

CHAPTER 11- BIKE AND PEDESTRIAN ELEMENT

11.0 Introduction

11.0.1 Why Plan for Bicycling and Walking?

Bicycling in urban areas has grown dramatically in the last decade due to factors such as healthier lifestyles, rising fuel costs and a desire to lessen impacts on the environment. By creating safe places to ride, the development of new facility types such as bike lanes, bicycle friendly routes, and shared use paths have enabled more people to use bike transportation. In addition, as the importance of a healthy lifestyle has grown, the desire to incorporate exercise through walking has also grown. As a basic form of mobility, virtually all trips—regardless of mode—start and end with walking.

The City of Spokane Valley has the essential elements to create a great place to bike and walk. Most streets connect, congestion is minimal, the terrain is flat, and weather is suitable many months of the year. For these reasons, biking and walking is a great way to get around the City. Where there are close links between home and destinations (such as school, work, and shops) walking and cycling can be the preferred and efficient way to move from place to place.

Promoting walking and bicycling can help ease congestion, address weight and health issues and enhance the livability and economic vitality of our community. They help promote interaction between neighbors, strengthen connection to the community, provide 'eyes-on-the-street' security, and support local retail activity. By comparison, streets and places where people are not present often feel uncomfortable and barren. Cities around the nation with the most positive economic growth and solid resources from tourism, general retail and other sources are places where people can come and feel comfortable.

11.0.2 Overview

As an element of the City of Spokane Valley's Comprehensive Plan, this chapter is organized to present background data concerning bike and pedestrian facilities (Section 11.1), applicable federal, state and local codes relating to the topic (section 11.2), and a set of goals and objectives (section 11.3). Section 11.4, contains city-wide bike and pedestrian facility improvements, potential education, enforcement and evaluation tools. As a policy document, this chapter will guide decisions regarding multi-modal transportation facilities. As an implementation tool, it will detail priorities and standards for development.

11.0.3 Vision Statements

To increase opportunities for non-motorized transportation that improve the connectivity, safety, convenience and attractiveness of the pedestrian and bicycle network in the City of Spokane Valley.

To identify and prioritize facility recommendations based on thorough data collection and analysis, community visioning, regional collaboration, engineering assessment and preliminary cost estimates.

11.0.4 Process

Several steps were involved in creating the Bike and Pedestrian Master Program.

a. Data Collection

A comprehensive field inventory of existing bicycle and pedestrian facilities was conducted, identifying constraints and opportunities for improvements. The City coordinated with adjacent jurisdictions as well as bike, pedestrian and health advocates, property owners and other stakeholders. This step incorporated a thorough review of the existing adopted Spokane Valley Comprehensive Plan, including a review of the bike facility map, goals and policies related to bike and walking activity, as well as a review of recently approved similar

plans in the region. Accident data and funding sources for potential future projects were also gathered. A sidewalk inventory completed by students at Washington State University (WSU) was added to the City's GIS system.

b. Public Outreach

This Bike and Pedestrian Master Program (BPMP) was created over a year and a half period with participation from a diverse group of citizens, residents and interested parties. A contact database was created to ensure interested parties were notified throughout the development of the plan. Over 900 contacts were included within five months of initiation. The first in a series of BPMP workshops was held on June 16, 2010. A diverse group voiced opinions and concerns on bicycling and walking in the City. Through an interactive exercise, the participants identified destinations, obstacles, and preferred routes for bike and pedestrian facilities. An on-line survey was made available through the City's web page. Over 350 responses were received from the online survey, indicating a significant level of interest. The short, non-statistical survey gathered additional insight into the biking and walking experience in Spokane Valley and into desired routes and destinations.

c. Connectivity Assessment and Route Recommendations

From the gathered data, a preliminary connection assessment and potential route recommendations were developed. Details of existing rights-of-way, pavement width, driveway approaches and traffic counts were gathered.

d. Continued Public Outreach

A second community workshop was held on September 19, 2010 to present preliminary bike and pedestrian routes and connections based on the information gathered at the first workshop and through the on-line survey. The Spokane Regional Health District presented information on health impacts associated with alternative modes of transportation. By prioritizing potential projects, participants helped create a vision of a comprehensive bike and pedestrian network.

The workshops were publicized online, at schools, bike shops and community facilities throughout the City. In addition, staff prepared newsletters and maintained a BPMP page on the City of Spokane Valley website. Quarterly updates were presented to the City Council as part of the Energy Efficiency and Conservation Block Grant (EECBG) status reports.

e. Safety Analysis and Prioritization of Improvements

A portion of money from the City's EECBG funded an engineering consultant to review the proposed routes for safety, cost and prioritizations. This engineering assessment provides technical guidance to help ensure that proposed bike and pedestrian facilities, such as bike lanes on arterials or shared use paths in neighborhoods, are safe, functional, and appropriate for the set route.

f. Plan Refinement, Review and Adoption

Desired routes were refined based on technical input from the consultant. Classifications for both bicycle and pedestrian facilities were reviewed based on the American Association of State Highway Transportation Officials (AASHTO) guidelines and industry standards. Comprehensive Plan text, maps and exhibits were prepared. Priorities and preliminary implementation schedules were included. Additional workshops were held to gather input on the draft BPMP document. Finally, the BPMP was presented to both the Planning Commission and the City Council.

11.0.5 Bike and Pedestrian Master Plan Technical Advisory Group

Developing the BPMP resulted in partnerships and collaboration between the City, adjoining jurisdictions and many other interested agencies and individuals. Representatives from many of these groups served on the Bike and Pedestrian Technical Advisory Group (BPTAG). The BPTAG

met several times to review and make recommendations on potential routes, facilities and implementation strategies.

11.0.6 Partnerships

Preparation of the BPMP has involved a wide range of people and agencies. Partnerships and collaboration contributes to the quality and integrity of the program. Maintaining these partnerships will contribute toward successful implementation and realization of shared goals.

a. Spokane Regional Health District

The Spokane Regional Health District (SRHD) serves as the area's public health leader and partner in protecting and improving the health of the community. The Health District's Physical Activity program works with community coalitions, elected officials, citizen groups and other organizations to encourage policies that make it easier for people to be physically active. An analysis of existing social, economic and health statistics of the residents of the City of Spokane Valley was prepared by the SRHD epidemiologist. The role of SRHD was to bring awareness of the positive health impact bicycle and pedestrian infrastructure can have on a community.

b. School Districts and Safe Routes to School

Safe Routes to School is a national program aimed at enabling community leaders, schools and parents across the country to improve safety and encourage more children to be active by safely walking and bicycling to school. In the process, work associated with Safe Routes to School contributes to reducing traffic congestion, improving physical health, and making communities more livable overall. The SRHD along with the City, Bicycle Alliance of Washington, Central Valley School District, East Valley School District, and West Valley School District worked diligently through the 2010/2011 school year to prepare walking audits of all elementary and middle schools. Walking audits are detailed surveys of streets and sidewalks within a one-mile radius surrounding a school using the Safe Walk and Bike Routes: A Guide for Planning and Improving Walk and Bike to School Options for Students (site: WSDOT and WTSC 2010). Results of the audits are used to prepare preferred walking routes for students and to identify and prioritize street and sidewalk safety projects. Continued coordinated efforts between school districts, SRHD and the City will aid in the successful implementation of safe routes for pedestrians of all ages.

c. Spokane Transit Authority

The Spokane Transit Authority (STA) is a regional public transportation agency providing a variety of transportation options, including bus service to the City of Spokane Valley. The transit system effectively expands the area that pedestrians are able to access for daily services and activities. STA's database of pedestrian paths throughout its service area was used as base data for the City's sidewalk inventory, gap analysis and recommended pedestrian network. The data identified barriers to people using the sidewalk network to access the bus system.

d. Bicycle Alliance of Washington

The Bicycle Alliance of Washington is a non-profit organization advocating for bicyclists and bike-friendly communities throughout Washington. The Alliance works toward increasing the percentage of all types of bicycle riders and increasing funding available for inclusive, non-motorized transportation facilities. The Alliance works closely with Safe Routes to School programs and serves as a clearinghouse for bicycle education and advocacy.

e. Washington State University

In 2007, Washington State University Interdisciplinary Design Institute (WSU) created a pedestrian model by mapping pedestrian networks throughout Spokane Transit Authority's service area, identifying barriers such as the absence of sidewalks and curb ramps, and non-ADA compliant variations in the surface condition, height, width, and slope of

pedestrian facilities. The data has been used to identify existing routes and to determine sidewalk infill priorities. By partnering with the City, data developed through the Bike and Pedestrian Master Program will be used to update the WSU pedestrian network model. In turn, the model will be useful in prioritizing pedestrian improvements in an effort to increase safety throughout the City.

f. Spokane Regional Transportation Council

The Spokane Regional Transportation Council (SRTC) is the local metropolitan planning organization encouraging coordination and collaboration between planning and transportation departments throughout the region. SRTC maintains the Transportation Improvement Program, a three-year list of state and federally-funded transportation projects, and the Metropolitan Transportation Plan in Spokane County, a document addressing transportation needs for the next 20 years. SRTC recognizes that walking and bicycling are simple and efficient modes of travel that can increase public transit ridership. Coordination between the City and SRTC will create opportunities to implement effective non-motorized projects and programs.

11.1 Planning Context

The Bike and Pedestrian Element of the Spokane Valley Comprehensive Plan expands on the Transportation Element to focus on non-motorized transportation. Also referred to as the Bike and Pedestrian Master Program, this element is consistent with the overall Comprehensive Plan, specifically the Land Use, Transportation, Parks and Recreation and Neighborhood Elements.

11.1.1 GMA

The Washington Growth Management Act (GMA), the Revised Code of Washington (RCW) and the Washington Administrative Code (WAC) provide for the inclusion of non-motorized transportation elements in comprehensive plans. Bike and pedestrian planning is sometimes included in the land use, transportation or recreation elements. Using a separate element to address opportunities and constraints specific to these non-motorized forms of transportation allows the City of Spokane Valley to focus on improvements that enhance the livability and economic vitality of our community.

11.1.2 County-Wide Planning Policies

County Wide Planning Policies (CWPP) provide a policy framework for the County and its respective cities. Specifically items 10 and 16 under Policy Topic 5 – Transportation, state:

10. Each jurisdiction should coordinate its housing and transportation strategies to support existing, or develop new, public multimodal transportation systems.
16. Each jurisdiction shall address energy consumption/conservation by:
 - a. Designing transportation improvements for alternatives to the single-occupant vehicle;
 - b. Locating and adopting design standards for new development to support pedestrian or non-motorized travel;
 - c. Providing regulatory and financial incentives to promote efforts of the public and private sector to conserve energy; and
 - d. Reducing the number of vehicle miles traveled and number of vehicle trips.

As described in Section 11.0.6 above, the SRTC is the Metropolitan Planning Organization for the Spokane region. SRTC maintains the Metropolitan Transportation Plan (MTP), a 20-year strategy to meet the transportation needs of the region. MTP goals related to non-motorized transportation include:

- Establishing a bicycle and pedestrian program that will increase the mode-share of people walking and bicycling as a means of transportation over the next 20 years;
- Eliminating barriers that discourage or prohibit pedestrian or bicycle access;

- Identifying the needs and gaps in the regional bicycle and pedestrian system; and
- Encouraging connections between residential areas and adjacent land uses to enhance awareness and cooperation between all roadway users.

The MTP facilitated the creation of three complementary products: the Spokane Regional Bike Plan (adopted in 2008); the Spokane Regional Pedestrian Plan (adopted in 2009) and the SmartRoutes program. All of these were collaborative efforts with SRTC, the Spokane Regional Health District, the Active Transportation Technical Committee (including representatives from the City of Spokane Valley and other cities and towns) and a citizen-based steering committee. Each of these documents encourages jurisdictions to tailor the regional plans to their own needs and to use them for guidance to develop appropriate bicycle and pedestrian projects that traverse jurisdictional lines.

11.2 Existing Setting

11.2.1 Comprehensive Plan

The City of Spokane Valley's Comprehensive Plan includes goals and policies to guide development within the City. All elements within the Comprehensive Plan must be internally consistent. Goals found within other elements encourage the development and implementation of a bike and pedestrian system within the City. The following are from the Land Use, Transportation, Natural Environment and the Parks and Recreation elements:

Land Use - Goal LUG-7

Provide a balanced transportation network that accommodates public transportation, high occupancy vehicles, pedestrians, bicyclists, automobiles and integrated parking.

Transportation - Goal TG-9

Enhance community livability and transportation by encouraging a connected system of pedestrian and bicycle ways that is integrated into a coordinated regional network.

Natural Environment - Goal NEG-20

Support regional efforts to improve air quality.

Parks and Recreation - Goal PRG-4

Based upon budgetary resources, promote, develop, operate and maintain a comprehensive trail/bicycle system within Spokane Valley that provides non-motorized travel (walking, bicycling, skating, and horseback riding) to meet city residents recreation, fitness and commuting needs.

11.2.2 Current Activity

a. Collision Data

The Washington State Department of Transportation maintains records of pedestrian and bicycle collision data. Between 2003 (incorporation) and 2010, there were six fatalities and 295 serious or disabling injuries in Spokane Valley associated with pedestrian and bicycle collisions. On average, there are 41 pedestrian and bicycle collisions per year. The majority of the collisions occurred on major arterials including Argonne, Pines and Sullivan Roads. It is estimated that many bicycle and pedestrian collisions have happened but have not been reported.

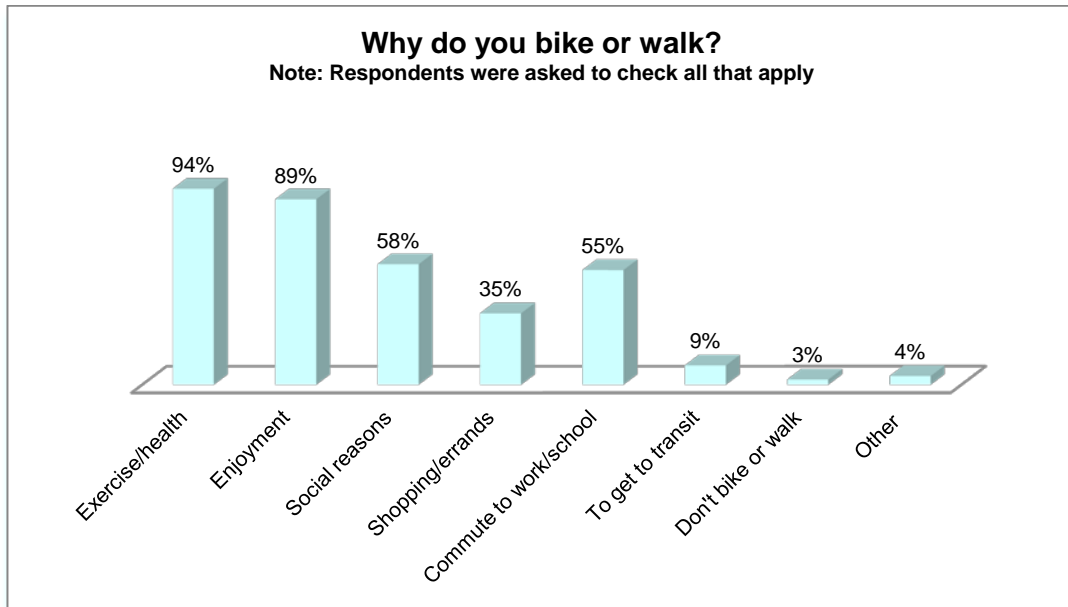
b. Citizen Input

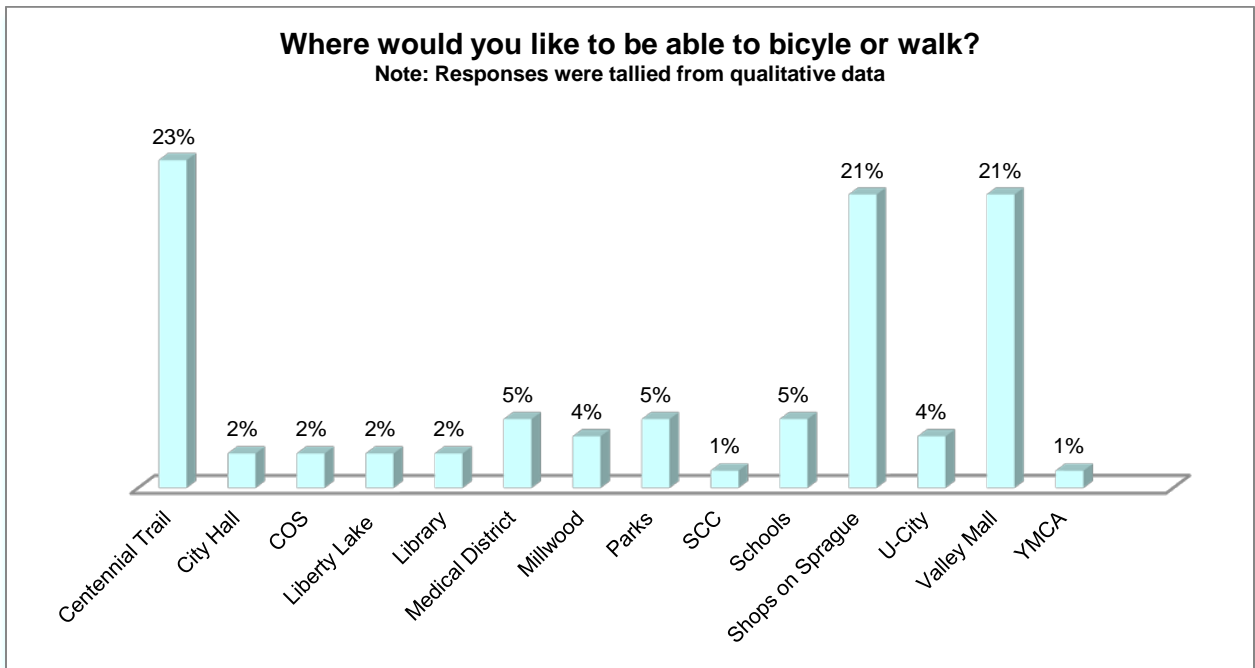
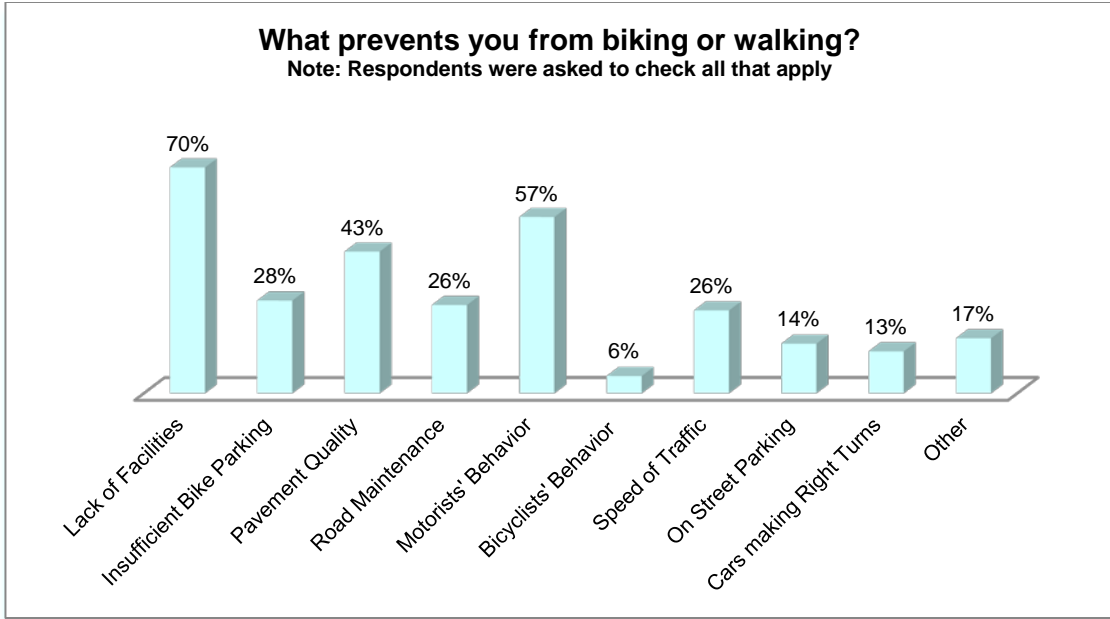
To ensure the bike and pedestrian system reflects the community's desires, an extensive outreach component was built into the process. As described in the previous section, this process included workshops and an on-line survey. The results showed that a majority of respondents walk or bicycle for exercise/health, enjoyment, or to commute to work/school. When asked what prevents a person from biking or walking, an overwhelming 70% of the

