Figure 5-2 Multi-Use Trails, Neighborhood Byways, & Enhanced Pedestrian Crossings Map

Recommended Pedestrian Spot Improvements

- Enhanced Road Crossings and Signals
- Intersections and Signage
- New Pavement and Curb Cuts
- Structure Improvements
- Neighborhood Byways Crossings & Improvements

Recommended Facilities

- Multi-Use Paths (0-10 Yrs)
- Multi-Use Paths (10-20 Yrs)
- Transvalley Corridor*
- East-West Pedestrian Priority Corridors
- Neighborhood Byways (0-10 Yrs)
- Neighborhood Byways (10-20 Yrs)

Existing Facilities

- ----- Multi-Use Paths
- ----- Natural Surface Trails (Bonneville Shoreline)

Existing Transit and Other Facilities

- TRAX/Streetcar/FrontRunner Stop
- IIIII TRAX/Streetcar/FrontRunner Line

*The exact alignment for the Transvalley Corridor (800 S/900 S) is pending. Per the 1992 Salt Lake City Open Space Plan, the Transvalley Corridor is an opportunity to link "the City east of I-15 to the City west of I-15 and provide a pedestrian and bicycle route from the foothills, through the urban area, into the wetlands." The map shows a western terminus based on the City's 1992 Open Space Plan. Due to changes in this area of the city, a different western connection may now be appropriate, possibly extending to the Salt Lake Marina or Antelope Island.



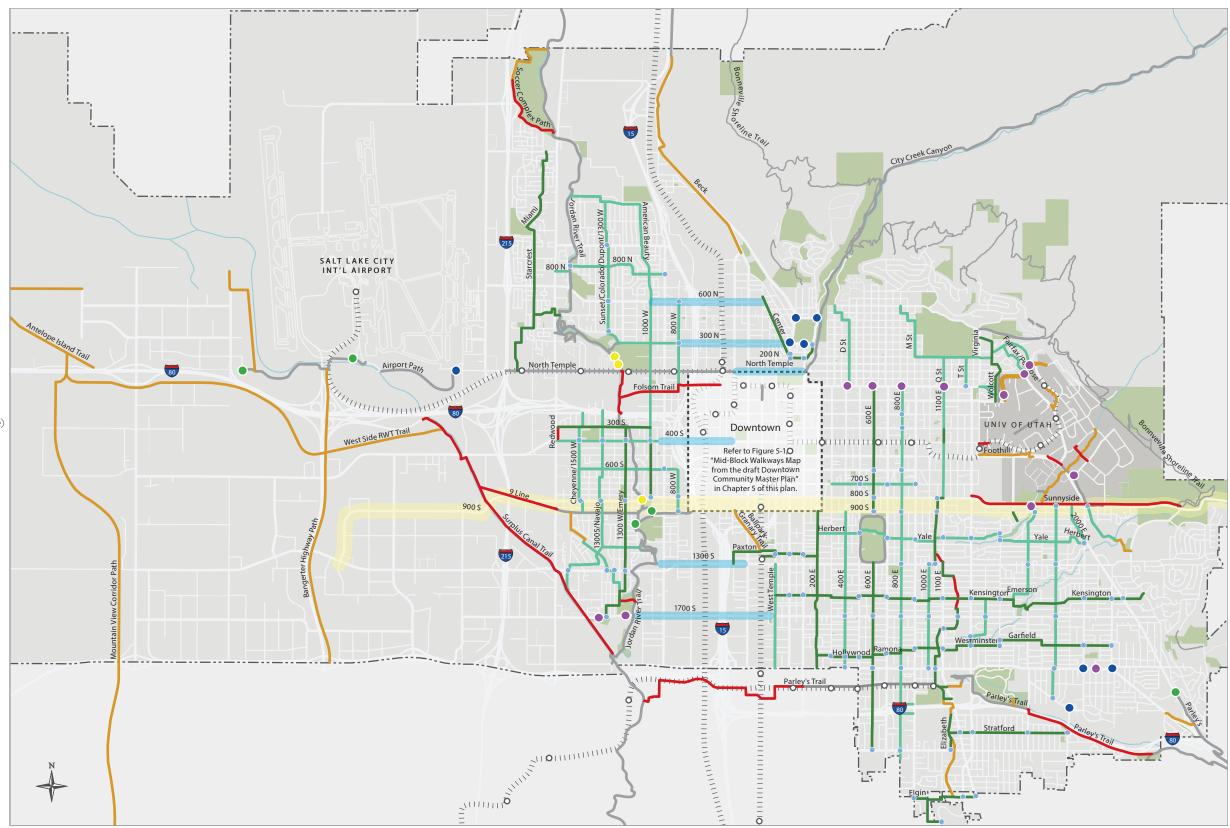


Figure 5-3 Neighborhood Business Node

Description

Neighborhood business nodes are usually intersections where a concentration and mix of uses exist, particularly retail and entertainment (e.g. movie theatres, retail stores, coffee shops, restaurants, outdoor dining and seating, etc.). Neighborhood business nodes usually incorporate streetscape ele-

> Sidewalk furniture and trees create a functional and aesthetic buffer between the sidewalk and

the roadway.

ments like trees and planter boxes, on-street parking, curb extensions, reduced speed limits, and medians that provide a pleasant environment for walking, dining, shopping and bicycling, and opportunities for placemaking and gathering.

Back-in angled parking is beneficial to motorists loading and unloading and to bicyclists in the adjacent lane due to the increased visibility offered to exiting drivers. Vegetated medians are mid-street refuges for crossing foot and bike traffic. They also visibly narrow the street and reduce the amount of pavement in the road that must be maintained.

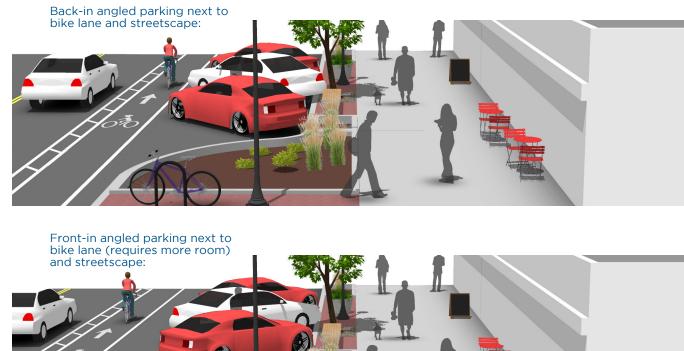
Colored paving at intersections and driveways draws attention to mixing and crossing areas.

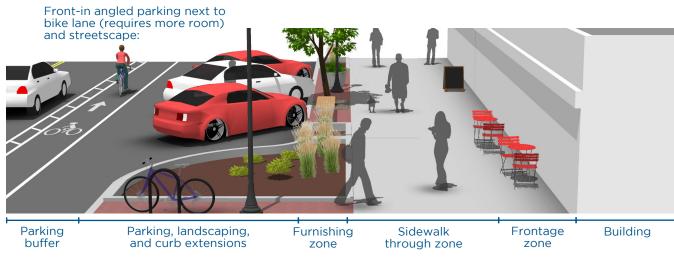
> If front-in angled parking is used next to a bike lane, there should be a buffer large enough for backing cars to pull out, orient without entering the bike lane, and then merge with traffic.

> > Curb extensions promote visibility of pedestrians, make crossing distances shorter, and reduce vehicle speeds.

Guidance

- Back-in angled parking is recommended when adjacent to a bike lane.
- Curb extensions, sidewalk furniture, median refuge islands, benches, and marked crossings create more space and an enjoyable setting for pedestrians and also reduce vehicle speeds.





Discussion

Livable streets and sidewalks are the living rooms of neighborhoods – where neighbor meets neighbor. They are also social spaces, rallying points, incubators for ideas and business, and where community is built. Sidewalks are often the life of neighborhood business nodes. They should be more than areas to travel; they should provide places for people to gather and interact. There should be places for standing, visiting, and sitting. Sidewalks and streetscape design should contribute to the character of neighborhoods and business districts, strengthen their identity, and be an area where adults and children can safely participate in public life.

Additional References & Guidelines

Salt Lake City Planning Division. (2013). "Outdoor Dining Design Guidelines".

Salt Lake City. (2013). Downtown Master Plan Guideline. "Mid-block Walkways".

 Curb extensions should use under-utilized or unused space on the street, like space needed for parking setbacks. They should not block bike lanes.

