

Appendix A

Public Outreach and Input

As part of the City of Lacey Pedestrian and Bicycle Plan development process a variety of outreach and engagement strategies were utilized to receive input from a broad spectrum of Lacey and Lacey Urban Growth Area residents on existing conditions, opportunities, and challenges related to walking and biking. This document summarizes these strategies and the input received.

Online Engagement Tools

From September 25 through October 22, 2017, the City of Lacey administered an online survey and online mapping tool (Wiki Map) to help inform their upcoming Pedestrian and Bicycle Plan. Both the survey and Wiki Map were publicized through the City's Facebook page and the project webpage. City staff did in-person recruitment for the online engagement tools in focus group meetings, during the Citizen Advisory Committee meetings, and at the Lacey Children's Day event, where City staff hosted a Pedestrian and Bicycle Plan booth. In addition, numerous social media posts about the engagement tools were sent out via Twitter and Facebook.

Online Survey

The online survey asked participants about their biking and walking habits, reasons for not walking or biking, and their comfort with various types of bike facilities. In addition, the survey asked parents of school aged children about their child(ren)'s biking habits and the types of bike facilities they would be comfortable with either their child riding with them and/or independently. Eighty-two respondents completed the survey; and addition 10 respondents only partially completed the survey. The following summary is of the 82 completed surveys; aggregate responses, which include responses from those that only completed part of the survey, are in Appendix A.

Within the survey, a few major themes emerged, including:

- Most of the walking and bicycling done around Lacey is recreational; less walking and biking is done for commuting and running errands
- In general, participants are discouraged from walking and biking more because destinations are too far away from each other and the weather is not conducive. Feeling safe was also a top reason for not walking and biking more, but not as significant as distance or weather.
- For those that bicycle, multi-use paths are the most used and preferred facility type; generally bike facilities with more separation were preferred (e.g., bike lane with a painted buffer and vertical separation is preferred to a stand-alone bike lane). This preference is more pronounced for parents when deciding on the facilities that they would like to ride on with their children or allow their children to ride on independently.

Demographics

A slight majority of the respondents were female (57%), and the age range was well distributed with those ages 31-40 responding in the highest numbers (30%). The survey respondents overwhelmingly identified as White (non-Hispanic, 77%), with "two of more ethnicities" and "other" as the next two largest groups.

The survey began with a question about how respondents travel around Lacey and the surrounding area; 94% of respondents answered that they travel by car. Seventy-six percent, 66%, 15%, and 24% identified bicycling, walking, carpooling, and transit (bus, train), respectively. The remainder of the survey looked to parse out participants' bicycling and walking habits, barriers, preferences, and feelings about their children biking. The following sections detail the responses within these categories.

Bicycling Habits

Of the 82 survey respondents, 34 said they bicycled year-round and 28 said they were seasonal riders (i.e. spring/summer/fall). Of those that bicycle ride, nearly all ride for recreation/exercise (94%), with less who bike when running errands (48%) or commuting to work (45%). Other reasons for bicycling included environmental concerns, biking being an activity that the family and children enjoy, general dislike of driving, and avoiding parking hassles. One participant said that they didn't bike because they were wheelchair bound.

A little over half (52%) of respondents who bike, biked a few times a week; 21% and 18% said they biked only a few times a month or every day, respectively. Daily time riding ranged from less than 15 minutes to over 120 minutes, with the highest number of respondents (33) riding 30-60 minutes each day that they bicycled.

Respondents were asked where they usually rode within the City of Lacey, and could select as many options as were applicable to them. Of the respondents that bicycle, 84% bike on paved multi-use paths/trail, with significant percentages biking on neighborhood streets, major streets with bike lanes, and major streets sharing lanes with cars (60%, 52%, and 45%, respectively). Twenty-seven percent ride on sidewalks with 15% each riding on unpaved multi-use paths/trails and parks.

Walking Habits

The next section of the survey looked to better understand respondents' current walking habits. A little over half of the survey respondents (55%) said that they walk all year; only 11% restrict their walking depending on the season (i.e. spring/summer/fall). Of those that walk, most do so for recreation and exercise (94%), with significantly less walking for running errands (41%), commuting to work (13%) and other reasons (identified as environmental motivations, family time, and connecting to transit).

Of the respondents that walk, most selected either walking one to two days/week and less than monthly (26% each); each of the remaining walking frequencies offered in the question – daily, five to six days a week, three to four days a week, and one to three days a month – were selected by less than 15% of respondents who walk. Forty-one and 43% of respondents who walk do so for either 15-30 minutes or 30-60 minutes per day, respectively, when they walk. Walking less than 15 minutes or more than 60 minutes on days with walks is rare, at 9% and 7%, respectively.

Biking Preferences

The next questions in the survey looked to understand respondents' reasons for not biking, or not biking more often. When asked to select their top three reasons why they don't ride their bicycle or don't ride it more often, three clearly rose to the top of the list – destinations were too far away to bike (52%), bad weather (44%), and feeling that vehicles drive too fast (27%). The next tier of reasons was focused around the lack of safe or direct routes, bike lanes, and the availability of bikes.

Of the 40 respondents that answered the question about what would make them want to ride a bicycle, many highlighted the desire for more off-street paths or other separated bike facilities. Improving facilities, specifically bike lanes and lighting, rounded out the top few responses.

Walking Preferences

The top reasons for not walking are similar to those for not biking; 73% of respondents that answered this question said that destinations were too far for walking, and an additional 48% cited bad weather as a reason for not walking. Lack of sidewalks and not having time to walk were the next most frequent response at 29% each. Both respondents who selected “other,” commented that employer incentives for walking to work may increase their desire to walk.

Children

The next section of the survey looked to better understand attitudes towards children biking. Of the 82 respondents, almost half (39) had school aged children, mostly under 12 years old. Thirty-five of those who responded they have children said their children ride a bicycle. Of the three respondents with children who don't bike because they either don't know how or don't want to, two believe that there are no safe places for their child to bike (noting that all the respondents that answered this way had children under eight years old). Unsurprisingly, children biked more independently as they got older.

Separating the respondents into those with and without children, the survey asked how comfortable individuals would feel on various types of bike infrastructure. Respondents were shown the following pictures of the respective infrastructure with the question:



Bike Lane with No On-Street Parking



Bike Lane with On-Street Parking



Multi-Use Trail with Separated Walking Area



Multi-Use Trail



Bike Lane with Painted Buffer Next to Vehicle Lane



Bike Lane with Painted Buffer and Vertical Objects



Bike Lane with Curb Barrier Next to Vehicle Lane



Sharing a Lane with Motor Vehicles



Neighborhood Street with Low Traffic Volume and Slower Speeds

For adult users without children, there was a strong preference for all types of trails, especially those with a separated walking area. The least desirable bike infrastructure was a shared road, when the bicyclist shares a lane with motor vehicles. Bike lanes became increasingly more comfortable with additional buffers from moving vehicles (on-street parking, painted buffers, and painted buffers with vertical objects). Overall, adults with children seemed to be more comfortable on all types of infrastructure than those without school aged children. This could also be a demographic trend, given that most of the survey respondents without children were over 50 (most with school-aged children were under 50).

The survey then asked respondents with children how comfortable they were with various bike facilities while riding with their children and with their children riding independently. Trails, especially those with a separated walking area, were overwhelmingly preferred by parents riding with their children. After trails, low traffic volume and speed streets were considered “very to somewhat comfortable” to most respondents riding with children. Bike lanes became more comfortable to ride with children when additional buffers are present; riding with motor vehicles was considered very uncomfortable for nearly all respondents.

All bicycle infrastructure became increasingly uncomfortable for children biking alone versus with a parent. Respondents believe that trails were comfortable for independent riding (although more “somewhat comfortable” than “very comfortable” when compared to riding with an adult); neighborhood streets and bike lanes with a painted buffer and vertical objects were the only other options that were considered comfortable for children riding alone. All other types of bicycle facilities, especially sharing a lane with motor vehicles and bike lanes with on-street parking, were considered overwhelmingly uncomfortable.

Wiki Mapping

An online Wiki Map was made available between September 25th and October 22nd to collect public input regarding existing conditions for bicyclists and pedestrians. Wiki Map is an online outreach tool that collects site-specific information on where participants experience pedestrian and bike-related issues, where they typically walk or ride a bike, and where they would like to be able to walk or ride a bike in the future. Figure 1 displays what Wiki Map participants would see while they contribute to the online map. The data collected through Wiki Map will be used to inform recommendations for policies, programs, and the locations and types of bicycle-related infrastructure projects. Wiki Map users were given the following comment options:

- Identify barriers to walking or riding a bike
- Identify destination where they would like to walk or ride a bike to
- Identify routes they currently walk or ride a bike on
- Identify routes that they would like to walk or ride a bike on
- Identify locations where they were involved in a crash or a near miss

Figure 1: Wiki Mapping Online Mapping Interface



Table 1: How do you get around Lacey and the Surrounding Areas?

Mode	Total	Percent
Biking	11	92%
Walking	8	67%
Driving	7	58%
Transit	2	17%
Carpool	1	8%

Prior to beginning the Wiki Mapping exercise, respondents were asked to answer a few demographic questions and how often they walk or ride a bike for transportation purposes (non-recreational trips). A total of 12 people participated chose to answer these questions with an even split between male and female participants. The most common age group was 51-64 years old, followed by 41-50 (3 respondents), 31-40 (3 respondents), and 18-28 (1 respondent). Most respondents identified as being White (75%), followed by American Indian/Alaska Native (17%), and other (8%). Respondents were asked how they get around the Lacey area (see Table 1). Nearly all respondents travel by bicycle (92%). The second highest mode is walking (67%) followed by driving (58%). The final question respondents were asked before beginning to draw on the Wiki Map was how often they walk or ride a bike or walk (see Table 3). The majority of people who ride a bike do so daily (42%), followed by a few times a month (25%), and never (17%). For walking, participants most often walk a few times a week (33%), followed by a few times a month (25%), and never (25%). The results in Table 2 shows there are people who may not feel comfortable enough to ride a bicycle or walk for transportation purposes frequently, the quality of the existing infrastructure does not support their needs, or there are missing connecting in the network.

BIKE			
	Daily	5	42%
	Few times a week	1	8%
	Few times a month	3	25%
	Few times a year	1	8%
	Never	2	17%
Walk			
	Daily	0	0%
	Few times a week	4	33%
	Few times a month	3	25%
	Few times a year	2	17%
	Never	3	25%

Once completing the demographic survey, users could then provide location-specific input by drawing line segments or placing points on the online map (results can be viewed on Maps 1-5). When placing a line or point, the user was prompted to select the type of input being provided (e.g., barrier, place I want to walk/ride), and given the option to manually write a comment to provide more details regarding the issue or opportunity impacting active transportation.

Table 3 displays the number of comments received by participants for each category. Routes I want to walk or ride had the most comments with 34% of all comments, followed by barriers to walking or biking (23%). There were only 2 comments for crashes or near misses. Maps displaying the location of each comment type (i.e. barriers, routes I ride, etc.) can be viewed in the Appendix B.

Category	Number	% Share
Route I Want to Walk/Ride to	29	34%
Barriers to Walk/Biking	21	23%
Route I Currently Walk/Ride	19	22%
Place I Want to Walk/Ride to	16	19%
Crash/Near Miss	2	2%
Total	87	100%

Common Themes in Wiki Map Responses

In general, most participants provided comments that suggest the existing bicycle and pedestrian conditions are not sufficient. Poor network connectivity and contiguity was a major theme that contributes to pedestrian and bicyclist discomfort and discourages people from choosing active modes of transportation. Respondents contributed written comments that request installing high-comfort facilities, such as shared use paths, to bridge many of the existing network gaps. Lastly, comments collected through the Wiki Map exercise suggests that current roadway and bikeway designs are do not provide a comfortable enough environment to support current bicycle and pedestrian trips and to encourage future growth in the number of trips made by bicycle or on foot. Below is a list of common Wiki Map comment themes:

- Lack of sidewalks connecting to schools
- Lack of bikeway contiguity/gaps in bikeway network
- Connections to off-street paths

- Not enough safe and comfortable bike facilities/routes
- Demand for more off-street paths
- Need more direct routes (via new off-street paths)
- People would like to walk or bike to parks, off-street paths, and commercial areas
- Need safer crossings and major road intersections
- Safer and more comfortable routes for bicyclists and pedestrians

Barriers to Walking/Biking

Respondents were asked to identify locations where barriers to walking or biking exist by placing a point on the Wiki Map. After placing a point, respondents would select what type of barrier this is using a dropdown list and could enter a comment to describe the barrier. The barrier types available in the dropdown list include:

- High speed vehicles
- Too much traffic
- Not enough lighting
- No on-road bike facility (i.e. bike lane)
- Difficult to cross street
- Trail/street do not connect
- No sidewalk
- No buffer between sidewalk and traffic
- Poor pavement condition
- Long wait at intersection
- Turning vehicles don't yield
- Physical barrier than impedes route
- Other

There was a total of 21 comments submitted by 5 respondents. The most common barrier type was “physical barriers that impede routes” accounting for 39% of all the comments, followed by other/write-in comments (24%), and no sidewalk (14%). While physical barriers received the highest share of comments, written comments highlighted that gaps in the existing bike and pedestrian network is a common theme among the various types of barriers identified by respondents. Typical barrier comments include:

- Gaps in bike and pedestrian network (lack of bike facility and absence of sidewalks)
- Missing connections to schools, parks, high-density housing, and existing trails
- Railroad crossings (bridge and underpass)

Physical barrier comments identify locations that either prevent bicyclists or pedestrians from traveling to their destination or a physical element that creates an uncomfortable environment. Three Wiki Map comments identified two railroad crossing (underpass and overpass) at the BNSF Mainline railway along Rainier Road and Yelm Highway. The comments noted that both bridges narrow, making the roadway and sidewalk widths much smaller, forcing bicyclists to merge with moving traffic rather than continue riding in the wide shoulder or bike lane. Along the Yelm Highway bridge pedestrian must use a two-foot wide sidewalk to cross the railroad tracks. This narrow sidewalk forces people in wheelchairs to make the crossing while in the vehicle travel lane. At the Rainier Road bridge, the sidewalk on the east side of Rainier Road was reported as being blocked (no description of what is blocking the sidewalk). This blockage forces pedestrians and bicyclists to either take the lane when trying to travel through the underpass or cross the street to use the sidewalk on the other side of the street.

Some respondents reported several missing connections along major off-street paths in Lacey. The Woodland Trail at Carpenter Road was noted as being uncomfortable to cross the road. At this location, Carpenter Road turns into a two-lane road from a four-lane road. One responded said this transition

makes traveling along this roadway and crossing this roadway awkward and uncomfortable. One respondent noted several times there are missed opportunities to provide direct connections between high-density housing and the Woodland Trail. One respondent noted there are “no trespassing signs” placed between the Chehalis Western Trail and high-density housing between 14th Avenue and 21st Avenue that prevent people from legally accessing the trail directly. However, the respondent stated there are clear desire paths that have been created from people walking and biking on the grass to get to the trail. Sidewalk gaps and a lack of bike facilities along 37th Avenue was identified as a barrier that discourages people from using the Chehalis Western Trail on foot or by bicycle.

A lack of sidewalks or paths along popular routes to schools was noted by several respondents. Mountain View Elementary School, Komachin Middle School, Salish Middle School, and Lake Elementary School were mentioned as having major sidewalk gaps that force children to walk in drainage ditches or on the street. A dirt path that connects the neighborhood south of Lakes Elementary is used by people walking and riding their bikes to and from school. One respondent requested that route be formalized, receive wayfinding signage, and improved the trail’s surface. Another connection to a school was identified at Salish Middle School along Willamette Drive. Another participant noted that Willamette Drive is a wide four-lane road and there are several pedestrian crossing island opportunities and other safety improvements that can accommodate children walking and biking to school.

Routes I Currently Walk/Bike

Wiki Map participants were asked to identify routes they currently walk or ride a bike on by drawing line segments on the online map. Once they finished drawing the line on the map respondents could write in additional details in a comment box. A total of 19 comments were provided by 4 Wiki Map participants. Typical comments include:

- Direct connections to schools and commercial locations
- Current connections to shared use paths are not comfortable enough
- Need more sidewalks
- Need better bike facilities

Half of the routes drawn by respondents are shortcuts to schools and commercial areas, often only a few hundred feet in length. Two respondents ride, walk, and run along 37th Avenue and 45th Avenue to connect to the Chehalis Western Trail. One respondent who uses 37th Avenue stated that it is a very unpleasant connection to one of the most popular non-motorized routes in the city. The lack of sidewalk contiguity and absence of bike facilities contribute to an uncomfortable environment. The other respondent noted 45th Avenue as being a great alternative to accessing the Chehalis Western Trail compared to 37th Avenue and Yelm Highway. Golf Club Road was called out as an alternative to College Street between Chambers Lake Drive and the Woodland Trail. Golf Club Drive has very low traffic volumes, connects to the Woodland Trail and Chambers Lake Natural Area, and is more comfortable than College Drive (which does not have bike lanes).

Routes I Would Like to Walk/Bike if...

Survey participants were asked to draw line segments onto the Wiki Map of routes they would like to walk or ride a bike on. Once they finished drawing a line on the map respondents were asked what would encourage them to ride a bike using a dropdown list with the following items:

- If bike lanes were installed
- If there were more direct connections
- If protected bike lanes were installed
- If buffered bike lanes were installed

- If sidewalks were installed
- If traffic calming measures were installed
- Other

Respondents had the option to provide additional details via a comment box. There was a total of 29 comments contributed by 9 participants. Most of the responses (62%) stated people would walk or bike if there were connections or direct routes to their destinations, which is consistent with the feedback received in the “barriers to walking or biking” comments. Typical comments include:

- Need more convenient and direct bike and pedestrian connections
- Several proposed shared use paths connecting destinations and gaps in roadway network
- Need to develop more low-stress routes using neighborhood routes
- Improve walking and biking routes to school
- Add safer bikeway designs on moderate and high-stress routes

Most of the comments requested more direct bike and pedestrian connections between destinations and streets that do not connect (non-through streets or dead-end street). This may be a result of the conventional loop and cul-de-sac street network that can be seen throughout the City of Lacey. There are numerous suggested off-street paths that aim to connect neighborhoods via high-comfort routes that would require less time and effort to walk or ride to than making that trip using the existing roadway network. Some comments suggest new off-street paths that connect neighborhoods and on-street routes to the Regional Athletic Complex (RAC), where there are currently well-worn paths. Several respondents requested a more direct route that connects the I-5 bike path to the transit center and South Puget Sound Community College. Currently there are fences that require bicyclists and pedestrians to follow the path north east of those destination, making it inconvenient to ride a bike or walk to those destinations. These proposed routes are displayed in a separate map in the Appendix B

One participant proposed a low-stress route connecting Rainier Vista Community Park to Pacific Avenue/Woodland Trail using mostly local streets. This could provide a high-comfort north/south route that would be an alternative for those who do not feel comfortable riding on College Street or Ruddell Road.

