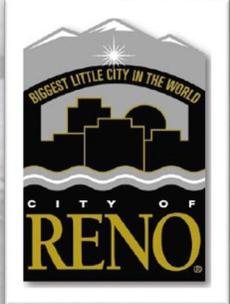
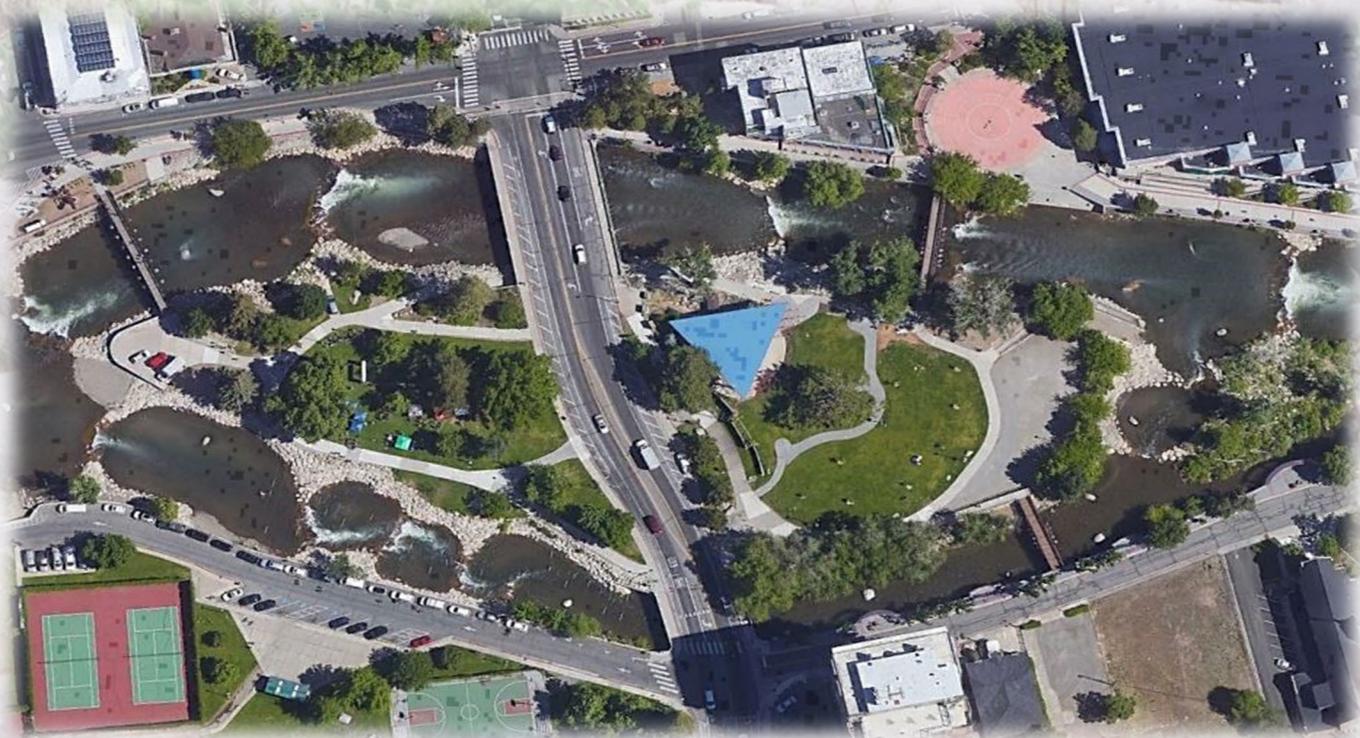


Feasibility Study for



ARLINGTON AVENUE

BRIDGES REPLACEMENT

Public Information Presentation | March 2021



Purpose of This Presentation



- ✓ Summarize Purpose and Need
- ✓ Present Project updates
- ✓ Receive your input on the recommended concepts and aesthetic theme
- ✓ Share Ideas and Suggestions

Take the survey to provide input
to the Project Team!

Project Scope

- ▶ Complete a feasibility study to define future scope, constraints, cost
- ▶ Goal - Evaluate a range of possible bridge and aesthetic options
- ▶ Outcome - bridge type and aesthetic package identified to carry forward into NEPA clearance and design
 - ▶ Document decisions using a process called Planning and Environmental Linkages (PEL)



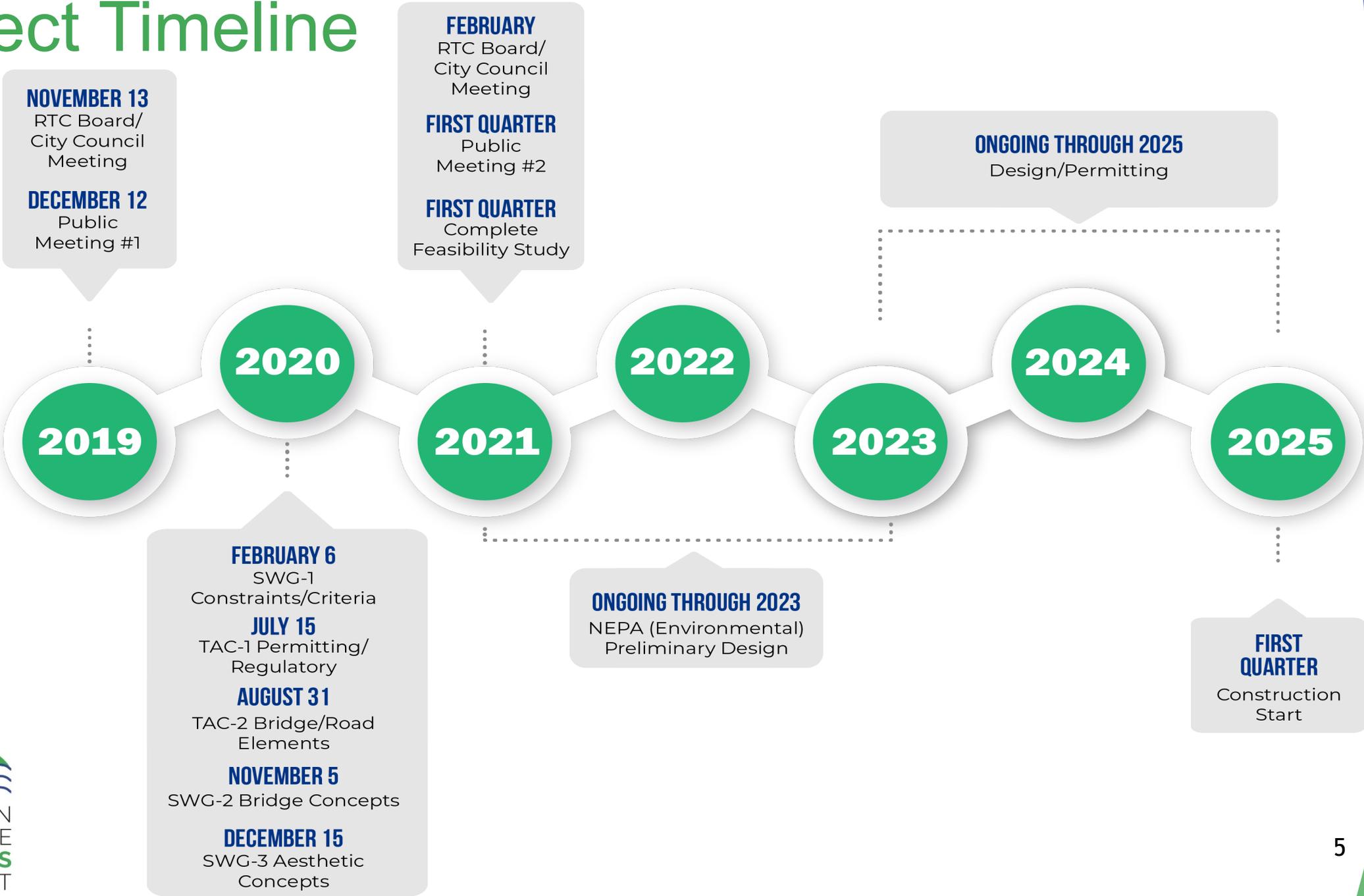
Your input and comment during this study will be used to support a future environmental analysis for the National Environmental Policy Act (NEPA)

Purpose and Need

- ▶ Address structurally deficient bridges
- ▶ Preserve the hydraulic capacity of the Truckee River
- ▶ Provide Safe and ADA compliant multimodal improvements
- ▶ Respond to adopted regional and community plans