Materials and Maintenance

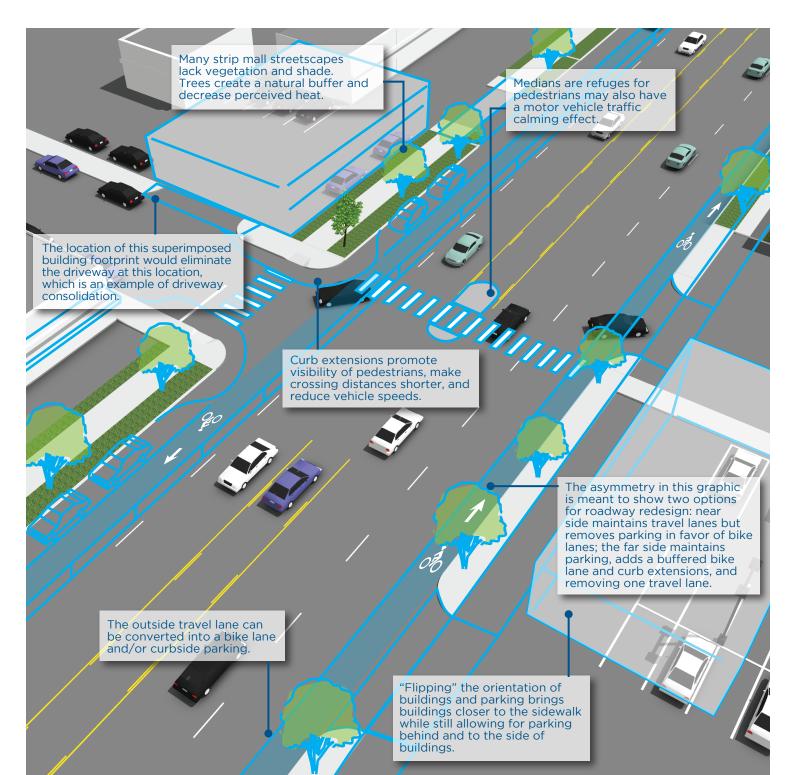
Due to Salt Lake City's winter climate, some sidewalk and on-street amenities (like chairs and tables) may need to be seasonal in nature and removed for safekeeping.

Figure 5-4 Strip Mall Retrofit

Description

Strip malls are often characterized by large surface parking lots that divide store frontages from the roadway and sidewalks. Additional buildings that front the sidewalk and streetscape will create a more walking-friendly environment and decrease the

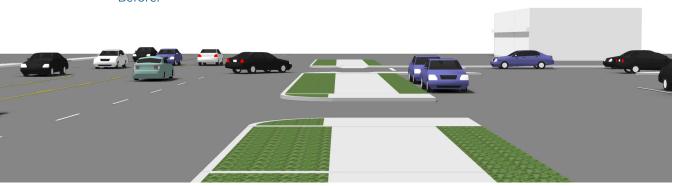
reliance on automobiles for access to work, shopping, entertainment, and socializing. Improving the streetscape with vegetation and travel lane reductions (where possible) will also contribute to a more attractive enviroment.



Guidance

- Strip malls are often characterized by frequent • Buildings should be located near the sidewalk • driveway access. Where possible, driveway access to increase pedestrian and bicyclist access should be consolidated and remaining driveways as well as to better define the street from the should be calmed through the use of narrower motorist perspective. entrances, curb extensions, and other designs that Widen sidewalks where possible. reduce vehicle speeds and make walking more Excess roadway width can be converted • comfortable.
- into street parking, bike lanes, and/or traffic buffers.

Before:



After:



Parking

Discussion

Lane

Road reconstruction and private business investments are essential elements of strip mall retrofits. In order to successfully remake strip malls into more pedestrian- and bicycle-friendly streetscapes, zoning changes may be required.

Materials and Maintenance

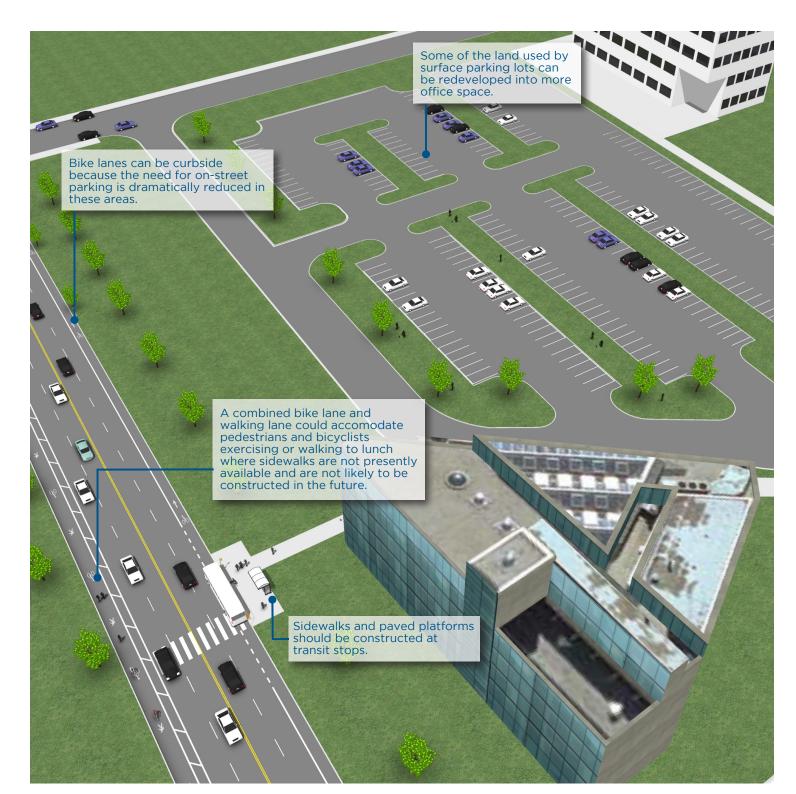
In Salt Lake City's winter climate, adding square footage to or creating new building footprints will reduce the need for parking lot snow removal and snow storage.

Figure 5-5 Suburban Business Park Without Sidewalks

Description

Historically, these job centers have been located on the fringes of a city or town and combine suburban development elements with the daytime employment peak hours and demands. They are primarily designed for motorists in single occupancy vehicles arriving

in the morning and departing in the evening and frequently lack sidewalks. A retrofit of this type of land use would accommodate and encourage more walking, exercise, and more options for transportation to and from the site, as well as mid-day users.



Guidance

- Sidewalks may replace some green space in order to accomodate walking, access to and from transit, and exercising.
- Due to the frequent presence of large surface . parking lots, on-street parking is, for the most part, unnecessary. Providing it may not be an efficient use of roadway space.

Bicyclist & pedestrian lane interface:



Transit stop accomodation:



Discussion

Businesses within suburban business parks are often self-contained, which reduces the need for employees to go out for lunch or other needs. However, some people like to use their lunch hour for exercise or to walk to a lunch destination and providing places for them to walk and bike helps to satisfy this demand. Specific attention should be given to making transit stops more accessible and attractive to employees.

When the opportunity to retrofit suburban business parks arises, consideration should be given to consolidating parking between the various businesses. Unused green space should also be consolidated into more productive, usable vegetated spaces. Building accesses should be added or reoriented to face the street rather than only face parking lots located at the rear of the buildings. Sidewalks would preferably be added along all streets as part of retrofits but this graphic emphasizes improvements that could be made in lieu of continuous sidewalks.

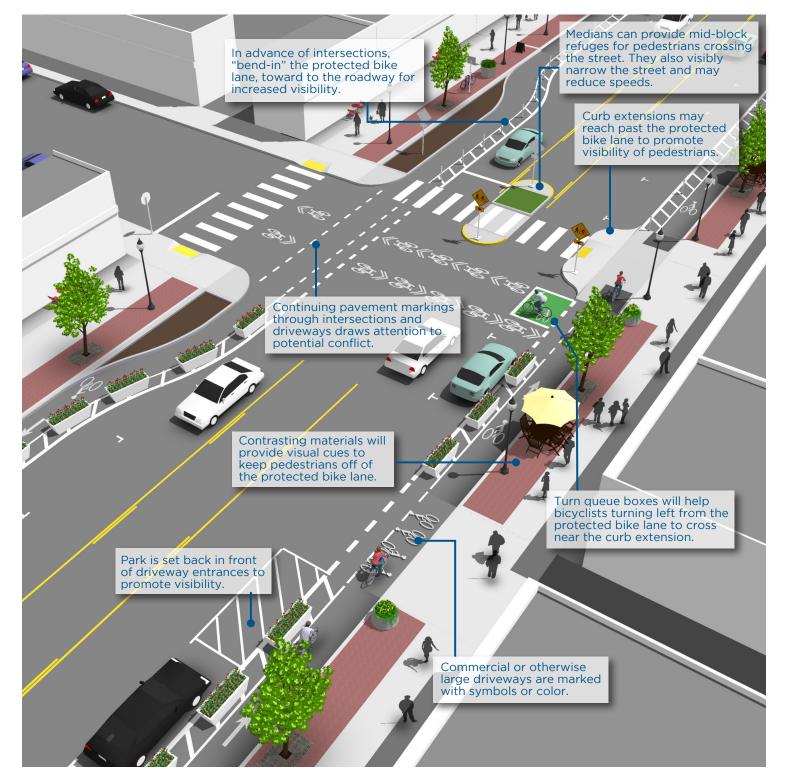
• Encourage Transportation Demand Management including corporate transit pass programs, bike to work promotions, and showers/bicycle storage as part of a strategy to improve air quality and decrease peak-hour congestion.

Figure 5-6 Protected Bike Lane Streetscape

Description

One-way protected bike lanes are physically separated from motor traffic and distinct from the sidewalk. Protected bike lanes are either raised or at street level and use a variety of elements for physical protection from passing traffic.