One respondent noted that Homan Drive is a primary route for children and parents walking to Lacey Elementary School. However, some people are discouraged from walking due to the number of obstructions in the sidewalk such as garbage and recycling cans and parked vehicles. The participant suggested that rolled curbs might be a design flaw that results in people placing these obstructions on the sidewalk.

Locations where respondents stated they would choose to ride a bike if there were bike lanes, buffered bike lanes, or protected bike lanes were all drawn within gaps in the existing bikeway network. Some of the routes that were identified as routes they would like to ride or walk are over two-mile long stretches. These existing segments were reported as being dangerous for bicyclists and discouraging people who are interested but concerned about riding a bike.

Destinations I Would Like to Walk/Bike

Survey participants were asked to add points on to the Wiki Map and enter the name of place(s) they would like to walk and/or ride their bike to, as well as any additional details they wish to contribute. Responses included a mix of destinations where people currently walk or ride to rather than just destinations where people would like to walk or ride to. There was a total of 16 comments from 5 survey

respondents. Entertainment and recreational destinations were the most common destination types that participants identified as being a place they would like to walk or bike to. Typical comments include:

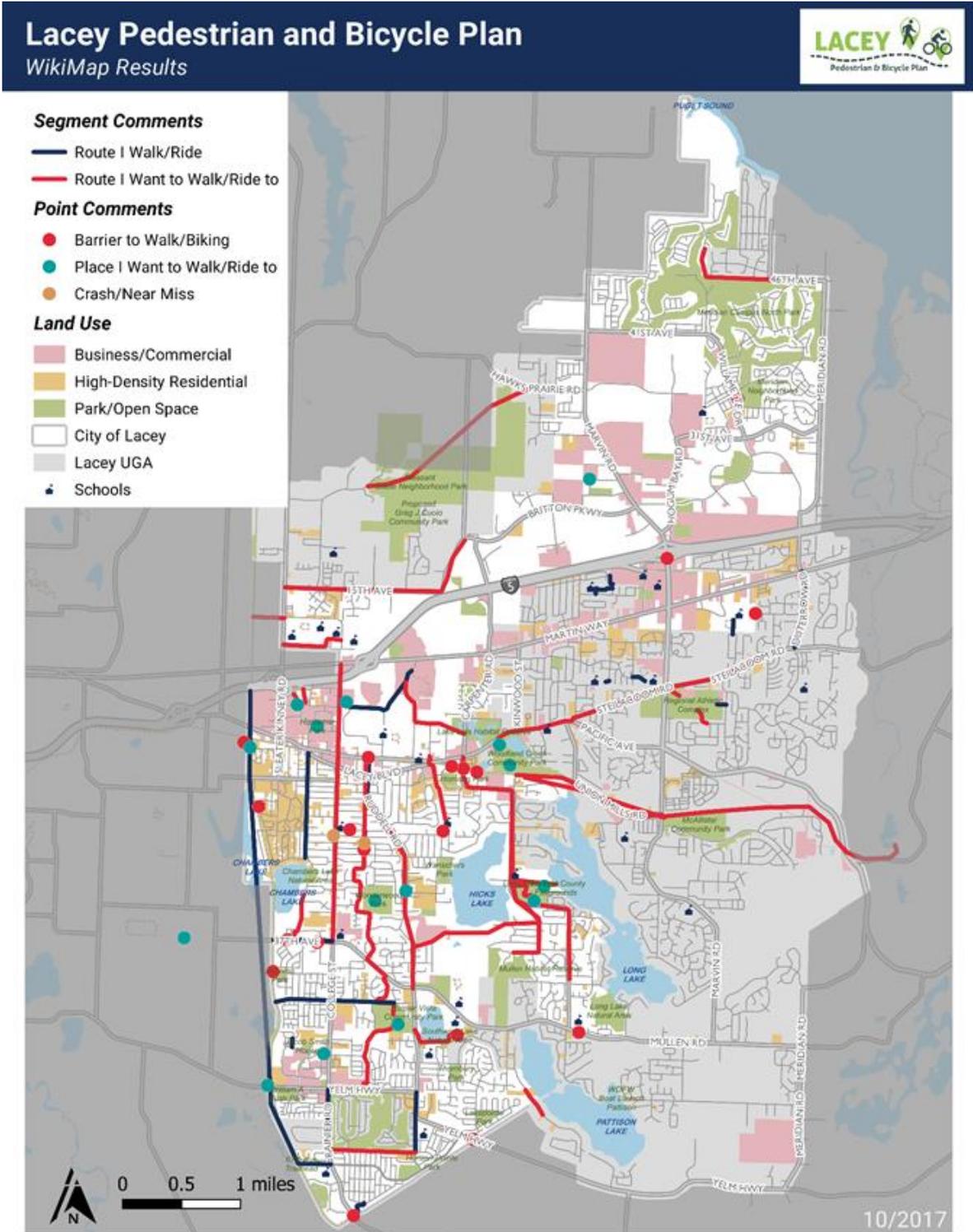
- More connections to shared use paths
- Add bike connections to parks
- Improve wayfinding to connect trail users to destinations
- Better bike and pedestrian accommodations to encourage people to walk and bike to commercial areas

Many of the respondents stated that they would like more connections to these destinations, particularly connections to shared use paths. One respondent said they wish there were bike lanes that connect neighborhoods to Woodland Creek Community Park so they can ride the Woodland Trail to Olympia. Several comments requested improved local access to the Woodland Trail and the Chehalis Western Trail. Several participants said that signage and wayfinding on and off the trail that displays destinations with arrows and distance would be very helpful. Aside from trail connections, participants said that they would like to be able to bike and walk to parks and commercial areas.

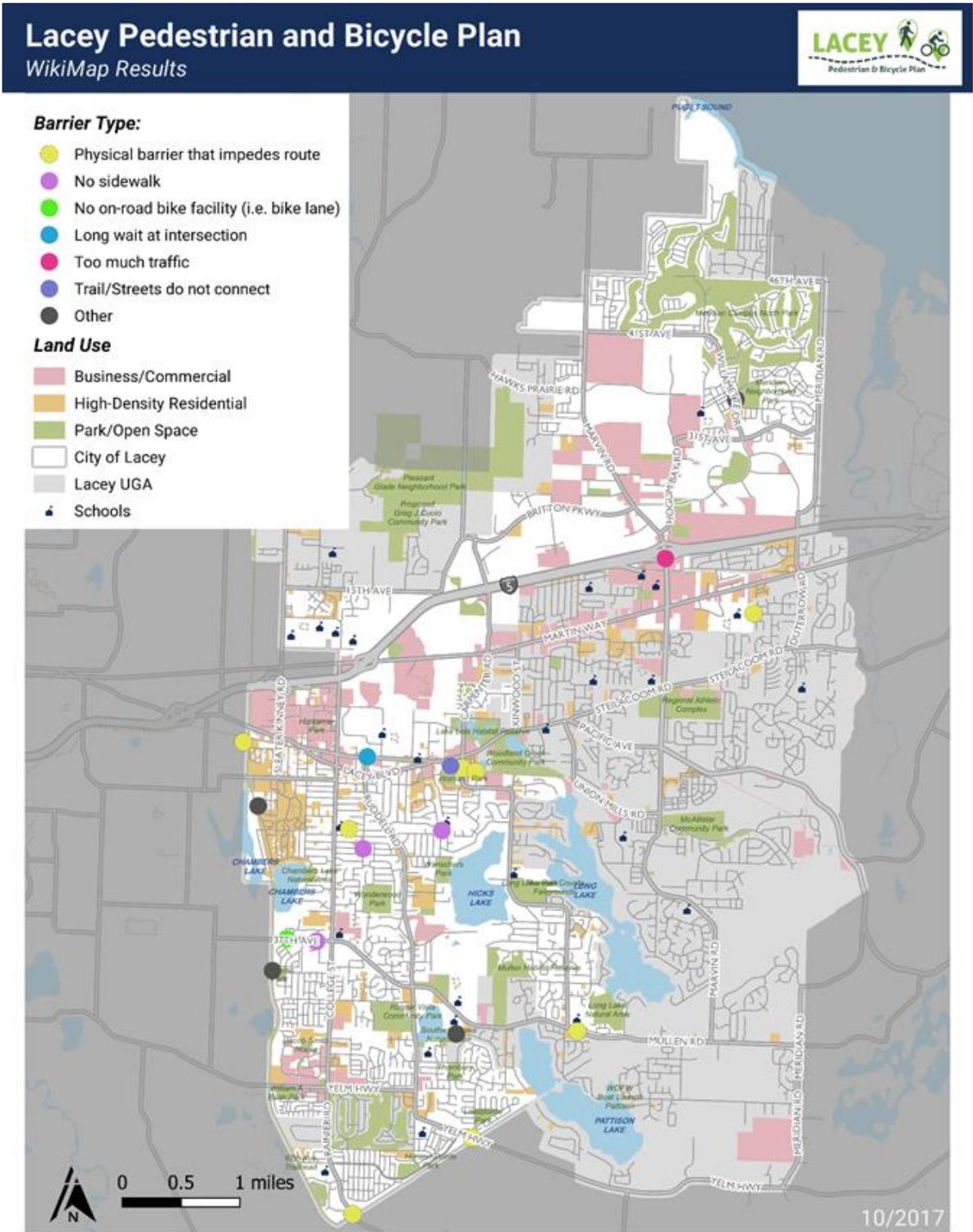
Crash or Near Misses

There were 2 near miss location reported and no crashes. The near miss locations were submitted by two respondents both claiming there are numerous near misses for bicyclists and pedestrians. One location was along Judd Street between 22nd Avenue and 25th Avenue, which is a popular school route for children. They stated that children have a difficult time riding up the hill, having to stop at the stop sign at 23rd Avenue, and then regaining momentum to proceed through the intersection. The children also have a difficult time stopping at the stop sign while traveling in the opposite direction traveling downhill. They recommended installing sidewalks and switching the north-south stop control to east-west stop control at Judd Street and 23rd Avenue. The other near miss location was at 22nd and College Street. The respondent commented that it is very difficult to cross College Street due to fast-moving vehicles, high traffic volumes, and no traffic signal or protection.

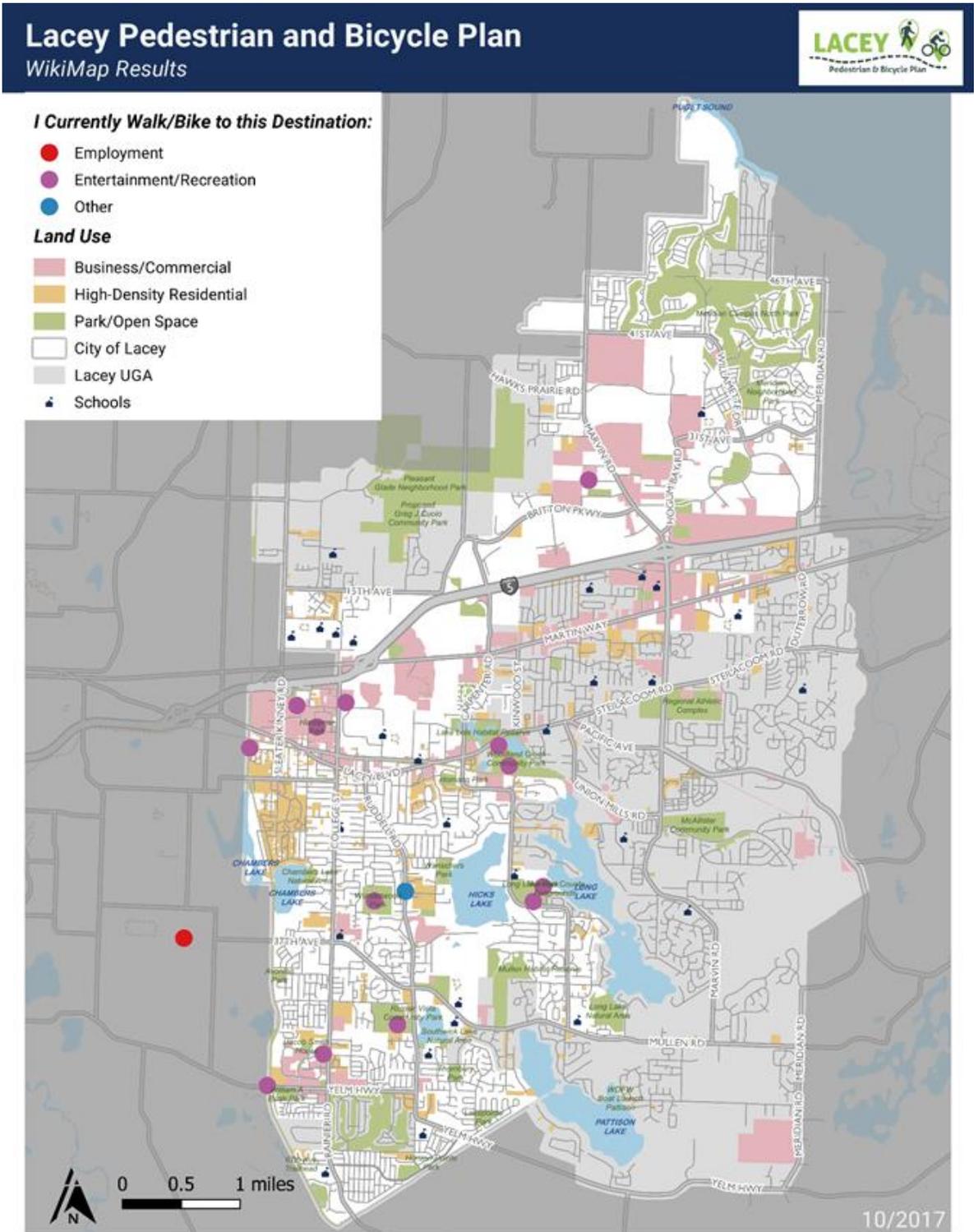
Map 1 WikiMap Results



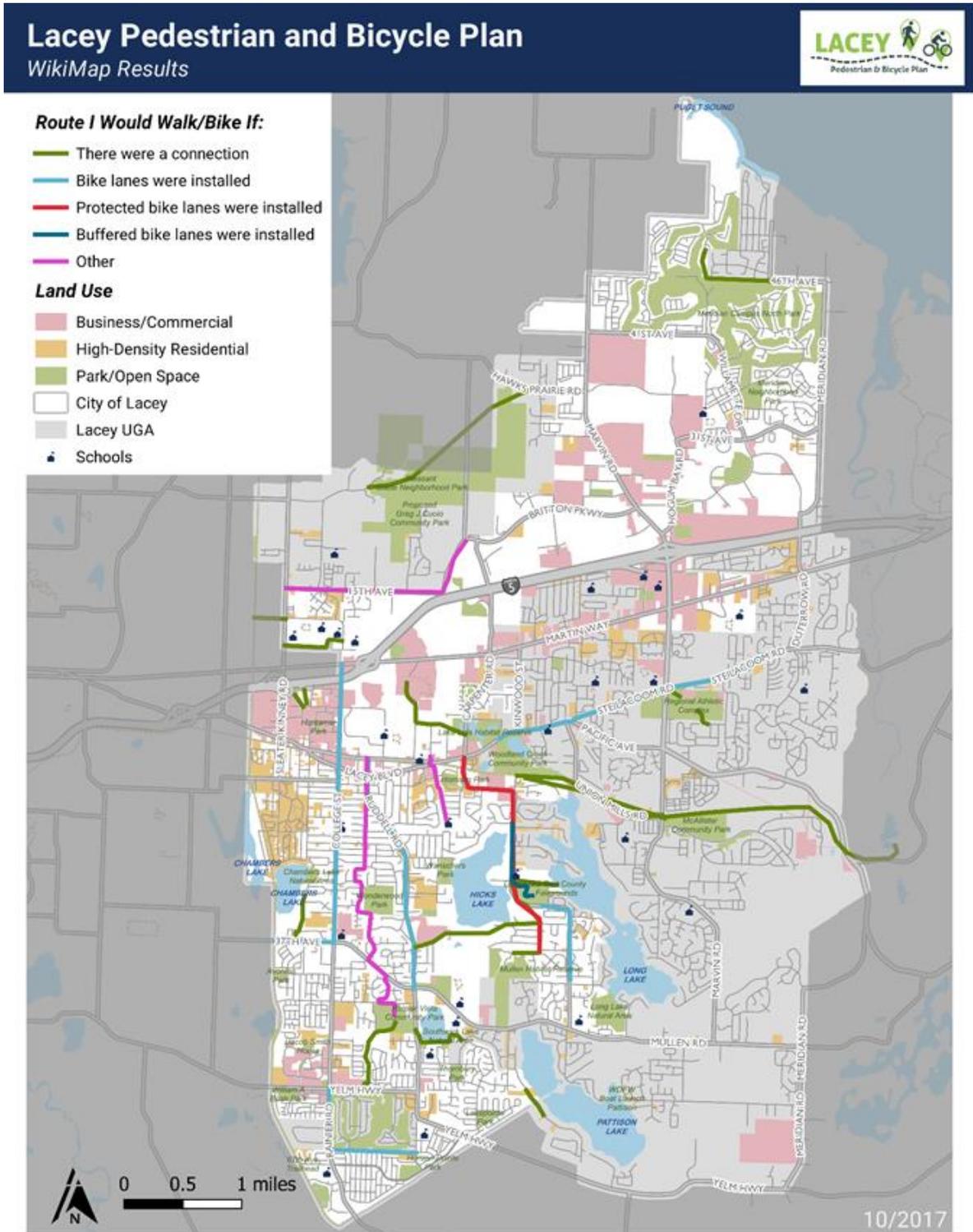
Map 2 WikiMap Results, Barriers



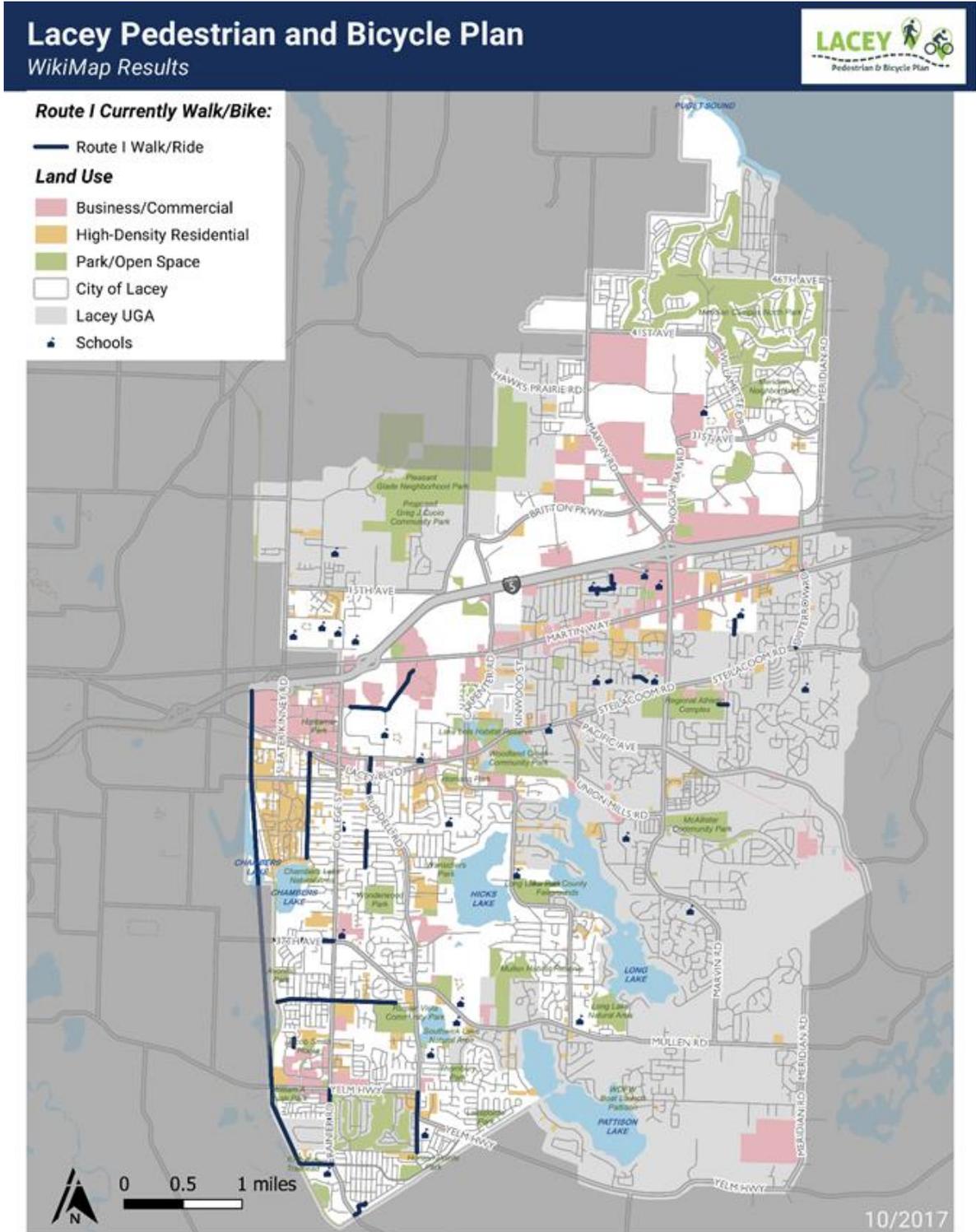
Map 3 WikiMap Results, Destinations I Currently Walk/Bike To



Map 4 WikiMap Results, Route I Would Walk/Bike If...



