Deer Valley Drive Vision
&
SR-248 Pedestrian and Bike Tunnel

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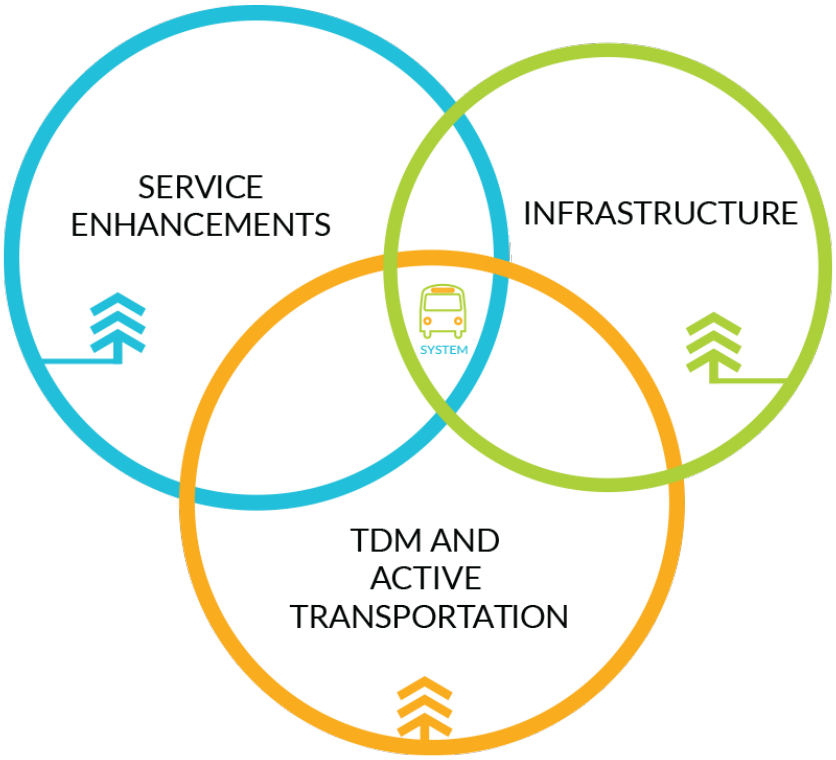
April 24th 2019

Presentation Overview:

- Deer Valley Drive:
  - Project history
  - Alternative analysis
  - Public involvement
  - Vision process
- Tunnel
  - Project benefits/existing conditions
  - Design
  - Anticipated project timeline
- Questions/Discussion

ACTIVE TRANSPORTATION



Projects, Programs and Services that improve mobility and safety; protect the environment; and enhance the economic vitality of the region

