be combined with other grant sources, subject to total Federal assistance limitations.

FTA Programs

- [FTA](#) (49 U.S.C. 5307): Multimodal projects funded with FTA transit funds must provide access to transit. See [Bicycles and Transit, Flex Funding for Transit Access](#), the FTA [Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law](#), and [FTA Program & Bicycle Related Funding Opportunities](#).
 - Bicycle infrastructure plans and projects must be within a 3-mile radius of a transit stop or station. If more than 3 miles, within a distance that people could be expected to safely and conveniently bike to the particular stop or station.
 - Pedestrian infrastructure plans and projects must be within a ½ mile radius of a transit stop or station. If more than ½ mile, within a distance that people could be expected to safely and conveniently walk to the particular stop or station.
 - FTA funds cannot be used to purchase bicycles for bike share systems.
- [FTA AoPP](#) (Further Consolidated Appropriations Act, 2020 (Pub. L. 116-94); Consolidated Appropriations Act, 2021 (Pub. L. 116-260)): Promotes multimodal planning, engineering, and technical studies, or financial planning to improve transit services, facilities, and access in areas experiencing long-term economic distress, not for capital purchases.
- [FTA TOD](#): Provides planning grants to support community efforts to improve safe access to public transportation, services, and facilities, including for pedestrians and cyclists. The grants help organizations plan for transportation projects that connect communities and improve access to transit and affordable housing, not for capital purchases.

NHTSA Programs

- [NHTSA 402](#) (23 U.S.C. 402): Project activity must be included in the State’s Highway Safety Plan. Contact the [State Highway Safety Office](#) for details.
- [NHTSA 405](#) (23 U.S.C. 405): Funds are subject to eligibility, application, and award. Project activity must be included in the State’s Highway Safety Plan. Contact the [State Highway Safety Office](#) for details. The [Bipartisan Infrastructure Law](#) expanded the eligible use of funds for a Section 405 Nonmotorized Safety grant beginning in FY 2024. [See 23 U.S.C. 1300.26](#). For prior year grant awards, FAST Act eligible uses remain in place.
- Project agreements involving safety education, or any other positions must specify hours of eligible activity required to perform the project. Project agreements may not be expressed in terms of full or part time positions.



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 7.1.

To: Regional Transportation Commission

From: Bill Thomas, Executive Director

SUBJECT: Executive Director Report

RECOMMENDED ACTION

Monthly verbal update/messages from RTC Executive Director Bill Thomas - no action taken.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There is no fiscal impact related to this action.



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 7.2.

To: Regional Transportation Commission

From: Paul Nelson, Government Affairs Officer

SUBJECT: Federal Report Discussion

RECOMMENDED ACTION

Monthly verbal update/messages from Paul Nelson, RTC Government Affairs Officer on federal matters related to the RTC - no action will be taken.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.



REGIONAL TRANSPORTATION COMMISSION

Metropolitan Planning • Public Transportation & Operations • Engineering & Construction

Metropolitan Planning Organization of Washoe County, Nevada

Meeting Date: 8/16/2024

Agenda Item: 7.3.

To: Regional Transportation Commission

From: Tracy Larkin Thomason, NDOT Director

SUBJECT: NDOT Report

RECOMMENDED ACTION

Monthly verbal update/messages from NDOT Director Tracy Larkin Thomason or designated NDOT Deputy Director - no action will be taken.

FISCAL IMPACT

There is no fiscal impact related to this action.

PREVIOUS BOARD ACTION

There has been no previous Board action taken.