Map 5 WikiMap Results, Route I Currently Walk/Bike



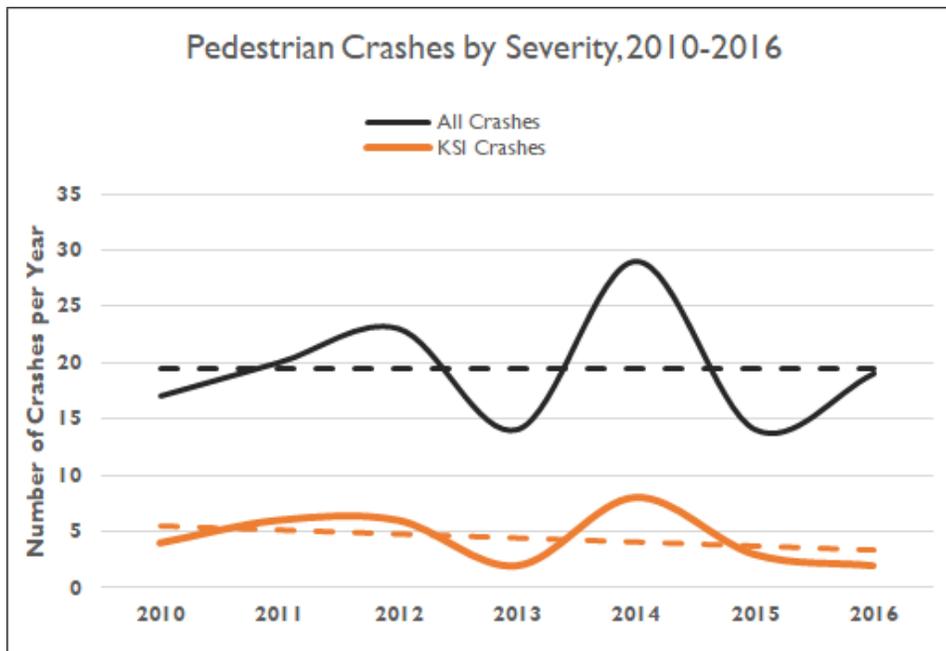
Appendix B

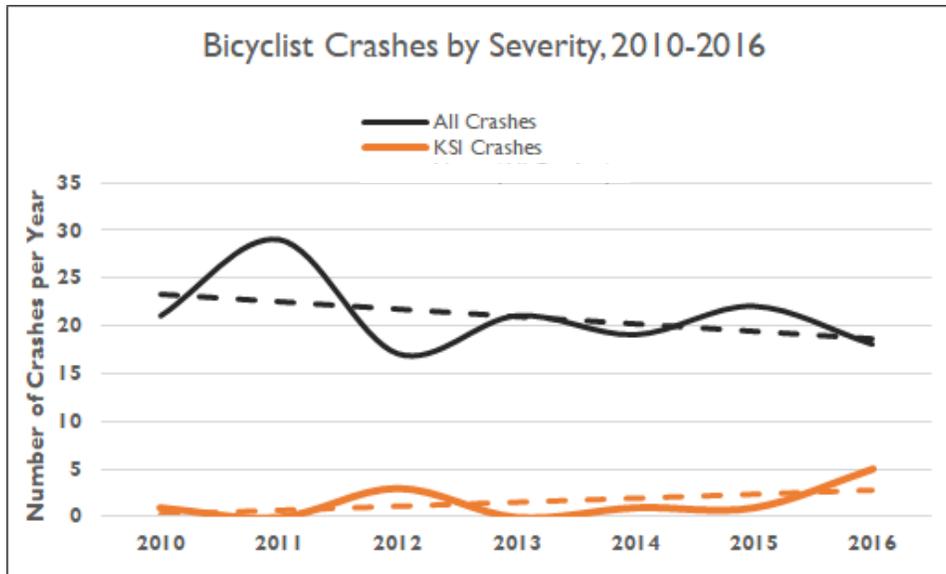
Existing Conditions Analysis

Crash Analysis

If involved in a crash, people walking or biking are at greater risk of being seriously injured than people driving in cars or traveling in other motorized vehicles making pedestrians and bicyclists considered vulnerable roadway users. For that reason, pedestrian and bicyclist crash data provided by the Washington State Department of Transportation (WSDOT) was reviewed from 2010 to 2016 to identify and assess trends and locations where there are spatial concentrations of crashes occurring. Total reported pedestrian and bicyclist crashes have some degree of variability between years with a low of 35 total crashes, 14 for pedestrians, and 17 for bicyclist and the highest number of total crashes at 49 total crashes, 29 for pedestrians, and 29 for bicyclists. Between 2010-2016 there was an average of 40 crashes involved a bicyclist and pedestrian with very few fatal or serious injury crashes (KSI) accounting for an average of 1 fatal injury crash and serious injury crashes. The average number of reported crashes per year has been declining with fatal or serious injury crashes remaining constant.

Breaking out crashes by mode reveals that the average number of pedestrian crashes has large annual variability in total crashes but has a constant trend. The total number of KSI crashes occurring each year following the same annual variability as total pedestrian crashes per year but to a lesser degree. However, KSI crashes in 2016 decreased while total crashes increased. Breaking out crashes by mode reveals that the average number of pedestrian crashes has remained constant but with a slight decline in KSI crashes. Bicyclist total crashes experienced a large decline between 2011 and 2012 then remained somewhat constant. Bicyclist KSI crashes has remained steady until 2016 which saw a slight uptick.





Data describing the location and nature of crashes involving pedestrians and bicyclists helps to identify locations for improvements and identify ways that other policies and programs could help improve safety for people walking and biking. Map 6 shows the location and severity of bicycle and pedestrian crashes. There are concentrations of crashes occurring along major roadways such as Lacey Blvd, Martin Way, Ruddell Rd, College St, and Marvin Rd. These roadways have higher volumes of vehicles, higher traffic speeds, and high numbers of travel lanes all of which increase the risk of a bicyclists and pedestrian crash occurring. These locations where there are concentrations of crashes occurring were also identified as high-stress facilities in the level of traffic stress analysis and were noted during the public outreach phase of this plan as being uncomfortable streets to walk or ride a bicycle.

Map 6 Bicycle and Pedestrian Crashes, 2010-2016

Lacey Pedestrian and Bicycle Plan

Bicycle and Pedestrian Crashes From 2010 to 2016



Pedestrian Crashes [144]

- K [3]
- A [28]
- B [52]
- C [58]
- PDO [2]

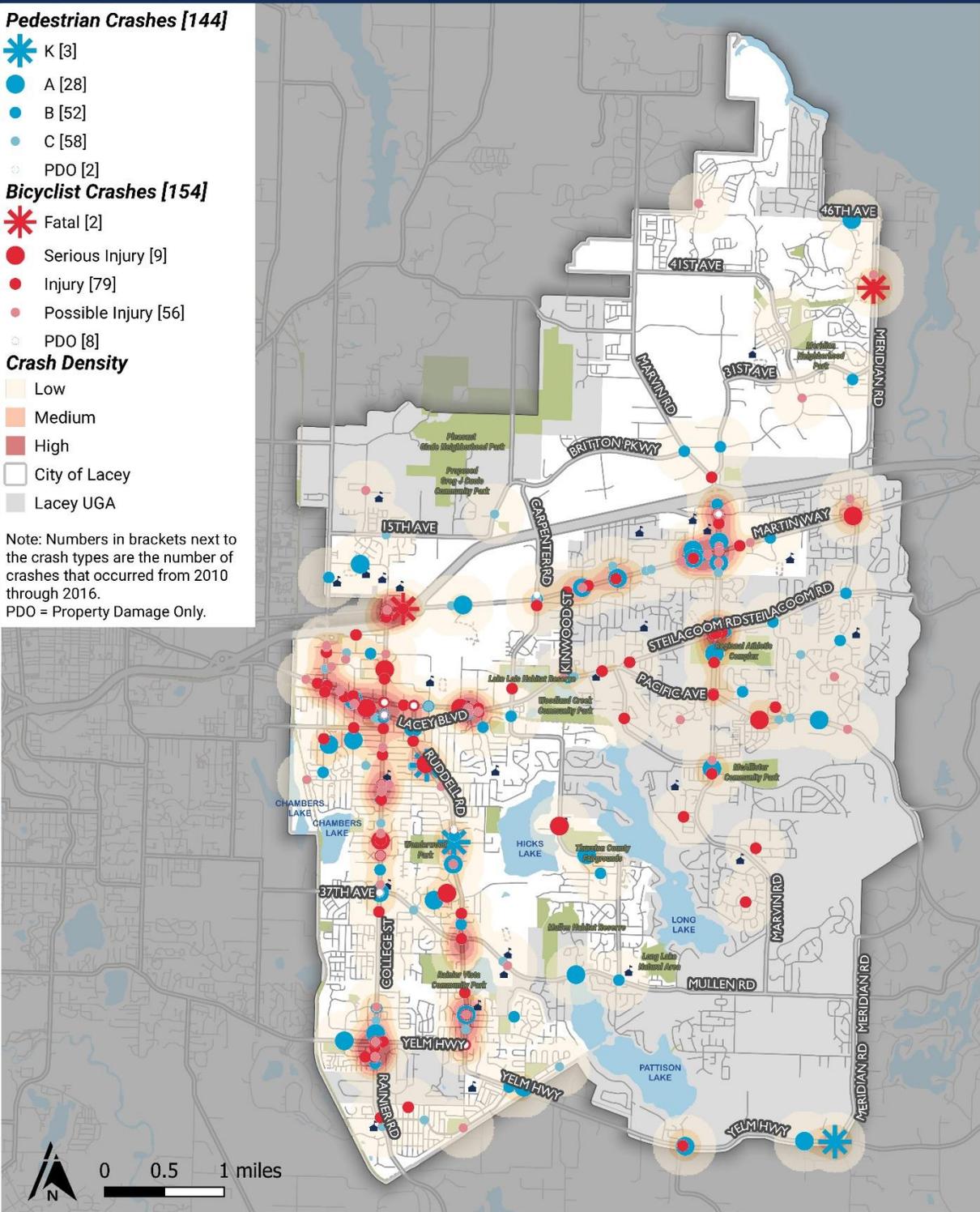
Bicyclist Crashes [154]

- Fatal [2]
- Serious Injury [9]
- Injury [79]
- Possible Injury [56]
- PDO [8]

Crash Density

- Low
- Medium
- High
- City of Lacey
- Lacey UGA

Note: Numbers in brackets next to the crash types are the number of crashes that occurred from 2010 through 2016.
PDO = Property Damage Only.

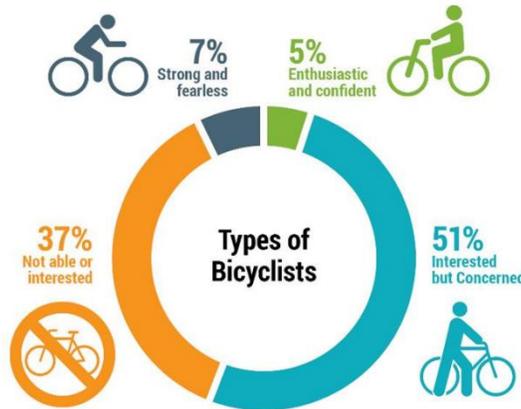


Level of Traffic Stress Analysis

A bicycle level of traffic stress (LTS) analysis was conducted using available GIS data to help identify how suitable the existing road network is to a variety of people riding bikes (see figure ## for the different types of bicyclists). The analysis was conducted at the citywide (including the Lacey UGA) to model bicycle conditions and to specifically highlight connectivity issues due to high-stress conditions. The goal is to view the level of stress network and so changes can be made to the network to make it more comfortable to ride a bicycle. The LTS approach used in this plan adapts the national documented LTS methodologies to be able to use the existing data for the Lacey and Lacey UGA. GIS data for bicycle facility type, posted speed limits, and roadway functional classification (proxy for traffic volume) were used to estimate the level of traffic stress for each roadway segment. Roadways with higher speeds, higher traffic volumes (arterial and collector roads), and lack of bicycle facilities score as being more stressful to ride a bicycling along than a low-speed, low-volume roadway. The LTS analysis used the schema shown in table ## and classified LTS into the following categories three categories:

- Low-stress: Low speed and volume streets, shared use paths, separated bike lane. These routes are considered to be comfortable by those who are interested in cycling but are concerned (includes adults and children).
- Moderate-stress: Low to moderate levels of traffic volume and speed and most often has a bicycle facility. These routes are often on collector streets and are generally suitable for people who consider themselves as confident bicyclists.
- High-stress: These routes have high traffic volumes, high speeds, and little to no separation from traffic. These routes are generally suitable for people who are considered strong and fearless bicyclists.

The results of the LTS analysis illustrate that nearly all major roads have low-medium level of comfort regardless if there is a bike lane or present or not (see Map 7). This suggests that conventional bike lanes on major roadways will not provide a high-comfort facility that will accommodate all bicyclist types. The high-stress routes create isolated neighborhoods in which people must travel of low-medium comfort facilities to travel to popular destinations or to other neighborhoods. To make these routes more comfortable and attractive to a greater audience of people traffic calming measures and greater separation from motorists is required.



		Low Stress	Moderate Stress	High Stress					
		25 mph		30 mph		35 mph		40 mph	
		Bikeway	No Bikeway	Bikeway	No Bikeway	Bikeway	No Bikeway	Bikeway	No Bikeway
Roadway Class	Local	Green	Green	Yellow	Red	Yellow	Red	Red	Red
	Secondary	Green	Yellow	Yellow	Red	Red	Red	Red	Red
	Primary	Yellow	Red	Red	Red	Red	Red	Red	Red

Map 7 Bicycle Level of Comfort

Lacey Pedestrian and Bicycle Plan

Bicycle Level of Comfort For Less Experienced/Confident Bicyclist



Bicycle Level of Comfort

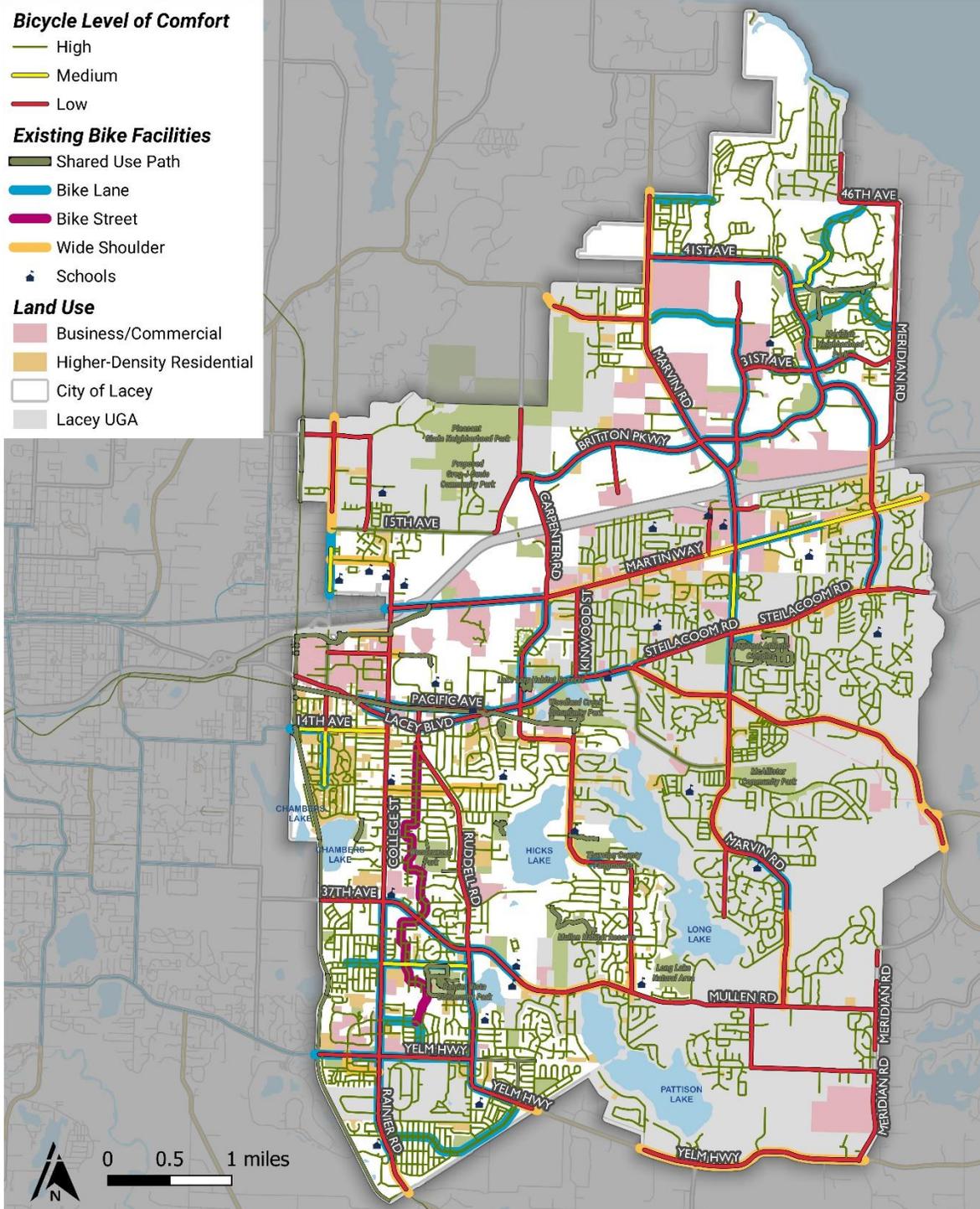
- High
- Medium
- Low

Existing Bike Facilities

- ▬ Shared Use Path
- ▬ Bike Lane
- ▬ Bike Street
- ▬ Wide Shoulder
- ▲ Schools

Land Use

- Business/Commercial
- Higher-Density Residential
- City of Lacey
- Lacey UGA



Appendix C – Project Prioritization

Implementing the Lacey PBP projects will require funding from multiple sources and coordination with various agencies. Some projects may be more appropriate for certain funding sources and/or better meet the needs of agencies and their constituents. This section presents the method used to prioritize projects in order to better understand how a project may align with funding sources and stakeholder needs.