Project Timeline



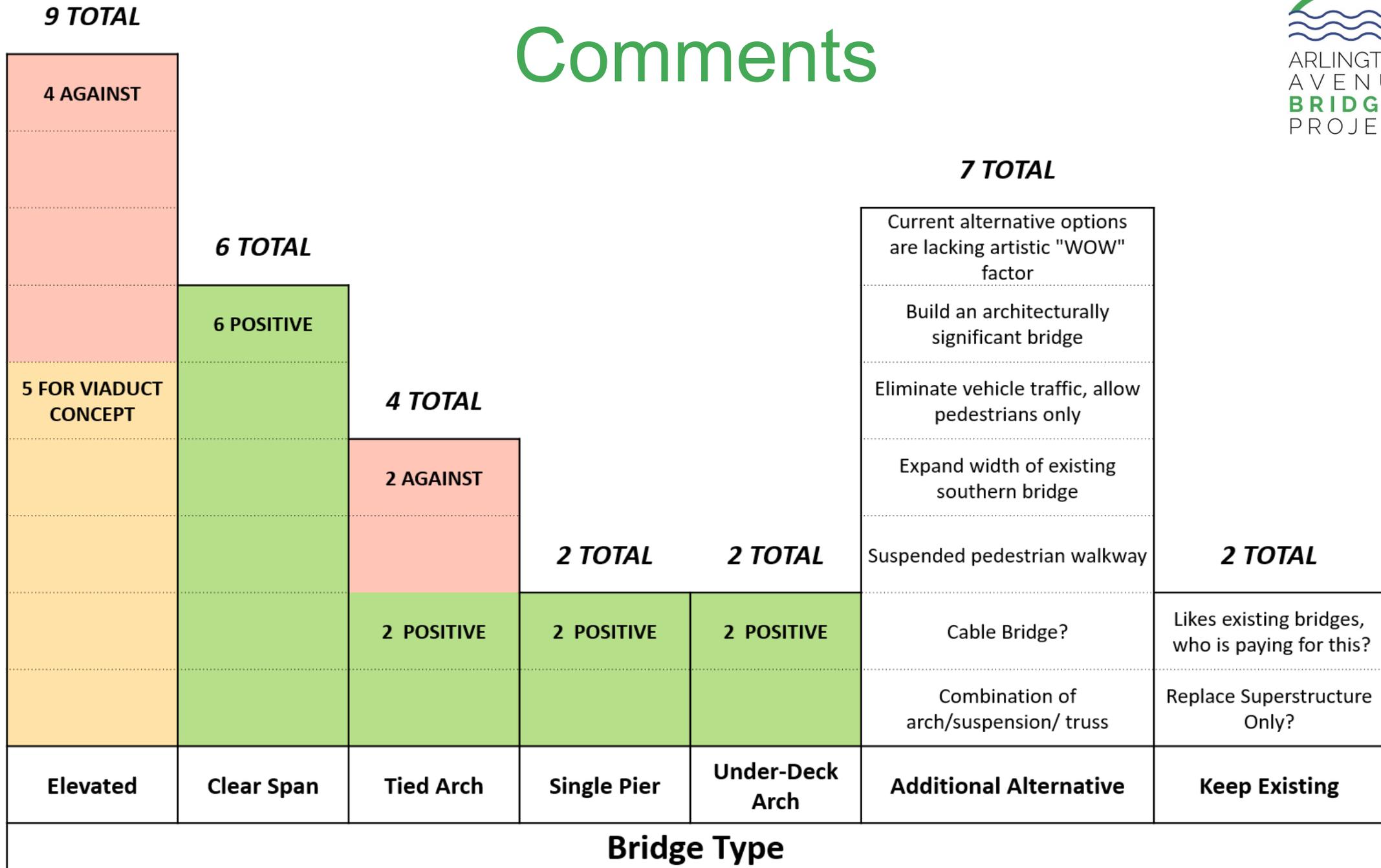
Public Meeting #1

Public Meeting #1

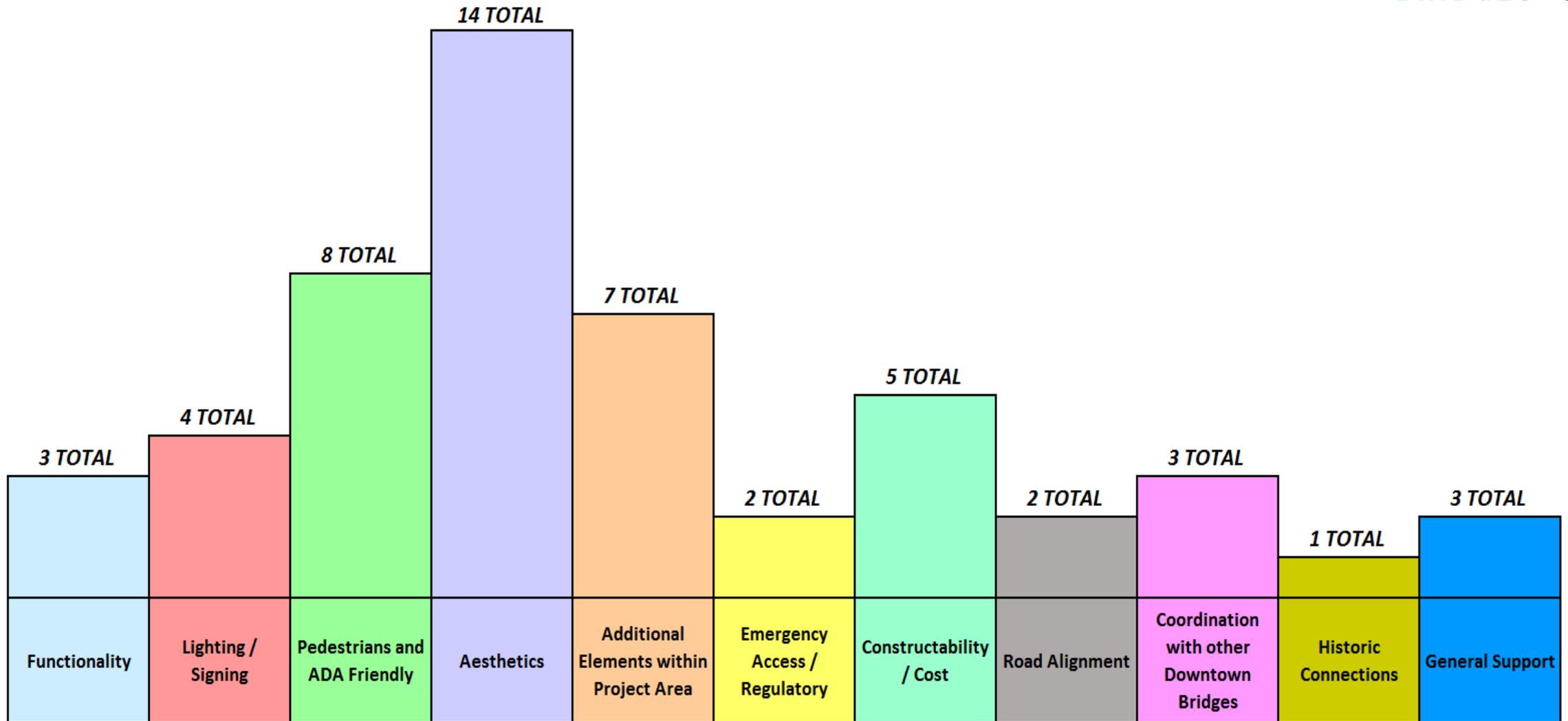
- ▶ Introduce the Project and present the process
- ▶ Open-house format
- ▶ Input received shaped the constraints and criteria presented at SWG-1
- ▶ Comments - what did you tell us?
 - ▶ 2,455 invited via mail
 - ▶ 45 attended 24 people made comments
 - ▶ 2 people gave comments to court reporter
 - ▶ 19 people provided comment cards
 - ▶ 3 people provided comments via email