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Keeping Utah Moving

PROJECT AREA:
SR-224 / Deer Valley Drive

Project Location

Existing Conditions

ACTIVE TRANSPORTATION

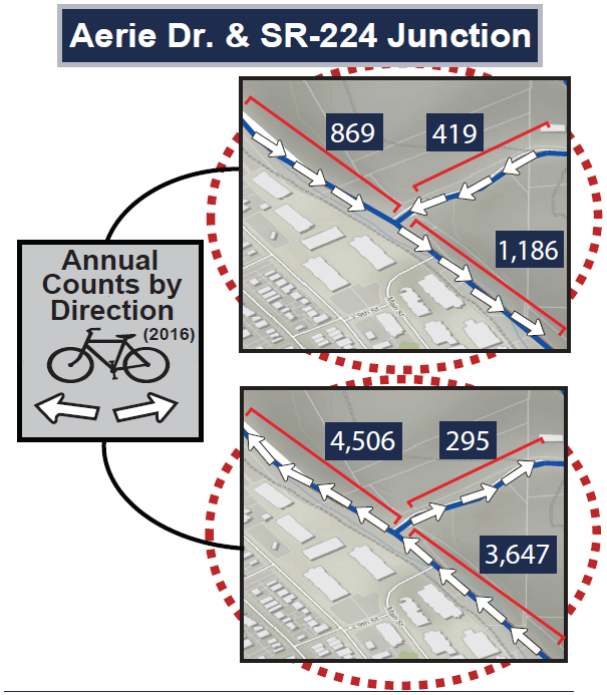
Existing Conditions

ACTIVE TRANSPORTATION

Existing Conditions

Worn Desire Paths on the West Side of SR-224/Deer Valley Drive

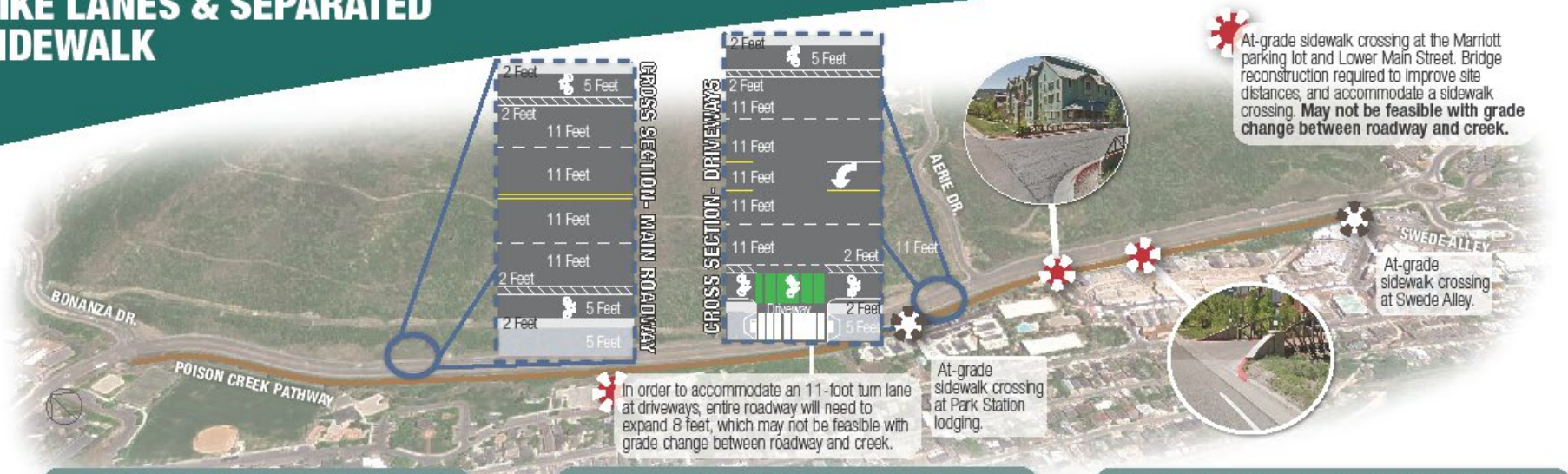
ACTIVE TRANSPORTATION



PROJECT GOALS

Worn Desire Paths on the West Side of SR-224/Deer Valley Drive Winter 2018

BIKE LANES & SEPARATED SIDEWALK



USER EXPERIENCE

LEGEND
\+ Positive Change from Existing
0 No Change from Existing
— Negative Change from Existing

SAFETY	+	+	+	0
MOBILITY	+	+	+	0
CONNECTIONS	+	+	+	0

CONSTRUCTABILITY

LEGEND
High Amount of Constraints — Low Amount of Constraints

ENVIRONMENTAL CONSTRAINTS	• May require retaining wall repair or reconstruction. • Will require working within the hazardous soil boundary.
RIGHT-OF-WAY CONSTRAINTS	• Will require lane reconfiguration and driveway improvements.

PHYSICAL CHARACTERISTICS

- Eliminate center turn lane in order to create space for a bike lane, and create center lane turn pockets whenever necessary.
- Restripe SR-224/Deer Valley Drive for a dedicated bike lane in both directions with a two foot buffer.
- Add a 5-foot sidewalk on the west side of SR-224/Deer Valley Drive.
- Crossings at driveways are at-grade with paint delineated markings. Yield signage for motor vehicles may be necessary to increase compliance.
- Curbside delivery may conflict with bike lane. "No Parking" signs recommended.

COST

*Planning level costs.

BIKE LANE HYBRID

USER EXPERIENCE

LEGEND
+ Positive Change from Existing
0 No Change from Existing
– Negative Change from Existing

SAFETY	+	+	+	0
MOBILITY	+	+	+	0
CONNECTIONS	+	+	+	0

CONSTRUCTABILITY

LEGEND
High Amount of Constraints — Low Amount of Constraints

ENVIRONMENTAL CONSTRAINTS

- May require retaining wall repair or reconstruction.
- Will require working within the hazardous soil boundary.

RIGHT-OF-WAY CONSTRAINTS

- Will require lane reconfiguration and driveway improvements.

PHYSICAL CHARACTERISTICS

- Maintain the center turn lane on SR-224/Deer Valley Drive.
- Restripe SR-224/Deer Valley Drive for a bike lane in the northbound/downhill direction by taking one foot from each of the existing lanes. Implement wayfinding signage directing cyclists traveling in the southbound/uphill direction to use Poison Creek Pathway.
- Add a 5-foot sidewalk on the west side of SR-224/Deer Valley Drive.
- Crossings at driveways are at-grade with paint delineated markings. Yield signage for motor vehicles may be necessary to increase compliance.

COST

*Planning level costs.