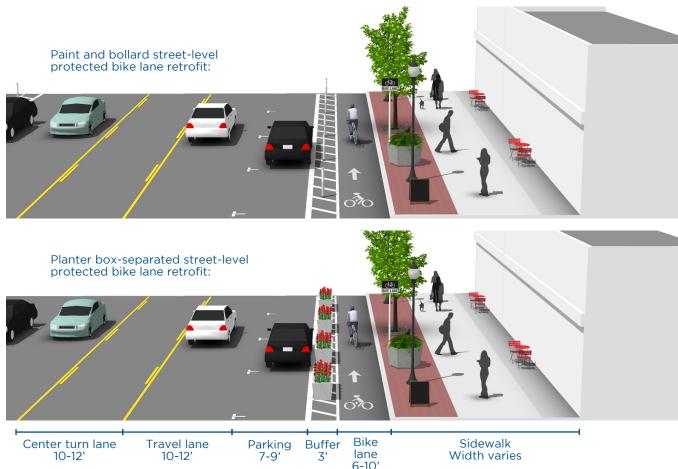
Bike lane protection is provided through physical barriers and can include bollards, planter strips, raised curbs, on-street parking, or medians. Protected bike lanes using these protection elements are typically "street level" and share the same elevation as adjacent travel lanes.

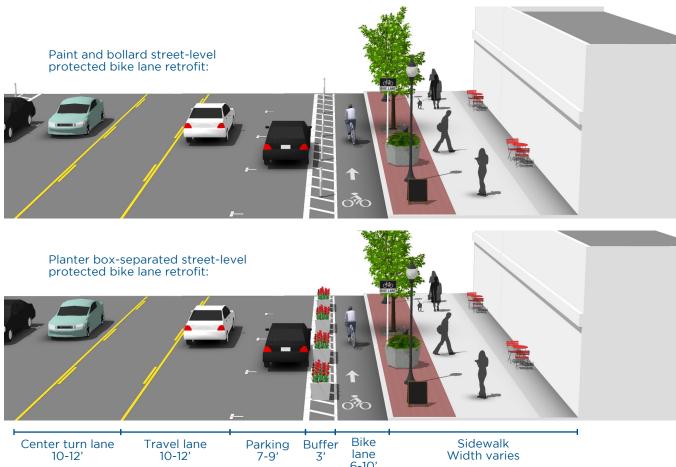


Guidance

- 7 foot recommended minimum protected bike • lane width to allow passing.
- 3 foot buffer between parked cars and protected bike lane recommended to allow for standard plows to clear snow, to make passenger loading easier, and to prevent bicyclist collisions with car doors.

protected bike lane retrofit:





Note: actual numbers of lanes and dimensions of those lanes will vary from street to street.

Discussion

Special consideration should be given at transit stops to manage bicycle and pedestrian interactions. Driveways and minor street crossings are unique challenges to protected bike lane design. Parking should be prohibited within 30 feet of each intersection and major driveway to improve visibility. Color, yield markings, and "Yield to Bikes" signage should be used to identify the conflict area and make it clear that the protected bike lane has priority over entering and exiting traffic.

Additional References and Guidelines Materials and Maintenance

NACTO. (2012). Urban Bikeway Design Guide.

Salt Lake City. (2013). Downtown Master Plan Guideline. "Mid-block Walkways".

When placed adjacent to a travel lane, one-way • raised protected bike lanes may be configured with a mountable curb to allow entry and exit from the bicycle lane for passing other bicyclists or to access vehicular turn lanes.

In cities with winter climates, barrier-protected bike lanes may require special equipment for snow removal.

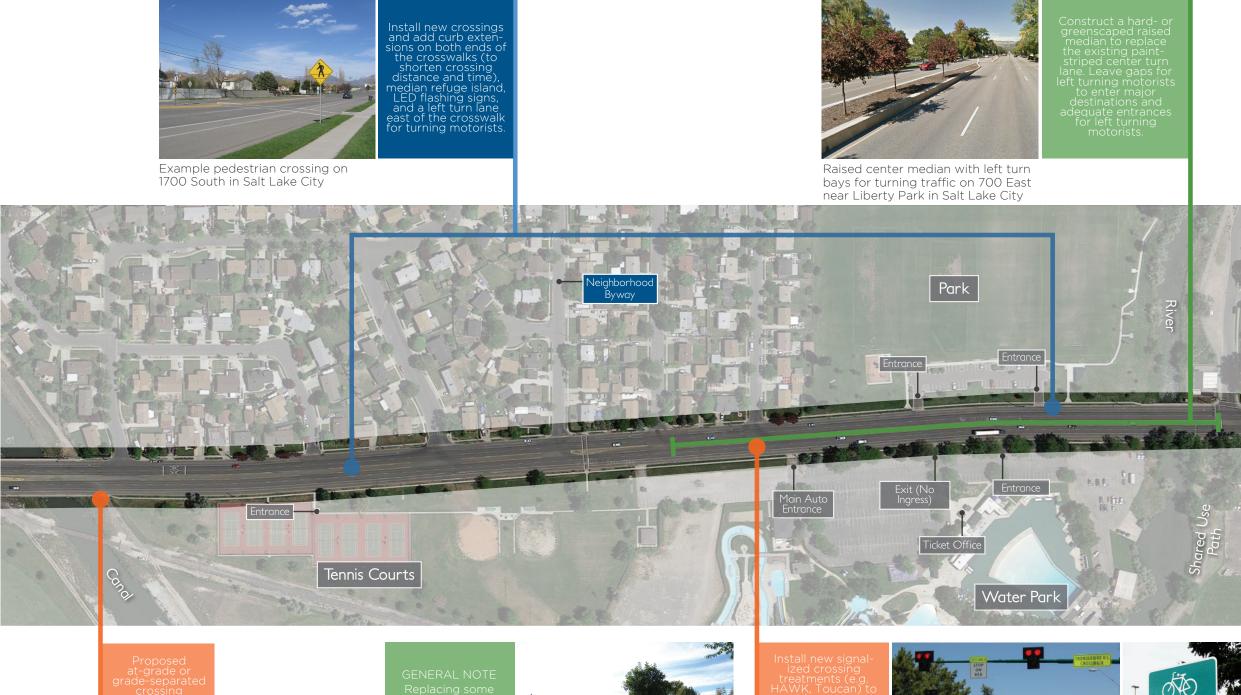
Figure 5-7 Conceptual Design for Improving Neighborhood Connections Across an Arterial Street

Note: This conceptual design shows the type of fine-grained, yet corridor-based analysis that is appropriate for pedestrian access a busy arterial. Several improvements are likely to be considered together to make the area more pedestrian friendly.



Install new crossings and add curb exter ions on both ends a the crosswalks (to orten cro flashi and a left turn lane east of the crosswal or turning motorists







Planters and curb extensions in the parking lane on Sunset Blvd in Santa Clara, UT

