NORTHEAST CONNECTOR

Draft Final Report

Northeast Connector Feasibility Study

December 7, 2025

Prepared For

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Contents

Figures

Appendices

Tables

Acknowledgement

The Regional Transportation Commission of Washoe County (RTC) and the Study Team would like to thank the Technical Advisory Committee, participating stakeholders, and public participants for their time and input in helping to shape this Study.

All concepts and corridor alignments herein are preliminary and subject to change and future refinement.

Introduction

Executive Summary

To be included following public review.

1 Background, Purpose, & Need

Background

The Regional Transportation Commission of Washoe County (RTC) initiated the Northeast Connector Feasibility Study (Study) to evaluate a potential new roadway connection from east Sparks/Spanish Springs in Washoe County, Nevada to the Tahoe-Reno Industrial Center (TRI Center) in Storey County, Nevada. The proposed roadway would connect residential areas in Sparks with the TRI Center regional employment center to help alleviate commuter traffic along Interstate 80 (I-80). Currently, I-80 is the only direct connection between the two areas and is often congested with no alternate route during traffic incidences. The result is recuring congestion, reduced transportation reliability, and impacts to traveler safety.

This Study evaluates the feasibility, impacts, benefits, and preliminary cost estimates of a potential connection at a planning level to determine if there is a viable corridor for potential future project development. One component of feasibility is to evaluate potential corridor alignments. Determining corridor alignments allows the Study to estimate traffic impacts to the existing road network and develop preliminary costs to determine which corridor is the most viable. In this Study, the Trimble Quantum alignment optimization software has been applied to quickly evaluate candidate corridors. The most feasible corridors are then evaluated based on several criteria developed through the Study. This report documents the processes of the Study and establishes the highest rated conceptual corridor for potential advancement.

Study Area

The Study area is in Washoe County along the northern Storey County border. Study limits include the eastern development boundary of Sparks and Spanish Springs to the west, I-80 to the south, USA Parkway to the southeast, and near La Posada Drive to the north. See **Figure 1** for the study area.

The Study area was established to provide a comprehensive yet manageable boundary that should encompass the footprint of most reasonable and feasible corridor alternatives while also ensuring data is manageable.

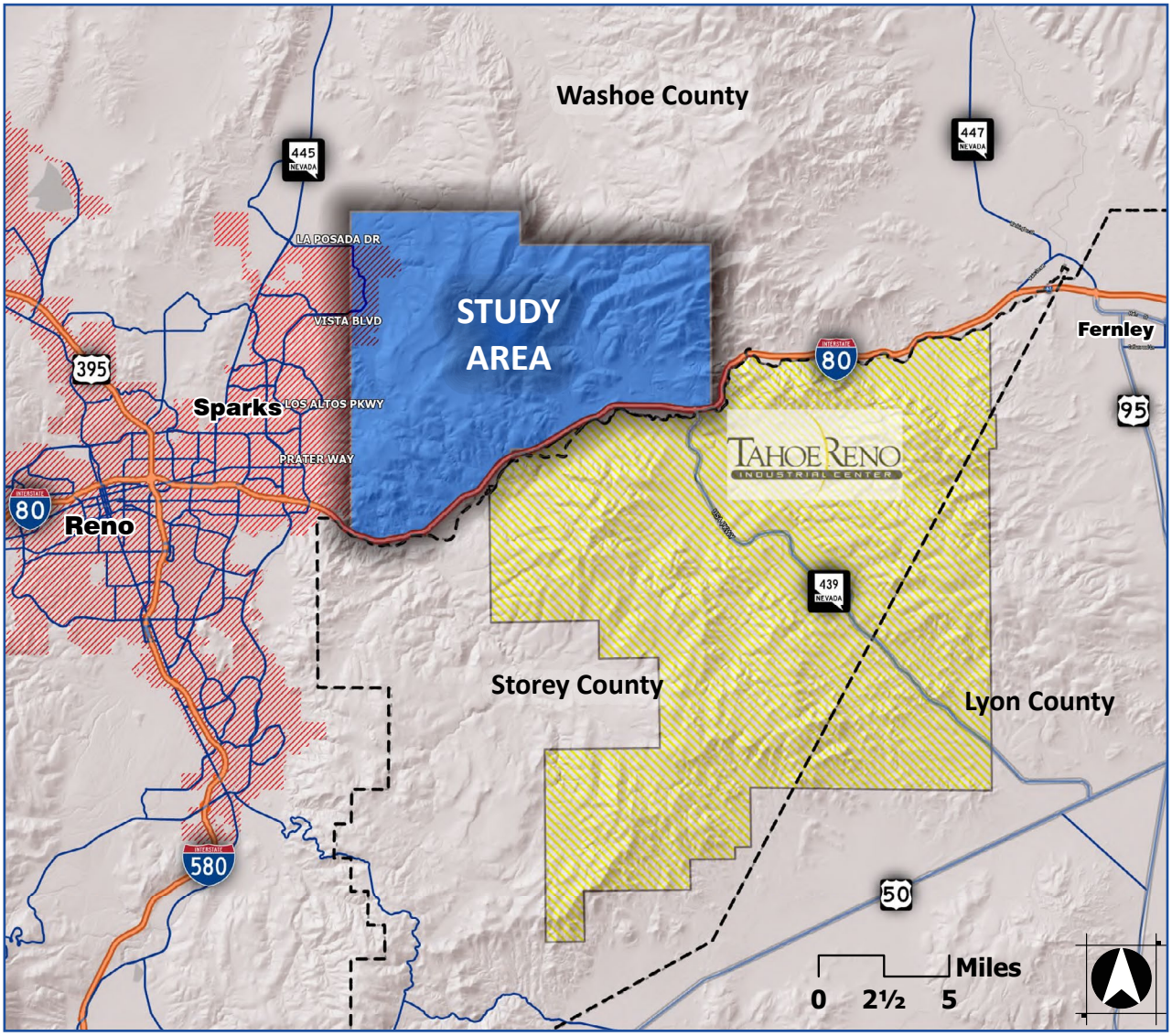


Figure 1: *Study Area*

Study Context

The population of Washoe County, the City of Reno, and the City of Sparks (Truckee Meadows) has grown significantly over the last decade, this is partly fueled by the creation of jobs from companies such as Apple, Tesla, Panasonic, Google, Walmart, and others locating manufacturing and distribution centers within TRI Center area. The location and regional proximity of TRI Center, in Storey County, has allowed for a large influx of industrial and commercial growth which brings employment to

the region. While there are some opportunities to develop new residential communities in Storey and Lyon Counties, including 1,800 acres in Painted Rock and a 2,500 acre site off US-50 for planned unit residential that was included in the 2024 Storey County Master Plan update, these areas are largely constrained by limited or nonexistent infrastructure and services needed to support housing. In contrast, the communities within the Truckee Meadows, which already have established services and infrastructure, have been better suited to quickly provide the housing required to accommodate much of the population growth resulting from the influx of jobs in TRI Center. There are a number of hotels and RV units located in the TRI Center, to house construction and temporary workers to help minimize traffic impacts during commute times with more anticipacted in the future, the current traffic is still an issue along I-80. Currently, Storey County does not have any proposed housing developments approved within a forty-five minute (45 min) commute time (45 min commute time is based on the averae commute time

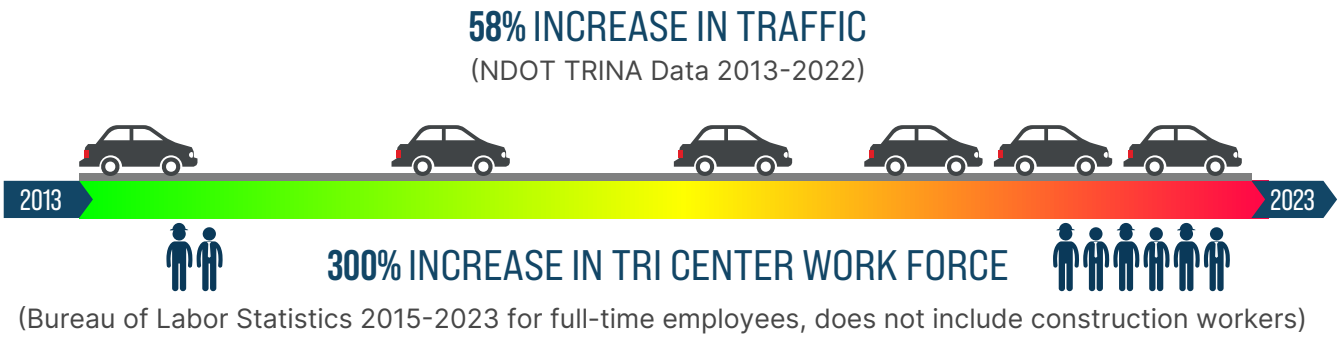


Figure 2: *Increase in Traffic and Employment Growth*

with no traffic slow downs), where the City of Sparks and the surrounding Washoe County jurisdiction have a maximum of 16,684 residential units that have been approved through either a development agreement, tentative map, or Planned Unit Development (PUD) according to the Truckee Meadows Regional Planning Agency (TMRPA) Approved Future Units Map. Therefore, it is reasonable to assume that a majority of the future workforce is more likely to be located within the Truckee Meadows rather than Storey County.

This relationship requires a majority of the workforce in TRI Center to commute from the Truckee Meadows, with I-80 providing the only east/west connection with no redundancy or alternate routes. Data collected from INRIX (a location-based device data collection company), shows that severe congestion occurs daily and an incident only extends the delay. Travelers must endure significant congestion and/or use distant routes that increase travel times by one hour or more (Nevada Department of Transportation, Traffic Records Information; 2013-2022).

Purpose and Need

Within the Truckee Meadows service area, eighty-five percent (85%) of trips to TRI Center start north of I-80 as illustrated in Figure 3. This increases demand on Vista Boulevard, Sparks Boulevard, and Pyramid Highway, the major north/south arterials in Sparks and Spanish Springs. As the area is anticipated to continue to attract businesses to locate to TRI Center combined with new housing units under construction, the area is anticipated to see additional population growth within the Truckee Meadows.

