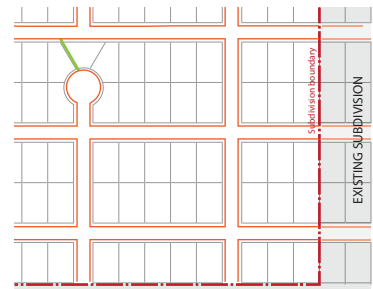
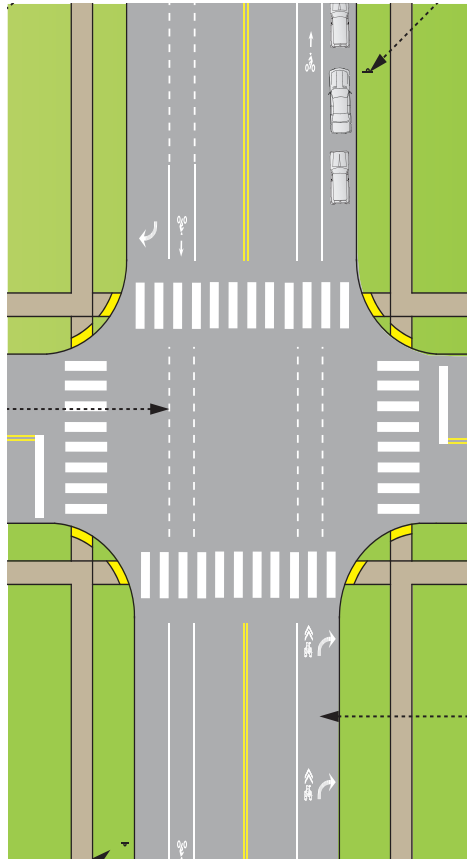
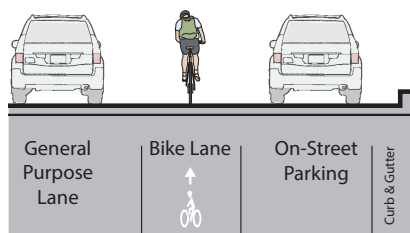
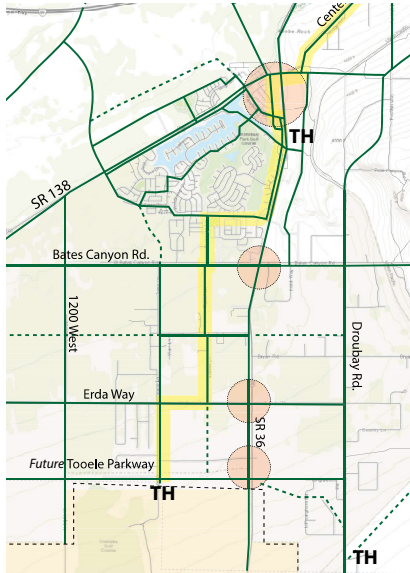


TOOELE COUNTY

ACTIVE TRANSPORTATION

IMPLEMENTATION PLAN



November 2018

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ACKNOWLEDGMENTS

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INTRODUCTION

The Tooele County Active Transportation Implementation Plan provides the vision and tools to implement safe and convenient conditions for walking, bicycling, and other active transportation modes. A quality active transportation system is one that creates connected networks and environments for all people to get around using self-propelled modes safe from vehicular traffic, while also setting the stage for the creation of more walkable, rideable communities overall.

The plan builds on the Tooele County General Plan and Transportation Plan's visions for how Tooele County will grow and change over the next few decades. The plan includes tools that respond specifically to Tooele County's goals, assets, and challenges, including its rural character, its high rate of growth, and the unique set of stakeholders who will implement this plan, including the County, the Tooele County Health Department, the Stansbury Service Agency, regional and state agencies and organizations, and other groups and individuals.

The plan is focused geographically on the area of unincorporated Tooele Valley that includes the communities of Stansbury Park, Erda, and Lake Point. This is the part of the unincorporated county and valley with the most population and destination concentration. It is where growth is likeliest to occur in coming decades.

The plan is comprised of three main sections. These are:

- **Plan Foundations:** The necessary beginning points for active transportation in Tooele Valley, the most important of which is the Active Transportation Goals.
- **Vision and Guidance:** The core of the plan, this section provides the vision for the buildout of the active transportation system and the tools that Tooele County and other stakeholders will use to achieve it.
- **Action Plan:** The details of how Tooele County and other stakeholders will prioritize, build, and maintain the system of active transportation facilities.

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PART 1 PLAN FOUNDATIONS

The Plan Foundations are the beginning points for active transportation in Tooele Valley. These foundations build from the community-wide goals developed by the Tooele County General Plan and Transportation Plan, as well as other community plans and stakeholder and community input in this planning process.

1.1 Project Background

The Tooele County Active Transportation Implementation Plan is a collaboration among local and regional stakeholders. Building on previous planning efforts, Tooele County successfully applied for a grant from the Wasatch Front Regional Council's Transportation and Land Use Connection program. The County and WFRC hired a consultant and involved other agencies, including the Tooele County Health Department and the Utah Department of Transportation.

Tooele Valley currently has very little active transportation infrastructure. Conditions for active travelers, especially outside the Stansbury Park community, are typically poor and often hostile. The county also struggles with community health - for example, the diabetes prevalence rate for Tooele County is significantly higher than the state.

However, momentum is increasing for active transportation in Tooele County. The Active Transportation Implementation Plan has grown from a series of recent plans and projects. First among these are the General Plan and Transportation Plan updates adopted in 2016. The General Plan's land use concept, shown below in Figure 1-1, re-envision the Valley by seeking to manage its growth while preserving its character. The General Plan does this by designating a series of walkable, mixed-use centers along the S.R. 36 corridor, with decreasing density radiating outward from these centers. This overall concept allows for a range of types of communities to thrive in Tooele Valley, whether rural, suburban, or more urban. At the same time, it lays the foundation for S.R. 36 to become a good transit corridor and for the centers along it to become more walkable, rideable places.

The Tooele County Transportation Plan was developed closely alongside the General Plan. The

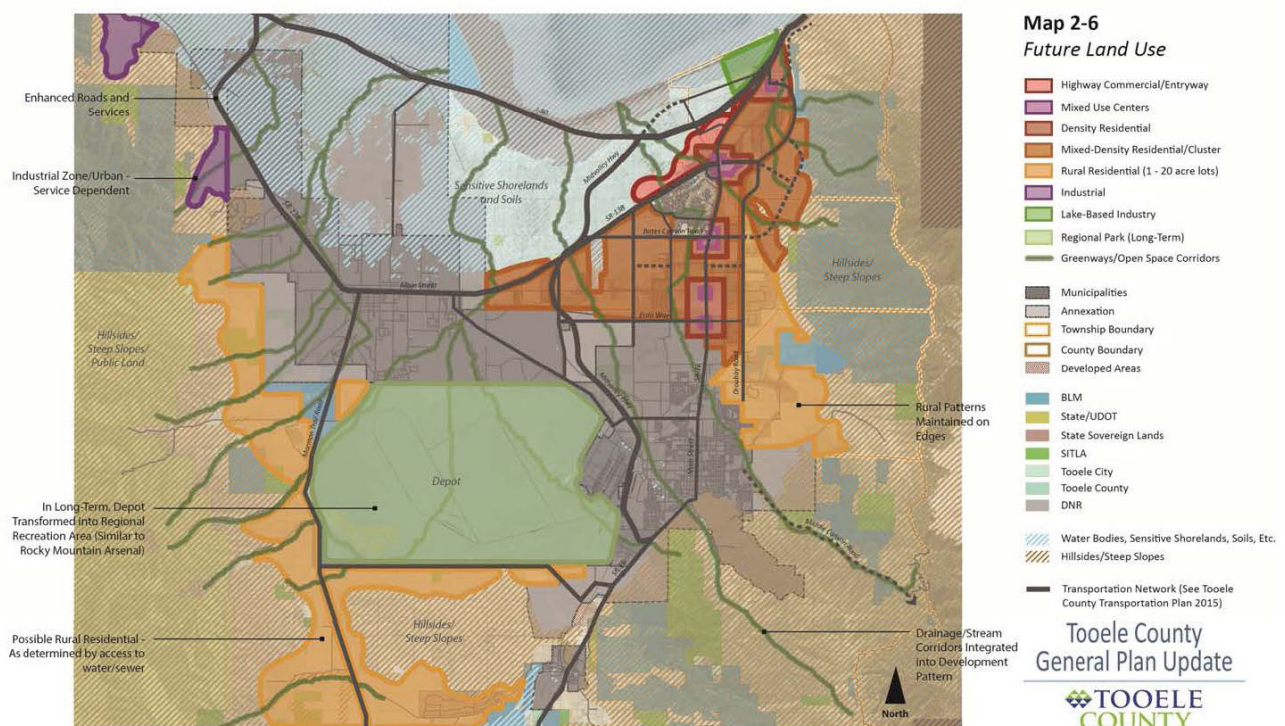


Figure 1-1: Tooele County General Plan Land Use Concept

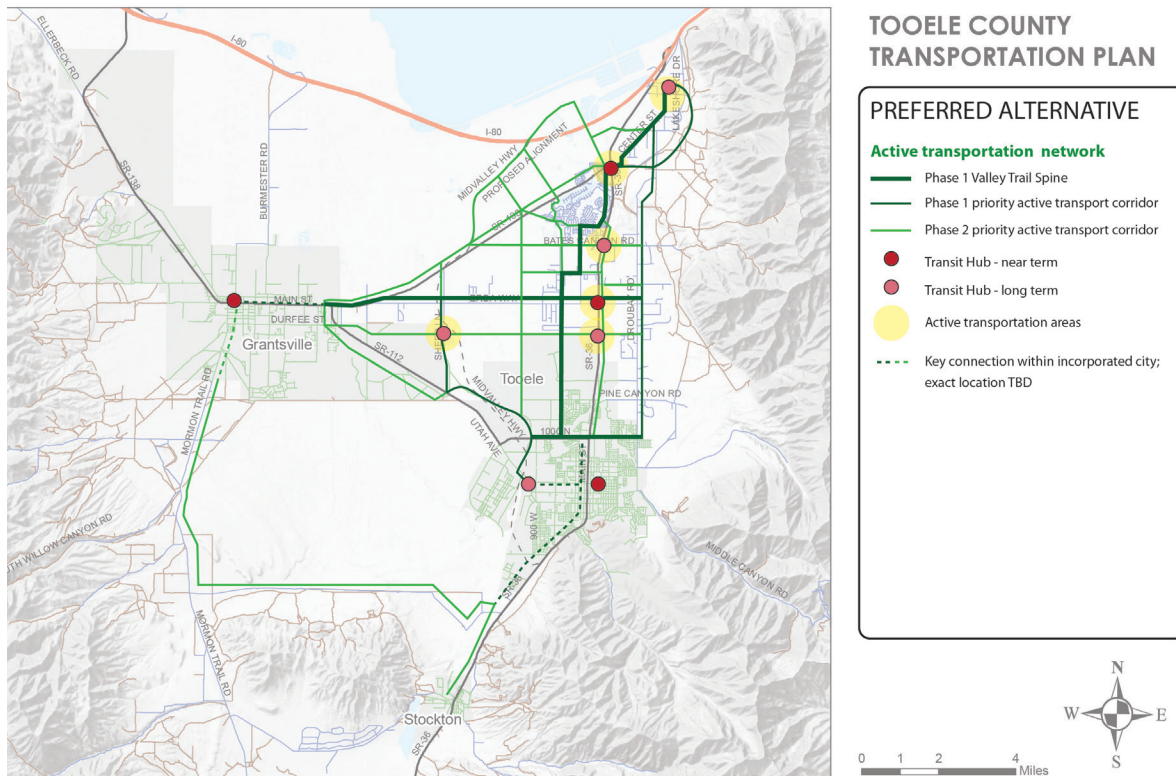


Figure 1-2: Tooele County Transportation Plan Active Transportation Network Concept

transportation system it proposes implements the General Plan's vision of a range of community types and a series of walkable centers connected by a regional transit corridor on S.R. 36.

A key piece of the Transportation Plan is the Active Transportation Network (see Figure 1-2), which designates a system of priority routes for walking, bicycling, and other active modes.

Meanwhile, additional efforts have taken place. The Stansbury Service Agency (SSA) has developed a plan for a network of paths and on-street bike facilities in Stansbury Park (Figure 1-4). And the SSA and the National Park Service have developed designs for a shared use path along the soundwall separating Country Club Drive from S.R. 36 in Stansbury Park (Figure 1-5). In 2016, the Tooele County Health Department led the Tooele Valley Pathway Master Plan, which created a vision for an active transportation "trunk" route for Tooele Valley (Figure 1-3).

The Tooele County Active Transportation Implementation Plan is the final piece that will provide a more in-depth vision and a customized set of tools to implement it and those of the previous plans.

1.2 Plan Process and Community Engagement

The planning process began with the formation of the project Working Group. This Group was formed with representatives of project sponsors Tooele County and the Wasatch Front Regional Council, as well as project partners Tooele County Health Department and Utah Department of Transportation. A complete list is found at the beginning of the plan document.

The Working Group collaborated with the consulting team to work through the steps of the plan. Together, they developed a set of Active Transportation Goals for the county (see Section 1-3); evaluated the current conditions in the plan area for active travelers; planned and held the first community open house; discussed the feedback received from the public; developed design guidelines and policies relating to active transportation in the plan area; and developed implementation measures.

The centerpieces of the process were the two community open houses. The first open house, held in September 2017 at the Stansbury Park

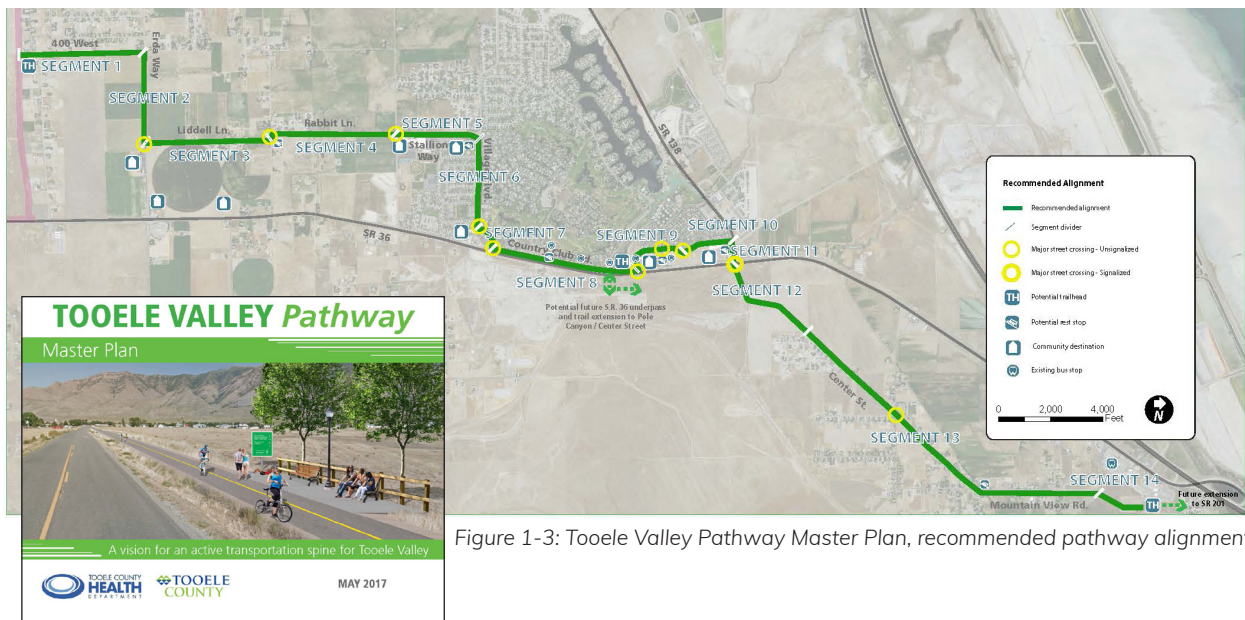


Figure 1-3: Tooele Valley Pathway Master Plan, recommended pathway alignment

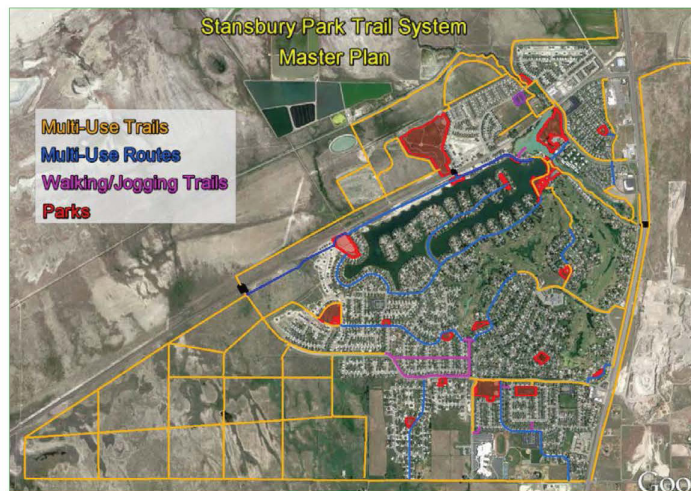


Figure 1-4: Stansbury Park Trail System Master Plan

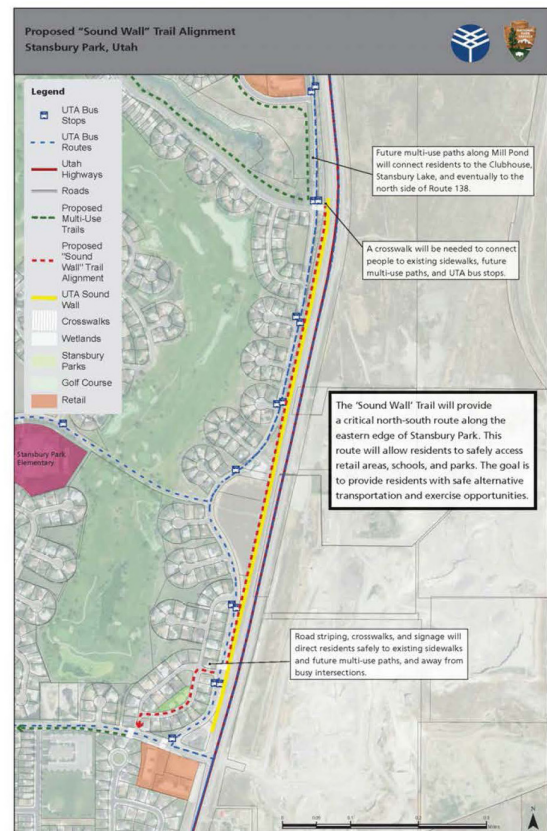


Figure 1-5: Proposed "Sound Wall" Trail Alignment

Benefits of Active Transportation

A body of research shows that providing the proper active transportation infrastructure is an effective way to increase walking, bicycling, and other active modes of travel, which in turn provide many other benefits, described below.

Public health

Regular physical activity has been shown to reduce the morbidity and mortality from many chronic diseases, including diabetes, one of the most prevalent diseases in the U.S. From 2004-2008, one in 10 adults in Tooele County had diabetes, with a significant number of people estimated to have undiagnosed diabetes. The diabetes prevalence rate for Tooele County is significantly higher than the state of Utah.

Active transportation improves our health and the health of our communities. It also lowers our healthcare costs. The more people walk and bike, the more we lower those costs as we reduce the levels of obesity, heart disease, and Type 2 diabetes in Tooele County.

Safe school access

Quality active transportation infrastructure creates safe ways for children and their families to access their schools.

Transit access

Public transit is an essential element to the future of Tooele Valley. Increasing levels of transit service and ridership along this corridor and others in the valley will depend on access to transit stops. While park-and-ride facilities and increasing land use density around transit stops will help improve this access, a simple way to create better transit access in the near term is to improve the ability to walk and bike to stops.

Recreation

The scenic, natural, and cultural resources of Tooele Valley provide major recreational potential. Currently, unpaved trails offer access around the valley and into the Oquirrh and Stansbury Mountains for motorized recreation and equestrian activities. However, nonmotorized outdoor recreation is not as well served.

Sense of place and environment

Tooele Valley is a Great Basin valley with views of the Great Salt Lake, the Stansbury and Oquirrh Mountains. Active transportation facilities create the experience of moving around the valley in a different way, reinforcing the sense of Tooele Valley as a place with unique heritage.

Economic benefit

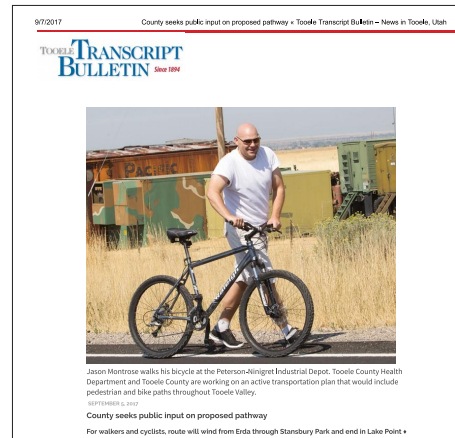
Active transportation infrastructure has been shown to provide a range of economic benefits. For example, a study of the Murdock Canal trail in Utah County, Utah, found that the trail created a 9 to 1 annual benefit to cost ratio. Active transportation and recreational infrastructure have also been shown to increase the values of the property they serve.

Clubhouse, introduced the project and its goals to the community, while querying them about their experiences walking, biking, running, and using other active modes of transportation in Tooele Valley.