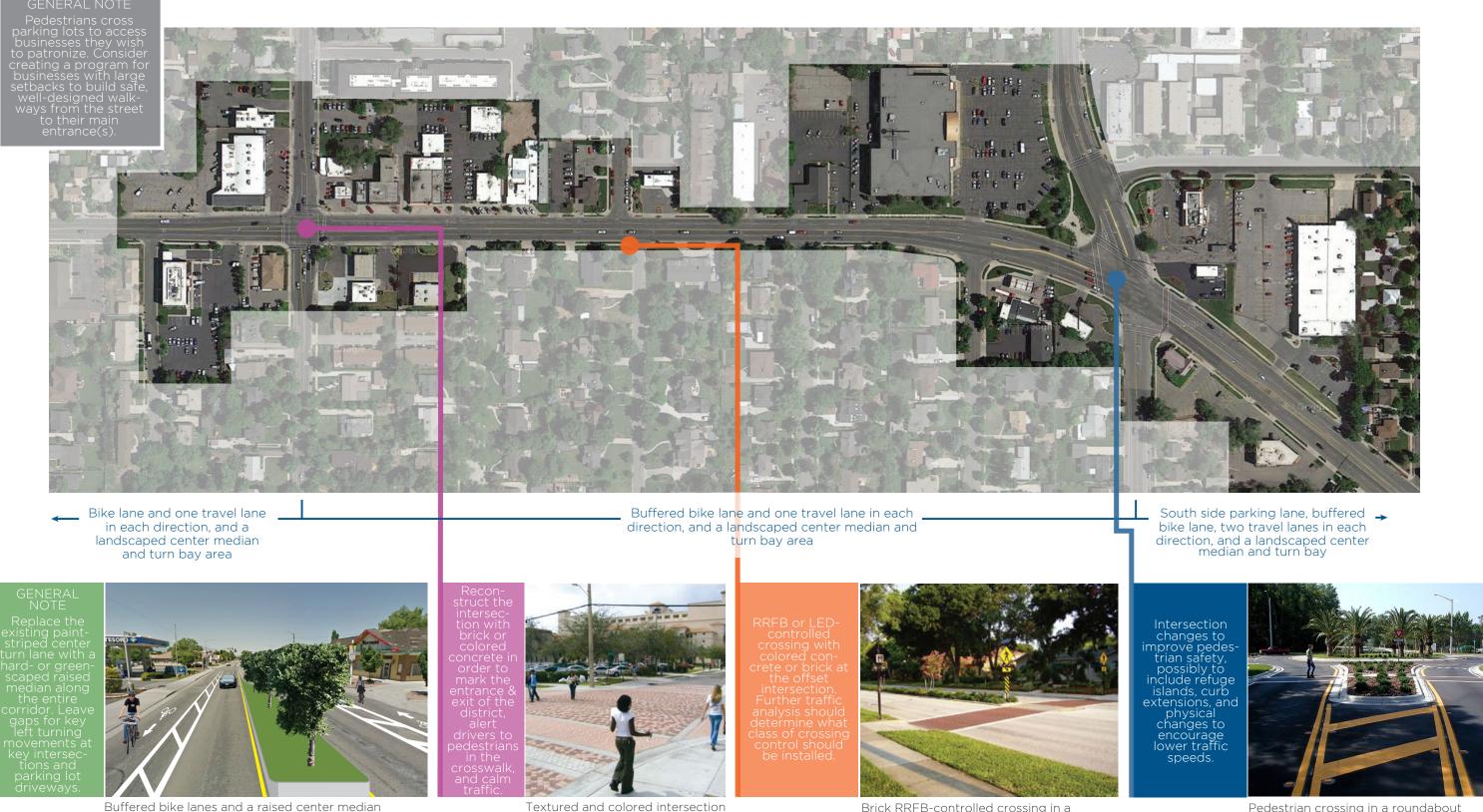


HAWK crossing (Photo: Mike Cynecki)

Wayfinding signage in Portland, OR (Photo: PBOT)

Figure 5-8 Conceptual Design for Improvements to a Neighborhood Commercial Area

Note: This conceptual design shows the type of fine-grained, yet corridor-based analysis that is appropriate for pedestrian access a busy arterial. Several improvements are likely to be considered together to make the area more pedestrian friendly.



(Photo: FHWA)

Brick RRFB-controlled crossing in a school zone (Photo: Safe Routes to School Coalition)

Pedestrian crossing in a roundabout

Figure 6-3 Bicycling Network Existing Conditions Map

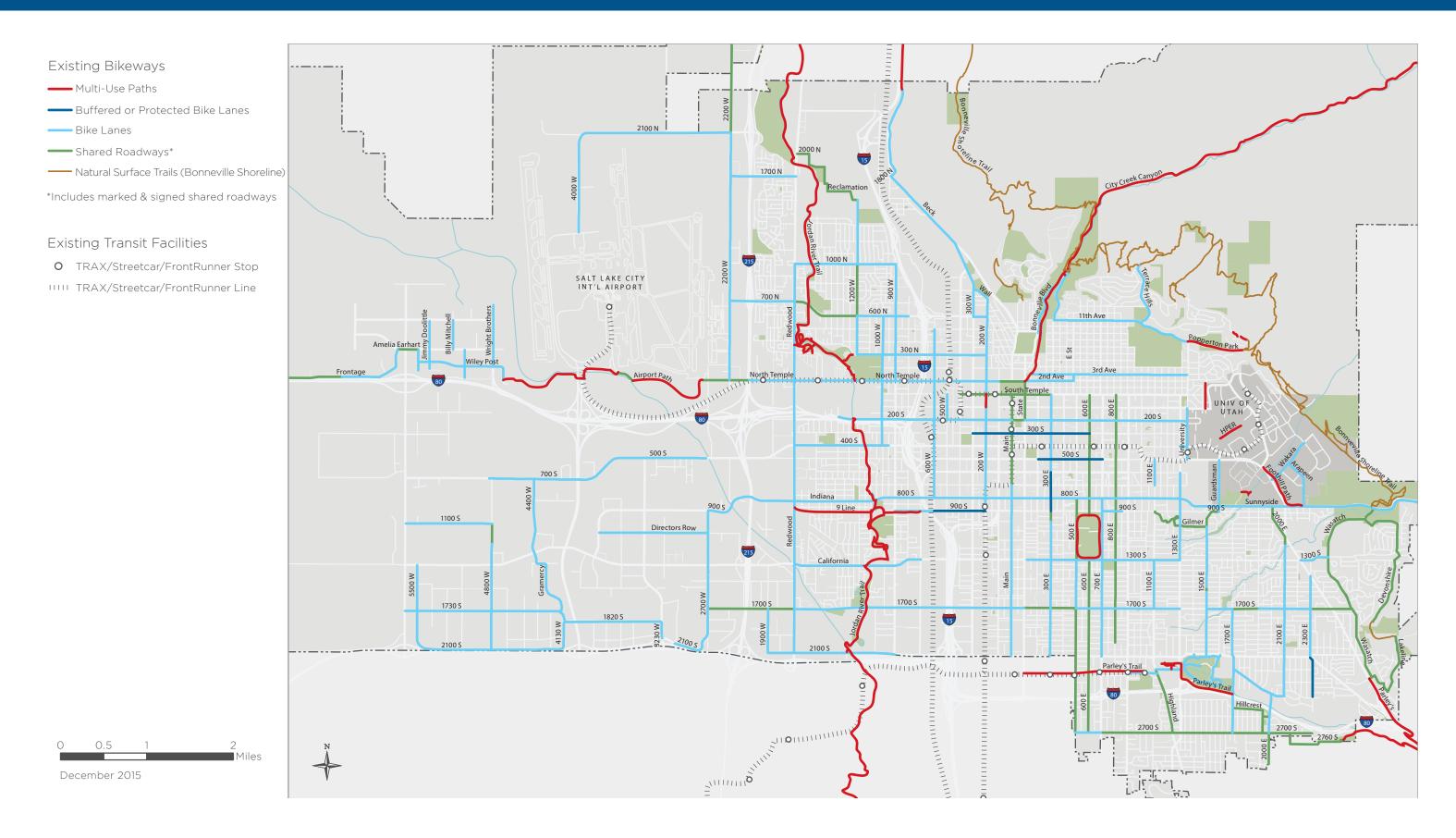


Figure 6-4 Bicycling Network Existing Conditions + Short Term (0-10 Years) Recommendations Map

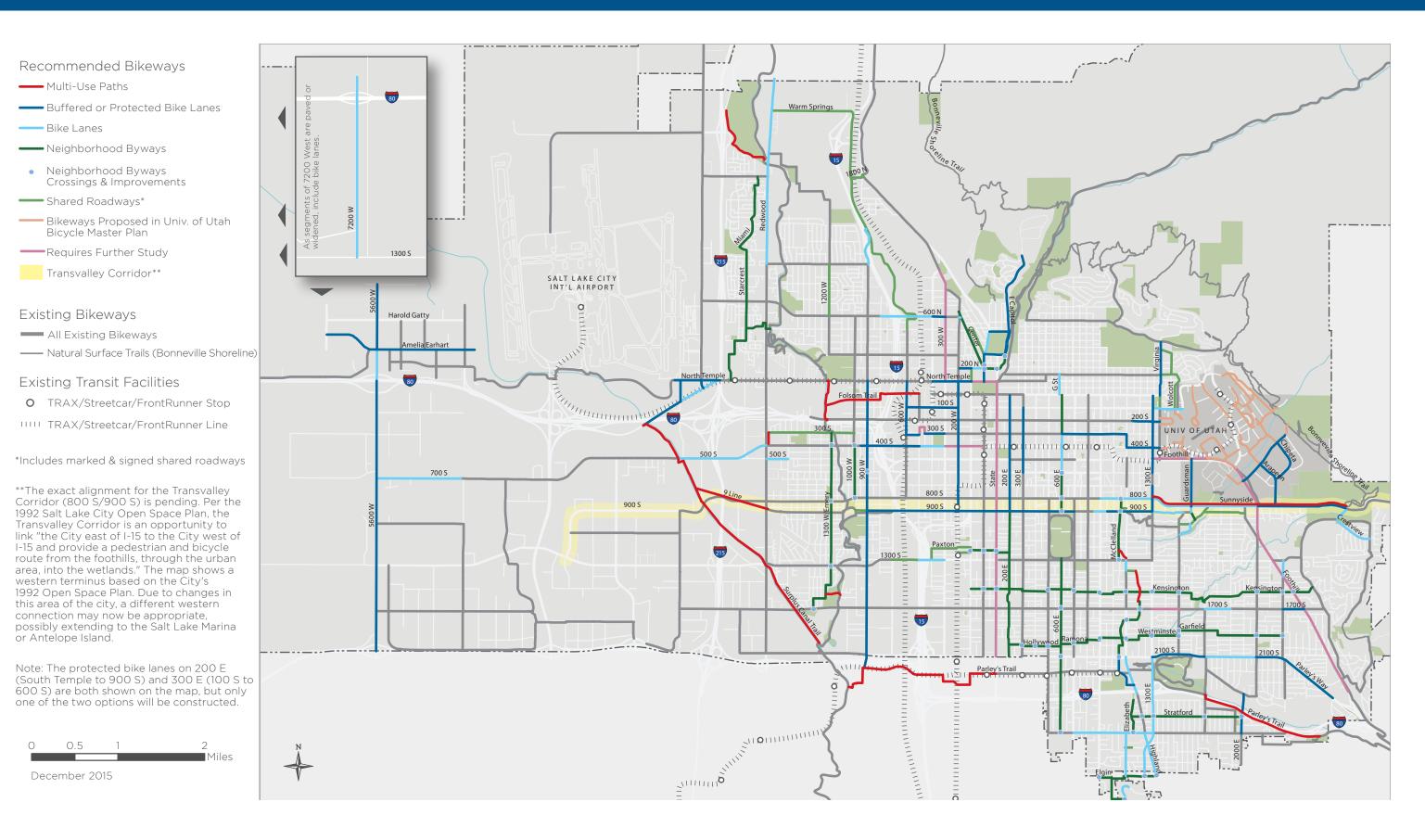


Figure 6-5 Bicycling Network Existing Conditions + Long Term (10-20 Years) Recommendations Map