Project Prioritization Methodology

The project prioritization scoring assessed safety, connectivity, access, demand, equity, and opportunity factors. The prioritization methodology was developed so the analysis can be rerun as newer data becomes available. The Citizen Advisory Committee (CAC) provided input on which factors and variables should be included in the prioritization analysis and participated in a voting exercise to determine which factors are the most and least important. The number of points each factor is assigned corresponds to the CAC voting process results. The prioritization factors can be viewed in Table C.1.

Generally, the recommended projects range in terms of their complexity and ease of implementation. In some cases, projects can be implemented through retrofitting existing streets with minimal design effort and impacts to other travel modes. In other cases, projects may be more capital-intensive, require additional analysis, design and neighborhood involvement, and depend on grant funding. The project prioritization scoring is only one component of the prioritization process. Other factors not included in this analysis may apply to projects that would have them be implemented sooner or later. The prioritization results for each project can be viewed in Maps 8-10 and in Tables C.2-C.7. The prioritization results listed in Tables C.2-C.7 are organized by project type and by jurisdiction (i.e., Lacey or Thurston County). Project recommendation maps (Maps 11-13) can be used to locate each project and view the prioritization results and key project attributes listed in each table by referencing the Plan ID.

Table C.1: Prioritization Schema

Project Prioritization Scoring			
Factor	Criteria	Measure	Points
Safety	Total Point Possible		12
	Crash history ¹	Tier 1 - High concentration	6
		High Stress	6
	Level of Traffic Stress ² (LTS)	Moderate Stress	4
Total Point Possible		16	
Connectivity	Connects with two or more existing bike facilities		5
	Connects to one or more existing facilities (bike projects only)		

¹ Crashes were weighted based on the severity of the most severe injury resulting from the crash. Fatal crashes receive 10 points, serious injuries receive 5 points, minor or possible injury crashes receive 3 points, and no injuries or property damage receive 1 point. The crash density layer was classified using deciles with the highest decile being used for the prioritization analysis.

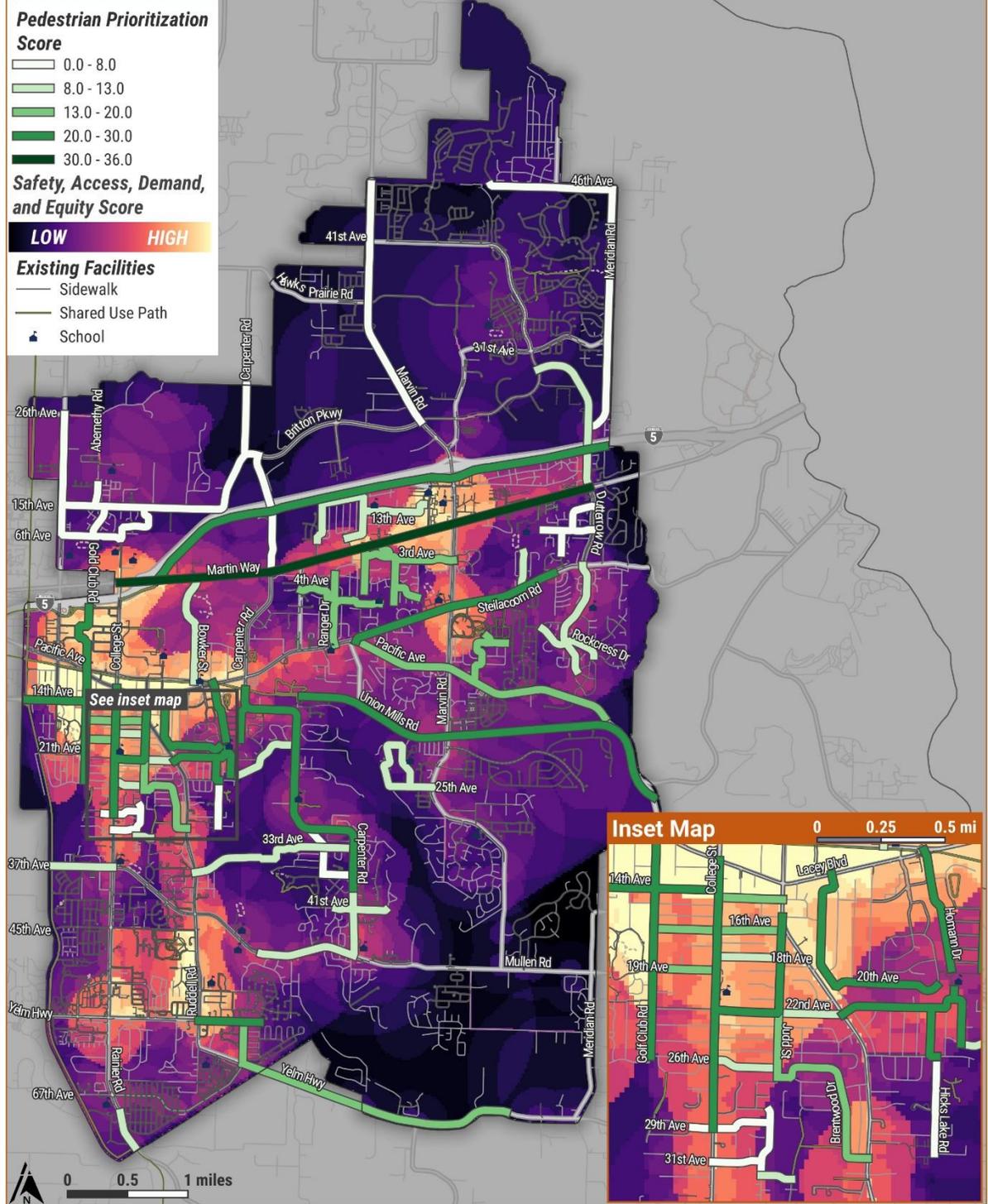
² A Level of Traffic Stress Analysis was conducted. Roads determined to have a level of traffic stress of 3 or 4 are generally considered to be uncomfortable for less experienced bicyclists due to traffic speeds, volumes and existing bicycle facilities (or lack of). These roads were included in the prioritization analysis because they are good candidates for improvements that would make them more safe and comfortable for a larger segment of the population.

Connects to Trail	Connects to existing trail	6
Major east-west connection	Provides a critical east-west route (comparable to Woodland Trail)	5
Access	Total Point Possible	9
	500 feet	3
Transit Stops	1/4 mile	1
	1/4 mile	3
School	1/4 - 1/2 mile	2
	1/2 - 3/4 mile	1
	1/4 mile	3
Community Center	1/4 - 1/2 mile	1
Demand	Total Point Possible	9
	1/2 mile	2
Parks	1 mile	1
	1/4 miles	2
Commercial District	1/2 mile	1
	1/2 mile	3
Saint Martins University	1 mile	1
	High population density Census Block Groups	2
Population		
Equity	Total Point Possible	12
Age	Young and elderly populations	3
Car Ownership	Zero car households	3
Income	Low-income households	3
Race	Non-white population	3
Opportunity	Total Point Possible	2
Upcoming project	Included in Transportation Improvement Program	2
Cost³	Total Point Possible	NA
Planning-level cost estimate	Used as screening factor.	
TOTAL POINTS POSSIBLE (Bike Projects)		60
TOTAL POINTS POSSIBLE (Pedestrian Projects)		55

³ Planning-level cost estimate were developed for each project type and will be used as a screening factor to identify low-cost projects that may be implemented in the near-term (to build momentum) and projects that may require external funding or a longer time period to implement. A dollar amount was calculated for pedestrian and bicycle segment projects and a tiered system (low, moderate, and high) was used to assign costs for each spot recommendation. Spot recommendation treatments vary from each location so using a tiered cost estimate method aims to assign generalized costs for each location by what types of treatments are being recommended. For example, spot recommendations that include only wayfinding are scored as a low-cost project while projects that include significant capital-intensive construction (crossing islands, traffic signals, bridge improvements, etc.) are considered high-cost.

Map 8 Prioritized Pedestrian Projects

Pedestrian Project Prioritization



Map 10 Prioritized Spot Projects

Spot Project Prioritization



- Spot Prioritization Score**
- 4.0 - 12.5
 - 12.5 - 21.0
 - 21.0 - 29.5
 - 29.5 - 38.0

Safety, Access, Demand, and Equity Score



Existing Bike Facilities

- Shared Use Path
- Bike Lane
- Wide Shoulder
- School

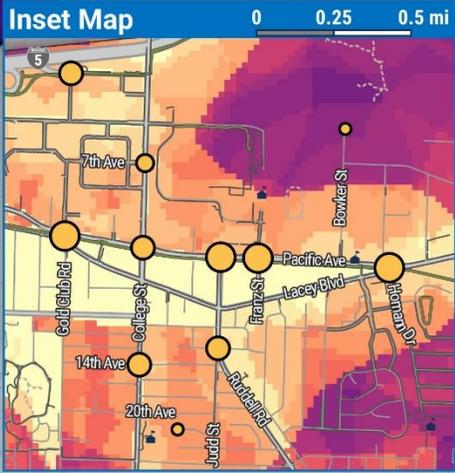
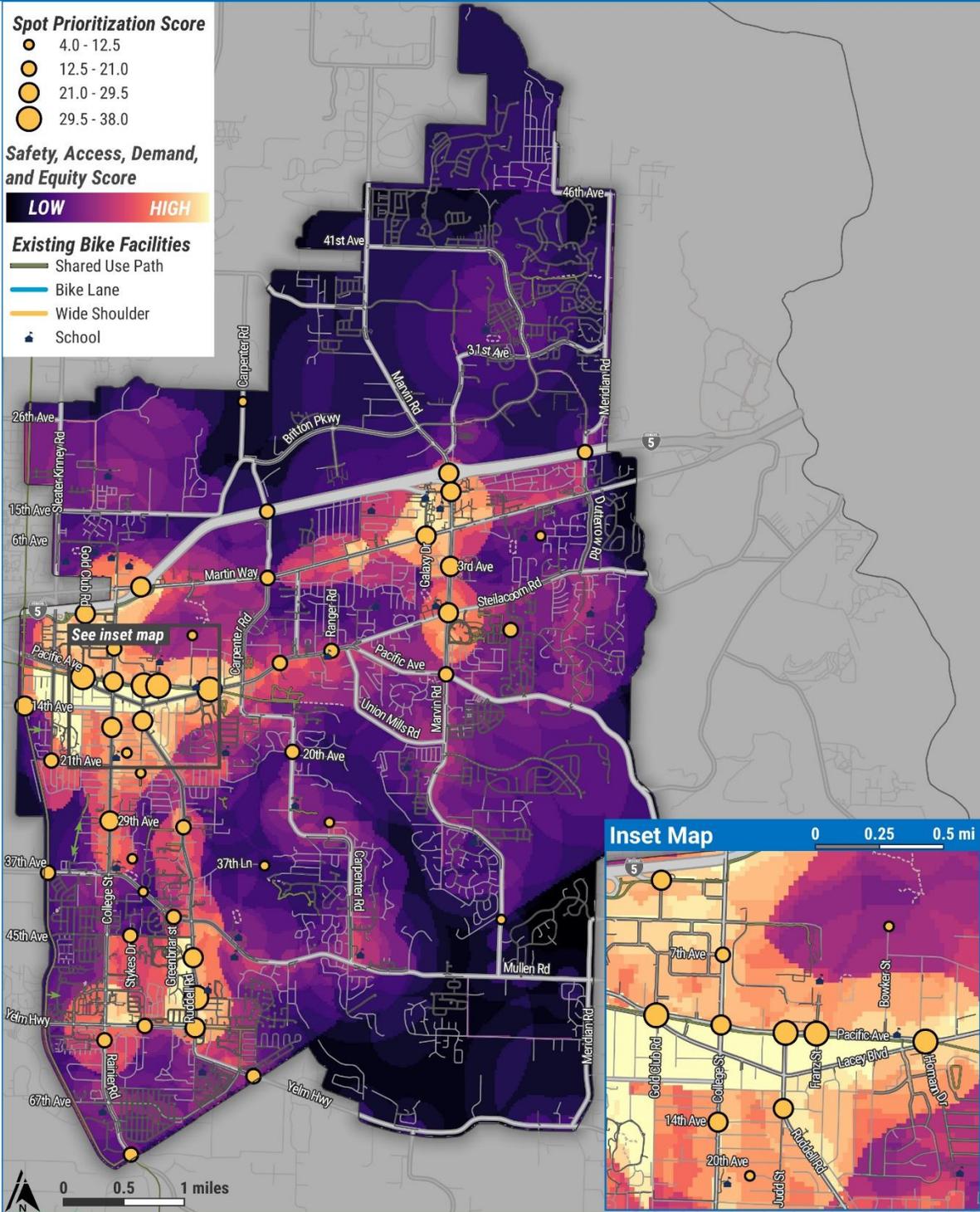


Table C.2: Pedestrian Segment Recommendations – Projects located within City of Lacey

Pedestrian Segments Recommendations (Lacey)							
Prioritization Results							
Pedestrian Segment Recommendation Details					Cost	Prioritization Total	Project Description
Plan ID	Recommendation	Street Name	From Street	To Street			
12	Sidewalk Connection	14th Ave	Chehalis Western Trail	College St	High	30	This project includes the closure of the sidewalk gaps along 14th Ave, and the installation of a new sidewalk on the southside of 14th Ave between the Chehalis Western Trail and Josephine Ct. These improvements will ensure safe and comfortable connections to the Chehalis Western Trail and to nearby transit services. There is currently a wide shoulder on the southside of 14th Ave between the Chehalis Western Trail and Josephine Ct. The construction of sidewalks, curb, gutter will require the installation of stormwater facilities.
11	Sidewalk Connection	Golf Club Rd	26th Ave	3rd Ave	High	28	This project includes the installation of sidewalks and pedestrian crossings along the entire project corridor on Gold Club Rd. This project also suggests the provision of bus stop amenities such as shelters, benches, and lighting. These improvements will provide safe facilities for people to walk, use transit, and connect to commercial areas and parks. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
17	Pedestrian Focus Routes	Mountain View Elementary	Route TBD	Route TBD		28	This project includes the installation of missing sidewalk segments, improved crossing elements, and wayfinding elements for the Mountain View Elementary Safe Routes to School routes. These improvements will eliminate sidewalk gaps, improve crossings, and assist in identifying the Safe Routes to School routes. Additional analysis is recommended to determine appropriate crosswalk enhancements, as well as coordination with North Thurston Public Schools to confirm route and identify other needs.
20	Pedestrian Focus Routes	Lacey Elementary	Route TBD	Route TBD		26	This project includes the installation of missing sidewalk segments, improved crossing elements, and wayfinding elements for the Lacey Elementary Safe Routes to School routes. These improvements will eliminate sidewalk gaps, improve crossings, and assist in identifying the Safe Routes to School routes. Additional analysis is recommended to determine appropriate crosswalk enhancements, as well as coordination with North Thurston Public Schools to confirm route and identify other needs. The public outreach phase for this project found cars parking on the sidewalk, due to the rolled curbs. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
49	Off-Street Connection	Off-Street Trail	Ruddell Rd	Stockton St	Low	23	This project includes the paving off an existing grass/dirt off-street path. This improvement will create a well-defined and comfortable route for pedestrians to connect to transit stops, commercial center, and nearby parks using a low-stress facility.
13	Sidewalk Connection	14th Ave	College St	Ruddell Rd	Moderate	19	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-14. This PBP project includes the installation of a sidewalk along 14th Ave. These improvements will provide a connection between two key transit corridors and the Depot District to the north. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities
14	Sidewalk Connection	16th Ave	Golf Club Rd	Judd St	Moderate	17	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-15. This PBP project includes the installation of a sidewalk along 16th Ave. These improvements will provide a connection between several transit corridors and to Mountain View Elementary School. A roundabout is planned for the intersection of 16th and College Street. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
19	Sidewalk Connection	Judd St	26th Ave	21st Ave	Moderate	17	This project includes the installation of a missing sidewalk segment along Judd St. This improvement will close the existing sidewalk gap, and provide pedestrian connections to existing sidewalks and other proposed sidewalk connections that lead to transit services, parks, and commercial areas. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.