The event drew approximately 50 people, who provided the project team with high levels of feedback on where they wanted to walk or ride, what the conditions are, and whether the plan had the right priorities. Attendees filled out a survey that asked them who they are, what their active transportation activity is, and what their preferences are going forward. The event drew media attention from the Tooele Transcript Bulletin, helping to inform the public about the plan.

For those not able to attend the open house, the project's website featured an "online open house," with a link to the survey. Between the in-person and online participants, over 80 people took the survey. For a more in-depth summary of the results and other comments from the public engagement process, please see the Appendix.

Shortly after the Active Transportation Plan Open House, Tooele County and the Health Department held a community meeting about an emerging issue closely tied to the plan - whether the county should close Rabbit Lane, in Erda, to motor vehicle traffic. Rabbit Lane is a key piece of the Tooele Valley Pathway Master Plan alignment. As interest in converting it to an active transportation pathway increased among the community, the Active Transportation Plan team joined efforts to help move this project along. The meeting brought together most property owners along Rabbit Lane, who by-and-large supported the concept.



From top: News coverage of Public Open House; Discussing a display at Open House 1; Filling out surveys at Open House 1; Community meeting on closure of Rabbit Lane to motor vehicles

1.3 Tooele County Active Transportation Goals

The Active Transportation Goals establish the priorities for active transportation in Tooele County. With the limited resources of the County and other stakeholders, it is important to establish the outcomes the county would like to accomplish. Having a specific and concise set of goals allows planners and other stakeholders to understand the tradeoffs in making planning decisions.

The goals were developed by the plan's Working Group at the beginning of the planning process. The goals were then presented to the community at the project's first Community Open House, where they received high levels of support. Many of the comments received at the Open House and on the project website reinforced the intent of the goals.

The goals are summarized below, along with descriptions and quotations from comments received throughout our planning process.

1 Integrate active transportation into new and improved major transportation facilities.

Include the proper active transportation facilities in the planning, design, and construction of major new roads and other transportation facilities.

"I love to cycle but am nervous by lack of shoulders. I live on Droubay, and so many people exercise on that road but there is no room to do so. I would love a path the length of Droubay too... And I know several people who agree."

2 Build active transportation trunk routes through the valley.

Plan, design, and build primary pathways connecting central Tooele Valley communities. These pathways will support all pedestrians, cyclists, and other active travelers; include trailheads, unique branding, rest stops, and other amenities; and plan for "branches" linking to communities and developments.

"I ride my bike to work an average of 3 times a week...If the bike path was constructed between Lake Point and the frontage road it would be used daily by commuters, and loved by recreation enthusiasts. Leave a legacy!"

3 Connect Tooele Valley active travelers to key destinations.

Focus investment on routes that link Tooele Valley residents, employees, and visitors to the destinations important to them.

"Within Stansbury Park, the roads are usually pretty conducive to walking and biking. However, there are a few key barriers that make it unsafe and difficult. SR-138 is probably the key barrier... the high speeds on this road make crossing very unsafe, especially for children. With the opening of Old Mill Elementary and a growing population of young families on the north side, the speed on this road needs to be reduced with more provisions for safe crossing."

4 Ensure that new developments have connected active transportation infrastructure.

Require connected networks of internal active transportation infrastructure and high-quality connections to adjacent places and transportation facilities.

"As the population continues to grow creating lanes and trails now is increasingly important."

5 Enable pedestrians and cyclists to thrive while remaining safe.

Cultivate high rates of safe walking, cycling, and other active transportation among Tooele County's communities.

"A more established place for walking/biking around the county would have the greatest impact, and would be encouraging."

6 Increase community visibility, awareness, and support of active transportation.

Promote active transportation and create examples of quality infrastructure that people can see.

"I believe this plan is the first step to helping our county becoming healthier."

Secondary goals

In the course of developing the Active Transportation Goals, the plan's Working Group identified a set of secondary active transportation priorities that, while not the main goals, are also noteworthy as other desired outcomes to consider.

Build walkable activity centers.

Implement the General Plan vision of places along the S.R. 36 corridor comprehensively oriented to walking, bicycling, and transit. This means street networks, land use patterns, and urban design that prioritize walking and bicycling.

Provide good active transportation access to transit.

Create safe and convenient walking and bicycling routes to existing and planned transit stops throughout Tooele Valley.

Create a trail network around the valley.

Plan and build a series of linked walking and bicycling pathways highlighting the unique landscapes of the valley, Great Salt Lake shorelands, and Oquirrh foothills, that is also connected to the valley's communities.

Create regional active transportation connectivity.

Improve connections among the valley's communities and to outside destinations such as Salt Lake County.

1.4 Performance Evaluation

A key aspect of using the Active Transportation Goals is to be able to measure how well they are being achieved. Goals are often broad; they represent principles or outcomes intended to be inclusive to many different groups of people and values. But with the broadness of goals often comes vagueness.

And so a key second part of the plan's goal-setting is the identification of a set of performance measures. Performance measures are qualitative or quantitative metrics that allow one to assess with relative objectivity how well a goal is being met. Performance measures can represent a core aspect of a goal - for example the goal of "a better pedestrian environment" may have a performance measure of the width of sidewalks. Performance measures can also represent complementary or even conflicting aspects of a goal. For example, the goal of "a better transportation system" may have performance measures of both traffic level of service and public transit level of service.

Again, the purpose of having a set of goals is to understand the tradeoffs in making planning decisions, and performance measures are a key part of clearly seeing these tradeoffs.

After drafting the goals, the Working Group and consultant team developed a set of one to three performance measures for each goal, depending on the complexity of the goal. These are listed in the Table 1-1.

These performance measures provide Tooele County with a tool to understand how it is doing currently, but also to measure ongoing progress in achieving its Active Transportation Goals.

Existing conditions evaluation

To complete the performance evaluation, each goal and its performance measures were evaluated for the existing conditions. This includes both what is “on the ground” and current plans and policies. Each performance measure identifies the methodology, the findings, and a grade, from “A” through “F.”

The following table summarizes the results of the performance evaluation for the existing conditions. The full evaluation is in the Appendix.

Performance measure	Grade	Summary
GOAL: Integrate active transportation into new and improved major roads and streets.		
Street standards include proper active transportation infrastructure.	C	The new road standards integrate paths, sidewalks and buffers. These could be refined, and on-street bike facilities added.
Public streets/roads are compatible for bicyclists and pedestrians.	B-/D	Stansbury Park streets have paths and plans for more. The rest of the county streets and roads have almost no facilities; many are comfortable walking in the roadway for now but population and traffic growth will likely necessitate proper facilities.
Intersection treatments support pedestrians and bicyclists.	D	While speed limits are generally low, there is very little built at intersections to help pedestrians and cyclists, and highway intersections have nothing for pedestrians and bicyclists to cross.
GOAL: Build active transportation trunk routes through the valley.		
Progress toward active transportation trunk routes through the valley.	C	Much of the planning is in place. Now it is time to begin implementing the plan.
GOAL: Connect key Tooele Valley destinations for active travelers.		
Connectivity to key destinations.	C-	Stansbury Park residents can somewhat well access destinations on foot and by bike and better connections are planned, but barriers stand in the way, growth means more difficult access, and currently, the rest of the unincorporated valley isn't well connected to the key destinations.
Frequency and quality of bike and pedestrian connections across identified barriers.	D	SRs 138 and 36 form daunting barriers community-wide, with no safe crossings; in Stansbury Park, these are exacerbated by the golf course and lake. However, there are plans in place for more across barrier connections in key locations, and other parts of the valley do not have significant barriers – yet.
GOAL: Ensure that new developments have connected active transportation infrastructure.		
Connectivity measures of new or retrofitted subdivisions or developments.	D	While subdivisions have benefited from discretionary requirements of street stubs and increasing street density, connectivity itself is generally poor and code language is not strong enough to ensure quality internal and external connections.
New subdivisions include proper active transportation infrastructure.	C-	Standards for neighborhood streets include sidewalks and buffers but bike facilities are largely not addressed and standards don't clearly address the range of types of development. Local street options could be expanded and clarified.

Table 1-1: Existing conditions evaluation summary

GOAL: Enable pedestrians and cyclists to thrive while remaining safe.		
Pedestrian and bicyclist volumes at key locations.	D	Pedestrian and bicyclist counts throughout the valley captured very little activity, however as a percentage of total traffic it wasn't very far below the national average.
Pedestrian and bicycle activity among the community.	B	According to the results of the survey of 83 county residents, daily pedestrian activity slightly lags behind the national average but daily bicycling is above the national average.
Number and type of bicycle and pedestrian-related crashes.	C	The study area has a pedestrian and bicyclist crash rate below the state average but also has many fewer cyclists and pedestrians.
GOAL: Increase community visibility, awareness, and support of active transportation.		
Awareness and confidence of the greater community of active transportation as an option.	C	The 83 county residents who took the project survey were split over their confidence in walking and bicycling as real transportation options, including to access schools.
Support by the greater community of active transportation improvements.	A-	93 and 91 percent of the survey respondents "definitely support" the building of walking and biking infrastructure, respectively.
Tangible, positive examples of active transportation infrastructure in Tooele Valley.	D-	Agencies and developers are beginning to build some infrastructure and Tooele Valley Trails has publicized biking routes. But overall, there is very little existing visibility of walking and bicycling on quality facilities in Tooele Valley.

1.5 Opportunities

The final foundation of the plan is the set of active transportation opportunities the project team generated from the existing conditions evaluation, previous plans, and community feedback. These opportunities are the basis for the vision and guidance contained in Part 2 of this plan.

The opportunities are organized below by the six goals.

Goal 1: Integrate active transportation into new and improved major roads and streets.

- Refine street standards to address requirements for on-street bicycle facilities.
- Define what major streets get which active transportation facilities. Translate the street types into a set of preferred facilities for each type, including a way to identify preferred facilities for new major streets.
- Develop set of active transportation facility design standards that can be incorporated into standard cross sections.
- Develop active transportation design standards for intersections and crossings to create more awareness of pedestrians/bikes and shorten crossings.
- Incorporate Stansbury Service Agency (SSA) plan into County network.
- Prioritize active transportation improvements on major streets.
- Create a wider range of options for local streets based off density, with options for drainage and different facilities.

Goal 2: Build active transportation trunk routes through the valley.

- Integrate the pathway concept into requirements for subdivision developers and priority capital projects.
- Promote the Tooele Valley pathway concept.
- Seek funding for the first phases of the pathway.

Goal 3: Connect key Tooele Valley destinations for active travelers.

- Support SSA plans for golf course connector trail, grade-separated crossing of S.R. 138, and other across barrier connections.
- Create active transportation connections across S.R. 36, especially in planned walkable mixed use center areas.
- Create better pedestrian access immediately around shopping areas and schools.
- Ensure that design and siting of new destinations are pedestrian- and bike-supportive.

Goal 4: Ensure that new developments have connected active transportation infrastructure.

- Create requirements for connectivity, including a minimum link-node ratio, maximum block lengths, stub streets, and cul-de-sac management.
- Develop a density- and size-based method for requiring pedestrian and bicycle accommodations for new developments.
- Redevelop a set of available local level street sections for different levels of density.
- Develop a requirement for a pedestrian and bicycle circulation plan for each subdivision.
- Create a design resource for doing a pedestrian and bicycle circulation plan.
- Ensure that new and improved major streets/roads have frequent enough active transportation connections across and into communities.

Goal 5: Enable pedestrians and cyclists to thrive while remaining safe

- Develop strategies for pedestrian safety in the Exit 99 area along S.R. 36.
- Continue to monitor crashes, especially with regard to changing walking and bicycling rates.

Goal 6: Increase community visibility, awareness, and support of active transportation.

- Highlight existing facilities.
- Implement a project in the county, outside Stansbury Park, however small.

PART 2 VISION AND GUIDANCE

The Vision and Guidance section is the core of the Tooele County Active Transportation Implementation Plan. It identifies the strategies the County and its partners will use to achieve the Active Transportation Goals presented in Part 1. These strategies are based on the latest best practices as well as the specific geographic context of Tooele Valley and the plans and policies that this plan is built upon.

One key challenge in Tooele Valley is that much of the plan area remains to be built out. This plan addresses this challenge with a flexible system of guidance that employs a range of tools to adapt to the valley's buildout.

For example, the plan does not specify facility types for each street. In order to preserve future flexibility, the recommended facility type for a given street is based on the street type designation the street is given. This system not only gives more flexibility to the builders of infrastructure along existing streets but also provides a way to determine the appropriate facility for future major streets.

In addition, the way individual subdivisions build out is critical to active transportation in Tooele Valley. To this end, the plan recommends requirements for subdivisions to include active transportation facilities and street connectivity.

With these requirements, the valley can be built out in a number of different ways but will be connected for walkers and cyclists at the neighborhood, community and regional levels.

The tools contained in this section include:

- A vision for the primary active transportation network in the plan area;
- A system for building the appropriate pedestrian/bicycle facility on major streets;
- Requirements for new subdivisions to include active transportation facilities and minimum levels street connectivity; and
- Design guidelines for each type of pedestrian/bicycle facility.

Together, these strategies and tools will complement one another to create a connected network of pathways, lanes, sidewalks, shared streets, and crossings that will help make Tooele Valley a more sustainable and healthy community.

2.1 Active Transportation Vision Network

The Active Transportation Vision Network identifies how the Tooele Valley plan area will be connected for pedestrians, cyclists, and other active travelers.

The Vision Network (Figure 2-1) is based on the 2016 Tooele County Transportation Plan's active transportation network - it is comprised of priority routes for active transportation as well as designated walkable, transit-supportive activity centers and planned trailheads.

The network in this plan refines the County Transportation Plan by adjusting some routes and adding others. It incorporates more closely the Stansbury Service Agency trails plan. The revised network also includes the alignment of the nine-mile pathway planned to connect Tooele Valley communities, called the Tooele Valley Pathway.

On the map in Figure 2-1, the connections shown in the vision network are of two types - those along specific existing streets (solid lines) and desired connections among existing streets and/or destinations whose exact routes are undetermined (dashed lines).

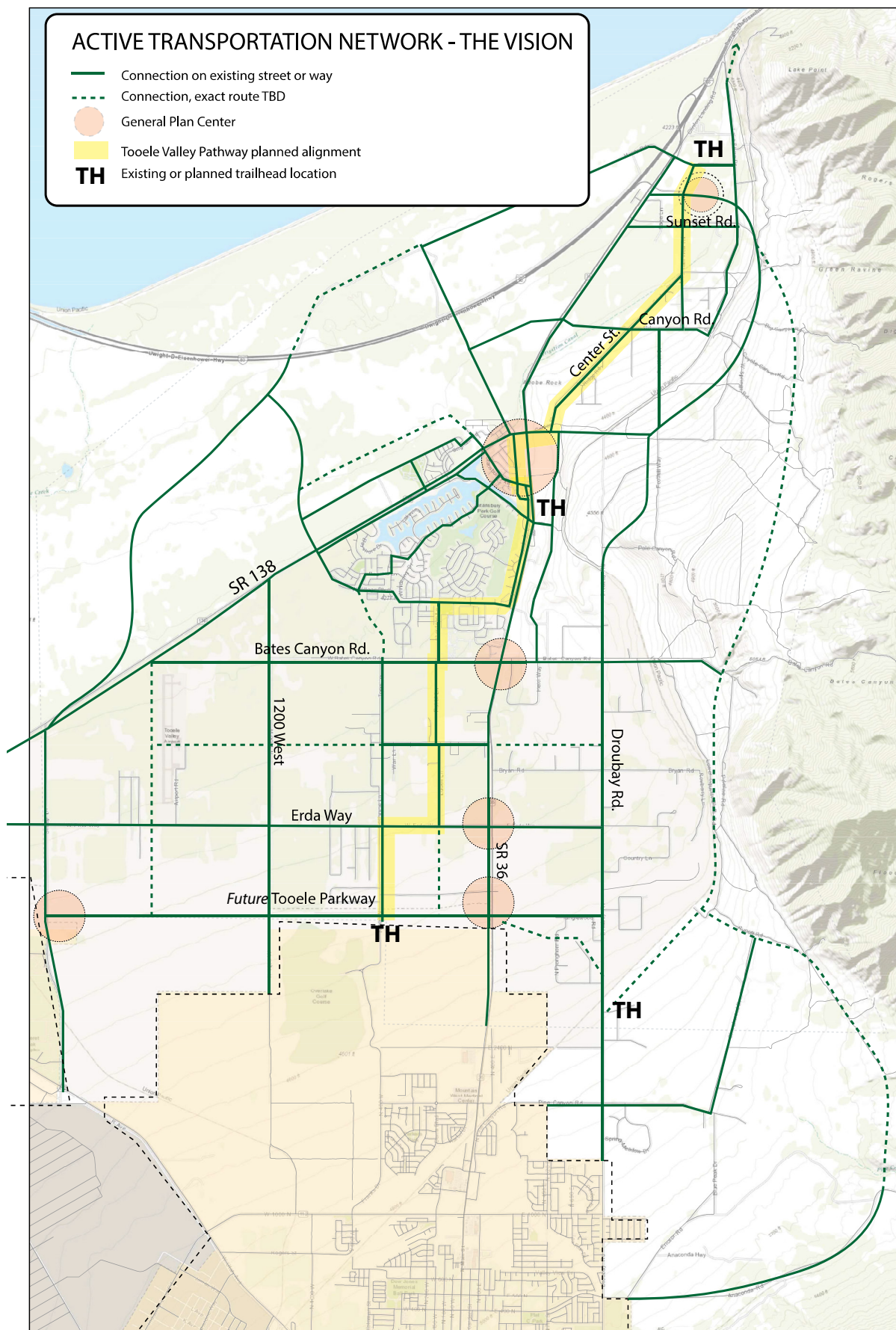


Figure 2-1: Tooele Valley Active Transportation Vision Network

2.2 Active Transportation Facility Type Guidance

Overview

In order to provide more flexibility to the builders of infrastructure along existing and future streets, this plan provides a range of options for active transportation facilities.

What facility is built on what street is guided by the Street Types system in the Tooele County Transportation Plan. The Street Types provide a vision and guidance for the various aspects of streets in Tooele County, including active transportation facilities. For each street type, a range of appropriate active transportation treatments is allowed. The Street Types system is driven by the need for different calibers of transportation infrastructure in different contexts, such as rural, suburban, activity centers, highways and local streets. This is especially true for active transportation.

This section identifies what facilities are appropriate for which street types. Section 2.4 provides specific design guidance for each facility.

Street Types

There are nine major Street Types in Tooele County:

- Freeway / Highway
- Community Spine
- Community Spine Center
- Mobility Connector
- Neighborhood Connector
- Rural Preservation Connector
- Center Connector
- Industrial Connector

The Tooele County Transportation Plan designated Street Types for many of Tooele Valley's streets, shown in Figure 2-2 below. However, Street Types are also intended to be applied to future major streets as the valley is built out.

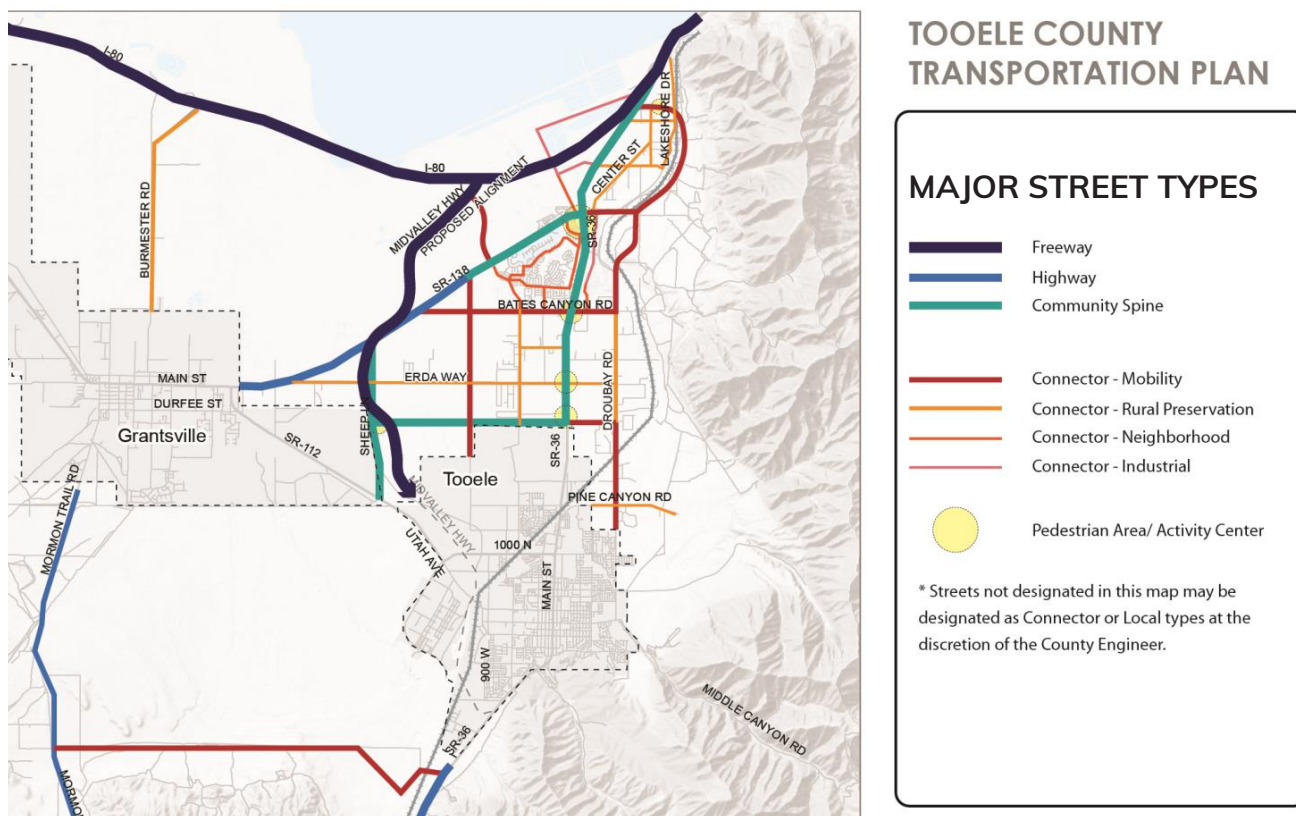


Figure 2-2: Map of assigned Street Types for major Tooele Valley streets, Tooele County Transportation Plan

Identifying the proper active transportation facility

To find the options for a street:

- Consult the map in Figure 2-2;
- Identify the street's Street Type;
- If there is no designated Street Type for your street consult with Tooele County Planning to assign one;
- Find the active transportation facility options in Table 2-1 or the list below;
- Select one of the options for active transportation facilities;
- If an appropriate active transportation facility exists on a segment of the street, extend this facility type to the extent practicable; and
- Locate the design guidance and standard for the active transportation facility in Section 2.4.