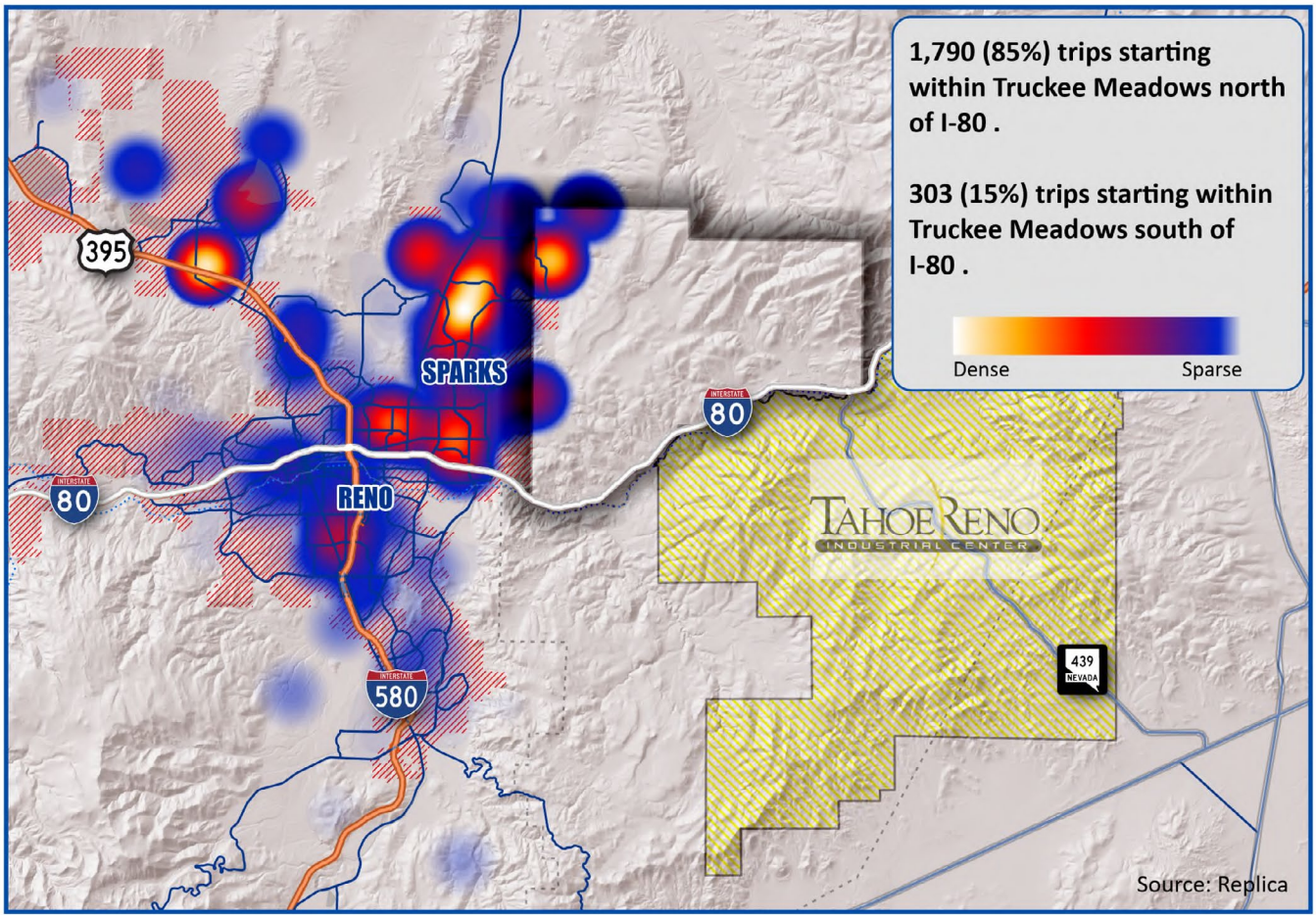


Figure 3: *Trip Origination to TRI Center Map*

This presents a significant increase in vehicle trips along I-80 heading eastbound in the AM peak hours and westbound in the PM peak hours. Therefore, during these times, it is common to see increased traffic congestion between Exit 21 (Vista Boulevard/ Gregg Street) and Exit 32 (USA Parkway). Observed weekday speeds along this area have shown an average drop by forty percent (40%) in the AM peak, and forty-six (46%) in the PM. This does not reflect the heaviest congestion times which typically occur as early as 4:15 AM, outside of the peak AM and PM commute times.

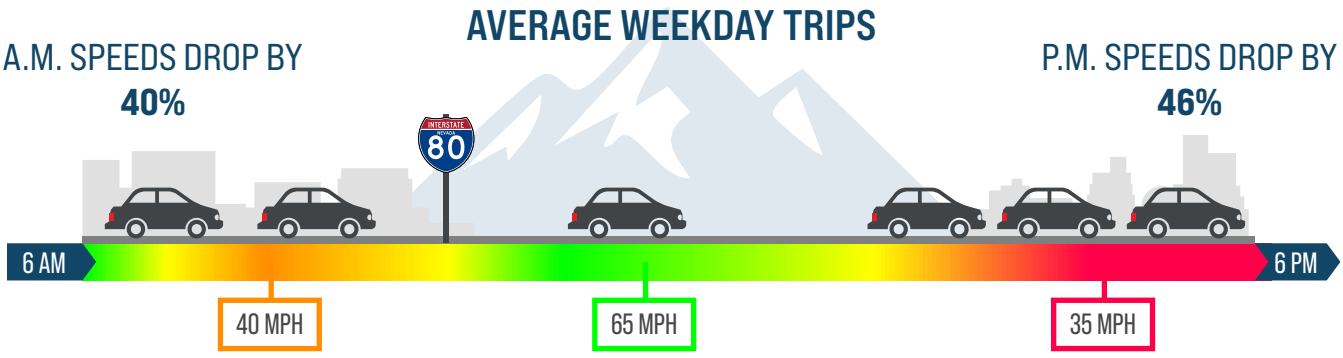


Figure 4: *I-80 Congestion Along I-80 Between TRI Center and Sparks, NV*

Along with slower commute times, increased traffic has resulted in an increase in crashes, which have led to a recorded seven traffic fatalities between 2016-2020. More common minor incidents further impact travel times. The results show an incident can cause speeds on I-80 to drop by over 90-percent or halt traffic all together. Corridor alignment near USA Parkway should consider current and future development in Fernley and north of the TRI Center in Washoe County (near the Patrick Interchange and Apple Data Center) to insure planning efforts to address commuter traffic continue to meet the needs of the region.

As I-80 is the only east/west connection between the Truckee Meadows and TRI Center, new roadway connections are needed to create an alternate route and transportation redundancy. An alternative to I-80 would help reduce I-80 congestion, increase transportation reliability, provide an alternate route during incidents and closures, and improve traveler safety. Without a new transportation connection, transportation reliability will continue to be poor, travelers will not have any alternate routes, especially during incidents, and regional economic growth will be negatively impacted.

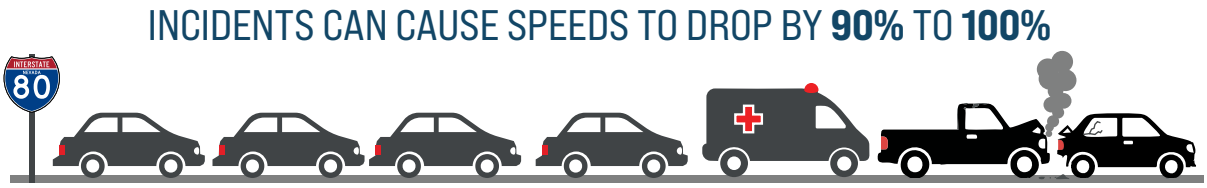


Figure 5: *Traffic Incident Impacts Along I-80*

Feasibility Study Goals

Four study goals have been established at the Study outset. The goals provide a backdrop for conducting the Study in addition to measures of success. These four goals are:

REDUCE CONGESTION

Provide an alternate route to I-80 and create additional transportation capacity between major residential and employment nodes.

SUPPORT ECONOMIC GROWTH

Reduce congestion and travel time as an impediment to employment growth.

INCREASE RELIABILITY

Improve consistency and predictability for travelers by providing choices in route.

INFORM REGIONAL DECISIONS

Provide clarity and establish feasibility to allow decisionmakers to make informed decisions.

2 Alternatives Evaluation Process

A new connection between TRI Center and the Truckee Meadows would provide relief for heavy traffic volumes currently on I-80 between Sparks and USA Parkway. Since the majority of the TRI Center workforce is north of I-80 with a majority in the Sparks area, a direct connection to northeast Sparks would help relieve congestion on I-80 and alleviate traffic along several major arterials that serve Sparks, including Vista Boulevard, Sparks Boulevard, McCarran Boulevard, and Pyramid Highway. To achieve this objective, establishing a range of alternative corridors and analyzing those corridors against available data will identify which corridor is the most feasible for a future project. This section establishes the range of alternative corridors considered and provides an overview of key opportunity and constraint data sets obtained and analyzed.

Developing Alternative Corridors

The first step in establishing alternative corridors is determining east and west termini. The range of alternatives explore different alignments, with the western terminus connecting to one or more of the existing roadways:

- **La Posada Drive**
- **Los Altos Parkway**
- **Vista Boulevard**
- **Prater Way**

The eastern terminus point includes USA Parkway. These termini will be further evaluated during future project development. To establish the alternative corridors between the east and west terminus, the Study considered the opportunities and constraints within the Study area to establish the alternative corridors.

Opportunities and Constraints

Site Features

The Study area is predominantly undeveloped land with urban to suburban development near the City of Sparks boundaries to the west and industrial/solar farm uses in the southeast near I-80. The majority of the Study area features a mix of upland vegetation and invasive weeds with portions of the area bisected by dirt roads and utility corridors. Areas with existing development should be considered a constraint where vacant undeveloped parcels should be considered as an opportunity to avoid private property and the built environment.

Environmental Resources

Being mostly undeveloped, the Study area may contain environmental resources of concern. Some environmental resources must be avoided all together while others may require mitigation and/or minimization of impacts. One key resource is a known cultural avoidance area located within the center of the Study area. This includes a 3,896-acre area identified by the Bureau of Land Management (BLM) that should be avoided. This Area of Critical Environmental Concern (ACEC) is one of several environmental resource constraints considered. These resources are further described in the Environmental Due Diligence Report in Appendix A and in Section 5 of this report.