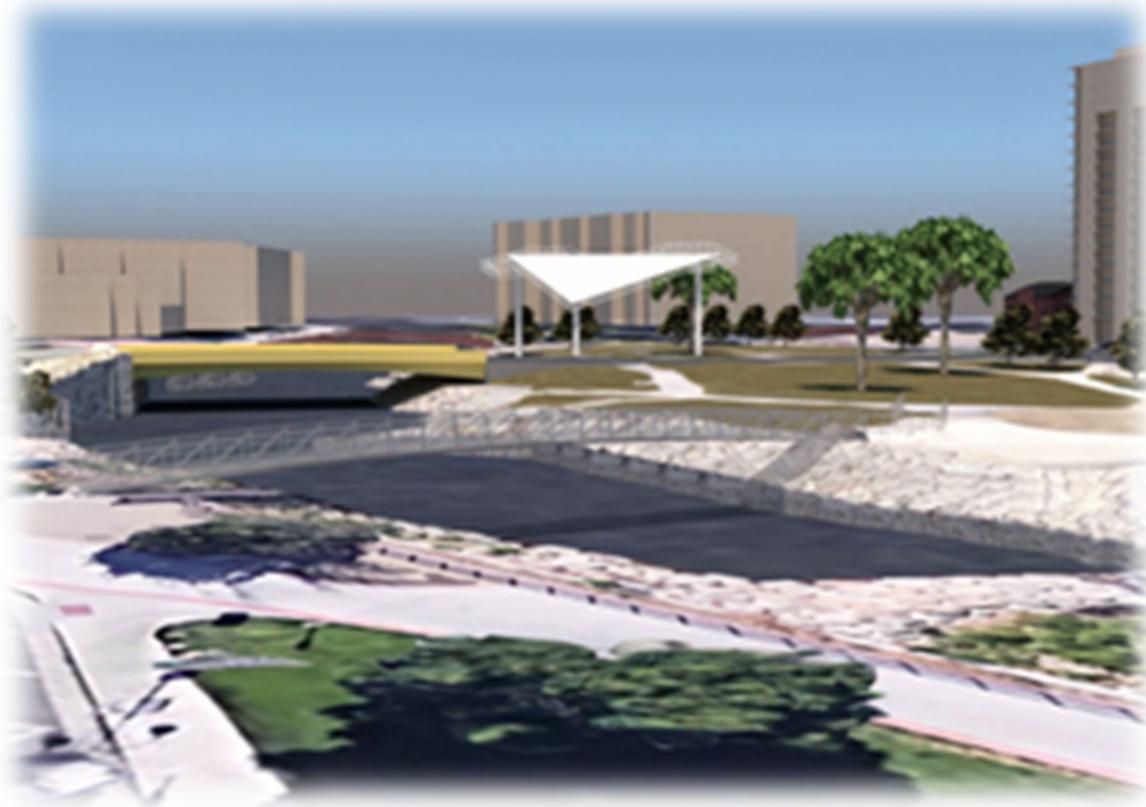
Comments



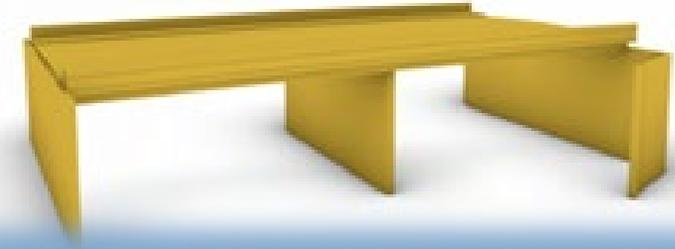
Comments



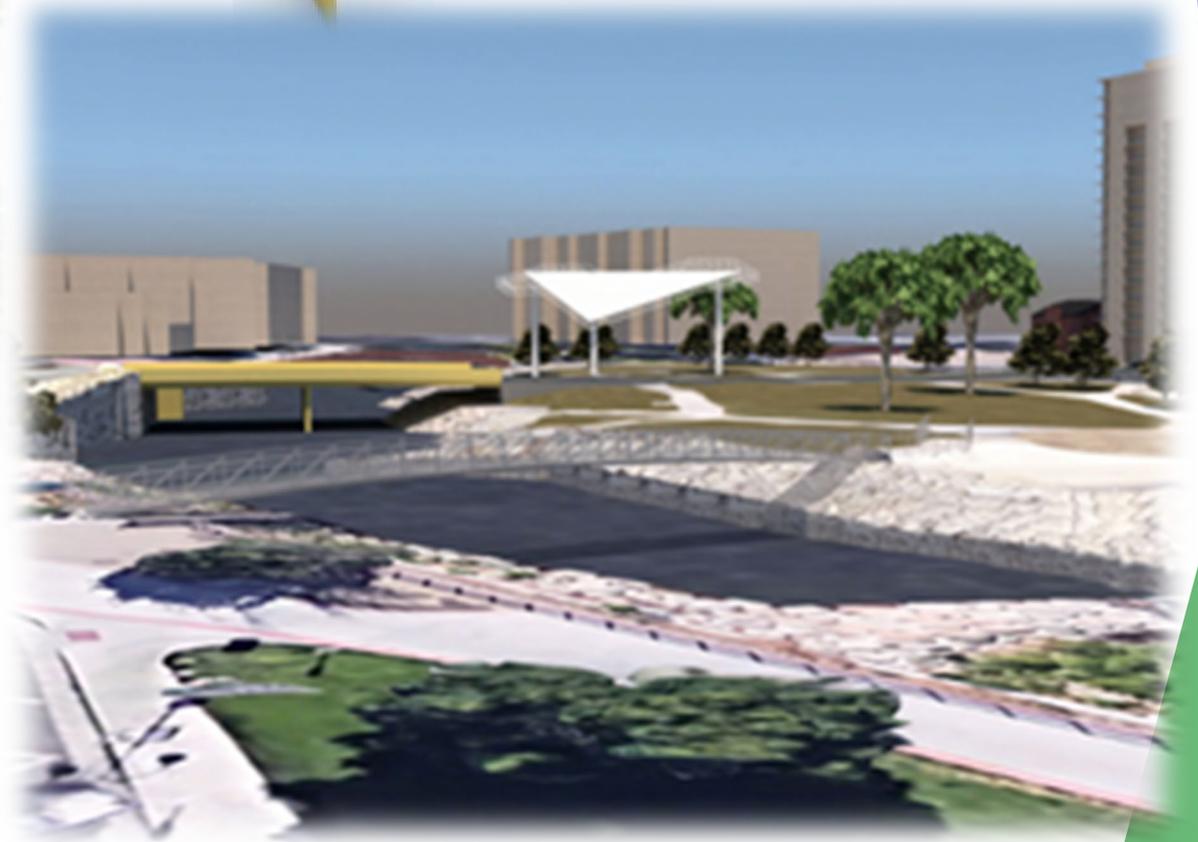
Five Original Alternatives



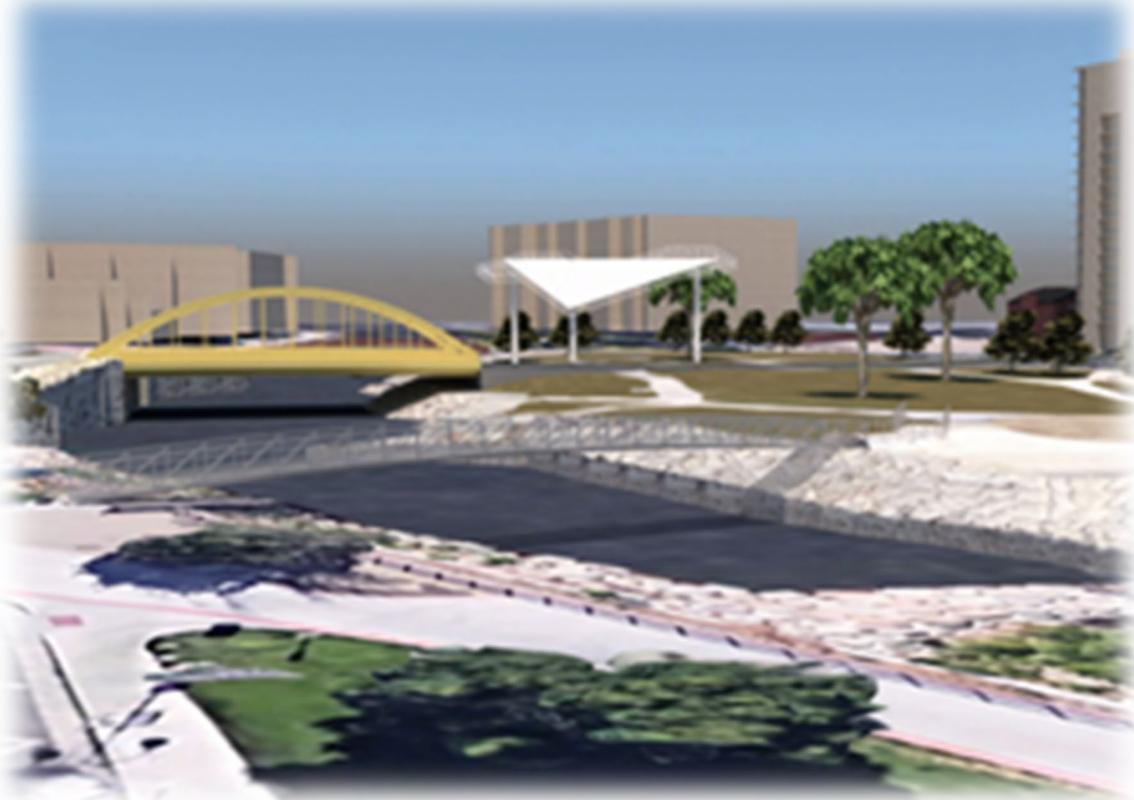
Single Pier



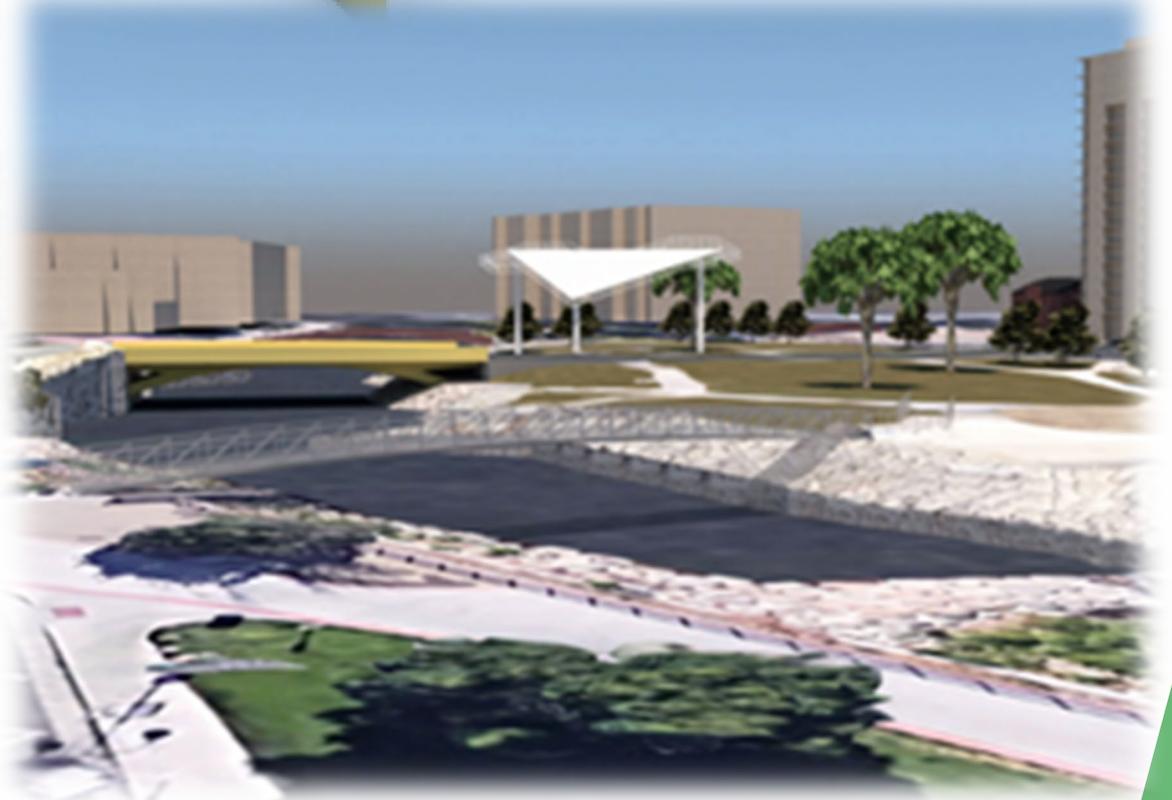
Clear Span



Five Original Alternatives

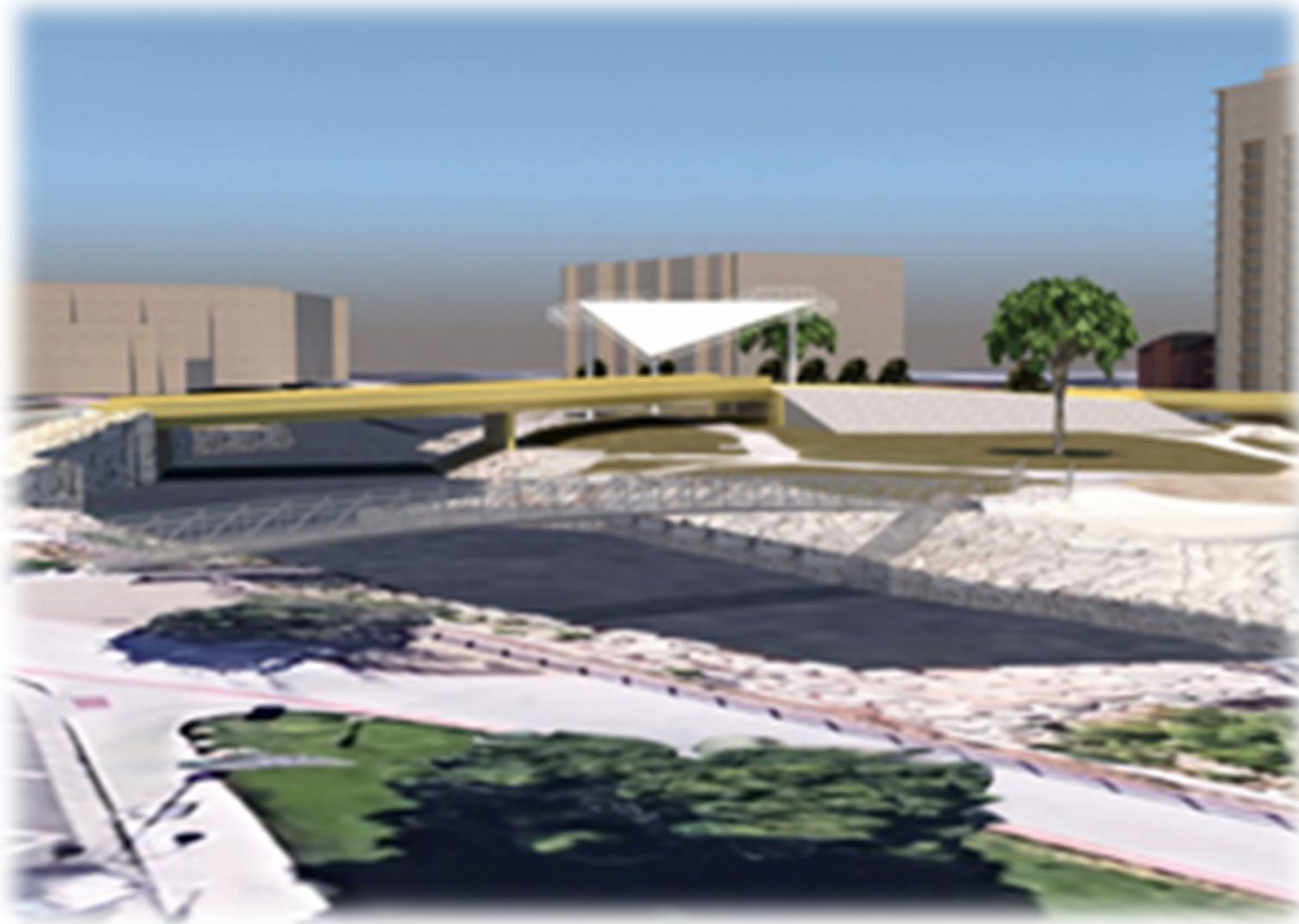


Underdeck Arch



Tied Arch

Five Original Alternatives



Elevated Bridge



Technical Advisory Committee



Technical Advisory Committee #1 (TAC-1)

- ▶ Permitting/Regulatory requirements
- ▶ Confirmed permits required and timeframes to obtain
- ▶ Noted additional requirements

Technical Advisory Committee #2 (TAC-2)

- ▶ Bridge/Roadway elements
- ▶ 5 Original Alternatives further developed into 9 Concepts
- ▶ Level 1 screening performed
- ▶ Recommended Concepts to carry forward for additional analysis

TAC-1 Members

- ▶ **City of Reno (CoR)**
 - ▶ Kerrie Koski, Public Works Capital Projects Dept.
 - ▶ Claudia Hanson, Historic Resources Commission
 - ▶ Jaime Schroeder, Parks, Recreation & Community Services Dept.
 - ▶ Kerri Lanza, Environmental Engineering Dept.
- ▶ **Ron Penrose**, Carson Truckee Water Conservancy District (CTWCD)