List and table of active transportation options for major Street Types

The following identifies options for active transportation facilities for each Street Type. They are summarized in Table 2-1.

Community Spine

- On-street shared use path with major buffer, both sides (*can be standard buffer if speed limit is 35 or below)
- If speed limit is 35 mph or below, sidewalk and raised bike lane is an alternative option

Community Spine Center

Both sides of the street should have **one** of the following options:

- On-street shared use path with major buffer (*can be standard buffer if speed limit is 35 or below)
- If development is fronting the Community Spine street (or frontage street) the following is an alternative option: Enhanced sidewalk and buffer plus one of:
 - ◇ Bike lane (35 mph or below)
 - ◇ Buffered bike lane
 - ◇ Raised bike lane
 - ◇ Protected bike lane

Freeway / Highway

- Off-street shared use path with major buffer, one side

Mobility Connector

- On-street shared use path **with standard buffer**, both sides

OR

- Sidewalk and raised bike lane, both sides

Neighborhood Connector

Both sides of the street should have one of the following options:

- Standard sidewalk and buffer plus one of: Bike lanes, Buffered bike lanes, or Shared roadways
- On-street shared use path with standard buffer
- Neighborhood shared use path

Rural Preservation Connector

- On-street shared use path with standard buffer, one or both sides

OR

- Advisory shoulders

Center Connector

Both sides of the street should have one of the following options:

- On-street shared use path with standard buffer

OR

- Sidewalk and raised bike lane, both sides

OR – if development is fronting the Center Connector street (or frontage street) the following is an alternative option:

- Enhanced sidewalk and buffer plus one of: Bike lanes, Buffered bike lanes, Shared lane markings, or Protected bike lanes

Industrial Connector

- On-street shared use path with standard buffer, one side

		<i>Shared facilities</i>					
		Shared Use Path - Major Buffer	Shared Use Path - Standard Buffer	Neighborhood Shared Use Path	Sidewalk and Raised Bike Lane	Slow street	Advisory Shoulders
STREET TYPE	Typical max speed						
Highway / Freeway	60-80 mph	One side					
Community Spine - Standard	35-60 mph	Above 35 mph	35 mph & below		35 mph & below		
Community Spine - Center	35 mph	Above 35 mph	35 mph & below				
Mobility Connector	35 mph						
Neighborhood Connector	30 mph						
Rural Preservation Connector	30 mph		One side OK				Retrofit only
Center Connector	30 mph						
Industrial Connector	35 mph		One side OK				
Local - higher density	25 mph						
Local - lower density	25 mph		One side OK	One side OK		Max 20 mph	

	<i>Pedestrian-only facilities</i>			<i>Bicycle-only facilities</i>			
	Standard sidewalk and buffer	Enhanced sidewalk and buffer	Standard sidewalk with swale	Shared lane markings	Bike Lane	Buffered Bike Lane	Protected Bike Lane
STREET TYPE							
Highway / Freeway							
Community Spine - Standard							
Community Spine - Center					35 mph & below		
Mobility Connector							
Neighborhood Connector							
Rural Preservation Connector							
Center Connector							
Industrial Connector							
Local - higher density							
Local - lower density	One side OK						

Table 2-1: Allowed facilities for Tooele County Street Types. Colored cells show which facilities are allowed for given street types. See Section 2.4 for design guidelines for the facilities.

Future major active transportation connections

The Active Transportation Vision Network identifies several connections along routes that do not yet have streets. As new streets are created, the street type designations given to them by Tooele County will provide guidance on what active transportation facilities should be part of them.

Railroad crossings

The railroad creates a significant barrier for active travelers in Tooele County. Existing crossings should be enhanced for walking and bicycling, and as the additional crossings identified in the Tooele

County Transportation Plan are built, these should be safe for active travelers.

Off-street trails

The Active Transportation Vision Network also allows for many of the connections identified to be off-street pathways. The design guidance in Section 2.4 provides direction on design of off-street pathways. The Subdivision standards and guidance in Section 2.3 identifies ways off-street pathways can and should be integrated into new developments in ways that create important community-wide and regional active transportation connections.

2.3 Subdivision Guidance and Standards

Overview

Much of Tooele Valley's active transportation network will be built through new development, especially on local streets. Consequently, the quality of the network will rely on the ability of new developments to include the appropriate sidewalks, paths, bike lanes, and other walking and bicycling facilities, and to be connected to one another.

In particular, high connectivity of local streets will decrease the need for people to walk and bike on major streets with large volumes of traffic. Pathways connecting larger developments will make these new neighborhoods more pleasant and desirable to live in.

To this end, the Active Transportation Implementation Plan recommends the adoption of a series of requirements for new subdivisions. These requirements fall into three categories:

- Active transportation facilities, which will require that subdivisions provide safe ways for people to get around these neighborhoods on foot and by bike;
- Connectivity standards, which will require that the streets in new neighborhoods have a minimum level of connectivity both within the neighborhood and outside it to existing and future developments;
- Master planned and off-street trails.

These specific requirements depend on the intensity of the development in the subdivision. Higher density developments will be required to have higher levels of active transportation infrastructure than lower density developments, but both will need to provide ways for people to walk and bike safely, comfortably, and conveniently around the neighborhood. Meanwhile, higher density developments will have smaller maximum block lengths than lower density neighborhoods, but both will need to be well-connected.

This section is organized by the type of requirements as well as by standards for different intensities of development.

Active transportation facilities requirements on local streets

Requirements for active transportation facilities on local streets are divided into higher density, lower density, and non-residential. For the purposes of these requirements, density is determined by zoning category - zones R-1-21 (minimum lot size .5 acre) and more intense are “higher density,” while zones RR-1 and less intense are “lower density.” See Table 2-2.

For planned unit developments (PUDs) and other special residential zoning situations, density is determined by average lot size - if it is .5 acre or higher, the development is higher density; if below .5 acre, the development is lower density. If a development contains areas of different densities, it should be divided into areas of higher and lower density based on average lot size of the different areas, based on the discretion of the County planning staff.

In Conservation Subdivisions, the density category should be determined according to the average lot size in the clustered portion of the development. If the average is .5 acre or higher, the development is

higher density; if below .5 acre, the development is lower density.

Higher density, lower density, and non-residential subdivision applicants will need to create an active transportation circulation plan. The active transportation circulation plan identifies how pedestrians and bicyclists will move around the neighborhood. Examples of active transportation circulation plans are shown for both high-density (Figure 2-3) and lower density (Figure 2-4) subdivisions. For the design of the required facilities, please see Section 2.4.

This plan does not directly address drainage requirements for subdivision streets. While drainage infrastructure, such as curb and gutter, storm drain systems, and swales, is an important piece of overall street design, drainage should be addressed on a case-by-case basis and is beyond the scope of this plan. However, the project team recommends that a flexible approach be taken with drainage, to allow for both storm drain systems and “green” infrastructure such as swales.

ZONE	ACTIVE TRANSPORTATION REQUIREMENTS <i>* See Table 2-1 for active transportation facility options.</i> <i>* See facility design guidance Section 2.4 for design of facilities and pedestrian circulation plan guidance</i>	
ZONE	Higher/lower density	Required active transportation facilities
R-M-30	Higher	Active transportation facility on both sides of each street and pedestrian circulation plan
R-M-15	Higher	Active transportation facility on both sides of each street and pedestrian circulation plan
R-M-7	Higher	Active transportation facility on both sides of each street and pedestrian circulation plan
R-1-8	Higher	Active transportation facility on both sides of each street and pedestrian circulation plan
R-1-10	Higher	Active transportation facility on both sides of each street and pedestrian circulation plan
R-1-12	Higher	Active transportation facility on both sides of each street and pedestrian circulation plan
R-1-21	Higher	Active transportation facility on both sides of each street and pedestrian circulation plan
RR-1	Lower	Active transportation facility on one side of each street and pedestrian circulation plan
RR-5	Lower	Active transportation facility on one side of each street and pedestrian circulation plan
RR-10	Lower	Active transportation facility on one side of each street and pedestrian circulation plan

Table 2-2: Active Transportation requirements for subdivisions

Facilities for higher density subdivisions

Residential subdivisions zoned R-1-21 or higher must adhere to the following requirements:

- Active transportation facilities must be on every local street on both sides. Active transportation facility options for local streets for higher density subdivisions are:
 - ◇ Shared use path with standard buffer
 - ◇ Neighborhood shared use path
 - ◇ Standard sidewalk
- Higher-level streets (Connector, Community Spine, and Highway/Freeway Street Types and Collector/Arterial Functional Class), either existing or new and within the development
 - or bordering it, must implement the active transportation facility requirements for the Street Type in Section 2.2.
- Provide appropriate active transportation crossings of major streets.
- Ensure that any connections shown in the Vision Network (Figure 2-1) running through the subdivision are implemented with active transportation facilities with existing or future connections to adjoining areas.
- Prepare an Active Transportation Circulation Plan showing how the above five requirements are being met, and identifying any other active transportation infrastructure and amenities. See the example in Figure 2-3.

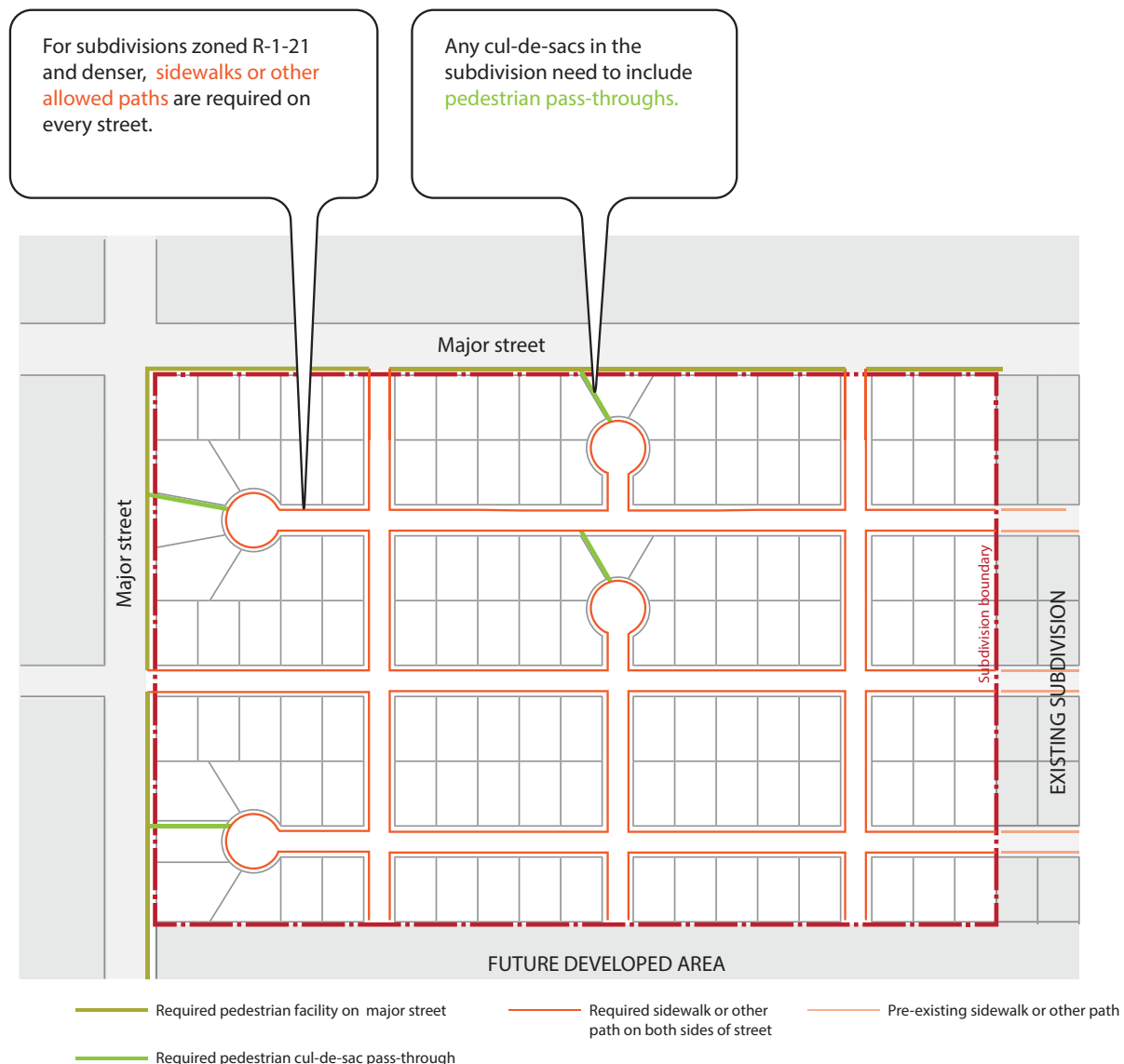


Figure 2-3: Example of a circulation plan meeting the requirements for higher density developments

Lower density subdivisions

Subdivisions zoned below R-1-21 must adhere to the following requirements:

- Active transportation facilities must be on every local street on at least one side. Active transportation facility options for local streets for lower density subdivisions are:
 - ◊ Shared use path with standard buffer
 - ◊ Neighborhood shared use path
 - ◊ Standard sidewalk
- Provide path “stubs” if no adjacent development is present to create connections to future adjacent developments.
- Higher-level streets (Connector, Community Spine, and Highway/Freeway Street Types and Collector/Arterial Functional Class), either existing or new and within the development or bordering it, must implement the active transportation facility requirements for the Street Type in Section 2.2.

Design guidelines and standards for these facilities are in Section 2.4.

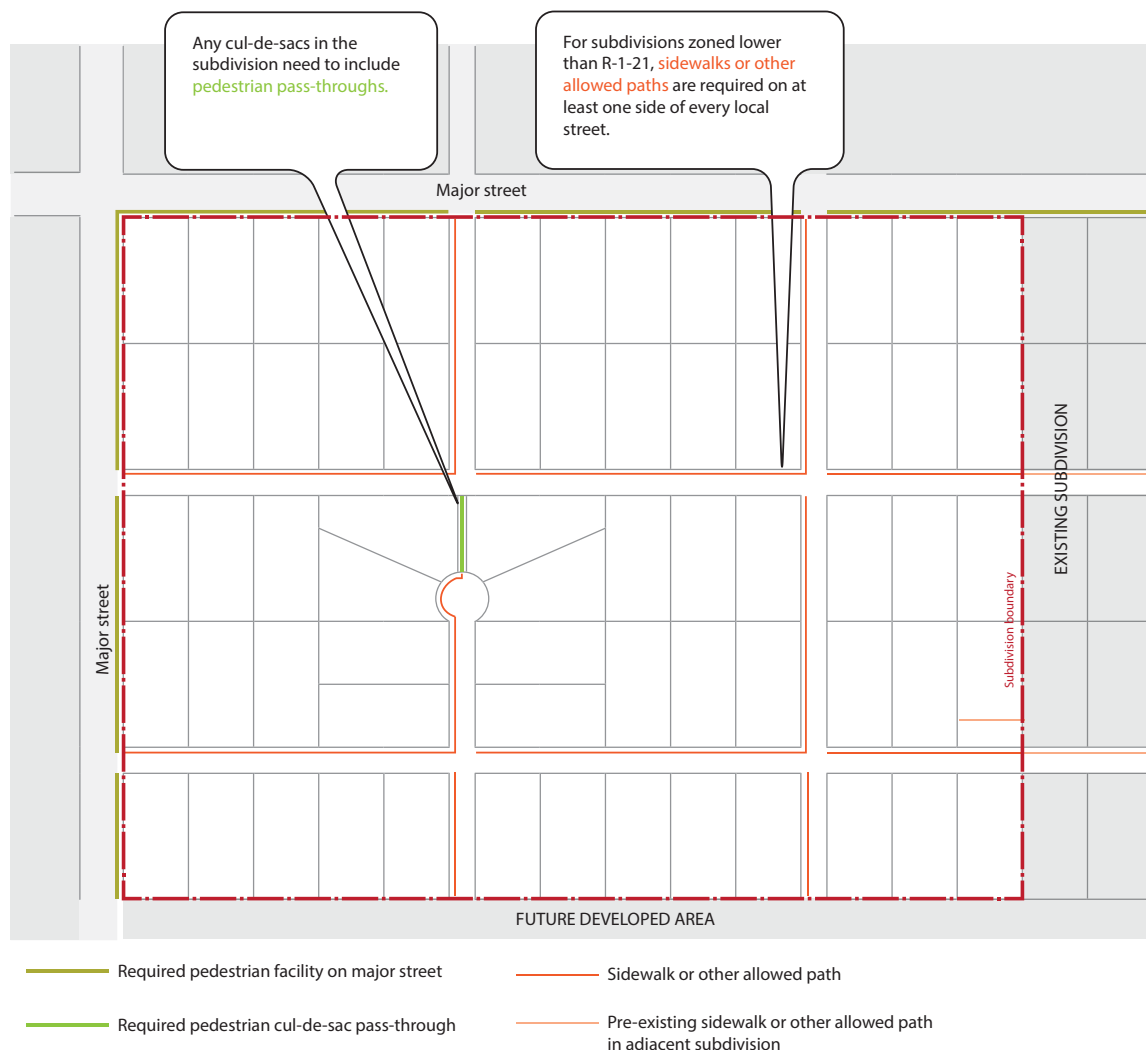


Figure 2-4: Example of a circulation plan meeting the requirements for lower density developments

- Provide appropriate active transportation crossings of major streets. See design guidelines, Section 2.4.
- Ensure that any connections shown in the Vision Network (Figure 2-1) running through the subdivision are implemented with active transportation facilities providing existing or future connections to adjoining areas.
- Prepare an Active Transportation Circulation Plan showing how the above five requirements are being met, as well as any other active transportation infrastructure and amenities. See the example in Figure 2-4.

Connectivity requirements

Connectivity of Tooele Valley streets will enable residents to move around their neighborhoods on foot and by bicycle and decrease the need for people to walk and bike on major streets with large volumes of high-speed traffic.

Connectivity standards require that the streets in new neighborhoods have a minimum level of connectivity both within the neighborhood and outside it to existing and future developments.

There are two types of connectivity requirements:

1) Internal connections - streets and circulation within the development - and 2) External connections - those between the development and surrounding streets and neighboring development.

Connectivity requirements are specified for different zoning categories. See the table in Figure 2-2 for specific numbers.

Achievement of connectivity standards must be shown on a Connectivity Plan to be submitted with each development application. For examples of Connectivity Plans, see Figures 2-5 and 2-6.

Internal connections

Minimum connectivity index

The connectivity index measures how connected the streets in an area are. The connectivity index is the ratio of the street segments in a given area to the intersections in the same area. It expresses how efficient the intersections are – the foundation of a well-connected network are intersections that connect to several streets.

Measuring the connectivity index is simple. Only a few pieces of information are needed, each of which is available using basic mapping tools.

The connectivity index is the number of “links,” or street segments, divided by the number of “nodes,” which include both intersections and dead ends, within a given area. For the purposes of this plan, the area is the subdivision being proposed, including any major streets along its edges.

The connectivity index should be as high as possible, but needs to reach the minimums specified in Table 2-3.

The example connectivity plans in Figures 2-5 and 2-6 include identification of links and nodes and connectivity index calculations.

Maximum block length

Another critical element of internal connectivity is a high density of intersections. When intersections are too far apart, blocks are too large and it is difficult to walk or bicycle around a neighborhood. This intersection density is implemented by a maximum block length requirement within the subdivision.

Like other connectivity requirements, maximum block lengths depend on the zoning category of the subdivision - see Table 2-2.

In order to maintain flexibility in subdivision design, for every 40 lots included in the development, one exception to the maximum block length is allowed in which a block may be up to 2.5 times as long as the minimum.

In addition, access management requirements for UDOT-managed streets may also allow block lengths along these streets to be longer. In this case, active transportation pathways may be substituted to maintain active transportation connectivity.

The example connectivity plans in Figures 2-5 and 2-6 include identification of maximum block lengths and exceptions.