Slopes/Terrain

The Study area is mostly mountainous terrain with elevations ranging from approximately 4,500 feet to 5,500 feet throughout the Study area. Areas greater than 30-percent slopes and rocky terrain were identified as less desirable as they could add additional cost and grading to the project. Flatter areas, those under 20-percent slopes, are more desirable as they require less cut/fill and reduce costs. See Figure 6 on the following page.

Land Ownership/Easements

The entire Study area is made up of a mix of private and federal parcels with a majority of the parcels (69%) consisting of federally owned land managed by the BLM. Private parcels are mainly land located near the developed portions of the City of Sparks and along I-80 near the USA Parkway intersection. See Figure 6 for land ownership. While a roadway on a private parcel does not exclude it from the potential corridor alignment, it does add additional costs and time to negotiate with private property owners and puts a burden on the owner. Ideally, a corridor within public land is more of an opportunity.

Utility Corridors

Several utility corridors bisect the Study area. Utilities include electric, gas, and fiber optic. These areas may be considered an opportunity or constraint as a potential corridor could run parallel to an existing easement, providing improved access for utility maintenance, however, it can be a constraint if utilities need to be relocated to accommodate the roadway alignment.

Geotechnical

The Study area geology can have a significant impact on construction methods, materials, and duration, all of which significantly affect costs. The geology can be a constraint when poor materials or rock requiring blasting are encountered. Geology can also be an opportunity when quality materials are encountered that can be used for construction, eliminating the need to import. A high-level geotechnical evaluation was conducted, the results of which are in **Appendix B.**

Drainageways

Terrain within the Study area is mostly steep and undeveloped with numerous canyons and washes. Areas within the Federal Emergency Management Agency (FEMA) flood zones are typically located in washes and gulleys and will need to provide infrastructure including culverts or in the most extreme cases, bridges to safely cross and accommodate flows. Opportunities in terrain where slopes are under 20-percent are more suitable for corridor alignments. FEMA flood zones and drainageway crossings requiring culverts or bridges can add significant costs and should be minimized where possible. A Technical Drainage Report in **Appendix C** provides more detail to address areas where these cannot be avoided. The report focuses on a southern corridor given this part of the Study area tends to be downstream and provides a conservative look at drainage feasibility.

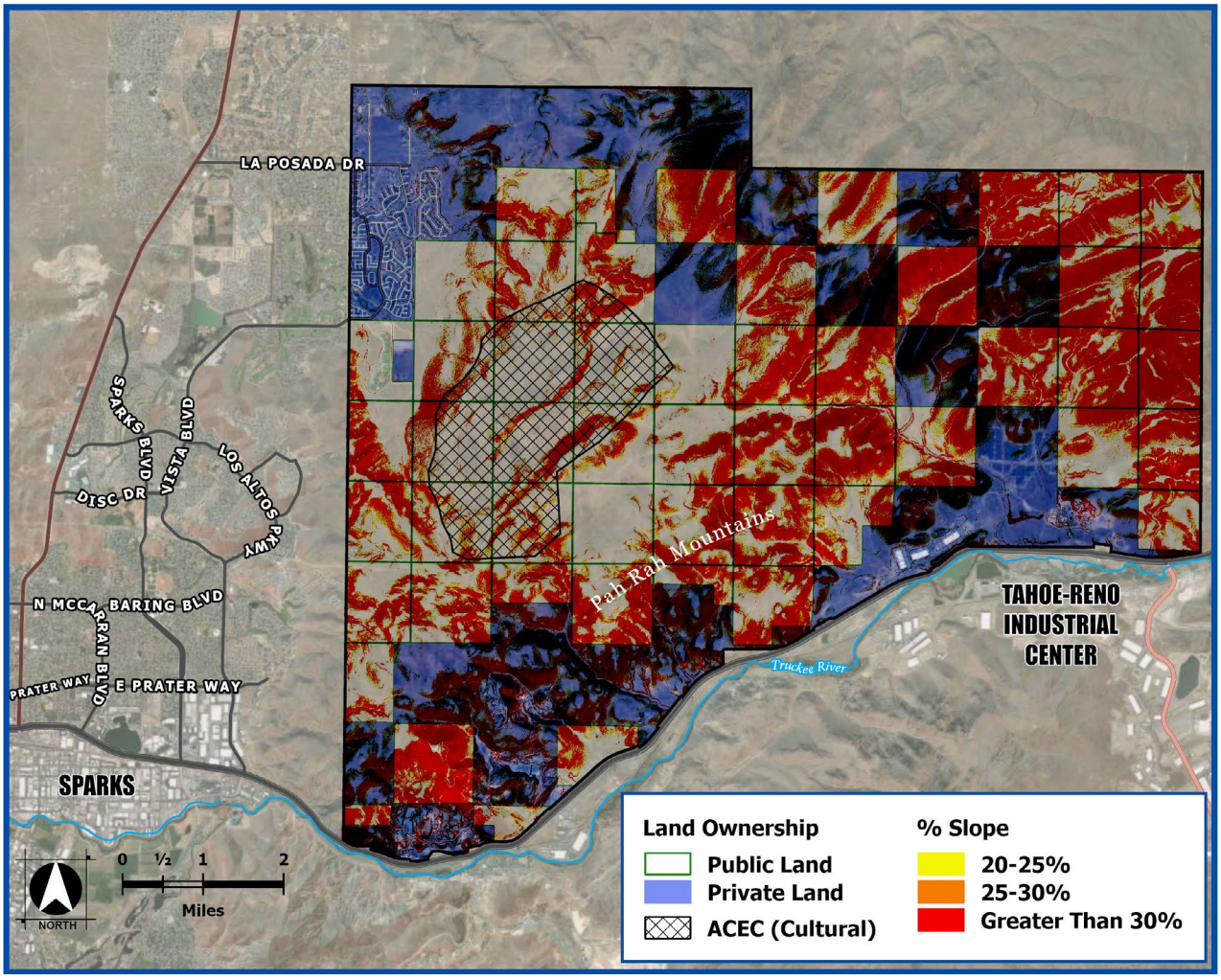


Figure 6: *Opportunities and Constraints Map*

All the proposed corridor alternatives have a common eastern terminus point at the existing I-80 undercrossing west of USA Parkway (IH-643) with the exception of one corridor alternative which looks at a connection to I-80 near the Lockwood on/off ramps (Exit 23). As noted, all termini will be further evaluated in the future.

Through this process a total of six (6) potential alternatives were provided:

1. La Posada Drive to USA Parkway
2. Vista Blvd. at Golden Eagle to USA Parkway
3. Vista Blvd. S. of Red Hawk to USA Parkway
4. Los Altos Parkway to USA Parkway
5. Prater Way to USA Parkway
6. La Posada Drive to I-80 at Lockwood

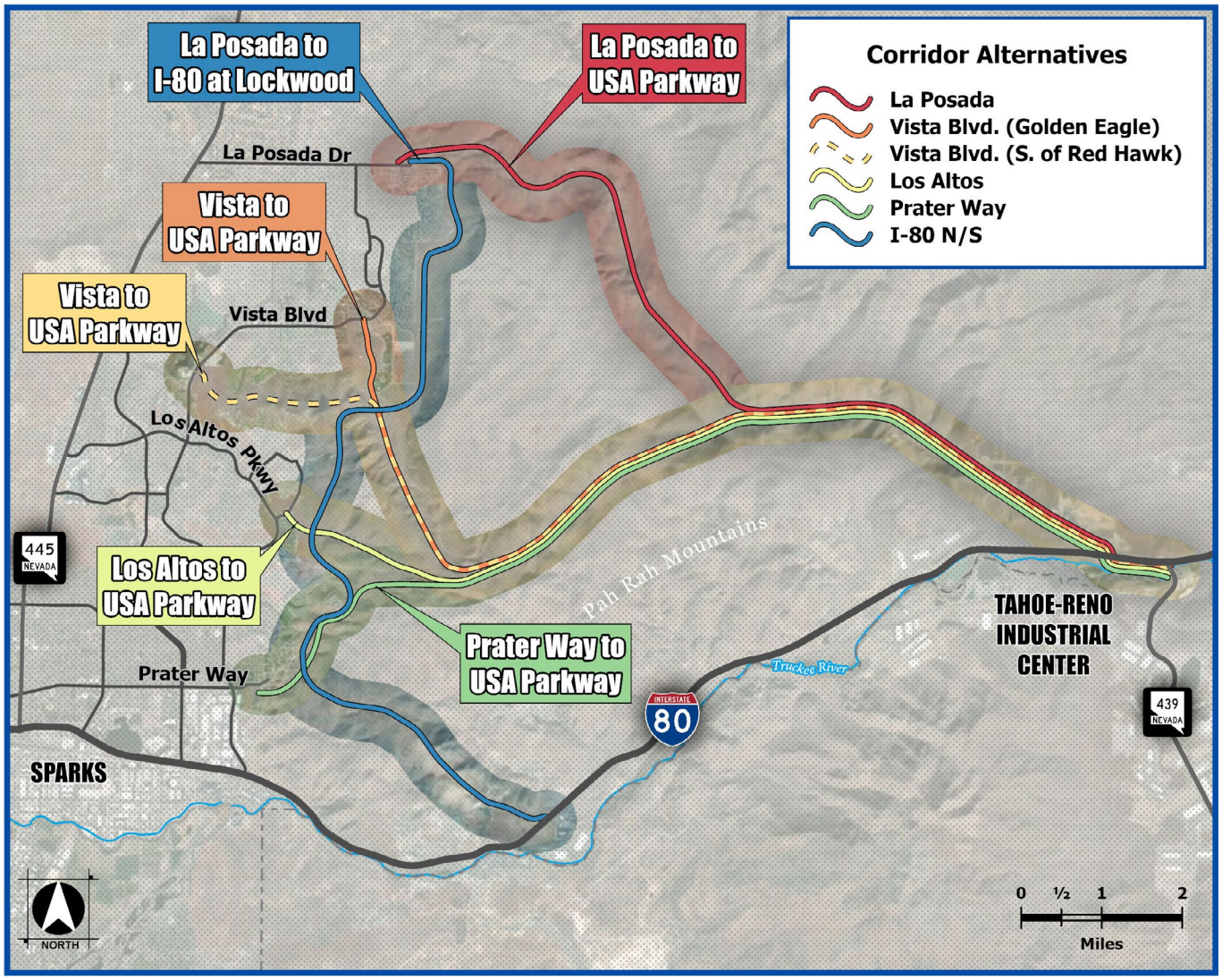


Figure 7: *Alternative Corridors Map*

Corridor Alignments And Analysis

Corridor Cross-Section

The proposed corridor will accommodate a two-lane roadway with a posted speed limit of 45 miles per hour (mph). The roadway consists of two 12-foot-wide travel lanes, 10-foot-wide shoulders, and an open drainage system. The road will not exceed six percent (6%) maximum vertical grade when accommodating the change in elevation. The typical roadway cross-section is shown in Figure 8 below and detailed geometric criteria provided in Appendix D.