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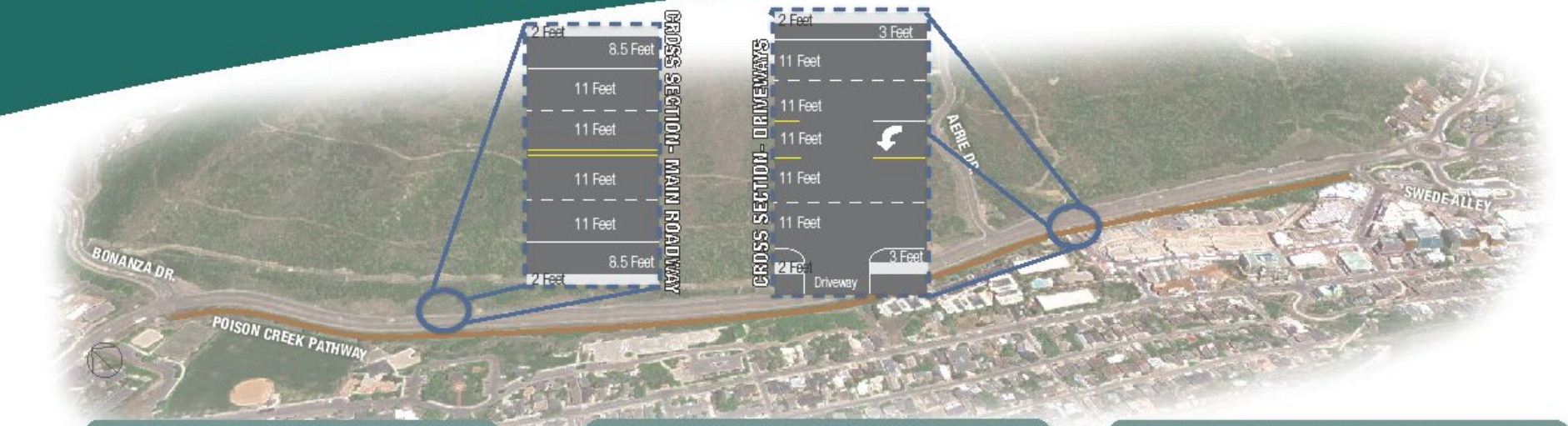
RESTRIPE FOR SHOULDERS



USER EXPERIENCE

LEGEND
+ Positive Change from Existing
0 No Change from Existing
– Negative Change from Existing

SAFETY	+	0	+	0
MOBILITY	+	0	+	0
CONNECTIONS	0	0	0	0

CONSTRUCTABILITY

LEGEND
High Amount of Constraints
Low Amount of Constraints

ENVIRONMENTAL CONSTRAINTS	None
RIGHT-OF-WAY CONSTRAINTS	None

PHYSICAL CHARACTERISTICS

- Restripe SR-224/Deer Valley Drive for 8.5 foot shoulders on both sides of the roadway. At driveway locations where a center turn lane is necessary shoulders narrow to 3 feet.
- Conflicts between shoulder users may occur.

COST

*Planning level costs.

SEPARATED MULTI-USE PATHWAYS

USER EXPERIENCE

LEGEND
+ Positive Change from Existing
0 No Change from Existing
— Negative Change from Existing

SAFETY	+	+	+	0
MOBILITY	+	+	+	0
CONNECTIONS	+	+	+	0

CONSTRUCTABILITY

LEGEND
High Amount of Constraints — Low Amount of Constraints

ENVIRONMENTAL CONSTRAINTS	• May require retaining wall repair or reconstruction on east side and west side. • Will require working within the hazardous soil boundary.
RIGHT-OF-WAY CONSTRAINTS	• Will require lane reconfiguration and driveway improvements. • Require crossing at Aerie Drive and the Deer Valley Drive roundabout.