Maximum cul-de-sac length

Cul-de-sacs and other dead-end streets included in a subdivision are limited in their allowed length. See Figure 2-2 for the maximum cul-de-sac lengths for different zoning categories. Stub streets intended for future connections are not included in this requirement.

Active transportation connection for each cul-de-sac

At each internal cul-de-sac or other dead-end street, a shared use path meeting the design standards in 2.4 for off-street paths should be included.

External connections

Stub street spacing

Stub streets are streets that dead end against vacant or undeveloped land with the intention of connecting to development on that land in the future. In order to maintain a consistent street network that ties together different subdivisions, stub streets are required at a minimum spacing that matches the spacing of streets within a subdivision (reflected in the maximum block length requirement).

For specific stub street spacing requirements for different zoning categories, see Table 2-2.

Master planned trail connections

Active transportation connections should connect proposed developments to master planned trails where applicable. These connections can be any of the Shared Use Path facility types specified in Section 2.4, however the type of trail should be maintained through connecting subdivisions.

ZONE	CONNECTIVITY REQUIREMENTS					
	Internal connectivity			External connectivity		
	Connectivity index (links per node)	Maximum block length (ft)*	Cul de sac maximum length (ft) **	Maximum spacing of connections to collector and arterial level streets ***		Maximum stub street spacing
ZONE						
R-M-30	1.5	400	0	400		400
R-M-15	1.5	400	0	400		400
R-M-7	1.5	400	0	400		400
R-1-8	1.5	400	200	860		400
R-1-10	1.5	400	275	860		400
R-1-12	1.5	400	275	860		400
R-1-21	1.5	750	400	1320		N/A
RR-1	1.5	N/A	400	1320		N/A
RR-5	1.5	N/A	400	N/A		N/A
RR-10	1.5	N/A	400	N/A		N/A

* there can be one exception to the maximum block length per 40 lots, where one block face can be up to double the length.

** Every cul-de-sac must have a pedestrian connection to the other side of the block.

*** Excludes connections to UDOT-managed streets

Table 2-3: Street connectivity requirements for subdivisions

Exceptions

These connectivity requirements may be reduced if the applicant provides clear and convincing evidence that it is impossible or impracticable to achieve due to the following limitations:

- Topography: Natural features including lakes, rivers, designated wetlands;
- Existing adjacent development, in cases where connection to a pre-existing development would require some flexibility of connectivity requirements for the new subdivision;
- Rail corridors;
- Limited access roadways;

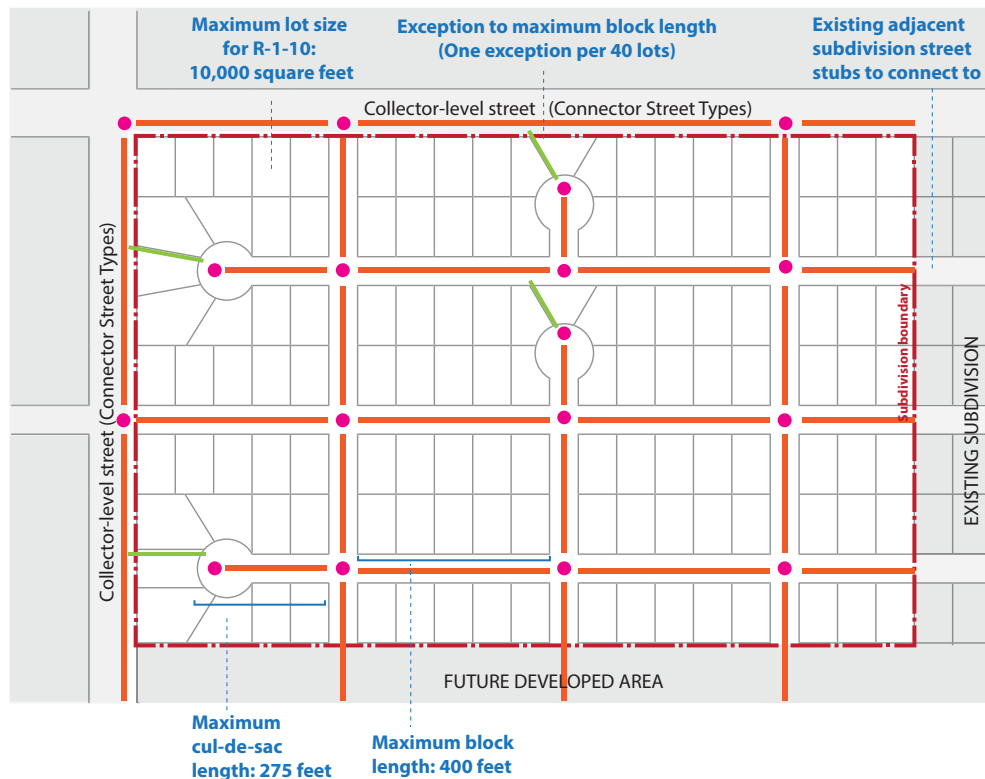
Reductions in the required connectivity index will be reviewed on a case-by-case basis and must require recommendations from the reviewing departments.

Connectivity Plan

Each development applicant must prepare a Connectivity Plan showing adherence to the requirements stated above, and including the following information:

- Basic information:
 - ◇ Street links
 - ◇ Nodes
 - ◇ Block length dimensions
 - ◇ Cul-de-sac length dimensions
- Connectivity index
- Maximum block lengths, if applicable
- Stub streets with minimum spacing, if applicable
- Active transportation-only links connecting cul-de-sacs or to access-management controlled major streets.

Examples of Connectivity Plans are provided in Figures 2-5 and 2-6.



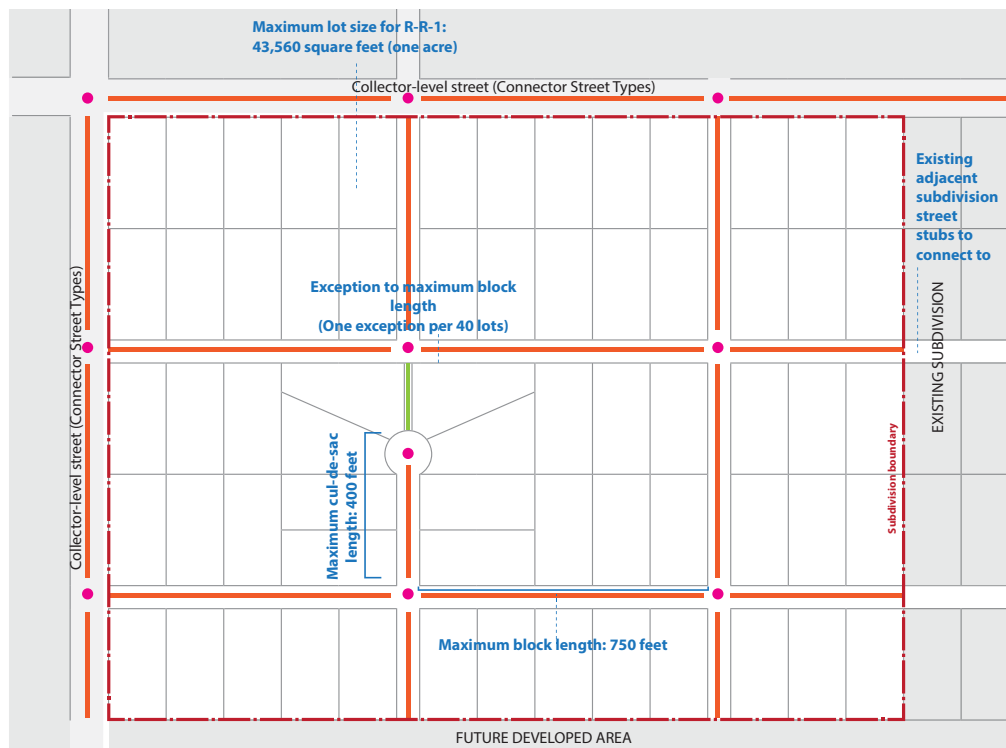
REQUIRED LINK-NODE RATIO: 1.5

Links: — 29

Nodes: ● 17

Link-Node Ratio: 1.7

Figure 2-5: Example of a connectivity plan meeting the requirements for higher density developments



REQUIRED LINK-NODE RATIO: 1.5

Links: — 18

Nodes: ● 10

Link-Node Ratio: 1.8

Figure 2-6: Example of a connectivity plan meeting the requirements for lower density developments

Master planned and off-street trails

Developing networks of master-planned, off-street trails will be an integral part of active transportation and quality of life in Tooele County. Designing and implementing these trails will depend on opportunities created from larger developments.

For each subdivision/development, the developers, Tooele County, and other stakeholders should work together to identify opportunities for master-planned and off-street trails, both within the subdivision/development and connecting to trails outside it. Developments of over 20 acres will be required to have an off-street, master-planned trail system.

2.4 Facility Design Guidance

Shared active transportation facilities

Shared active transportation facilities are those that can be used by both people on foot (walking, running, roller skating, etc.) and people riding bicycles. These include dedicated pathways designed for both modes, roadways shared with auto traffic, and combined bike lanes/sidewalks. For Tooele Valley, with little existing active transportation infrastructure and long distances to overcome between residences, jobs, and community destinations, shared active transportation facilities provide an efficient way to provide safe, comfortable routes for a range of people on foot and bikes.

This guide includes a wide spectrum of shared active transportation facilities, from those separated from moving traffic to those integrated with motor vehicle traffic. It provides more detailed guidance on those facilities intended to be implemented in the near term and more frequently, such as shared use paths. Other facilities, such as the advisory shoulder and raised bike and shoulder, are included as ideas for more selective implementation. Note that in all cases, the width of the active transportation facility is in addition to the required roadway width.

For all of these facilities, see Section 2.2 for the appropriate Street Types for their application.

Shared use paths - Overview

Shared use paths are paved pathways separated from motorized traffic. They are shared by a variety of users, including bicyclists, pedestrians, skaters, wheelchair users, joggers, and others, who are usually moving in both directions.

Shared use paths are a good facility for Tooele Valley because they provide a low-stress experience for a variety of users using the network for transportation or recreation, creating efficient active transportation connections between valley destinations.

Shared use paths vary in a few ways. They can either be built “on” street - along streets - or “off” street - on their own alignment. They can have buffers with varying widths and character. They can be built in less developed areas or in denser neighborhoods. Their surface can be asphalt or concrete. This guide includes all of these types. One general design guideline for paths is that they should be direct and not unnecessarily winding.



Examples of shared use paths.

On-street **shared use path** with standard buffer

This facility is designed to run alongside streets with lower amounts of slower-moving traffic. The buffer separating it from the roadway is often a swale that drains the roadway and the path, but it could also be a curb and gutter or other drainage facility. Drainage design should be evaluated case-by-case.

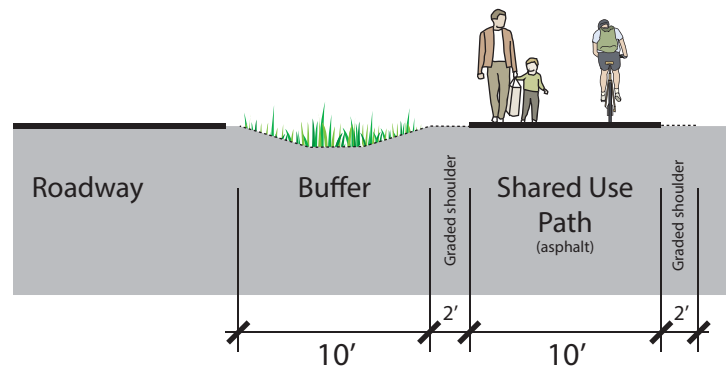


Figure 2-7: Illustrative typical cross section for on-street shared use path with standard buffer

On-street **shared use path** with major buffer

This facility is designed to run alongside streets with higher amounts of fast-moving traffic. The buffer separating it from the roadway is often a swale that drains the roadway and the path, but it could also be a curb and gutter or other drainage facility. Drainage design should be evaluated case-by-case.

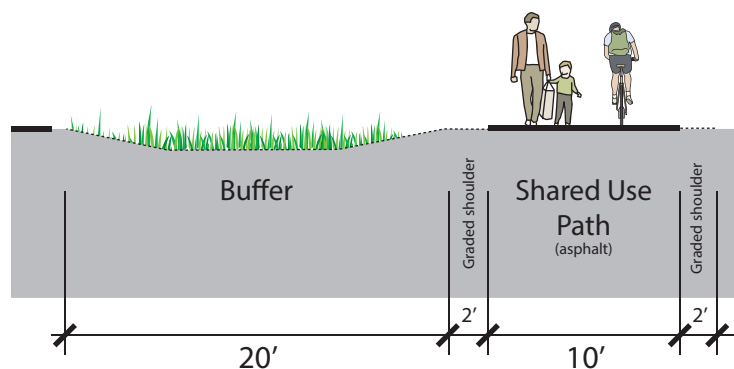


Figure 2-8: Illustrative typical cross section for on-street shared use path with major buffer

Neighborhood **shared use path**

The neighborhood shared use path is an on-street path that resembles a sidewalk, but is wider and designed for the same set of users as other shared use paths. Its concrete surface allows it to fit better into residential neighborhoods. It has begun to be implemented by Stansbury Service Agency.

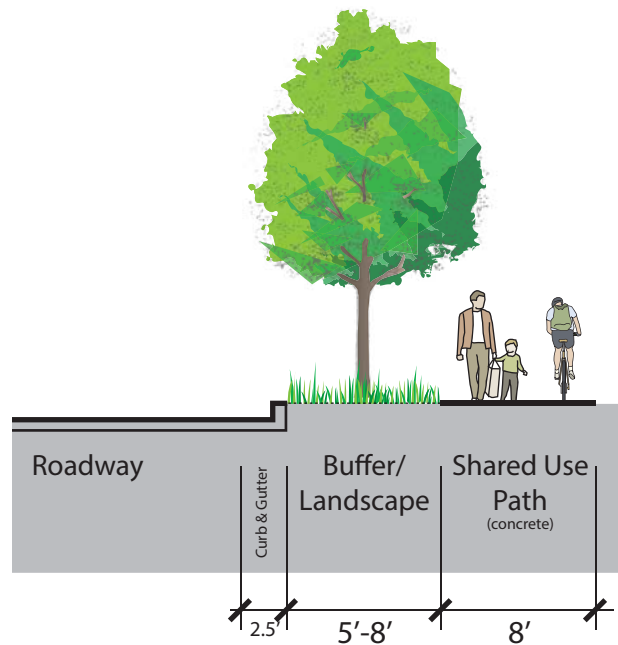


Figure 2-9: Illustrative typical cross section for neighborhood shared use path

Off-street **shared use path**

This facility serves the same range of users as the other shared use paths but runs on its own right-of-way or easement, away from any street or roadway. An off-street shared use path should be built where a connection needs to be made and property is available, such as along a former rail corridor, a river or canal. This facility provides pedestrians and cyclists with a nice experience away from motor vehicle traffic.

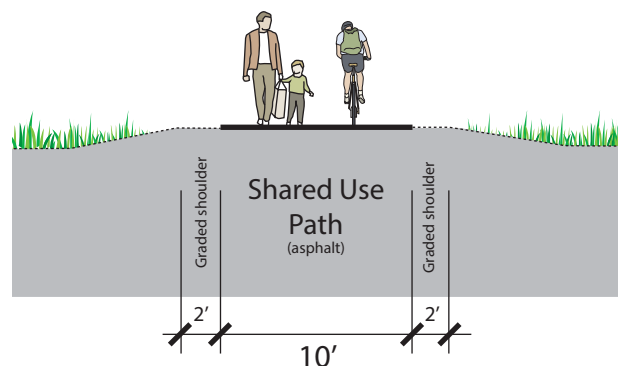


Figure 2-10: Illustrative typical cross section for off-street shared use path.

Shared use paths - striping and signage

Figure 2-11 below demonstrates the recommended striping and signage standards for shared use paths in Tooele County, per applicable Manual for Uniform Traffic Control Devices (MUTCD) standards and best practices.

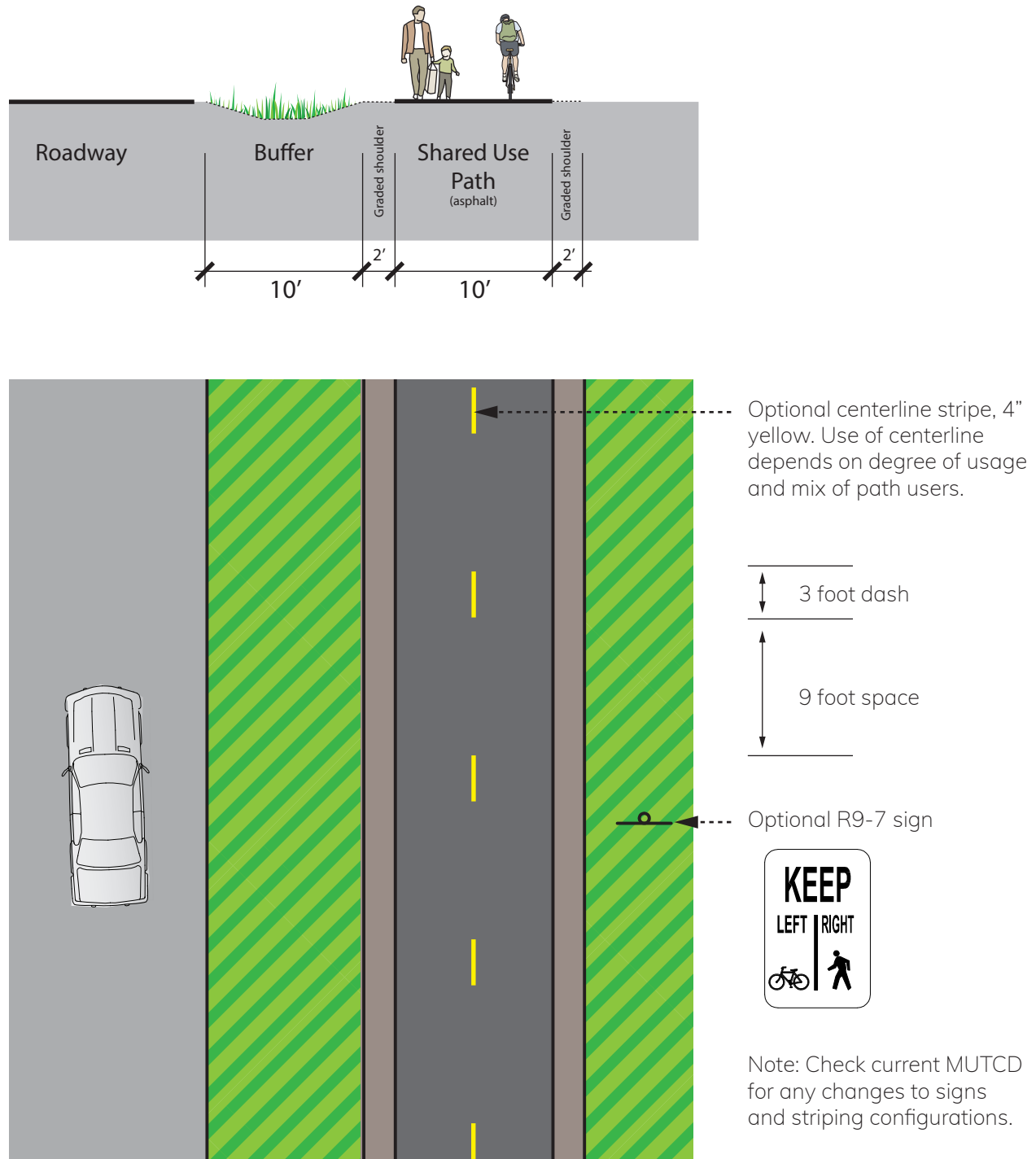


Figure 2-11: Striping and signage standards for shared use path.

Shared use path - intersection guidance

Figure 2-12 below demonstrates the recommended striping and signage standards for shared use paths in Tooele County as they cross streets, per applicable Manual for Uniform Traffic Control Devices (MUTCD) standards and best practices.

