

# ALTA COMMERCIAL CORE

## Active Transportation Implementation Plan

April 2019







# **ALTA COMMERCIAL CORE**

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### Acknowledgments



# 1

## INTRODUCTION





## The Town of Alta...

is situated in the upper reaches of Little Cottonwood Canyon in the Central Wasatch Mountain range within the Uinta-Wasatch-Cache National Forest. Although a relatively small town measured by population, the Town of Alta is a destination for thousands of day visitors attracted to Alta Ski Area and other outdoor recreation opportunities. Although mission and management of the two entities are different, visitors often interchangeably refer to the ski area and town as "Alta."

Visitors sometimes remark that they do not realize they've arrived in an incorporated town, which could be due to a variety of factors:

- low density building (lack of massing) in any particular portion of central Alta,
- lack of gateway features to communicate a sense of arrival,
- few commercial retailers with street frontage,
- roadway through town functions like a linear parking lot
- lack of sidewalks, wayfinding, bike facilities, or designated outdoor/public gathering areas

This effort was preceded by the Commercial Core Plan (2016), which articulated the value in establishing an identifiable town center and described a set of guiding principles.

## Commercial Core Guiding Principles



Balance the needs of residents, property owners, the business community employees and visitors.



Develop one or more walkable centers with mixes of uses, intensive activity, human scale development and a quality pedestrian realm.



Support and develop a year-around economy that focuses on the summer in addition to the winter.



Provide safe interactions among pedestrians, motorists, skiers and cyclists at Alta.



## Study Goals

The Commercial Core Plan specifically identified the need for improvements to accommodate cyclists and pedestrians. Following up on that recommendation, the Town of Alta initiated the Commercial Core Active Transportation (AT) Implementation Plan with the following goals:

- Accommodate bike and pedestrian use along SR 210 within the Town of Alta
- Socially activate the Commercial Core
- Manage vehicle speeds to increase safety for active modes and promote a comfortable atmosphere
- Provide street beautification and way-finding
- Preserve or optimize on-street parking
- Consider seasonal issues (e.g. snow removal operations)

The layout of development and infrastructure in Alta has changed little over the past several decades.

Steeped in a culture that is timeless, un-gentrified, and natural, people who love Alta hold differing perspectives about how to preserve special qualities while allowing for change; it is particularly this dichotomy that makes it a challenge to implement some recommendations from the Commercial Core Plan.

Unlike projects designed to accommodate ever-increasing numbers of visitors, however, this plan is focused on establishing a sense of place and human-scale mobility that some find missing in downtown Alta; something that benefits locals and visitors alike. Furthermore, by creating infrastructure to support the Commercial Core Plan, Alta will tap into existing visitors to support a year-round economy and ultimately make the town more resilient and sustainable. Activating Alta's town core will be a long-term multi-faceted process, and transportation is only a part of the puzzle. Creating safe and inviting walking and biking infrastructure is "step one" in getting people out of their cars and circulating through the community in a more personal way.

## Planning Process

The approach to this plan was crafted to overcome resistance by using an inclusive planning process, phased/ interim installations, and focus on achieving **tangible results.**

In fact, in the timeframe of this study several projects have been implemented

To start, the process established a Core Project Team composed of individuals with a high level of interest in the study and commitment to help review interim deliverables, contribute insights/ data resources, and make decisions. The **Core Project Team** met several times throughout the project to articulate priorities and concerns, provide feedback on alternatives and design materials, and attend a public meeting. Several Core Project Team members were instrumental in testing and installing streetscape elements during the planning process.



The planning process included public engagement as well, including:

- an open house at Our Lady of the Snows to display preliminary concepts and materials;
- an online interactive comment map to collect ideas for desired routes, gaps and barriers, important destinations and other concerns;
- and numerous project updates through the Town website.
- Presentations to the Alta Planning

Commission and Alta Town Council

Building on input from the Core Project Team, public meeting, and online webmap, the project team developed several preliminary concepts that were refined iteratively in coordination with UDOT and local stakeholders. During the summer of 2018, UDOT completed a pavement maintenance project on SR-210 that offered a unique opportunity to implement proposed streetscape elements. Several of those elements

are installed at the time of writing, providing a tangible preview of more permanent options envisioned in this plan.

The intent of this plan is to provide phased recommendations for treatment/devices, placement, and quantities such that the designs can advance to the final design stage or pursue additional funding opportunities. The result is a draft plan set that gets Alta ready to build near-term and long-term solutions.





A photograph of a road with a brown circular overlay containing the number 2. The background shows a road with yellow double lines, a grassy hillside with evergreen trees, and utility poles. A red car is partially visible on the right side of the road.

# 2

EXISTING  
CONDITIONS  
& PLANNING  
CONTEXT





Little Cottonwood Canyon Road (SR-210) provides access to the Town of Alta, Alta Ski Area, and Snowbird Ski and Summer Resort. The operation and maintenance of SR-210 is the responsibility of the Utah Department of Transportation (UDOT). Little Cottonwood Canyon is essentially a dead-end, so SR-210 is the only method of access for the communities, resorts, trailheads, and private properties in the canyon.

## Destinations & Land Use

Private property closely abuts SR 210 in multiple locations along the road, and Alta Ski Area's USFS special use permit also closely abuts SR 210, including in several areas heavily used for day parking.

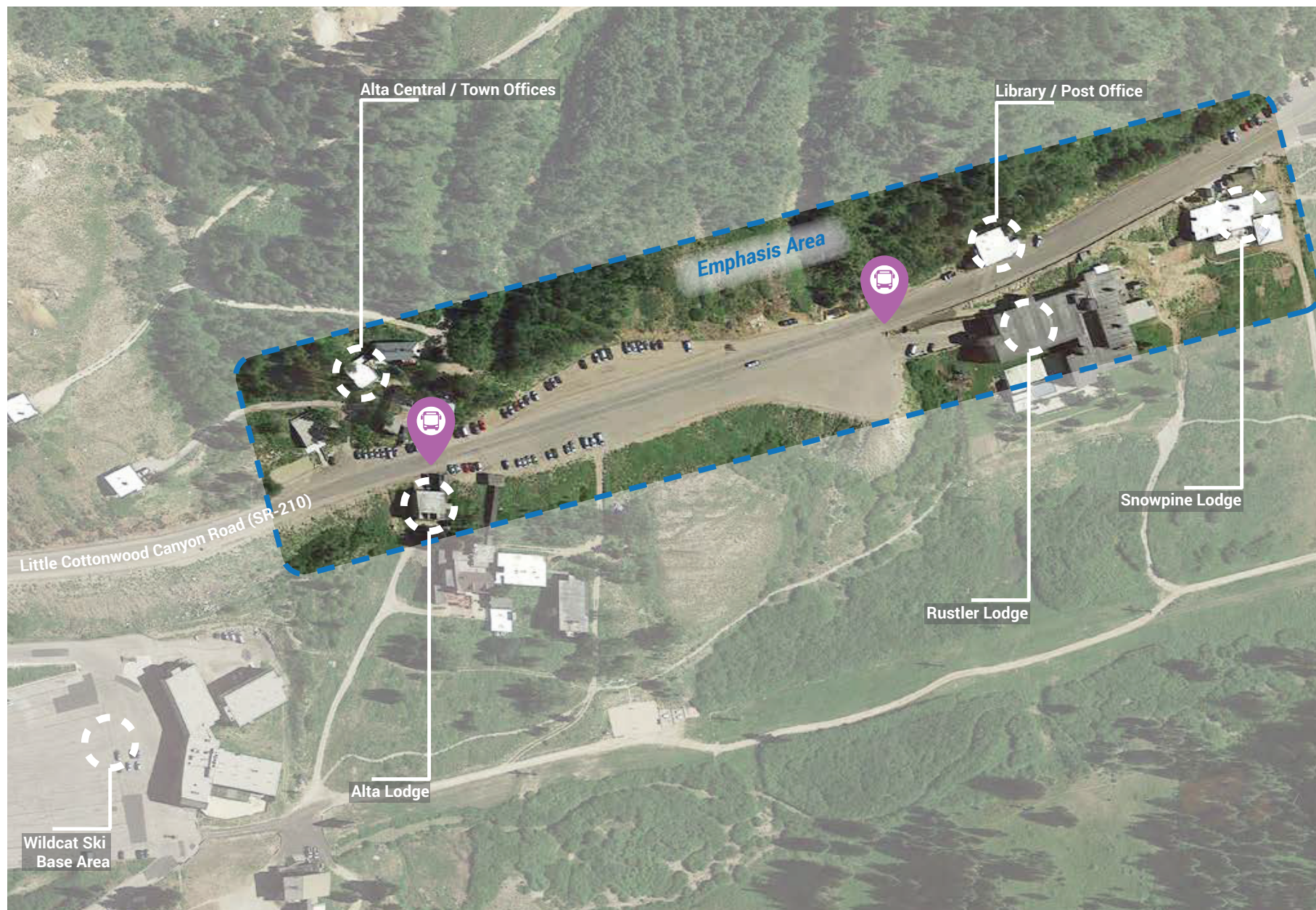
Alta Ski Area maintains and operates two large surface parking lots at each of its two ski area base facilities. Most of this parking is for day-use only. The only public, overnight parking available in Alta is located along the north edge of SR 210 in the heart of the Commercial Core, some of which is on the vacant parcel of land where the town seeks to develop a community center.