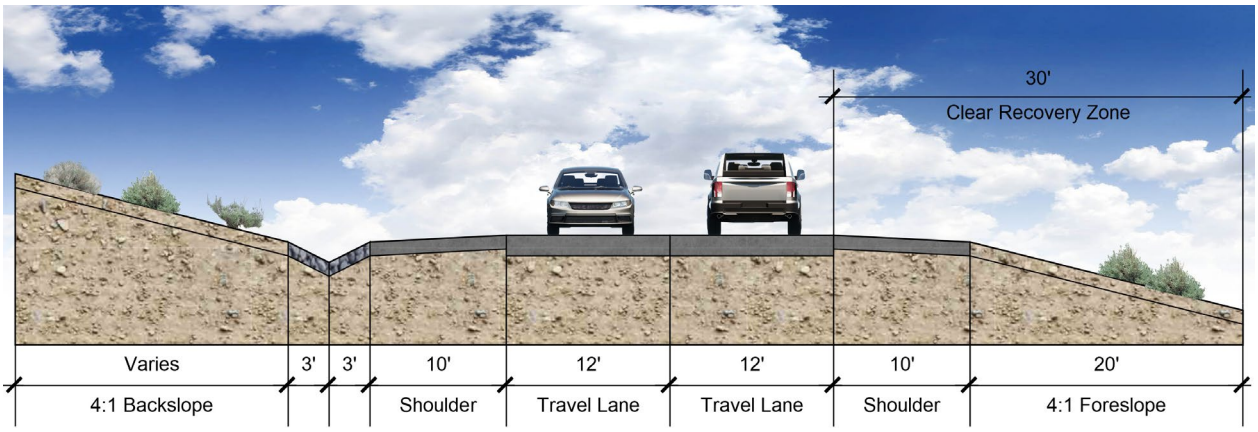


Figure 8: *Proposed Roadway Cross-Section*

Corridor Evaluation (Quantm)

The proposed corridors were evaluated based on several data inputs. The data inputs considered include:

- **Terrain (e.g. USGS topo, and Lidar data)**
- **Costs (cut, fill, bridges, tunnels, walls, etc.)**
- **Geometric criteria**
- **Proposed cross-sections**
- **Constraints and avoidance areas**
- **Waypoints and preference areas**

These inputs were applied to each potential corridor to generate a preliminary cost associated with each corridor alignment. The top corridors were then applied to determine overall feasibility and support the alternative corridor screening process. Trimble's Quantum alignment optimization software was used to quickly identify and evaluate corridors.

Alternative Corridor Screening Process

A two-level corridor screening process was established to provide a methodical approach for eliminating (screening) alternative corridors and identifying a single recommended corridor for potential future project development. This process is illustrated in **Figure 9** on the following page and further detailed in Section 4 and Section 5.

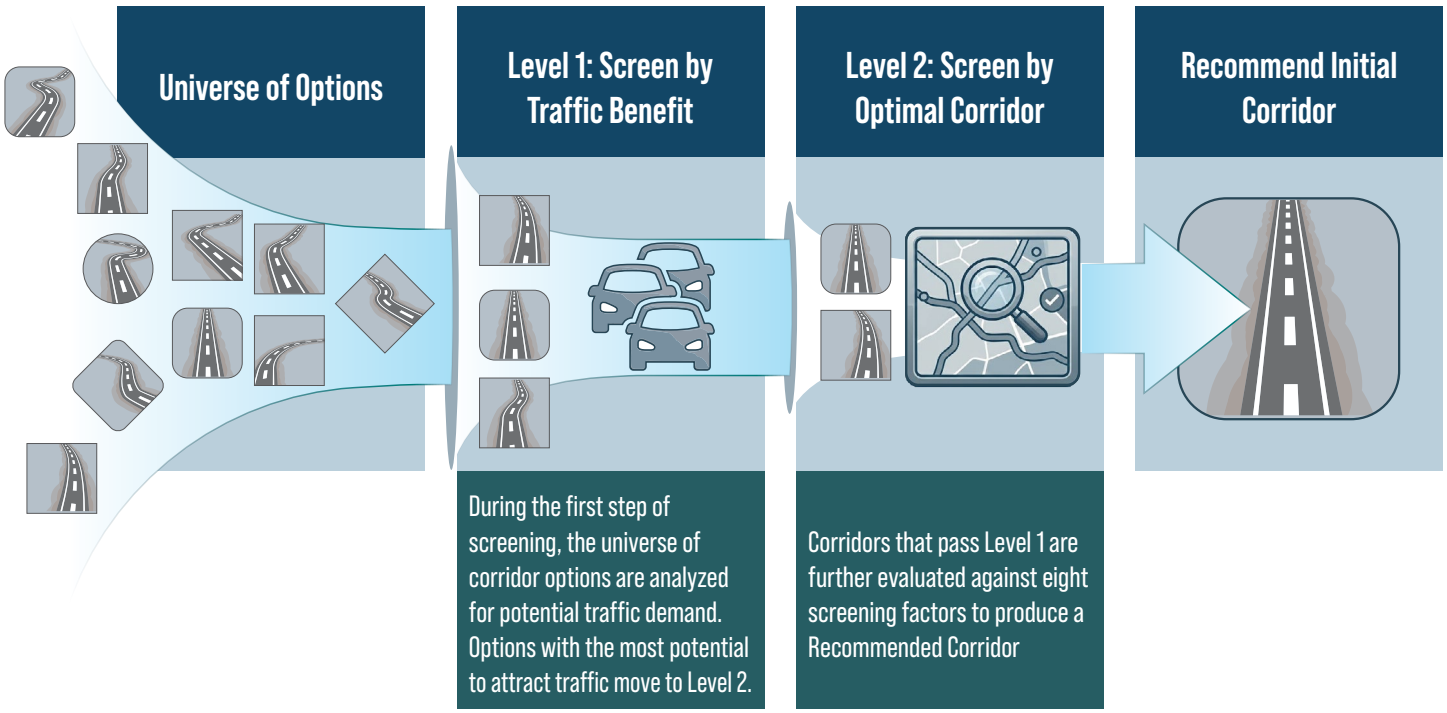


Figure 9: *Corridor Screening Process*

Level 1 Alternative Corridor Screening

During the first step of screening, the universe of corridor options are analyzed for potential traffic demand. Those corridors that show the most potential to attract traffic are carried forward to Level 2, while those that show little potential to attract traffic are screened out from further consideration.

Level 2 Alternative Corridor Screening

The alternative corridors that pass Level 1 screening are further evaluated against seven screening factors in Level 2. The results of the evaluation, combined with consideration of conceptual costs support the identification of a single initial corridor recommendation for potential future project development.

3 Coordination & Outreach Summary

Agency Coordination

Technical Advisory Committee
The active involvement of agency stakeholders is critical to ensuring a successful and comprehensive Study. Key stakeholders were engaged throughout the Study via the Technical Advisory Committee (TAC). The TAC met three times throughout the Study to coordinate inputs, review outputs and recommendations, and share information. In addition, TAC members reviewed available materials, including this report, and provided feedback throughout. The three TAC meetings held consisted of:

TAC MEETING 1
Kickoff
February 2025

TAC MEETING 2
Level 1 Screening
July 2025

TAC MEETING 3
Level 2 Screening
October 2025

PUBLIC OUTREACH
December 2025

Meeting materials and summaries can be found in **Appendix E.**

Public Outreach Summary

To be completed following December 2025 public meeting with Public Outreach Summary (Appendix F).

4 Level 1 Alternative Screening Summary

Methodology

Level 1 corridor alternative screening is based on projected 2050 traffic forecasts. Those alternatives that are projected to carry the most traffic have a higher likelihood of achieving the Study goals and warrant further evaluation. Those alternatives that are projected to carry less traffic are less likely to meet the Study goals and are screened out in Level 1 so effort in Level 2 is focused on the most promising alternative corridors.

The model used to forecast anticipated traffic along the alternatives is the RTC Washoe Travel Demand Model (TDM). Key roadway segments that are part of the Study area include I-80 between Pyramid Way and USA Parkway, Pyramid Way and Vista Boulevard between I-80 and La Posada Drive, and other major arterial connections such as McCarran Boulevard and Sparks Boulevard.

A memorandum outlining the process of calibrating and validating the RTC Washoe TDM at a project-level is in **Appendix G**. This process verified that the model provided accurate traffic modeling for the Study area using the Base Year 2022 scenario, and that the results were within the allowed statistical limits established in The Nevada Department of Transportation (NDOT) Traffic Forecasting Guidelines. Model forecasts were generally found to reasonably estimate existing conditions and, in turn, future conditions.

Modeling

Several factors are considered to ultimately determine the feasibility of a project of this magnitude. The traffic modeling serves to provide traffic forecasts to predict how impactful a new connection between the Truckee Meadows and USA Parkway could be for commuters. Several alternatives need to be evaluated using the model to determine the optimal alignment that will provide the most benefit to the community.