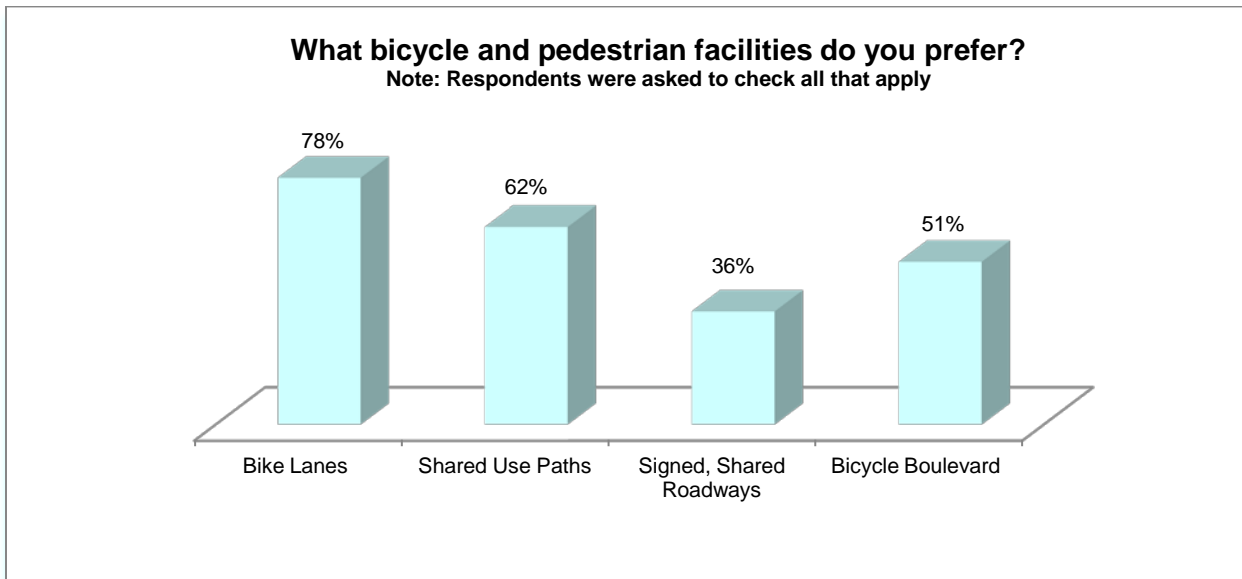
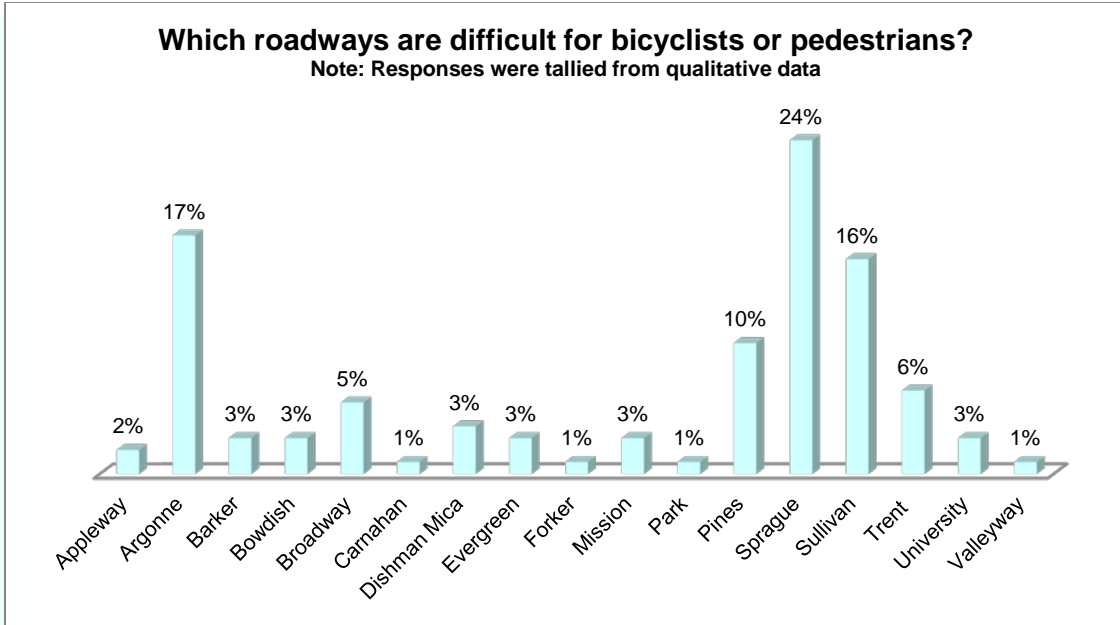
respondents said it was due to the lack of facilities. The results showed the community's desire to see improved bike and pedestrian facilities in or around the following six routes:

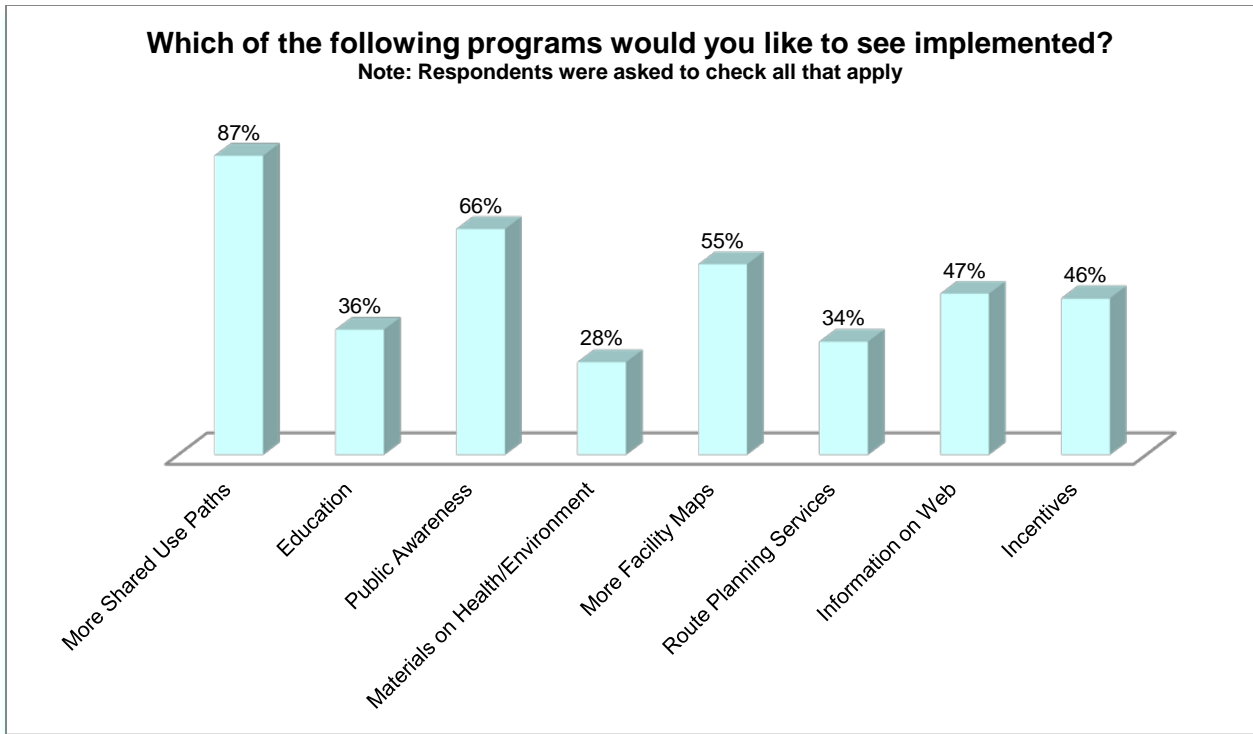
1. Sprague Avenue
2. Pines Road
3. 32nd Ave / Dishman Mica
4. Argonne / Mullan corridor
5. Valleyway Avenue (as a bicycle friendly route)
6. Sullivan Road

Many mentioned the need for more north/south connections to the Centennial Trail. The preferred facilities were bike lanes and shared use paths. The graphs below illustrate the respondent's views.









c. Health Data

As part of the initial community workshops, the SRHD prepared information correlating active lifestyles, including bicycle and pedestrian commutes, to improved health. Sedentary lifestyles can contribute to obesity. Obesity can be defined as a person with a body mass index of 30 or greater. Obesity can contribute to illnesses including heart disease and strokes, high blood pressure, osteoarthritis, diabetes and some forms of cancer.

Lack of physical activity increases health risks, resulting in increased costs for medical care, worker compensation and lost productivity. Obesity and lack of activity contribute to chronic diseases including cancer, heart and respiratory disease. The top five causes of death in Spokane Valley are shown below:

Literature reviews have shown that urban design and land use policies creating opportunities for physical activity within communities have been effective and are considered best practices for increasing a community's health and reducing obesity.

More than half of Spokane County's carbon monoxide emissions are from vehicle sources. Reducing vehicle trips by accommodating and encouraging active transportation can positively impacts health by improving air quality.

SRHD also considers socio-economic factors as they relate to health. A link exists between education, poverty, and mobility choices. In Spokane Valley, between 2004 and 2008, 37.4 percent of the population had less than a high school diploma or GED. The amount of education a person achieves influences their ability to earn a certain standard of living. Between 2004 and 2008, 43.9 percent of the City's population was at or below the 200 percent federal poverty level. That is more than twice the national average. A substantial percentage of the population either cannot afford automobile transportation, or affording it is a financial hardship. For these people, in addition to the young in age and the older population, getting around by other alternatives such as walking, bicycling or transit is a necessity.

11.2.3 Existing Bicycle System

Though developed as a compilation of rural townships over time, the City of Spokane Valley has a strong grid pattern of streets. The placement of principal and minor arterials, collectors and local access streets overlaid on the relatively flat topography provides an excellent base for non-motorized transportation.

a. Types of Bicycle Users

There are many types of bicyclists with varying skills and levels of comfort in terms of riding in traffic. While bicyclists can be loosely categorized as experienced adult, casual adult and child cyclists, there are many levels of cycling competency and just as many opinions as to what makes an ideal bike route. Some experienced cyclists ride on busy arterial streets regardless of bicycle facilities. Some cyclists will ride on busy roads only if bike lanes are provided. Some will use the lanes only if parallel residential roads are unavailable.

b. Existing Bicycle Facilities

A combination of striped bike lanes, posted bicycle friendly routes and separated bike facilities are found throughout the City. In addition, other streets act as informal routes, favored by bicycle commuters as safe and convenient alternatives to bike ways with heavy automobile traffic.

The following different types of bicycle facilities, as defined by the American Association of State and Highway Transportation Officials (AASHTO) are found throughout Spokane Valley:

- i. **Shared Use Path:** Facilities on separated right-of-way and with minimal cross flow by motor vehicles. Minimum width is six feet; optimal width is ten feet. Shared use paths may also be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users.
 - The Centennial Trail is an example of a shared use path in the City. With connections through adjacent jurisdictions, it is an important regional recreational and commuting facility. Other shared use paths exist along the south side of Appleway Avenue from Sprague Avenue to the eastern City boundary and on Sullivan Road, from Centennial Trail to just south of Trent Road.
- ii. **Bike Lanes:** A portion of a roadway designated by striping, signing and pavement markings for the preferential or exclusive use by bicyclists. The required width of a bike lane on a given street varies based on several factors, such as existence of a gutter and curb. Parking and traffic volume must be considered as well. AASHTO and SRTC (Spokane Regional Transportation Council) guidelines recommend that for a street without gutter or curb, the minimum width of the bike lane should be four feet. If the street includes curb and gutter, the minimum width should be five feet. In situations where parking is permitted without any striping or stalls, AASHTO guidelines recommend an 11-foot bike lane width. Bicycle lanes improve conditions for cyclists of all abilities within a given corridor and encourage increased bicycle use by providing a greater degree of comfort and perceived safety for less skilled cyclists.
 - Striped bicycle lanes are located along several arterials, including 32nd Avenue, portions of Broadway, Evergreen Road, Mission Road, Sprague Avenue and 16th Avenue. Mirabeau Parkway from Pines Road to Indiana Avenue and Indiana Avenue from Mirabeau to Evergreen Road are also improved with bike lanes.
- iii. **Signed Shared Roadway:** Signed lane allowing both vehicular and bicycle traffic. Minimum width is 14 feet. Signed shared roadways indicate to cyclists that there are particular advantages to using these routes compared to alternate routes.
 - In the City of Spokane Valley, signed shared roadways exist on 4th Avenue from University to Conklin, and on Trent from Flora to the eastern city boundary.

iv. Shared Roadway: Lane allowing both vehicular and bicycle traffic. No signing is involved.

- All public streets in the City of Spokane Valley can be defined as shared roadways.

Existing bike facilities in the City of Spokane Valley are shown in Map 11.1. Other bicycle facilities found throughout the City include bicycle parking facilities at some commercial, public and office facilities and bicycle racks on transit vehicles.

c. System Deficiencies

Barriers surrounding both recreation and commuting bicycle activity throughout the City include crossing Interstate 90, railroad tracks, and the Spokane River. Currently, principal arterials cross these barriers. However, the limited space for bike facilities on these arterials plus the traffic volume hinders the safety and comfort for many riders. This impacts those trying to access commercial and employment centers in the north part of the City as well as those trying to access the Centennial Trail. Other factors impacting bicycle activity include impaired sight distances, limited street connectivity, cyclist and motorist behaviors, lack of way-finding signs, and maintenance issues.

11.2.4 Existing Pedestrian System

a. Types of Pedestrians

For trips of a certain length, walking is a simple affordable way to get around. Spokane Valley, with relatively flat terrain and a predominately grid street pattern, has great opportunities for pedestrians of all kinds. People choose to walk for many reasons including recreation and necessity. Pedestrians include adults, children, seniors, people without cars and people with disabilities. Those with higher levels of transportation choice, i.e. those specifically able to afford cars and of driving age, make use of autos for most trips. This situation is not so much a reflection of popular transportation preferences but of the many auto-dominated land use and transportation decisions that created present day Spokane Valley. Citizens, including those driving cars as well as seniors, youth and people with disabilities, need safety, connectivity and accessibility.

b. Existing Pedestrian Facilities

Sidewalk inventories were performed by City staff as part of the analyses conducted for the Bike and Pedestrian Master Program and the American with Disabilities Act transition plan. Also, in association with the Safe Routes to School program, volunteers from all elementary and middle schools in the City conducted walking audits to determine potential routes to their schools and to identify missing sidewalk segments, potential pedestrian conflicts and existing safe haven areas for students.

The existing pedestrian system in Spokane Valley includes sidewalks, shared use paths, wide shoulders on rural roads and residential streets. Generally, sidewalks exist on most of the existing arterials and range in width from three to six feet. In addition, most streets surrounding elementary, middle and high school facilities are improved with sidewalks. Several shared-use paths, intended for all types of non-motorized transportation, are located throughout the City (see section on existing bicycle facilities above). Map 11.3 shows locations of existing sidewalk facilities.

Other infrastructure associated with pedestrian activity includes curb ramps, intersection markings, cross walks with and without associated signals, benches and shelters for transit facilities, and street trees.

c. System Deficiencies:

For the most part, sidewalks on arterials are constructed adjacent to the curb and lanes where cars are traveling in excess of 30 and 40 miles per hour, impacting pedestrian comfort and safety. In addition, while current development standards require separated sidewalks, there are portions where sidewalks were not built with initial street construction.

Other factors making walking difficult include crosswalk issues on high-volume streets, obstructions such as power poles and utility boxes in the sidewalk, outdated or non-existent curb ramps, poor lighting, limited facilities at transit stops, and maintenance issues.

11.3 **Goals and Policies**

Spokane Valley is intended to become a bicycle and pedestrian friendly City, where bicycling and walking are encouraged and promoted as safe and convenient forms of transportation and recreation. Goals help guide actions towards fulfilling this vision. Policies are more specific statements relating to implementing measures that will achieve the goals.

As with many cities, Spokane Valley has limited funds with which to pursue its bike and pedestrian goals. Focused and prioritized resources will aid the City in having a positive impact on non-motorized transportation infrastructure. The City will strive to make strategic investments of the limited resources available and where possible, leverage resources in cooperation with other governmental and private agencies.

The following goals and policies are consistent with the goals and policies of other chapters of the Spokane Valley Comprehensive Plan, with the Countywide Planning Policies and the Growth Management Act.

Network and Facilities Goal & Policies

Goal BP-1 Provide a comprehensive bikeway and pedestrian system connecting residential neighborhoods with parks, schools, commercial areas, trails, and employment areas within the City and to adjacent jurisdictions.

Policies

- BP-1.1 Encourage bike lanes, shared use paths and sidewalks throughout the City where applicable and appropriate.
- BP-1.2 Encourage bicycle parking facilities at commercial and public facilities as well as at places of employment.
- BP-1.3 Work with Spokane Transit Authority to develop safe, comfortable and secure pedestrian amenities and bicycle parking facilities at transit stops as well as bike racks on transit vehicles.
- BP-1.4 Encourage sidewalks, bicycle facilities and shared use paths as part of development where applicable.
- BP-1.5 Encourage landscaping, bollards and other treatments with new streets, parking lots and other pedestrian activity zones to create an effective safety and visual buffer between the sidewalk and the street.
- BP-1.6 Coordinate on regional non-motorized efforts in partnership with adjoining jurisdictions and with the Spokane Regional Transportation Council.
- BP-1.7 Pursue joint funding applications for implementation that will expand the regional bikeway and pedestrian network.
- BP-1.8 Strive to maintain access for pedestrians, bicycles and emergency response vehicles when a street closure or a vacation request is processed.
- BP-1.9 Encourage the use of technological advances to provide a safe, user friendly bicycle and pedestrian network.
- BP-1.10 When considering alternative modes of transportation, priority should be placed on providing sidewalks for children particularly in areas near parks and schools.

Safety and Accessibility Goal and Policies

Goal BP-2 Reduce the number of bicycle and pedestrian injuries through development of safe and accessible routes for bicyclists and pedestrians of all ages and abilities.

Policies

- BP-2.1 Encourage bicycle and pedestrian facilities to meet nationally recognized design standards for safety and accessibility, such as AASHTO.
- BP-2.2 Encourage bicycle routes and shared use paths to be properly signed and marked to address personal safety.
- BP-2.3 Encourage safe bicycle and pedestrian crossings of major arterials, railroads, I-90 and the Spokane River through use of innovative treatments where appropriate.
- BP-2.4 Encourage the enforcement of pedestrian and bicycle safety rules on City streets and bikeways.

Promotion and Education Goal and Policies

Goal BP-3 Implement comprehensive education and encouragement programs targeted at all populations in the City.

Policies

- BP-3.1 Continue coordinating with existing agencies and programs, including the Spokane Regional Health District, the Safe Routes to Schools program, the Police Department, SCOPE, the Commute Trip Reduction program and other entities concerned with bicycle and pedestrian safety, to create education programs focused on safe bicycle riding, walking and motorist activity.
- BP-3.2 Provide current and easily accessible information about the bicycle and pedestrian networks, programs and facilities.

Implementation, Funding and Maintenance Goal and Policies

Goal BP- 4 Seek funding from all available sources to implement and maintain bicycle and pedestrian facilities as well as ongoing education and enforcement.

Policies

- BP-4.1 Maintain a prioritized and phased implementation plan that takes into consideration the scope, cost and benefits of a facility, and available funding opportunities.
- BP-4.2 Where feasible, include facilities as described in this Bike and Pedestrian Element as part of the annual Transportation Improvement Program (TIP).
- BP-4.3 Review and monitor opportunities for multi-modal grant funding as they become available.
- BP-4.4 City should strive to maintain quality street surfaces that provide a safe environment for vehicles and cyclists.
- BP-4.5 Ensure internal coordination between departments prior to developing street projects that include bike and/or pedestrian facilities.