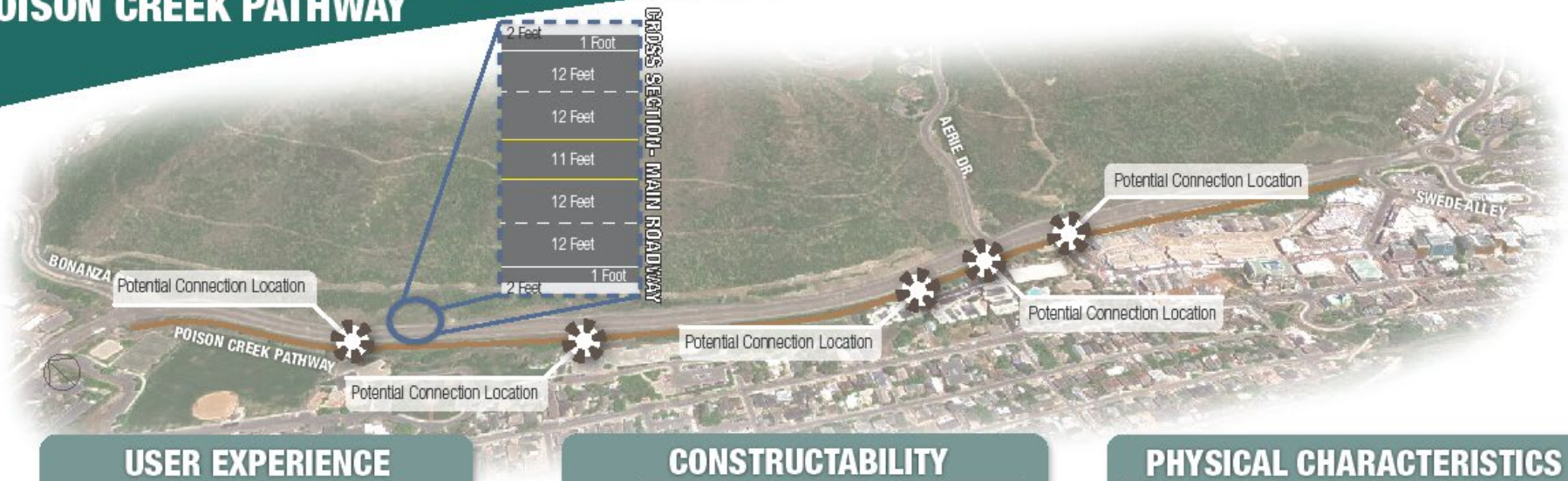
PHYSICAL CHARACTERISTICS

- Maintain existing road configuration on SR-224/Deer Valley Drive.
- Add a 5-foot sidewalk on the west side of SR-224/Deer Valley Drive.
- Crossings at driveways are at-grade with paint delineated markings. Yield signage for motor vehicles may be necessary to increase compliance.
- Add a 10-foot soft-surface multi-use pathway on the east side of SR-224/Deer Valley Drive along the Rocky Mountain Power line.
- Determine a viable option for connecting the southeastern end of the multi-use pathway back to SR-224/Deer Valley Drive.

COST

*Planning level costs.

CREATE CONNECTIONS TO POISON CREEK PATHWAY



USER EXPERIENCE

LEGEND
+ Positive Change from Existing
0 No Change from Existing
– Negative Change from Existing

SAFETY	0	0	0	0
MOBILITY	–	–	–	0
CONNECTIONS	+	+	+	0

CONSTRUCTABILITY

LEGEND
High Amount of Constraints — Low Amount of Constraints

ENVIRONMENTAL CONSTRAINTS

- May require retaining wall repair or reconstruction at the access location(s).
- Will require working within the hazardous soil boundary.

RIGHT-OF-WAY CONSTRAINTS

- May require signage implementation on and surrounding the UDOT right-of-way.

PHYSICAL CHARACTERISTICS

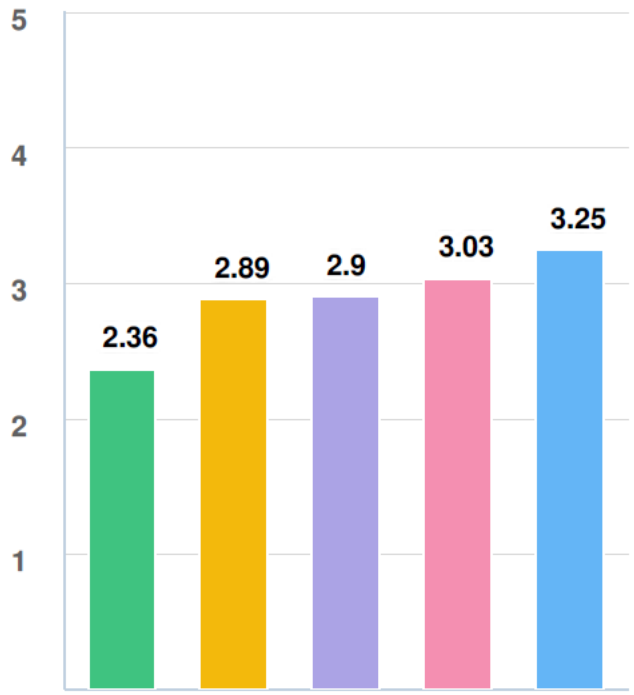
- Create a conspicuous connection(s) from SR-224/Deer Valley Drive to the Poison Creek Pathway. Add wayfinding signage to direct users to the connection.
- SR-224/Deer Valley Drive roadway configuration remains the same as its current configuration.
- Maintain center turn lane.

COST

*Planning level costs.