A community center is proposed along SR-210 between Alta Central and the current Alta Community Center/Library/Post Office on the north, and the Alta Lodge and Rustler Lodge on the south. The facility would incorporate mixed uses including conference and meeting space, employee housing, public restrooms and trailhead facilities, limited commercial opportunities such as a café, bakery, general or grocery store, and office space. The facility could also incorporate various public uses currently located elsewhere in Alta, such as a library, post office, and school.

Throughout most of the canyon there are three to five-foot paved road shoulders, which are used by cyclists and pedestrians. To accommodate the high demand for day-use parking to local business employees and customers, ski area users, and dispersed recreationists, parking areas have been established within Alta adjacent to SR-210. Alta's town center, generally defined between the Town Library and Town Offices, is effectively an expanse of pavement with a two-lane rural highway in the center. On many busy winter days every available space is used for parking, and vehicles are parked adjacent to the white shoulder stripe. Snow often obscured pavement markings so parking stalls are unmarked, which contributes to the "organic" parking patterns.

**With no space preserved for walkways, people walk in the drive aisles and on the roadway. The subtle yet obvious fact is that every visitor to Alta becomes a pedestrian at some point, and yet accommodating walking through parking areas has been an afterthought.**





Alta Commercial Core Emphasis Area



## Design Objectives & Key Issues

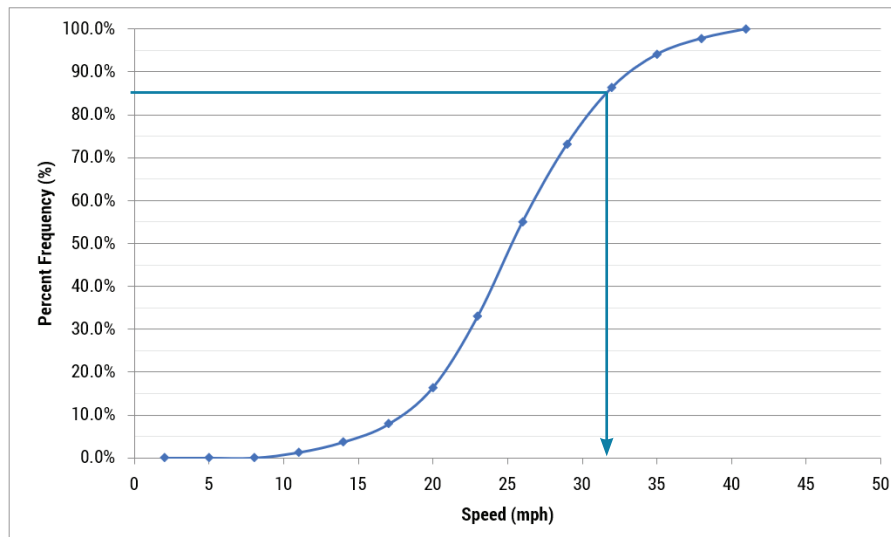
Pedestrian, bicycling, and other active transportation improvements are recommended along the SR-210 corridor and between activity centers within the Commercial Core, and connections to areas beyond the commercial core such as the residential areas west of the Peruvian Lodge. Such pedestrian enhancements will compliment community center development to create an active, “main street” feel in the center of the Commercial Core, and create an alternative destination to Albion Basin and Cecret Lake by activating downtown Alta. Improved transit facilities are suggested at activity centers such as the ski area bases, particularly at the Alta Ski Area Albion Base Area, which serves as both a winter and summer transit and recreation hub. The plan seeks to balance the needs of the

winter season with those of the summer. When snowbanks recede after the ski season ends and the roadway is not bordered by parked vehicles, the town core has a wide-open feel. Although the speed limit is 25 MPH in town, the visual indicators of space and distance tend to promote higher driver speeds, which makes active transportation through Alta uninviting. Vehicle volume and speed data was collected continuously from July 26 to August 2, 2017 using pneumatic tubes placed near the UDOT maintenance garage, which is on the western boundary of the project study area. The speed data confirms anecdotal observations that vehicles traveling up-canyon tend to arrive in the town core traveling above the posted speed limit. The 85th-percentile speed is a common metric used to evaluate vehicle speed patterns; it's the observed speed that 85% of vehicles do not exceed (conversely, 15% of vehicles are traveling faster). Many communities with traffic calming policies have an established threshold

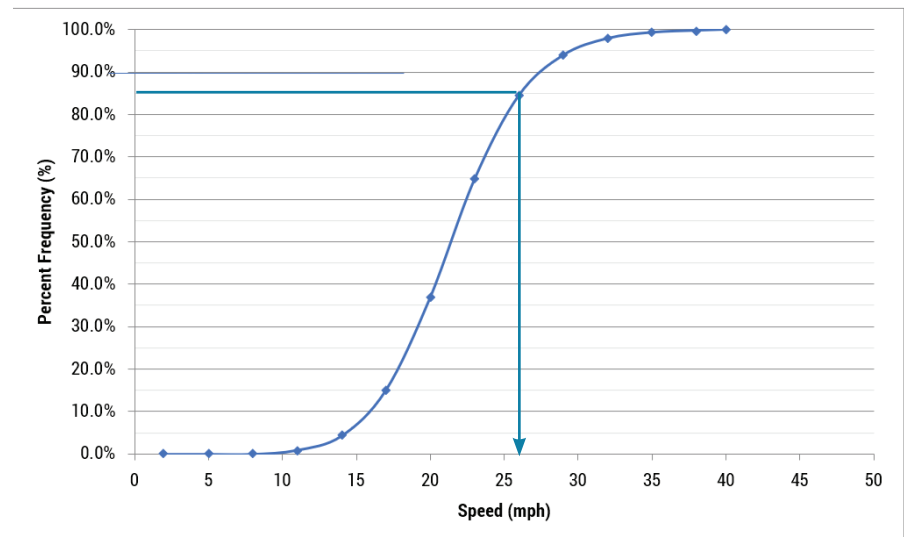
that traffic speed reduction strategies will be considered when the 85th-percentile speed is 5 MPH above the posted speed limit. For eastbound vehicles entering the town core, the 85th-percentile speed was 31 mph, which warrants traffic speed reduction strategies. Westbound vehicles were observed to travel slower, which makes some sense considering they are just starting the downcanyon trip and have been driving in town.