As previously mentioned, the Base Year 2022 scenario was used to calibrate and validate the model. Similar changes were then applied to the Future Year 2050 TDM scenario, which is what the Northeast Connector alternatives were studied under. Each alternative was

run separately through the model, and the results provided metrics such as Annual Daily Trips (ADT), Average Speed, and Average Travel Time. For more details, refer to **Appendix G.**

Traffic Forecasts

Initially, six corridor alternatives were studied using the RTC Washoe 2050 TDM. Each alternative provides a forecasted traffic estimate, which can give insight into how much traffic will be diverted away from the highly congested I-80, between USA Parkway and the Truckee Meadows. While it is not graphically represented on the images provided in this analysis, congestion at the I-80 on/off ramps and surface streets within the Truckee Meadows will also likely be reduced if more drivers choose to take the connector when traveling to and from TRI Center. Lower peak-hour traffic volumes will benefit the community as a whole, not just the USA Parkway commuters. The six alternatives that were modeled, projected ADT for each alternative, and a possible alignment are outlined below in **Figure 10.**

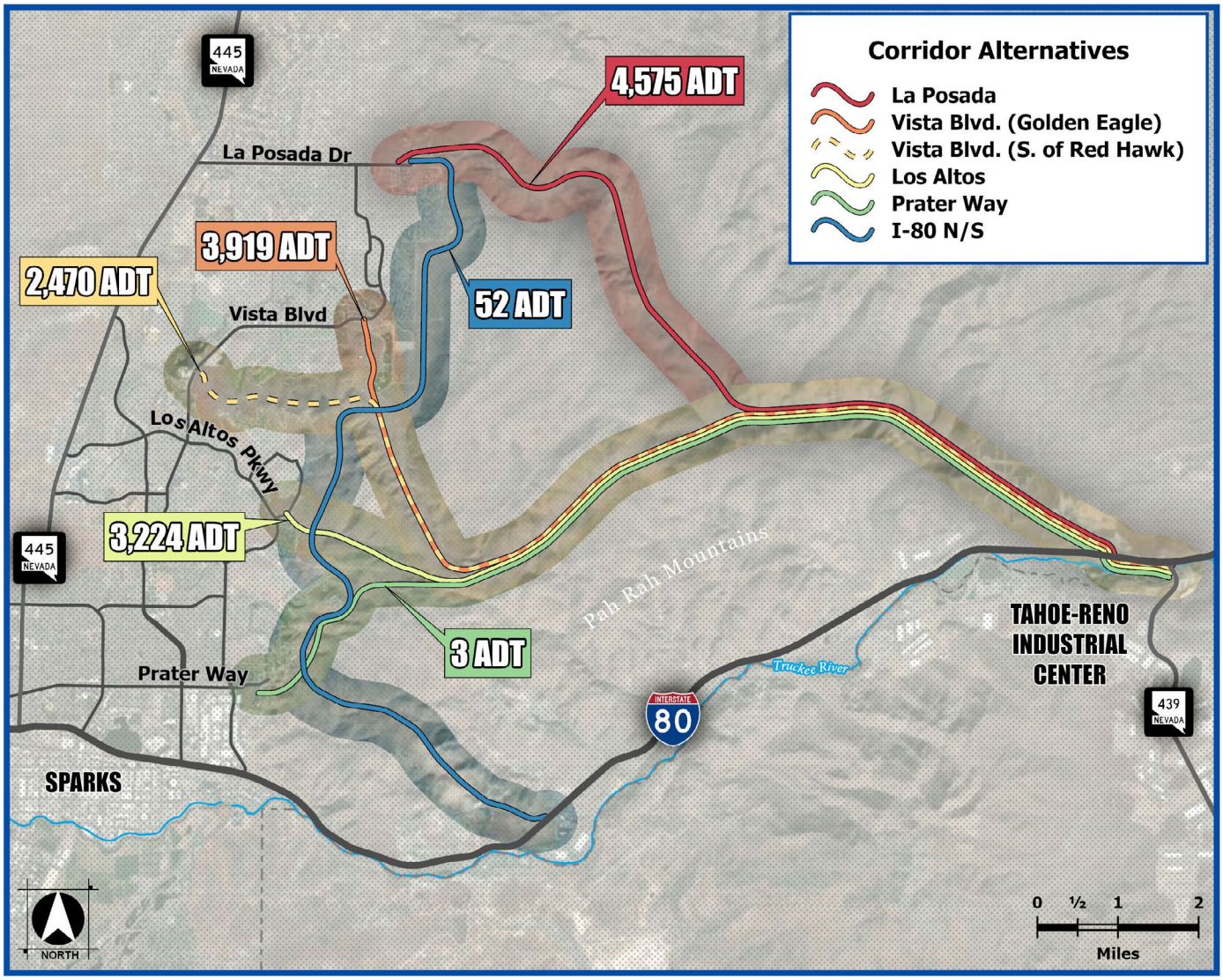


Figure 10: *Level 1 Corridor Alternatives Map*

Level 1 Alternative Screening Results

The Level 1 screening projected ADTs are summarized in **Table 1** below.

Corridor Alternative	2050 ADT	% from Max
La Posada	4,575	N/A
Vista Blvd. (Golden Eagle)	3,919	14%
Vista Blvd. (S. of Red Hawk)	2,470	46%
Los Altos	3,224	30%
Prater Way	3	100%
I-80 N/S	52	99%

Table 1: *Level 1 Corridor Screening Results; ADT 2050*

As shown in **Table 1**, in general, the closer the corridor is to I-80, the less traffic it attracts. This is likely due to limited or no travel time benefits associated with more southerly corridors. With this understanding, those corridors projecting less than 25-percent of the maximum ADT were screened from further consideration. The result is that the La Posada and Vista Blvd. (Golden Eagle) corridor alternatives rise to the top and the remaining corridor alternatives are screened out in Level 1 as shown in **Figure 11.**

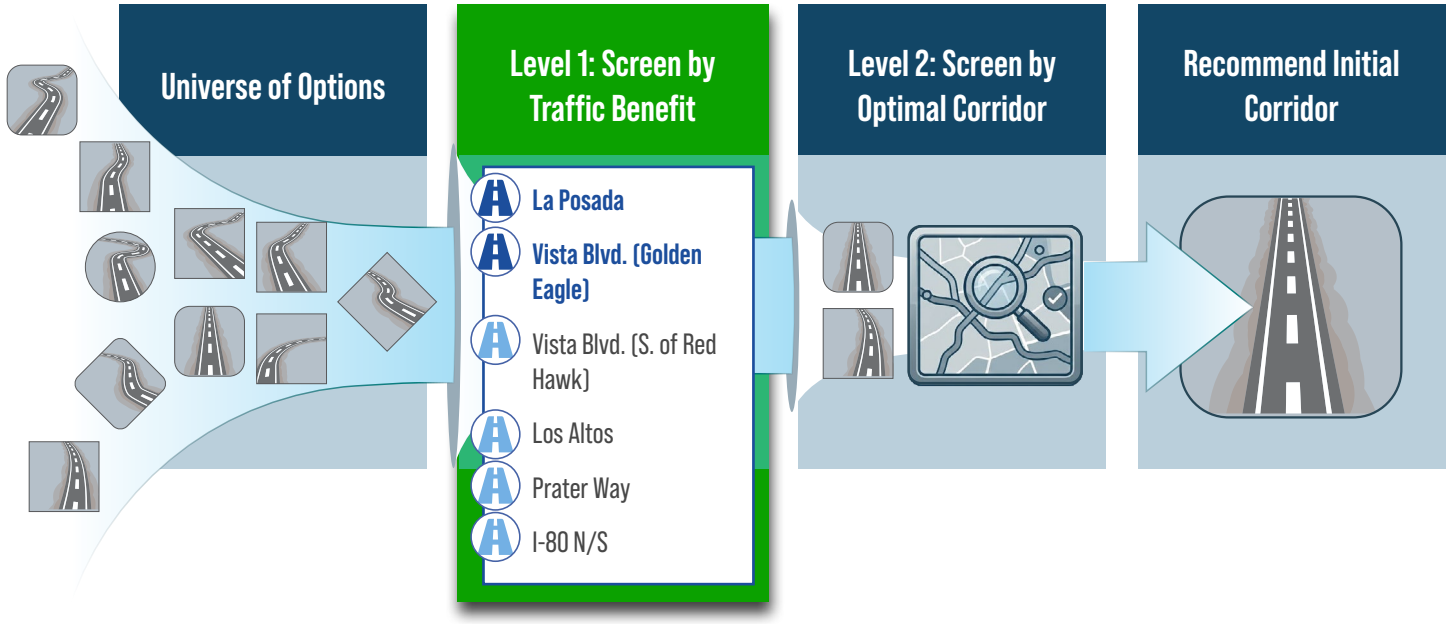


Figure 11: *Level 1 Screen by Traffic Benefit*

Based on the results of the level one screening and in consultation with the TAC, the La Posada and Vista Blvd. (Golden Eagle) corridor alternatives advance to Level 2 screening and further evaluated across additional screening factors.

5 Level 2 Alternative Screening Summary

Level 2 Corridor Screening

Following Level 1 screening, Level 2 evaluates a range of factors to ensure the remaining two corridor alternatives are thoroughly considered and compared. The intent of Level 2 screening is to identify an initial corridor recommendation for future consideration and project development and achieve the Study goal of *Informing Regional Decisions*.