PUBLIC ENGAGEMENT SURVEY

Which of the alternatives do you MOST prefer? (5 being most preferable, 1 being least preferable)



Question options

(Click items to hide)

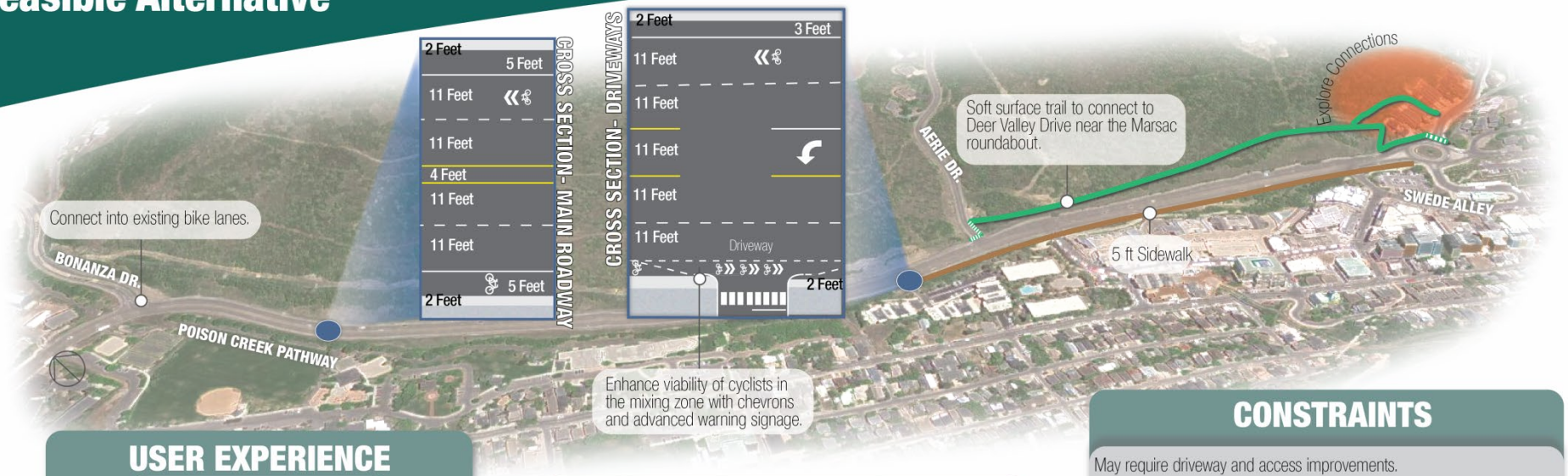
- Restripe for Bike Lane Hybrid
- Restripe for Shoulders
- Poison Creek Pathway Connection
- Separated Pathway and sidewalk
- Dedicated Bike Lanes

ALTERNATIVE ANALYSIS:

Evaluate feasible alternatives for short/long term:

- Constructability
- Safety
- Access for users (cyclists, motor vehicles, transit and pedestrians)
- UDOT traffic control standards

SR-224 / Deer Valley Drive Feasible Alternative



USER EXPERIENCE

LEGEND
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– Negative Change from Existing

SAFETY	+	+	+	0
MOBILITY	+	+	+	0
CONNECTIONS	+	+	+	0

OPPORTUNITIES

Restripe roadway for four 11-foot travel lanes, 4-foot painted median, 5-foot bike lane in the southbound direction and a bicycle sharrows in the northbound direction.

Roadway capacity is unchanged from existing conditions.

Add a 5-foot sidewalk on the west side of SR-224/Deer Valley Drive from Town Pointe Driveway to the Old Town Transit Center.

Crossings at driveways are at-grade with paint delineated markings. Yield signage for motor vehicles may be necessary to increase compliance.

Add a soft-surface trail on the east side of SR-224/Deer Valley Drive along the Rocky Mountain Power line.

Determine a viable option for connecting the southeastern end of the trail back to SR-224/Deer Valley Drive.

CONSTRAINTS

May require driveway and access improvements.

Sidewalk may require fence, retaining wall repair or reconstruction on both/one side.

May require bridge reconstruction to improve site distances, and accommodate a sidewalk crossing.

Wayfinding and signage plan necessary for implementation.

Trail will have significant grade changes and require access improvements.

COST

*Planning level costs.