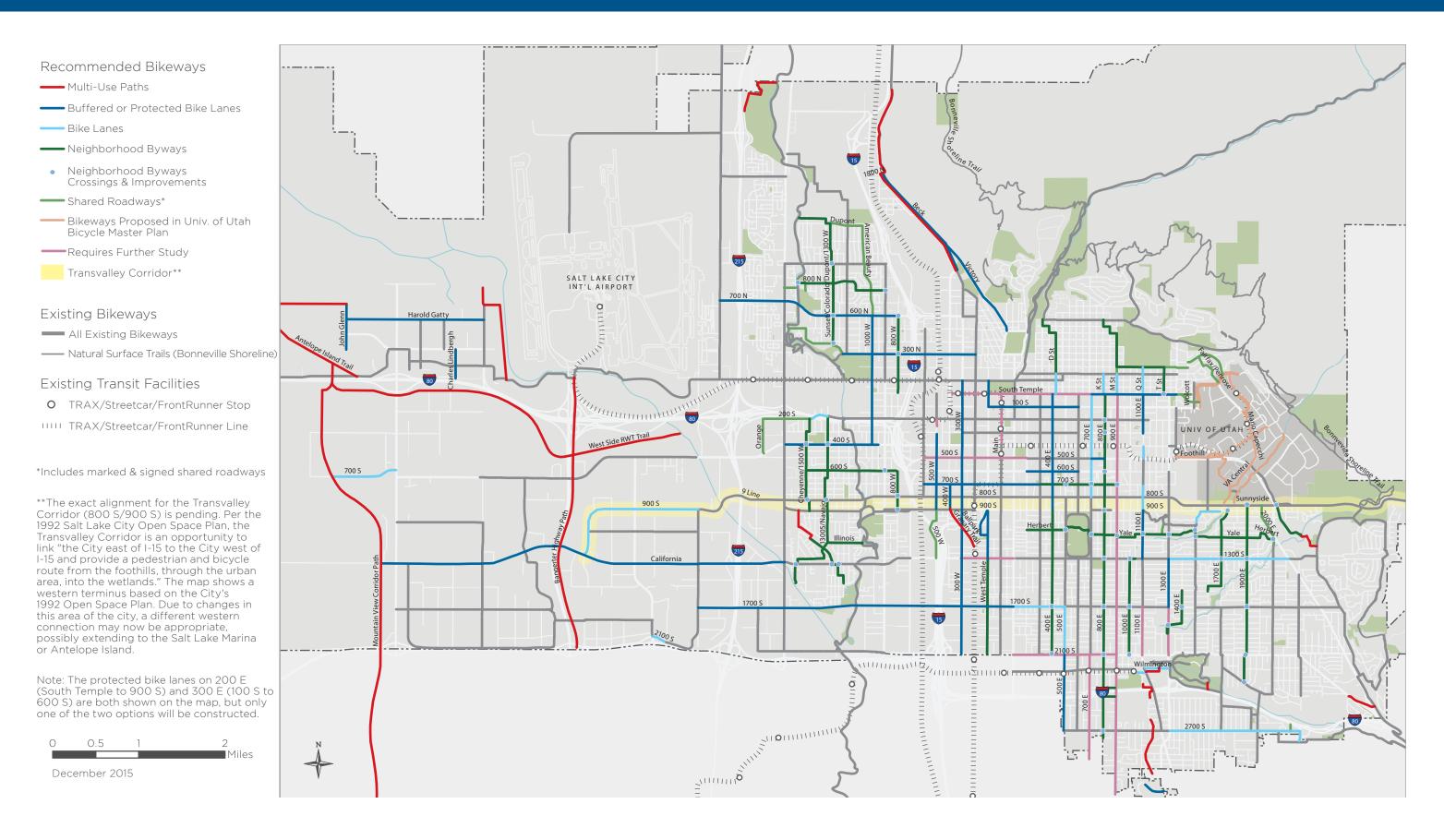


Figure 6-6 Bicycling Network Existing Conditions + 20 Year Vision Map (2035)

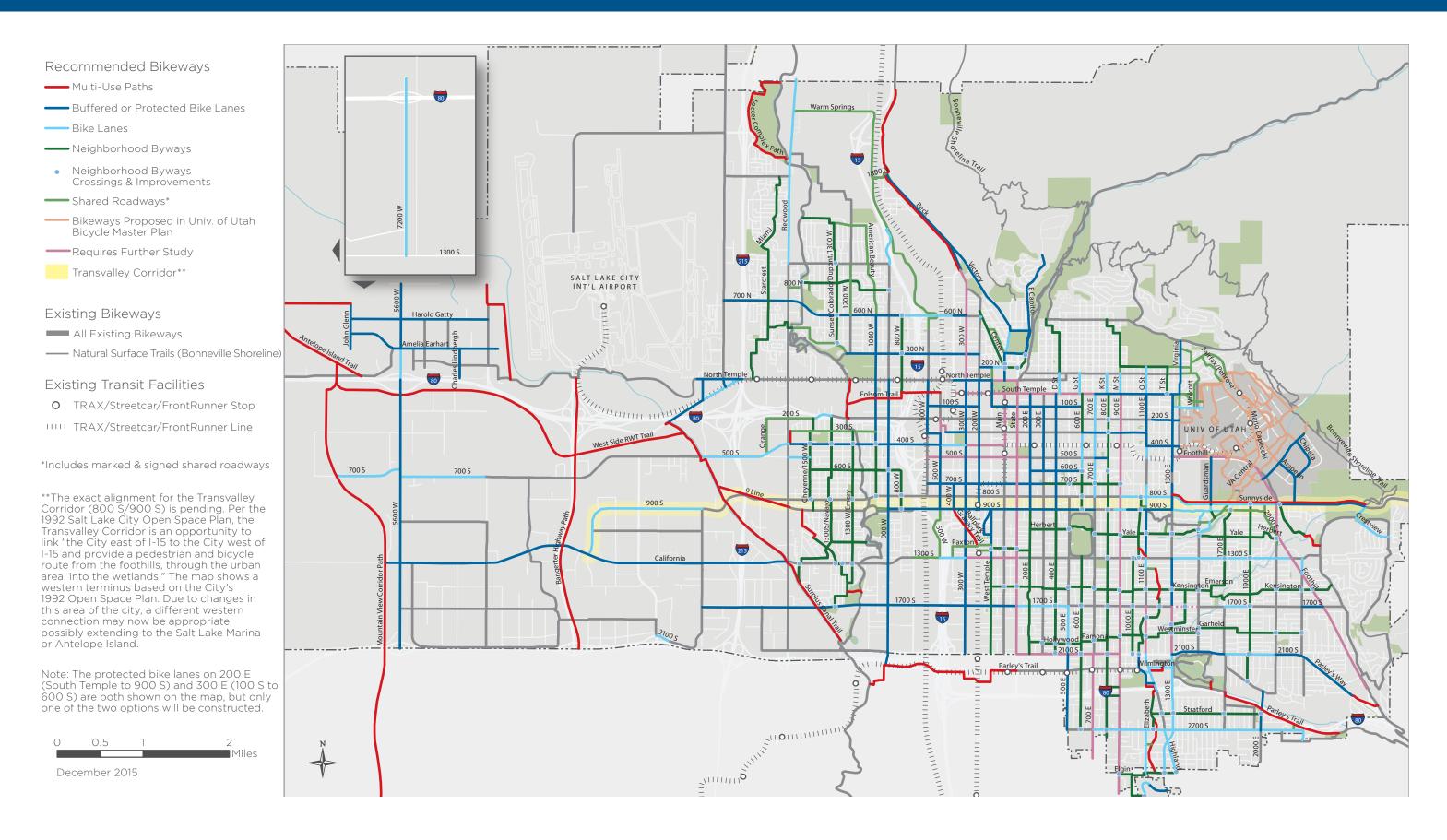


Figure 6-7a Low Stress Bicycling Network Recommendations Map (Citywide)