11.4 Bike and Pedestrian Master Program

11.4.1 Engineering Improvements

a. Overall Bicycle and Pedestrian Network

The City of Spokane Valley Bike and Pedestrian Master Program is based on field data, citizen input and engineering analysis of constraints and opportunities for bicycle and pedestrian facilities. It should be noted that this is a master program, not a detailed feasibility analysis. As such, exact routing and designations could be modified during the course of more detailed studies of specific projects. The recommended bikeway network is shown in Map 11.2 and recommended pedestrian network is shown in Map 11.4. Map 11.5 shows the recommended travel ways for the schools that participated in the safe routes to school exercise.

b. Possible Engineering Solutions

The specific types of bike and pedestrian treatments that are applied to roads vary depending on the existing right-of-way, traffic counts, traffic speeds, roadway cross sections, number of approaches or driveways on the street and topography. A brief description of bicycle treatments is provided below. More specific design guidelines including the complete toolbox and typical cross section layouts are found in Appendix 2: Facility Design Guidelines.

- i. **Bicycle Friendly Routes** – Bicycle friendly routes are roadways with low speeds and low volumes. The treatments recommended for bicycle routes should strive to improve through movements for bicyclists and other non-motorized modes. Bicycle route treatments are ideal on two-lane roadways where traffic volume is less than 3,000 vehicles per day (although less than 1,500 vehicles per day is preferred) and posted speeds of 25 miles per hour or less. See Appendix 2 for specific bicycle friendly route treatments and cross sections.
- ii. **Bicycle Lanes** - Bicycle lanes designate an exclusive part of the roadway (typically on the right side of the roadway) to be used by bicyclists only. A bike lane is typically located between the right most traffic lane and the curb or on street parking area. A bicycle lane should be considered on roadways with traffic volumes greater than 3,000 vehicles per day or posted speeds greater than 25 miles per hour. Appendix 2 includes a variety of bicycle lane treatments from a standard bike lane to buffered bike lanes and climbing lanes. The appendix also includes cross sections showing how bike lanes could be applied to existing City roadways.
- iii. **Cycle Tracks** - A cycle track is an exclusive bike facility separated from vehicle traffic and the sidewalk, and is intended to provide improved comfort and safety for the bicyclist as compared to an on-street bike lane. The cycle track can be separated from vehicle traffic using a variety of treatments (curbs, planter strips, on-street parking, pavement markings, or other options). In addition, the cycle track should be clearly defined from sidewalks (grade separated, pavement markings, or an alternate clear indication) to prevent bicycle conflicts with pedestrians. A cycle track requires a wider cross section than a typical bike lane, but should be considered on roadways where bicyclists may not feel comfortable biking directly adjacent to vehicle traffic.
- iv. **Shared Use Paths** – Shared use paths are physically separated from the roadway and are intended for use by pedestrians, bicyclists, runners and other non-motorized users. Shared use paths supplement bike lanes, bicycle friendly routes and sidewalks and connect to these other facilities at ends of the path as well as midway, depending on the length and location. The number of driveways and crossings should be minimized when designing a shared use path. Generally, if there are more than eight crossings per mile, an on-street facility should be considered instead.

- v. **Bicycle Intersection Treatments** - Intersection treatments improve the safety of bicyclists through an intersection (typically a signalized intersection). Depending on the characteristics of the cross streets (traffic and bicycle volumes, traffic and bicycle speeds, type of bicycle facility, number of vehicles and/or bikes turning, visibility, surrounding land use, and other factors) a range of treatments may be applicable. Appendix 2 provides specific intersection treatment guidelines and criteria.
- vi. **Mid-Block Crossing Treatments** - Mid-block crossings can be dangerous for bicyclists because drivers are not typically expecting a crossing at a non-intersection location. The need for a mid-block crossing may arise if two bicycle facilities are off-set or if a trail intersects a roadway at mid-block. In these situations, mid-block crossing treatments can be applied to improve the safety.
- vii. **Wayfinding** - Wayfinding is meant to be used by bicyclists while en route to communicate directions, distance and sometimes expected travel time to a particular destination. Wayfinding is typically accomplished through the use of signs supplemented at times with pavement markings. Wayfinding can be beneficial to all types of bicycle facilities.
- viii. **Prioritization Criteria – Bicycle Network**

The overall bicycle and pedestrian networks will be implemented over time. The criteria contained in Appendix 1 has been used to determine where to focus available funding and staff time to implement bicycle facility projects. Priority is given to those projects anticipated to serve the most number of people and to contribute to overall safety.

- ix. **Prioritization Criteria – Pedestrian Network**

The criteria contained in Appendix 1 was used to determine where to focus available funding and staff time to implement pedestrian facility projects. Priority is given to those projects anticipated to serve the most number of people and to contribute to overall safety.

- x. **Network Improvements**

Facility improvements, summarized in Appendix 1, are categorized as short-term and long-term projects based on need and ease of implementation.

11.4.2 Ancillary Facilities

Ancillary facilities add to the safety and comfort of using walking and bicycling as modes of transportation. Ancillary facilities can include bicycle parking, showers and lockers, transit features and bicycle and pedestrian maps. Crosswalk design can aid in increasing visibility through the use of specific striping patterns and lights. The following methods address ancillary features:

- a. **Pedestrian Features:** Encourage that pedestrian crossing facilities, including crosswalks and signage, alert both motorists and pedestrians to the presence of the facility. Work with developers and utilities to remove existing hazards such as light poles and utility boxes from the sidewalk. Where appropriate, constrain roadway width with bulb-outs and tighter right turns at intersections to slow vehicles as they approach areas with high pedestrian volumes. Provide sidewalks or pedestrian paths between neighborhoods and commercial or public destinations where appropriate. Encourage clearly identified safe walking paths between public sidewalks and commercial buildings.

- b. **Bicycle Parking:** Continue to require bicycle racks for new development. Consider developing standards for the size of bicycle parking spaces, clearance, aisles, signs, anchoring, non-interference with pedestrian circulation, and weather protection.
- c. **Shower and Locker Facilities:** Continue to coordinate with Spokane County Commute Trip Reduction program to encourage shower and locker facilities as tenant benefits and to encourage employers to consider partnering with nearby gym facilities for use of existing shower facilities.
- d. **Transit Features:** Continue as an active partner with the Spokane Regional Transportation Council and the Spokane Transit Authority to encourage the accommodation of bike lockers and bikes on transit vehicles.

11.4.3 Education and Encouragement

Unfortunately, too many bicyclists in the United States lack the basic skills or knowledge to safely ride a bicycle in traffic. Many people are afraid of bicycling on streets. Bicycle education programs are designed to increase bicycle safety by improving the ability to ride with traffic as well as improve motorist awareness. The difficulties faced in helping people develop this skill and knowledge stems from the wide range of age groups that require this training and the necessity to tailor the programs to each group. Bicycle education programs should be directed at children bicyclists, adult bicyclists and motorists.

The following methods address education and encouragement:

- a. **Child Education and Encouragement:** In conjunction with the Health District, school districts and other interested organizations, encourage development of bicycle education programs for several age groups or use existing programs that have demonstrated effectiveness. Programs could be incorporated into existing summer parks programming and existing school programming. Programs could include bicycle helmet safety information, maintenance and repair, safe riding habits and bicycle rides. More specifically, students in grades K-3 could be taught basic pedestrian skills, stranger danger, crossing residential streets, using pedestrian push buttons and taking a school bus. Older students in Grades 4 to 5 could learn bike safety and handling skills, including bike operation on streets with supervised bike rides on neighborhood streets. Later, in Grades 7-9, students could learn basic mobility skills of how to get around town including using transit for utilitarian and recreational trips (e.g., how to read a bus schedule, execute a transfer, take rapid transit), and more on safe bicycling practices. In tenth grade, many students take driver's education. The driver's education curriculum could include focused instruction on how motorists should interact with pedestrians and bicyclists, how to predict their movements, pass safely and learn when different modes have the right-of-way.
- b. **Adult Education and Encouragement:** Continue to partner with the Health District, Police Department, SCOPE and other interested organizations to develop adult pedestrian and bicycle program(s) which could include a public awareness campaign focused on responsible road behavior. The campaign could be directed to pedestrians, bicyclists and motorists alike and make use of public service space from newspapers, television, radio, bus advertising, posters and flyers included in utility bills. In addition, promote community events such as Bike to Work Week, charity bike rides, costume rides, bike fairs and bicycle rodeos. Include bicycle safety checks and safety information. Incorporate "share the road" signs where appropriate on City streets and include "sharing the road" or other safety campaign information on the City's webpage.

11.4.4 Enforcement

While laws that address bicyclists' behavior and safety are in place, they are sometimes not fully enforced. Effective enforcement leads to a safer environment for pedestrians, bicyclists and

motorists alike. The following methods address enforcement of this Bike and Pedestrian Master Program:

- a. Law Enforcement: Work with the Spokane Valley Police Department to develop a policy to include the City’s intent to enforce existing laws affecting pedestrian, bicyclist and motorist responsibilities, including parking in bike lanes but especially those relating to drunken driving, careless driving, speeding and failing to yield.
- b. School Crossings: Continue assisting school districts to develop their Safe Routes to School programs to ensure safe crossing activity at school sites. Engage SCOPE as an additional presence where needed.
- c. Facility Upkeep: Continue existing program of regular maintenance of street and sidewalk facilities. Ensure that asphalt pavement overlays are flush with the concrete gutter and that utility covers are flush with the pavement.

11.4.5 Implementation and Funding

Various portions of this Bicycle and Pedestrian Master Program can be implemented with existing procedures (such as paint applied when a road is resurfaced, continuing existing requirements and coordination with other agencies). Other portions will require further study, possible neighborhood input and detailed engineering design. Table 11.4.1 summarizes potential steps involved with implementation:

Table 11.4.1 BPMP Implementation Summary		
Program or Improvement	Possible Implementation Step(s)	Lead Department
Bicycle and Pedestrian Network Improvements	Further studies to determine exact facility improvements to be implemented	Community Development; Public Works
	Neighborhood input	Community Development
	Engineering design work	Public Works
	Funding source identification	Community Development; Public Works
	Environmental review	Community Development; Public Works
Ancillary Facilities	Application of requirements with development	Community Development; Project Developers
	Coordination with other agencies	Community Development
Education and Encouragement Programs	Program research and development	Community Development; Parks Department
Enforcement Programs	Coordination with other agencies in developing programs	Community Development
	Funding Source identification	Community Development; Public Works

As referenced in Table 11.4.1, funding would be required to implement many portions of the Bike and Pedestrian Master Program.

Detailed descriptions of funding sources, including match requirements and application timing, are contained in Appendix 3. Review of several funding programs reveals that while each grant announcement details specific criteria for funding, certain common threads are present. When applying for funding consider the following criteria:

a. Partnership

Funding is limited. Therefore, grant sources encourage and support cooperative regional projects and planning efforts that integrate housing, transportation, environmental impact and economic development. Projects that pull together public and private entities and multiple stakeholders are favored.

b. Risk Reduction

Crash data quantifies dangerous stretches of pedestrian and bicycle commute routes. Increasing safety for pedestrians and bicyclists encourages the larger community to consider these alternative modes of transportation. Projects designed to address a clear and demonstrated safety hazard are therefore encouraged.

c. Location

Bike and pedestrian facilities that link residential areas with schools, recreation facilities, and shopping areas result in a large benefit to a community. Encouraging alternative transportation to daily activities reduces car commutes and pollution. Well located projects also consider and provide for multi-generational users.

d. Broad Project Scope

Developing and encouraging use of an overall bike and pedestrian system is an on-going process. Implementing a successful bike and pedestrian master program includes identification of facility improvements, provisions for education, encouragement and enforcement, and program follow-up that provides for evaluation and adjustments over time.

11.4.6 Monitoring and Modifications

Monitoring the effectiveness of the overall BPMP can be accomplished as part of the annual Comprehensive Plan review and update. Modifications to the Bicycle Map, the Pedestrian Map, the project implementation tables and other programs described in this Chapter can be accomplished as needed to achieve established goals. The City's web page can be updated with notices of projects that are in the planning, design, build or maintenance phase. Education and enforcement activities can be highlighted on the web page.

Appendix 1: Prioritization Criteria and Network Improvements

Introduction

This appendix identifies the prioritization criteria used to determine where to focus available funding and staff time to implement bicycle and pedestrian projects. Priority is given to those projects anticipated to serve the most number of people and to contribute to overall safety. Facility improvements are categorized as short-term and long-term projects based on need and ease of implementation. Exact timing of improvements may vary depending on factors such as funding and coordination with other private and public development projects.

Prioritization Criteria – Bicycle Network

Bicycle Facility Prioritization Criteria		
Criteria	Reasoning	Points Available
Mobility and Access (Total of 20 Points)		
Estimated volume of existing or potential bicycle users	Projects that serve the most number of people should receive priority.	0 - 5
Completes a missing segment of a bicycle path	Projects that provide a continuous bicycle network are desirable.	0 - 5
Provides access to major destinations (shopping, schools, transit, trails, etc.)	Getting people where they want to go is important.	0 – 5
Connects existing routes / eliminates gaps and/or barriers (i.e. I-90, the Spokane River, railroad)	Projects that provide a continuous Bicycle network are desirable.	0 – 5
Safety (Total of 20 Points)		
Corrects or improves specific issue areas	Projects that reduce or eliminate an existing hazard should have priority.	0 - 10
Improves routes with higher vehicular traffic	Routes with higher vehicular traffic have greater potential safety conflicts that should be reduced.	0 - 5
Provides an alternative route to a higher volume and/or higher speed facility	Routes with lower vehicular volumes and speeds have less safety conflicts.	0 - 5
Ability to Implement (Total of 10 Points)		
Project has all or partial funding, or is likely to be funded	Identified funding facilitates quicker implementation.	0 - 5
Route has design and environmental reviews initiated	Projects further along in the design and review phase can be implemented sooner.	0 - 5
Maximum Possible Score: 50 Points		

Network Improvements – Bicycle

City of Spokane Valley Bicycle Network Projects					
#	Street	From	To	Proposed	Comments and Potential Improvements
Short Term Projects					
East – West Routes					
1	Valleyway Avenue	Flora Road	Park Road	Bicycle Friendly Route	Enhanced crossing treatments at 6 locations.
2	Alki Avenue	Barker Road	Flora Road	Bicycle Friendly Route	
3	12 th Avenue	Sullivan Road	University Road	Bicycle Friendly Route	Enhanced crossing treatments at 3 locations.
4	13 th Avenue	University Road	Woodruff Road	Bicycle Friendly Route	
5	24 th /25 th Avenue	Sullivan Road	University Road	Bicycle Friendly Route	Enhanced crossing treatment at 1 location
6a	Sprague Avenue	University Road	Pines Rd-	Bicycle lanes	"a, b, c" indicates portions of connected route.
6b	Sprague Avenue	Pines Rd	Evergreen Rd		
6c	Sprague Avenue	Evergreen Rd	Sullivan Rd		
7	Mission Avenue	Pines Road	Sullivan Road	Bicycle lanes	
8	Mission Avenue	Flora Road	East City Limits	Bicycle lanes	Design funded
9	North Greenacres Path	Centennial Trail	East City Limits	Shared Use Path	Design partially funded Enhanced crossing treatments at 1 location.
10	Millwood Path	Fancher Road	Mirabeau Parkway	Shared Use Path	Adjacent to railroad line Enhanced crossing treatments at 3 locations Design funded
11	Appleway Path	University Road	Sprague Avenue/ Tschirley Road	Shared Use Path	Enhanced crossing treatment at 3 locations
12	Sprague Ave	Sullivan Rd	Sprague/Corbin	Bicycle lanes	Already designed
North – South Routes					
13	Progress Road	24 th Avenue	Mission Avenue	Bicycle Friendly Route	
14	Blake Road	Highway 27	Valleyway Avenue	Bicycle Friendly Route	
15a	Pierce Road	32 nd Avenue	4 th Avenue	Bicycle Friendly Route	"a, b, c" indicates portions of connected route.
15b	4 th Avenue	Pierce Road	Skipworth Road	Bicycle Friendly Route	
15c	Skipworth Road	4 th Avenue	Appleway Path	Bicycle Friendly Route	
16	Long Road	Appleway Avenue	Montgomery Avenue	Bicycle Friendly Route	
17a	Marguerite Road	Mission Avenue	Harrington Avenue	Bicycle Friendly Route	"a, b, c, d" indicates portions of connected route.
17b	Hutchinson Road	Harrington Avenue	Riverside Avenue	Bicycle Friendly Route	
17c	Harrington Avenue	Marguerite Road	Hutchinson Road	Bicycle Friendly Route	
17d	Riverside Avenue	Hutchinson Road	Argonne Road	Bicycle Friendly Route	
18a	University Road	Sprague Ave	Mission Avenue	Bicycle lanes	"a, b, c" indicates portions of connected route.
18b	University Rd	16 th Ave	Sprague Ave	Bicycle lanes	
18c	University Rd	32 nd Ave	16 th Ave	Bicycle lanes	
19a	Park Road	Sprague Avenue	Broadway Ave	Bicycle lanes	"a, b, c" indicates portions of connected route.

City of Spokane Valley Bicycle Network Projects					
#	Street	From	To	Proposed	Comments and Potential Improvements
19b	Park Rd	Broadway Ave	Indiana Ave	Bicycle lanes	
19c	Park Rd	Indiana Ave	Rutter Ave	Bicycle lanes	
20	Evergreen Road	16 th Avenue	32 nd Avenue	Bicycle lanes	
21	Flora Road	Mission Avenue	Appleway Path	Bicycle lanes	
22	Pines Road	16 th Ave	24 th Ave	Bicycle lanes	
Long Term Projects					
East – West Routes					
23a	Indiana Avenue	East City Limits	Arc Street	Bicycle Friendly Route	
23b	Tschirley Street	Indiana Avenue	Baldwin Avenue	Bicycle Friendly Route	“a, b, c” indicates portions of connected route.
23c	Baldwin Avenue	Arc Street	Flora Road	Bicycle Friendly Route	
24a	4 th Avenue	Park Road	Carnahan Road	Bicycle Friendly Route	
24b	Carnahan Road	4 th Avenue	6 th Avenue	Bicycle Friendly Route	“a, b, c” indicates portions of connected route.
24c	6 th Avenue	Carnahan Road	West City Limits	Bicycle Friendly Route	
25	16 th Avenue	Sullivan Road	Rotchford Drive	Bicycle Friendly Route	
26	Boone Avenue	University Road	Pines Road	Bicycle Friendly Route	
27a	3 rd Avenue	Flora Road	Tschirley Road	Bicycle Friendly Route	“a, b, c” indicates portions of connected route.
27b	4 th Avenue	Tschirley Road	Barker Road	Bicycle Friendly Route	
28	37 th /38 th Avenue	Bowdish Road	Pines Road	Bicycle Friendly Route	
29	Mission Avenue	Fancher Road	Vista Road	Bicycle Friendly Route	
30	Liberty Avenue	Vista Road	Park Road	Bicycle Friendly Route	
31	Railroad Avenue	Stanley Road	Fancher Road	Bicycle Friendly Route	
32a	Knox Avenue	Vista Road	Sargent Road	Bicycle Friendly Route	“a, b, c” indicates portions of connected route.
32b	Sargent Road	Knox Avenue	Montgomery Avenue	Bicycle Friendly Route	
32c	Montgomery Avenue	Sargent Road	Argonne Road	Bicycle Friendly Route	
33	4 th Avenue	Dishman Mica Road	University Road	Bicycle Friendly Route	
34	Sprague Avenue	Sullivan Road	East City Limits	Bicycle lane	
35a	Wellesley Avenue	West City Limits	Evergreen Road	Bicycle lane	“a, b, c” indicates portions of connected route.
35b	Wellesley Avenue	Progress Road	Flora Road	Bicycle lane	
36	8 th Avenue	West City Limits	Park Road	Bicycle lane	
37	3 rd Avenue	West City Limits	Fancher Road	Bicycle lane	One-way westbound
38	Broadway Avenue	Fancher Road	West City Limits	Bicycle lane	
39	Montgomery Avenue	Argonne Road	Woodruff Road	Bicycle lanes	
40	Broadway Avenue	Sullivan Road	Moore Road	Bicycle lanes	
41	Montgomery Avenue	University Road	Wilber Road	Bicycle lanes	