Despite lack of infrastructure for active modes, there does not appear to be an urgent safety crisis. Crash records for the last five years do not include accidents in Town involving cyclists or pedestrians. The status quo offers the most flexibility for snow removal, maximizes parking capacity, and minimizes maintenance needs. So, it's no wonder why the roadway and parking areas are essentially a blank slate, and there are valid concerns about adding definition to the current roadway and pavement configuration.

Eastbound (up-canyon) vehicle speed profile | Approximate 85% percentile speed 31 mph



Westbound (down-canyon) vehicle speed profile | Approximate 85% percentile speed 26 mph













## Key Issues

Discussions with the Core Team and public clarified several issues to consider for new infrastructure related to maintenance, parking capacity, roadway design, and snow removal

During prolonged storm cycles portions of SR-210 are overhung by massive snowbanks, which encroach on the narrow shoulder and crowd space for active modes.

Consider pavement color/texture differences to achieve pathway delineation (vs. using raised curbing) to simplify snow removal

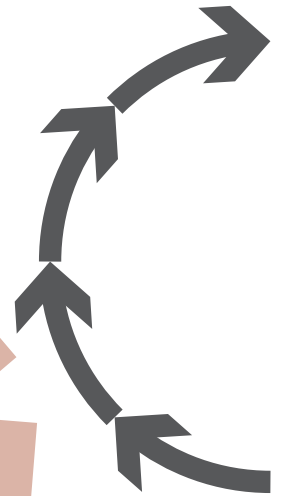
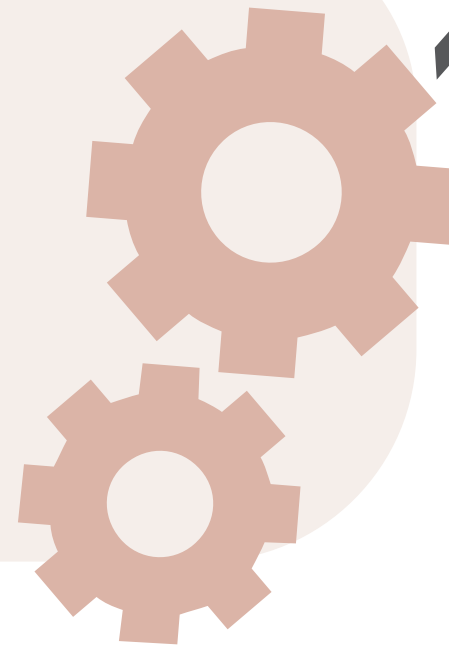
Provide connections to transit stops located near ski lodges and at several locations throughout town



Thermoplastics pavement markings should be considered since they can hold-up to snowplowing and de-icing agents.

Town of Alta doesn't have a traditional public works department within the organization, and doesn't have staff or equipment to handle maintenance. As such, maintenance obligations would likely be achieved through partnering with UDOT and/or Alta Ski Lifts.

Consider avalanche run-out zones. New features in the road could get destroyed or become projectiles if hit by a slide.



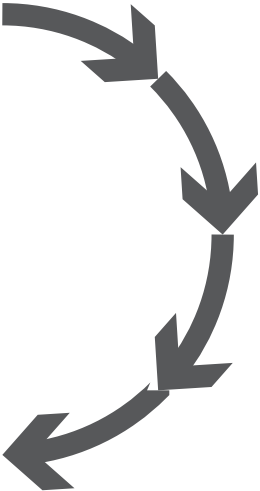




P

Minimize loss of parking capacity.

There is value in organizing the pavement space, which can at times be somewhat chaotic; might actually make more efficient use of space and increase parking capacity.



SR-210 is under the management and jurisdiction of UDOT. Projects within the roadway must comply with UDOT road design standards.

Traffic calming needed to slow traffic.



Alta's famous winter weather makes snow removal along SR-210 a critical aspect of business and public safety, and bus operations.

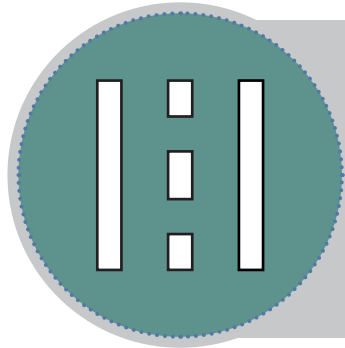
Explore ways to create permanent road installations that are considerate of operations and maintenance activities.



# Roadway Design Principles

Wide travel lanes, shoulders, and ample sight distance tend to encourage higher vehicle speeds. However, reallocating roadway space and installing objects near the road requires some perspective on a key roadway design principal called “clear zone”. Here is what you need to know:

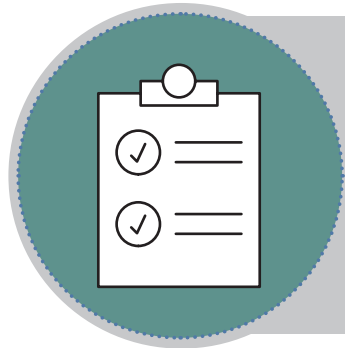
## Clear Zone Requirements



1

### What is the “clear zone”?

The clear zone is the lateral space adjacent to the white shoulder stripe – this space is supposed be kept clear of objects so that drivers have a better chance of recovering if they start to depart from the travel lanes.



2

### Guidance

Clear zones are a federally mandated design standard (FHWA) and clear zone requirements on a given road are a function of traffic volume, number of lanes, and speed. The applicable standard for the town core (AADT 1,500 - 6,000, posted speed < 40MPH) is 12 - 14 foot clear zone. UDOT oversees conformity the federal standard on state roads, including SR-210, with specific guidelines related to placement of objects within the UDOT right of way and clear zone.



3

### Other Considerations

Anything that is considered a “fixed object” located within the clear zone needs to be designed using crash-tested materials be “protected” using crash cushions, deflecting barriers, etc.

- Curbs do not change clear zone requirements; they cannot be relied on to deflect vehicles. However, curbs can be used within the clear zone.
- Break-away posts are an option for sign posts, lighting poles, decorative posts, etc.
- Bike lanes are considered part of the clear zone.



# Working with UDOT

## Partnering

UDOT has consistently demonstrated a willingness to work with the Town of Alta to implement improvements along SR-210.

Referred to as “betterments,” these project add-ons are usually incorporated as part of State funded projects can be 100% local funds. However, there are partnering opportunities using other UDOT funding mechanisms.

## Design Exceptions

Because SR-210 in Alta's Town Core is unique relative to the state road system, it may be reasonable to deviate from UDOT's design standards in certain circumstances. When a design element does not conform to UDOT design standards, a Design Exception is required.