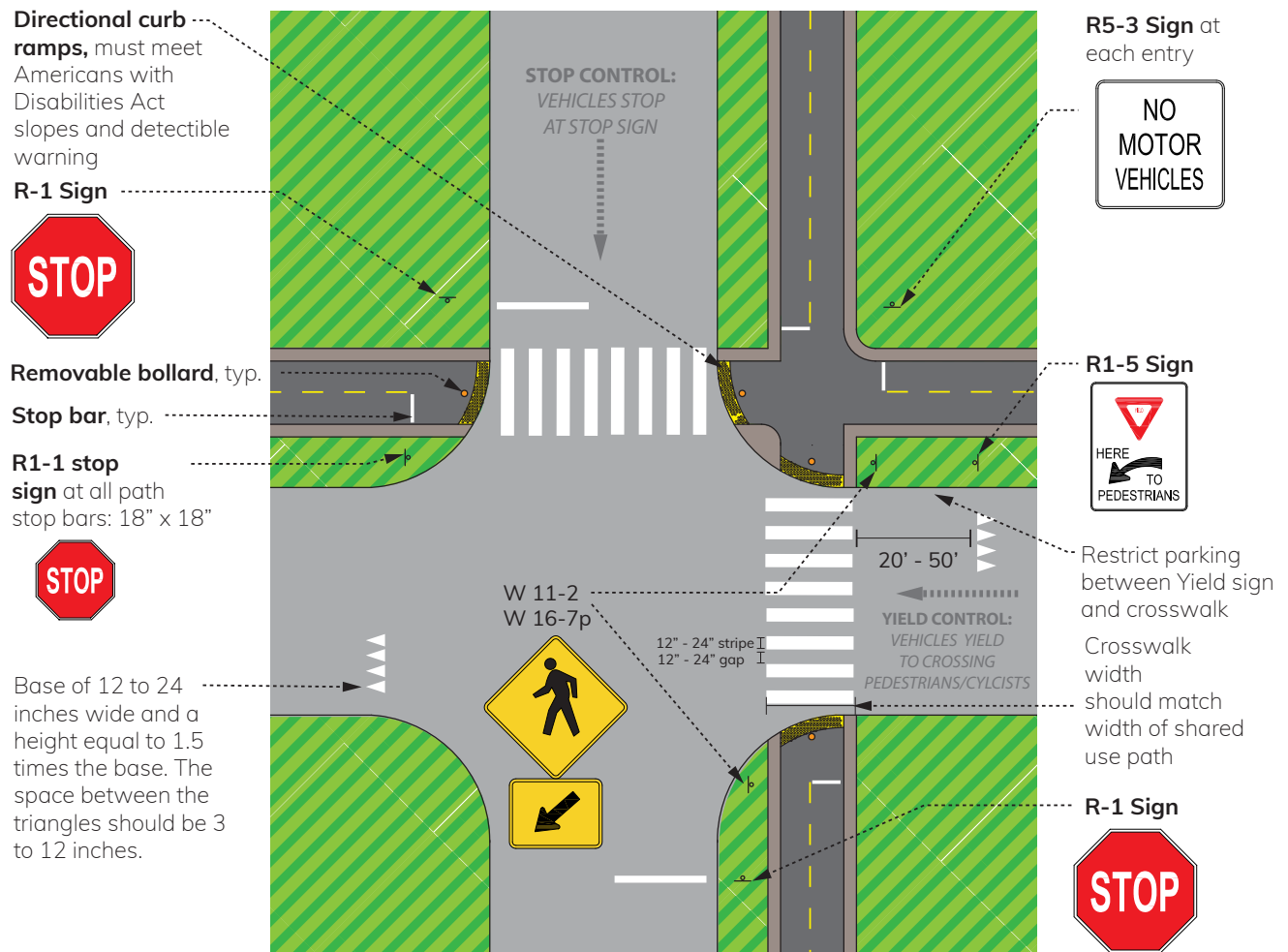
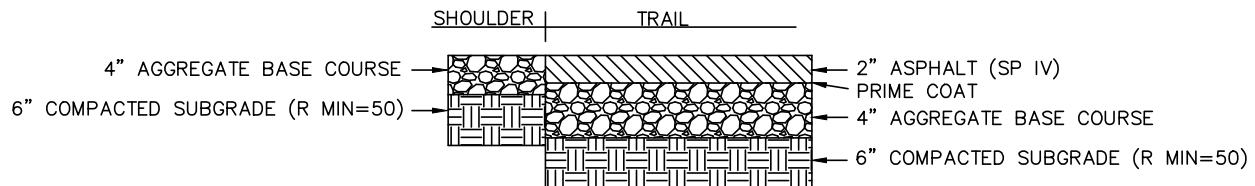


Figure 2-12: Striping and signage standards for shared use paths at street intersections

Shared use path - standard pavement section

Asphalt pavements for shared-use paths should be designed in consideration of specific site and use characteristics. Designs should be based on soil characteristics of the native soils as determined from a geotechnical investigation and wheel loading from anticipated motor vehicle use on or crossing the trail. Chapter 5 of the AASHTO Guide for the Development of Bicycle Facilities, 2012 Fourth Edition, discusses these and other general design considerations for trail surface structures. Local design and construction practices and standards for the shared-use path area should also be considered in the pavement section design. These may include design characteristics of locally available paving materials, commonly specified compaction requirements for subgrade, base course and asphalt surfacing materials, and minimum pavement structure element thicknesses required to achieve specified material compaction of each layer or lift.

A typical asphalt trail pavement section is illustrated below in Figure 2-13. This pavement section is based on a minimum resistance value, R-value, of the compacted subgrade material of 50, occasional motor vehicle use of the trail by maintenance or emergency vehicles, and commonly used minimum material lift thicknesses. This pavement section does not consider increased motor vehicle loads that may occur at driveways, which may require pavement edges to be thickened.



ASPHALT TRAIL PAVEMENT SECTION

Figure 2-13: Recommended general pavement cross section for asphalt shared use paths

Slow street

Slow streets, or yield roadways, are meant to create a slow-moving environment that is safe for pedestrians, cyclists, and motorists to coexist. Slow streets are appropriate in rural environments where density is low enough that sidewalks on every street are not appropriate.

Slow streets must be predicted to have fewer than 400 vehicles per day; have a paved surface limited to 20 feet; surface any roadside/parking areas with gravel, turf, earth, or another contrasting material; contain signage advising slow speeds and to watch for pedestrians (specifically W11-2); contain traffic calming elements; and have a maximum speed limit of 20 miles per hour.

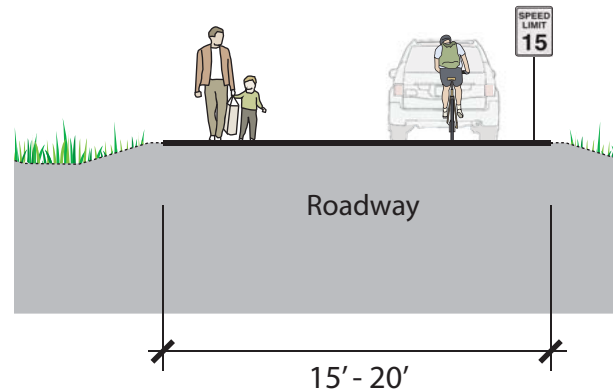


Figure 2-14: Illustrative typical cross section for slow street

Sidewalk and raised bike lane

A sidewalk and bike lane can be combined for a shared active transportation facility that is separated from motor vehicle traffic by a curb. The advantage to this facility is the separation of bicyclists and pedestrians within the shared facility. The sidewalk and raised bike lane is appropriate for higher-speed roadways. This facility does require significant width, and the bike lane is usually one-directional.

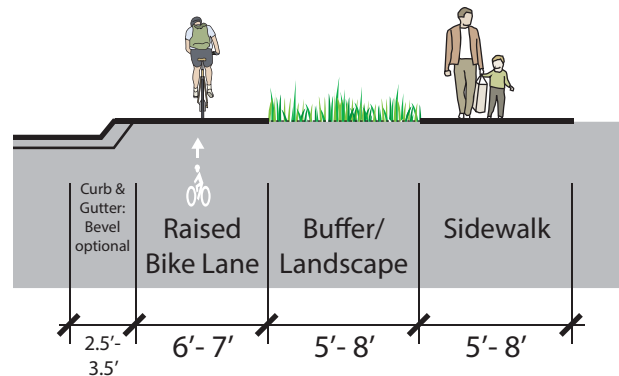


Figure 2-15: Illustrative typical cross section for sidewalk with raised bike lane

Advisory shoulder

Advisory shoulders create usable shoulders for bicyclists and pedestrians on a roadway that is otherwise too narrow to accommodate one. The shoulder is delineated by a dashed pavement marking and can have a contrasting pavement material or color. Motorists may only enter the shoulder when no bicyclists or pedestrians are present and must overtake these users with caution due to potential oncoming traffic (FHWA Small Town and Rural Multi-modal Networks). In Tooele County, advisory shoulders are for retrofit situations only, not for new streets.

* In order to install advisory shoulders, an approved Request to Experiment is required as detailed in Section 1A.10 of the MUTCD. FHWA is also accepting requests for experimentation with a similar treatment called “dashed bicycle lanes.” (FHWA Small Town and Rural Multimodal Networks)



Photo credit: FHWA Small Town and Rural Multimodal Networks

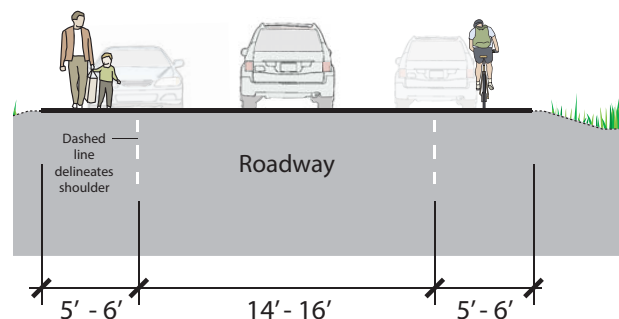


Figure 2-16: Illustrative typical cross section for advisory shoulder

Pedestrian facilities

Pedestrian facilities are those that are intended for use by people on foot (walking, running, roller skating, etc.). Pedestrian facilities included in this guide are different types of sidewalks and pedestrian crossings of roadways.

Sidewalks - overview

In general, sidewalks are most appropriate in Tooele Valley in areas with higher residential and non-residential density, such as Stansbury Park and commercial areas. The sidewalks in this guide are comprised of two components - the sidewalk and the buffer. Both vary in width, and the buffer varies in what is contained in it, whether grass, rocks, street trees, or amenities such as pedestrian-scale lighting or benches. Together, the sidewalk, buffer area, and adjacent property frontage are called the pedestrian realm and contain a series of "zones" comprised of the different elements, shown in Figure 2-17.



FURNISHINGS ZONE

Space acting as a pedestrian buffer from moving traffic and space for amenities such as benches and other street furniture and lighting and utility poles.

THROUGH ZONE

Space for people to walk. The Through Zone should be able to accommodate wheelchairs passing, and, depending on the environment and amount of pedestrians, people or pairs of people walking past one another.

FRONTAGE ZONE

Space for things associated with the adjacent land use such as plantings, dining, seating or display.

Figure 2-17: The pedestrian realm

As with shared use paths, the way in which a street drains, whether into a swale or into a curb and gutter and/or storm drain system, is a critical design issue of sidewalks and their buffers. But drainage design should be evaluated case-by-case; both of the sidewalk types presented in this guide can work with a variety of drainage configurations. One additional general design guideline for paths is that they should be direct and not unnecessarily winding.

Standard **sidewalk** and buffer

The standard sidewalk and buffer provides a standard pedestrian realm for most of the neighborhoods and districts where sidewalks will be built in Tooele Valley. Its five-foot sidewalk meets Americans with Disabilities Act requirements and its eight-foot buffer allows for street trees and other amenities, as well as drainage swales if conditions allow.

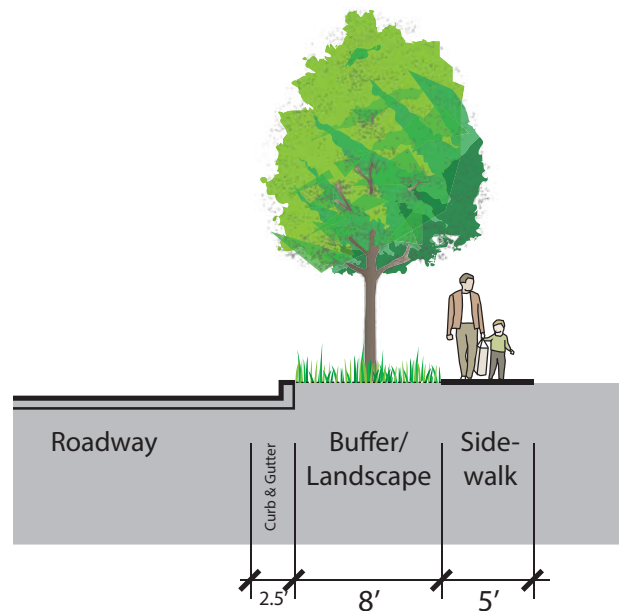


Figure 2-18: Illustrative typical cross section for standard sidewalk and buffer

Enhanced **sidewalk** and buffer

The enhanced sidewalk and buffer provides an alternative to the standard in areas where more intensive pedestrian traffic is anticipated and/or a higher-quality public space is desired. Building enhanced sidewalks in Tooele Valley's planned activity centers, for example, will provide the infrastructure to create walkable, vibrant areas to serve as the focal points of the community. The enhanced sidewalk provides space for people to walk together, or pass other pedestrians, as well as for adjacent storefronts to place tables, chairs benches, planters, and other amenities.

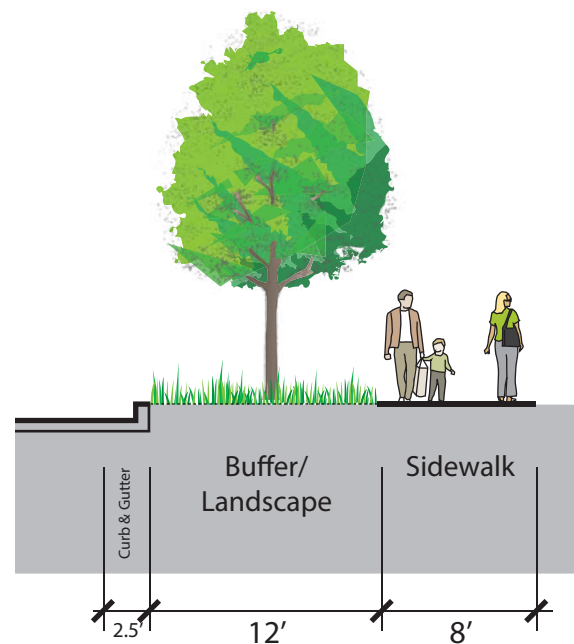


Figure 2-19: Illustrative typical cross section for enhanced sidewalk and buffer

Sidewalks - intersection guidance

Figure 2-20 below demonstrates the recommended striping and signage standards for pedestrian crossings in Tooele County, per applicable Manual for Uniform Traffic Control Devices (MUTCD) standards and best practices.

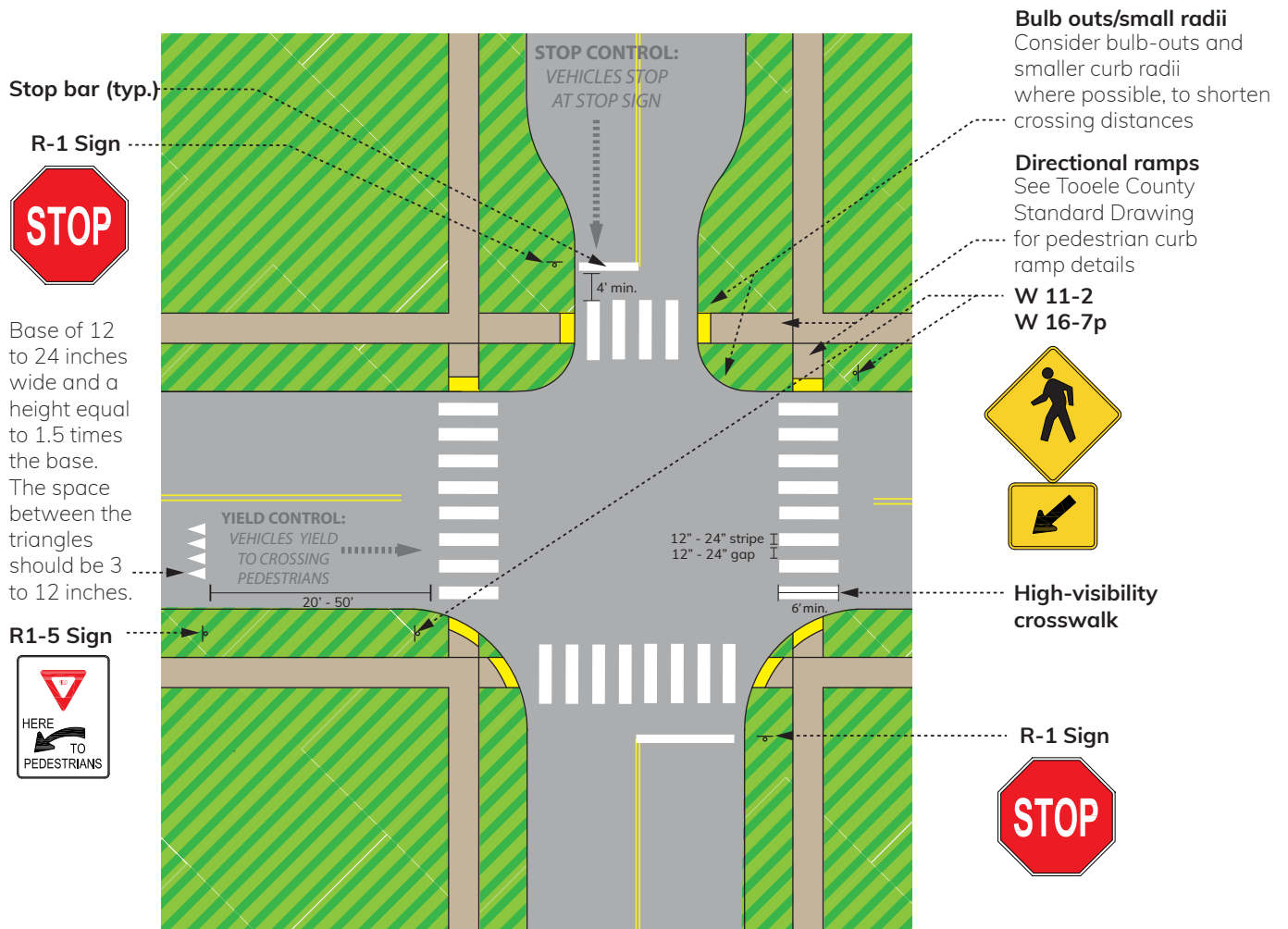


Figure 2-20: Striping and signage standards for pedestrian crossings

Bicycle facilities

Bicycle facilities are those designed to be used by people riding bicycles on streets. The key purpose of these on-street bicycle facilities is to allow bicyclists to coexist safely with motor vehicles. They accomplish this by dedicating space on the roadway or using visual cues to make motorists aware of bicyclists on the road.

There is a wide spectrum of bicycle facilities, ranging from a roadway intended to be shared with motorists to a dedicated bike lane fully separated from motorists by physical barriers. Figure 2.21 shows this spectrum of facilities.

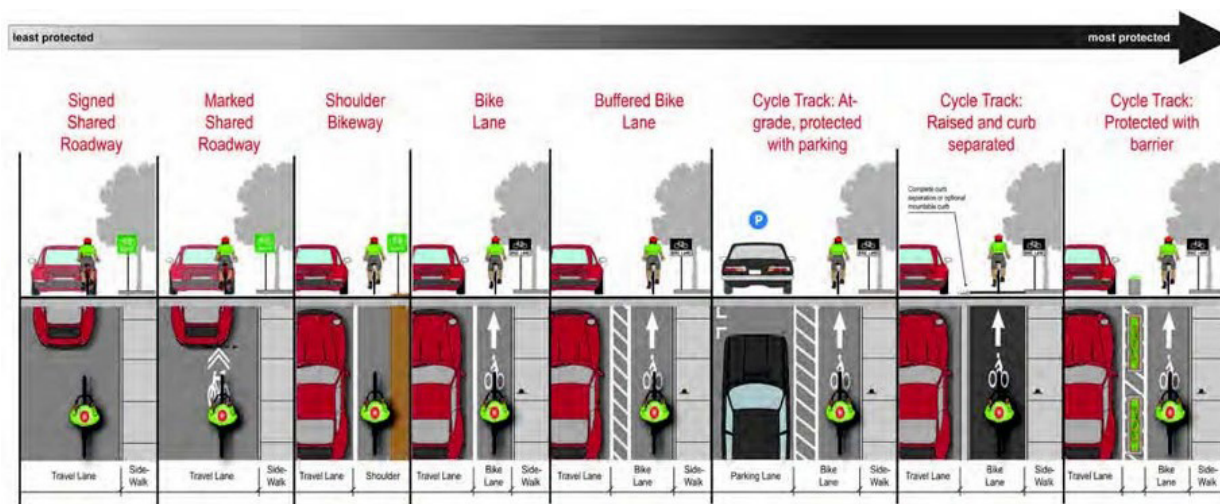


Figure 2-21: The spectrum of bicycle facilities, from least to most protected. Source: Salt Lake County Bicycle Best Practices

This guide selects some of these facilities that make the most sense for Tooele Valley communities. As with pedestrian facilities, we recommend that bicycle-focused facilities be focused into areas with higher residential and non-residential density, such as Stansbury Park and commercial areas.

In this guide, we focus on bike lanes and marked shared roadways as the primary bicycle facility types for Tooele Valley communities, due to their feasibility. We include additional types, such as buffered and protected bike lanes as ideas for specific situations or for future conditions.

Bike lanes - overview

Bike lanes are dedicated lanes at the sides of roadways marked and signed for the use of bicyclists. There are three aspects of bike lanes to consider. The first is the width and surface of the lane itself: it should be wide enough for a cyclist to ride comfortably, usually a minimum of 5 feet, and should be smooth and free of obstructions.

The second consideration is the bike lane's relationship to the roadway - how far away the traffic is, how much traffic is traveling in how many lanes, and at what speed. If there is a high amount of high-speed traffic, additional visual or physical buffers may be necessary, and there may be enough traffic, as on a freeway, that a bike lane is not a feasible option for a facility.

The final consideration is the conditions on the inside of the bike lane, along the edge of the roadway: whether parked cars are present, and if so how cyclists can remain safe from motorists opening doors; and to what degree driveways cross the bike lane, and how that potential conflicts between cyclists and motorists entering or exiting the driveway is mitigated.

The bike lanes included in this guide respond to these different conditions.