City of Spokane Valley Bicycle Network Projects					
#	Street	From	To	Proposed	Comments and Potential Improvements
42	Mission Avenue	Marguerite Road	Willow Road	Bicycle lanes	
43	Broadway Avenue	Flora Road	East City Limits	Bicycle lanes	
44	Euclid Avenue	Sullivan Road	East City Limits	Bicycle lanes	
45	32 nd Avenue	Highway 27	Evergreen Road	Bicycle lanes	
46	Mansfield Avenue	Pines Road	Houk Road	Bicycle lanes	
47	Indiana Avenue	Sullivan Road	Desmet Avenue	Bicycle lanes	
48	Trent Path	Park Road	East City Limits	Shared Use Path	Along south side of roadway on Railroad ROW, requires 2 bridges
49	32 nd Avenue	Dishman-Mica Rd	Glenn Road	Bicycle lanes	
50	Mansfield Ave	Houk Rd	Mansfield Ave terminus	Bicycle lanes	
51	Sprague Path	Appleway Avenue	West City Limits	Shared Use Path	Adjacent to railroad line
North – South Routes					
52	Rotchford Drive	16 th Avenue	4 th Avenue	Bicycle Friendly Route	
53	Park Road	Liberty Avenue	Rutter Avenue	Bicycle Friendly Route	
54	Vista Road	Mission Avenue	Liberty Avenue	Bicycle Friendly Route	
55	Conklin Road	Broadway Avenue	Sprague Avenue	Bicycle Friendly Route	
56	Conklin Road	Sprague Avenue	4 th Avenue	Bicycle Lane	
57	Locust Road	Valleyway Avenue	Mission Avenue	Bicycle Friendly Route	
58a	Farr Road	Broadway Avenue	8 th Avenue	Bicycle Friendly Route	"a, b, c" indicates portions of connected route.
58b	8 th Avenue	Farr Road	Woodruff Road	Bicycle Friendly Route	
58c	Woodruff Road	8 th Avenue	16 th Avenue	Bicycle Friendly Route	
59	Stanley Road	Railroad Avenue	Broadway Avenue	Bicycle Friendly Route	
60a	University Road	Mission Avenue	University Pedestrian-Bicycle Bridge	Bicycle Friendly Route	"a, b, c" indicates portions of connected route.
60b	University Road	University Pedestrian-Bicycle Bridge	Montgomery Avenue	Bicycle Friendly Route	
60c	University Road	Montgomery Avenue	Trent Avenue	Bicycle Lane	
61	Mamer Road-Nora Avenue	Mission Avenue	Mirabeau Parkway Pedestrian-Bicycle Bridge	Bicycle Friendly Route	
62	Thierman Street	8 th Avenue	Appleway Avenue	Bicycle Friendly Route	
63	Park Road	8 th Avenue	South City Limits	Bicycle Friendly Route	
64	Flora Road	Appleway Path	3 rd Avenue	Bicycle Friendly Route	
65	Riverway Avenue	Montgomery Avenue	Eden Road	Bicycle Friendly Route	

City of Spokane Valley Bicycle Network Projects					
#	Street	From	To	Proposed	Comments and Potential Improvements
66	Fancher Road	Rutter Avenue	3 rd Avenue	Bicycle lane	
67	Pines Rd	32 nd Ave	40 th Ave	Bicycle Friendly Route	
68	Conklin Rd	4 th Ave	Sprague Ave	Bicycle lane	
69	Carnahan Road	6 th Avenue	14 th Avenue	Bicycle lane	Possible climbing lane only
70	Bowdish Road	Dishman Mica Road	Mission Avenue	Bicycle lanes	
71	Barker Road	8 th Avenue	Boone Avenue	Bicycle lanes	
72	Barker Road	Spokane River	Trent Avenue	Bicycle lanes	
73	McDonald Road	16 th Avenue	Mission Avenue	Bicycle lanes	
74	Flora Road	Wellesley Avenue	Euclid Avenue	Bicycle lanes	
75	Evergreen Road	Trent Avenue	North City Limits	Bicycle lanes	
76	Evergreen Road Extension	Indiana Avenue	Mansfield Avenue	Bicycle lanes	
77	Pines Road	Mirabeau Parkway	Trent Avenue	Bicycle lanes	Requires WSDOT approval
78	Dishman Mica Path	Appleway Avenue	South City Limits	Shared Use Path	Adjacent to railroad line
79	Sullivan Path	Centennial Trail	Wellesley Avenue	Shared Use Path	
80	Flora Path	Mission Avenue	Centennial Trail	Shared Use Path	Along west side of roadway
81	Long Road Bridge	Crossing over I-90		Pedestrian-bicycle bridge	
82	Mirabeau Parkway Bridge	Crossing over I-90		Pedestrian-bicycle bridge	
83	University Road Bridge	Crossing over I-90		Pedestrian-bicycle bridge	
84	Trent Path Bridge at Millwood	Crossing over railroad and Millwood Trail		Pedestrian bicycle bridge	
85	Trent Path Bridge at Spokane River	Crossing over Spokane River and Centennial Trail		Pedestrian bicycle bridge	

Prioritization Criteria – Pedestrian Network

Pedestrian Facility Prioritization Criteria		
Criteria	Reasoning	Points Available
Project Setting (Total of 20 Points)		
Located within ¼-mile of a transit route	Projects that enable direct access to transit increase the availability and use of alternative modes of transportation.	0 - 5
Connects residential neighborhoods to activity centers	Getting people where they want to go is important.	0 - 5
Completes a missing segment of a pedestrian path	Projects that provide a continuous pedestrian network are desirable.	0 - 5
Estimated volume of existing or potential pedestrian traffic	Projects that will serve a higher pedestrian population are advantageous.	0 - 5
Safety (Total of 15 Points)		
Part of an identified "Safe Route to School"	Improving safety for children is top priority.	0 - 5
Eliminates or improves an existing barrier	Projects that reduce or eliminate an existing hazard and/or that provide a shorter path of travel should have priority.	0 - 5
Increases safety on a classified road	Since many destinations are most easily accessed by arterials, increasing pedestrian safety on these direct paths is important. In addition, many pedestrian/vehicle collision incidents occur on these routes where vehicle speed and volume are highest.	0 - 5
Ability to Implement (Total of 15 Points)		
Project has all or partial funding, or is likely to be funded	Identified funding facilitates quicker implementation.	0 - 5
Route has design and environmental reviews initiated	Projects further along in the design and review phase can be implemented sooner.	0 - 5
Project involves multiple sponsors	Projects that demonstrate collaboration and cooperation with multiple interest groups build community and entitlement.	0 - 5
Maximum Possible Score: 50 Points		

Network Improvements – Pedestrian

City of Spokane Valley Pedestrian Network Projects					
#	Street	From	To	Proposal	Comments and Potential Improvements
Short Term Projects					
East – West Routes					
1	Wellesley	McDonald	Evergreen	Both sides	
2	Wellesley	Sullivan	Isenhart	North side	South side sidewalk exists
3	Buckeye	Park	Vista	One or both sides	Schools in area
4	Montgomery	+/- Dartmouth	Carlisle	Both sides	
5	Montgomery	East of Carlisle	Pines		Crosses railroad
6	Indiana	Pines	+/- McDonald	Both sides	
7	Indiana	Mirabeau	+/- Adams	North side	South side sidewalk exists
8	Broadway	Havana	Fancher	North side	South side sidewalk exists
9	Broadway	Fancher	Heacock	South Side	North side sidewalk exists
10	Broadway	+/- Moore	Conklin	South Side	North side sidewalk exists
11	Broadway	+/- Conklin	Flora	North side	South side sidewalk exists
12	Broadway	Flora	Long	Both sides	
13	16 th Ave	Sullivan	Rotchford	North side	South side sidewalk exists
14	24 th Ave	Adams	Sullivan	North side	Complete existing gaps; school Design and construction funded
15	32 nd Ave	SR-27	Best		East of Evergreen, sidewalk already exists on north side of street
16	44 th Ave	City limit	Woodruff		
17	44 th Ave	Bowdish	Sands	North side	Complete gaps in sidewalk on north side of street
North – South Routes					
18	Fancher	+/- Cataldo	Boone		Gap in front of school
19	Farr	Appleway	8 th Ave	Both sides	Funded for design and construction to 4 th Ave
20a	Bowdish	8 th Ave	16 th Ave	Both sides	a, b, c” indicates portions of connected route. To provide safe access to middle school
20b	Bowdish	16 th Ave	24 th Ave		
21	Perrine	Main	Sprague	One or both sides	To connect to library
22	Adams	4 th Ave	24 th Ave		Gaps on one or both sides; 3 schools on segment
23	Evergreen	16 th Ave	32 nd Ave	Both sides	With road construction
24	Sullivan	4 th Ave	16 th Ave	West side	East side sidewalk exists
25	Conklin	Broadway	Sprague	Both sides	
26	Long	Mission	Boone		Future school and new park site
Long Term Projects					
East – West Routes					

City of Spokane Valley Pedestrian Network Projects					
#	Street	From	To	Proposal	Comments and Potential Improvements
27	Trent	McDonald	Barker	One or both sides	Could be replaced by Shared Use Path (see Bicycle network)
28	Mission	Fancher	Vista	Both sides	
29	Mission	Willow	Pierce	Both sides	Connects to Valley Mission Park
30	Mission	Bowdish	+/- Union	Both sides	Connects Valley Mission Park to commercial area on Pines
31	Wellesley	Sunnyvale	City Boundary	North side	South side sidewalk exists
32	12 th Ave	Bowdish	Union	Both sides	
33	24 th Ave	University	Wilbur	Both sides	Two schools
34	24 th Ave	Union	Pines	South side	School
35	24 th Ave	Pines	Evergreen	One side	Nice residential through street; would need treatment to solve difficult crossing at SR-27
North – South Routes					
36a	Park	Sprague Ave	Broadway Ave	One or both sides	Access to park area and school, Broadway to Indiana is funded for design.
36b	Park	Broadway Ave	Indiana Ave	Both sides	
37	Park	Sharp	Dalton	Both sides	Access to schools; need safe railroad crossing
38	Vista	Dalton	I-90	Both sides	School; railroad crossing
39	Vista	Mission	Broadway	Both sides	
40	Farr	Broadway	Sprague	One or both sides	Connects school
41	Bowdish	24 th Ave	Dishman-Mica	Both sides	Portions included as short-term project
42	Evergreen	Forker	Trent	Both sides	

Appendix 2: Facility Design Guidelines

Introduction

This appendix is intended to be used as a resource to determine appropriate treatments for bicycle facilities in the City of Spokane Valley. It is organized in two sections:

1. **Toolbox.** The toolbox describes treatment options and criteria to determine whether the treatment is best suited for a particular facility.
2. **Cross Sections.** The second section illustrates several existing cross sections of roadways in the City recommended as bicycle facilities, and shows how those cross sections could be adjusted to accommodate different bicycle facilities.

Toolbox

The toolbox provides design guidelines and criteria for seven general types of bicycle treatments:

- Bicycle Friendly Routes (Table 1)
- Bicycle Lanes (Table 2)
- Cycle Tracks (Table 3)
- Bicycle Intersection Treatments (Table 4)
- Mid-Block Crossing Treatments (Table 5)
- Wayfinding (Table 6)
- Shared Use Bicycle Paths (Table 7)

These treatments are not exclusive of one another, and are generally used in combination. For example, a bicycle friendly route or bicycle lane could also include wayfinding and intersection treatments.


Resources:

The following resources are referenced in the toolbox developed for the City of Spokane Valley Bicycle Master Program (BPMP):

- National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide. Website: <http://nacto.org/cities-for-cycling/design-guide/>
- Fundamentals of Bicycle Boulevard Planning and Design. Prepared by Alta Planning and Design, IBPI, and Portland State University. July 2009.
- American Association of State Highway and Transportation Officials (AASHTO) Bicycle Guide, 1999 (a draft 2010 update is currently under review and waiting adoption)
- Manual on Uniform Traffic Control Devices (MUTCD), 2009
- National Cooperative Highway Research Program (NCHRP) Report 562. Improving Pedestrian Safety at Unsignalized Crossings. 2006
- Minneapolis Bicycle Facility Manual. May 2010.
- Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations. November 2000. Zegeer, Charles, et al.

Unless otherwise noted, photos used in this toolbox were provided by a contracted engineering consultant.

Table 1: Bicycle Friendly Routes

Bicycle Friendly Routes	
Description ¹ :	Roadways with low speed and low volume that have been optimized for cycling. The treatments recommended for bicycle friendly routes improve through movements for bicyclists and other non-motorized modes, while discouraging through movements by vehicles.
Criteria:	<ul style="list-style-type: none"> • Streets with traffic volumes less than 3,000 per day, although less than 1,500 is preferred • Streets where the posted traffic speed is 25 mph or less • Two lane roadways (centerline is optional)
Typical Applications	
a. Shared Lane Markings (or “Sharrows”)	Shared lane markings are used to indicate that a facility is intended for shared bicycle and vehicle use. The markings raise awareness to motor vehicle drivers of the presence of bicyclists on a facility and indicate the proper location for bicyclists in the lane (for example, placing sharrows with adequate space for bicyclist to avoid being doored by on-street parking).
	
Estimated Cost Range: \$100 to \$250 per marking depending on materials	
b. Traffic Calming	Traffic calming techniques are used to reduce the speed of motor vehicles on roadways. Techniques may include: traffic islands (pictured on the left and right respectively), curb extensions, lower speed limit and painted or patterned pavement
	
Estimated Cost Range: \$2,000 to \$15,000 plus landscaping for traffic islands	

¹ Fundamentals of Bicycle Friendly Route Planning and Design. Published by IBPI, Alta Planning and Design, and Portland State University. July 2009.

Bicycle Friendly Routes

c. Traffic Reduction/Diverters

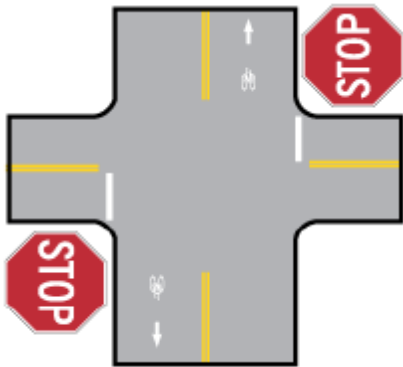
Traffic reduction is used to maintain or reduce motor vehicle volumes on designated bicycle friendly routes. Applications may include restricted vehicle movements at intersections by means of diverters, barriers, or signed/marketed restrictions. (Also see diverters in the intersection treatments table).



Estimated Cost Range: \$1,000 to \$20,000 (depends on design and materials)

d. Prioritized Bicycle Movement


Prioritizing bicycle movement can be accomplished by stopping motor vehicles at intersections on a designated bicycle friendly route.



Source: Fundamentals of Bicycle Friendly Route Planning and Design, page 22.

Estimated Cost Range: \$200 to \$1,500 per intersection (depending whether an engineering study is required)

Table 2: Bicycle Lanes

Bicycle Lanes	
<p>Description: Bicycle lanes designate an exclusive part of the roadway to be used by bicyclists only. A Bicycle lane is typically located between the right most traffic lane and the curb or on street parking area.</p>	
<p>Criteria:</p> <ul style="list-style-type: none"> • Streets where traffic volumes are more than 3,000 per day • Streets where the posted traffic speed is 25 mph or greater • Streets with truck traffic 	
Typical Applications – Bicycle Lane Types	
<p>a. Standard Bicycle Lane Recommended bicycle lane width is between four feet and six feet.² A standard bicycle lane is placed to the right of vehicular traffic in the same direction. From left to right, the pictures below show a bicycle lane offset from the curb, a bicycle lane adjacent to on-street parking, and a bicycle lane adjacent to the curb.</p>	
	
<p>Estimated Cost Range: 4,000 to \$6,000 per mile</p>	

² National Association of City Transportation Officials. <http://nacto.org/cities-for-cycling/design-guide/bike-lanes/>

Bicycle Lanes

b. Climbing Lane

Climbing lanes can be used on bicycle facilities with uphill grades. The climbing lane provides separation between bicyclists and vehicles for uphill roadway sections that are otherwise designated as shared roadways. On uphill sections in particular, the speed differential between bicyclists and motor vehicles increases, which increases the safety risk. There are no standard criteria for when to install a bicycle climbing lane. Some cities recommend climbing lanes on bicycle facilities with grades as low as 1.5% depending on the roadway characteristics and potential conflicts between vehicles and bicyclists, while others might not install a climbing lane unless a facility exceeds a 5% grade. The characteristics of the facility should be considered along with vehicle speeds, volumes, and bicycle volumes.

By providing an uphill bicycle lane, separation is maintained between the two modes and safety is improved. In the downhill direction a bicyclist can likely travel at the speed of traffic, so a shared lane is adequate for the downhill bicyclist.

In the picture below the right lane is traveling uphill with a bicycle climbing lane, and left lane is traveling downhill with a shared bicycle/vehicle lane.



Estimated Cost Range: \$4,000 to \$6,000 per mile (the cost may increase if existing pavement marking removal is required)

c. Buffered Bicycle Lane

A buffered bicycle lane provides additional separation between the bicycle lane and vehicle travel lane (or in some cases between the bicycle lane and on-street parking). Depending on the existing lane widths, creating a buffered bicycle lane either reduces the width of a vehicle travel lane or removes a vehicle travel lane. A buffered zone between the bicycle lane and vehicle travel lane is recommended when traffic speeds are above 35 mph.

Another alternative is to place the buffered zone between the bicycle lane and on-street parking, which is better suited for locations with high parking turnover rates.



Estimated Cost Range: \$5,000 to \$10,000 per mile

Bicycle Lanes

d. Left Side Lane

Left side bicycle lanes can be used on one-way streets or on median divided two way streets. This treatment can be considered if there are heavy transit activities, deliveries, or parking turnover on the right side of the street.



Estimated Cost Range: \$4,000 to \$6,000 per mile (same as a typical bicycle lane)

e. Paved Shoulder

This treatment is typically used in rural areas on roadways with higher speeds. On roadways with over 2,000 ADT and speeds that exceed 35 mph the paved shoulder should be between four and six feet from the face of guardrail. If the roadway speed exceeds 50 mph or there is a high percentage of heavy vehicles, the paved shoulder should be 8 feet wide. As long as the paved shoulder meets the width requirements based on roadway speed, the shoulder may be signed as a bicycle facility.



Estimated Cost Range: Varies depending on the existing roadway conditions.

Typical Applications – Bicycle Lanes at Intersections

f. Right Turn Restrictions or Warnings

To improve the safety of bicyclists using bicycle lanes, right turns across the bicycle lane by vehicles could either be restricted or warning signs used to raise awareness of the bicycle lane and potential conflict with bicyclists.



Estimated Cost Range: \$75 to \$200 per sign (plus installation)

Bicycle Lanes

g. Transitioning a Through Bicycle Lane

Transitioning a through bicycle lane to the left side of a vehicle right turn lane prior to an intersection reduces the potential for right hook collisions by correctly positioning both the bicyclist and vehicle at the intersection. A "Begin right turn lane, yield to bicycle" sign should be placed at the beginning of the transition zone. One option to increase visibility of the transition zone is to use colored pavement marking through the transition area (shown in image on right).

Note – this treatment is NOT recommended for intersections with double right turn vehicle lanes.



Source of image on right: NACTO website (<http://nacto.org/cities-for-cycling/design-guide/intersection-treatments/>) Estimated Cost Range: \$500 to \$4,000 per intersection approach (depending whether green pavement markings are chosen)

h. Combined Bicycle Lane/Turn Lane

With a combined bicycle lane/turn lane, the bicycle lane drops prior to the intersection and the right most lane becomes a shared right turn vehicle lane and through bicycle lane.



Source: NACTO (<http://nacto.org/cities-for-cycling/design-guide/intersection-treatments/combined-bike-laneturn-lane/>)

Bicycle Lanes

i. Colored Bicycle Lane

Having a colored bicycle lane as it approaches an intersection draws attention to the correct and expected location of bicyclists. The treatment is ideal for intersections with high bicycle and vehicle volumes, or at locations where the position of the bicycle lane changed from the previous block. The FHWA has issued an Interim Approval for the use of green coloring in bicycle lanes. Citing multiple experiments that demonstrated positive operational effects for both bicycle riders and other road users, with no notable negative effects, this approval allows states to apply for approval to use coloring in bicycle lanes and bicycle lane extensions, and States may request approval for all jurisdictions in that State. This Interim Approval does not make the use of green colored pavement mandatory.³



Estimated Cost Range: \$5 to \$15 per square foot depending on material. Depending on wear maintenance costs could include reapplying color every 2 to 10 years.

³ Interim Approval for Optional Use of Green Colored Pavement for Bicycle Lanes (IA-14). Federal Highway Administration website: http://mutcd.fhwa.dot.gov/resources/interim_approval/ia14/index.htm. Accessed May 9, 2011.