50	Off-Street Connection	Off-Street Trail	Yelm Hwy	Off-Street Path	Low	17	This project includes the paving off an existing grass/dirt off-street path. This improvement will create a well-defined and comfortable route for pedestrians to connect to transit stops, commercial center, and nearby parks using a low-stress facility.
16	Sidewalk Connection	19th Ave	Golf Club Rd	College St	High	16	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-17. This PBP project includes the installation of a sidewalk along 19th Ave. These improvements will provide a connection to transit services along College St and Golf Club Rd, and will serve as a Safe Route to School for Mountain View Elementary School.
24	Sidewalk Connection	Brentwood Dr	Judd St	Ruddell Rd	Moderate	15	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-19. This PBP project includes the installation of a sidewalk along Brentwood Dr. This improvement will provide a connection to transit services along Ruddell Rd, to Wonderwood Park, and to other proposed sidewalk connection projects. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
18	Sidewalk Connection	22nd Ave	Judd St	Ruddell Rd	Low	13	This project includes the installation of a sidewalk along 22nd Ave, and the consideration of traffic calming elements along this corridor. These improvements will serve as a Safe Route to School for Mountain View Elementary School, connect pedestrians to transit services on College St and Ruddell St, and slow traffic volumes along the corridor. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
10	Sidewalk Connection	Bowker St	Pacific Ave	Martin Way	Moderate	12	2030 Transportation Plan Project #11 description: "The City envisions a new 2/3 lane collector with medians, bike lanes, planter strips, and sidewalks. A corridor study needs to be completed to develop a route that will accommodate all property owners. Consideration for north-south connectivity to Lebanon St extension should also be considered." This PBP project supports the 2030 Transportation Plan's project; however, if the City of Lacey determines not to develop a north-south route, then this PBP project recommends closing the existing street network gap between Bowker St and Desmond St (approximately 75') by providing a new connection. If needed, this new connection may provide access only to pedestrian and bicycle traffic. This improvement will allow for a north-south bicycle and pedestrian connections, and serve as a low-stress alternative to College St and Carpenter Rd. Additionally, this improvement will provide connections to St. Martin University, transit services, park space, and commercial areas.
31	Sidewalk Connection	37th Ave; 37th Ln; 33rd Ave	Ruddell Rd	Carpenter Rd	Low	12	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-34 ("South Hicks Lake trail"). This PBP project includes the installation of sidewalks and a trail along 37th Ave, 37th Ln, and 33rd Ave. These improvements will would provide a critical east-west connection Ruddell Rd and Ida Jane Way by closing an existing street network gap. This PBP project will require the construction of a portion of an off-street trail to complete the network gap.
29	Sidewalk Connection	32nd Ave	Impala Dr	Stikes Dr	Low	11	This project includes the installation of a sidewalk along 32nd Ave. This improvement will provide pedestrian connections to Wonderwood Park, existing sidewalk segments, and to other proposed sidewalk connections. This project will need to address ongoing stormwater problems
34	Pedestrian Focus Routes	Woodland Elementary	Route TBD	Route TBD		11	This project includes the installation of missing sidewalk segments, improved crossing elements, and wayfinding elements for the Woodland Elementary School Safe Routes to School routes. These improvements will eliminate sidewalk gaps, improve crossings, and assist in identifying the Safe Routes to School routes. Additional analysis is recommended to determine appropriate crosswalk enhancements, as well as coordination with North Thurston Public Schools to confirm route and identify other needs. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
15	Sidewalk Connection	18th Ave	College St	Eastern Terminus (west of Judd St)	High	10	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-16. This PBP project includes the installation of a sidewalk along 18th Ave. These improvements will provide a connection to transit services along College St, and will serve as a Safe Route to School for Mountain View Elementary School. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
25	Sidewalk Connection	26th Ave	College St	Judd St	Moderate	10	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-23. This PBP project includes the installation of a sidewalk along 26st Ave. This improvement will provide pedestrian connections to transit services along College S and to other proposed pedestrian projects. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.

30	Sidewalk Connection	37th Ave	Chehalis Western Trail	College St	Low	10	This project includes the completion of sidewalk gaps along 37th Ave. These improvements will ensure safe and comfortable connections to the Chehalis Western Trail, to transit stops, and to Komachin Middle School. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
36	Sidewalk Connection	Rainier Rd	Bridge	70th Way	High	10	2030 Transportation Plan Project #5 description: "This project envisions a 4/5 lane arterial from the old south city limits near 62nd then transitions to a 2/3 lane major collector to the south UGA. The southern collector is expected to be constructed with development. The project includes bike lanes, planter strips, medians, and sidewalks for the length of the project limits. Strict access control must be incorporated onto the design". This PBP project includes the construction of sidewalks along the entire project limit, and a recommendation that the City continues its effort to implement the pedestrian network as development occurs along this corridor. There is currently only one gap in the existing sidewalk network.
21	Sidewalk Connection	Shady Lane Rd	Trillium St	Carpenter Rd	Low	9	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-20. This PBP project includes the installation of a sidewalk along Shady Lane Rd. This improvement will provide connections to transit services on Carpenter Rd and Lilac St, and to Lacey Elementary school. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
2	Sidewalk Connection	Meridian Rd	Orion Dr	46th Ave	High	8	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-8. This PBP project includes the installation of a sidewalk along Meridian Rd. This improvement will close an existing sidewalk gap between Orion Dr and 46th Ave and is currently included as part of a capital road improvement project. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
28	Sidewalk Connection	31st Ave	College St	Impala Dr	Moderate	8	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-11. This PBP project includes the installation of a sidewalk along 31st Ave. This improvement will provide pedestrian connections to transit services along College St, to Wonderwood Park, and to other proposed sidewalk connection projects. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
23	Sidewalk Connection	Hicks Lane Rd	30th Ave	25th Ave	Moderate	7	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-25. This PBP project includes the installation of a sidewalk along Hicks Lane Rd. This improvement will connect the proposed sidewalk/trail to the south with the proposed pedestrian focus route leading to Lacey Elementary School. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
26	Sidewalk Connection	29th Ave	30th Ave	Impala Dr	Low	7	This project includes the installation of a sidewalk connection along 29th Ave. This improvement connects existing sidewalk segments on College St, and will improve pedestrian connections to transit services and parks. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
32	Sidewalk Connection	Stanfield Rd	Carpenter Rd	37th Ave	Moderate	7	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-12. This PBP project includes the installation of missing sidewalk segments along Stanfield Rd. These improvements close existing sidewalk gaps, and provide connections to transit services on Carpenter Rd, Mullen Habitat Reserve, and to other proposed sidewalk connections. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
27	Sidewalk Connection	Impala Dr	32nd Ave	28th Ave	High	6	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-21. This PBP project includes the installation of the sidewalk along Impala Dr. This improvement will close existing north-south sidewalk gaps between 32nd Ave and Belair Dr. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
1	Sidewalk Connection	46th Ave	Merwood Dr	Meridian Rd	High	5	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-8. This PBP project includes the installation of a sidewalk along 46th Ave. This improvement will assist in closing an existing sidewalk gaps, and in providing pedestrian connections to transit services at the southern terminus of the project. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
4	Sidewalk Connection	Marvin Rd	Evelyne Ln	Columbia Way	Low	4	2030 Transportation Plan Project #4 description: "This project involve the widening of Marvin Rd to 4 lanes with medians and auxiliary turn lanes from Britton Pkwy by to Hawks Prairie Rd and 2 lanes with medians and auxiliary turn lanes from hawks prairie rd to Columbia Way. The project Includes bike lanes, planter strips, and sidewalks. A center median will need to be incorporated with strict access control to maintain

							LOS. The single lane roundabout, and a new single lane roundabout is required at 41st Ave". This PBP project includes the installation of currently missing sidewalk segments. These improvements will close large sidewalk gaps along Marvin Rd, and will connect several neighborhoods with existing sidewalk networks.
33	Sidewalk Connection	37th Ave	Stanfield Rd	Carpenter Rd	Low	4	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-3. This PBP project includes the completion of sidewalk gaps along 37th Ave on the east and west ends of the street. These improvements will provide connections between existing sidewalks, and to transit services along Carpenter Rd. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.

Table C.3: Pedestrian Segment Recommendations – Projects located in Urban Growth Area

Pedestrian Segment Recommendations (UGA)							
Prioritization Results							
Pedestrian Segment Recommendation Details					Cost	Prioritization Total	Project Description
Plan ID	Recommendation	Street Name	From Street	To Street			
9	Sidewalk Connection	Martin Way	College Street	Duterrow Rd	High	36	2030 Transportation Plan Project # 17 description: "This project will enhance Martin Way to the standards identified in the current Development Guidelines, which includes medians, bicycle lanes, planters, and sidewalks. Access management to reduce turning conflicts and improve safety is an integral portion of this project. Improvements will include intelligent transportation System (ITS) feature also. The City envisions Martin Way to be a high-density multimodal corridor. The Regional Urban Corridor Task Force has identified the entire Martin way Corridor as their top priority. The City will support Thurston County for their portion of the project." This PBP project includes providing pedestrian crossings throughout the corridor at a walkable distance apart, ensuring there is a safe buffer distance between the travel lane and the sidewalk, and filling in the remaining sidewalk gaps. Additionally, this PBP project includes the installation of pedestrian amenities such as benches at transit stops and lighting throughout the corridor.
48	Off-Street Connection	I-5 Off-Street Trail Extension	Martin Way	Duterrow Rd (1,00ft east)	High	28	The Pedestrian component of the 2030 Transportation Plan identified this I-5 Trail extension as project P-7; this project was also included in the City of Lacey Bicycle Plan. This recommended PBP project includes the construction of the proposed trail extension. This improvement will provide connections to nearby commercial areas, schools, and transit services. This project is located in WSDOT right of way.
42	Sidewalk Connection	Steilacoom Rd	Pacific Ave	Fleming Way	Low	27	This project includes the installation of missing sidewalk gaps along Steilacoom Rd. Additionally, this plan recommends that priority be given to closing sidewalk gaps near the RAC and Nisqually Middle school. These improvements will provide pedestrians with a safe and comfortable route to use to connect to the RAC and transit services.
22	Sidewalk Connection	Carpenter Rd	Woodland Trail	38th Dr	Low	25	2030 Transportation Plan Project #2 description: "The project involves widening Carpenter Rd to a 4/5 lane roadway from Pacific Ave to Diamond Loop Rd, 3/4 lane roadway from Diamond Loop Roadway to 14th Ave including the realignment at 14th Ave, widening to a 2/3 roadway with medians, and auxiliary turn lanes from 14th Ave to Shady lane. This improvement is expected to be continue to Mullen Rd. The roadway includes bike lanes, medians, planter strips, and sidewalks for the entire project limits." The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-3. This PBP project includes the sidewalk's construction, as part of the 2030 Transportation Plan Project #2 and the Pedestrian component of the 2030 Transportation Plan Project P-3. This project also includes considerations for the installation of key pedestrian crossing and adequate sidewalk space at bus stops. Improvements will be made as part of a planned capital road projects.

47	Off-Street Connection	Woodland Trail Extension	Carpenter Rd	Pacific Ave	High	23	The Pedestrian component of the 2030 Transportation Plan identified this trail extension as project P-29 ("Woodland Trail"). This PBP project includes the extension of the existing woodland trail, and the installation of key connections and wayfinding elements to lead people to and from the trail. Additionally, this project includes the installation of enhanced crossings elements at major intersection, such as installing flashing beacons or HAWKS when necessary.
39	Sidewalk Connection	Pacific Ave	Steilacoom Rd	Old Pacific Hwy	Moderate	20	2030 Transportation Plan Project #18 description: "This project will widen Pacific Ave to a 4/5 lane roadway with medians, bicycle lanes, planter strips, and sidewalks. The City will support Thurston County for their project." This PBP project includes a recommendation for the City's continued support for Thurston County's project, and for the City to request the installation of pedestrian crossing along Pacific Ave at key crossing locations and at transit stops. These improvements will improve pedestrian safety and comfort along the corridor.
37	Sidewalk Connection	Yelm Hwy	Marvin Rd (planned)	Balustrade Blvd/Compton Blvd	Moderate	19	2030 Transportation Plan Project #22 description: "This project involves widening Yelm Hwy to a four lane with a two-way center turn lane, bicycle lanes, planter strips, pedestrian refuge islands, and sidewalks. A center median should be incorporated along the roadway where left turns are not permitted. The City will support Thurston County with this project." This PBP project includes recommendations for the City's continued support for Thurston County's project, and for the City to request the installation of pedestrian facilities through the railroad overpass on the west side of the project.
40	Sidewalk Connection	Sitka St, Lawson Ct, 8th Way	Pacific Ave	Regional Athletic Complex	High	15	This project includes the installation of sidewalks on Sitka St, Lawson Ct, and 8th Way. These improvements will improve pedestrian connections to the RAC.
45	Pedestrian Focus Routes	Lydia hawk Elementary	Route TBD	Route TBD		14	This project includes the installation of missing sidewalk segments, improved crossing elements, and wayfinding elements for the Lydia Hawk Elementary Safe Routes to School routes. These improvements will eliminate sidewalk gaps, improve crossings, and assist in identifying the Safe Routes to School routes. Additional analysis is recommended to determine appropriate crosswalk enhancements, as well as coordination with North Thurston Public Schools to confirm route and identify other needs.
46	Pedestrian Focus Routes	Olympic View Elementary	Route TBD	Route TBD		13	This project includes the installation of missing sidewalk segments, improved crossing elements, and wayfinding elements for the Olympic View Elementary Safe Routes to School routes. These improvements will eliminate sidewalk gaps, improve crossings, and assist in identifying the Safe Routes to School routes. Additional analysis is recommended to determine appropriate crosswalk enhancements, as well as coordination with North Thurston Public Schools to confirm route and identify other needs.
41	Pedestrian Focus Routes	Meadows Elementary School	Route TBD	Route TBD		12	This project includes the installation of missing sidewalk segments, improved crossing elements, and wayfinding elements for the Meadows Elementary Safe Routes to School routes. These improvements will eliminate sidewalk gaps, improve crossings, and assist in identifying the Safe Routes to School routes. Additional analysis is recommended to determine appropriate crosswalk enhancements, as well as coordination with North Thurston Public Schools to confirm route and identify other needs.
3	Sidewalk Connection	Orion Dr	Martin Way	Meridian Rd	Moderate	10	This project includes the installation of missing sidewalk segments along Orion Dr between Meridian Rd and Martin Way. These improvements will connect the existing pedestrian network north of I-5 to the existing network south of I-5.
35	Sidewalk Connection	Mullen Rd	Existing Sidewalk (east of Timberline High School)	Carpenter Rd	Moderate	10	2030 Transportation Plan Project #28 description: "This project will extend the enhancements completed along Mullen Rd between Ruddell Rd and Timberline High School further east to Afflerbaugh Dr. The enhanced roadway section is a major collector with medians, bike lanes, planter strips, and sidewalks. This project should eventually be extended to Meridian Rd. There is an existing railroad trestle near Afflerbaugh Dr that creates a challenge for future widening. The City will support Thurston County for their portion of the project." This PBP project includes a recommendation for the City's continued support for Thurston County's portion of the project. This project also includes the installation of sidewalks further to the west. These improvements will connect to existing sidewalks and will provide key, safe pedestrian across Mullen Dr.

38	Pedestrian Focus Routes	Seven Oaks Elementary	Route TBD	Route TBD		10	This project includes the installation of missing sidewalk segments, improved crossing elements, and wayfinding elements for the Seven Oaks Elementary School Safe Routes to School routes. These improvements will eliminate sidewalk gaps, improve crossings, and assist in identifying the Safe Routes to School routes. Additional analysis is recommended to determine appropriate crosswalk enhancements, as well as coordination with North Thurston Public Schools to confirm route and identify other needs.
43	Sidewalk Connection	Hawks Glen Dr	Steilacoom Rd	River Ridge H.S.	Moderate	10	This project includes the installation of a sidewalk along Hawks Glen Dr. This improvement will connect the south entrance of River Ridge High School to existing sidewalks, and to transit services along Steilacoom Rd.
7	Pedestrian Focus Routes	South Sound H.S., North Thurston H.S., and Chinook M.S.	Route TBD	Route TBD		8	This project includes the installation of missing sidewalk segments, improved crossing elements, and wayfinding elements for the South Sound High School, North Thurston High School, and Chinook Middle School Safe Routes to School routes. These improvements will eliminate sidewalk gaps, improve crossings, and assist in identifying the Safe Routes to School routes. Additional analysis is recommended to determine appropriate crosswalk enhancements, as well as coordination with North Thurston Public Schools to confirm route and identify other needs. The installation of sidewalk, curb, gutter will require the installation of stormwater facilities.
8	Sidewalk Connection	Carpenter Rd	Martin Way	Draham St/Britton Pkwy	High	8	2030 Transportation Plan Project #8 description: "This project involves [the] widening of Carpenter Road to 4/5 lanes with medians, bicycle lanes, planter strips, and sidewalks. This project will improve horizontal and vertical deficiencies of the roadway". This PBP project includes the construction of sidewalks, and recommends providing safe and comfortable pedestrian facilities for crossing I-5. These improvements along Carpenter Rd will provide connections to the future Complete Streets corridor along Martin Way. Improvements will be made as part of a planned capital road project.
6	Sidewalk Connection	15th Ave	Sleater Kinney Rd	Carpenter Rd	Moderate	7	2030 Transportation Plan Project #14 description: "This project will widen 15th Ave to a 4/5 lane arterial with medians, bicycle lanes, planter strips, and sidewalks. This project will improve horizontal and vertical deficiencies of the roadway. Also, efforts to improve the condition of untreated storm water that currently flows into Woodland Creek will be incorporated in the project. The project will be coordinated with the future extension of Lilly Rd. The City will support Thurston County for their Project". This PBP project includes the City's continued support for Thurston County's project, and a recommendation for the City to request the installation of key pedestrian crossing along 15th Ave. The proposed sidewalk will provide safer routes to several school in the areas, and will close a large sidewalk gap to the east. Additionally, the requested key pedestrian crossing along 15th Ave will ensure that pedestrians are able to safely cross the future arterial.
44	Pedestrian Focus Routes	River Ridge High School	Route TBD	Route TBD		5	This project includes the installation of missing sidewalk segments, improved crossing elements, and wayfinding elements for the River Ridge High School Safe Routes to School routes. These improvements will eliminate sidewalk gaps, improve crossings, and assist in identifying the Safe Routes to School routes. This Plan recommends that additional programming and observations be considered for additional facility improvements. Additional analysis is recommended to determine appropriate crosswalk enhancements, as well as coordination with North Thurston Public Schools to confirm route and identify other needs.
5	Sidewalk Connection	Carpenter Rd	Britton Pkwy/Draham St	Future Greg J Cuoio Community Park	Low	2	This project includes the installation of a sidewalk along Carpenter Rd to provide a connection between existing and proposed sidewalks from to the future Greg J Cuoio Community Park to the north.