Standard **bike lane** without parking

A bike lane without parking is designed for a standard bike lane where on-street parking is not allowed. It runs alongside the edge of the roadway, whether a curb and gutter are present or not. Figure 2-22 below demonstrates the recommended striping and signage standards for bike lanes without on-street parking in Tooele County, per applicable Manual for Uniform Traffic Control Devices (MUTCD) standards and best practices.

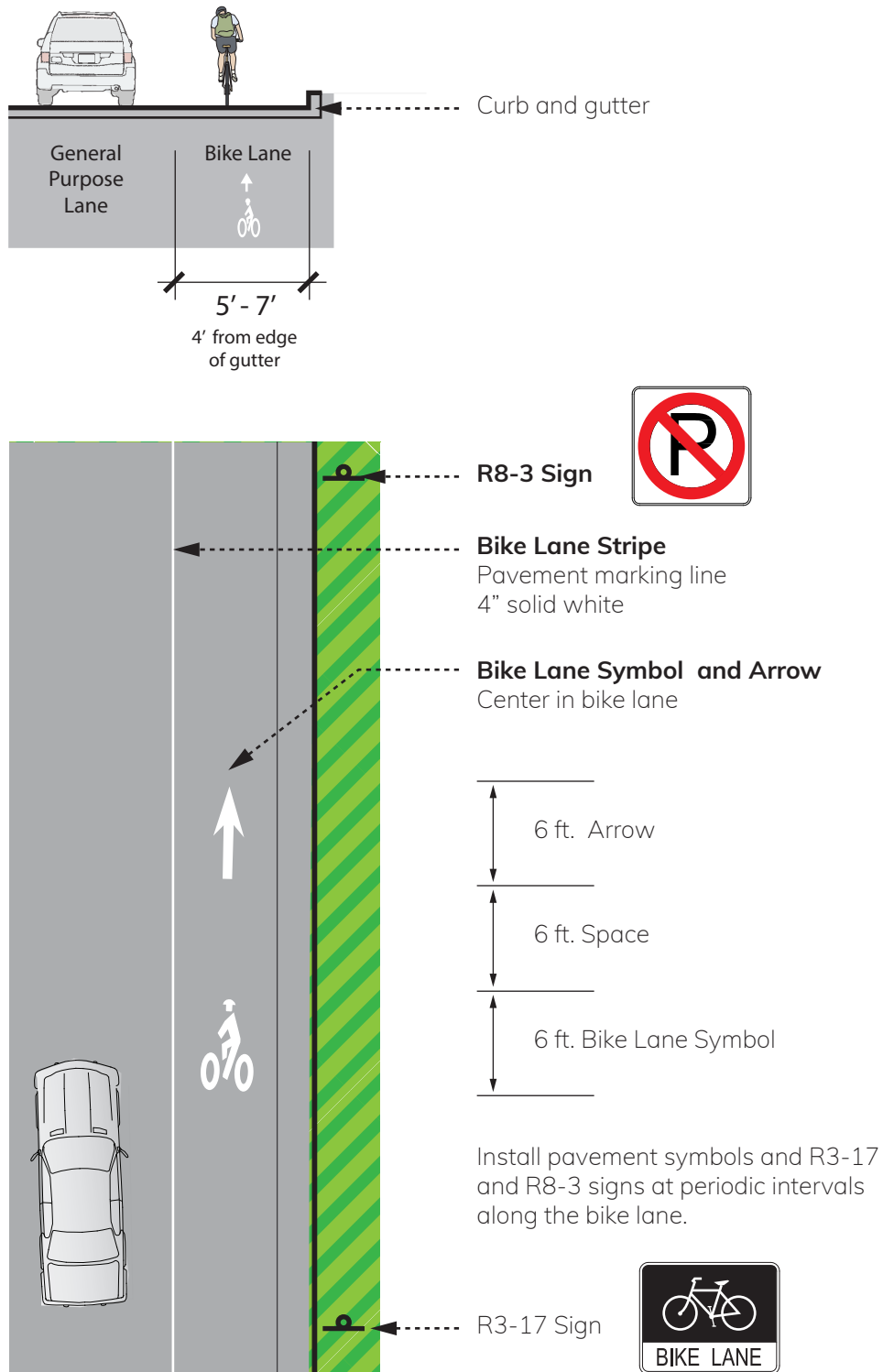


Figure 2-22: Striping and signage standards for bike lane without on-street parking

Standard **bike lane** with parking

A bike lane with parking is designed for situations where a standard bike lane is appropriate and on-street parking is allowed. The bike lane runs between the roadway traffic lanes and the parked cars. Figure 2-23 below demonstrates the recommended striping and signage standards for bike lanes without on-street parking in Tooele County, per applicable Manual for Uniform Traffic Control Devices (MUTCD) standards and best practices.

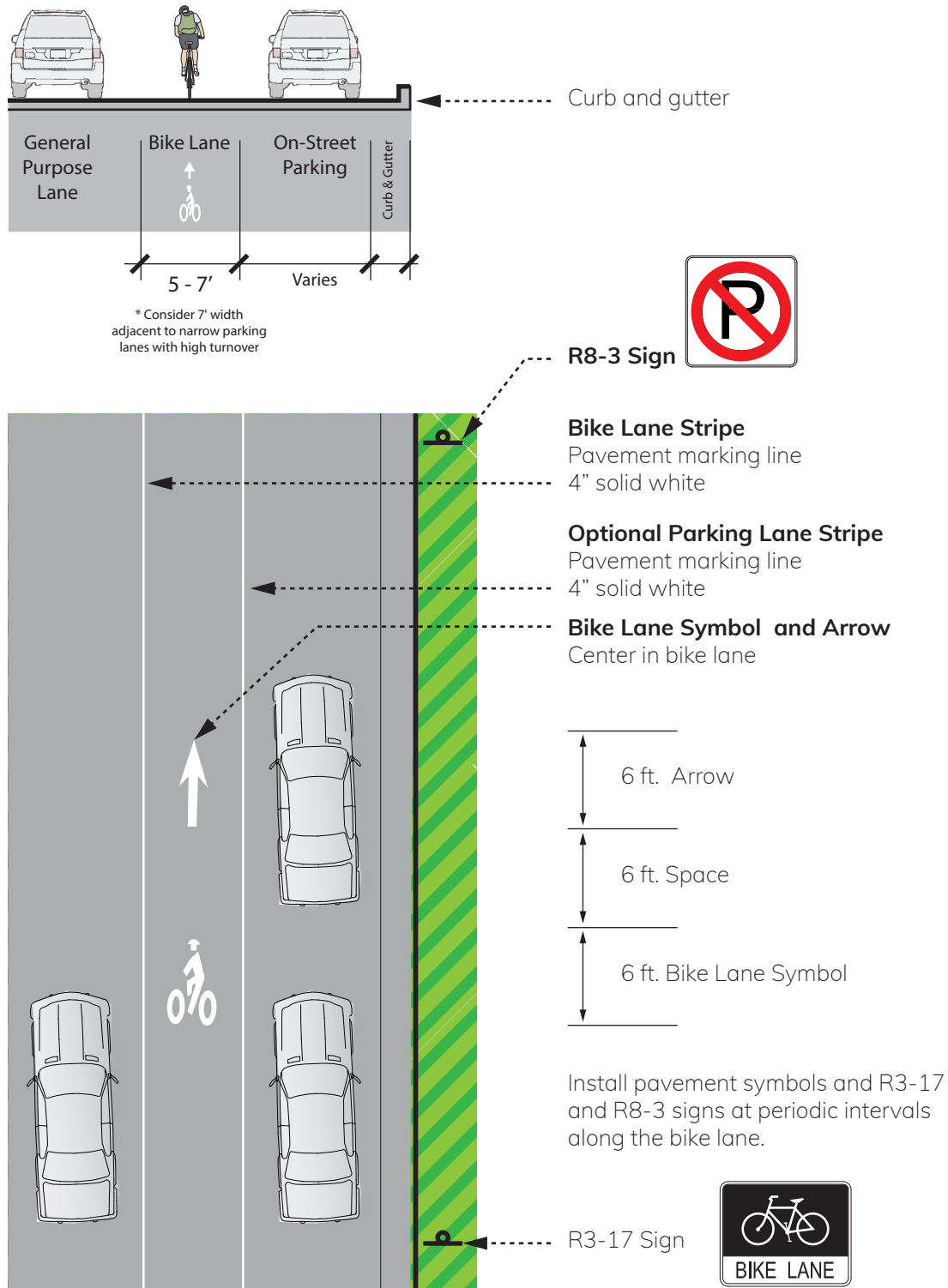


Figure 2-22: Striping and signage standards for bike lane with on-street parking

Bike Lanes - intersection guidance

Figure 2-24 below demonstrates the recommended striping and signage standards for bike lane treatments at street intersections in Tooele County, per applicable Manual for Uniform Traffic Control Devices (MUTCD) standards and best practices.

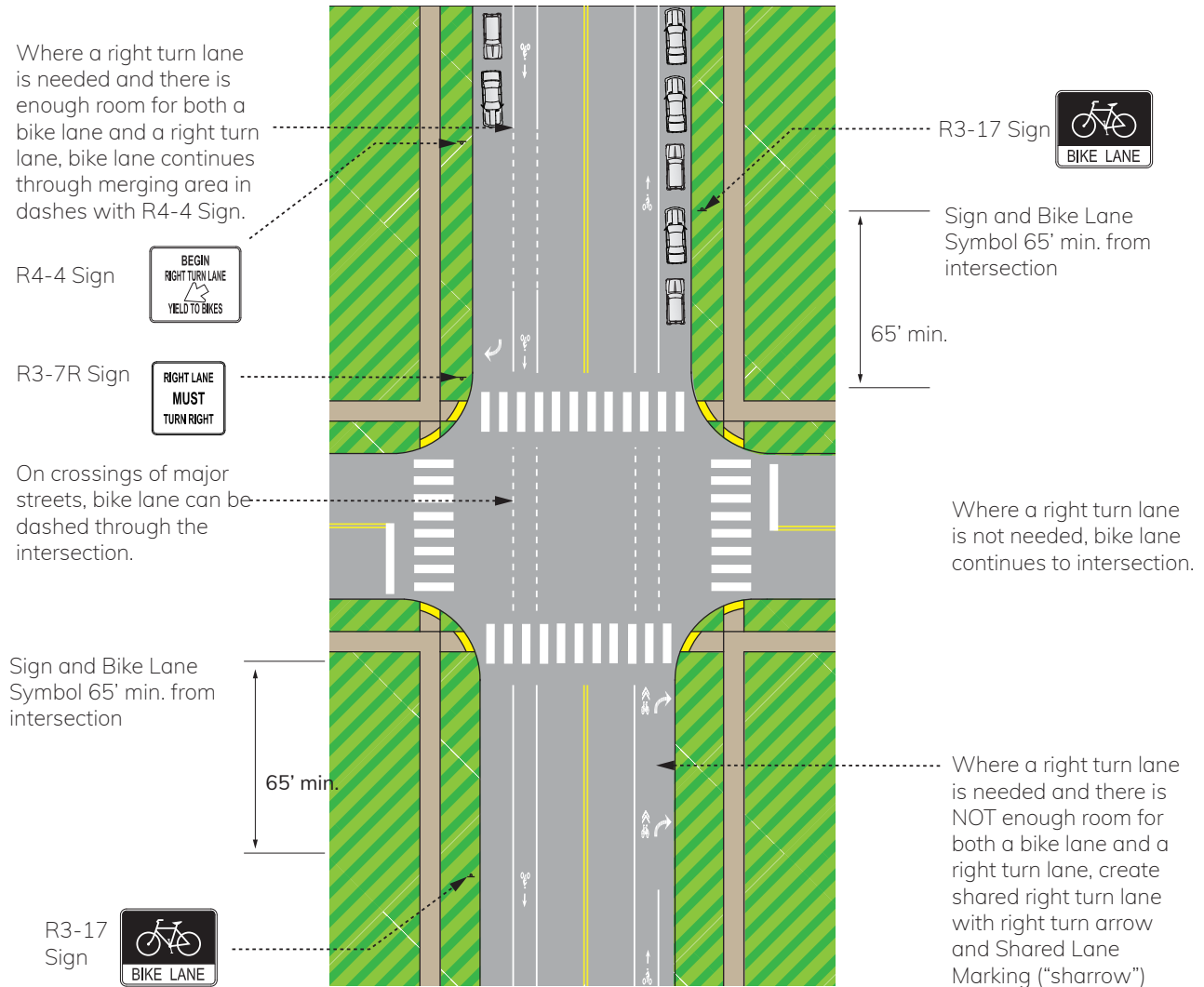


Figure 2-24: Striping and signage standards for bike lanes at street intersections

Buffered **bike lane**

A buffered bike lane is a standard bike lane with an extra visual buffer along side it on the roadway side of the lane. It should be used in situations where the levels of traffic are higher than comfortable for a standard bike lane and/or there is additional roadway space to include a buffer.

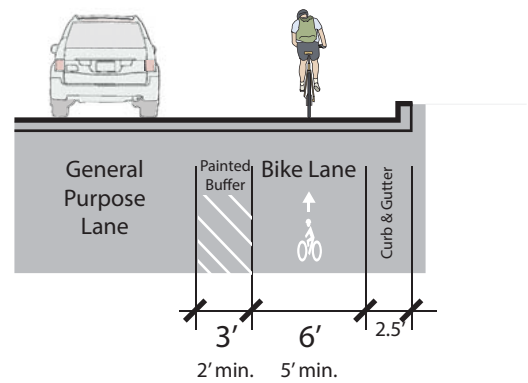


Figure 2-25: Illustrative typical cross section for buffered bike lane

Protected bike lane

A protected bike lane is a standard bike lane with an extra physical buffer alongside it on the roadway side of the lane. It should be used in situations where the levels of traffic are higher than comfortable for a standard bike lane and/or there is additional roadway space to include a this physical buffer. This physical buffer could be a curb, a planted or concrete island, concrete barriers, parked cars, or other barriers.

An additional consideration for protected bike lanes is how many driveways and other curb cuts are present along the inside of the roadway. The fewer curb cuts there are, the more feasible a protected bike lane is.

Protected bike lanes are a relatively new bike lane type in the United States. Their implementation is complex, and additional guidance can be found in the NACTO urban bikeway guide:

<https://nacto.org/publication/urban-bikeway-design-guide/cycle-tracks/>.

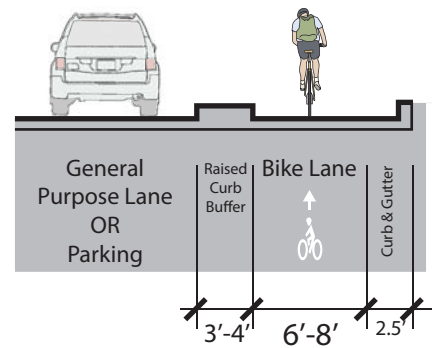


Figure 2-26: Illustrative typical cross section for protected bike lane



Shared roadway

In a shared roadway, cyclists and motorists coexist on a street designed for low speeds. There is no dedicated space for cyclists in a shared roadway. Instead, all traffic is intended to move at slow speeds - 25 miles per hour or below - and a series of signs and pavement markings reinforce the awareness of motorists of cyclists on the road.

Shared roadways should only be used on low-traffic, low speed streets. They should be avoided in situations on higher speed, higher traffic streets where space is not available for a dedicated bike lane.

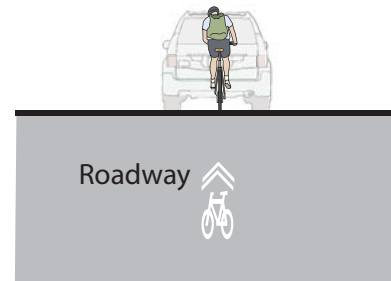


Figure 2-27: Illustrative typical cross section for shared roadway

Shared roadway - striping and signage

Figure 2-28 below demonstrates the recommended striping and signage standards for shared roadways in Tooele County, per applicable Manual for Uniform Traffic Control Devices (MUTCD) standards and best practices.

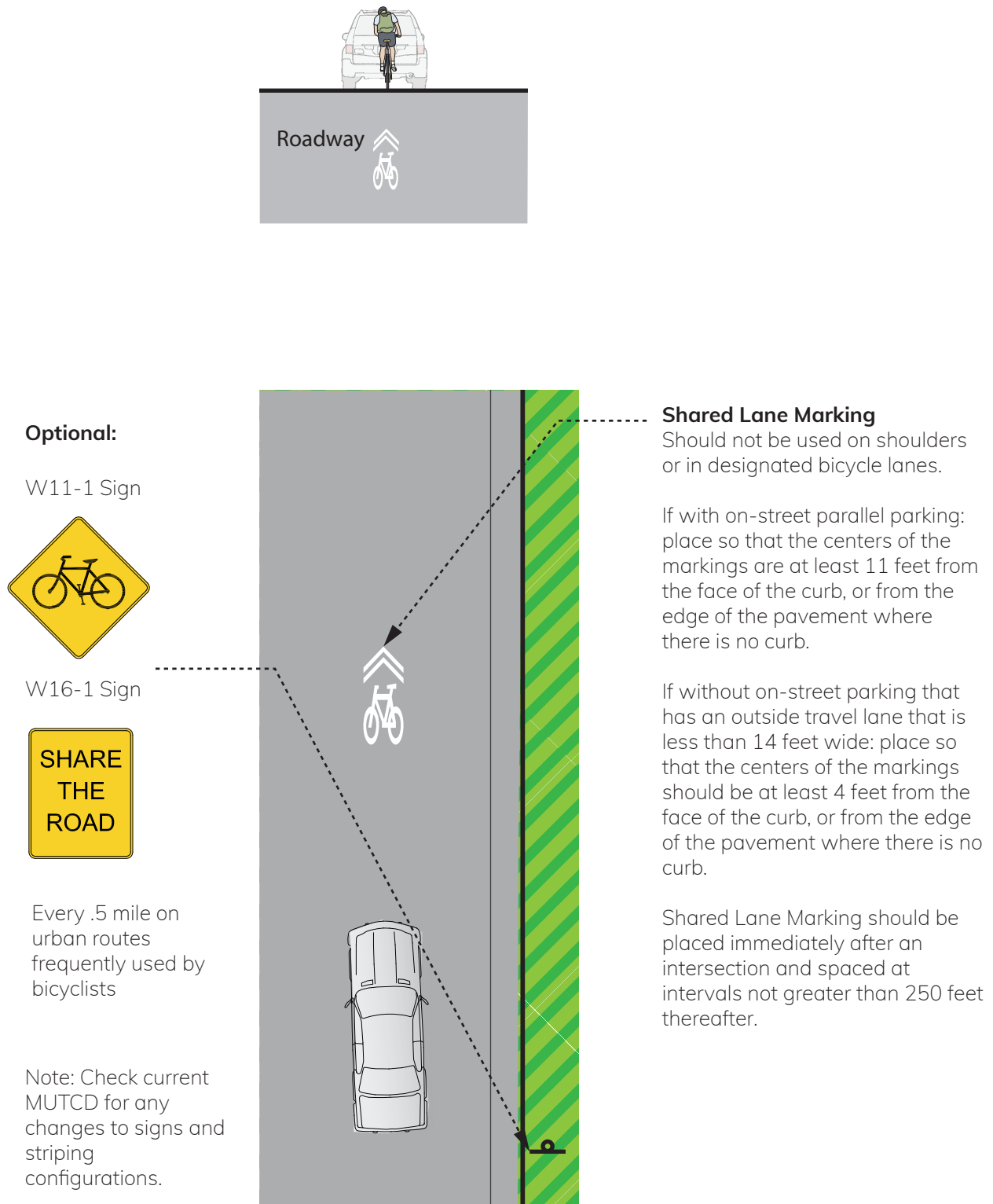


Figure 2-28: Striping and signage standards for shared roadways

PART 3 ACTION PLAN

The Tooele County Active Transportation Implementation Plan will be implemented both through requirements for private sector development and public sector capital improvement projects. The first category is largely addressed by the subdivision standards in Section 2.3; the second category is addressed in the Action Plan in this section. These projects primarily focus on retrofitting existing streets, a major priority of this plan.

3.1 Priority Projects

The Action Plan identifies three phases of priority projects that will build out the envisioned network in Tooele Valley. A Near-term phase includes projects to be completed in the next three years. A Medium-term phase includes projects to be completed in 4 to 10 years. Finally, a Long-term or “vision” phase proposes connections that will likely prove important in the future and complete the Valley’s active transportation network.

For all the projects contained in the plan, please refer to the network and design guidance in Part 2. Most of these projects are along existing or planned streets and the appropriate facilities and crossings are directed by the Street Types system, associated facilities recommended for each street type, and design guidance for each facility.

Near-term projects: Next 3 years

The near-term projects are intended to be “quick wins,” projects that Tooele County either already has in the pipeline (such as the Soundwall Trail) or can complete quickly and easily, such as striping bike lanes, and in doing so, providing some visibility of active transportation in Tooele Valley. This phase of the Action Plan specifically emphasizes Goal 6 - “Increase community visibility, awareness, and support of active transportation” – with these initial phase projects, we are trying to create visibility of active transportation and its benefits.

The other key goal in this Near-term phase is Goal 3 - “Connect Tooele Valley active travelers to key destinations.” To this end, the Near-term phase projects form three primary connections:

- A complete loop connecting Stansbury Park for cyclists and pedestrians.
- Connections from Erda into Stansbury Park (and connecting to the loop)
- The beginning of a central pathway through

Lake Point, along Center Street.