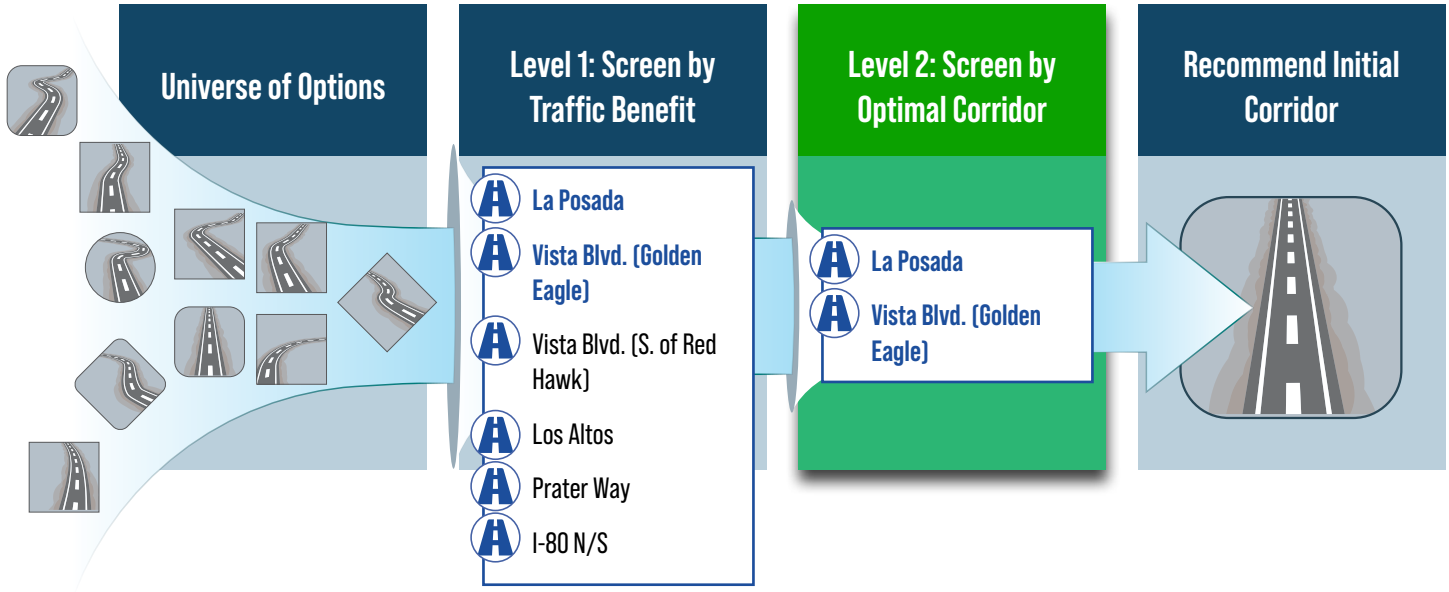


Figure 12: *Level 2 Screen by Optimal Corridor*

Seven (7) screening factors were established for Level 2. These factors and the criteria by which each is measured are shown in **Figure 12**. Note, cost is a separate factor and considered as part of Level 2 screening but evaluated separately from the seven factors.

Screening Factor	Screening Criteria
Environmental Impact	Does the corridor have numerous and/or sizeable impacts to natural resources?
Travel Time & ADT	Estimated travel time and ADTs based on the 2050 travel demand model
Right-of-Way Impact	Total corridor impact (acres) to privately owned property
Utility Impacts	Total number of utility impacts and to what degree?
Construction	Qualitative evaluation of construction ease including Geotech, access, drainage, MOT, etc.
Maintenance	Qualitative evaluation of maintenance ease including structures, drainage, roadsides, etc.
Community Impact & Stakeholder Preference	Qualitative evaluation of impacts to neighborhoods and general stakeholder sentiment.

Figure 13: *Screening Factors and Criteria*

For Level 2 screening, each of the screening criteria were measured quantitatively or qualitatively against a rating scale of one to three, with three representing good performance, two representing average performance, and one representing a poor performance. Scores for each individual screening criteria are then totaled to arrive at a Level 2 screening score. The total scores for each corridor alternative can then be evaluated against conceptual costs to determine the optimal corridor alternative. Evaluation of each factor is further described below.

Level 2 Screening Evaluation

To support the evaluation of potential route options for the Northeast Connector, an Environmental Due Diligence (EIDD) report was developed. This report provides a high-level assessment of environmental conditions within the Study area, focusing on biological and ecological features that could be affected by construction or long-term operation of the proposed corridor. The EIDD draws upon existing data sources and desktop research to identify environmental constraints relevant to the project.

The information compiled in the EIDD served as the foundation for a comparative environmental analysis of the two proposed corridor alternatives.

Resources Considered

The environmental resources selected for review were chosen based on their likelihood of occurring within the project area and their potential to be impacted by construction or use of the connector. Priority was given to resources that are ecologically sensitive, regulated, or otherwise significant to the BLM. Additionally, resources were included if available data could help distinguish the relative environmental impacts between the two corridor options.

Because the majority of land within the project boundary is managed by the BLM, robust datasets were available to support this analysis. The following resource categories were evaluated:

- **Waters of the United States**
- **Sensitive vegetation, wildlife, and species**
- **Greater Sage-Grouse habitat**
- **Natural springs**
- **FEMA-designated flood hazard zones**
- **Grazing lands**
- **Groundwater allotments**
- **Visual resource sensitivity and inventory**
- **Active mining claims**
- **Wild horse and burro herd management areas**
- **Cultural and historic resources**

Detailed resource descriptions and mapping outputs are provided in **Appendix A: Environmental Due Diligence Report**. Supporting data, including methodologies, source references, and tabulated impact metrics, are available in **Appendix H: Environmental Analysis Methodology Memorandum.**

Qualitative Impact Evaluation

To assess the environmental implications of each corridor alternative, a qualitative scoring system was applied to every resource category. This approach allowed for a comparative understanding of potential impacts and mitigation potential. Each resource received a score based on the following criteria: Score of 3: Minimal or no anticipated impact; Score of 2: Moderate impact that could be effectively mitigated; or Score of 1: Significant or multiple impacts with limited or complex mitigation potential.

Each corridor alignment was evaluated across all resource categories, and the resulting scores were used to characterize the overall environmental footprint of each alternative. The scoring reflects both the sensitivity of the resource and the level of potential impacts, balanced against the likelihood of effective mitigation.

Level 2 Screening Factors And Scoring

The following seven screening factors below were evaluated and scored based on the screening criteria above in **Figure 13.**

Environmental Impact

The environmental screening process revealed that both corridor alternatives—La Posada and Vista—exhibit similar levels of impact across most evaluated resource categories. Of the 12 environmental measures considered, 10 resulted in identical scores for both routes, indicating comparable environmental footprints. A detailed description and analysis of the environmental impact factors and scoring are more thoroughly explained in **Appendix H.**

Both alternatives received a score of 3 (indicating minimal or no significant impact) for the following

resources: waters of the United States, sensitive vegetation, wildlife, and species, springs, FEMA-designated flood hazard areas, mining claims, and wild horse and burro herd management areas.

These findings suggest that neither route poses potential significant impact to these resources.

Three resources, grazing allotments, visual resource inventory, and visual resource sensitivity, were scored at 1 for both alternatives, reflecting the presence of potential impacts that would be difficult to mitigate. These resources are distributed throughout the entire Study area, and while they contribute to the overall environmental impact, they do not help distinguish between the two corridor options.

The number of groundwater wells affected differs slightly between the alternatives: four wells are impacted by the La Posada route and five by the Vista route. However, both received a score of 2, indicating moderate impacts that are likely manageable. This minor variation did not influence the comparative scoring.

Two resource categories provided meaningful differentiation between the alternatives:

Greater Sage-Grouse Habitat: Habitat for the Greater Sage-Grouse is classified into four priority levels, with Priority Habitat Management Areas (PHMA) and PHMA+ representing the most critical zones. The La Posada route intersects approximately 89 more acres of priority habitat than the Vista route. As a result, La Posada received a score of 1, while Vista was assigned a score of 3, indicating significantly lower impact to this sensitive species habitat.

Cultural Resources: Due to the confidential nature of cultural resource locations, impacts were assessed based on the percentage of each corridor that overlaps with existing cultural resource survey boundary areas. The Vista route showed a higher degree of overlap with potentially sensitive cultural sites and was therefore scored at 1. La Posada, with a lower percentage of overlap, received a score of 2.

The results of the environmental resource evaluation and scoring are summarized in **Table 2** on the following page.

Environmental Scoring Criteria:

SCORE 1: HIGH IMPACT	SCORE 2: MODERATE IMPACT	SCORE 3: MINIMAL IMPACT
1	2	3
Numerous impacts and/ or sizeable impacts to resources	Some impacts and/ or sizeable impacts to resources	No sizeable or relatively numerous impacts to resources

Level 2 Screening by Environmental Resource			
Screening Factor	Evaluation	Corridor Alternatives	
		Vista	La Posada
Waters of the US	Number of regulated waterways crossed	18	20
Sensitive Vegetation/ Wildlife/Species	Sensitive Habitat Area Impacted (acres)	55	54
Sage Grouse Habitat	Area of priority/priority+ habitat impacted (acres)	13.6	102.8
Springs	Number of springs impacted	0	0
FEMA Flood Hazard	Area of regulated floodway impacted (linear ft)	950	950
Grazing Allotments	Area of livestock grazing allotment impacted (acres)	306	252
Wells	Number of wells impacted	5	4
Visual Resource Inventory	Area of Class II-IV VRI impacted (acres)	306.8	356.4
Visual Resource Sensitivity	Area of moderate or high value impacted (acres)	307.1	356.4
Mining Claims	Number of claims impacted	0	0
Herd Management Areas	Area of herd management area impacted (miles)	3.3	1.29
Cultural Resources	Risk of impact to sensitive sites (percent)	23.4%	15.5%
	Environmental Resource Score	1	1

Table 2: *Level 2 Scoring of Corridor by Environmental Resource*

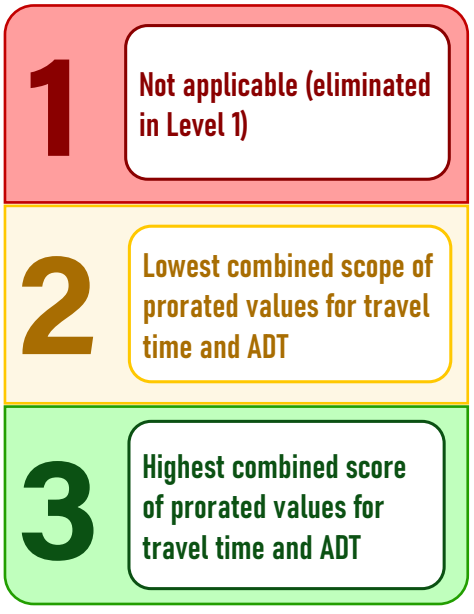
When viewed collectively, the environmental screening scores suggest that both corridor alternatives are largely similar in their potential impacts. However, the two measures, Sage-Grouse habitat and cultural resources, exhibit differences.