Table 3: Cycle Tracks

Cycle Tracks
<p>Description: A cycle track is an exclusive bicycle facility separated from vehicle traffic and the sidewalk, and is intended to provide improved comfort and safety for the bicyclist as compared to an on-street bicycle lane. The cycle track can be separated from vehicle traffic using a variety of treatments (curbs, planter strips, on-street parking, pavement markings, or other options). In addition the cycle track should be clearly defined from the sidewalk (grade separated, pavement markings, or an alternate clear indication) to prevent bicycle conflicts with pedestrians.</p>
<p>Criteria: While the US does not have established standards that define what conditions warrant a cycle track, international documents do provide some guidance. However, in most cases, the criteria are more qualitative than quantitative and each facility should be evaluated independently based on roadway and user characteristics.</p> <p>For one-way cycle tracks</p> <ul style="list-style-type: none"> • Streets with high motor vehicle volumes and/or speeds (factors that would make on-street biking feel uncomfortable). International documents suggest a cycle track may be appropriate where traffic speeds are 40 mph or greater⁴ and total two-way traffic volumes are 9,000 vehicles per day or greater.⁵ • Streets with few driveways (there is no specific number; engineering judgment should be used for each facility in question) • Streets where intersection conflicts can be effectively managed (since cycle tracks are often on the right side of on-street parking, visibility of cyclists approaching intersections can be compromised, parking set backs and other mitigation measures need to be considered at intersections and driveways) <p>For two-way cycle tracks (in addition to the criteria listed above)</p> <ul style="list-style-type: none"> • Streets with destinations mostly on one side • Streets with less driveways or intersection conflicts on one side • On one-way streets to reduce the out of direction travel for bicyclists • On streets where there is not enough room for a one-way cycle track on each side of the roadway
Typical Applications – One Way Cycle Track

⁴ Cycling Design Guide. Nottinghamshire County Council. October 2006. Accessed via: <http://nacto.org/wp-content/uploads/2011/03/Nottinghamshire-Cycling-Design-Guide-2006.pdf>. May 9, 2011

⁵ Sustrans Cycling Guidelines and Practical Details. Accessed via: <http://nacto.org/wp-content/uploads/2011/03/Sustrans-Cycling-Guidelines-and-Practical-Details.pdf>. May 9, 2011.

Cycle Tracks

a. Cross Section and Pavement Markings

A one-way cycle track should be 5 to 7 feet wide with a minimum 3 foot buffer. The buffer can be a variety of treatments including planters, raised curb, on-street parking, pavement markings, bollards, landscaping, or other treatments. Cycle tracks can be at either roadway level or sidewalk level; however, roadway level is typically preferred to help prevent bicycle and pedestrian conflicts. Bicycle markings should be placed in the cycle track (at the beginning of each block and at periodic intervals if necessary) indicating the facility is intended for bicycle use (and not motor vehicle or pedestrian use).



Source: NACTO



Estimated Cost Range: \$100,000 to 1,000,000 per mile (cost varies significantly depending on chosen treatments).

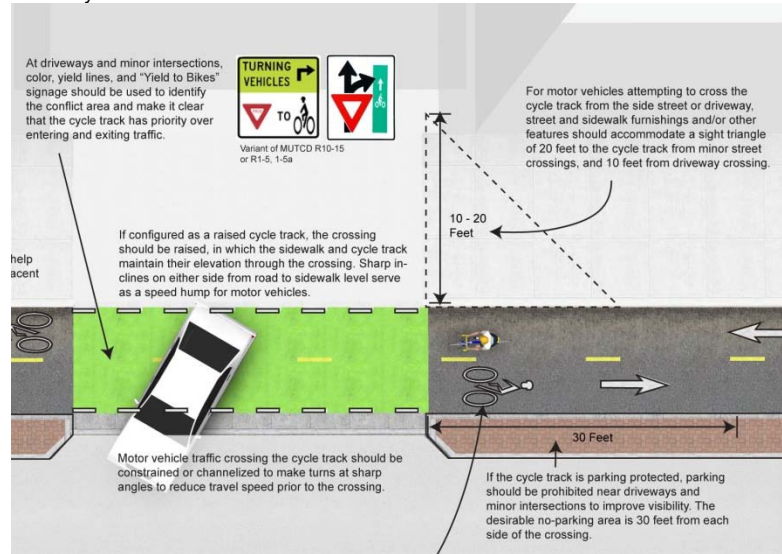
Cycle Tracks

b. Driveway and Side Street Treatments

Vehicles turning into driveways or side streets across cycle tracks presents a unique challenge because drivers may not anticipate a bicyclist approaching since the cycle track is separated from the vehicle lanes. The following treatments can be used to improve the safety of a bicyclist through driveway on a cycle track:

- Installing pavement markings through the driveway to draw attention to entering motorists. Yield signs and pavement markings can also be applied.
- Restrict parking for 30 feet on each side of the driveway to improve visibility.
- Ensure a sight triangle of 20 feet from a minor street to the cycle track, and 10 feet from a driveway to the cycle track.

The picture below shows a recommended clear zone and sight triangle for a cycle track at a driveway. From a driveway there should be a horizontal clear zone of 10 feet from the driveway, and for a minor street there should be a horizontal clear zone of 20 feet from the minor street. In addition, if on-street parking is allowed along the cycle track, it should be prohibited within 30 feet of the driveway or minor street.



Source: NATCO (showing a two-way cycle track at a driveway)

Also see picture in the two-way cycle track section

Estimated Cost Range: See section a (cost of driveway treatments included in overall length of a cycle track)

c. Intersection Treatments

At intersections, cycle tracks present a unique challenge since the bicyclist may be less visible to drivers due to the cycle track being slightly separated from the roadway. Similar treatments used at driveways can also be applied to intersections such as restricting parking to improve visibility, and warning signs for drivers. In addition the following treatments may be applied to improve the safety of the cycle track for bicyclists:

- Cycle track signal phase
- Prohibit right turns
- Install warning signs for right turning motorists to yield to bicyclists.
- Option to bring bicyclists into a wide outside traffic lane just prior to intersection to improve visibility.
- Clearly indicate to turning vehicles the intended path, so drivers do not mistakenly enter the cycle track.



Example right turn warning sign for vehicles (also see image in section g)

Estimated Cost Range: See section a (cost of intersection treatments included in overall length of a cycle track)

Cycle Tracks

d. Two Stage Left Turns

For cyclists who need to turn left at an intersection, a two stage left turn should be provided. Since the cycle track is to the right of the vehicle lanes, a bicyclist wanting to turn left at an intersection needs a way to safely cross the traffic lanes. A two stage left turn bicycle box allows a cycle track user to do exactly that. Using the green phase the bicyclist proceeds through the intersection with the flow of vehicles, but then pulls into a left turn bicycle box at the far end of the intersection. The bicyclist then waits in the box until the perpendicular direction of traffic receives a green indication, and then proceeds with traffic.



Source: NACTO



Pictures of one-way cycle tracks with two-stage left turn boxes.

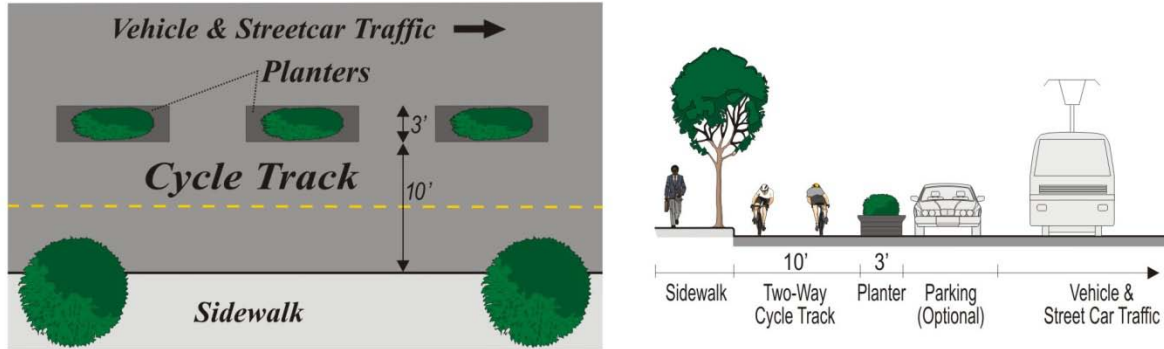
Estimated Cost Range: See section a (cost of two stage left turns included in overall length of a cycle track)

Typical Applications – Two Way Cycle Track

Cycle Tracks

e. Cross Section

A two way cycle track should be a minimum of 10 to 12 feet wide with a dashed yellow line to indicate proper direction.

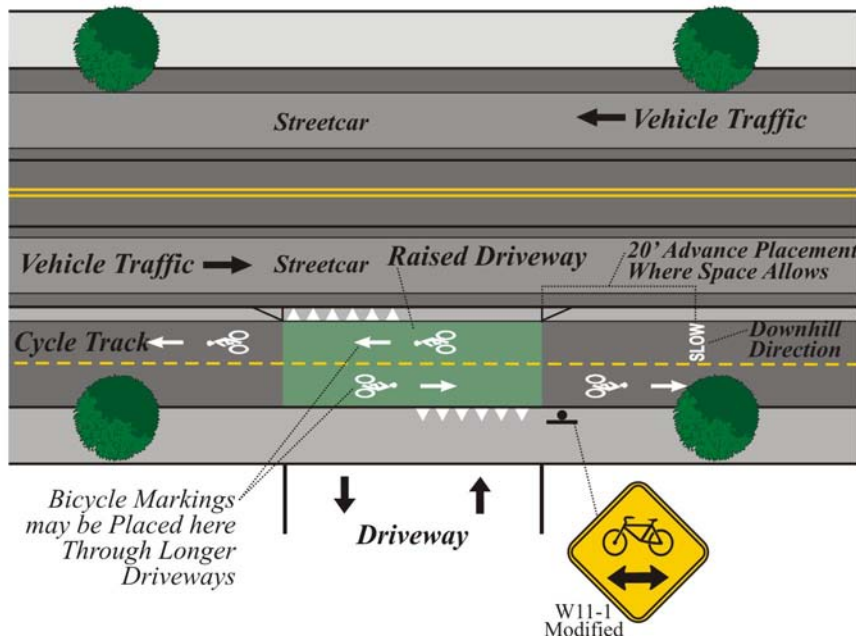


Estimated Cost Range: \$150,000 to \$1,500,000 per mile (cost varies significantly depending on chosen treatments).

f. Driveway and Side Street Treatments

In addition to the driveway treatments discussed for one-way cycle tracks, a two-way cycle track needs to provide warning indications to motor vehicle drivers (both entering and exiting) to expect bicyclists in the contra flow direction. Yield signs, and markings through the driveways should be used to alert drivers. Prohibiting left turns into driveways across two-way cycle tracks should also be considered.

The image below shows a proposed treatment for a two-way cycle track across a driveway. In this image it is assumed that the left turn into the driveway is prohibited. If the left turn movement into the driveway is allowed, a sign to warn drivers of the two-way cycle track traffic could be considered. Whether the vehicle or bicycle has the right of way is dependent on city or state policies. Typically at driveways, motor vehicle drivers are required to stop and yield to bicyclists (and pedestrians).



Estimated Cost Range: See section e (cost included in overall length of a cycle track)

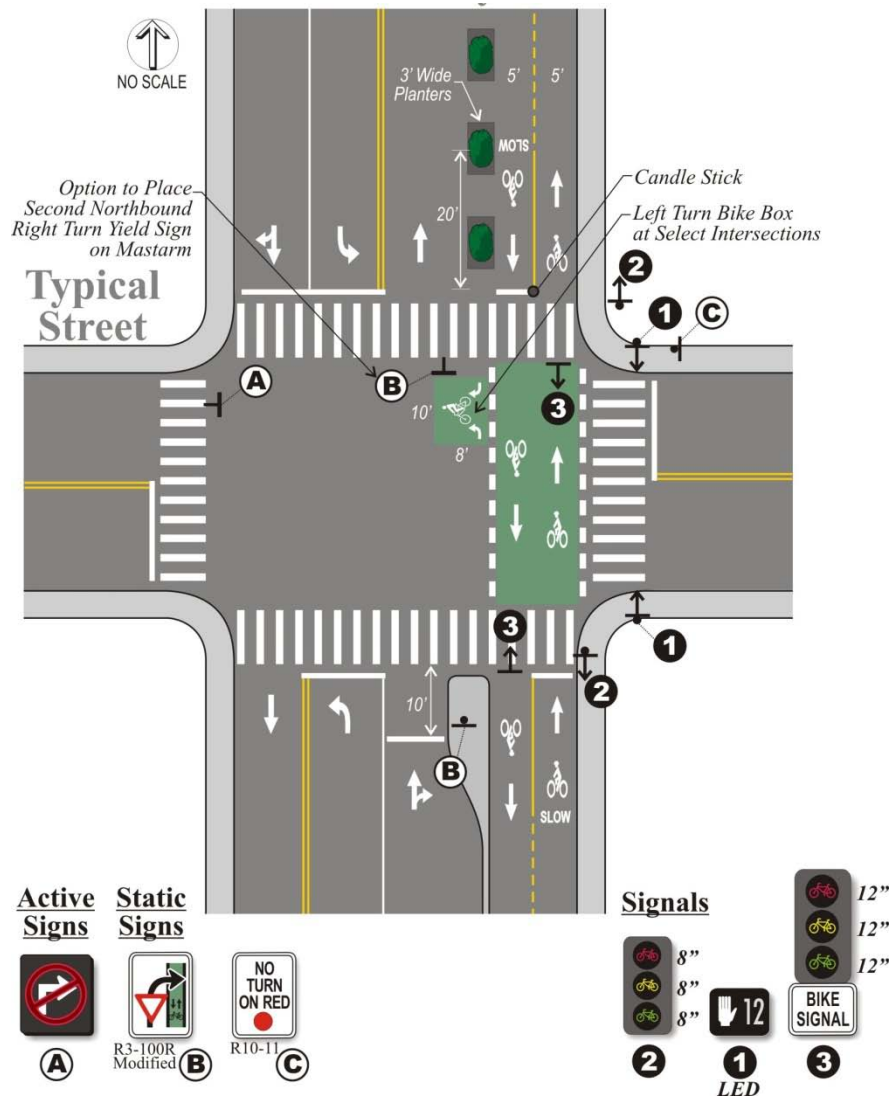
Cycle Tracks

g. Intersection Treatments

In addition to intersection treatments discussed for one-way cycle tracks, intersections with two-way cycle tracks present unique challenges due to the contra flow bicycle lane. Treatment options include:


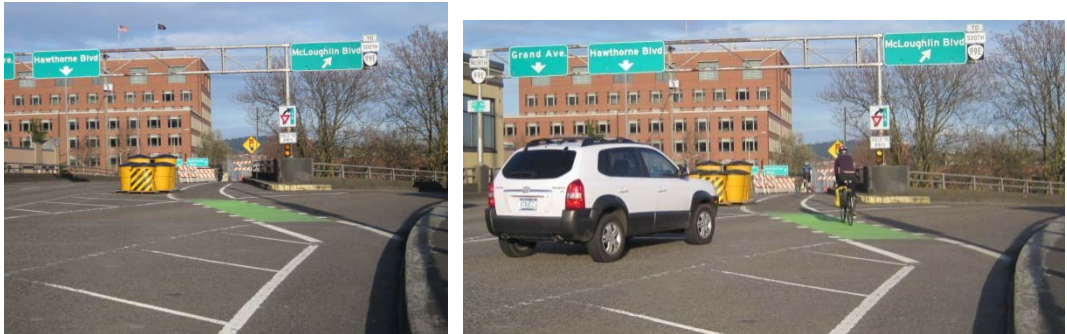
- Prohibit right turns on red for right turning vehicles from the side street across the cycle track.
- Install bicycle signals with a leading bicycle and pedestrian phase so bicyclists enter the intersection before vehicles to improve visibility.
- Install yield signs for right turning drivers on the main street (with the cycle track)
- Install candle sticks or safe hits at the cycle track entrance to discourage vehicles from turning into the cycle track area.

The image below shows a proposed intersection for a two-way cycle track.



Estimated Cost Range: See section e (cost included in overall length of a cycle track)

Table 4: Bicycle Intersection Treatments

Bicycle Intersection Treatments	
Description: Intersection treatments improve the safety of bicyclists through an intersection. Depending on the characteristics of the cross streets (traffic and bicycle volumes, traffic and bicycle speeds, type of bicycle facility, number of vehicles and/or bikes turning, visibility, surrounding land use, and other factors) a range of treatments may be applicable.	
Criteria: <ul style="list-style-type: none"> • Locations where a bicycle facility crosses a roadway that may cause bicyclists to feel unsafe without intersection improvements. • Level of treatment depends on cross street traffic volumes, cross section, and traffic speeds. 	
Typical Applications	
<p>a. Bicycle Boxes</p> <p>Bicycle boxes provide a designated area at the intersection for bicyclists to get ahead of vehicles during a red traffic signal phase. This improves the visibility of bicyclists and helps prevent right-hook conflicts. Ideal for intersections with high right turning vehicle conflicts, or high bicycle volumes to reduce bicycle signal delay and queues. At intersections where the bicycle box extends across all lanes in the travel direction, left turning bicyclists can position themselves ideally during the red signal phase. This treatment also improves driver compliance at crosswalks, so high pedestrian activity (with high bicycle volumes) is another typical application.</p>	
	
<p>Estimated Cost Range: \$5,000 to \$6,000 (not including annual maintenance). Markings may need to be replaced every 1 to 10 years depending on wear patterns. Replacement costs would be \$5,000 to \$6,000 (same as initial installation).</p>	
<p>b. Colored/Marked Bicycle Lane through the Intersection</p> <p>Bicycle lanes marked through intersections help guide bicyclists along the intended travel path and alert drivers to the presence of a bicycle lane (and bicyclists). Applications may include areas where vehicles may encroach on the bicycle lane such as ramp style exits, across signalized intersections that are wide or complex, across driveways, and stop or yield controlled approaches.</p>	
	
<p>Estimated Cost Range: \$5 to \$15 per square foot depending on material</p>	

Bicycle Intersection Treatments

c. Bicycle Signals

Bicycle signals may be used for the following purposes:

- To reduce conflict at intersections where a bicycle movement conflicts with a major vehicle movement
- To improve safety at intersections near schools or parks
- To make it legal for bicycles to enter an intersection during an all-pedestrian phase
- To employ an advance green phase at intersections for bicyclists that reduce conflict and delay
- To allow bicyclists to cross an intersection diagonally at unique locations



Estimated Cost Range: \$10,000 to \$50,000 per intersection.

d. Two Stage Left Turn Queue Boxes

In addition to using this treatment along cycle track facilities, the two stage left turn queue box may be appropriate along facilities with bicycle lanes. A two stage left turn queue box may be used at intersections with high volumes of left turning bicyclists, especially along multi-lane facilities with high traffic speeds and volumes. This treatment can also be used to assist bicyclists across streetcar or rail tracks.



Source: NACTO

Estimated Cost Range: \$5,000 to \$6,000

Bicycle Intersection Treatments

e. Traffic Reduction/Diverters (also in the Bicycle Friendly Route section)



Diverters are often used at intersections along bicycle friendly routes to reduce vehicle volumes on a roadway. The diverters allow bicycle through movements but prohibit vehicle through movements.



(sign stating "DO NOT ENTER, except bicycles")

Estimated Cost Range: \$1,000 to \$20,000 (depends on design and materials)

Table 5: Mid-Block Crossing Treatments

Mid-Block Crossing Treatments	
Description:	Mid-block crossings can be dangerous to bicyclists because drivers are not typically expecting a crossing at a non-intersection location. The need for a mid-block crossing may arise if two bicycle facilities are off-set or if a trail junctions with a roadway mid-block. In these situations, mid-block crossing treatments can be applied to improve the safety of a bicyclist.
Criteria:	Depending on the characteristics of the facility being crossed, different treatments may apply. Criteria to consider includes: vehicle speed, width of the roadway, vehicle volumes, sight distance, and typical driver compliance in the region.
Typical Applications	
a. Bicycle Crossing Markings	<p>Bicycle crossing markings can be similar to pedestrian style crossings. However, a bicycle crossing typically has two parallel sets of markings, one for each direction of bicycle travel to help reduce head on bicycle conflicts. Pedestrians can also use the bicycle crossing area.</p> <p>The picture below shows bicycle/pedestrian crossing markings at a signalized intersection.</p>  <p>Estimated Cost Range: \$1,000 to \$3,000 (depending on width of crossing). Maintenance is not included in the cost.</p>
b. Median Refuge Island	<p>A median refuge island allows a bicyclist to cross a street in two phases, while waiting in a comfortable space. The treatment is ideal for multilane facilities with two-way traffic where waiting for an acceptable gap in traffic for a single phase crossing would cause undue delay. The desired width for median is 10 feet, although 6 feet is the absolute minimum, and a median should be a minimum of 30 feet long.</p>  <p>Estimated Cost Range: \$15,000 to \$30,000 per 100 feet</p>

Mid-Block Crossing Treatments

c. Rapid Flashing Beacon

A rapid flashing beacon is used in conjunction with a marked crossing. It is typically activated using a push button and indicates that vehicles need to stop and yield to bicyclists or pedestrians using the designated crossing. A flashing beacon is typically placed on a post on the side of the roadway, but can also be installed over a lane. These examples show pedestrian crossings, however, the warning sign can be modified to show a bicycle, or both a bicycle and pedestrian.