Design Exceptions will be approved on a case by case basis and will be evaluated with the Operational Safety Report. Design Exceptions and Design Waivers from UDOT Standards can be initiated as early as the project concept phase. All Design Exception and Design Waiver requests are submitted to the Standards and Design Preconstruction Engineer once all Region signatures are obtained.

## Encroachment Permits

To obtain permission for construction, installation, and repair-related activities on SR-210, a UDOT encroachment permit is required.

To obtain an encroachment in the UDOT right of way, applicants must complete several procedural requirements including an engineered plan set, and bonding for contractor performance and liability.



3

CONCEPT  
DEVELOPMENT  
&  
PRELIMINARY  
ALTERNATIVES





This chapter describes the process used to develop ideas for the Commercial Core, building on the issues, goals, and constraints discussed previously. In the Concept Development phase, the Core Team studied relevant examples of existing design strategies and discussed the intended outcome, benefits, and tradeoffs. These conversations informed the Preliminary Alternatives; these renderings illustrate options for the physical layout of streetscape elements and parking reconfiguration.

## Concept Development

Developing concepts for the Alta Commercial Core involved identifying opportunities to redefine expansive pavement using physical features that create a sense of place, and promote the feeling of arrival, safety, and vibrancy. The project team framed the concept development around the notion of a Streetscape Toolbox. The three major types of tools are:

### *Vertical Elements*

Vertical elements can be barriers used to create physical separation between auto and pedestrian spaces, with the goal of improving pedestrian comfort level on SR-210. Examples include curbing, raised medians, curb extension/bulb outs, soft hit posts, fencing, and walls. Vertical elements can also be used to create interesting visual features, break up sight lines, and create a sense of enclosure; this helps to create a sense of place and slow vehicle speeds. Examples include light posts, art installations, wayfinding signage, trees, and gateway features.

### *Surface Treatments*

Surface treatments change the color, texture, or striping patterns of the roadway to delineate space without creating physical barriers. This simplifies snow removal and roadway maintenance and offers flexibility for parking. Examples include pavers, stamped asphalt, colored concrete or pavement markings (thermoplastic, colored paint).

### *Traffic Calming & Speed Control*

Traffic calming can be done in a variety of ways depending on the context of the roadway, degree of speed reduction desired, built environment, and limiting factors. Most traffic calming strategies involve some combination of vertical and surface treatments to influence driver behavior.



## Putting the Toolbox to Work

In the initial phase of the project the project team presented the Core Team with a visual catalog of various barrier elements, surface treatments, and traffic calming strategies. These discussions were meant to spark ideas on what could be possible in the town of Alta. They were also meant to ground the concepts in feasibility. If a treatment type was identified as infeasible by the steering committee for reasons of landscape, weather, or roadway considerations, it was not included in the suite of treatment options.

A sampling of treatment types that resonated with the project team are displayed to the right.

In one example from Crested Butte, CO, there is a creative application of crosswalk curb extensions using planter boxes. These semi-permanent planters can be moved as needed to accommodate road maintenance and snow removal.

In another example, the use of colored pavement paint and soft hit posts can be used to create pedestrian space and visually narrow vehicles travel lanes. As shown, longitudinal striping can be used to define a bike lane and pathway directly on the street.

Landscaped medians can fulfill several objectives by narrowing the road space to slow traffic, serving as a gateway feature to indicate a sense of arrival, providing space for art and landscaping, and providing a crosswalk refuge.





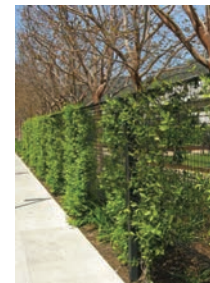




# ●●● WALKWAYS ●●●



# ●●● BARRIERS ●●●





## ●●● VERTICAL ELEMENTS ●●●



## ●●● GATEWAY FEATURES ●●●



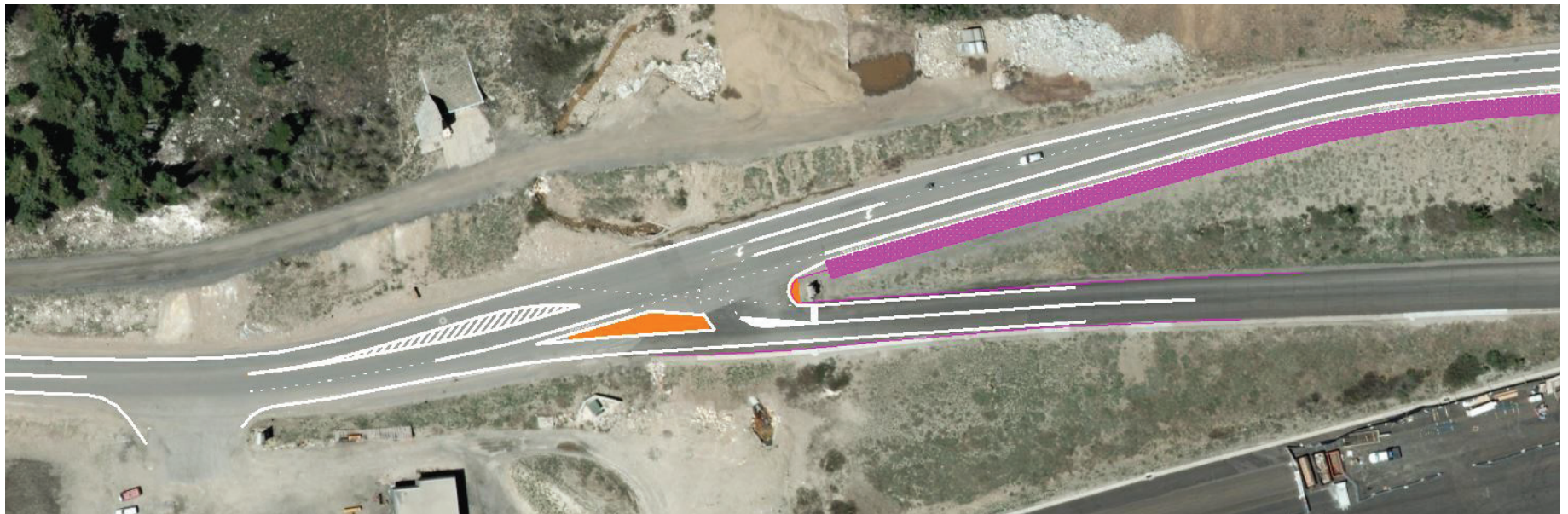
# Preliminary Alternatives

## *Wildcat Driveway*

This alternative is intended to create a gateway feature that promotes a sense of arrival and encourages slower vehicle speeds west of the Town Core. The illustrations depict landscaped medians to delineate space and visually narrow the roadway. The medians create an opportunity for art, visitor information, and wayfinding. This alternative also includes an uphill bike lane and a pathway on the south side of SR-210 that connects the Town Core to base facilities of Alta Ski Area. The design takes advantage of surplus space in the existing roadway cross section and does not require any major change to the road alignment or intersection operation.

### Feedback Summary

- The Wildcat driveway could be a good location to install gateway features to promote a sense of arrival and slow down vehicle traveling up-canyon in advance of the Town Core. This could be valuable in addition to other gateway/traffic calming features in the Town Core.
- This is a good location to provide traveler information about roadway conditions (e.g. variable message sign (VMS)).
- The location within an avalanche slide path, so options should be designed to handle impacts. Breakaway foundations could be used for sign poles and art, but there is also potential the features could become projectiles in an avalanche scenario.
- UDOT is considering reconfiguring this intersection as a “High-T” which enables vehicles from the Wildcat Driveway to merge onto SR-210. This UDOT project may preclude median options, but may also be an opportunity to partner to install travel information devices and aesthetic upgrades.