- ▶ **Del Abdalla**, Federal Highway Administration (FHWA) - Nevada Division
- ▶ **Chris Young**, Nevada Dept. of Transportation (NDOT)
- ▶ **Scott Nebesky**, Reno-Sparks Indian Colony (RSIC)
- ▶ **Anthony Sampson**, Pyramid Lake Paiute Tribe (PLPT)
- ▶ **Rebecca Palmer**, State Historic Preservation Office (SHPO)
- ▶ **Jennifer Thomason**, U.S. Army Corps. Of Engineers (USACE)
- ▶ **Andrew Dickson**, Nevada Division of Environmental Protection (NDEP)
- ▶ **Deann McKay**, Nevada Division of State Lands (NDSL)

TAC-2 Members



- ▶ **Jessen Mortensen**, Nevada Department of Transportation (NDOT) - Bridge Division
- ▶ **Dale Wegner**, Federal Highway Administration (FHWA) - Nevada Division
- ▶ **Regional Transportation Commission (RTC)**
 - ▶ Brian Stewart, Engineering
 - ▶ Doug Maloy, Engineering
 - ▶ Dan Doenges, Planning
- ▶ **City of Reno (CoR) Departments**
 - ▶ Kerrie Koski, Public Works Capital Projects
 - ▶ Travis Truhill, Public Works Maintenance
 - ▶ Jaime Schroeder, Parks, Recreation & Community Services
 - ▶ Kurt Dietrich, Public Works Traffic
 - ▶ Theresa Jones, Stormwater
 - ▶ David Cochran, Fire Department