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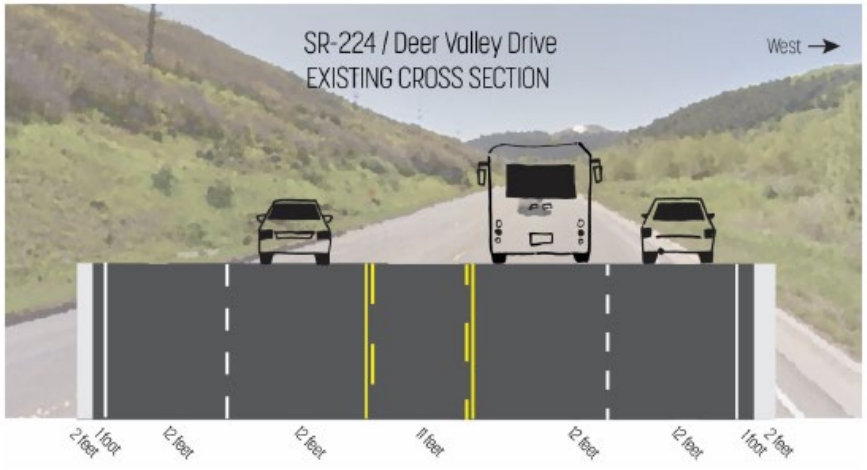
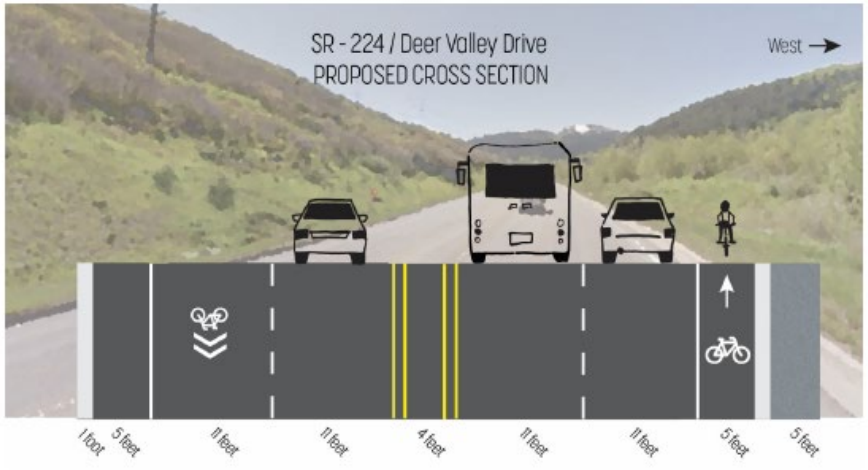
Cross Section Conceptual Plan:





Cross Section Conceptual Plan:

Deer Valley Drive/SR-224 Next Steps:

- Finalize engineering design for striping and signage
- Construction striping agreement with UDOT
- Installation of driver speed feedback signs
- Seek funding and engineering services for other portions of the vision

Project History

Table 1: HAWK Signal Delay Analysis

Peak Hour	Avg. Pedestrian Actuations	Peak Hour Volume (vph)	Total Peak Vehicle Delay/Veh (s)	Total Peak Vehicle Delay (hr)	Total Vehicle Delay/School Year (hr)
7:00-8:00 AM	23	1406	6.5	8.13	1,464
8:00-9:00 AM	12	1352	4.4		
2:45-3:45 PM	15	1336	4.8		
3:45-4:45 PM	12	1555	5.0		

- Collected community input
- Voter approved project list Summit Transportation Initiative
- Collaboration with property owners, UDOT, Seminary, and residents
- Tunnel safety and benefit analysis
- Ongoing communication with property owners PCSD/LDS Seminary on design and project