# Preliminary Alternatives

## *Town Core Alternative A*

This alternative attempts to organize the undefined space east of the Alta Lodge using a raised median, crosswalks, and formalized parking. Together these elements create a focal point on SR-210 that visually narrows the roadway and promotes lower vehicle speeds. The median could accommodate landscaping, art, and wayfinding information, or provide a plaza-like space for visitors to unload gear and tailgate. This design also includes an uphill bike lane. The parking arrangement creates two one-way drive aisles for vehicle circulation. On the south side of the corridor, space is allocated for a designated walkway on the existing pavement. The crosswalk and median align with the proposed community center on the north side of SR-210 and help tie together the elements on either side of the corridor at a focal point.

### Feedback Summary

- There is generally a sense that this is a good location to create a focal point and improve parking organization. UDOT is planning to use soft hit posts during the winter to delineate the travel lanes and discourage parked vehicles from encroaching on the travel lanes. The area is a high priority location for a VMS sign to give traffic updates/snow reports/etc.
- Long term maintenance of the median is an issue.
- There is agreement that mid-block crosswalks will help with traffic calming. The location of the crosswalks are a subject of debate. Comments from the Open House suggest locations near Our Lady of the Snows, the Alta Lodge, and the Post Office are important.
- An issue with the frontage roads concept is that the snow bank on the north side will creep out far enough that at some point there will space limitations for drive aisle between the parking and the center median.
- There was a discussion on whether this treatment could be just a summer treatment, which would allow for flexibility in space constraints in the winter.
- Design of parking restrictions and pathway will need to be sensitive to the Alta Lodge property boundaries.









# Peliminary Alternatives

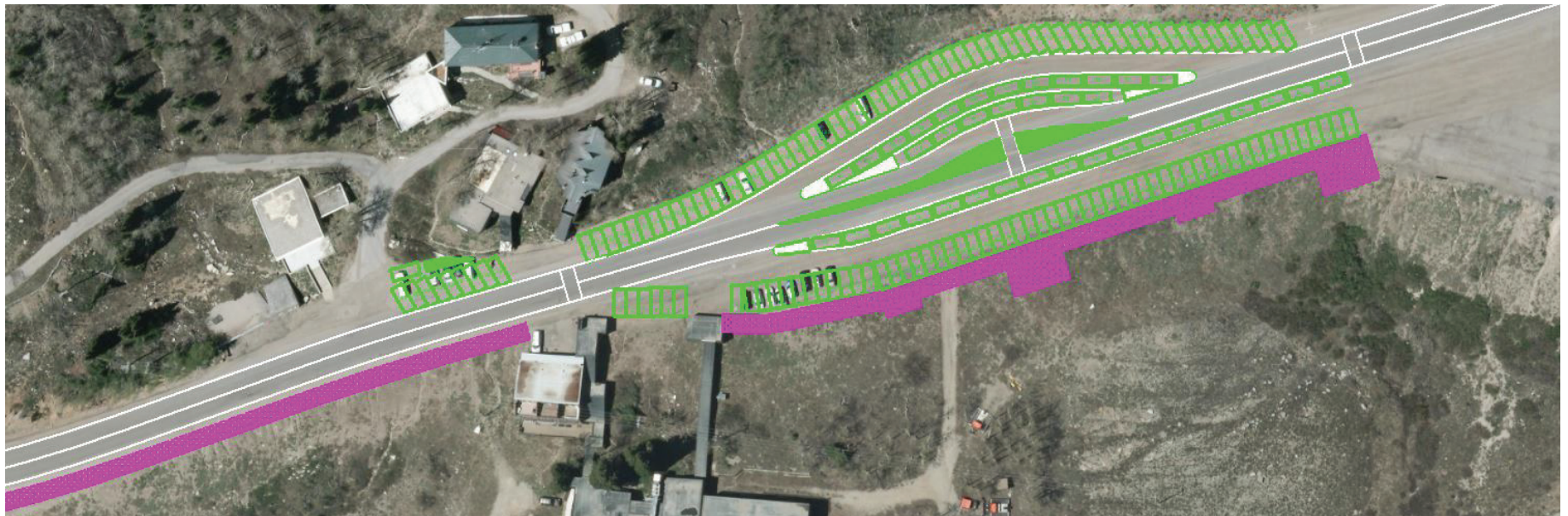
## *Town Core Alternative B*

This concept for the Town Core has several similar elements Concept A, with the general objective to create a focal point, organize space, and promote slower vehicles speeds. A distinctive feature of Concept B involves placing the median between travel lanes on SR-210 to create a “chicane” effect that slows vehicles. The parking arrangement is similar to the organic parking patterns observed during the winter season, such as parallel parking adjacent to the travel lanes.

Advancing the concept of a walkway on the south side of the corridor shown in Concept A, this concept introduces the notion of a cantilevered walkway, which provides a dedicated space for walking and enjoying the viewshed. This element has several functional and aesthetic benefits by minimizing parking impacts and providing a high-quality deck with integrated plaza areas.

### Feedback Summary:

- Feedback on the cantilevered walkway concept was positive. Visitors often gravitate to obvious roadside attractions, so an established walkway and viewing area would attract attention. There are concerns about maintenance and snow storage. Snow is typically pushed to the south side of the corridor, and over the winter a substantial volume of snow is stored there. At a minimum, the snow would bury the walkway, and worse case the weight of the snow would destroy the structure. One way to mitigate this issue is to use permeable fencing and flooring materials help accommodate snow storage operations.
- Feedback on the use of vertical elements is mixed. The raised median, curbing, and aesthetic elements create character but also complicate parking, circulation, and maintenance.
- Some expressed preference for permanent, larger, durable elements, which minimize set up and take down throughout the seasons.











4

MOVING  
FORWARD





## A Plan for Next Steps

The Concept Development and Preliminary Alternatives phase generated a lot of discussion regarding the benefits and tradeoffs of various options, but ultimately there is no single definite solution. The Preferred Alternative can be thought of as a collection of individual elements that are likely to be built over time as funding becomes available. In many instances the details are still to be determined in terms of material selection and location. As described in the Tactical Urbanist's Guide, "iterative project delivery" is a systematic approach that works incrementally towards a long-term vision using phased design strategies. In simple terms, you can start small and work towards something better over time. Temporary demonstrations or pilot projects can also be an effective way of refining a design concept and generating support for the project (discussed more in Chapter 6).