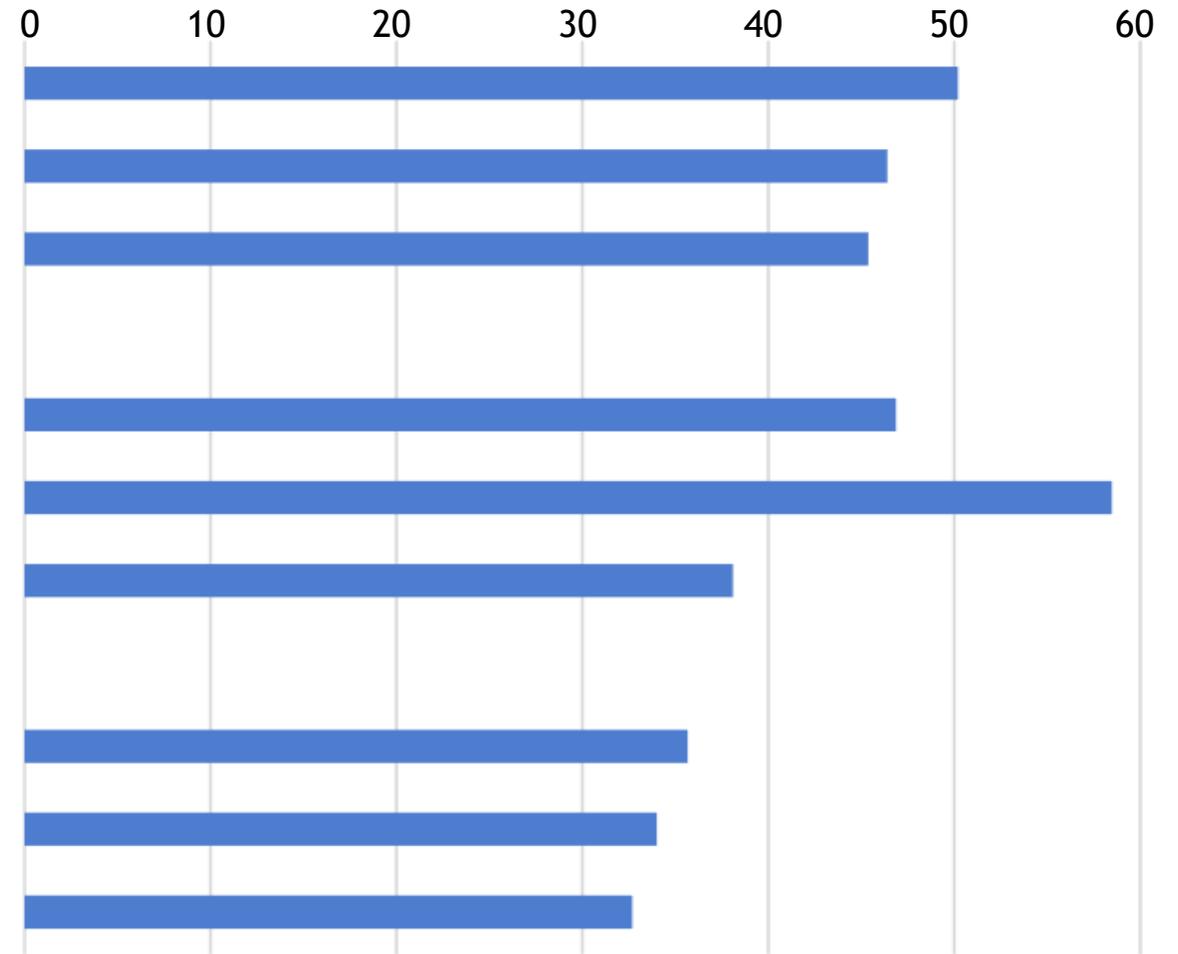
TAC-2 Scoring Sheet

		Name:									
Attribute		Construction Cost	Construction Schedule and Cost Risks	Existing Infrastructure Impacts	Maintenance and Inspection Access	Long Term Maintenance Costs	Environmental Impacts	River Recreation Impacts	Bridge Aesthetics	Attribute Y	Attribute Z
ID	Alternative Description	Attribute Score (a)									
North Bridge	Single Pier Concept										
	SP-N1	Precast Concrete Girders									
	SP-N2	Cast-in-Place Concrete Box									
	SP-N3	Steel I-Girders									
	Clear Span Concept										
	CS-N1	Underdeck Arch									
	CS-N2	Rigid Frame									
CS-N3	Tied Arch										
N&S Bridges	Elevated Bridge Concept										
	EB-NS1	Precast Concrete Girders									
	EB-NS2	Cast-in-Place Concrete Box									
	EB-NS3	Steel I-Girders									
(a) Attribute Score: Excellent = 10; Good = 7; Fair = 4; Poor = 1											
See "Qualitative Attribute Guidelines" and "Concept Evaluation" summaries for additional information											

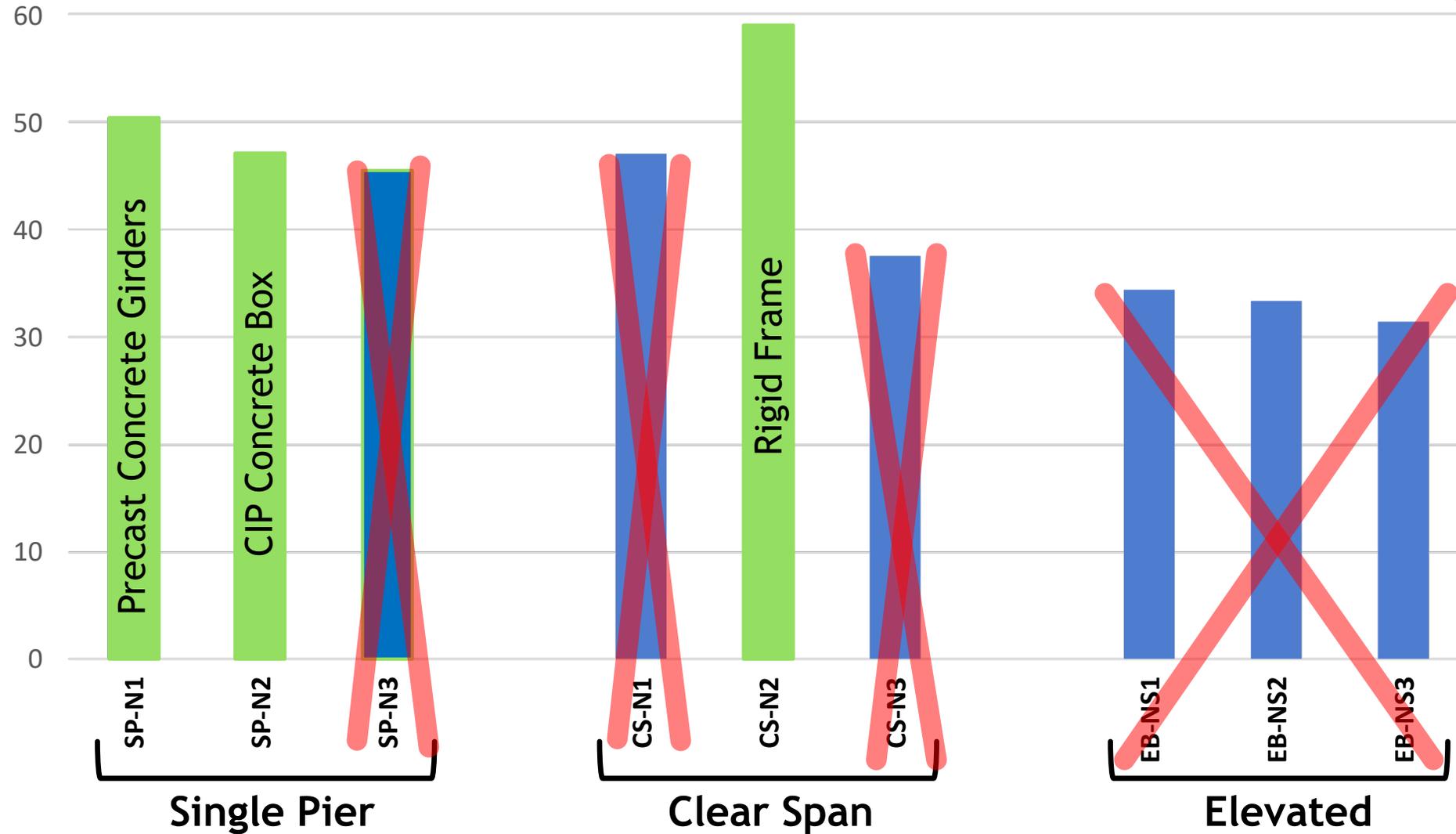
Scoring Results



		Score	Rank
North Bridge	Single Pier Concept		
	SP-N1 Precast Concrete Girders	50	2
	SP-N2 Cast-in-Place Concrete Box	46	4
	SP-N3 Steel I-Girders	45	5
	Clear Span Concept		
	CS-N1 Underdeck Arch	47	3
	CS-N2 Rigid Frame	58	1
CS-N3 Tied Arch	38	6	
N&S Bridges	Elevated Bridge Concept		
	EB-NS1 Precast Concrete Girders	36	7
	EB-NS2 Cast-in-Place Concrete Box	34	8
	EB-NS3 Steel I-Girders	33	9



TAC-2 Recommendation



Stakeholder Working Group

Stakeholder Working Group #1 (SWG-1)

- ▶ Engineering Design and Environmental Constraints and Criteria
- ▶ Open-house meeting format
- ▶ 31 invited 19 attended