Table C.4: Bike Segment Recommendations – Projects located within City of Lacey

Bike Segment Recommendations (Lacey)							
Prioritization Results							
Bike Segment Recommendation Details					Cost	Prioritization Total	Project Description
Plan ID	Recommendation	Street Name	From Street	To Street			
15	Major Street Connection	Ruddell Rd	Mullen Rd	Pacific Ave	High	42	2030 Transportation Plan Project #44 description: "The project is to develop a long-range plan for Ruddell Rd similar to the plan the City prepared for the College St Corridor, a full corridor analysis, incorporating pedestrian and bicycle travel and strict access control. In accordance with the study, right of way should be reserved for a four-lane boulevard with auxiliary turn lanes, bike lanes, pedestrian refuge islands, planter strips, medians, and sidewalks." The extension of the bike corridor north of Judd St & 15th Avenue will be reviewed for improvements.
17	Neighborhood Connection	21st Ave, 22nd Ave, Trilium St, and Shady Lane Rd	Chehalis Western Trail	Carpenter Rd	Moderate	36	This PBP project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and potentially traffic calming elements, and enhance crossings at major intersections between the Chehalis Western Trail and Carpenter Rd. These improvements will create a low-stress route suitable for people of all ages and abilities to ride a bike along. Additionally, these improvements will provide connections to the Chehalis Western Trail, other proposed low-stress routes, four transit corridors, and direct connections to Mountain View Elementary School and Lacey Elementary School.
14	Major Street Connection	Golf Club Rd	30th Ave	3rd Ave	Moderate	34	This PBP project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and potentially traffic calming elements along Golf Club Rd. These improvements will provide a lower-stress, alternative route to College St and Sleater-Kinney Rd, connections to other existing facilities, schools parks, transit, and commercial areas.
13	Major Street Connection	Pacific Blvd	Homann Dr	Golf Club Rd	Low	31	Consider removing a lane on Pacific Ave from Homann Dr to Franz St to improve bicycle operations and crossings along Pacific Ave.
16	Neighborhood Connection	Judd St	Yelm Hwy	Ruddell Rd	High	28	This project recommends installing improved wayfinding elements (larger signs and destinations) and improvements at major crossings along Judd St. These improvements will support the existing "Bike Street," and increase the level of comfort and safety while riding a bike along this corridor.
29	Off-Street Connection	Off-Street Trail	Ruddell Rd	Stockton St	Moderate	24	This project recommends the paving of an existing grass/dirt off-street path. This improvement will create a well-defined and comfortable route for pedestrians to connect to transit stops, commercial center, and nearby parks using a low-stress facility. This property belongs to Puget Sound Energy and would require negotiating an access easement.
21	Major Street Connection	37th Ave	Chehalis Western Trail	College St	Low	22	2030 Transportation Plan Project #9 description: "This roadway will be a 2/3 lane collector with medians, bike lanes, planter strips, and sidewalks. This will complete Lacey's portion of the regional corridor plan to connect Lacey to Tumwater at Capital Blvd." This PBP project recommends the installation of high comfort bike facilities bike facilities along 37th Ave. These recommended PBP project improvements will accommodate bicyclists of all ages and abilities who are traveling to and from the Chehalis Western Trail.
23	Major Street Connection	Roxanna Dr, Intelco Loop, Corporate Drive	Chehalis Western Trail	Yelm Hwy, College St	Low	19	This project recommends the installation of bike lanes and wayfinding elements that will link existing bike lanes to the Chehalis Western Trail: bike lanes along Intelco Loop and Corporate Center Dr, and shared lane markings along Roxanna Dr. These improvements will connect the Trail with commercial land uses, guide bicyclists to-and-from the trail and to popular destination in the area, improve the comfort for bicyclists, and increase motorists' awareness to bicyclists' activity along the corridor.
12	Major Street Connection	Bowker St, Desmond Dr	Pacific Ave	Martin Way	Low	18	2030 Transportation Plan Project #11 description: "The City envisions a new 2/3 lane collector with medians, bike lanes, planter strips, and sidewalks. A corridor study needs to be completed to develop a route that will accommodate all property owners. Consideration for north-south connectivity to Lebanon St extension should also be considered." This PBP project supports the 2030 Transportation Plan's project; however, if the City of Lacey determines not to develop a north-south route, then this Plan recommends closing the existing street network gap between Bowker St and Desmond St (approximately 75') by providing a new connection. If needed,

							this new connection may provide access only to pedestrian and bicycle traffic. This recommended PBP project improvement will allow for a north-south bicycle and pedestrian connections, and serve as a low-stress alternative to College St and Carpenter Rd. Additionally, this improvement will provide connections to St. Martin University, transit services, park space, and commercial areas.
30	Off-Street Connection	Off-Street Trail	Yelm Hwy	Off-Street Path	Low	18	This project recommends the paving off an existing grass/dirt off-street path. This improvement will create a well-defined and comfortable route for pedestrians to connect to transit stops, commercial center, and nearby parks using a low-stress facility. This property belongs to Lakepointe HOA and would require negotiating an access easement.
47	Neighborhood Connection	Homann Dr	Woodland Trail/Homann Park	Lacey Elementary School	Low	18	This project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and traffic calming elements along Homann Dr and 13 th Ave. These improvements will provide a low-stress route for bicyclists of all ages and abilities; and, provide connections to the Woodland Trail, Homann Park, and to Lacey Elementary School.
3	Major Street Connection	Marvin Rd	Evelyne Ln	Columbia Way	Moderate	17	2030 Transportation Plan Project #4 description: "This project involves the widening of Marvin Rd to 4 lanes with medians and auxiliary turn lanes from Britton Pkwy by to Hawks Prairie Rd and 2 lanes with medians and auxiliary turn lanes from hawks prairie rd to Columbia Way. The project includes bike lanes, planter strips, and sidewalks. A center median will need to be incorporated with strict access control to maintain LOS. The single lane roundabout, and a new single lane roundabout is required at 41st Ave". This PBP project recommends a bike lane that exceeds minimum standards (i.e. wider than 5 feet or buffered bike lanes). As an interim solution before the roadway is completely built out, add a southbound bike lane/wide shoulder between Columbia Way NE and 41st Avenue NE.
32	Neighborhood Connection	66th Ave	Rainier Rd	Balustrade Blvd	Low	16	This project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and traffic calming elements along 66th Ave. These improvements will provide a low-stress route for bicyclists of all ages and abilities; and, provide connections to parks, existing bike lanes, and to Chambers Prairie Elementary School.
20	Neighborhood Connection	26th Ave, Sunset Dr	Judd St	Maple Hills Dr	Low	15	This project recommends installing wayfinding signage and bicycle dots along 26th Ave and Sunset Dr. These improvements will assist in directing bicyclists from the existing Judd St "Bike Street" to Wonderwood Park.
33	Neighborhood Connection	67th Ave	Chehalis Western Trail	Rainier Rd	Low	15	This project recommends "bike street" treatments including the installation of wayfinding signage and potentially traffic calming elements along 67th Ave. These improvements will connect to the existing bike lanes on Balustrade Blvd, and provide a more comfortable connection to the Chehalis Western Trail. The wayfinding signage should be installed to direct bicyclists to-and-from the Chehalis Western trail.
24	Neighborhood Connection	33rd Ave, 37th Ln, 37th Ave	Stikes Dr	Stanfield Rd	Moderate	13	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-34 ("South Hicks Lake trail"). This PBP project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and potentially traffic calming elements along the proposed route. Additionally, this project recommends the installation of crossing improvements at major intersections, such as flashing beacons (or HAWK if warranted), signage, and improved lighting. These improvements will provide a comfortable route to ride a bike on for people of all ages and abilities; will connect to other proposed neighborhood connections, transit on Ruddell Rd and Carpenter Rd, parks; and, will provide a critical low-stress east-west route that the existing roadway network does not provide. Crossing improvements at major intersections should be implemented such as installing flashing beacons (or HAWK if warranted), signage, and improved lighting.
1	Off-Street Connection	46th Ave	Merwood Dr	Meridian Rd	High	12	The Pedestrian component of the 2030 Transportation Plan identified this sidewalk connection as project P-8. This PBP project recommends the installation of a shared use path along 46th Ave. This improvement will accommodate pedestrians and bicyclists, provide an off-street connection, and improve both the bicycle and pedestrian network.
26	Neighborhood Connection	38th Ave, 38th Dr	36th Ln	Carpenter Rd	Low	12	This PBP project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and potentially traffic calming elements along 38th Ave and 38th Dr. These improvements will provide a low-stress route that connects the Mullen Habitat Reserve, transit services on Carpenter Rd, and the proposed neighborhood connections on Standfield Rd and Southlake Dr. These improvements will provide a route for bicyclists of all ages and abilities.

2	Neighborhood Connection	Merwood Dr, Vashon Dr	46th Ave	41st Ave	Moderate	11	This project recommends the installation of wayfinding signage, shared lane markings, and potentially traffic calming elements along Merwood Dr and Vashon Dr. These improvements will provide a low-stress connection to existing bike lanes, and to a proposed off-street connection leading to 46th Ave.
22	Neighborhood Connection	45th Ave	Chehalis Western Trail	Seville Ln	Low	11	This project recommends the installation of shared lane markings, potentially traffic calming elements and wayfinding signage along 45th Ave. These improvements will connect to the Chehalis Western Trail, guide bicyclists to-and-from the trail, and increase motorists' awareness to bicyclists' activity along the corridor.
31	Neighborhood Connection	Ruddell Rd	Yelm Hwy	66th Ave	Low	11	This project recommends installing wayfinding and other bike street elements along Ruddell Rd. These improvements will connect the existing bike lanes on Bulastrade Blvd and Ruddell Rd/Yelm Hwy; and, provide direct connections to Chambers Prairie Elementary School, Horizon Prairie Park, and to the proposed neighborhood connection on 66th Ave.
18	Neighborhood Connection	30th Ave, 29th, Ave, Belair Dr	Lakeview Dr	Impala Dr	Low	9	This PBP project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and potentially traffic calming elements along 30th Ave and Belaire Dr. These improvements will connect the Judd St "Bike Street" to the proposed neighborhood connection along Golf Club Rd, and will provide a low-stress alternative to College Street. The proposed spot treatment at College Ave (spot project #39) is critical to providing a low-stress and safe route for bicyclists of all ages and abilities to ride along.
4	Neighborhood Connection	Campus Glen Dr	Willamette Dr	Hogum Bay Road	Low	6	This project recommends the installation of wayfinding signage, striping, and traffic calming elements along Campus Glen between Salish Middle School and the existing bike lanes on Willamette Dr. These improvements will provide a low-stress connection to existing bike lanes and to Salish Middle School.

Table C.5: Bike Segment Recommendations – Projects located within Urban Growth Area

Bike Segment Recommendations (UGA)							
Prioritization Results							
Bike Segment Recommendation Details						Prioritization Total	Project Description
Plan ID	Recommendation	Street Name	From Street	To Street	Cost		
8	Major Street Connection	Martin Way	College St	Duterrow Rd	High	48	2030 Transportation Plan Project # 17 description: "This project will enhance Martin Way to the standards identified in the current Development Guidelines, which includes medians, bicycle lanes, planters, and sidewalks. Access management to reduce turning conflicts and improve safety is an integral portion of this project. Improvements will include intelligent transportation System (ITS) feature also. The City envisions Martin Way to be a high-density multimodal corridor. The Regional Urban Corridor Task Force has identified the entire Martin way Corridor as their top priority. The City will support Thurston County for their portion of the project." This PBP project recommends upgrading existing (and planned) bike facilities along the corridor to increase separation between bicyclists and motor vehicles and apply driveway and intersection crossing treatments to raise awareness of motorists crossing the bike lane and provide safer operations. This PBP project also recommends considering the installation of amenities such as bike racks and fix it stations along Martin Way. These improvements will contribute to the Complete Streets characteristics of the corridor.
41	Major Street Connection	Steilacoom Rd	Pacific Ave	Deerbrush Dr	Moderate	39	This project recommends widening the existing bike lane and include buffers where possible by widening shoulders. This improvement will provide a higher level of comfort for bicyclists, and provide connections to transit services, schools, the RAC, and existing bike lanes.
11	Major Street Connection	Carpenter Rd	Mullen Rd	Martin Way	High	37	The 2030 Transportation Plan included this project in three Projects: #1, #2, and #31. All three of the 2030 Transportation Plan Projects propose installing bike lanes and emphasizing non-motorized transportation. This Plan supports the three 2030 Transportation Plan Projects, and recommends the provision of high comfort bicycle facilities where increased separation between vehicles and bicyclists is possible. These recommended PBP project improvements will provide a comfortable and safe route along Carpenter Rd, and connections to several transit corridors, off-street paths, parks, schools, and numerous proposed neighborhood connections

46	Off-Street Connection	I-5 Off-Street Trail Extension	Martin Way	Duterrow Rd (1,000 ft east)	High	34	The Pedestrian component of the 2030 Transportation Plan identified this I-5 Trail extension as project P-7; this project was also included on that plan's bicycle projects map. This PBP project recommends the construction of the proposed trail extension. This improvement will provide connections to nearby commercial areas, schools, and transit services; and, a high comfort route for people of all ages and abilities to travel from the western city limit of Lacey to the eastern limit of the UGA.
27	Major Street Connection	Mullen Rd	Lake E.S and Timberline H.S.	Meridian Rd	High	30	2030 Transportation Plan Project #28 description: "This project will extend the enhancements completed along Mullen Rd between Ruddell Rd and Timberline High School further east to Afflerbaugh Dr. The enhanced roadway section is a major collector with medians, bike lanes, planter strips, and sidewalks. This project should eventually be extended to Meridian Rd. There is an existing railroad trestle near Afflerbaugh Dr that creates a challenge for future widening. The City will support Thurston County for their portion of the project." This PBP project recommends the City's continued support for Thurston County's portion of the project. This PBP project recommends the provision of bike facilities with more separation than standard bike lanes, to provide a higher level of comfort and safety.
38	Off-Street Connection	Woodland Trail Extension	Carpenter Rd	Pacific Ave	High	29	The Pedestrian component of the 2030 Transportation Plan identified this trail extension as project P-29 ("Woodland Trail"). This project is also included in the City of Lacey's Bicycle Plan. This PBP project recommends the extension of the existing woodland trail, and the installation of key connections and wayfinding elements to lead people to and from the trail. Additionally, this PBP project recommends the installation of enhanced crossings elements at major intersection, such as installing flashing beacons or HAWKS when necessary
34	Major Street Connection	Yelm Hwy	Compton Blvd	Marvin Rd (future)	High	25	2030 Transportation Plan Project #28 description: "This project will extend the enhancements completed along Mullen Rd between Ruddell Rd and Timberline High School further east to Afflerbaugh Dr. The enhanced roadway section is a major collector with medians, bike lanes, planter strips, and sidewalks. This project should eventually be extended to Meridian Rd. There is an existing railroad trestle near Afflerbaugh Dr that creates a challenge for future widening. The City will support Thurston County for their portion of the project." This PBP project recommends the City's continued support for Thurston County's portion of the project. This PBP project recommends the provision of bike facilities with more separation than standard bike lanes, to provide a higher level of comfort and safety.
40	Major Street Connection	Pacific Ave	Steilacoom Rd	Old Pacific Hwy	High	23	2030 Transportation Plan Project #18 description: "The project will widen Pacific Ave to a 4/5 lane roadway with medians, bicycle lanes, planter strips, and sidewalks. The City will support Thurston County for the project." This PBP project recommends the City's continued support for Thurston County's project, and to encourage the installation of bike lanes that provide an appropriate level of separation to provide a high comfort experience (i.e., buffers, physical elements)
10	Major Street Connection	Kinwood St	Pacific Ave	Martin Way	Low	21	This project recommends the installation of wayfinding signage and potentially traffic calming elements along Kinwood St. These improvements will provide a low-stress, north-south route that connects transit services along Pacific Avenue and Martin way, Woodland Creek Community Park, the existing and proposed Woodland Trail, and commercial areas.
6	Major Street Connection	15th Ave, Draham St	Sleater Kinney Rd	Carpenter Rd	Moderate	21	2030 Transportation Plan Project #14 description: "This project will widen 15th Ave to a 4/5 lane arterial with medians, bicycle lanes, planter strips, and sidewalks. This project will improve horizontal and vertical deficiencies of the roadway. Also, efforts to improve the condition of untreated storm water that currently flows into Woodland Creek will be incorporated in the project. The project will be coordinated with the future extension of Lilly Rd. The City will support Thurston County for their Project". This PBP project recommends the City's continued support for Thurston County's project. These improvements, including the proposed bike lane, will provide a safer bike route to several schools in the areas, and close a bike network gap between Sleater Kinney Rd and Carpenter Rd.
7	Major Street Connection	Carpenter Rd	Martin Way	Britton Pkwy/Draham St	Low	20	2030 Transportation Plan Project #8 description: "This project involves widening of Carpenter Road to 4/5 lanes with medians, bicycle lanes, planter strips, and sidewalks. This project will improve horizontal and vertical deficiencies of the roadway". This PBP project recommends installing bike facilities along the corridor that provide as much separation as possible between vehicles and bicyclists. These recommended PBP project improvements will provide connections to existing bike lanes, commercial areas, and to the future Complete Streets corridor along Martin Way; and, improve safety and level of comfort for bicyclists.