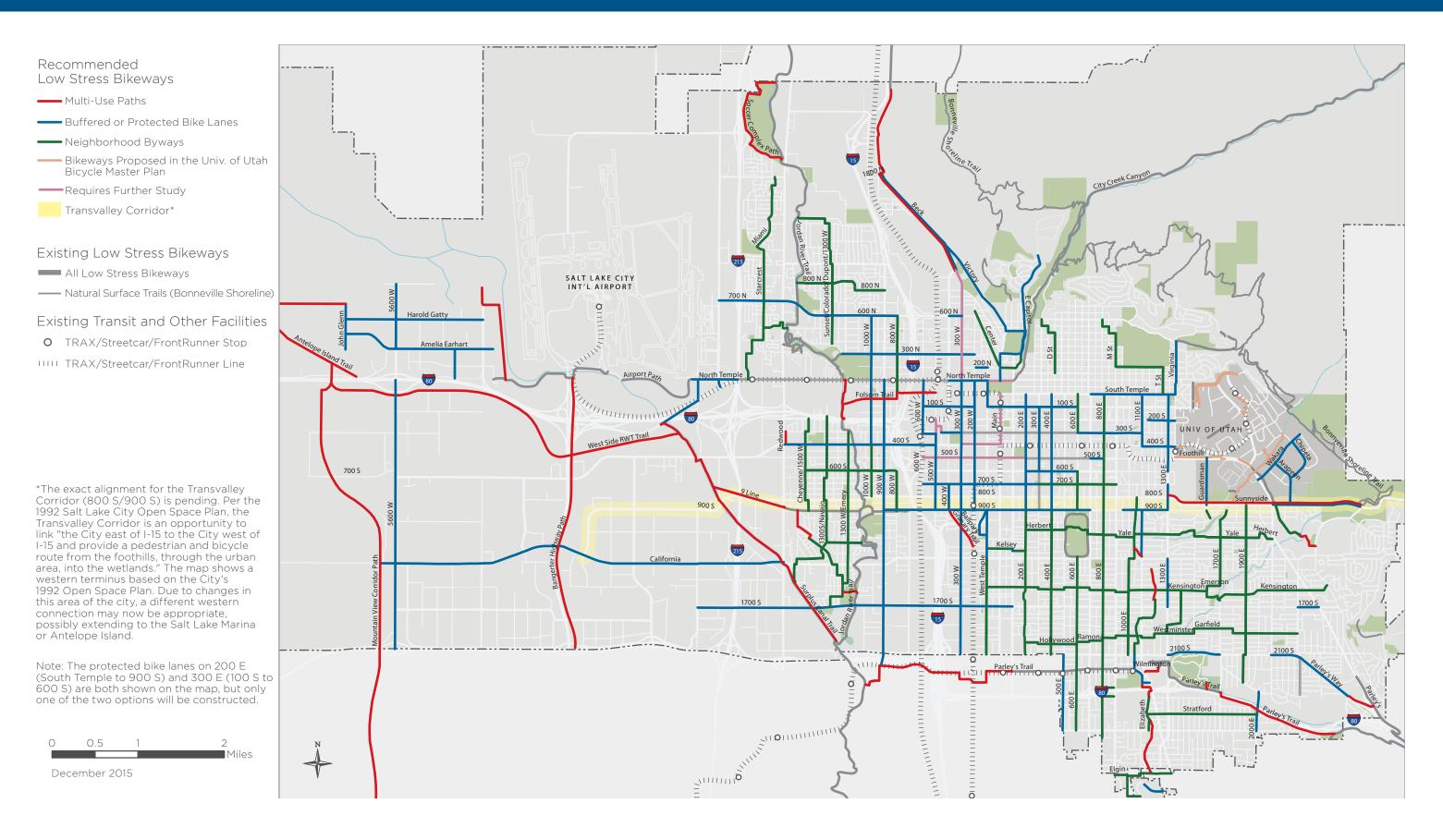
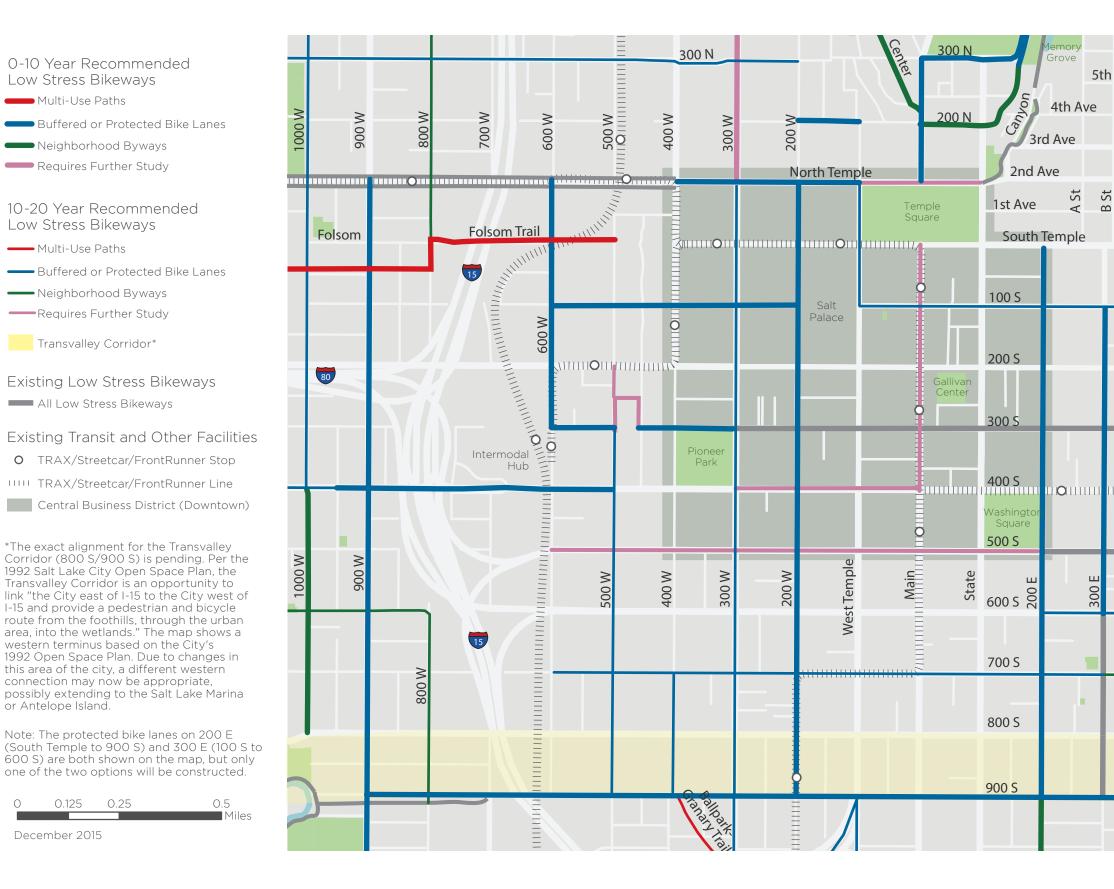


Figure 6-7b Low Stress Bicycling Network Recommendations Map (Downtown)