Stakeholder Working Group #2 (SWG-2)

- ▶ Bridge/Roadway Elements
- ▶ Provide input from TAC-1 and TAC-2
- ▶ 31 invited 13 attended
- ▶ Group concurrence during virtual meeting

Stakeholder Working Group #3 (SWG-3)

- ▶ Aesthetic Theme
- ▶ 31 invited 19 attended
- ▶ Group concurrence during virtual meeting



SWG Members



- ▶ Guy Zewadsk, Arlington Tower HOA
- ▶ Greg Erny, **Architects +**
- ▶ City of Reno
 - ▶ Alexis Hill, Arts, Culture & Special Events
 - ▶ Kerrie Koski, Travis Truhill, Kerri Lanza, Public Works (capital projects, maintenance, and environmental engineering)
 - ▶ Jaime Schroeder, Parks, Recreation & Community Services
 - ▶ Jack Mayes, Access Advisory Committee
 - ▶ Claudia Hanson, Historic Resources Commission
- ▶ Todd Westergard, Carson Truckee Water Conservancy District
- ▶ Alex Stettinski, Downtown Reno Partnership
- ▶ Del Abdalla, Federal Highway Administration
- ▶ Theresa Frisch, Frisch House
- ▶ Mike Fuess, Park Tower HOA
- ▶ Laurie Leonard, Promenade on the River
- ▶ Scott Nebesky, Reno/Sparks Indian Colony
- ▶ Anthony Sampson, Pyramid Lake Paiute Tribe
- ▶ Rebecca Palmer, Nevada State Historic Preservation Office
- ▶ NDOT
 - ▶ Jessen Mortensen, Bridge Division
 - ▶ John L'Etoile, **Landscape Architect Division**
- ▶ Eric Scheetz, Truckee River Flood Management Authority
- ▶ Father Chuck Durante, St. Thomas of Aquinas
- ▶ Jennifer Thomason, U.S. Army Corps of Engineers
- ▶ Gerald Dorn, **Wingfield Condominiums HOA**
- ▶ Tony Harsh, Participant in SWG meetings***
- ▶ Honor Jones, Participant in SWG meetings***

*** Not SWG members but provided input

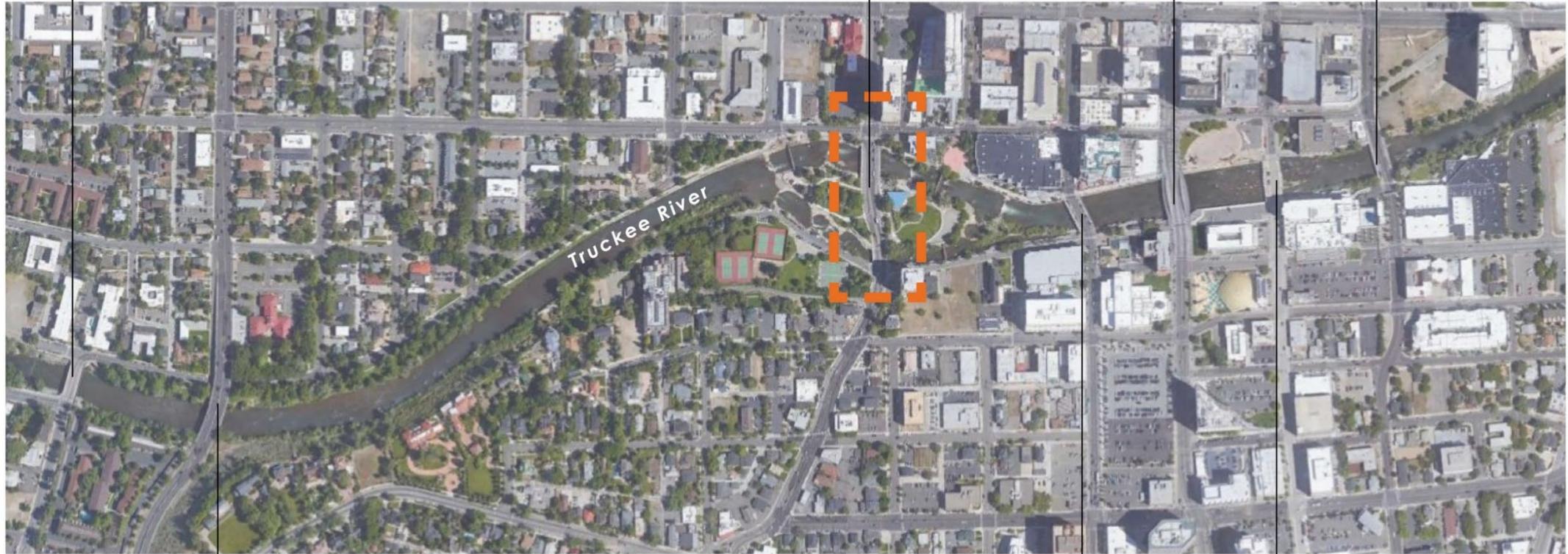
Location Map

**BOOTH STREET
BRIDGE**

PROJECT SITE
**ARLINGTON AVENUE
BRIDGES**

**VIRGINIA
STREET
BRIDGE**

**LAKE STREET
BRIDGE**



**KEYSTONE
AVENUE BRIDGE**

**SIERRA STREET
BRIDGE**

**CENTER STREET
BRIDGE**

--- FUTURE BRIDGE
REPLACEMENT

Opportunities and Constraints



LEGEND

-  Pedestrian Access
-  Bicycle Access
-  Pedestrian footbridges provide ample pedestrian access from adjacent amenities
-  Existing floodwall needs renovation, providing an opportunity to update the formliner pattern
-  Reno Riverwalk termination, bringing foot traffic to Arlington Avenue
-  Opportunity to replace existing pedestrian railing to match new bridge aesthetics
-  Landscape may require regrading if street elevation is raised; maintain existing trees and add street trees
-  Views of Truckee River
-  1 Park amenities include tennis courts, basketball courts, play equipment, and restrooms attracting visitors of all ages
-  2 Park amenities include large grass areas, tree lined pathways, bike and pedestrian access, and river recreation
-  3 Amphitheater hosts concerts in the park, making this location a premier summer destination
-  4 Whitewater park includes drop pools, smooth rocks, deep pools, with many access points, attracting many visitors in summer months
-  5 Existing stone steps are not accessible and poorly designed
-  6 Existing utility boxes are an eyesore, consider relocating
-  7 Street is closed for special events, between First/Island, maintain smooth pedestrian traffic flow across.

Aesthetic Design Goals



Cohesive Design Language

1. Unify the north bridge and south bridge experience with a consistent form language, including the experience on the bridges and viewing the bridges
2. Establish a project theme to unify all the bridge and landscape elements

Enhance Pedestrian Experience

1. Arlington Avenue to act as an urban plaza, using unified materials between sidewalk and street
2. Maintain vantage points of the river and surrounding landscape
3. Enhance pedestrian experience with shade trees, decorative lighting, decorative railing, paving, and sculptural/artistic features

Contextual and Historical Relevance

1. Proposed structural elements will have relevance to the urban context
2. Project shall pay homage to Reno's history, while representing a new age of bridge development within the downtown core

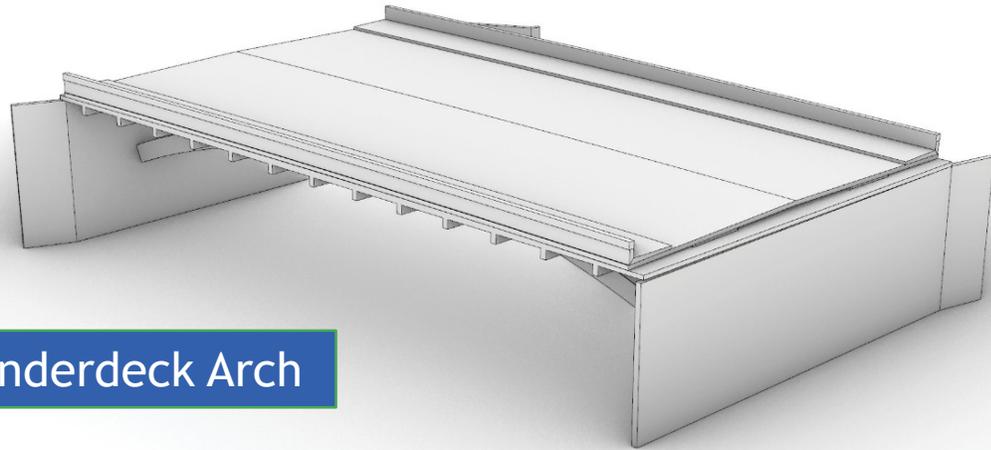
Innovation and Sustainability

1. Low Impact Development (LID)- Street shall be repaved using permeable pavement, concrete pavers, permeable concrete
2. LED lighting
3. Drought resistant and native trees and plantings