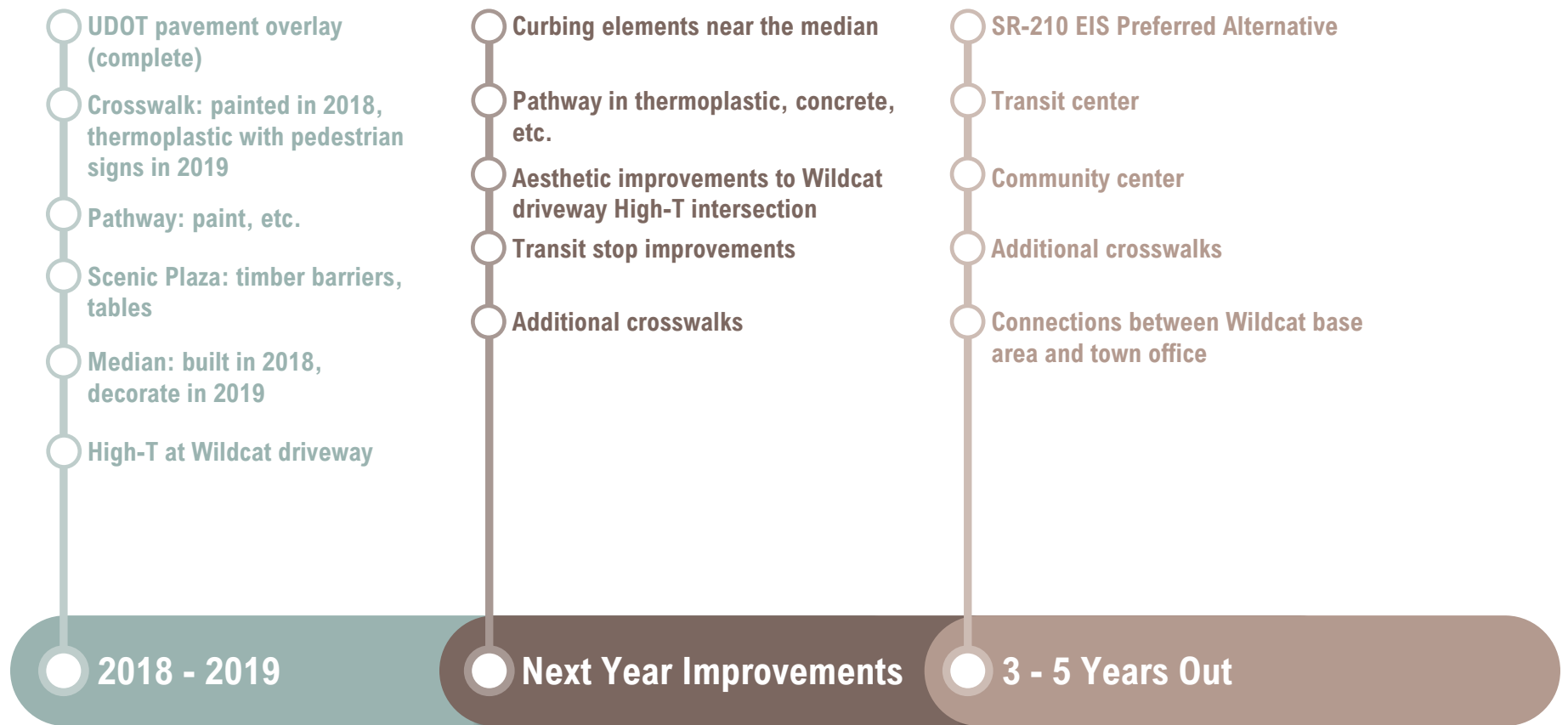
One primary objective of the Preferred Alternative is to establish designated walkways in the Town Core. This includes an improved connection to north side of the corridor to Alta town offices, public restrooms, Our Lady of the Snows, and the Cardiff Pass trail. An enhanced visibility crosswalk near the Alta Lodge provides a connection to the south side of the corridor; this also provides a visual indicator to drivers to slow down and watch for pedestrian activity in the Town Core. The pathway continues on the south side of the road, located adjacent to the travel lanes to minimize parking and circulation impact, connecting to a scenic plaza on the east and a proposed public staircase west of the Alta Lodge.

The pathway installation can be achieved initially using paint, which offers the most flexibility for parking and snow removal operations. Soft hit posts and/or raised medians can be installed to protect the walkway to improve pedestrian comfort and calm traffic. Different materials can be phased in over time to further delineate the walkway, such as stamped/colored asphalt, colored concrete, or pavers.

The scenic plaza is a designated space to enjoy the mountain scenery. There is a lot of flexibility about how to program this space. It could initially be delineated using moveable timber barriers for a summer installation, and then restored to parking for the winter season. Picnic tables, benches, waste receptacles, and temporary restrooms are recommended to accommodate visitors. Over time, more permanent elements can be installed, including interpretive panels, viewing telescopes, railings, and pavers or decking. Food trucks could be a great addition during peak visitation periods.

Transit stop upgrades are a consideration, however the future of transit in Alta is a moving target. UDOT and UTA are currently evaluating modification of bus operations and transit stop consolidation to improve rider travel times. Rather than upgrading flag stop to shelters in the short term, it may make sense to work towards a more robust transit center with trip end facilities, lockers, and other amenities to support transit riders.

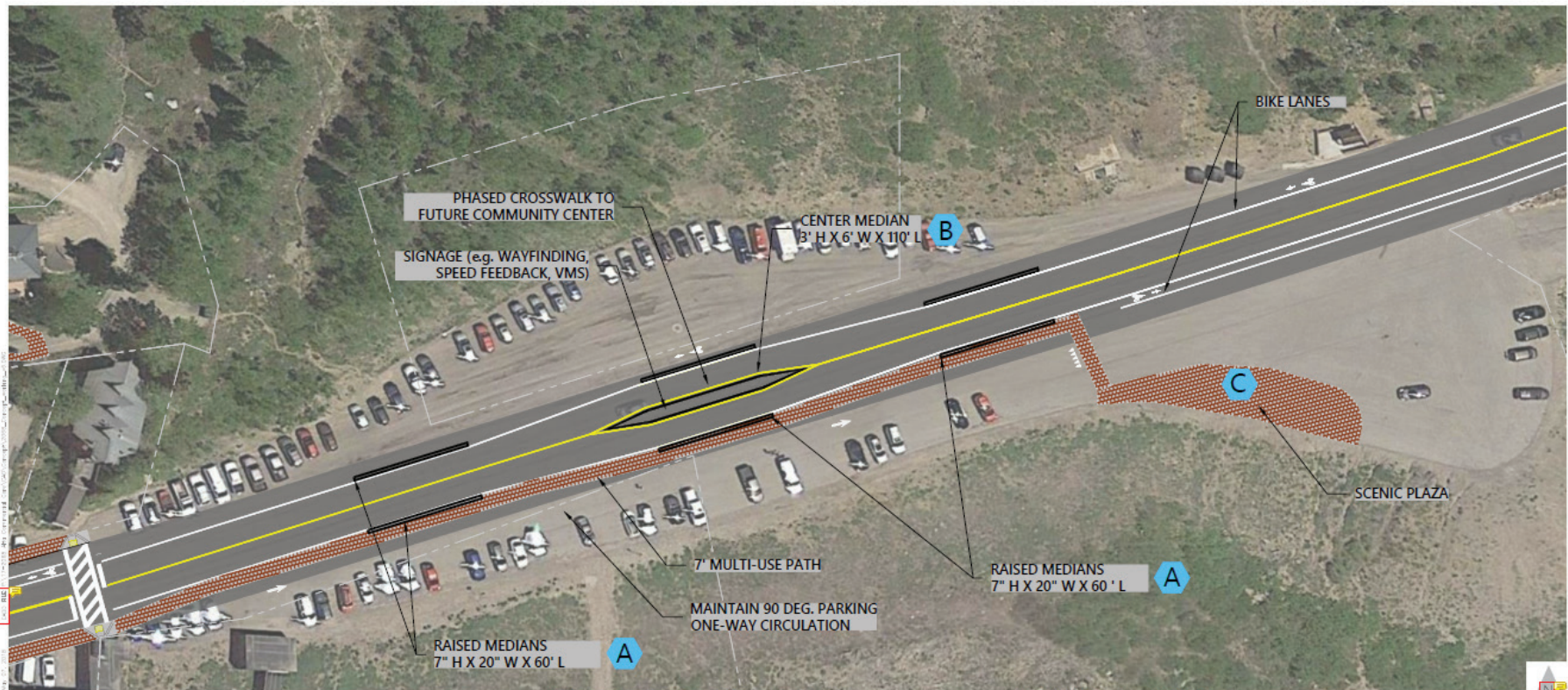












**Concept**

5/4/18  
Alta Commercial Core

CONCEPTUAL - NOT FOR CONSTRUCTION



# Implementation

Working UDOT and other partners, the Town has already started to deploy interim designs that serve for the next several years.