CHAPTER SIX: BICYCLE RECOMMENDATIONS

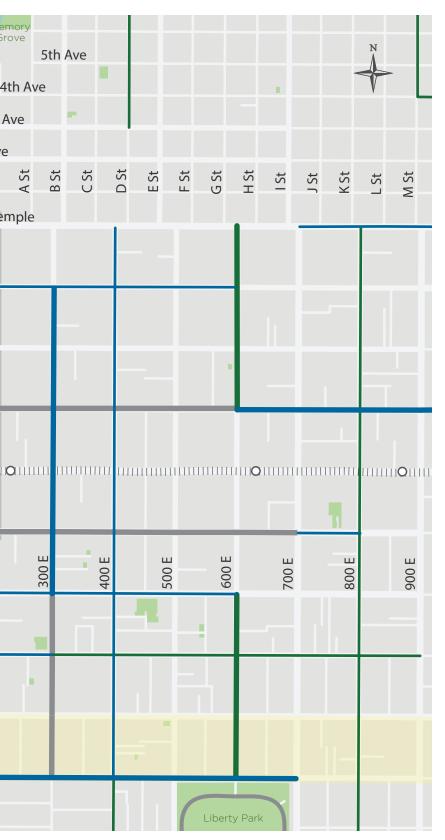
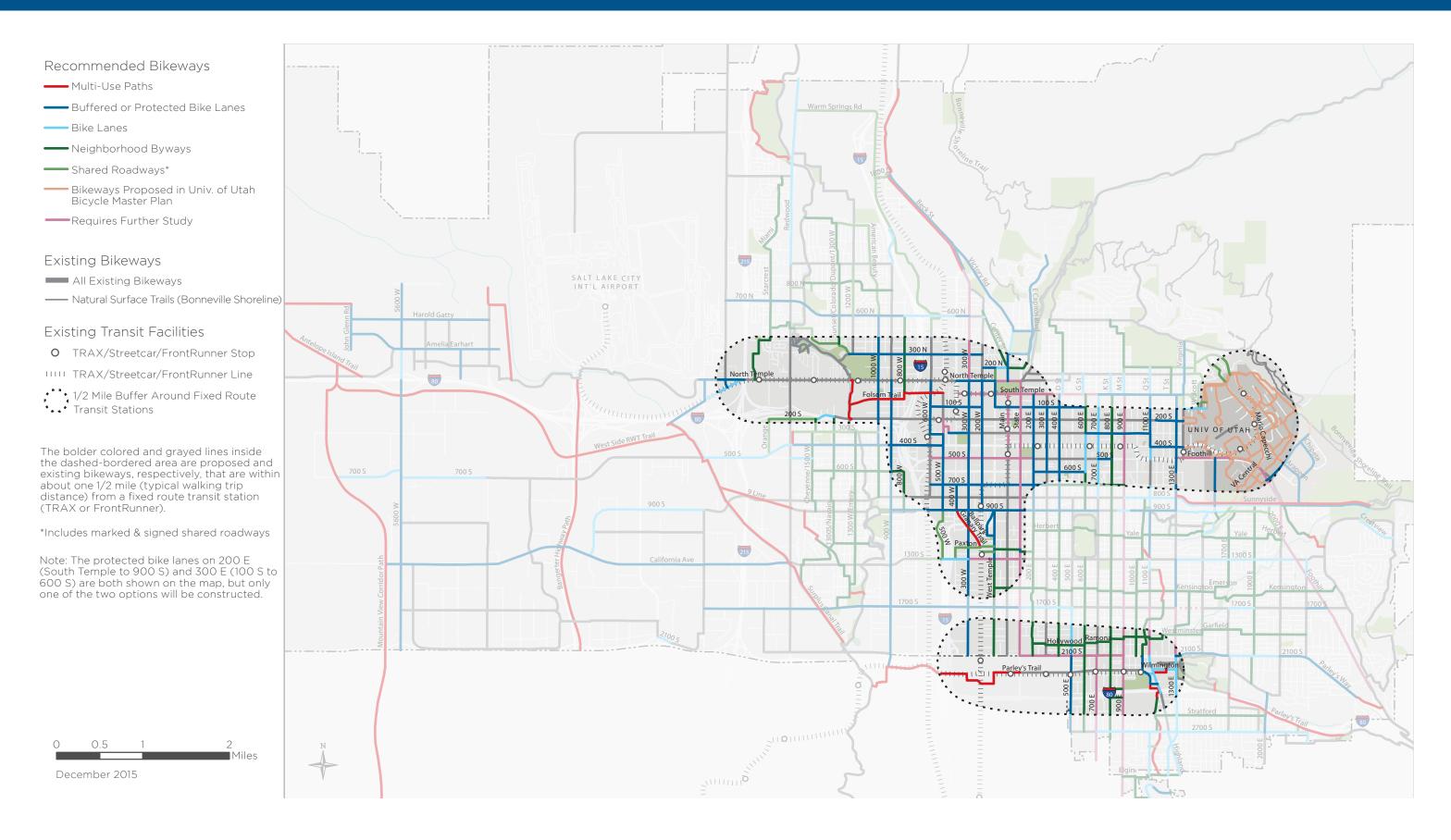


Figure 6-8 Bicycling Access to Fixed Route Transit Stations Map



Rec'd Bike Spot Improvements

Figure 6-9 Bicycling Spot Improvement Recommendations Map

• Enhanced Road Crossings and Signals Accelerated repaving Intersections and Signage New Pavement and Curb Cuts Structure Improvements **Recommended Bikeways** — Multi-Use Paths Buffered or Protected Bike Lanes – Bike Lanes ----- Neighborhood Byways Shared Roadways* Bikeways Proposed in Univ. of Utah Bicycle Master Plan Transvalley Corridor** Existing Bikeways All Existing Bikeways —— Natural Surface Trails (Bonneville Shoreline) Existing Transit Facilities **O** TRAX/Streetcar/FrontRunner Stop IIIII TRAX/Streetcar/FrontRunner Line *Includes marked & signed shared roadways **The exact alignment for the Transvalley Corridor (800 S/900 S) is pending. Per the 1992 Salt Lake City Open Space Plan, the Transvalley Corridor is an opportunity to link "the City east of I-15 to the City west of I-15 and provide a pedestrian and bicycle route from the foothills, through the urban area, into the wetlands." The map shows a western terminus based on the City's 1992 Open Space Plan. Due to changes in this area of the city, a different western connection may now be appropriate, possibly extending to the Salt Lake Marina or Antelope Island. Note: The protected bike lanes on 200 E (South Temple to 900 S) and 300 E (100 S to 600 S) are both shown on the map, but only one of the two options will be constructed. 0.5 2 Miles December 2015

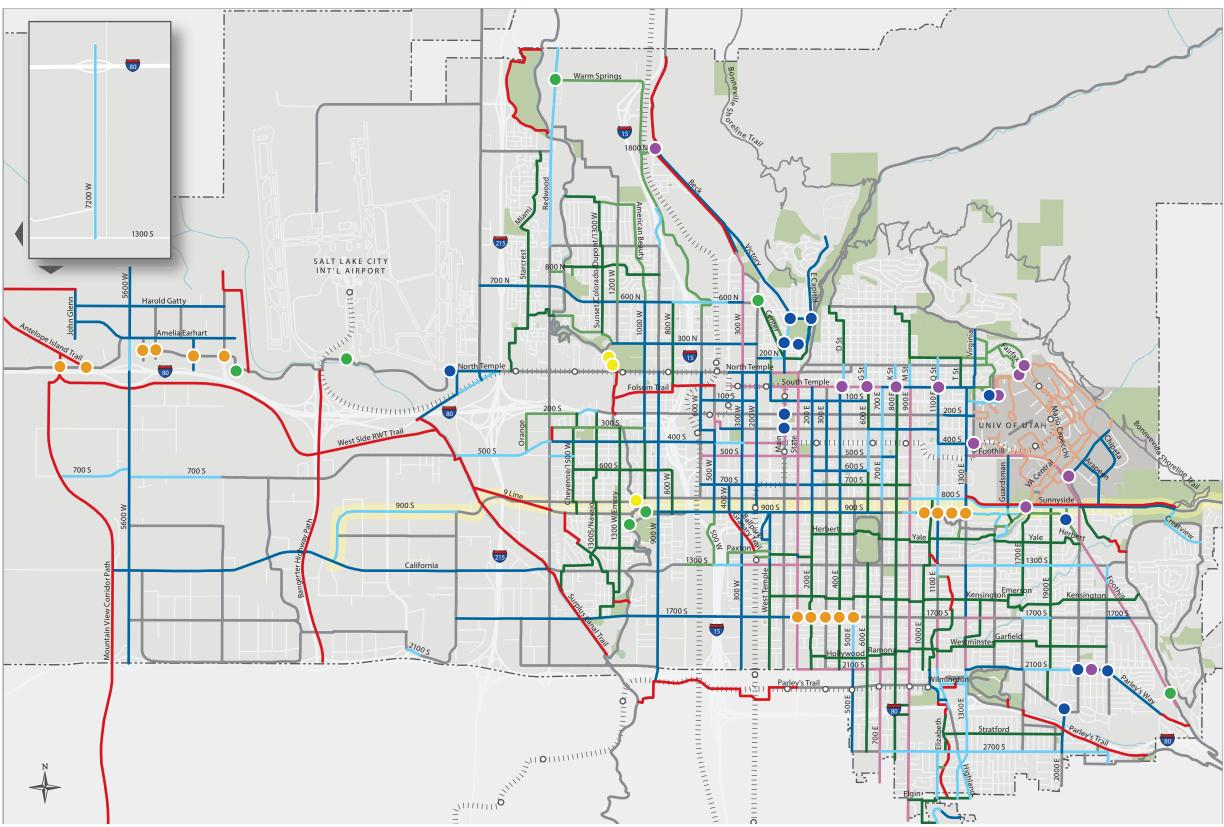
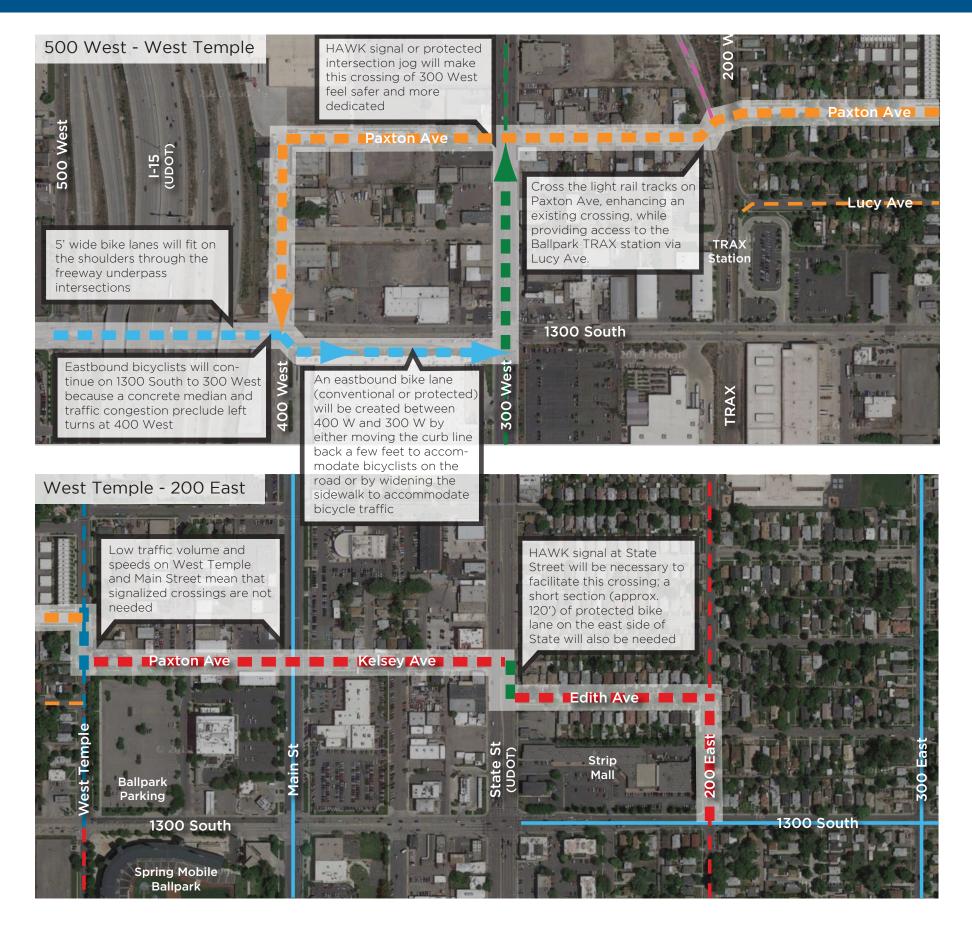