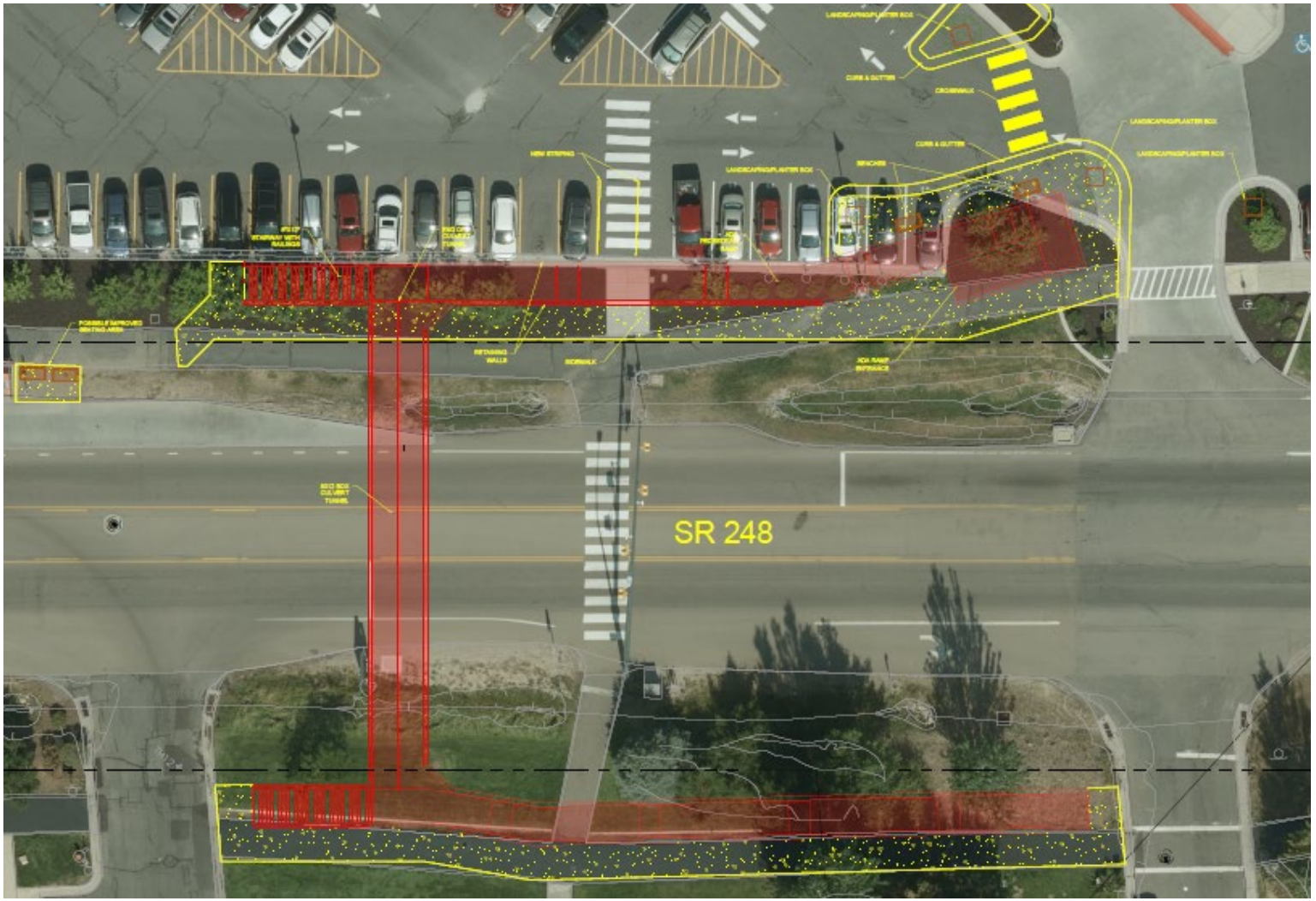
Project Benefits

- Connecting neighborhood destinations
- Safe student crossing to school
- Enhancing safer connectivity for all users
- Alleviate traffic delay
- Enhanced connections to transit and pathways

Tunnel Design: Coordination with Park City School District Board

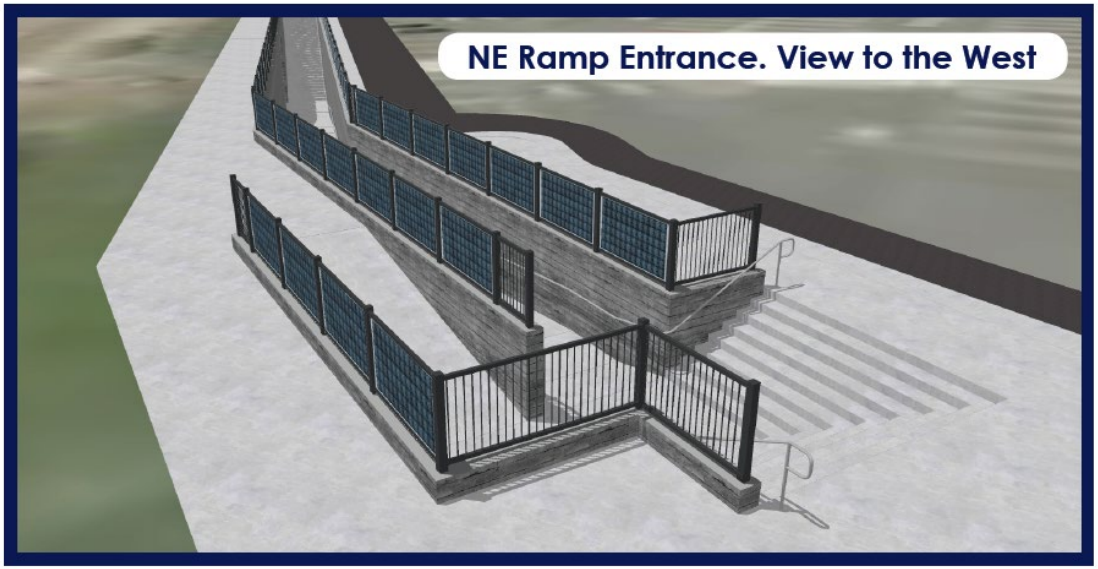
Park City SR248 Pedstrian Tunnel Crossing Options Assessment	
Option A (North Path South of Ped Ramp)	Option B (North Path North of Ped Ramp)
PROS	PROS
Separates parked cars / overhang bumpers onto path.	Pulls pathway away from vehicluar traffic on SR248 (future roadway wide and daunting)
Future roadway has large 12' shoulder between C&G and right turn lane	Path alignmnent has better access (less circuitous) to ramp access
Possible landscape behind curb to protect path if UDOT cross section allows	Direct acces to path from student parking/cross walk
Creates separated "hardscape seating area" for students away from main shared-use path	Provides better options for stairway or ramp use - with path directly adjacent to a 16 stalls (questionable benefit)
Provides a direct "through" path for the majority of users	Shorter tunnel (approximately 10')
Provides a safer means of mixed path use (bike / ped interaction)	Discourages mid-block crossings as ramps offer "barrier" to visible path.
More direct route to transit stop	
More "points of access" to the pathway system - provides safety and more order to use	
CONS	CONS
Puts pathway near vehicluar traffic on SR248 - User experienced diminished / safety concerns	Path users would contend with "plaza" area at ramp exit. Not a direct shot for through users.
Less opportunity to re-route path in the future without disturbing the High School Parking lot	More impact to existing striping plan (parking lines/drive aisle)
Parking will abut the tunnel ramp - potential maintenance costs	Wider sidewalk will be needed to facilitate bumper overhang
Longer Tunnel (approximately 10')	Shared-use path user experienced dimenisioned being between vehicles and a retaining wall
	Shared-use path feels more like you "enter onto school campus" -does not separate system uses adequately
Note:	
Both Options will require re-striping and curb re-alignment in HS parking lot.	
Both Options consider an existing 100' ROW	
Both Options will require re-route of sanitary in school parking lot. Easements will be required	