Alta deployed a temporary crosswalk in 2017.



UDOT and Alta staff implementing a temporary center median.

## ITERATIVE PROJECT DELIVERY

This chart illustrates the progression of an iterative approach to project delivery. Though not all projects need to follow this exact model, it can be helpful to see how each project phase builds towards the next, using incremental steps to deliver a capital project intended to create lasting change.

Project Type (time interval, relative cost)	DEMONSTRATION (1 day - 1 month - \$)	PILOT (1 month - 1 year - \$5)	INTERIM DESIGN (1 year - 5 years - \$55)	LONG-TERM/CAPITAL (5 years - 50 years - \$555)
Project Leaders	Can be led by anyone (city, citizen group, or both)	Government / organizational leadership + involvement required	Government / organizational leadership + involvement required	Government / organizational leadership + involvement required
Permission Status	Sanctioned or unsanctioned	Always sanctioned	Always sanctioned	Always sanctioned
Materials	Low-cost, typically low-durability. Can be borrowed or easily made	Relatively low-cost, but semi-durable materials	Low-moderate cost materials, designed to balance flexibility with maintenance needs	High-cost, permanent materials that cannot easily be adjusted
Public Involvement	Public input + public action	Public input, champion engagement, government / organizational stewardship	Public input, government / organizational stewardship	Public input, government / organizational stewardship
Flexibility of Design	High: organizers expect project to be adjusted and removed	High: organizers expect project to be adjusted, it may be removed if it does not meet goals	Moderate: organizers expect project to be adjusted, but it is intended to remain in place until capital upgrades are possible	Low: project is considered a permanent capital upgrade that's unlikely to be adjusted significantly once installed
Collect data to refine approach for current or future projects?	Recommended	Always	Always	Always - project performance can inform future investments

Tactical Urbanist's Guide to Materials and Design, version 1, 2016



UDOT and Alta staff looking at barrier types for a center median.







# Considerations for Permanent Median

## *Avalanche*

With respect to stability and avalanche conditions, the combination (double median) with the internal planter between should be relatively avalanche resistant. It would resist sliding due to the weight of both medians and the planter material. If using the cast-in-place option, the footings extend below grade such that sliding would be resisted by the adjacent roadway surface. Overturning against avalanche forces would be resisted by the compacted fill and soil in the planter. It may be an obstacle to cleanup and maintenance following an avalanche because the warning signs would probably be swept away, and it would make street cleanup of avalanche debris a little more difficult.

In addition, the barriers should be pinned at the toes at both ends to add stability with plowable end sections.

## *Constructability*

(pre-case vs. cast in place):

Because this is a relatively small structure, it is likely that precast may be more expensive especially if it is a custom design. This is due to the requirements to design and prep the area to the exact configuration for the barrier to sit, and then transport and install the custom precast barrier. An advantage is the custom barrier could be cured, sealed and stained in the yard prior to transport which could help moisture considerations and overall aesthetics.

If using standard precast barriers, similarly to what is currently installed, it is necessary to hand pick the “best” looking barriers from a yard for final aesthetics. The designer would have the option to grout in the joining pins and the pick holes and then could stain the surface if color is desired. This would have to be done on site.

Cast in place may be the cheaper option due to the relatively small size of the structure. The drawback is making sure the structure is properly cured, sealed and stained onsite which may be more difficult in a mountain location in the middle of the road, but this shouldn't be a deterring factor when using this option if the process is done right. Cast in place forms removed on site also have the potential to leave rougher surfaces which may leave a scabby overall look.

## *Irrigation and Power*

An irrigation system in the median will minimize maintenance for landscaping and ensure the plantings achieve full growth potential. There is a water line from the Bay City Tunnel near the center of SR-210 which could provide a water source. Most likely power source for lighting or VMS elements would have to be routed from near the adjacent lodges.

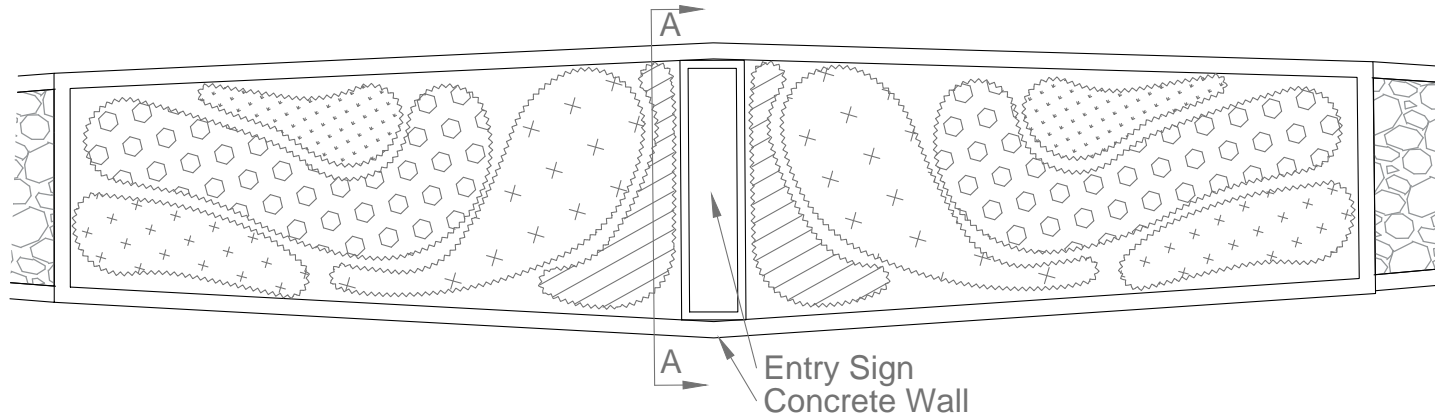
## *Drainage*

Given the length of the median, it will most likely not require an underground storm drain collection system. In addition, most drains in mountain environments are usually clogged with snow during the winter months and do not function well. To avoid ponding around the median, provide grading that flows away.