Travel Time and ADT

Following Level 1 screening, refinements were made to the project-specific TDM, including incorporating the latest alignments. For the La Posada corridor alternative, the optimal alignment developed following Level 1 screening was longer than Vista, resulting in lower projected ADT since travel times increased. Conversely, TDM refinements resulted in higher ADTs for the Vista Boulevard corridor alternative versus those developed for Level 1 screening.

For Level 2 screening, travel time and ADT screening criteria were measured using the combined score of prorated values for travel time and ADT. In other words, the lowest travel time was given a value of three and the percent difference between the lowest and highest travel time multiplied by three to arrive at a lower relative score. The same was done for ADT with the higher ADT given the full three points. Totals were calculated by adding the two factors together to arrive at a total score for each corridor alternative.

Travel Time & ADT Scoring Criteria:



The highest total score received three points and the lowest received two points for the travel time and ADT screening factor as shown in **Table 3**.

Level 2 Screening by Travel Time & ADT		
Screening Factor	Corridor Alternatives	
	Vista	La Posada
Average Daily Trips	4,478	2,597
Travel Time (min)	19.7	21.6
Travel Score	3	2

Table 3: *Level 2 Scoring of Corridor by Travel Time and ADT*

Right-of-Way Impacts

To evaluate right-of-way impacts of the two corridor alternatives, a 200-foot corridor width was assumed for both alignments. This width helps account for variations and contingency during the design phase. Portions of the project may ultimately be less than 200-feet, while large cut/fill locations may be wider. Additionally, impact evaluation focuses on the corridor proper with minor right-of-way impacts at termini locations omitted. Finally, right-of-way impacts were calculated based on the total corridor impact in acres to privately owned property. Public land was not included as it does not require acquisition through the Uniform Relocation Act of 1970 and is negotiated between public agencies.

Right-of-Way Scoring Criteria:

1	More than 100.1 acres of private land impacted & more than 10 private landowners
2	50.1 to 100 acres of private land impacted & 5 to 10 private landowners
3	0 to 50 acres of private land impacted & less than 5 private landowners

Level 2 Screening by Right-of-Way Impacts		
Screening Factor	Corridor Alternatives	
	Vista	La Posada
Private Parcels/Owners	5	24
Private Parcel Acreage	51.1	225.5
ROW Score	2	1

Table 4: *Level 2 Scoring of Corridor by Right-of-Way Impacts*

Therefore, right-of-way impacts should only consider private parcels, as the total private parcels impacted, which would require coordination with multiple property owners, and total acres of private property impacted which would add significant cost to acquire that land. The private land impacts are scored and summarized in **Table 4** and illustrated in **Figure 14** on the following page. It should be noted; **all right-of-way impacts are conceptual and subject to revision**.

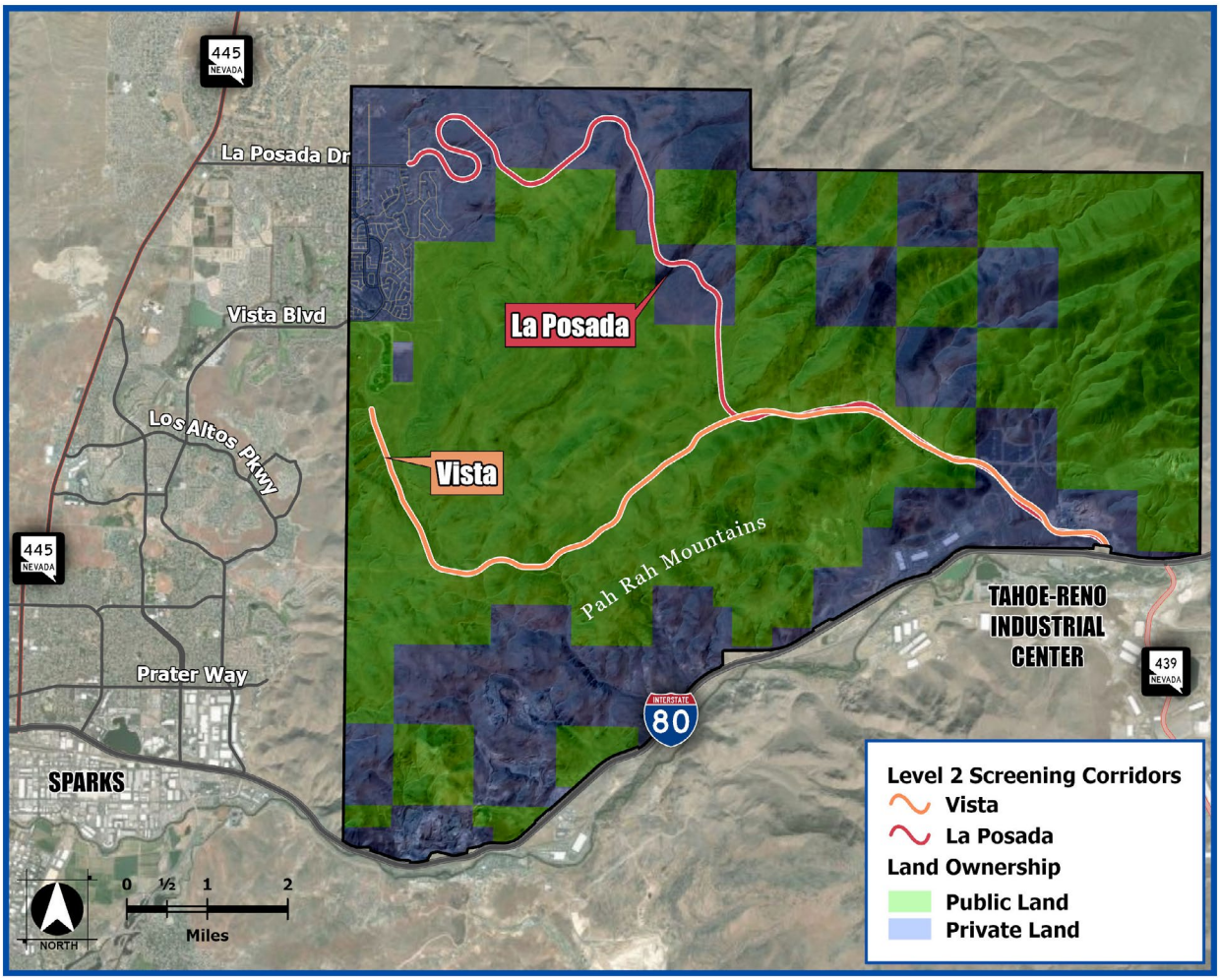


Figure 14: *Public Lands and Level 2 Alternatives Map*

Utility Impacts

Conceptual impacts to utilities were evaluated using the corridors to access the total number of impacts and degree of intensity. There are three main utilities located between the western termini and the Apple property to the east. This segment is the focus of this evaluation as utility impacts will likely be similar between the two corridors otherwise. The existing utilities are NV Energy, Vero Fiber Optic, and Great Basin Gas. The degree of intensity is evaluated based on the conceptual costs for utility impacts used in the conceptual cost estimate provided later in this chapter.

Utility Impacts Scoring Criteria:

1	More than 10 utilities impacted and/or $2M or more in utility impacts
2	6 to 10 utilities impacted and/or $1M-$2M in utility impacts
3	Fewer than 5 utilities impacted and/or fewer than $1M in utility impacts

Level 2 Screening by Utility Impacts		
Screening Factor	Corridor Alternatives	
	Vista	La Posada
Number of Utilities	3	3
Estimated Cost	$1.5M	$1M
Utility Score	3	3

Table 5: *Level 2 Scoring Corridor by Utility Updates*

The results of the utility impact evaluation are shown in **Table 5** Both corridors impact that same utilities with the Vista corridor at a higher risk of more intense impact.

Construction Impacts

Construction impacts, or constructability, refer to the ability and ease by which a project can be built. The more risks associated with a construction project, the less constructable it becomes. While most projects can ultimately be built, constructability helps consider the overall risk profile of a project. For this Level 2 screening, constructability is the qualitative evaluation of construction ease including geotechnical, construction access, drainage, maintenance of traffic (MOT), and special features, namely bridge structures and retaining walls. Each of these constructability factors are qualitatively evaluated to determine an overall constructability screening score as shown in **Table 6**. The quantities for structures and retaining walls reflect the quantities used in the conceptual cost estimate later in this chapter.

Construction Impacts Scoring Criteria:

1 — Sizeable challenges to construction requiring creative approaches

2 — Some impediments but readily mitigated

3 — No major obstacles to construction

Level 2 Screening by Construction Impacts		
Screening Factor	Corridor Alternatives	
	Vista	La Posada
Geotech Report (Appendix B)	No significant differences	No significant differences
Construction Access	Open land with good access	Open land with good access
Drainage Crossings	18	20
Maintenance of Traffic	Minor required at termini	Minor required at termini
Structures (sq. ft.)	25,600 ft2	46,900 ft2
Retaining Walls (sq. ft.)	22,600 ft2	5,600 ft2
Construction Impact Score	3	2

Table 6: *Level 2 Scoring of Corridor by Construction Impacts*

Maintenance

Looking beyond initial construction, long-term maintenance is an important factor for agencies to consider as building the project creates an ongoing maintenance commitment. For Level 2 screening, maintainability consists of a qualitative evaluation of maintenance ease including structures, drainage, and roadside features (e.g., guardrail). These maintainability factors were evaluated as shown in **Table 7** to determine an overall maintainability score.

Maintenance Scoring Criteria:

1	Unique conditions or features that create an undue burden
2	Some unique conditions or features but not an undue maintenance burden
3	No unique or maintenance-heavy conditions or features

Level 2 Screening by Maintenance		
Screening Factor	**Corridor Alternatives**	
	Vista	**La Posada**
Snow Removal (max elevation)	5,470 ft	5,886 ft
Roadway Length (linear ft)	66,689 ft	77,459 ft
Number of Drainage Crossings	18	20
Structures (sq. ft.)	25,600 ft2	46,900 ft2
Retaining Walls (sq. ft.)	22,600 ft2	5,600 ft2
Guardrail (linear ft)	17,000 ft	27,200 ft
Maintenance Score	2	2

Table 7: *Level 2 Scoring of Corridor by Maintenance*

Community Impact & Stakeholder Preference

New roadway connections change travel patterns, which, given the mostly residential context of the western termini, can impact adjacent neighborhoods. The community impact screening factor is a qualitative evaluation of impacts to adjacent neighborhoods.