Figure 6-10 1300 South Interim Bypass Route



General Application of Bypass Routes

This specific example of a interim bypass route for bicyclists is on 1300 South between 500 West and 200 East in Salt Lake City. The recommendations for a interim bypass route on this corridor are typical of other situations where the City may have the need for a temporary bypass.

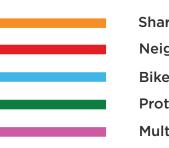
Challenges & Solutions

Bypass routes south of 1300 South are not feasible because the UTA TRAX light rail train corridor (~200 West) does not have any east-west crossings between 1300 and 1700 South. Approval of a bike/ped at-grade crossing by UTA is very unlikely and a grade-separated crossing would be very expensive.

The 1300 South bypass route is intended to be a interim solution to providing bicycle access through the area. The City's ultimate vision is accommodating bicyclists on 1300 South itself as parcel redevelopment opportunities arise and building setbacks can be increased. An overlay zone should be created along 1300 South to facilitate the long-term goal of acquiring additional right-of-way that would allow more comfortable facilities for pedestrians and bicyclists. However, such a process can take years if not decades to implements. As a result, this interim solution is expected to endure for some time.

Cost

The 1300 South Interim Bypass Route has an estimated cost of \$550,000.



Solid lines represent existing bikeways. Dashed lines denote proposed facilities – thick represents the 1300 South Interim Bypass Route and thin represents other bikeways proposed in the 2014 Pedestrian & Bicycle & Plan.

Shared Lane Markings Neighborhood Byways Bike Lanes Protected Bike Lanes Multi-Use Paths

Table 7-2 Multi-Modal Programs Summary

Program	City Role**	Likely Partners	Cost Estimate (Annual)	Staff and Volunteer Time Commitment	Number of People Reached		Expected Outcomes							
						Community Interest	Increased Bicycling	Increased Walking	Improved Bicycling Safety Behavior	Improved Walking Safety Behavior	Improved Driving Safety Behavior	Economic/ Cultural Benefits	Enhanced Sense of Community	Priority
Multi-Modal Programs														
Multi-Modal Crash Analysis and Reduction	Lead (SLCPD)/Partner	SLC Transportation; Bicycle Advisory Committee; Media	•	•	•	¢			√+	√ ₊	√ +			•
Open Streets Event*	Lead (SLC Events)/Partner	Police Dept.; Health Dept.; Advocates; Volunteers; Media	•	•	•	٠	√+	√+				√ +	√+	•
Police Training	Lead (SLCPD)	SLC Transportation; Advocates; UDOT	•	•	•	N/A			√ +	√ +	√ +			•
Media Campaign*	Lead (SLC Transportation)/ Partner	Advocates; SLCPD; Business Groups; Media	€/●	€/●	•	(√+	√+	√+	√+	√ +			•
Beginning Driver Education	Lead (SLCPD)/Partner	SLC Transportation; Advocates; Other Agencies	0	0	ſ	ſ			√+	√+	√ ₊			•
SmartTrips*	Lead (Agency TBD)	SLC Transportation; UTA	•	•	•	¢	√+	√+	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	•
Traffic Citation Diversion	Lead (SLCPD)/Partner	SLC Transportation; Medical Community; Legal Community; Advocates	•	•	0	٠	√ +	√+	√ +	√+	\checkmark		\checkmark	ſ
Bus Driver Training*	Partner (Likely led by UTA)	SLC School Dist; SLCPD; U of U; Advocates; UTA	○/◀	(•	N/A			\checkmark	\checkmark	√+			0

O = Low $\P = Medium$ $\P = High$ N/A = Feedback Not Available

*Existing program

**Lead = City instigates and carries out.

**Lead/Partner = City instigates but partners help out with doing a lot of the work. **Partner = someone else instigates and the City helps in a lesser supporting role.

Cost Estimate Key	
Low	\$0-\$1000
Medium	\$1,000-\$5,000
High	\$5,000+

 \checkmark + = Primary Outcome \checkmark = Secondary Outcome

Table 7-3 Pedestrian & Bicycle Programs Summary

							Expected Outcomes								
Program	City Role**	Likely Partners	Cost Estimate (Annual)	Staff and Volunteer Time Commitment	Number of People Reached	Community Interest	Increased Bicycling	Increased Walking	Improved Bicycling Safety Behavior	Improved Walking Safety Behavior	Improved Driving Safety Behavior	Economic/ Cultural Benefits	Enhanced Sense of Community	Priority	
Pedestrian-Specific Programs															
Targeted Crosswalk Enforcement*	Lead (SLCPD)	SLC Transportation; Advocates; Media	(0/(0	•	\checkmark	\checkmark	\checkmark	\checkmark	√+			•	
Pedestrian Wayfinding*	Lead (SLC Transportation)	Designers; Media; SLC Urban Design	•	•	•	٠		√+		\checkmark		\checkmark	\checkmark	•	
Mid-Block Walkway Programming*	Lead (SLC Urban Design)	SLC RDA; Volunteers; Media; Business & Property Owners	€/●	○/◀	ſ	N/A		√+		\checkmark		√+	√+	(
Walking School Bus	Lead (SLC School Dist)	SLC Transportation; PTA Groups	•	0/(0/(٠		√+		\checkmark	\checkmark		√+	•	
Park(ing) Day*	Partner	SLC Transportation; Advocates; Small Business Districts; SLC Urban Design	0	○/◀	0	N/A	\checkmark	√+		\checkmark	\checkmark	√+	√+	0	
Bicycle-Specific Programs															
Annual Bicycle User Counts*	Lead (SLC Transportation)	SLC Bicycle Collective; U of U	0	•	•	•	√+					\checkmark	\checkmark	٠	
Classroom and On-Bike Training	Lead (SLC School Dist)	SLC Transportation; Police Department; After School Programs	¢	○/◀	•	N/A	√+		√+					•	
Bike Map*	Lead (SLC Transportation)	Bike Shops; Online Mapping Services	•	•	•	٠	√+		√ +			\checkmark		•	
Bicycle Friendly Businesses and Business Areas	Lead (SLC Econ Dev)/Partner	SLC Transportation; Business groups; Advocates; Media	0/€	0/€	(N/A	√+					√+	\checkmark	•	
Recreational Bike Routes	Lead (SLC Transportation)/ Partner	State Agencies (UDOT, Outdoor Recreation); Adventure Cycling Assoc.; Visit Salt Lake	٠	•	ſ	N/A	√+					~	√+	(
Bicycle Theft Prevention	Lead (SLC Transportation)/ Partner	SLCPD; SLC Bicycle Collective; U of U; Advocates	¢	•	•	٠	\checkmark					\checkmark	\checkmark	(
Monthly Social Rides	Partner	Advocates; Volunteers; Bike Shops; Media	0	0	•	N/A	√+		\checkmark				√+	•	
Bicycle Wayfinding	Lead (SLC Transportation)	UDOT; U of U; UTA	0	(•	¢	\checkmark					√+	√ +	•	
School Bike Trains	Lead (SLC School Dist)	SLC Transportation; PTA Groups	0	0/(•	N/A	√+		√ +			\checkmark	\checkmark	•	
Women's Bicycling Programs	Partner	Advocates; Health Dept.; Bike Shops; Spoke Stoke	ſ	0/(0/(ſ	√+		\checkmark		\checkmark		√ +	•	
Winter Bicycling Programs	Lead (SLC Transportation)/ Partner	Advocates; Health Dept.; SmartTrips; Bicycle Ambassadors	0	0	0	ſ	√+	\checkmark	\checkmark			\checkmark	√+	0	

O = Low $\P = Medium$ $\P = High$ N/A = Feedback Not Available

*Existing program

**Lead = City instigates and carries out.

Cost Estimate Key \$0-\$1000 \$1,000-\$5,000 \$5,000+

**Lead/Partner = City instigates but partners help out with doing a lot of the work. **Partner = someone else instigates and the City helps in a lesser supporting role.

 \checkmark + = Primary Outcome \checkmark = Secondary Outcome