## *Concrete Specification*

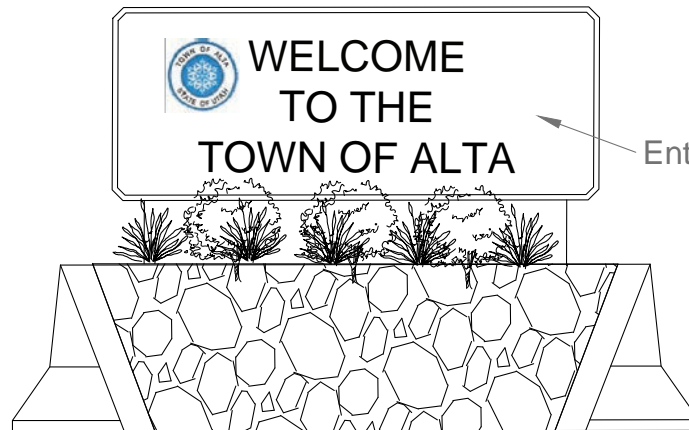
Concrete can potential be damaged by salt and other corrosive chemicals used for melting snow in mountainous climates. It is recommended that the barrier is properly sealed to minimized corrosion. It is also recommended to use a self-consolidating concrete mix which seals better against outside chemicals. Refer to UDOT specifications for concrete barrier applications, which includes specification for a simultaneous curing and sealing process.





## Median Planting Plan

Scale 1/4"=1'-0"



Entry Sign

### PLANTING SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME
<u>SHRUBS AND PERENNIALS</u>		
	COREOPSIS TINCTORIA	TICK SEED COREOPSIS
	HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS
	LUPINUS 'GALLERY BLUE'	GALLERY BLUE LUPINE
	PENSTEMON STRICTUS	ROCKY MOUNTAIN PENSTEMON

## Median Section A-A

Scale 1/2"=1'-0"



# Town of Alta - Medan Concepts

Alta, Utah

File Path: \_\_\_\_\_

A scenic mountain landscape with a ski lift in the foreground. The lift has a red chair and a black frame with a blue circular logo that says "ALTA" with a snowflake. The background shows a valley with green grass, evergreen trees, and a small town. In the distance, there are rugged mountains under a blue sky with some clouds. A large, semi-transparent brown circle is overlaid on the center of the image, containing the number "5" and the word "FUNDING" in white.

# 5 FUNDING





## Opportunities Available for Funding

- Partnering with UDOT by coordinating and possibly contributing money to a planned project. Referred to as “betterments,” these project additions are usually incorporated as part of State funded projects can be 100% local funds. However, there are partnering opportunities using other UDOT funding mechanisms, such as Contingency Funds or Transportation Alternatives Program (TAP) (usually require 20% match).
- SL County Regional Transportation Choice Fund (4th Quarter). Effective October 1st, 2018, sales and use taxes levied in Salt Lake County will increase by 0.25%, following a decision by the County Council to impose this additional “fourth quarter” tax to fund transportation improvements. In May of 2018, the Alta Town Council adopted a resolution in support of this additional tax rate, and after an initial period during which Salt Lake County will retain all of the 0.25%, beginning on July 1st 2019, local governments including Alta will receive forty percent of the new revenue, with another forty percent going to UTA, and the final twenty percent remaining with Salt Lake County. The Town can use this revenue to fund pedestrian and bicycle related projects, public transit service and facilities, and other transportation priorities in Alta.
- WFRC Transportation and Land Use Connection Program
- SLC County Active Transportation Improvement Program (ATIP)
- Private and non-profit community partnerships, such as Alta Community Enrichment and Alta Ski Area.



# 6

PUBLIC  
ENGAGEMENT  
WITH  
ITERATIVE  
PROJECT  
DELIVERY







Pop-up projects and interim design quick build projects can be a powerful way to build community support and narrow the scope of study required for the project. Tactical Urbanism is understood to mean very temporary projects that last for no more than a few days, only use temporary materials (chalk versus paint, for example), and typically can be set up by volunteers rather than contractors. Interim Design is understood to include projects that use low-cost, temporary materials and may be installed for several months or several years.

Interim Design and Tactical Urbanism should be considered as tools to provide real world tests of designs in three-dimensions. As most Interim Design and Tactical Urbanism projects evolve from a more permanent, higher-cost design proposal, these tools can both test the community's long-term vision for a project and ensure that the community's needs are addressed in the near-term. When the long-term vision is controversial, providing a temporary installation (over a week or during a special event, for example), can help bolster support for the long-term vision and test the efficacy of the proposed improvements.

These temporary projects can be opportunities to evaluate the effects of a project, collecting data and

feedback to determine if their long-term goals are met with low-cost, short-term installations. This can help engineers determine if the project should be modified or even abandoned should it have unintended consequences or not achieve desired performance goals. Similar to traffic control plans, the duration of a project should guide the selection of materials. For example, removal of conflicting pavement markings is an obvious element of a longer term project; however, projects that only last one day must effectively communicate the intent without removal of existing markings.

It's also important that an Interim Design successfully represent the intent of the long-term vision. Installations must include the essential project design elements to accurately demonstrate its true feel and safety benefits. Likewise, an Interim Design that offers safety benefits but only uses unattractive temporary materials typically used on roadway construction sites (e.g. orange cones and soft-hit posts), may be detrimental to the long-term vision of a safe and beautiful place.



A photograph of a wooden cart with large, rusty metal wheels, resting on a wooden track. The cart is positioned next to a stone wall. A large, semi-transparent brown circle is overlaid on the image, containing the number 7 and the text 'RELEVANT PLANS, POLICES AND GUIDANCE'.

7

RELEVANT  
PLANS, POLICES  
AND GUIDANCE





### ***Canyon Specific***

- Cottonwood Canyons Transportation Action Plan
- Wasatch Canyons General Plan Update
- Commercial Core Plan, Phase 1
- SR-210 Corridor Study
- Cottonwood Canyons Scenic Byways Corridor Management Plan
- Mountain Transportation Study
- Mountain Accord
- SR-210 EIS

### ***Regional***

- Salt Lake County Bikeway Design Guide
- Salt Lake County Wayfinding Protocol
- Salt Lake County Bicycle Best Practices
- Utah Collaborative Active Transportation Study (UCATS)
- UDOT Region 2 Bike Plan
- UTA First/Last Mile Study

### ***State***

- UDOT Active Transportation Facility Implementation Tool (AT-FIT)
- UDOT 2017 Design Standards & Specifications (incl. Supplemental/Revised standards)
- UDOT Policy 07-117: Inclusion of Active Transportation
- UDOT Policy 06C-27: Marked Pedestrian

### ***Crosswalks***

- UDOT ADA Transition Plan 2014
- UDOT Student Neighborhood Access Program (SNAP)
- UDOT Safe Sidewalk Program
- UDOT Manual on Uniform Traffic Control Devices (MUTCD)

### ***National***

- Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)
- Americans with Disabilities Act Accessibility Guidelines (ADAAG)
- A Policy on Geometric Design of Highways and Streets (AASHTO Green Book)
- AASHTO Roadside Design Guide
- FHWA Separated Bike Lane Design Guide
- AASHTO Guide for the Development of Bicycle Facilities, 4th Edition

### ***Mainstream Guidance***

- National Association of City Transportation Officials (NACTO) Urban Street Design Guide
- Recommended Design Guidelines to Accommodate Pedestrians and Bicycles at Interchanges: An ITE Proposed Recommended Practice

# Acknowledgments

## *Steering Committee*

Chris Cawley	Assistant Town Administrator / Project Manager
Callie New	WFRC
Jake Brown	UDOT Maintenance Foreman
Brad Palmer	UDOT Transportation Engineer
Tom Pollard	Alta Mayor 2004 - 2017
Harris Sondak	Alta Mayor 2018 to present
John Guldner	Town Administrator
Mike Morey	Town Marshall
Maura Olivos	Alta Ski Lifts Sustainability Coordinator
Aliza Whalen	Town Intern
Jen Clancy	Friends of Alta

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# ALTA COMMERCIAL CORE