Proposed Aesthetic Elements

- Modern Design Elements, A Melding of Old and New
- Pedestrian Scaled Lighting
- Bridge Accent Lighting
- Under Bridge Lighting
- Transparent, Traffic Rated Bridge Railing
- Maintain Pedestrian Accessibility
- Widen Bridge Deck
- Textured Abutment Walls
- Flood Walls
- Plaza Street

Alternatives Eliminated



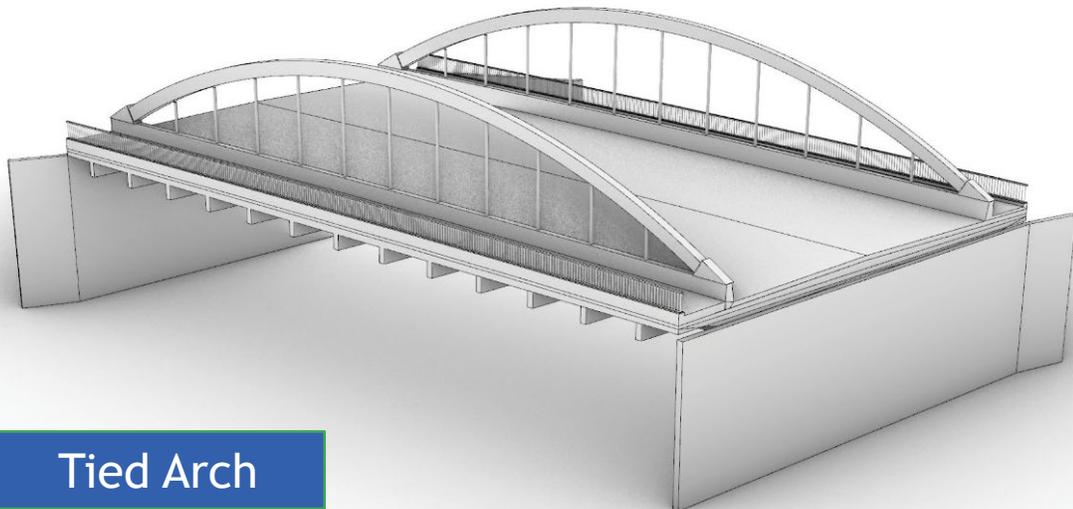
Underdeck Arch

Underdeck Arch

- ▶ Limits space for pathway under bridge
- ▶ Prone to collect debris during flood events
- ▶ Limits clear space over floodwaters
- ▶ Complex design and construction

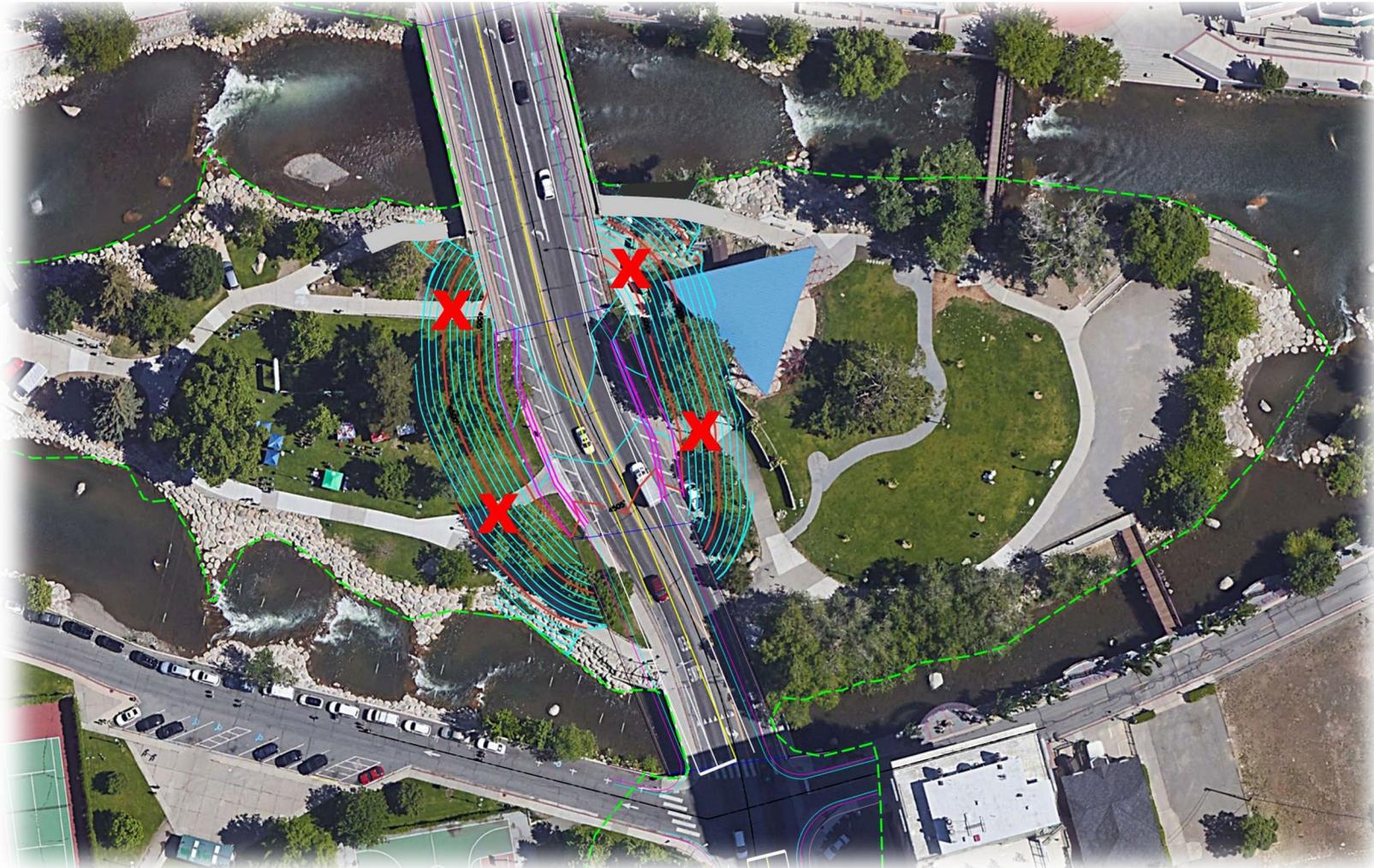
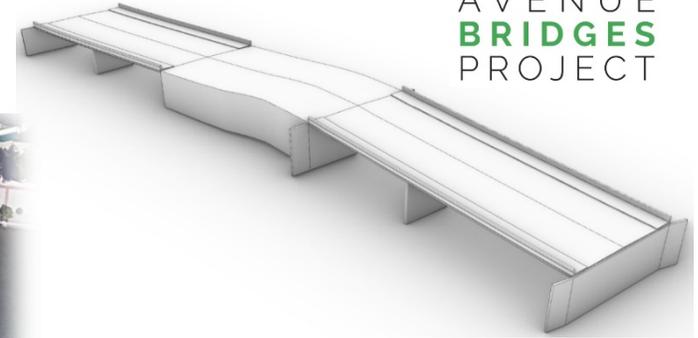
Tied Arch

- ▶ Limits Access
 - ▶ Debris/Sediment removal difficult
 - ▶ Maintenance/inspection of bridge
- ▶ Permitting Challenges
 - ▶ Visually obstructs river/park views
 - ▶ Viewshed impacts
- ▶ Complex design and construction