In addition, all these connections also begin to achieve the Tooele Valley Pathway alignment, helping to achieve Goal 2, build active transportation trunk routes through the valley.

Connection 1: Stansbury Park Loop

Connection 1 creates a full loop around the Stansbury Park community for people walking and riding bicycles, including safer crossings of S.R. 138. It includes (in counterclockwise order):

- Village Boulevard Bikeway
- Soundwall Trail
- Stansbury Parkway Bikeway
- S.R. 138/Stansbury Parkway Bike/Pedestrian Crossing
- Brigham-Porter Bikeway
- S.R. 138/Park Grade-Separated Bike/Pedestrian Crossing
- Bikeway on Delgada / Schooner / Fireside connecting to Village Boulevard

1a Village Boulevard Bikeway

Overview: The Village Boulevard Bikeway will stripe a standard bike lane on Village Boulevard from SR 138 to Country Club Drive, at which point it will direct riders either north (to the Soundwall Trail) or south (to a future connection to Rose Springs Elementary). The project will include striping and signage, including wayfinding signage at the ends of the route leading users to a connecting bikeway.

Relevance to the Plan and Goals: The project will demonstrate the benefits of dedicated bike lanes (Goal 6) on a central street in Stansbury Park that connects residents and visitors to a variety of destinations (Goal 3).

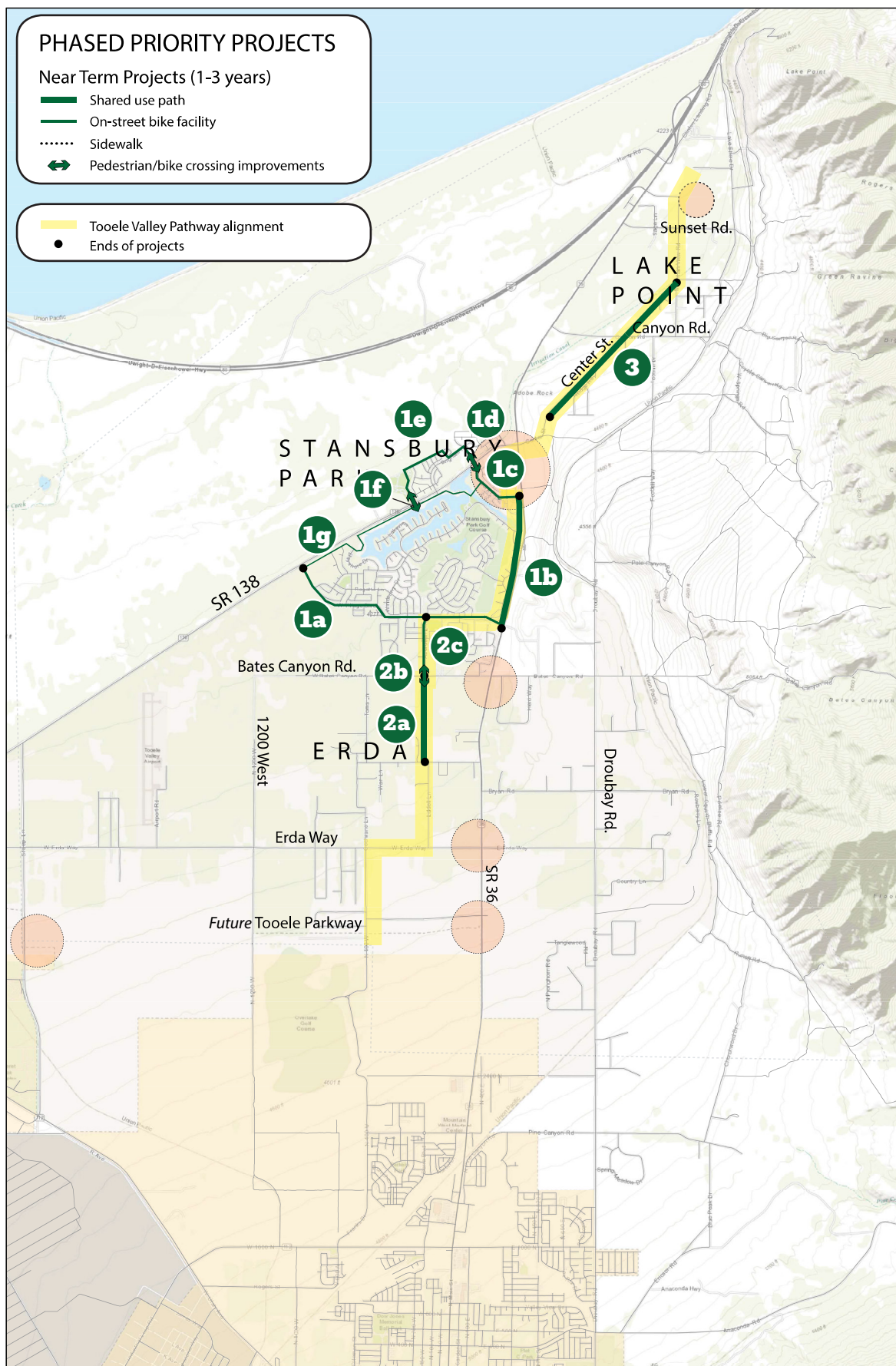


Figure 3-1: Recommended Near-Term Projects

Feasibility: There is consistently over 50 feet of roadway width (between the curbs) on the western segment of Village Boulevard to Aberdeen Lane, west of which the roadway width is 40 to 45 feet. Both of these widths are enough to fit a standard bike lane and in the case of the 50-foot width, enough for a buffered bike lane (see Section 2.4 for design guidelines and standards).

1b Soundwall Trail

Overview: The Soundwall Trail will create one of the initial pieces of the Tooele Valley Pathway. It will be a shared use path running alongside the S.R. 36 Soundwall from Village Boulevard to Stansbury Parkway, at which point it will link to the Stansbury Parkway Bikeway/sidewalk, as well as future segments of the Tooele Valley Pathway heading north along Gateway Drive.

Relevance to the Plan and Goals: The Soundwall Trail will create an initial link of the Tooele Valley Pathway trunk route (Goal 2) and provide a key connection for Stansbury Park residents and visitors (Goal 3). It will also demonstrate the

benefits of a shared use path in Tooele Valley (Goal 6).

Feasibility: Tooele County and the National Park Service obtained a TIGER grant to design and build this segment of trail. The right-of-way is managed by UDOT. The route does not include any street crossings except at its ends at Village Boulevard and Clubhouse Drive.

1c Stansbury Parkway Bikeway

Overview: The Stansbury Parkway Bikeway will stripe a standard bike lane on Stansbury Parkway from Country Club Drive across S.R. 138 to Brigham Road, at which point it will direct riders onto Brigham Road. The project will include striping and signage, including wayfinding signage at the ends of the route leading users to a connecting bikeway, as well as an improved signalized crossing at S.R. 138 (see next project).

Relevance to the Plan and Goals: The project will demonstrate the benefits of dedicated bike lanes (Goal 6) on a central street in Stansbury Park that connects residents and visitors to a variety of destinations (Goal 3).

Feasibility: The roadway in each direction of Stansbury Parkway is 30 feet wide, more than enough width for a standard bike lane and for a buffered bike lane (see Section 2.4 for design guidelines and standards).

In addition, there is the potential to build a shared use path along Stansbury Parkway between Country Club Drive and S.R. 138. This is supported by the Stansbury Park Trails Master Plan and could be a Phase 2 project.

The project should be undertaken in concert with the S.R. 138 Pedestrian/ Bike Crossings.

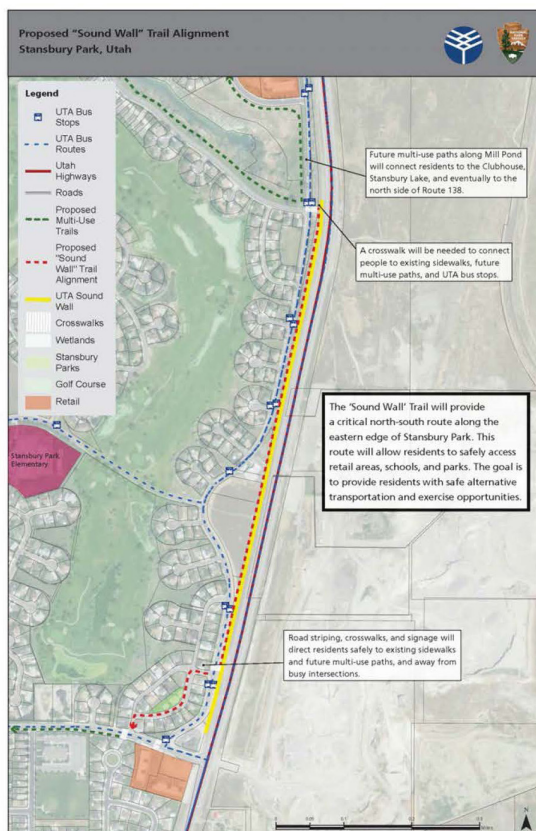


Figure 3-2: Alignment concept for Soundwall Trail

1d *SR 138-Stansbury Parkway Surface Pedestrian/Bike Crossing*

Overview: Leverages the planned jurisdictional transfer of S.R. 138 to Tooele County from UDOT and existing/planned traffic signals to create a safer crossing for people on foot and bikes. The improvements will include high-visibility crosswalks, advance warnings for motorists, improved corner environments, and potentially a narrowing of the roadway.

Relevance to the Plan and Goals: As Stansbury Park grows on the north side of S.R. 138, the need increases for residents to cross this highway to reach destinations on either side, whether schools, parks, stores, or friends' homes. A safe crossing of this roadway is critical.

Feasibility: Feasibility depends on the transfer of S.R. 138 to Tooele County from UDOT. Re-designing the corner environments and narrowing the roadway will increase the cost of the project but will greatly help make the crossings safer.

1e *Brigham – Porter Bikeway*

Overview: A bikeway serving the portion of the Stansbury Park community north of S.R. 138 and connecting it to the planned crossings of S.R. 138 at Stansbury Parkway (Project 1d) and at Porter Way Park (Project 1f). The bikeway should be comprised of Shared Roadway facilities on Stansbury Parkway, Brigham Road, Malachite Way and Porter Way before utilizing shared use paths through Porter Way Park to reach the planned location of the grade separated S.R. 138 crossing (Project 1f). In addition to connecting to the S.R. 138 crossings, this bikeway also connects to the Old Mill Elementary School and UTA park and ride lot on Stansbury Parkway.

Relevance to the Plan and Goals: Helps connect the Stansbury Park community to destinations north of S.R. 138 and the planned S.R. 138 crossings (Goal 3).

Feasibility: This project only requires pavement markings and signage - it should be feasible very soon. However, much of the effectiveness of the bikeway depends on the S.R. 138 crossings.

1f *SR 138-Park Grade Separated Pedestrian/Bike Crossing*

Overview: Leverages the planned jurisdictional transfer of S.R. 138 to Tooele County from UDOT and Stansbury Service Agency's trails plan to create a safer crossing for people on foot and bikes. The improvements will include an underpass under S.R. 138 between the shared use paths at the southern tip of Porter Way Park.

Relevance to the Plan and Goals: As Stansbury Park grows on the north side of S.R. 138, the need increases for residents to cross this highway to reach destinations on either side, whether schools, parks, stores, or friends' homes. A safe crossing of this roadway is critical. As a grade-separated crossing, this project also helps to expose the widest range of people to walking and bicycling around the community.

Feasibility: This project is much more intensive and expensive than the surface crossing in Project 1d. However, it has been identified as a priority by this plan's Working Group and the Stansbury Service Agency.

1g *Bikeway on Delgada / Schooner / Fireside connecting to Village Boulevard*

Overview: This project entails a bikeway serving the Stansbury Park community between the Mill Pond and S.R. 138 and connecting the entire community from the bikeways on Village Boulevard and Stansbury Parkway to the planned crossing of S.R. 138 at Porter Way Park (Project 1f). The bikeway should be comprised of Shared Roadway facilities on Delgada, Schooner, and Fireside Lanes, as well as wayfinding signage connecting to the shared use paths to the Stansbury Park Clubhouse and across the Mill Pond. In addition to connecting to the S.R. 138 crossing, this bikeway also connects to the Bonneville Academy at Village Boulevard.

Relevance to the Plan and Goals: Helps connect the Stansbury Park community to destinations and the planned S.R. 138 grade-separated crossing.

Feasibility: This project only requires pavement markings and signage - it should be feasible very soon. However, much of the effectiveness of the bikeway depends on the S.R. 138 crossings.

Connection 2: Erda connection

Connection 2 creates a bike and pedestrian connection from Erda to Stansbury Park, linking Erda residents with the loop of Connection 1 and the many community destinations along it. It includes (in counterclockwise order):

- Rabbit Lane pathway
- Bates Canyon Road crossing
- Stallion Way Bikeway

2a Rabbit Lane pathway

Overview: Closes the existing Rabbit Lane roadway to auto traffic, creating an active transportation-only pathway. Gates would be placed on either end of Rabbit Lane, at Church Road and south of Bates Canyon Road, beyond the lone property fronting onto Rabbit Lane.

This would be a demonstration project for the Tooele Valley Pathway, with branding/wayfinding signage and potentially other amenities.

Relevance to the Plan and Goals: Creates a segment of the Tooele Valley pathway (Goal 2), presents an example of a quality active transportation facility (Goal 6), and helps to connect the Erda community to the destinations in Stansbury Park (Goal 3).

Feasibility: The potential of this project was presented to the community in a meeting held in October 2017, with most property owners in attendance. Support was high. The cost for this project would likely only include the gates, ongoing monitoring of the new closure, as well as any new wayfinding/branding signage.

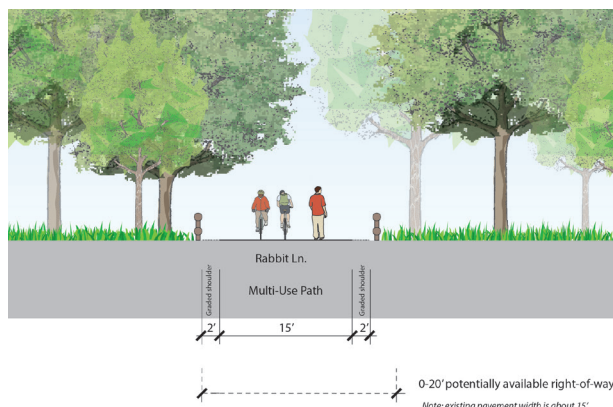


Figure 3-3: Concept for Rabbit Lane segment of Tooele Valley Pathway

2b Bates Canyon crossing

Overview: A safe crossing across Bates Canyon Road at the Rabbit Lane/Stallion Way intersection. Helps connect pedestrians and cyclists using the planned Rabbit Lane pathway (Project 2a) into Stansbury Park. The project should include elements that make crossing pedestrians and cyclists more visible and increase motorist awareness, following the design guidelines for a shared use path crossing in Section 2.4.

Relevance to the Plan and Goals: Creates a key link the Tooele Valley Pathway alignment (Goal 2) and helps to connect the Erda community to the destinations in Stansbury Park (Goal 3).

Feasibility: This project requires some striping and some more intensive infrastructure. The cost depends on which traffic control devices are used (signage, flashing beacon, HAWK beacon).

2c Stallion bikeway

Overview: A bike lane striped on the existing Stallion (Aberdeen) Way roadway, connecting the loop in Connection 1 with projects 2a and 2b.

Relevance to the Plan and Goals: Helps to connect the Erda community to the destinations in Stansbury Park and Stansbury residents to Stansbury High School (Goal 3).

Feasibility: This project only requires pavement markings and signage - it should be feasible very soon.

Connection 3: Lake Point pathway

3 Center Street pathway demonstration segment

Overview: A shared path running along Center Street in Lake Point. This project would implement 1.5 miles of the Tooele Valley Pathway. While not connected to the Near-Term projects in Stansbury Park, it provides a way for Lake Point residents to reach the community park and Church of Jesus Christ of Latter-day Saints meetinghouse and sets up the Tooele Valley pathway corridor for the challenging connection across S.R. 36 in the Medium-Term phase.

Relevance to the Plan and Goals: This project would begin to implement a valleywide trunk route in Lake Point (Goal 2), provide a quality example of active transportation infrastructure in Lake Point (Goal 6), place the appropriate active transportation facility along a major street (Goal 4) and increase safe walking and bicycling in the community (Goal 5).

Feasibility: The Tooele Valley Pathway Master Plan found that, in general, enough Tooele County right-of-way exists along this segment of Center Street to fit a shared use path with an adequate buffer, especially in the stretch south of Canyon Road where there is less development along the road.

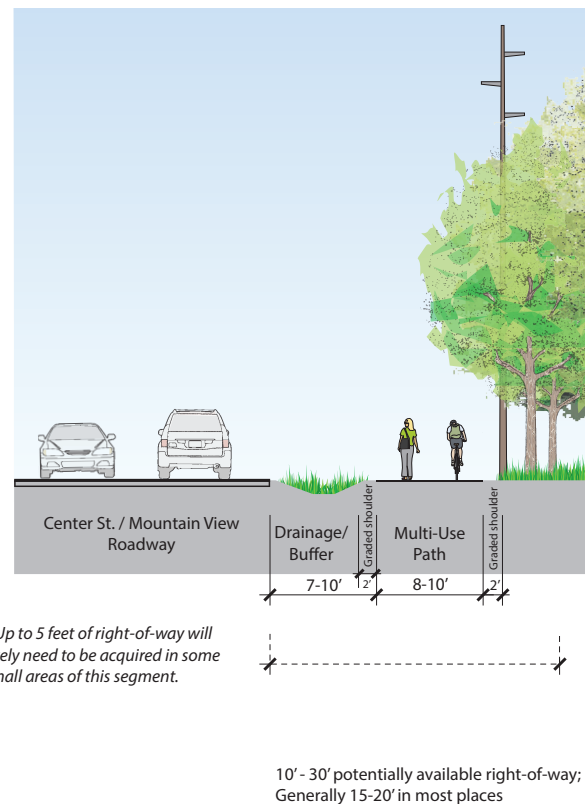


Figure 3-4: Concept for Center Street pathway demonstration segment



Figure 3-5: Concept for Tooele Valley Pathway on Center Street in Lake Point

Medium-term projects: 4 — 10 years

The Medium-term projects, to be completed over years 4 through 10, are intended to:

- Fortify the connections created through the Near Term projects, whether through streetscape improvements or additional pathways.
- Complete the Tooele Valley Pathway.
- Address key Valley east-west corridors that connect to the Tooele valley Pathway, such as Bates Canyon Road and Erda Way, addressing Goal 1 of the plan ("Integrate active transportation into new and improved major transportation facilities").
- Continue to create safe crossings across key barriers. These include Mills Junction and the Stansbury Park Golf Course crossing.
- Continue to improve access to key destinations (Goal 3). These include Stansbury Park commercial amenities and schools.

The recommended Medium-term projects are:

1 *SR 36 Mills Junction crossing*

Develops a safe at-grade crossing of S.R. 36 at S.R. 138, as part of the Tooele Valley Pathway. The crossing should reconfigure the traffic signal operations to allow pedestrians to cross S.R. 36, preferably on the south side of the intersection, where the Tooele Valley pathway is planned to link with the intersection. The crossing should include a high-visibility crosswalk, a quality corner environment, and, because of its length, potentially a median refuge island. It could also include "gateway" monuments for the community and the pathway. This project includes a short pathway segment connecting to Near Term Project 3.

Also look for opportunities to create a grade-separated crossing near Mills Junction. Some potential opportunities include to the north near Adobe Rock at the Kennecott Land project, and to the south near Clubhouse Drive/Country Club Drive intersection. See Long Term Connections section.

2 *Stansbury Park commercial area pathway*

Completes the segments of the Tooele Valley Pathway between the Soundwall Trail (Near-term Project 1b) and the S.R. 36 Mills Junction crossing (Medium-term Project 1). These include relatively short segments of pathway along Gateway Drive, the Stansbury Service Agency greenway between Gateway Drive and S.R. 138, and S.R. 138 itself. See the Tooele Valley Pathway Master Plan for more details on alignment and concepts.

3 *Liddell Lane / 400 West pathway*

Completes the segments of the Tooele Valley Pathway south of Rabbit Lane (Near-term Project 2a). These include segments of pathway along Liddell Lane, Erda Way, and 400 West. See the Tooele Valley Master Plan for more details on alignment and concepts. This segment of pathway is likely built by both the public and private sectors (new development).

4 *Continuation of Center Street / Mountain View path (Tooele Valley Pathway segment)*

Extends the Tooele Valley Pathway from the end of Near-term Project 3 to the Pheasant Lane trailhead. See the Tooele Valley Master Plan for more details on alignment and concepts.