Community Impact & Stakeholder Preference Scoring Criteria:

1	Sizeable physical impacts and disruptions that require modification or further analysis to gain stakeholder support
2	Some physical impacts and disruptions, split of support/non-support among stakeholders
3	Minor, generally non-physical impacts and generally positive stakeholder support

This evaluation is described below:

2 **Vista** – For Study purposes, the western terminus ties into existing Vista Boulevard, which is designated as an arterial. More specially, there is an existing signalized intersection serving Golden Eagle Regional Park and nearby development. This location provides a logical connection to the regional road network. Access points to Golden Eagle Regional Park would need to be modified to tie into the new roadway with little to no impact on the park's existing circulation, parking, or use. There would be no foreseeable impact to existing homes or private property. Stakeholders did note some concern with induced trips through neighborhoods to the north and east to access the new roadway and the scoring established to reflect this concern.

2 **La Posada** – For Study purposes, the western terminus ties into the eastern end of La Posada Drive. While La Posada Drive west of Cordoba Boulevard is designated a collector, east of there where the La Posada corridor alignment ties into existing La Posada Drive, it is designated as a local road, with driveways directly accessing the road. In addition, the Highlands neighborhood fronts this terminus area and some private right-of-way acquisition required north of the Highlands. Given this context, a new roadway would impact the character of the adjacent community. No stakeholder preference was noted for or against the La Posada corridor alternative.

It should be noted that this Study evaluates overall corridor feasibility. Future project development will further consider roadway termini and there are opportunities to mix and match tie-in locations (e.g. La Posada terminus with the Vista Boulevard corridor).

Level 2 Screening Factor Summary

The seven screening factors and scoring outlined above are summarized in **Table 8.** As shown, the Vista corridor alignment scores better when evaluated against all seven Level 2 screening factors.

Total Level 2 Overall Corridor Scoring		
Screening Factor	**Corridor Alternatives**	
	Vista	**La Posada**
Environmental Impact	1	1
Travel Time & ADT	3	2
Right-of-Way Impact	2	1
Utility Impacts	3	3
Construction	3	2
Maintenance	2	2
Community Impact & Stakeholder Preference	2	2
Overall Score	**16**	**13**

Table 8: *Level 2 Total Scoring*

Conceptual Cost Estimates

The Level 2 corridor alternatives were developed to a conceptual design level and, along with quantities extracted from the Quantum program, conceptual cost estimates were prepared. These estimates are shown in detail in Appendix I. Conceptual cost estimates are intended to depict the relative order of magnitude costs between the two corridor alternatives and inform Level 2 screening. It is acknowledged that cost estimates will continue to be refined during subsequent project development. The conceptual costs are shown in **Figure 15** below.

Figure 15: *Conceptual Cost Estimates (does not include $32,000,000 for the optional La Posada Dr & Vista Blvd connection)*

Level 2 Alternative Screening Results

Based on the results of the Level 2 screening evaluation and the estimated 64-percent higher cost for the La Posada corridor alternative, the Vista Boulevard (Golden Eagle) corridor alternative is the recommended corridor to be considered for potential future project development, and the La Posada corridor alternative is screened out as shown in **Figure 16.**

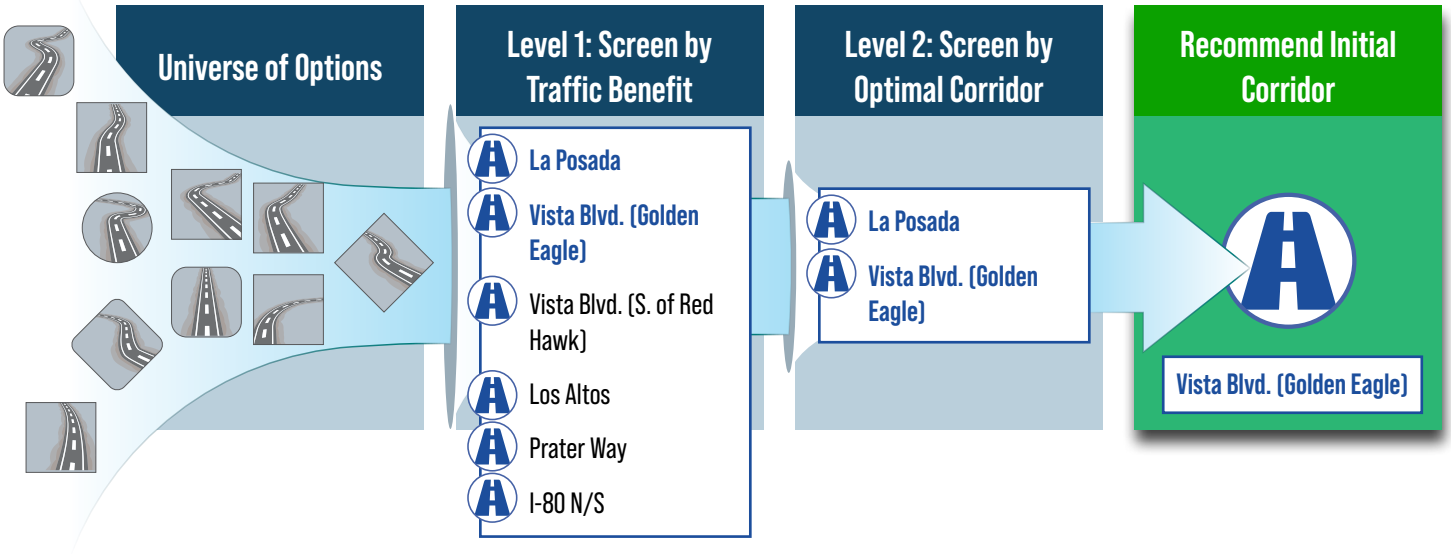


Figure 16: *Level 2 Screening Results*

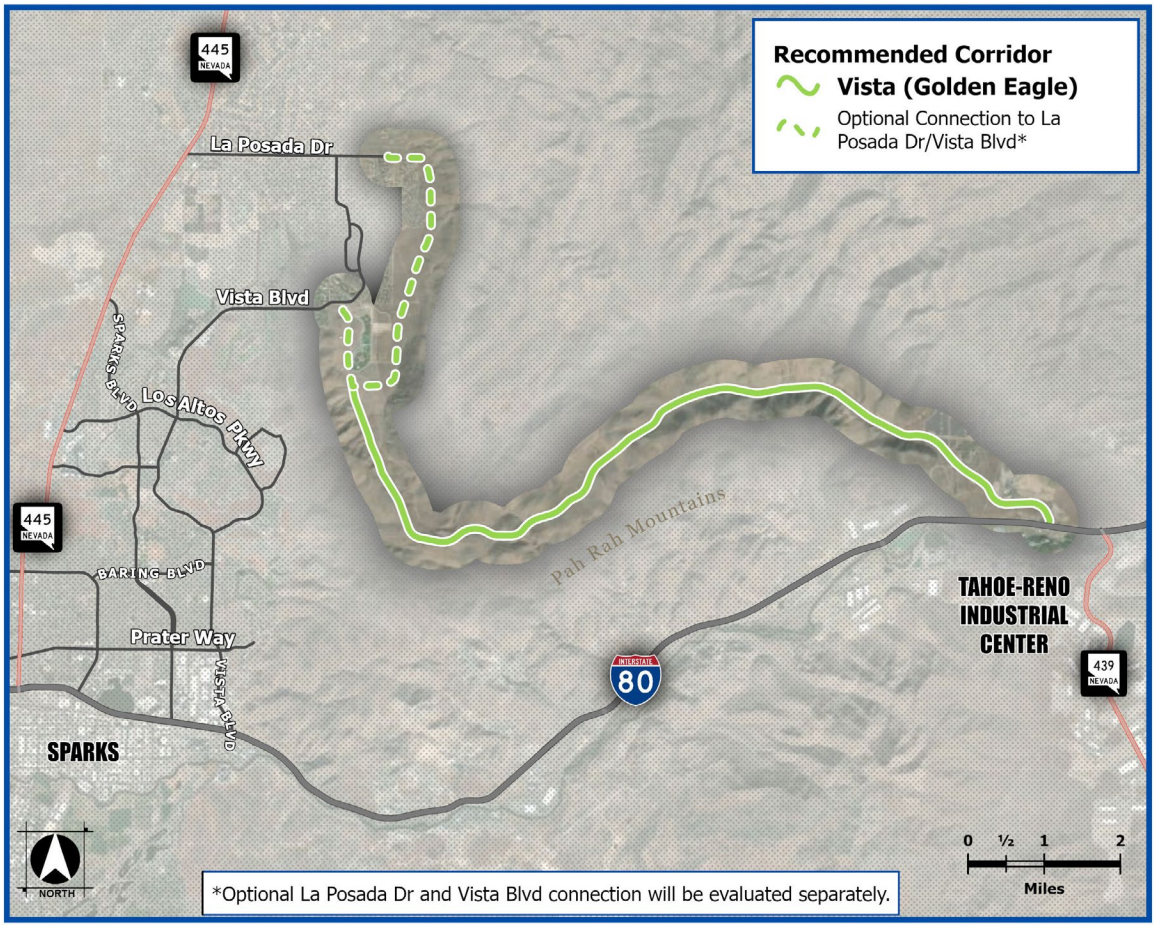


Figure 17: *Vista Blvd. (Golden Eagle) Recommended Corridor Map*

Conclusions And Next Steps

A new roadway connection between Sparks and TRI Center would help reduce congestion along I-80, increase traveler safety/reliability, and support economic development. The Vista Boulevard (Golden Eagle) corridor is the recommended feasible alternative to consider for potential future project development. This Study was completed at a high level to establish feasibility and inform regional decisions. If the project were to advance, a more detailed engineering analysis and required environmental review will need to be conducted to recommend for National Environmental Policy Act (NEPA) review and submittal to the BLM for approval to acquire the necessary right-of-way to construct the road. This includes further consideration and refinement of exact terminus and associated improvements, including consideration of the optional connection from Vista Boulevard to La Posada Drive as shown in **Figure 17.**

Any project advancement is pending available funding, and construction funding would require a regional/multi-county approach for a project of this magnitude.