39	Major Street Connection	Union Mills Rd	Pacific Ave	Marvin Rd	Moderate	20	This project recommends installing wayfinding elements and connections along Union Mills Rd following the completion of the Woodland Trails extension. These improvements will provide connections to the future trail, and direct trail users to a lower-stress route than Pacific Ave or Marvin Rd.
37	Major Street Connection	Marvin Rd	Pacific Ave	Lake Forest Dr	Moderate	20	2030 Transportation Plan Project #16 description: "This project will preserve right of way for future 4/5 lane road with medians, bicycle lanes, planter strips, and sidewalks. The City of Lacey will support Thurston County for their project." This PBP project recommends the City's continued support for Thurston County's project, and for the City to request the installation of a bike lane that exceeds minimum standards (i.e. wider than 5 feet or buffered bike lanes) along Marvin Rd. These PBP project improvements will provide a key connection to the proposed Woodland Trail extension, to existing bike facilities, and to transit services along the corridor.
25	Neighborhood Connection	Glen Terra Dr, 41st Ave, South Lake Dr, 38th Ave, Stanfield Rd	Mullen Rd	Carpenter Rd	Low	19	This PBP project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and potentially traffic calming elements along Glen Terra Dr, 41st Ave, South Lake Dr, 38th Ave, and Stanfield Rd. These improvements will provide an alternative route to Carpenter Rd., and connections that to parks, an existing bike route, transit services on Carpenter Rd and Mullen Rd, and to several proposed bikeway projects.
44	Neighborhood Connection	Rockcross Dr, Deerbrush Dr	Pacific Ave	Steilacoom Rd	Low	19	This PBP project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and potentially traffic calming elements along Rockcross Dr and Deerbrush Dr. These improvements will provide connections to existing bike facilities, schools, parks, and transit services. There are currently some existing speed humps along the corridor.
9	Neighborhood Connection	Husky Way, School St, Choker St, Kingham St, 3rd Ave	Carpenter Rd	Marvin Rd	Moderate	19	This PBP project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and potentially traffic calming elements along Kingham St. These improvements will create an alternative route for bicyclists of all ages and abilities, and will connect to the future Martin Way Complete Street corridor. There are existing speed humps that provide traffic calming impacts along this route.
45	Off-Street Connection	Carpenter Rd	Carpenter Rd	Woodland Trail	Low	18	This project recommends installing wayfinding signage and shared lane markings along Carpenter Rd. These improvements will help guide bicyclists to low-stress routes and to transit services along Carpenter Rd. These improvements will also provide connections to the existing and future Woodland Trail.
28	Neighborhood Connection	Rumac St, 57th Ave, Stockton St	Existing Off-Street path (south of 57th Ave)	Mullen Rd	Low	18	This project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and potentially traffic calming elements along Rumac St, 57th Ave, and Stockton St. These improvements will assist bicyclists in identifying a low-stress north-south alternative to Ruddell Rd; and, provide connections to transit services, existing bike facilities that lead to Timberline High School and Lakes Elementary School, and to other proposed bikeway projects.
42	Neighborhood Connection	South RAC Connection	Pacific Ave	Fitz Hugh Dr	Low	16	This project recommends the installation of wayfinding signage and shared lane markings along Sitka St, Lawson Ct, and 8th Way. These improvements will provide a low-stress route to connect people to the RAC. This project recommends the construction of a short off-street connection for this facility to connect to the southern entrance of the RAC. Public input suggested there is a well-used path that connects to the existing paths within the RAC property.
19	Neighborhood Connection	30th Ave	Ruddell Rd	Hicks Lake Rd	Low	16	Wayfinding to provide connection between Ruddell Rd and Hicks Lake Rd, Wanchers Park and points north.
35	Major Street Connection	Marvin Rd	19th Ave	Mullen Rd	Low	15	2030 Transportation Plan Project #16 description: "This project will preserve right of way for future 4/5 lane road with medians, bicycle lanes, planter strips, and sidewalks. The City of Lacey will support Thurston County for their project." This PBP project recommends the City's continued support for Thurston County's project, and for the City to request the installation of a bike lane that exceeds minimum standards (i.e. wider than 5 feet or buffered bike lanes) along Marvin Rd. These PBP project improvements will provide a key connection to the proposed Woodland Trail extension, to existing bike facilities, and to transit services along the corridor.
43	Neighborhood Connection	Rockcross Dr, Chatham Dr, Fitz Hugh Dr	RAC	Deerbrush Dr	Low	13	This PBP project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and potentially traffic calming elements leading to and from the east entrance to the RAC along Rockcross Dr, Chatham Dr, and Fitz Hugh Dr. These improvements will provide connections to other proposed neighborhood connection routes, to transit services along Deerbrush Dr and Pacific Ave.

36	Neighborhood Connection	19th Ave	Marvin Rd (north)	Marvin Rd (south)	Moderate	11	This PBP project recommends "bike street" treatments including the installation of wayfinding signage, shared lane markings and potentially traffic calming elements along 19th Ave. These improvements will provide connections to the future trail, and direct trail users to a lower-stress route than Pacific Ave or Marvin Rd.
5	Major Street Connection	Carpenter Rd	Britton Pkwy/Draham St	Future Greg J Cuoio Community Park	Low	8	This project recommends installing bike facilities and wayfinding elements to provide a comfortable on-street connection to the future Greg J Cuoio Community Park and to existing and proposed bike facilities.

Table C.6 Spot Recommendations – Projected located within City of Lacey

Spot Recommendations (Lacey)						
Prioritization Results						
Spot Recommendation Details				Cost	Prioritization Total	Project Description
Plan ID	Mode	Recommendation	Location			
12	Bike/Pedestrian	Wayfinding	Lacey Blvd and Pacific Ave (east roundabout)	Low	38	This project recommends the installation of additional wayfinding signage and bicycle wayfinding dots to guide pedestrians and bicyclists through the roundabout.
9	Bike/Pedestrian	Wayfinding	Pacific Ave and Lacey Blvd (west roundabout)	Low	37	This project recommends the installation of additional wayfinding signage and bicycle wayfinding dots to guide pedestrians and bicyclists through the roundabout.
10	Bike/Pedestrian	Crossing	Pacific Ave and Ruddell Rd	Moderate	37	This project recommends the installation of a crosswalk on the west leg of this intersection, and the addition of a leading pedestrian interval signal to improve visibility of pedestrians and bicyclists crossing the street and improve motorist yielding. Additionally, this project recommends the addition of a left turn phase for westbound to southbound vehicles. This additional improvement will increase the safety of pedestrians and bicyclists using the Woodland Trail.
11	Bike/Pedestrian	Crossing	Pacific Ave and Franz St	Moderate	37	This project recommends signal modifications to reduce conflicts between pedestrians and bicyclists and turning vehicles. Modifications could include the conversion of the existing left-and-through lane on Pacific Ave into a left-only lane, and the implementation of a protected left-turn phase and a leading pedestrian interval to better accommodate north-south pedestrian traffic connecting to the Depot District to St. Martins University.
26	Pedestrian	Crossing	54th Ave and Ruddell Rd	Low	30	This project recommends the installation of bike lane extension markings and green pavement markings to increase road users' awareness that bicyclists may be traveling through this intersection. There is currently a concentration of turning vehicles striking bicyclists at this intersection
8	Bike	Crossing	College Street and Pacific Ave	Low	28	This project recommends the inclusion of a leading pedestrian interval to improve visibility of pedestrians and bicyclists using the Woodland Trail and reduce conflicts with turning vehicles.
4	Bike	Other	Martin Way and I-5 Overpass	TMP ⁴	27	2030 Transportation Plan Project #6 description: "This project envisions a major reconstruction of the Martin Way interchange to a partial cloverleaf interchange with ramp meters. This will be a WSDOT project supported by the City of Lacey." This PBP project includes bicycle and pedestrian amenities in the future interchange design. The PBP project identifies the opportunity to improve bicyclists' safety and comfort by providing bicycle separation; and, to improve pedestrians' and bicyclists' visibility by installing lighting elements under the I-5 overpass.
5	Bike	Crossing	Golf Club Rd and I-5 Trail	Low	27	This project includes an enhanced crossing following the City's crosswalk enhancement policy, and wayfinding signage and dots to better accommodate pedestrians and bicyclists crossing the Golf Club Rd, 3rd Ave, and the I-5 Trail intersections. The wayfinding signage and dots will direct bicyclists to the proposed neighborhood connection

⁴ TMP = City of Lacey 2030 Transportation Master Plan

						on Golf Club Rd. There are currently marked crosswalks on the south and west legs of this intersection, and a bike lane on the east leg.
17	Bike/Pedestrian	Crossing	Chehalis Western 14th Ave	High	27	There are currently sidewalks to the east and west of the Chehalis Western Trail overpass at 14th Ave. The overpass currently narrows and does not provide space for bicyclists and pedestrians, who have to share the road when attempting to travel east or west on 14th. This project suggests that further evaluation be conducted to determine how to best accommodate east-west travel for pedestrians and bicyclists. Such accommodations would require modification to the existing bridge structure or construction of a new overpass.
27	Bike	Crossing	Ruddell Rd and Yelm Hwy	High	27	This project recommends the construction of a new bicycle ramp to bring users of the eastbound bike lane up to sidewalk on the south side of Yelm Hwy in order to cross the right-turn slip lane at an angle with better sight lines. Signage or wayfinding dots should direct bicyclists up to the sidewalk, across the crosswalk to the pedestrian push button placed in the raised pork-chop island. Additionally, this project recommends the installation of a STOP HERE FOR PEDESTRIANS (R1-5B) sign at the slip lane crosswalk to improve motorist yielding. Finally, this project recommends the continuation of the southbound bike lane through the intersection with clear and safe connections to the receiving southbound bike lane. These improvements will facilitate eastbound to northbound bicycle movements and improve the connections for southbound bicyclists moving through the intersection.
38	Bike	Crossing	Quinalt Dr and Marvin Rd	High	27	This project recommends the tightening of the curb radii on all corners, installation of bike lane extension markings or green pavement markings for Marvin Rd bike lanes. The tightening of the curb radii will assist in slowing down turning vehicles and shortening pedestrian crossings, and the installation of the green paint will alert motorists to yield to bicyclists. There is currently a concentration of right hook crashes involving bicyclists at this intersection. NOTE: This intersection will be rebuilt with the DDI interchange.
41	Bike/Pedestrian	Crossing	College St and 16th Ave	Moderate	27	A roundabout that will be installed at this intersection as part of the College St improvements project will incorporate bicycle and pedestrian features. Cost effective interim solutions for improving this crossing will be evaluated.
15	Bike/Pedestrian	Crossing	Ruddell Rd and Judd St/15th Ave SE	Low	26	This project recommends installing an enhanced crossing treatment following the City's crosswalk enhancement policy to provide a safe crossing opportunity for bicyclists (and pedestrians) traveling to and from the Bike Street along Judd St.
39	Bike	Crossing	Marvin Rd and I-5	TMP	26	2030 Transportation Plan Project #13 description: "This project will complete the next phase of the Marvin Rd interchange project, which constructs a Diverging Diamond Interchange (DDI) This is a funded WSDOT project supported by the City of Lacey scheduled for completion in late 2019." This PBP project includes bicycle and pedestrian accommodations in the future design. In addition to the existing bike lanes and sidewalk along Marvin Rd, this crossing's safety and level of comfort can be improved by ensuring separation between motorists and bicyclists.
36	Bike/Pedestrian	Crossing	Martin Way and Galaxy Dr	Low	24	This project recommends the modification of the traffic signal timing to include a leading pedestrian interval so that pedestrians can get ahead of moving vehicles.
19	Pedestrian	Crossing	29th Ave and College St	Moderate	23	A roundabout that will be installed at this intersection as part of the College St improvements project will incorporate bicycle and pedestrian features. Cost effective interim solutions for improving this crossing will be evaluated.
25	Bike/Pedestrian	Crossing	Ruddell Rd at Rainier Vista Community Park	Low	23	This project includes an enhanced crossing following the City's crosswalk enhancement policy on Ruddell Rd at Rainier Vista Community Park. These improvements will provide connections to transit services and the park.
28	Bike/Pedestrian	Wayfinding	Yelm Hwy and Parkside Dr	Low	21	This project recommends the installation of wayfinding signage and pavement markings that direct bicyclists to the proposed neighborhood connection route.
29	Bike/Pedestrian	Crossing	Rainier Loop and Rainier Rd	High	21	This project recommends installing signage, and reducing the curb radii at the Rainier Loop crossing.
7	Pedestrian	Crossing	7th Ave and College St	High	19	This project recommends installing an enhanced crossing treatment following the City's crosswalk enhancement policy to provide a safe crossing opportunity for bicyclists (and pedestrians) to provide a connection St. Martins University, transit, and the commercial areas to the west. Coordination with Intercity Transit to relocate the bus stop at Woodland Square Loop to the proposed project location.
18	Bike	Crossing	21st Ave and Sleater Kinney Rd	Moderate	19	This project includes an enhanced crossing of Sleater Kinney Rd following the City's crosswalk enhancement policy, and bike lane extension markings, and wayfinding elements along the corridor. These improvements will better accommodate east-west bicycle movements along the proposed neighborhood connection on 21st Ave, and improve

						the crossing's safety and comfort. Additionally, the wayfinding elements will assist in identifying the neighborhood connection route, and in guiding bicyclists to nearby destinations.
24	Pedestrian	Crossing	45th Ave and Stikes Dr	Low	18	This project includes an enhanced crossing following the City's crosswalk enhancement policy to improve the comfort and safety of bicyclists and pedestrians crossing 45th Ave while traveling on the "Bike Street" along Judd St. Crossing enhancements could include marked crosswalk and flashing beacons with associated signage. Need to also consider adding marked crosswalks at the entrance to Rainier Vista Park.
20	Bike/Pedestrian	Crossing	30th Ave and Ruddell Rd	High	17	This project recommends the installation of a pedestrian crossing enhancements following the City's crosswalk enhancement policy in pedestrian activity areas, including near transit stops, medium density housing, parks and churches. Potential locations to be evaluated include 30th Ave, 27th Ave/Lakes Blvd SE, and Ruddell Loop SE.
44	Bike/Pedestrian	Crossing	Mullen Rd at Greenbriar St	Moderate	15	This project recommends installing an enhanced crossing treatment following the City's crosswalk enhancement policy to provide a safe crossing opportunity for bicyclists (and pedestrians) to provide a connection between low-stress facilities and Rainier Vista Community Park. Wayfinding should be installed along Sydney St and Greenbriar St to inform bicyclists and pedestrians of the crossing.
2	Pedestrian	Crossing	Carpenter Rd and I-5	TMP	13	2030 Transportation Plan Project #24 description: "Analysis from the 2010 LTSAAE report showed that traffic growth in the City of Lacey will exceed capacity of the improved interchanges at Martin Way and Marvin Road proposed in this Plan. The report identified a potential layout of the Carpenter Rd Interchange. At such time as an Interchange Justification Report (IJR) is authorized for the evaluation of an interchange at Carpenter Road, the City of Lacey will work with WSDOT to incorporate bike and pedestrian facilities into the design of the interchange.
22	Bike	Crossing	Stikes Dr and Mullen Rd	Moderate	11	This project includes an enhanced crossing following the City's crosswalk enhancement policy to better accommodate bicyclists and pedestrians crossing Mullen Rd while traveling on the "Bike Street" along Judd St. The installation of flashing beacons and marked crosswalks, with associated signage, will enhance this crossing and improve the comfort and safety of the Judd St. "Bike Street."
16	Bike/Pedestrian	Other	19th Ave, 20th Ave, and 21st Ave at Mountain View	Low	10	The entrances to Mountain View Elementary School and are very tight at 19th Ave, 20th Ave, and 21st Ave, and the width of the fences make it challenging to fit a bicycle through. This project suggests that a solution or modification to the gate/fence openings be determined through coordination between the North Thurston School District and the City of Lacey. The opening of the gate/fence will allow bicyclists to enter and will encourage students to bike to school.
47	Bike	Crossing	Judd St and 23 rd Ave	Low	10	This project recommends the reversal of the existing stop sign direction to prioritize north-south bike traffic. This improvement will improve convenience for bicyclists by providing stop controls for the cross traffic.
6	Bike/Pedestrian	Other	Between Bowker St and Desmond Dr	TMP	8	2030 Transportation Plan Project #11 description: "The City envisions a new 2/3 lane collector with medians, bike lanes, planter strips, and sidewalks. A corridor study needs to be completed to develop a route that will accommodate all property owners. Consideration for north-south connectivity to Lebanon St extension should also be considered." This PBP project supports the 2030 Transportation Plan's recommendation. If the City of Lacey decides to develop a north-south route, this PBP project includes the closure of the existing street gap between Bowker St and Desmond St (approximately 75') for pedestrian and bicycle traffic. This connection would allow for a north-south pedestrian and bicycle connection that could be a low-stress alternative to College St and Carpenter Rd, and provide connections to St. Martin University, transit services, park space, and commercial areas.
42	Bike/Pedestrian	Other	Komachin MS	Low	8	The entrances to Komachin Middle School is very tight at Imapala Dr. The width of the fence makes it challenging to fit a bicycle through. This project suggests that a solution or modification to the gate/fence openings be determined through coordination between the North Thurston School District and the City of Lacey. The opening of the gate/fence will allow bicyclists to enter and will encourage students to bike to school.
23	Bike/Pedestrian	Other	Between 37th Ln and 33rd Ave	TMP	4	2030 Transportation Plan Project P-34, an element of the Pedestrian Plan Stand Along Project, completes a street network gap between 37th Ln and 33rd Ln. This network gap currently prevents pedestrians and bicyclists from conveniently traveling from the west side to the east side of Lacey. This project PBP includes the construction of an off-street path that completes the Plan's proposed neighborhood connection.

Table C.7: Spot Recommendations – Projects located within Urban Growth Area

Spot Recommendations (UGA)						
Prioritization Results						
Spot Recommendation Details				Cost	Prioritization Total	Project Description
Plan ID	Mode	Recommendation	Location			
34	Bike/Pedestrian	Crossing	Steilacoom Rd and Marvin Rd	High	28	This project recommends the tightening of the northwest and southeast curb radii to slow turning vehicle speeds, and to shorten pedestrian crossings. Additionally, this project recommends extending the bike lane marking up to the intersection to increase awareness for right and left turning vehicles to yield to bicyclists. Finally, this Plan recommends the installation of a sidewalk on the southside of Steilacoom Rd that connects the RAC entrance, an eastbound bus stop, and the existing segment of sidewalk.
35	Bike	Wayfinding	3rd Ave and Marvin Rd	Low	23	This project recommends the installation of wayfinding signage and striping to direct bicyclists to and from the proposed neighborhood connection, and to inform bicyclists of the low-stress route. For eastbound bicyclists arriving at the intersection of 3rd ave and Marvin Way, the bicycle wayfinding dots should direct bicyclists to the pedestrian push button, to actuate the traffic signal, so that they may cross safely.
3	Pedestrian	Crossing	Martin Way and Carpenter Rd	Low	15	This project recommends the installation of wayfinding signage and bicycle dots to guide bicyclists to the proposed neighborhood connection on Husky Way. The bicycle wayfinding dots should direct bicyclists to the sidewalk on the eastside of Carpenter Rd, to then connect to the neighborhood connection route.
13	Bike/Pedestrian	Crossing	Pacific Ave and Lake Lois Rd	High	15	This project recommends the installation of a pedestrian crossing enhancements following the City's crosswalk enhancement policy. Enhancements may include a combination of crossing/refuge island, pedestrian hybrid beacons, signage and improved lighting elements on Pacific Ave. These improvements will increase pedestrians' safety and comfort while crossing the street. Pacific Ave is a 5-lane road with a 40 MPH speed limit, and there is currently an existing crosswalk and school zone crossing sign on the east leg of the intersection. Wayfinding signage and bicycle dots should be installed to direct pedestrians and bicyclists to the Woodland Trail to the south.
21	Bike/Pedestrian	Crossing	Shady Lane Rd and Carpenter Rd	Low	15	This project recommends the installation of enhanced crossing treatments following the City's crosswalk enhancement policy to improve the safety and comfort of pedestrian and bicycling movements across Carpenter Rd.
40	Bike/Pedestrian	Crossing	Meridian Rd and I-5	High	15	This project recommends the installation of high comfort pedestrian and bicycle facilities including sidewalks and bicycle facilities, along Meridian Rd. These improvements will improve connections between residential land uses north of I-5 to transit and commercial uses along Marvin Way. While there are currently sidewalks and wide shoulders along Meridian Rd to the north and south of the 1-5 overpass, these facilities are not present along the bridge structure. Higher comfort-level pedestrian and bicycle facilities along the bridge structure may require a new structure to be built, which would make these improvements a long-term goal.
30	Bike/Pedestrian	Other	Rainier Rd and Railroad Overpass	High	14	This project includes the installation of lighting elements under the bridge structure and at the approaches, and the installation of warning signage alerting motorists to yield to bicyclists. The roadway width narrows on Rainier Rd at the railroad underpass, forcing bicyclists to share the travel lane with travel vehicles. This location was identified during the WikiMap outreach phase as a physical barrier that discourages people from riding a bike or walking. If providing separated a bicycle facility is not feasible at this time, separated bike facilities should be considered when this overpass is reconstructed. The bridge is located outside of the city limits and outside of the UGA.
33	Bike/Pedestrian	Wayfinding	Fitz Hugh Dr at RAC	Low	14	This project recommends the installation of wayfinding signage and striping, and the widening of the gate entrance. These improvements will increase awareness to this entrance to the RAC, and will allow bicyclists to travel through the entrance.
45	Bike/Pedestrian	Crossing	37 th Ave and Chehalis Western Trail	Low	14	This project recommends installing an enhanced crossing treatment following the City's crosswalk enhancement policy to provide a safe crossing opportunity for bicyclists and pedestrians to travel across 37 th Ave.