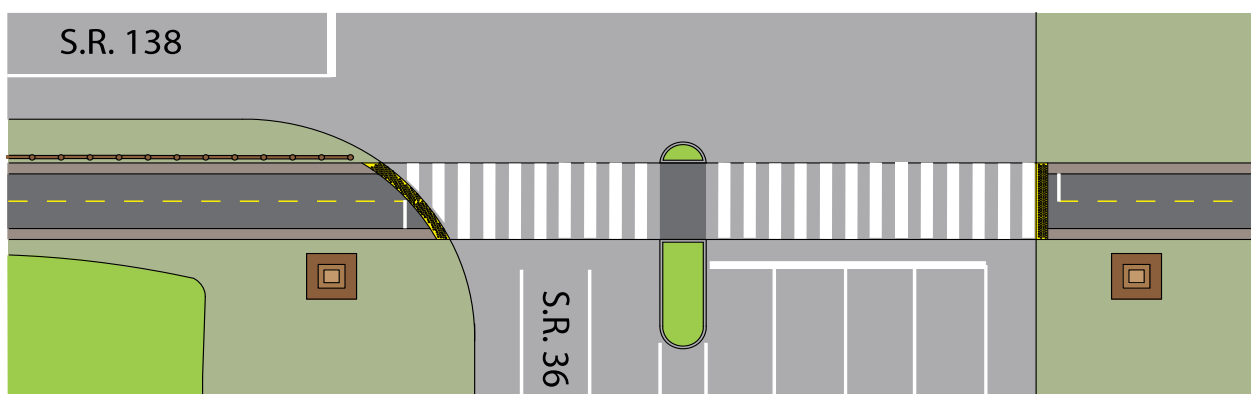
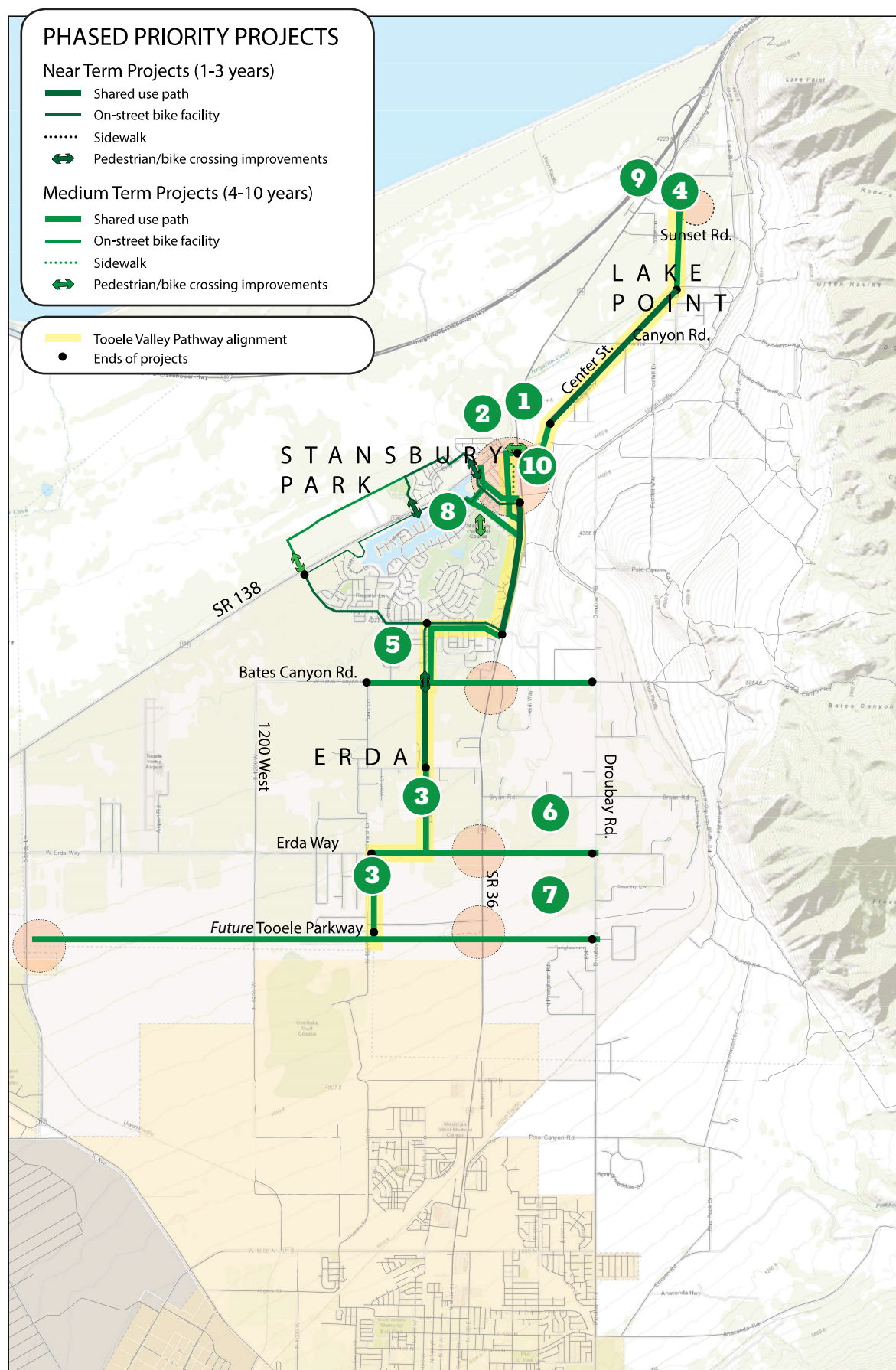


Figure 3-6: Concept for S.R. 36-S.R. 138 Mills Junction pedestrian crossing



5 *Stallion Way / Village Boulevard pathway*

Completes the segments of the Tooele Valley Pathway along Stallion Way and Village Boulevard. See the Tooele Valley Pathway Master Plan for more details on alignment and concepts.

6 *Bates Canyon Road path and S.R. 36 crossing*

Builds a pathway along Bates Canyon Road from Cochrane Lane to Droubay Road, linking the Erda community with the Tooele Valley Pathway, including a safe crossing of S.R. 36 at the existing signal. This segment of pathway is likely built by both the public and private sectors (new development).

7 *Tooele Parkway path*

Builds a pathway on the alignment of the Tooele Parkway between Sheep Lane and Droubay Road, becoming the primary regional east-west active transportation connection in the valley.

8 *Erda Way path*

Builds a pathway along Erda Way from Medium Term Project 4 at Liddell Lane to Droubay Road, linking the Erda community with the Tooele Valley Pathway, including a safe crossing of S.R. 36 at the existing signal. This segment of pathway is likely built by both the public and private sectors (new development).

9 *Golf course connection*

Builds a pathway from the Stansbury Park Clubhouse across the golf course to Country Club Drive, creating a key connection for the Stansbury Park community. See the Stansbury Service Agency Trails Plan for more information.

10 *Lake Point pedestrian safety improvements*

Implements a series of pedestrian safety measures in the Lake Point commercial area along S.R. 36, in response to the high number of pedestrian-involved crashes. These improvements could include a pedestrian-activated signal stopping traffic at Hardy Road and S.R. 36 with high-visibility crosswalks with advance warnings, or a pedestrian crossing added to the signalized Saddleback intersection and connecting pathway to the commercial amenities on the north side of the highway. In addition, or absent these improvements, anti-jaywalking measures would also be beneficial.

11 *Stansbury Park commercial center pedestrian improvements*

Creates additional pedestrian connections to the shops and services in the Mills Junction area by installing sidewalks connecting from the Tooele Valley Pathway segments along streets and drive aisles to the commercial buildings in the area. These improvements could also include wayfinding signage directing people to the amenities in this area.

12 *School access improvements*

Creates additional pedestrian and bicycle connections to Tooele Valley schools, linking the other projects identified in this plan directly with schools in the area with additional sidewalks, high-quality crossings, bike facilities, and wayfinding signage.

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Long-term connections: next 20 years

This plan also recommends a series of long-term active transportation connections to be accomplished over the next two decades. It is assumed that the priority and implementation of these connections will depend on new development in Tooele Valley. The following highlights a few of these:

Droubay Road

In the long term, Droubay Road should have an appropriate active transportation facility along it, including along the planned new street connecting to Saddleback Road.

S.R. 36 underpass

A grade-separated crossing of S.R. 36 would allow, easier, safer movement between the two sides of Tooele Valley. An opportunity exists at the junction of Clubhouse Drive and Country Club Drive to create an underpass. Building this underpass and connecting it to Mills Junction creates an alternative route segment for the Tooele Valley Pathway. This connection will be especially useful if and when the land on the east side of S.R. 36 redevelops.

S.R. 138 and S.R. 36

In the long term, both S.R. 138 and S.R. 36 should have appropriate active transportation facilities along them.

1200 West

A sewer main is planned along 1200 West, which will likely lure development along this corridor and provides an opportunity to develop this street with a high-quality active transportation facility.

Extensions of Bates Canyon Road and Erda Way

As development occurs in the vicinity of 1200 West, the active transportation connections along Bates Canyon Road and Erda Way should be extended to 1200 West and beyond.

Midvalley Highway

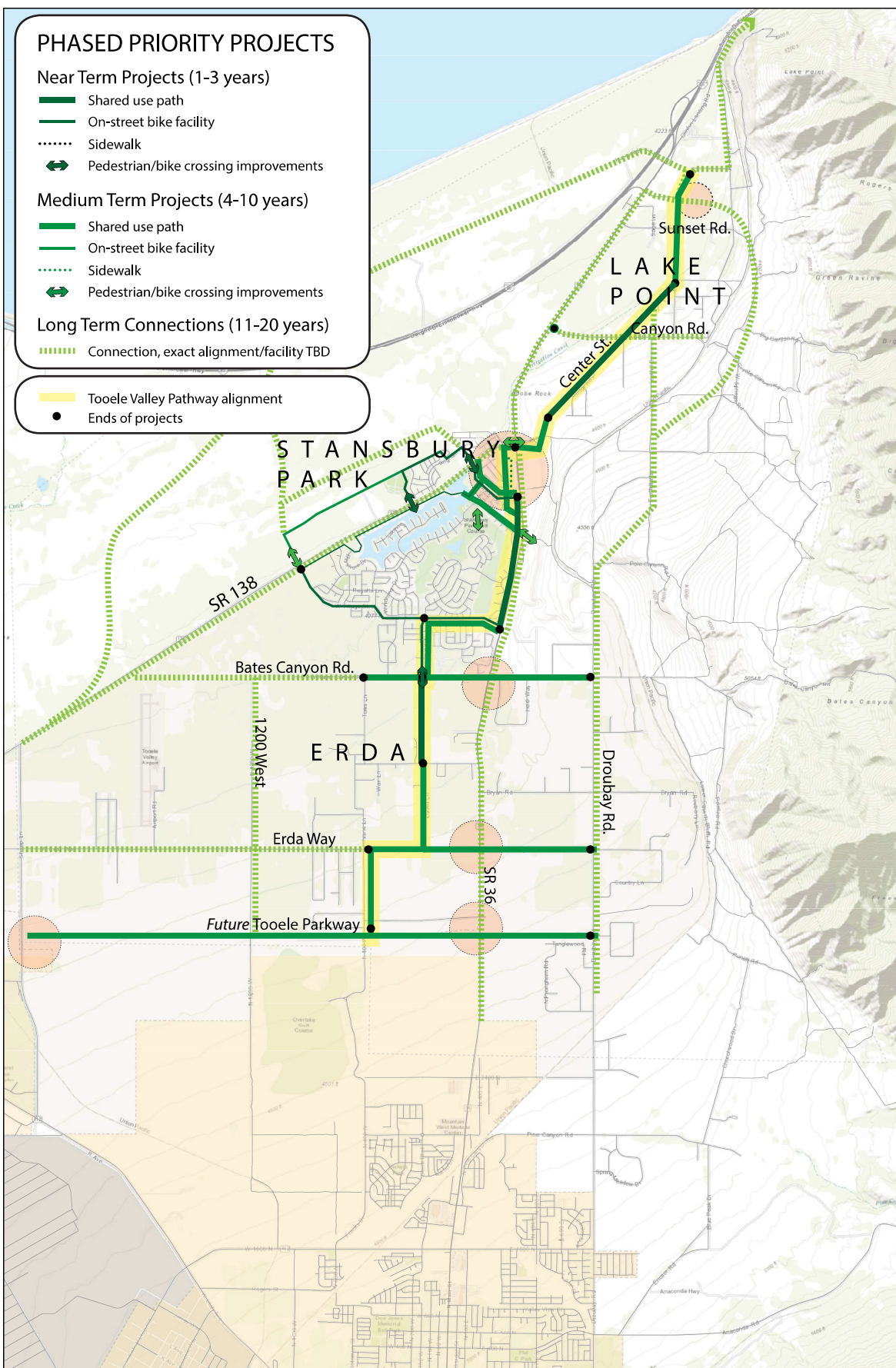
As the Midvalley Highway is developed, it should contain an appropriate active transportation facility that creates a connection from the S.R. 138 / 1200 West / Bates Canyon Road area to the Exit 99 area and linking to the end of the Tooele Valley Pathway.

Connection to Great Salt Lake / Salt Lake Valley

The Tooele Valley Pathway alignment and northern terminus at the Pheasant Lane trailhead sets up an extension of the pathway corridor westward out of Tooele valley and to the Great Salt Lake and Salt Lake Valley. This extension would need to be a regional partnership.

Off-street connections

While not shown on the map in Figure 3-7, many of these long-term connections can be made off-street on property or easements between or through properties. There is guidance for these off-street connections in the subdivision guidelines in Section 2.3.



3.2 Agency Responsibilities, Funding, and Maintenance

The second part of the Action Plan is defining how the projects in Section 3.1 will be implemented. The key aspects of this are:

- Funding and implementation mechanisms for building the projects;
- Mechanisms for maintaining the infrastructure; and,
- The roles of the key stakeholders: who will do what to implement and maintain the projects and broader plan.

Funding and implementation mechanisms

Tooele County and its partners have a range of implementation mechanisms for the Active Transportation Implementation Plan. These include standard federal, state, and local sources, as well as some unique opportunities for Tooele County. In addition, much of this plan will be implemented through requirements and guidance for new development. The following is a menu of potential sources and other mechanisms.

Federal funding sources

The following is a list of possible Federal funding sources that could be used to support active transportation projects in Tooele County. Most of these are competitive, and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits.

Community Development Block Grants

The Community Development Block Grants (CDBG) program, authorized by Title I of the Housing and Community Development Act of 1974, provides annual grants to cities, counties and states to develop strong communities by providing decent housing, a suitable living environment, and expanding economic opportunities, principally for low- and moderate-income persons. CDBG eligible activities are initiated and developed at the state and local level based upon a community's needs, priorities, and benefits. CDBG funds 28 eligible activities that include infrastructure and installation of public facilities. More Information: www.hud.gov/cdbg

Congestion Mitigation and Air Quality Improvement Program

The Congestion Mitigation and Air Quality Improvement (CMAQ) program was implemented to support surface transportation projects and other related efforts that contribute air quality improvements and provide congestion relief. Funds from this program can be used to build pedestrian facilities that reduce travel by automobile.

More Information: http://www.fhwa.dot.gov/environment/air_quality/cmaq/

Surface Transportation Program

The Surface Transportation Program (STP), provides flexible funding that may be used by states and localities for projects to preserve or improve conditions and performance on any Federal-aid highway, bridge projects on any public road, facilities for non-motorized transportation, transit capital projects and public bus terminals and facilities.

More Information: <http://www.fhwa.dot.gov/map21/summaryinfo.cfm>

Transportation Alternatives Program

The Transportation Alternatives Program (TAP) provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former divided highways.

More Information: http://www.fhwa.dot.gov/environment/transportation_alternatives/

State funding sources

The following is a list of possible State funding sources that could be used to support TCAT projects.

Safe Sidewalks Program

The Safe Sidewalks Program provides a legislative funding source for construction of new sidewalks adjoining State Routes where sidewalks do not currently exist and where major construction or reconstruction of the route at that location is not included in the Statewide Transportation Improvement Program (STIP).

More Information: <http://www.udot.utah.gov/main/f?p=100:pg:0:::1:T,V:583>

Safe Routes to School Program

The Safe Routes to School program is administered by the Utah Department of Transportation (UDOT) to support increased safety and convenience for school children to walk and/or walk to school. UDOT gives priority to projects within two miles of participating schools.

More Information: <http://www.udot.utah.gov/go/srts>

Local funding sources

The following is a list of possible local funding sources that could be used to support TCAT projects.

Local Bond Measure

Bonds can be approved by voters to fund a shared use path project, alone or as part of a bigger package.

Sales Tax

It may be possible to pass a specified sales tax that could be used to fund active transportation improvements.

Tax Increment Financing

Tax Increment Financing (TIF) is a method of creating debt backed by future increases in tax revenue due to investments in infrastructure such as sidewalks.

Utah Transit Authority Passenger Enhancement Fund

This program administered by UTA matches dollar-for-dollar local government pedestrian or bicycle projects that improve access to transit stops and stations. Pedestrian projects should be within 1/2 mile of the stop. The local match can be either cash or in-kind work.

Funding sources specific to Tooele County

Special Improvement District

A Special Improvement District (SID) could be formed for specific districts/neighborhoods that would benefit from TCAT projects. Property owners would pay an assessment to offset the costs of the improvements.

Proposition 1 funding

In 2015, Tooele County voters passed Proposition 1, a sales tax increase to fund transit improvements. Due to its proximity to several bus stops and the access it provides to transit for active transportation users, the pathway could be one use of Proposition 1 funds.

Tooele County has designated some of this funding for active transportation.

Private sector implementation

Development

Private sector development will likely be the most prolific implementation mechanism of Tooele Valley's active transportation network, especially the critical inter-neighborhood and subdivision connectivity that will provide choices for how people move between neighborhoods and destinations. Private sector development will also be a key implementation method for building active transportation facilities and crossings on major streets, as well as master planned trail systems. The larger the development, the more this aspect is effective.

Sponsorships

Another potential role for the private sector in creating Tooele Valley's active transportation network is sponsorship. A company or other organization could partially or fully fund the construction of a particular segment of pathway in exchange for naming rights of the pathway segment or other advertising along it. This opportunity is likely most relevant to the projects that implement the Tooele Valley Pathway.

Maintenance

Maintaining the active transportation infrastructure envisioned by this plan will require the cooperation of Tooele County with other public agencies as well as private property owners and organizations. The maintenance solution envisioned by this plan is regional in nature, with cooperation among all stakeholders.

The system of facilities recommended by this plan creates the need for new aspects of maintenance. These generally fall into the categories of shared use paths and on-street bike facilities.

Shared-use path maintenance

The maintenance of shared use paths constitutes the largest maintenance challenge for the envisioned active transportation system. The plan envisions shared use paths playing a major role in the active transportation system and these paths have some unique challenges associated with them. Maintenance of shared paths includes:

- Sweeping to keep path clear of debris
- Repairing cracks/ruts in the pavement
- Keeping drainage clear on and around the path
- Controlling vegetation/landscape (weeds in shoulders, protruding branches into horizontal/vertical clear space)
- Repairing and preventing vandalism or other damage

Potential responsible parties and other strategies to accomplish this maintenance could include:

- A Special Improvement District: As with facility construction, creating a special improvement district specifically designed for trails and active transportation is the most comprehensive mechanism to maintain the network of pathways that will be built.
- Stansbury Park Service Agency: many of the pathways will be on SSA property.
- Tooele County Roads
- Tooele County Parks and Recreation
- Private/non-profit/volunteer groups
- Tooele County Trails
- In some cases it may make sense for Homeowner Associations (HOAs) to take on maintenance of adjacent trail segments.
- Active transportation groups
- Schools

On-street bike facilities

On-street bike facilities require new awareness of those currently maintaining streets. Maintenance of on-street bike facilities includes:

- Street sweeping
- Bike-friendly roadways (smoothness, gutter/roadway transition, drainage grates, ridges from repaving)
- Re-striping and sign replacement

Potential responsible parties and other strategies to accomplish this maintenance could include:

- Tooele County Roads
- Stansbury Service Agency

Active transportation promotion and monitoring

Ongoing promotion of active transportation in Tooele Valley and monitoring of how well the plan stakeholders are achieving Tooele County's active transportation goals are important components of the plan.

The structure of this plan, with its clear goals and performance measures and existing conditions assessment, allows for effective periodic performance reviews each 3 to 5 years. This review can assess the county's progress on the plan goals.

Likewise, a periodic survey similar to the survey undertaken for this plan helps the county and its partners understand progress in how county residents are walking and bicycling and perceive active transportation.

Agency roles and responsibilities

The following summarizes the proposed roles of each key stakeholder.

Tooele County Planning and Engineering

- Add projects to the Capital Improvement Plan
- Planning key active transportation projects
- Adopt development code changes based on plan recommendations
- Implement plan projects and facilities through private development

Tooele County Roads

- Build some of the projects, including striping and signing on-street bike facilities and shared use paths
- Maintain on-street bike facilities
- Accomplish S.R. 138 Jurisdictional Transfer

Tooele County Health

- Active transportation education, promotion, and outreach
- Wayfinding and branding of the Tooele Valley Pathway
- Grant seeking and writing for TCAT projects

Stansbury Service Agency

- Plan, design, and build key projects, especially those in the SSA Trails Plan
- Collaborate with county on other projects
- Provide land for some facilities
- Maintain pathways and other facilities in Stansbury Park

Utah Department of Transportation

- Facilitate jurisdictional transfer of S.R. 138
- Provide right-of-way (especially for Soundwall trail)
- Collaborate with County/SSA on Mills Junction crossing project
- Develop corridor agreements with Tooele County that acknowledge planned active transportation facilities

Other stakeholders

Other stakeholders with key roles in implementing, promoting, and maintaining Tooele Valley's active transportation network could include:

- Tooele Valley Trails
- Homeowner Associations (HOAs)

Joint Active Transportation Committee

With so many key stakeholders needed to implement Tooele Valley's active transportation network, we recommend the formation of an ongoing Joint Active Transportation Committee. This committee would be comprised of representatives of the stakeholders listed above and would meet regularly to coordinate on projects, funding, maintenance, promotion and other aspects of active transportation in Tooele Valley.

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