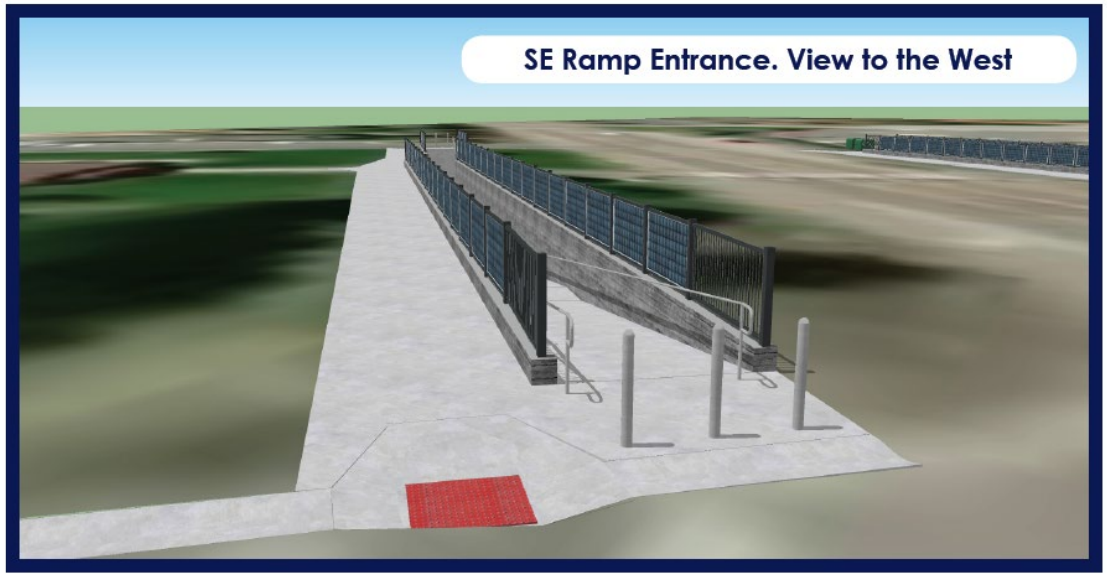
Tunnel Design



SR-248 Pedestrian Tunnel Rendering

A “Green Tunnel”





- Net zero snow melt system
- High School electric car charging stations
- Solar panel guardrail
- Board form concrete
- Art murals (School District)

Project Timeline

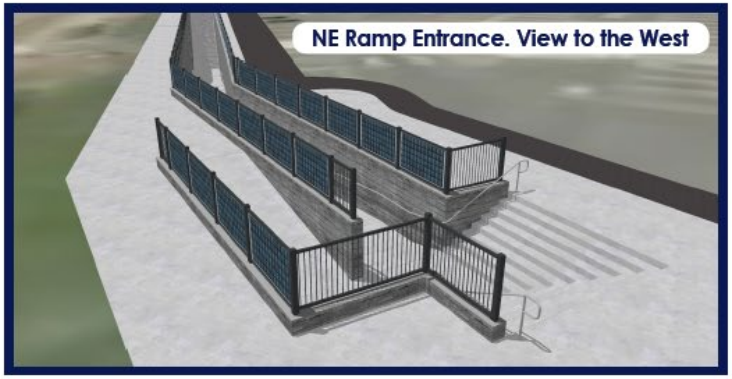
- Finalize agreements and permits
- Minimize construction impacts with travel lanes open:
  - High School Graduation
  - 4th of July
  - Arts Festival
  - Pick-up/drop off times for High School
- Anticipate substantially complete Aug 9th (before school starts)

SR248 Tunnel Rendering

SR-248 PEDESTRIAN TUNNEL RENDERING

3-8-2019

Project Features:
- Electric Car Charging Stations (High School)
- Solar Panel Guardrail
- Snow Melt System
- Board Formed Concrete
- Art Murals in Tunnel (School District)



Drawings are conceptual and may not depict exact construction conditions.

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HORROCKS ENGINEERS

- **Discussion/Questions**

- **Contacts:**
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