46	Bike/Pedestrian	Crossing	Pacific Ave and Marvin Rd	Medium	14	This project recommends the installation of flashing beacons at each pedestrian crossing to improve motorist yielding to pedestrians and bicyclists traveling through intersection.
14	Bike/Pedestrian	Crossing	Ranger Rd and Pacific Ave	High	13	This project recommends the installation of a pedestrian crossing enhancements following the City's crosswalk enhancement policy. Enhancements may include a combination of crossing/refuge island, pedestrian hybrid beacons, signage and improved lighting elements on Pacific Ave. These improvements will increase pedestrians' safety and comfort while crossing the street. Pacific Ave is a 5-lane road with a 40 MPH speed limit, and there is currently an existing crosswalk and school zone crossing sign on the east leg of the intersection.
31	Bike/Pedestrian	Other	Yelm Hwy and Railroad Overpass	TMP	13	2030 Transportation Plan Project #22 description: "This project involves widening Yelm highway to four lanes with a two-way center turn lane, bicycle lanes, planter strips, pedestrian refuge islands, and sidewalks. A center median should be incorporated along the roadway where left turns are not permitted. The City should support Thurston County with this project." This PBP project includes that the City of Lacey continues to support this 2030 Transportation Plan's project and provides bicycle and pedestrian space on the bridge structure crossing. The PBP project's location was identified during the WikiMap exercise where it was noted pedestrians, bicyclists, and people using wheelchairs face challenges when traveling along this bridge. This is a key active transportation connection as it links the City of Lacey to the Centennial Station. Thurston County has conducted a "Type-Size-Location" study for the bridge.
32	Bike	Crossing	Marvin Rd and Quinault Dr	High	12	This project includes an improved rail crossing for north-south bicycle traffic. The provision of pavement and other railroad crossing treatments can allow bicyclists to safely travel over the tracks at a 90-degree angle, and prevent bicyclists from falling or getting stuck in the tracks.
43	Bike/Pedestrian	Other	Boat Launch St north of Carpenter Rd	Moderate	10	This project recommends installing a paved path and wayfinding to connect Boat Launch St to Long Lake Park.
1	Bike/Pedestrian	Crossing	Carpenter Rd at Future Greg J Cuoio Community Park	Low	8	This project recommends installing an enhanced crossing treatment following the City's crosswalk enhancement policy to provide a safe crossing opportunity for bicyclists and pedestrians to travel between parks on both sides of Carpenter Rd.
37	Bike/Pedestrian	Other	3rd Ave at River Ridge H.S.	Low	7	This project suggests a solution or modification to the gate/fence opening be determined through coordination between the North Thurston County School District and the City of Lacey. The opening of the gate/fence will allow bicyclists to enter and will encourage students to bike to school. The entrance to River Ridge High School is very tight and the width of the fence makes it challenging to fit a bicycle through.

Appendix D – Regional, State and Federal Funding Sources

LOCAL FUNDING

Refer to the Pedestrian and Bicycle Plan for local funding mechanisms.

FEDERAL FUNDING OPPORTUNITIES

Federal funding available for pedestrian bicycle related projects is managed by the Federal Transportation Bill Fixing America's Surface Transportation Act (FAST Act). The FAST Act was signed into law in December 2015, and provides over \$305 billion from 2016 through 2020. Of the total +\$305 billion, \$226.3 billion is authorized for road, bridge, bicycling and walking improvements across the country.

SURFACE TRANSPORTATION BLOCK GRANT PROGRAM (STBG)

The Surface Transportation Block Grant Program (STBG) provides flexible funding that can be used by local jurisdictions and states for roadway, bridge and transit projects. As Lacey falls within the jurisdiction of an MPO, STBG funds are distributed through the Thurston Regional Planning Council (TRPC). For the 2020-2022 program call, TRPC will allocate \$6.71 million STBG program dollars to local applications that align with the regional funding priorities of safety, preservation, and multi-modal transportation system efficiency. TRPC has historically directed STBG funds towards “priority multi-modal projects that improve the safety, efficiency, and/or preservation of the existing transportation system.”⁵ Pedestrian and bicycle infrastructure projects, including trails, planning programs, and transit capital projects are eligible for STBG funds.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

The Highway Safety Improvement Program (HSIP) funds safety related projects that aim to reduce serious traffic injuries and deaths, and is administered by WSDOT with a call for projects every two years. HSIP provides funding for the preliminary engineering/design, right-of-way, and construction phases of eligible projects. Eligible projects include safety data collection programs that improve local road safety plans, and infrastructure projects that use engineering improvements or countermeasures to reduce fatal and serious injury crashes. Past projects have included bicycle facilities, intersection, and pedestrian crossings improvements.

CONGESTION MITIGATION AIR QUALITY IMPROVEMENT PROGRAM (CMAQ)

TRPC allocated \$709,000 in CMAQ program funding for 2020 to 2022. In selecting CMAQ projects, TRPC reviews proposed projects' cost effectiveness for reducing emissions, and for providing air quality benefits from congestion mitigation activities. Eligible CMAQ projects include pedestrian and bicyclist facilities and programming, traffic calming measures, and transit improvements. The majority of the City of Lacey, not including the City's most northern and southern extents, are included in the Thurston County Air Quality Maintenance Area for Particulate Matter 10, and is eligible for CMAQ funding.⁶ During the 2016

⁵ Thurston Regional Planning Council, “Transportation Planning.” www.trpc.org/304/Transportation-Funding. Accessed 03/07/2018.

⁶ . A map of the Thursday County Air Quality Maintenance Area is available on page 15 of Thurston Regional Planning Council's “2017-2019 Federal Funding Call for Projects Process: Application Instructions and Process Guidance”, www.trpc.org/DocumentCenter/View/3164. Accessed 03/07/2018.

call for CMAQ projects, TRPC allocated \$1 million to the City of Tumwater for the construction of a 0.28-mile segment of the Deschutes Valley Trail.⁷

STATE FUNDING OPPORTUNITIES

WSDOT BIENNIUM BUDGET

Washington State Department of Transportation (WSDOT) has a biennium budget approved by the State legislature every two years. In the 2015 legislative session, a new 16-year transportation revenue package called “Connecting Washington” was passed. The revenue package includes \$9.7 billion for state and local road projects and \$1.3 billion for non-highway projects, including bike paths. The City should track the distribution of these funds and vigorously pursue them as they become available.

WSDOT STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM

Washington’s Statewide Transportation Improvement Program (STIP) is a compilation of local, metropolitan, and regional transportation improvement programs that represents the highest priority projects at these levels, across the state, in a fiscally constrained plan. Only projects included in the STIP are authorized to access federal funds through either the FHWA or the Federal Transit Administration (FTA). The 2018-2021 STIP includes \$3.5 billion in federal funding, and over 1,400 transportation projects. The STIP is developed annually. To be eligible for STIP funding, projects identified in this Plan must first be incorporated into the City’s Transportation Improvement Program, and then incorporated into TRPC’s Regional Transportation Improvement Program (RTIP). Projects are then forwarded to the state for consultation with WSDOT and possible inclusion in the STIP. Generally, such projects need to have regional significance.

SAFE ROUTES TO SCHOOLS (SRTS)

SRTS funding is available to local governments through a competitive grant program; WSDOT is expected to award over \$19 million in federal and state funding to SRTS projects between 2019 and 2021. The goal of SRTS funding is to increase the number of students walking and biking to school safely. Safe Routes to School program funds may be used for infrastructure improvements within two miles of a school and/or local transportation safety programs serving students from kindergarten to 12th grade. Establishing walking school buses and bicycle trains,⁸ and delivering bicycle and pedestrian educational programming are considered eligible education/encouragement activities. All public agencies, and nonprofit entities that are responsible for administering local transportation safety programs are eligible to apply.⁹

PEDESTRIAN AND BICYCLIST PROGRAM

WSDOT also oversees the Pedestrian and Bicycle Program, which distributes grants for projects that enhance safety and mobility for people who choose to walk and bike. WSDOT is expected to award over \$18.3 million in state funding through this program between 2019 and 2021. Funding may be for construction of safety infrastructure improvements; or, design-only projects that lead to a construction-ready pedestrian or bicyclist improvement project. Eligible project elements include: on- and off-road

⁷ Thurston Regional Planning Council, “2016 Regional Congestion Mitigation Air Quality Improvement Program (CMAQ) Grant Application: City of Tumwater.” 10/14/16. www.trpc.org/DocumentCenter/View/3272. Accessed 03/07/2018.

⁸ Eligible costs include those related to recruiting adult leaders, training, and safety equipment.

⁹ Washington State Department of Transportation, “Call for Projects – Pedestrian and Bicycle Program and Safe Routes to School.” www.wsdot.wa.gov/LocalPrograms/saferoutes/callforprojects.htm. Accessed 03-06-2018.

pedestrian and bicycle infrastructure, including trails; crossing and intersection improvements; pedestrian-scale lighting; bicycle parking facilities; vehicle speed feedback signs and photo enforcement programs; walking and bicycle count programs; Public engagement and encouragement campaigns; network planning and analysis efforts; preliminary right of way acquisition activities, environmental analysis, and engineering design; and, tactical urbanism techniques, as part of a planning process.¹⁰

Public Transportation Grants

WSDOT operates three competitive Public Transportation Grant programs that seek to improve the access, mobility, independence and transportation options for community members. These grant programs, the Consolidated Grant Program, the Formula Grant Program, and the Regional Mobility Grant Program, can be used to fund and support transit services and amenities, including: mobility management services, transit studies and mobility plans, bus shelters, transit vehicles, and park and ride lots and expansions. The grants are awarded in alignment with the state biennium. For the 2017-2019 grant period, WSDOT awarded over \$61,800,000 in Consolidated Grand Program funds, over \$48.7 million in Formula Grant Program funds, and approximately \$93 million in Regional Mobility Grant Program funds.¹¹

WASHINGTON STATE TRANSPORTATION IMPROVEMENT BOARD (TIB)

The Washington State Transportation Improvement Board (TIB) is an independent state agency that funds high priority transportation projects across 320 cities and urban counties throughout the state. Created by the Washington State legislature, the TIB distributes and manages street construction and maintenance grants that seek to enhance the movement of people, goods, and services. Funding for the TIB's grant programs comes from revenue generated by three cents of the statewide gas tax. As a community of more than 5,000 residents, Lacey is eligible to apply to two of the TIB's competitive Urban Funding programs, the Urban Arterial Program, and the Sidewalk Program. TIB releases an annual call for projects in June, with project awards given in November. For the FY 2017 funding cycle, the TIB awarded over \$76.8 million for Urban Arterial Program projects, and just under \$5 million for Sidewalk Program projects.¹²

The TIB also hosts the Completes Streets Award grant program. The Complete Streets program was established in 2015 by the State's Complete Streets Act (House Bill 1071) with the goal of encouraging local governments to adopt Complete Streets ordinances and to encourage projects incorporating Complete Streets principles. Only local communities with adopted Complete Streets policies are eligible for the \$125,000 to \$500,000 grant awards. Additional points are awarded to communities with a proven track-record of planning and implementing projects using a Complete Streets approach. Eligible communities must be nominated by an Established Nominating Partner, such as WSDOT and the Washington State Department of Health, to be considered for the grant. The TIB opens a call for Complete Street grant applications every two years.¹³

¹⁰ Washington State Department of Transportation, "Call for Projects – Pedestrian and Bicycle Program and Safe Routes to School." www.wsdot.wa.gov/LocalPrograms/saferoutes/callforprojects.htm. Accessed 03-06-2018.

¹¹ Washington State Department of Transportation, "Public Transportation Grants."

¹² State of Washington Transportation Improvement Board, "TIB Project Funding Cycles." <http://www.tib.wa.gov/projects/FundingPrograms.cfm>. Accessed 03/09/2018.

¹³ Ibid.

TRAFFIC SAFETY GRANTS

The Washington Traffic Safety Commission (WTSC) offers annual state grants to projects that help reach “Target Zero” goals of reducing roadway injury and fatalities. The grants range from \$5,000 to \$150,000; and, cities, counties, non-profits, public schools, and private schools with non-profit status are eligible to apply. WTSC publicizes the annual call for projects through the WTSC website, emails, and at meetings and conference.¹⁴ The funds are programmed in alignment with the federal fiscal calendar year. The City should connect with the WTSC annual grants program manager to be added to the annual grant’s communication email list to stay up-to-date with program information.

The WTSC also offers targeted grants to law enforcement agencies for purchasing school zone safety equipment, such as Radars, LiDars, and speed feedback signs. For public, private, and tribal elementary and middle schools, WTSC offers mini grants of up to \$300 for training materials, equipment, and supplies for school zone crossing guards. The mini grants can be used for purchasing flags, cones, signs, whistles, vests, raincoats, gloves and hats for crossing guards. All elementary and middle schools are eligible to apply for one mini-grant every two-years. WTSC’s current call for mini grants is open from July 1, 2017 through April 20, 2018. Applicants should submit their applicant through the WTSC online Enterprise Management System.^{15, 16}

REGIONAL FUNDING OPPORTUNITIES

The Thurston County Board of County Commissioners adopted the Thurston County Transportation Benefit District (TC-TBD) in 2014 to maintain and improve the County’s aging transportation infrastructure outside of towns and cities in the face of population growth and development. Projects located outside of Lacey’s boundaries and inside Lacey’s urban growth area are eligible for this program, if they are included in a state, regional or local transportation plan. The TC-TBD has historically funded traffic calming, and pedestrian and school beacons projects.¹⁷

The Thurston Regional Planning Council (TRPC) is the Metropolitan Planning Organization/ Regional Transportation Planning Organization (RTPO) serving Lacey and other cities within Thurston County. TRPC distributes both state and federal funds through a variety of programs, including the STBG, TAP, and CMAQ grant programs. Federal and state transportation dollars are allocated throughout the region and the TRPC Regional Transportation Improvement Program (RTIP) includes projects that are important to the region and included in local plans. The RTIP is updated on an annual basis and covers four years of project funding levels. The RTIP is used by WSDOT to inform the state level TIP and project eligibility for state-level grant programs.

Also, see information under Federal Funding Opportunities.

OTHER AGENCIES, CORPORATE FUNDING, AND PRIVATE FOUNDATIONS

There is a broad range of private funding available for pedestrian and bicycle related improvements. Active transportation projects can be supported by funding aimed at a variety of areas including

¹⁴ Washington Traffic Safety Commission, “Annual Grants.” <http://wtsc.wa.gov/grants/annual-grants/>. Accessed 03/14/2018.

¹⁵ Washington Traffic Safety Commission, “Grants.” <http://wtsc.wa.gov/grants/>. Accessed 03/09/2018.

¹⁶ The Washington Traffic Safety Commission’s Enterprise Management System is available online at, https://wtsc.smartsimple.com/s_Login.jsp

¹⁷ Thurston County, “Thurston County Transportation Benefit District.” www.co.thurston.wa.us/publicworks/TC_TBD/TBD_FAQ.aspx. Accessed 03/09/2018.

economic development, community health and fitness, transportation, transit mobility and access, and public infrastructure. Additionally, creative use of private grants can leverage federal, state, regional and county grants and be used in combination with local funds to meet local match requirements. While private grants are not a reliable or consistent source of revenue, they can be used to stretch and supplement public funds. The following organizations provide grants of different sizes for pedestrian and bicycle infrastructure and programmatic activities.

THE PARC FOUNDATION OF THURSTON COUNTY

The PARC Foundation of Thurston County (PARC) provides community grants for healthy living projects and programs for local cities, departments, and community organizations. In 2014, the PARC Foundation in partnership with the Nisqually Indian Tribe awarded \$5,000 to the Tenino Yellow Bicycle Project for the developing of a “bike loaner” program. Additionally, the PARC Foundation recently awarded \$5,000 to the City of Lacey in 2016 to assist in supporting the Summer Feeding and Play Pal Program.¹⁸ The PARC Foundation is currently partnering with the Woodland Greenway Association to promote the development and maintenance of trails for in the County. The PARC Foundation also hosts a donation portal for the Woodland Greenway Association for the creation of a linear park and trail connection between Lacey and Olympia, including the Woodland Creek Community Center. As the fund continues to grow, these efforts will become future opportunities for the City to partner in the development and maintenance of its park and trail systems.¹⁹

ROBERT WOOD JOHNSON FOUNDATION

The Robert Wood Johnson Foundation is dedicated to improving the “health and health care of all Americans,” including public education, prevention, communications activities, and investing in vulnerable populations. Municipalities are eligible for these funds and many active transportation related projects including greenway plans, trail projects, advocacy initiatives and policy development efforts have been funded through the Foundation. The Foundation offers the annual Culture of Health Prize to communities that have improved community members' access to healthy choices, and created positive changes in the local public health climate. Cities, counties, federally-recognized tribes, and state-designated Indian reservations are eligible for the \$25,000 prize. Applications are due in November through the Foundation's website.²⁰

FEET FIRST and THE CASCADE BICYCLE CLUB

Through the support of WSDOT grant funding, Feet First and the Cascade Bicycle Club have historically offered Walk & Bike Mini grants to Washington State schools. Schools with active walking school buses and bike trains have received funding priority in previous years. Both event and project proposals have been eligible for funding.²¹ The City should connect with Feet First and Cascade Bicycle Club to learn about upcoming grant opportunities and to highlight the City's Pedestrian and Bicycle Plan, and energy around active transportation. The Cascade Bicycle Club is also an eligible nominating organization for the Transportation Improvement Board's Complete Streets grant.

¹⁸ PARC Foundation of Thurston County, “Community Grants.” parcfoundation.org/community-grants. Accessed 03/09/2018.

¹⁹ PARC Foundation of Thurston County, “Donations.” parcfoundation.org/donate. Accessed 03/09/2018.

²⁰ Robert Wood Johnson Foundation, “2018 RWJF Culture of Health Prize.” <https://www.rwjf.org/en/library/funding-opportunities/2017/chr-prize6.html>. Accessed: 03/15/2018

²¹ Cascade Bicycle Club, “Walk & Bike Mini Grants.” <https://cascade.org/blog/2016/04/walk-bike-mini-grants-still-available-apply-today>. Accessed 03/15/2018.