Based on the NCHRP Report 562 and the studies by Charles Zeeger (see resources listed on the last page) the following criteria applies to installing flashing beacons at unsignalized crossing locations:

- When ADT is less than 9,000 – activated flashing beacons are recommended if vehicle speeds exceed 40 mph, or if the facility is 4 lanes with speeds of 35 mph.
- When ADT is between 9,000 to 12,000 – activated flashing beacons are recommended for 3 or more lanes if speeds exceed 35 mph.
- When ADT is greater than 12,000 – activated flashing beacons are recommended for 3 or more lanes if speeds exceed 30 mph.

The pictures below show a few different types of rapid flashing beacon displays. The two on the left use school signs, but could be used for a non-school locations with a pedestrian or bicycle warning sign instead of the school crossing sign.



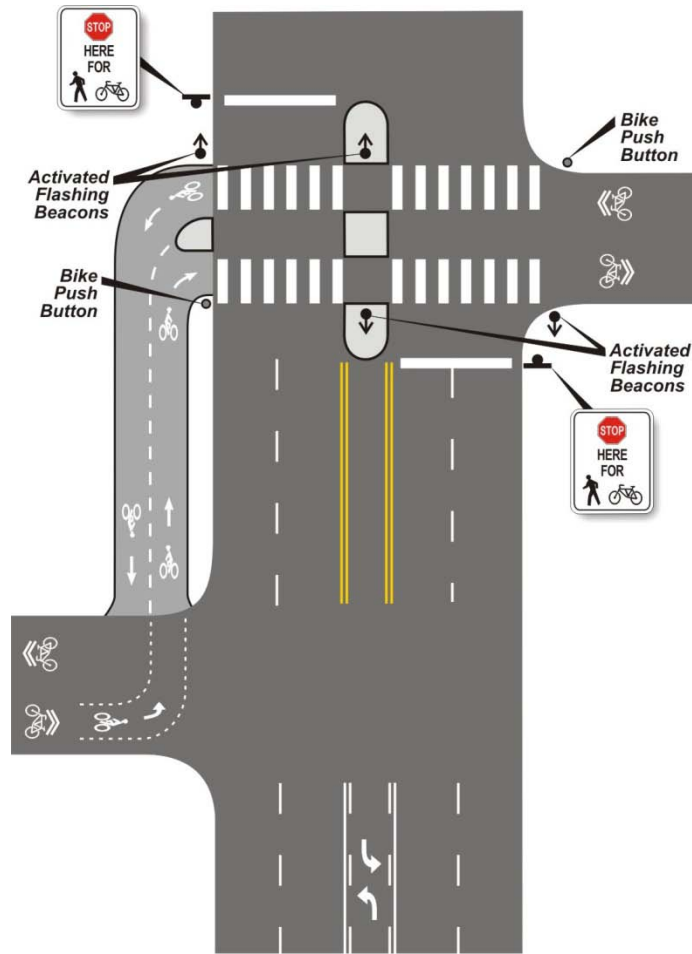
Estimated Cost Range: \$10,000 to \$20,000 per crossing (includes two to three rapid flashing beacon signs, depending whether there is a median)

Mid-Block Crossing Treatments

d. Off-Set Intersections









At some locations, bicycle friendly routes may continue at an offset across a busy street. One treatment option to safely connect the offset bicycle friendly route is shown below. In this treatment, a two way cycle track is incorporated on one side of the roadway. The cycle track guides bicyclists to cross at a particular location, which may include activated beacons or a signal depending on the roadway characteristics.

Below are two different types of offset intersection crossings. The top image uses a path to the side of the main roadway and the picture on the bottom shows an intersection with center bicycle lanes connecting the off-set intersections.



Estimated Cost Range: Varies based on right of way impact \$1,000 and up depending on chosen treatment

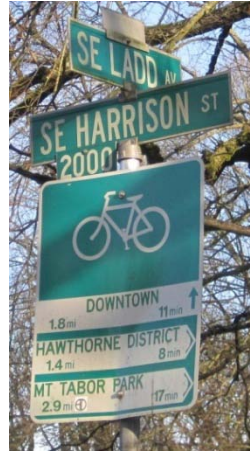
Table 6: Wayfinding

Wayfinding				
Description:	Wayfinding is meant to be used by bicyclists to communicate directions, distance, and sometimes expected travel time to a particular destination. Wayfinding is typically accomplished through the use of signs, however, pavement markings can supplement the signs. Wayfinding could be applied to all types of bicycle facilities.			
Criteria:	<p>Wayfinding can be used to help bicyclists (and vehicle drivers) identify which facilities are designated as bicycle facilities. The wayfinding may convey several factors including:</p> <ul style="list-style-type: none"> • Which roadways are designated as bicycle facilities • Directions to key areas or connections • Expected travel time by bicycle to key areas or connections <p>In particular, wayfinding is beneficial at junctions and intersections with other bicycle facilities.</p>			
Typical Applications				
a. Standard signs to indicate bicycle facilities	<p>Part 9 of the MUTCD (2009 Edition) includes “Traffic Control for Bicycle Facilities”. In this section there are several standard wayfinding signs that can be used along bicycle facilities. Some signs simply indicate the presence of a bicycle facility, while other signs provide additional information such as destinations and distances. The pictures below show a sampling of signs from the MUTCD and their respective sign numbers.</p>			
 <p>R3-17</p>	 <p>D1-3c</p>	 <p>D11-1</p>		
 <p>D11-1c</p>	 <p>M1-8</p>	 <p>M4-14</p>	 <p>M4-6</p>	 <p>M6-3</p>

Wayfinding

b. Signs with destinations and expected travel times

Below are two examples of wayfinding signs unique to different cities. The sign on the left indicates direction, distance, and expected travel time by bicycle. The sign on the right indicates direction and distance.



Estimated Cost Range: \$30 to \$75 per sign (plus installation)

c. Pavement markings

Pavement markings can be used to supplement signs. Below is an example of a pavement marking used to indicate the direction of the continued bicycle facility.



Sharrows and bicycle lane symbols can also be considered wayfinding treatments in the sense that they help identify a facility as a bicycle facility.



Estimated Cost Range: \$50 to \$250 per marking depending on size and material (plus installation)

Wayfinding

d. Maps



Portable maps indicating bicycle and pedestrian around the City could be provided to assist bicyclists and pedestrians in wayfinding. Maps could be provided at public facilities such as City Hall and libraries as well as bicycle shops or other interested vendors. In addition, the maps could be available electronically through the City's website.

Estimated Cost Range: \$0 to \$5 for a paper map (in some cities a private vendor sponsors the map which could make it free or low cost to the City of Spokane Valley).

e. Mobile Applications

As technology continues to advance, private industries will likely develop apps that can be used on mobile devices to assist bicyclists navigating around the City of Spokane Valley.

Table 7: Shared Use Bicycle Paths

Shared Use Bicycle Paths	
Description: Shared use paths are physically separated from the roadway, and are intended to be used by pedestrians, bicyclists, runners, and other non-motorized users. A shared use path can supplement a thorough system of on street facilities in a city, and connect to the on-street system at end points of the trail as well as midpoints depending on the length and location.	
Criteria: The following characteristics can be used when considering which facilities could serve as appropriate shared use path: <ul style="list-style-type: none"> • A shared use path can be provided when on-street facilities are not an option and when separate right of way is available (such as a former railroad line). • The number of driveways and crossings should be minimized. According to the Idaho Department of Transportation, if there are more than 8 crossings per mile, an on-street facility should be considered instead. • Where crossings cannot be avoided, special design treatments should be used to treat potential conflicts. 	
Typical Applications	
a. Bicycle and Pedestrian Shared Use Path The following design criteria should be considered: <ul style="list-style-type: none"> • Minimum paved width of a shared use path is 10 feet, although 12 to 14 feet (or more) is preferred especially if the use is expected to be moderate to heavy (AASHTO). • Two feet of additional clearance should be provided on either side of the path. • An 8 foot path may be appropriate under some circumstances (bicycle and pedestrian use is expected to be consistently low, the alignment allows for safe and frequent passing opportunities, and maintenance vehicles are not expected to drive on the path which would subject the pavement edges to damage). • Markings to separate bicyclists from pedestrians on a shared use path are not necessary, but a centerline marking to separate two-way traffic is appropriate on pathways with heavy peak or seasonal volumes. • The surface should be asphalt to accommodate all types of non-motorized users. <p>Below are pictures of a two-way shared use path. On the left, the path runs along an active railroad line on the left and an industrial facility on the right, both separated by a fence. In the photo on the right, the path runs along a neighborhood (left side) and a freeway and light rail line (right side).</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Estimated Cost Range: \$250,000 to \$500,000 per mile (includes asphalt surface, signing, striping, wayfinding, drainage, and limited crossings, does not include design costs).</p>	

Shared Use Bicycle Paths

b. Crossings on Shared Use Paths

At locations where the shared use path crosses other roadways or driveways, appropriate indications and warnings should be provided for both the path user and roadway user to prevent conflict. The design team should consider the characteristics of the path and roadway at the crossing and determine whether the path user or the roadway user should have the right of way.

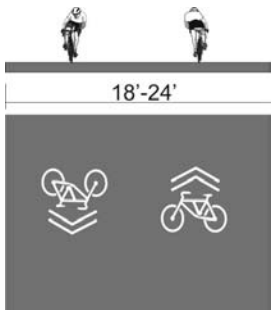
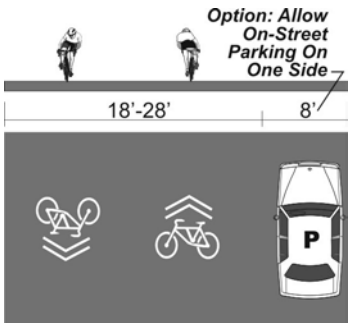
In the picture below, path users are required to stop at the roadway crossing.



Cross Sections

The following tables illustrate how to convert roadways with specific paved widths into bicycle friendly route and different types of bicycle lanes. Each cross section identifies which facilities within the City of Spokane Valley meet the cross section requirements and are recommended as bicycle facilities in the Master Plan (see map 11.5).

Table 8: Cross Sections – Bicycle Friendly Route

Bicycle Friendly Route Cross Sections	
<p>18 to 24 feet Paved Roadway Width</p> 	<p>Roadways:</p> <ul style="list-style-type: none"> • 12th Ave (sections) • Progress Rd (sections) • Valleyway Ave • 4th Ave (sections) • Pierce Ave (sections) • Long Rd (Centennial Trail to Appleway) • Marguerite Rd (sections) • Railroad Ave (Mission Ave to Stanley Rd) • Stanley Rd (Railroad Ave to Broadway Ave) • Boone Ave (University Rd to Pines Rd) • Flora Rd (Maxwell Ave to 400 ft north of Sprague Ave) • Alki Ave (currently less than 18 feet in parts, widening) <p>Design:</p> <ul style="list-style-type: none"> • No center line markings • Sharrow markings • Depending on the characteristics of the particular roadway, parking could be allowed if traffic volumes are low and there is ample visibility around parked vehicles. Otherwise on-street parking should be prohibited on the paved roadway. • Some roadways may have a gravel shoulder where parking could be permitted.
<p>26 to 36 feet Paved Roadway Width</p> 	<p>Roadways:</p> <ul style="list-style-type: none"> • 12th Ave (sections) • Valleyway Ave • Adams Rd • Progress Rd (sections) • Mission Ave (Francher Rd to Vista Rd) • Vista Rd (I-90 to Bridgeport Ave) • Locust Rd (Mission Ave to Valleyway Ave) • Farr Rd (Valleyway Ave to Sprague Ave) • Woodruff Rd (8th Ave to 16th Ave) • University Rd (Mission Ave to I-90) • 38th Ave (37th Ave to Pines Rd) • Mamer Rd (Mission Ave to I-90) • 16th Ave (Sullivan Rd to Rotchford Dr) • Rotchford Dr (16th Ave to 4th Ave) • Conklin Rd (Broadway Ave to Sprague Ave) • Flora Rd (Mission Ave to Maxwell Ave, 400 ft north of Sprague Ave to 3rd Ave) • 6th Ave, 4th Ave (west of Park Ave) <p>Design:</p> <ul style="list-style-type: none"> • Center line marking optional • Sharrow pavement markings • Option to designate on-street parking on one side of the roadway.

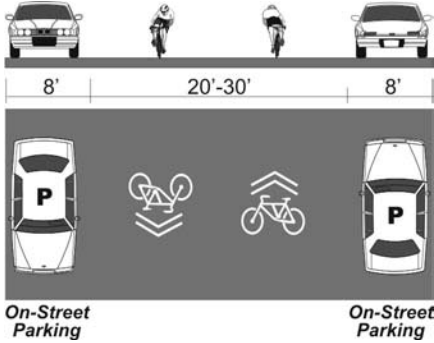
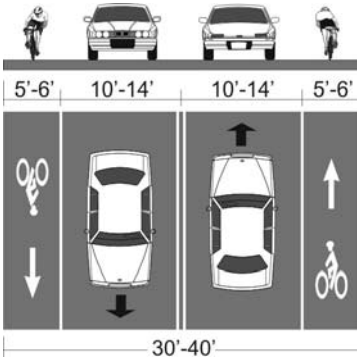
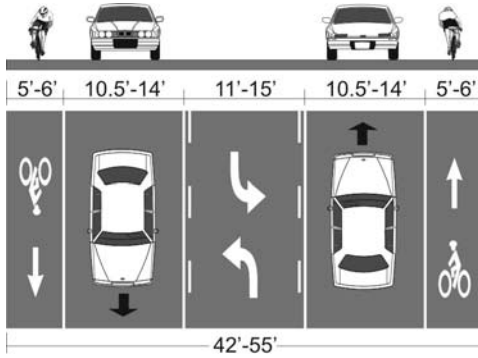
Bicycle Friendly Route Cross Sections	
<p>36 to 46 feet Paved Roadway Width</p>  <p style="text-align: center;">On-Street Parking On-Street Parking</p>	<p>Roadways:</p> <ul style="list-style-type: none"> • Pierce Ave (sections) • 24th Ave (sections) • Blake Rd (sections) • Park Rd (north of Rutter Ave and south of 8th Ave) • Farr Rd (Sprage Ave to 8th) • University Rd (railroad tracks to Montgomery Dr) • 37th Ave (Bowdish Rd to 38th Ave) • Conklin Rd (Sprague Ave to 4th Ave) • Pines Rd (south of 32nd) <p>Design:</p> <ul style="list-style-type: none"> • Center line marking optional (depends on roadway characteristics) • Sharrow pavement markings • Parking could be allowed on both sides of the roadway.

Table 9: Cross Sections – Bicycle Lanes (No On-Street Parking)

Bicycle Lane Cross Sections (No On-Street Parking)	
<p>30 to 40 feet Paved Roadway Width (Two-Way Traffic)</p>  <p style="text-align: center;">30'-40'</p>	<p>Original cross section: 2 lanes</p> <p>Cross section with bicycle lanes: 2 lanes</p> <p>Roadways:</p> <ul style="list-style-type: none"> • Bowdish Rd (sections) • Evergreen Rd (sections) • Flora Rd (sections) • Barker Rd (sections) • Wellesley Ave (sections) • Mission Ave (sections) • Broadway Ave (sections) • 32nd Ave (sections) • 44th Ave • McDonald Rd (sections) • 3rd Ave (Francher Rd to west City Limits) • Montgomery Ave (University Rd to Jackson Ave) • 8th Ave (west of Park Rd) currently less than 30 feet, widening necessary • Carnahan Rd (consider climbing lane only) <p>Design:</p> <ul style="list-style-type: none"> • 5 to 6 foot bicycle lanes • For roadways less than 30 feet, widening will be necessary. • Depending on the characteristics of each roadway, a centerline stripe may not be necessary in some cases.

Bicycle Lane Cross Sections (No On-Street Parking)

**42 to 55 feet Paved Roadway Width
(Two-Way Traffic)**



Original cross section: 4 lanes (or 3 lanes with TWLTL)

Cross section with bicycle lanes: 3 lanes with TWLTL

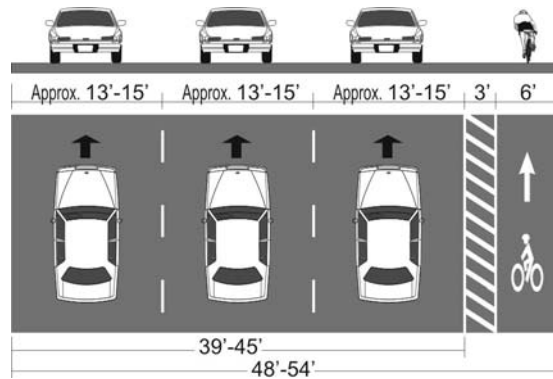
Roadways:

- University Rd (sections)
- McDonald Rd (sections)
- Fancher Rd (sections)
- Mission Ave (sections)
- Broadway Ave (sections)
- Montgomery Ave (Argonne Rd to Woodruff Rd)
- Pines Rd (16th to 32nd Ave)
- Park Rd (sections)
- Montgomery Ave (Jackson Ave to Bowdish Rd)
- Evergreen Rd (sections)
- Barker Rd (sections)
- Mission Ave (sections)
- 32nd Ave (sections)
- McDonald Rd (sections)

Design:

- Convert a 4 lane cross section to 3 lanes including a center two-way left turn lane
- Vehicle lanes range from 10.5' to 14'
- Bicycle lanes range from 5' to 6'

**48 to 54 feet Paved Roadway Width
(One-Way Traffic)**



Original cross section: 4 lanes

Cross section with bicycle lanes: 3 lanes

Roadways:

- Appleway Blvd (currently striped with bicycle lanes approximately 4 feet wide, 6 feet recommended)

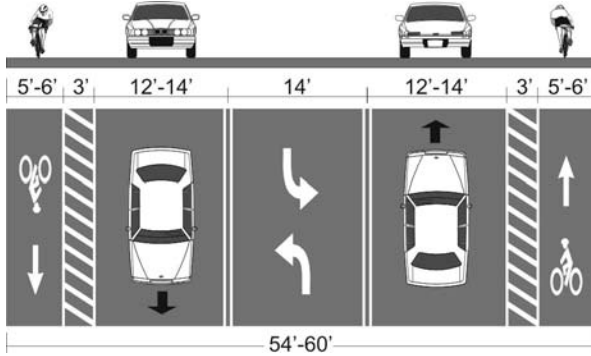
Design:

- Bicycle lane with 3 foot buffer
- No on-street parking

Note: In areas where the cross section is 54 feet, 4 vehicle travel lanes could be maintained at an 11 foot width while including the buffered bicycle lane as shown.

Bicycle Lane Cross Sections (No On-Street Parking)

**54 to 60 feet Paved Roadway Width
(Two-Way Traffic)**



Original cross section: 5 lanes with TWLTL
Cross section with bicycle lanes: 3 lanes with TWLTL

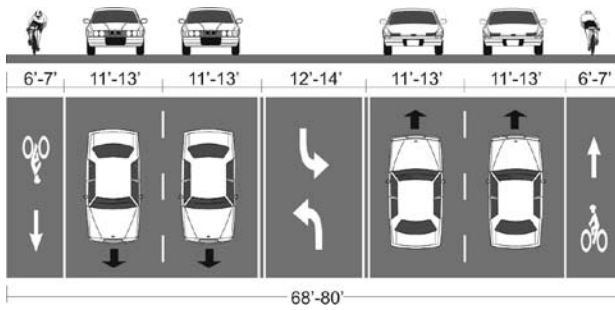
Roadways:

- Euclid Ave (Sullivan Rd to Flora Rd)

Design:

- A buffer zone next to the bicycle lane would make the bicycle lane more comfortable to riders.