Tied Arch

Alternatives Eliminated



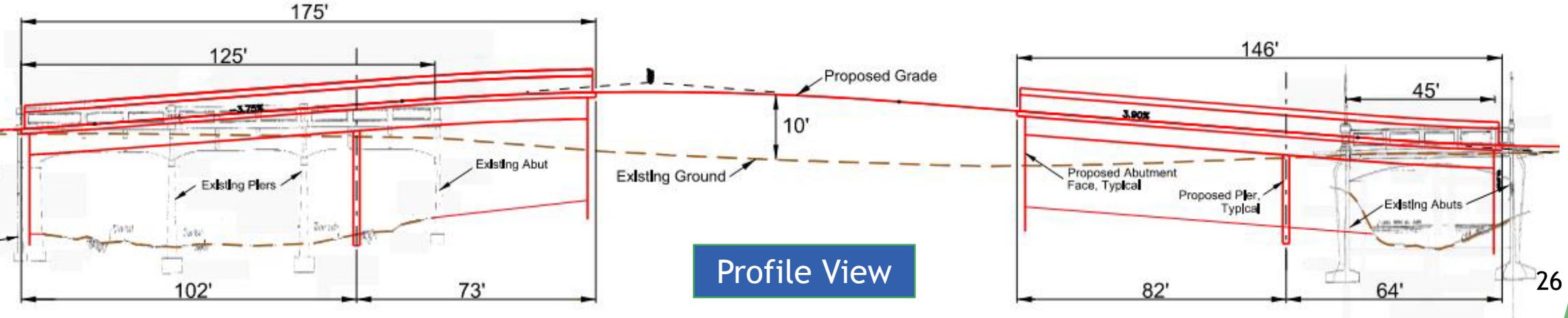
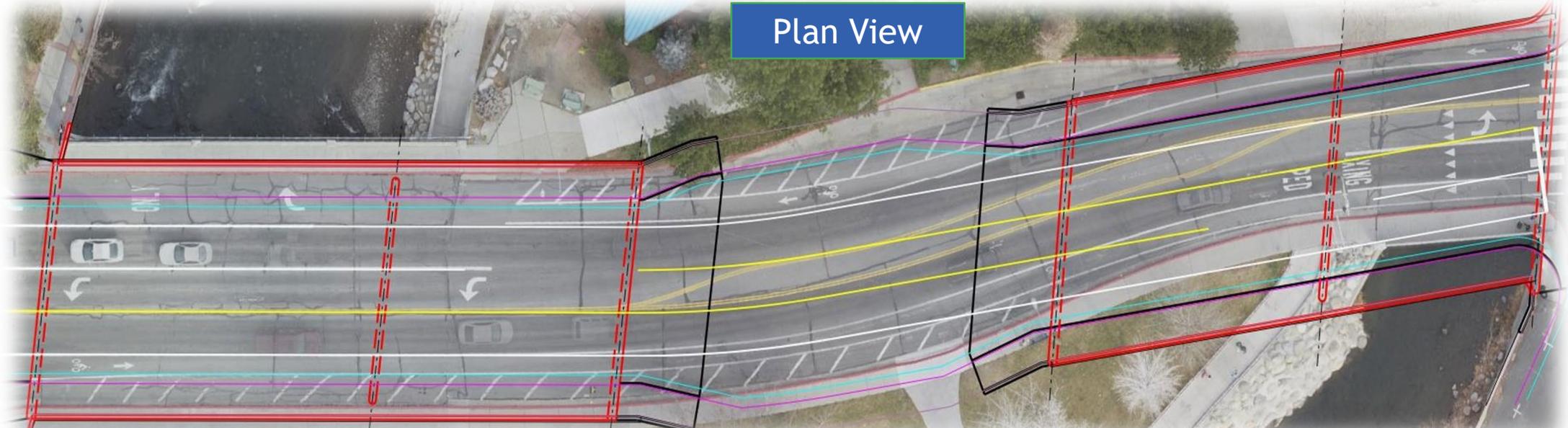
Elevated Bridge

- ▶ Footprint Impacts
- ▶ Mature Tree Removal
- ▶ Pedestrian Circulation
- ▶ Park Functionality
- ▶ Park Access
- ▶ Maintenance Access
- ▶ Viewshed Impacts
- ▶ Permitting Challenges
- ▶ Cost \$7 to \$10 Million More

Elevated Bridge

Alternatives Eliminated

Plan View



Profile View

Recommended Bridge Types



Existing Bridge

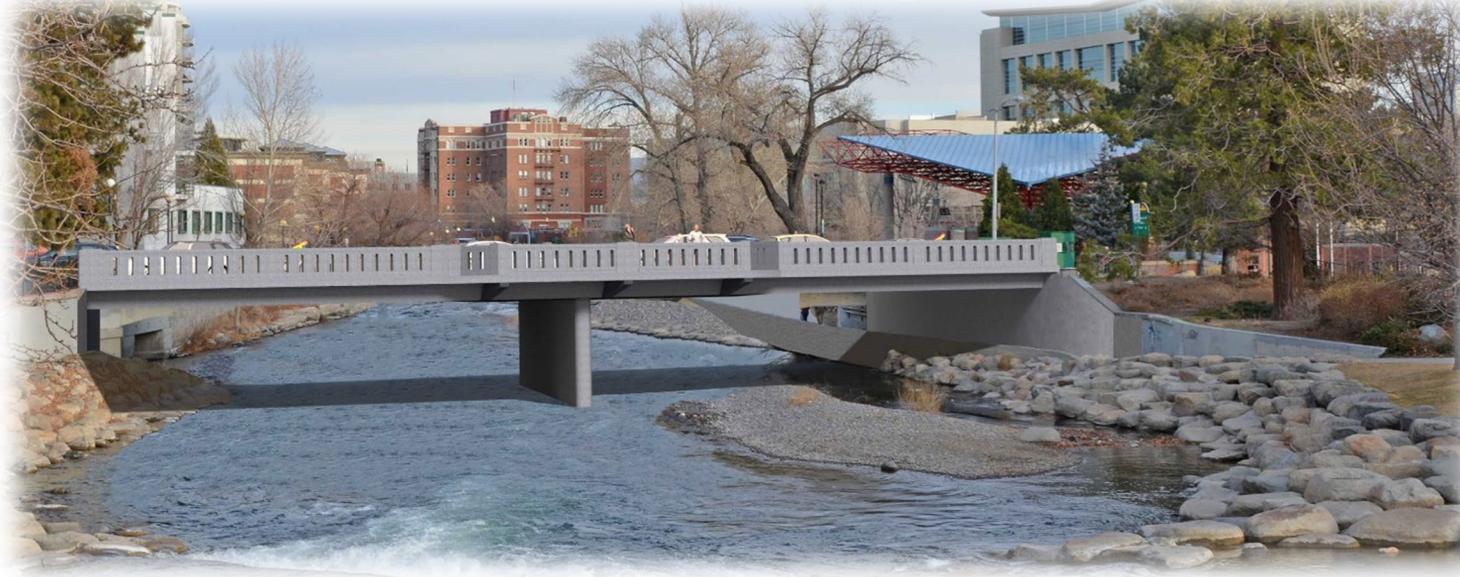


Single Pier



Clear Span

Single Pier Bridge Type



Pros

- ▶ Park Access
- ▶ Park Functionality
- ▶ Vertical clearance at path
- ▶ Thinner deck section
- ▶ Opportunity for increased sidewalk widths/river overlooks
- ▶ Minimum roadway elevation adjustment
- ▶ River/Park views maintained
- ▶ Debris removal during floods
- ▶ Cost - \$17 to \$35 Million

Cons

- ▶ Pier within River
- ▶ Pier wall potential tagging surface

Clear Span Bridge Type



Pros

- ▶ Park Access
- ▶ Park Functionality
- ▶ No pier within River
- ▶ Unobstructed River views
- ▶ River/Park views maintained
- ▶ Open River flow capacity
- ▶ Cost - \$18 to \$39 Million

Cons

- ▶ Thicker deck section, especially at the ends
- ▶ Increase roadway elevation to provide clearance for path
- ▶ Limits clear space over floodwaters
- ▶ Coordination w/ Kayak Park and hydraulic impacts



Recommended Aesthetics

A Melding of Old and New

- ▶ Incorporate modern design elements with a nod to Reno's history and Art Deco historical context
- ▶ Decorative elements will focus on pedestrian lighting, railing design, under-bridge lighting, decorative texture on abutment walls, pilasters and girders

Pedestrian Scaled Lighting

- ▶ Provide modern pedestrian scaled lighting on both bridges, railing, and flood walls



Recommended Aesthetics



Bridge Accent Lighting

- ▶ Bridge aesthetic lighting and under-bridge safety/pedestrian lighting
- ▶ Aesthetic lighting gives vibrancy to bridges at night for visitors viewing the bridges and from below the bridge, could apply to other bridges
- ▶ Design for protection from flooding, debris and vandalism
- ▶ Consider impacts to aquatic species



Recommended Aesthetics



Transparent, Traffic Rated Bridge Railing

- ▶ Provide exterior railing with openings/transparency for viewing river

Pedestrian Accessibility

- ▶ Maintain smooth pedestrian movement across bridges and street into Wingfield Park for special events. Avoid double railing (Virginia and Center Street Bridges)



Widen Bridge Sidewalk or Overlook

- ▶ Provide widened bridge sidewalk or overlook (single pier option only) for pedestrians to view river

Recommended Aesthetics

Transition Areas



- ▶ Consider permeable pavers on the sidewalks to create seamless transitions and provide storm water infiltration
- ▶ Preserve existing trees, replace trees if needed to elevate street.

Abutment and Flood Walls

- ▶ Provide texture on concrete bridge abutment and flood walls to enhance pedestrian/river user experience below the bridge
- ▶ Provide anti-graffiti coating for easier maintenance



Preferred Bridge Type



Single Pier

Why Single Pier?

- ▶ Reduced deck thickness
- ▶ Vertical clearance along path
- ▶ Opportunity for wider sidewalks along bridges
- ▶ Minor profile adjustments for hydraulic model clearance
- ▶ Similar look to existing bridge
- ▶ Maintenance access from bridge allows for debris removal prior to downstream narrowing of river
- ▶ Easier to construct
- ▶ Less expensive

We Need Your Input!



- Online Survey at:
[SurveyMonkey.com/r/RTCArlingtonBridges](https://www.surveymonkey.com/r/RTCArlingtonBridges)
- Email your questions or comments to: jtortelli@rtcwashoe.com reference “Arlington Ave Bridges” in the subject line
- Mail Questions or Comments to:
Judy Tortelli
RTC Project Manager - Arlington Ave Bridges
1105 Terminal Way, Suite 108
Reno, Nevada 89502
- Go to rtcwashoe.com and search “Arlington” for more information

Thank you for Participating!



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