**68 to 80 feet Paved Roadway Width
(Two-Way Traffic)**



Original cross section: 5 lanes with TWLTL
Cross section with bicycle lanes: 5 lanes with TWLTL

Roadways:

- Fancher Rd (sections)
- University Rd (Sprague to 4th)
- Indiana Ave (Sullivan Rd to Desmet)

Design:

- This option narrows existing lanes to maintain the existing cross section while adding bicycle lanes.

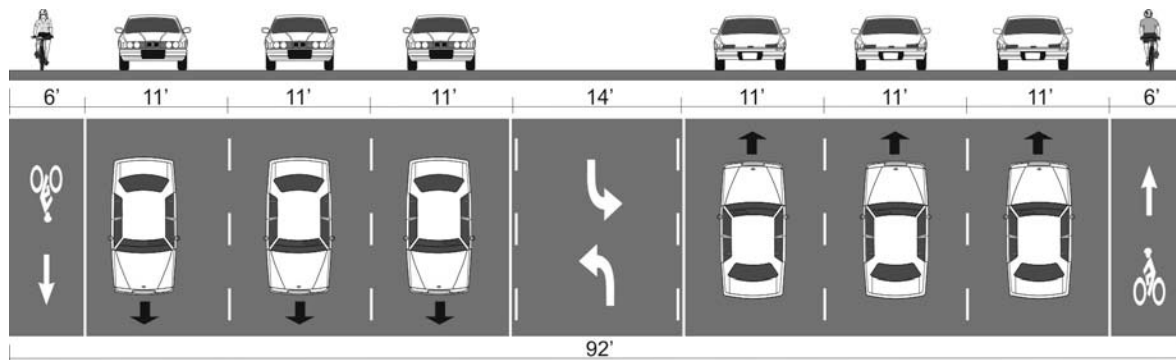
Sections for Sprague

Sprague - 92 Foot Cross Section:

Sprague from University Rd to 300' east of Houk Rd

Original cross section: 7 lanes with TWLTL

Cross section with bicycle lanes: 7 lanes with TWLTL



Bicycle Lane Cross Sections (No On-Street Parking)

Sprague - 86 Foot Cross Section:

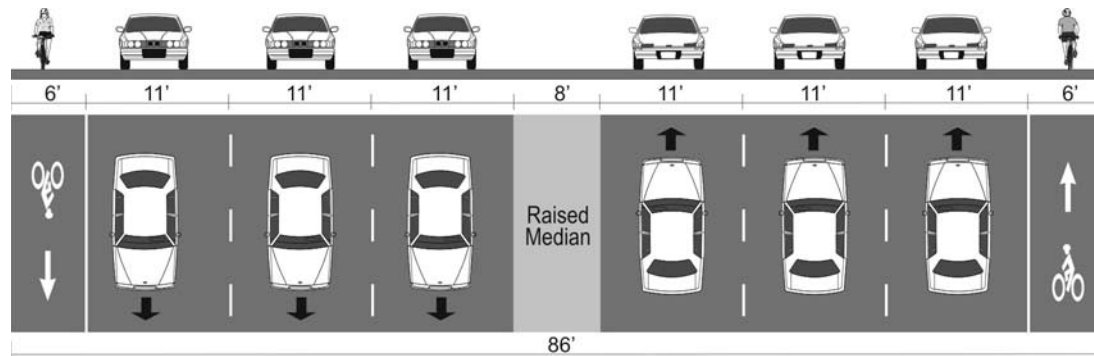
Sprague from 300' east of Houk Rd to about 1,100 feet east of Sullivan Rd

Original cross section: 7 lanes with TWLTL

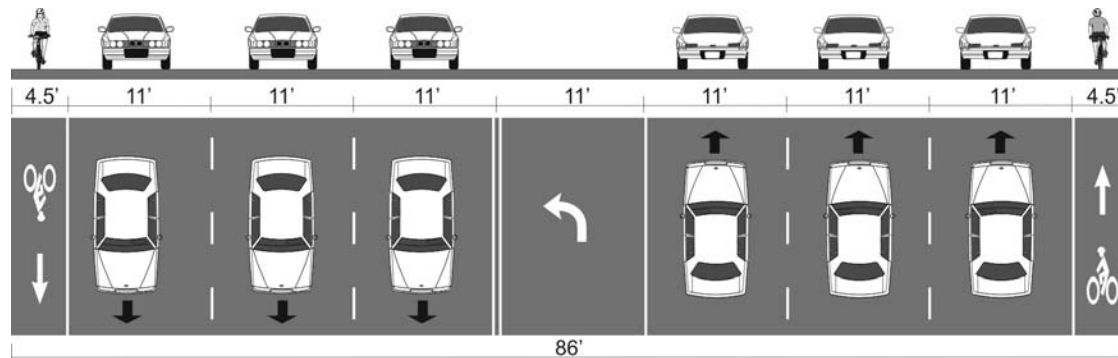
Cross section with bicycle lanes: see options #1 and #2 below.

Note that with option #1 the bicycle lane narrows to 4.5 feet at intersections and mid-block locations where left turns are allowed. Due to the narrow bicycle lanes, a maximum of one mid-block left turn median opening is recommended between signalized intersections.

Option #1 - 7 lanes with raised median (mid-block)

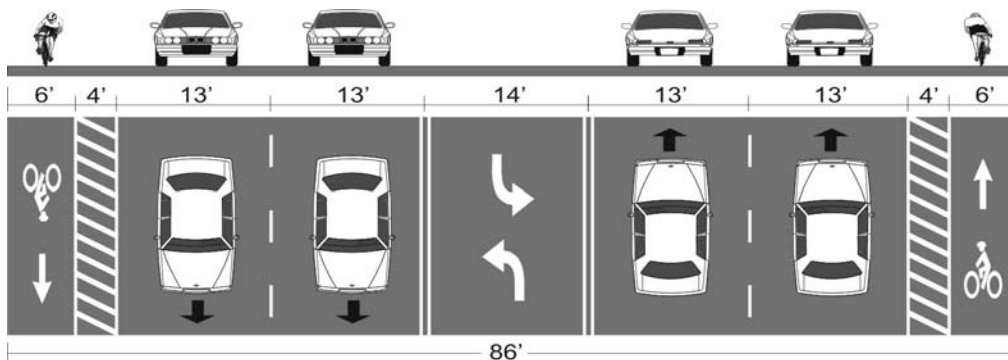


Option #1 - 7 lanes with left turn lane (at signalized intersections and mid-block where left turns are allowed):



Note: a maximum of one mid-block left turn median opening is recommended between signalized intersections.

Option #2 - Reducing to 5 lanes with buffered bicycle lanes



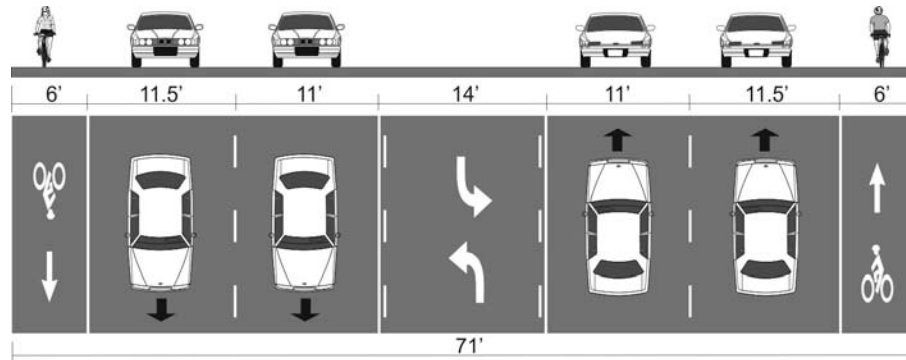
Bicycle Lane Cross Sections (No On-Street Parking)

Sprague - 71 Foot Cross Section:

Sprague from 1,100 feet east of Sullivan Rd to Appleway Ave

Original cross section: 5 lanes with TWLTL

Cross section with bicycle lanes: 5 lanes with median or left turn lane



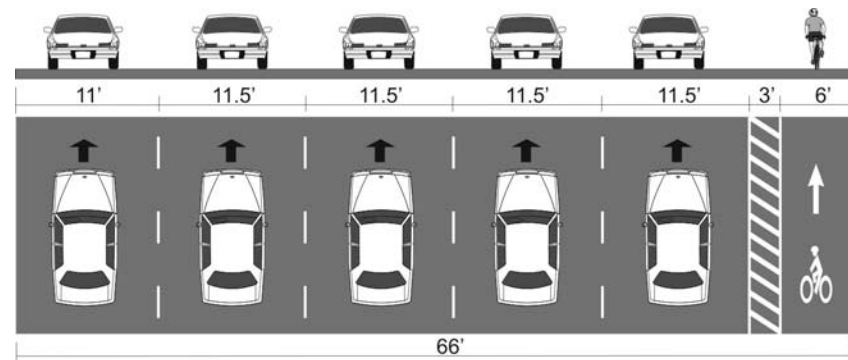
Sprague - 66 Foot One-Way Cross Section:

Sprague east of University Road (westbound only)

Original cross section: 5 lanes

Cross section with bicycle lanes:

Option #1 - 5 lanes with buffered bicycle lane



Option #2 - 4 lanes with buffered bicycle lane

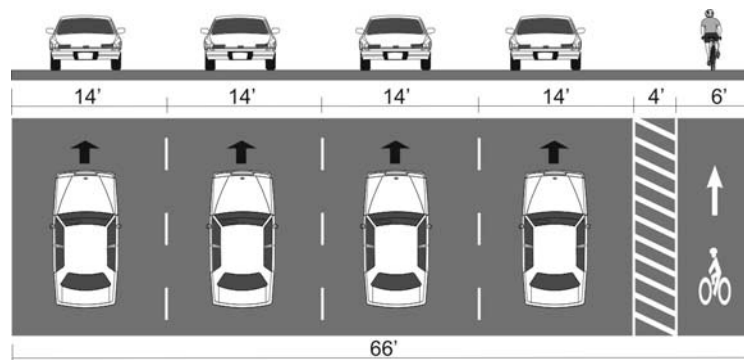


Table 10: Cross Sections – Bicycle Lanes with On-Street Parking

Bicycle Lanes with On-Street Parking	
<p style="text-align: center;">48 to 56 feet Paved Roadway Width (Two-Way Traffic with Parking)</p>	<p>Original cross section: 1 lane each direction with a center TWLTL and on-street parking on one side</p> <p>Cross section with bicycle lanes: 1 lane each direction with on-street parking (both sides)</p> <p>Roadways:</p> <ul style="list-style-type: none"> Mission Ave (Evergreen Rd to Sullivan Rd) <p>Design:</p> <ul style="list-style-type: none"> 6 foot bicycle lanes adjacent to 8 feet wide on-street parking allows bicyclist to maneuver around open car doors while remaining in the bicycle lane. If the roadway is widened to 62 feet, a 12 foot center TWLTL could be maintained with a 10 foot lane in each direction.
<p style="text-align: center;">60 to 70 feet Paved Roadway Width (Two-Way Traffic with Parking)</p>	<p>Original cross section: varies</p> <p>Cross section with bicycle lanes: varies</p> <p>Roadways:</p> <ul style="list-style-type: none"> If on-street parking is desired on roadways in the future, these cross sections could be applied to accommodate both on-street parking and bicycle facilities. <p>Design:</p> <ul style="list-style-type: none"> 6 foot bicycle lanes adjacent to 8 feet wide on-street parking allows bicyclist to maneuver around open car doors while remaining in the bicycle lane. A 2 to 3 foot buffer zone between on-street parking and the bicycle lane could be considered in areas with high parking turnover rates to help prevent dooring accidents (when people open car doors into a bicycle lane causing the bicyclist to crash either by hitting the open car door or swerving abruptly). For the 84 foot cross section, a five lane cross section would also fit (four 11 foot lanes, and a center 12 foot TWLTL).
<p style="text-align: center;">70 to 84 feet Paved Roadway Width (Two-Way Traffic with Parking)</p>	

Table 11: Cross Section – Shared Use Paths

Shared Use Path Cross Sections	
<p style="text-align: center;">Shared Use Path</p> <p>Physically separated from roadway (could include a fence, or other barrier, landscaping strip, or grade separation)</p> <p style="text-align: center;">Roadway Varies Varies 2' 10'-14' 2' Shared Use Path</p>	<p>Original cross section: varies</p> <p>Cross section with bicycle lanes: Roadway cross section likely remains the same with the addition of a shared use path.</p> <p>Roadways:</p> <ul style="list-style-type: none"> • Millwood Path • Trent Path (Railroad ROW) • Sprague Path • Appleway Path • North Greenacres Path • Dishman Mica Path • Pines Rd, (Pinecroft Wy to Trent Ave) • Sullivan Rd, north of the River • Flora Rd, north of Mission Ave <p>Design:</p> <ul style="list-style-type: none"> • see toolbox section for design recommendations.

Appendix 3: Funding Source Ideas

Public Sector Funding Sources

FEDERAL:

Federal transportation policy is to increase non-motorized transportation to at least 15 percent of all trips and to simultaneously reduce the number of non-motorized users killed or injured in traffic crashes by at least 10 percent. This policy, which was adopted in 1994 as part of the National Bicycling and Walking Study, remains a high priority for the U.S. Department of Transportation (DOT).

Improving conditions and safety for bicycling and walking embodies the spirit and intent of Federal surface transportation law and policy to create an integrated, intermodal transportation system which provides travelers with a real choice of transportation modes. State and local agencies are challenged to work together cooperatively with transportation providers, user groups, and the public to develop plans, programs, and projects which reflect this vision. At the Federal level, the Federal Highway Administration (FHWA) is working with the National Highway Traffic Safety Administration (NHTSA), the Federal Transit Administration (FTA), the Federal Railroad Administration (FRA), and other agencies, to implement the bicycle and pedestrian provisions of Federal surface transportation law.

Federal surface transportation law provides tremendous flexibility to States and MPOs to fund bicycle and pedestrian improvements from a wide variety of programs. Virtually all the major transportation funding programs can be used for bicycle and pedestrian-related projects. When considering ways to improve conditions for bicycling and walking, States and MPOs are specifically encouraged to include bicycle and pedestrian improvements as an incidental part of larger projects, as described above, and to review and use the most appropriate funding source for a particular project. Many bicycle and pedestrian projects are more suitable for funding under the Congestion Mitigation and Air Quality (CMAQ) Improvement Program, Surface Transportation Program, or other federal programs.

There is a wide range of other federal funds that can be used for bicycling and walking facilities. The most common include:

- Funds through federal land agencies such as the National Forest Service, National Park Service or Bureau of Land Management. These funds are primarily for trails on federal lands.
- Community Development Block Grants through HUD — the Department of Housing and Urban Development provides funds for community-based projects. Examples of the types of projects they fund are:
 - Commercial district streetscape improvements
 - Sidewalk improvements
 - Safe routes to school
 - Neighborhood-based bicycling and walking facilities that improve local transportation options or help revitalize neighborhoods
- Recreational Trails Program (RTP) funds come from the Federal Highway Trust Fund, and represent a portion of the motor fuel excise tax collected from non-highway recreational fuel use: fuel used for off-highway recreation by snowmobiles, all-terrain vehicles, off-highway motorcycles, and off-highway light trucks. The RTP funds are distributed to the States by legislative formula: half of the funds are distributed equally among all States, and half are distributed in proportion to the estimated amount of non-highway recreational fuel use in each State. See the Funding Levels by State. The distribution model is based on a report for FHWA by the Oak Ridge National Laboratory in July 1999 (Fuel Used for Off-Road Recreation: A Reassessment of the Fuel Use Model).
- Transportation Enhancements (TE) investments benefit communities through rehabilitation of historic facilities related to transportation, renovated streetscapes, rail-trails and other transportation trails, transportation museums, and scenic and historic highway program visitor

centers. This website is a resource to States providing official legislation and guidance documents. The National Transportation Enhancements Clearinghouse (NTEC) also has a website which includes an introduction to TE, how to find out about the TE program in each State, see project examples, access a database of TE projects, see how States use TE funds, and order TE related documents.

The [National Transportation Enhancements Clearinghouse](#) has prepared a useful Technical Brief: *Financing and Funding for Trails* that cites over thirty federal and national funding sources that could be used to help fund bicycling and walking facilities and/or programs, especially trails.

STATE:

Washington State Department of Transportation (WSDOT) – Pedestrian and Bicycle Safety Grants

Program Purpose

The Pedestrian and Bicycle Safety Grants were established to address the nearly 400 statewide fatal and injury collisions involving pedestrians and bicycles each year. These safety focused projects may also support increased mobility and encourage more people to bicycle and walk.

Eligible Applicants

Only agencies that have been contacted with an invitation to apply for funding are eligible apply. Projects submitted by agencies who have not been contacted will not be considered.

Invitations to submit applications will be sent to public agencies where WSDOT has identified known pedestrian and bicycle risk locations. Please see the invitational [methodology](#) to learn more on how the process took place.

Examples of Eligible Projects

Engineering improvements – based on recent state and national research, arterial streets in urban areas with higher speeds and volumes are the locations with the most collisions and risk. The research also indicates that several treatments may effectively reduce pedestrian and bicycle collisions at these locations. Projects may include items such as:

- Intersection improvements such as: curb extensions, lighting, raised median, crosswalk enhancements, signs, signals and mid-block crossing treatments;
- Completing bicycle lanes and sidewalks;
- Constructing bicycle and pedestrian paths;
- Providing safe routes to transit;
- Pedestrian and bicycle safety improvements for at risk groups (children, elderly and people with disabilities).

Education efforts – inform the public about projects and how they improves safety, educate the public about biking and walking safety in general, and include the broad range of transportation choices and events and activities that promote walking and biking safely. Projects may include items such as:

- Implementation of educational curricula.
- Distribution of educational materials.
- Walk or bike promotional programs.
- Pedestrian sting operations.

Other WSDOT Funding Sources for Bicycle and Pedestrian Facilities

WSDOT works closely with local, county and regional organizations to balance transportation needs with community values and environmental goals. There are several state and federal funding sources that may be available to support these efforts:

- Washington Wildlife and Recreation Program: Acquisition and development of local and state parks, water access sites, trails, critical wildlife habitat, natural areas, and urban wildlife habitat.
- Small City Sidewalk Program: Improve safety, provide access, and address system continuity and connectivity. The program is on an annual cycle.
- Non-Highway and Off-Road Vehicle Program: Develop and manage recreation opportunities for those who use off-road vehicles and facilities for those who pursue non-motorized trail activities.
- Traffic Safety Grants: Reduce the number of deaths and serious injuries that result from traffic crashes.
- Transportation Enhancement Grants: Strengthen the cultural, aesthetic and environmental aspects of the intermodal transportation system.
- National Recreational Trails Program: Rehabilitate and maintain recreational trails and facilities that provide a backcountry experience.
- Intersection and Corridor Safety Program: Eliminate or reduce fatal or injury accidents by identifying and correcting hazardous locations, sections and/or elements that constitute a danger to motorists, pedestrians, and/or bicyclists.
- Washington Scenic Byways Program: WSDOT provides federal funding to projects on highways designated as National Scenic Byways, All-American Roads, or as State scenic byways.
- Public Lands Highways Program: Improve access to and within federal lands "served by the public lands highway."
- Surface Transportation Program - Regional Funds: Metropolitan Planning Organizations provide federal funding for projects on any Federal-aid highway, bridge projects on any public road, transit capital projects, and intra-city and inter-city bus terminals and facilities.
- Trip Reduction Performance Program: Get people out of their cars and onto buses, trains, vanpools, and other commute options.
- Congestion Mitigation Air Quality Improvement Program: Metropolitan Planning Organizations provide federal funds to projects and programs that reduce transportation related emissions in four air quality non-attainment and maintenance areas in the state.

State of Washington – Transportation Improvement Board

(TIB) TIB Funding Programs for Urban Customers - Urban Sidewalk Program

TIB typically issues a Call for Projects each summer with applications due at the end of August.

The Sidewalk Program was established by the Legislature to provide funding for pedestrian projects. The program is available to both small city and urban agencies. Urban and small city projects compete separately.

To be eligible for the program:

- The intent of the project must be transportation and not recreation.
- The project must be on a federally classified route (principal, minor, or collector).

Projects improve pedestrian safety, access, connectivity, and address system continuity. Completed projects must be consistent with the Americans with Disabilities Act (ADA).

Projects are usually large in scale with multiple funding sources ranging from local contribution to private developer fees. These projects are selected annually on a competitive basis. Each program has distinct characteristics for the best suited project. Qualification and criteria are different within each program.

Once selected, TIB staff provides grant oversight, participates in Value Engineering (VE) studies, and acts as facilitators to bring projects to completion.

WAC 479-12-421 identifies projects that are eligible for sidewalk program funding

Minimum project requirements for each subprogram are as follows:

1. Urban sidewalk program project eligibility:
 - a. Must be on or related to a functionally classified route; and
 - b. Primary purpose of the project is transportation and not recreation.
2. Small city sidewalk program project eligibility:
 - a. The project must be located on or related to a street within the TIB designated arterial system; and
 - b. Primary purpose of the project is transportation and not recreation.

For both of the subprograms, TIB does not participate in the cost for right of way acquisitions.

For the urban sidewalk program, TIB does not provide funding increases.

WAC 479-12-431 stipulates the award criteria used for the sidewalk program

The board establishes the following criteria for use in evaluating sidewalk program grant applications for both urban and small city sidewalk projects:

1. Safety improvement - projects that address hazard mitigation and accident reduction.
2. Pedestrian access - projects that improve or provide access to facilities including:
 - a. Schools;
 - b. Public buildings;
 - c. Central business districts;
 - d. Medical facilities;
 - e. Activity centers;
 - f. High density housing (including senior housing);
 - g. Transit facilities;
 - h. Completes or extends existing sidewalks.
3. Local support - addresses local needs and is supported by the local community.

WAC 479-12-121 identifies projects that are eligible for urban arterial program funding

Eligible projects are improvements located on a route with an urban federal functional classification.

Any urban street that is not functionally classified at the time of award must obtain functional classification prior to approval to expend board funds.

For the urban arterial program, sidewalks are required on both sides of the roadway unless a sidewalk deviation is granted by the executive director or board through WAC 479-12-500.

WAC 479-12-131 stipulates the award criteria for the urban arterial program

The board establishes the following criteria for use in evaluating urban arterial program grant applications:

1. Safety improvements - addresses accident reduction, eliminates roadway hazards, and corrects roadway deficiencies.
2. Mobility improvements - improves level of service, improves access to generators, and connects urban street networks.
3. Pavement condition - replaces or rehabilitates street surfaces and structural deficiencies.

4. Mode accessibility - provides additional high occupancy vehicle lanes, bus volume, or non-motorized facilities.
5. Local support - demonstrates initiative to achieve full funding and project completion.

Safe Routes to School Mini-grants

About Safe Routes to School Mini-grants

The goal of Safe Routes to School (SRTS) programs is to enable and encourage children to safely walk and bicycle to school. SRTS programs are implemented nationwide by parents, schools, community leaders, and local, state, and tribal governments.

The aim of the mini-grants is to use student creativity and leadership skills to increase safe walking and bicycling to school. Successful applications will include one or a combination of the following: student-led activities, concern for the environment, and/or promotion of physical activity. Activities funded by the mini-grants must be part of a new or existing Safe Routes to School program.

Applicant Eligibility

Eligible applicants include:

- Faculty, staff, or parent volunteers at elementary or middle schools;
- Adult-supervised elementary or middle school groups or clubs;
- Adult-supervised high school groups/clubs that wish to partner with a nearby elementary or middle school;
- Local governments;
- Tribal governments; and/or
- Community-based or private non-profit organizations engaged in improving safety for and increasing the number of children who safely walk or ride a bicycle to school.

Eligible Activities

The schools at which mini-grant activities will occur must be elementary or middle schools. Also, these schools must be either starting new SRTS program activities or events, or currently conducting SRTS activities and want to expand them.

The National Center is providing mini-grants for creative ideas that are youth-focused and that may explore related issues such as: How do students encourage their peers and the adults in their lives to walk and bicycle safely to school? How do students and others make the connection between safe routes to school and environmental or physical activity issues?

Examples of eligible activities include, but are not limited to, the following:

- Students encouraging peers/parents to find opportunities to walk or bicycle, starting with the trip to school.
- Students connecting the choice to walk or bicycle with helping the environment.
- Students connecting the choice to walk or bicycle with better health.
- Students developing messages for parents/other drivers to drive safely, especially in school zones and neighborhoods.

From carbon calculators to social marketing campaigns, from audits of school environments to communicating with local politicians and/or government officials, submit a proposal for a project that can make a difference at your school or community.

Activities funded by the mini-grants must have the potential to have long-term impacts.

Although it is not required, applicants may want to collect student travel data as part of their application in order to have more information about current rates of walking and bicycling to school. This information

may help applicants decide on appropriate activities. For more information about data collection, and for student travel tally forms, please see www.saferoutesinfo.org/data.

Selection Criteria

All applications that meet the eligibility requirements above will be reviewed by a committee that will aim to make awards to:

- A broad geographic distribution of recipients;
- Applicants representing a variety of program types;
- Applicants who provide a clear description of how funding will be used to begin new programs or advance current projects or programs with activities that fit with eligibility requirements outlined above; and
- Projects or programs that align with SRTS goals of encouraging more children to walk and bicycle to school safely.

Funding Restrictions

Mini-grant funds may not be used for staff salaries, fundraising, food or refreshments, or cash prizes.

The mini-grant funds are Federal funds, and there are Federal restrictions on how the funds are spent. If you have questions about funding eligibility for specific activities, please email info@saferoutesinfo.org.

Reporting Requirements

Mini-grant recipients will be required to submit an informal written report on activities midway through the implementation period. Recipients will also be required to submit a formal report at the end of the implementation period (June/July 2010) that provides information about the project. The formal report will include the following:

- Budget report of actual expenditures
- Description of the project's activities, challenges, successes, and participation rates
- At least three digital pictures that show one or more activities of the funded project

Mini-grant recipients may be required to complete a brief questionnaire after the grant period.

Private Sector funding Sources

Local

There are many examples of local communities creating revenue streams to improve conditions for bicycling and walking. Three common approaches include: special bond issues, dedications of a portion of local sales taxes or a voter-approved sales tax increase, and use of the annual capital improvement budgets of Public Works and/or Parks agencies.

Some examples follow:

- The City of Albuquerque, New Mexico, and Bernalillo County, have a 5 percent set-aside of street bond funds which go to trails and bikeways. For the City, this has amounted to approximately \$1.2 million every two years. City voters last year passed a 1/4 cent gross receipts tax for transportation which includes approximately \$1 million per year for the next ten years for trail development. Many on-street facilities are developed as a part of other road projects.
- Pinellas County, Florida built much of the Pinellas Trail system with a portion of a one cent sales tax increase voted for by county residents.
- Seattle, Washington approved a nine year levy (property tax) in the fall of 2006 that provides five million dollars a year for pedestrian and bicycle projects.

- Denver, Colorado invested \$5 million in its emerging trail network with a bond issue, which also funded the city's bike planner for a number of years.
- Eagle County, Colorado (which includes Vail) voters passed a transportation tax that earmarks 10 percent for trails, about \$300,000 a year.
- In Colorado Springs, Colorado, 20 percent of the new open space sales tax is designated for trail acquisition and development; about \$5–6 million per year.

Local Organizations

Shared-use trails have spawned a widespread movement of local non-profit organizations. Many of them have raised hundreds of thousands of dollars to plan and construct trails.

Land Trusts

The environmental land trust movement has mushroomed in the past twenty years. Many of these organizations have raised funds to purchase land where trails are built, especially Rails-to-Trails.

Businesses

There is increasing corporate and business involvement in trail and conservation projects. Employers recognize that creating places to bike and walk is one way to build community and attract a quality work force. Bicycling and outdoor recreation businesses often support local projects and programs.

- In Evansville, Indiana, a boardwalk is being built with corporate donations from Indiana Power and Light Co. and the Wal-Mart Foundation.
- In Arizona, trail directional and interpretive signs are being provided by the Salt River Project a local utility. Other corporate sponsors of the Arizona Trail are the Hughes Missile Systems, BHP Cooper, and Pace American, Inc.
- Recreational Equipment, Inc. has long been a financial supporter of local trail and conservation projects.
- The Kodak Company now supports the American Greenways Awards program of The Conservation Fund, which was started in partnership with the DuPont Company. This annual awards program provides grants of up to \$2500 to local greenway projects for any activities related to greenway advocacy, planning, design or development.

For further details and tips for accessing the corporate and business community contact the Trails and Greenways Clearinghouse at the Rails-to-Trails Conservancy: 1-877-GRNWAYS (476-9297).

Community Fundraising & Partnering

Community fundraising and creative partnerships are plentiful. A common approach is to find creative ways to break a large project into small pieces that can be "purchased" by the public. Some examples:

- In Ashtabula, Ohio the local trail organization raised one-third of the money they needed to buy the land for the trail, by forming a "300 Club." Three hundred acres were needed for the trail and they set a goal of finding 300 folks who would finance one acre each. The land price was \$400 an acre and they found just over 100 people to buy an honorary acre, raising over \$40,000.
- In Jackson County, Oregon they had a "Yard Sale." The Bear Creek Greenway Foundation sold symbolic "yards" of the trail and placed donor's names on permanent markers that are located at each trailhead. At \$40 a yard, they raised enough in private cash donations to help match their \$690,000 Transportation Enhancements program award for the 18-mile Bear Creek Trail linking Medford, Talent, Phoenix and Ashland.
- Selling bricks for local sidewalk projects, especially those in historic areas or on downtown Main Streets, is increasingly common. Donor names are engraved in each brick, and a tremendous amount of publicity and community support is purchased along with basic construction materials. Portland, Oregon's downtown Pioneer Square is a good example of such a project.

- In Colorado Springs, the Rock Island Rail-Trail is being partly funded by the Rustic Hills Improvement Association, a group of local home-owners living adjacent to the trail. Also, ten miles of the trail were cleared of railroad ties by a local boy scout troop.
- A pivotal 40-acre section of the Ice Age Trail between the cities of Madison and Verona, Wisconsin, was acquired with the help of the Madison Area Youth Soccer Association. The soccer association agreed to a fifty year lease of 30 acres of the parcel for a soccer complex, providing a substantial part of the \$600,000 acquisition price.

Foundations

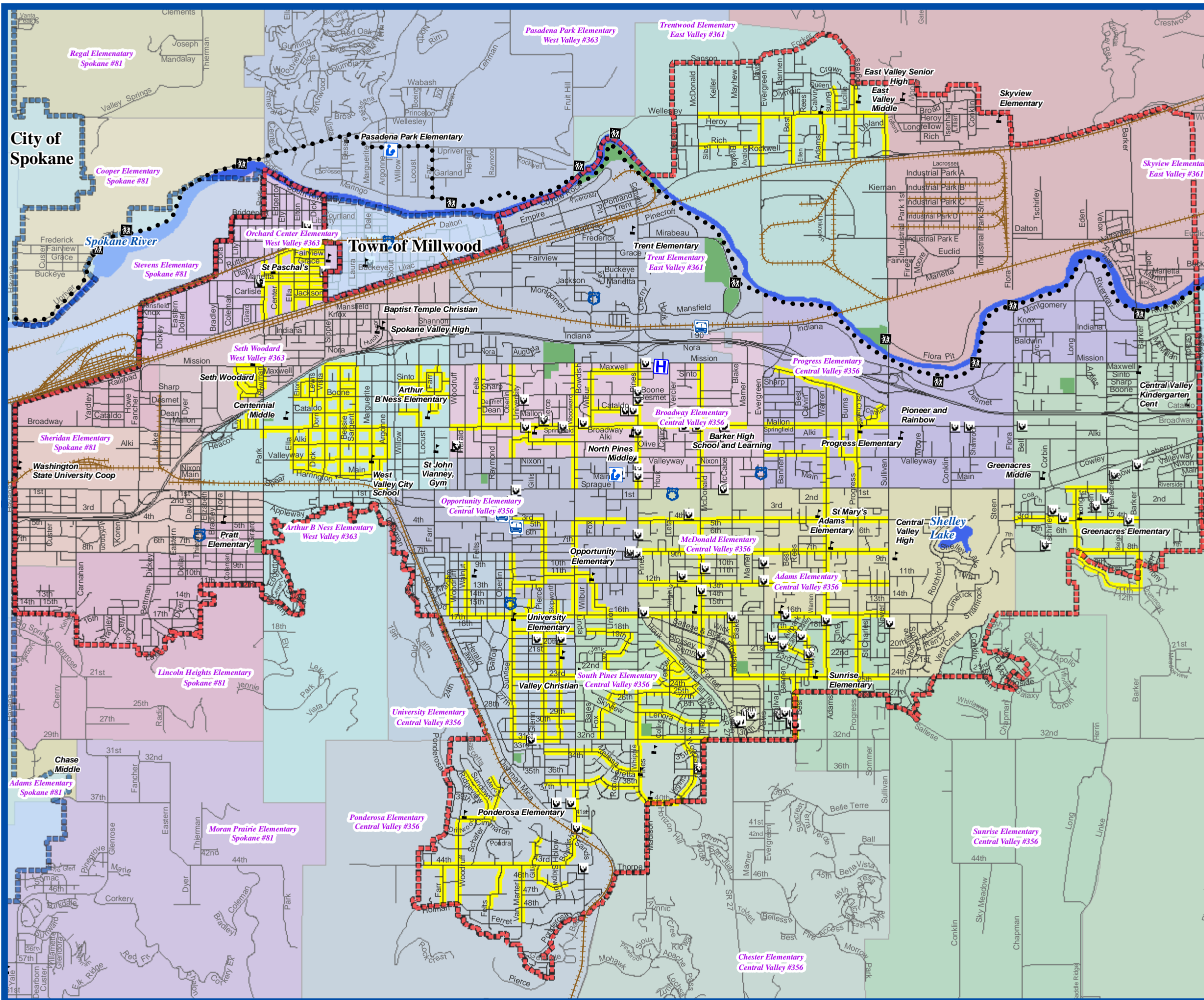
A wide range of foundations have provided funding for bicycling and walking. A few national and large regional foundations have supported the national organizations involved in pedestrian and bicycle policy advocacy. However it is usually regional and local foundations that get involved in funding particular bicycle, pedestrian or trail projects. These same foundations may also fund statewide and local advocacy efforts as well. The best way to find such foundations is through the research and information services provided by the national Foundation Center (<http://foundationcenter.org>). They maintain a huge store of information including the guidelines and application procedures for most foundations, and their past funding records.

Grant Writing Tips

The following are some helpful tips for successful grant writing (e.g., for government grants and private foundations):















1. Read the directions and applications thoroughly.
2. Find out what projects were previously funded.
3. Obtain a copy of a successful application.
4. Find out who reviews the applications and talk to him or her; it may be an individual or a larger group.
5. Always include a picture and graphic that quickly conveys what is being asked for in the proposal.
6. Identify key words and concepts in the grant application and then use them in your narrative.
7. Convey a sense of urgency — for example, if funding is not obtained, something of value such as a rail corridor that will be lost.
8. Provide a timeline — demonstrate that the project is ready to go once funding is secured.
9. Focus on a tangible product — e.g., construct something, purchase some property, etc.; minimize the amount that goes for overhead and design.
10. Demonstrate that you are leveraging funds and that this is not the only funding source; no one wants to be a sole source of funds for a project or program.
11. Demonstrate community support through letters from neighborhood associations, advocacy groups, and local businesses.

Map 11.5 Safe Routes to Schools

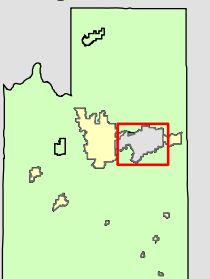


Legend

Pedestrian Network

-  Hospital
-  Police Station
-  Library
-  Transit Location
-  Safe Haven
-  School Identified Walking Route
-  Centennial Trail
-  Trailheads
-  Schools
-  Railroad
-  Other Municipalities
-  City of Spokane Valley
-  Parks
-  Water Bodies

Map Location



Effective Date: XX/XX/XX
Ordinance No.: XX-XXX

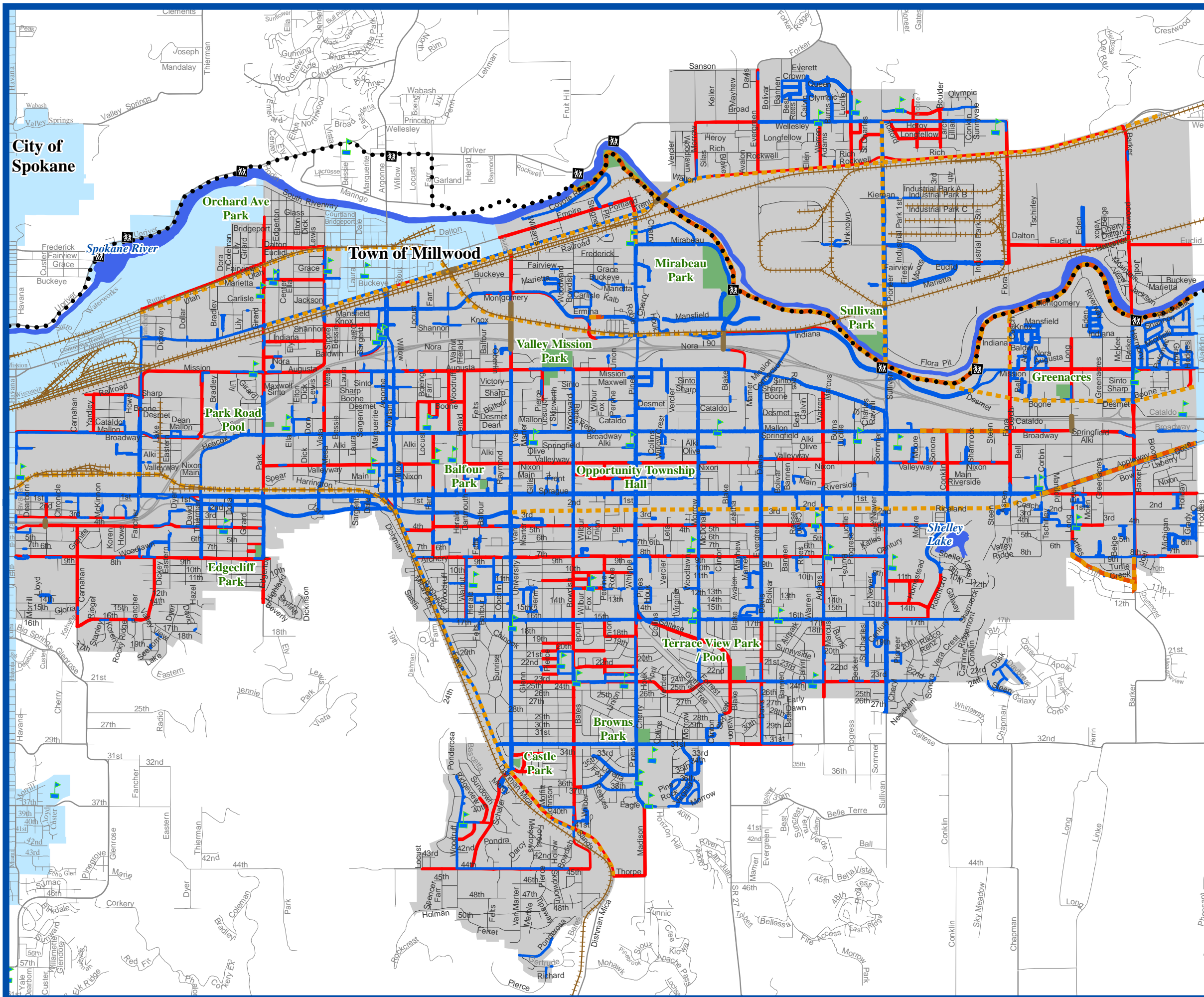


0 0.5 1 2 Miles

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Map 11.4 Recommended Pedestrian Network

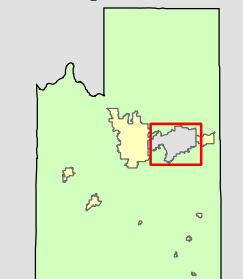


Legend

Pedestrian Network

- Sidewalks
- Proposed Sidewalks
- Existing Shared Use Path
- Proposed Shared Use Path
- Ped/Bike Bridge
- Centennial Trail
- Trailheads
- Schools
- Railroad
- Other Municipalities
- City of Spokane Valley
- Parks
- Water Bodies

Map Location



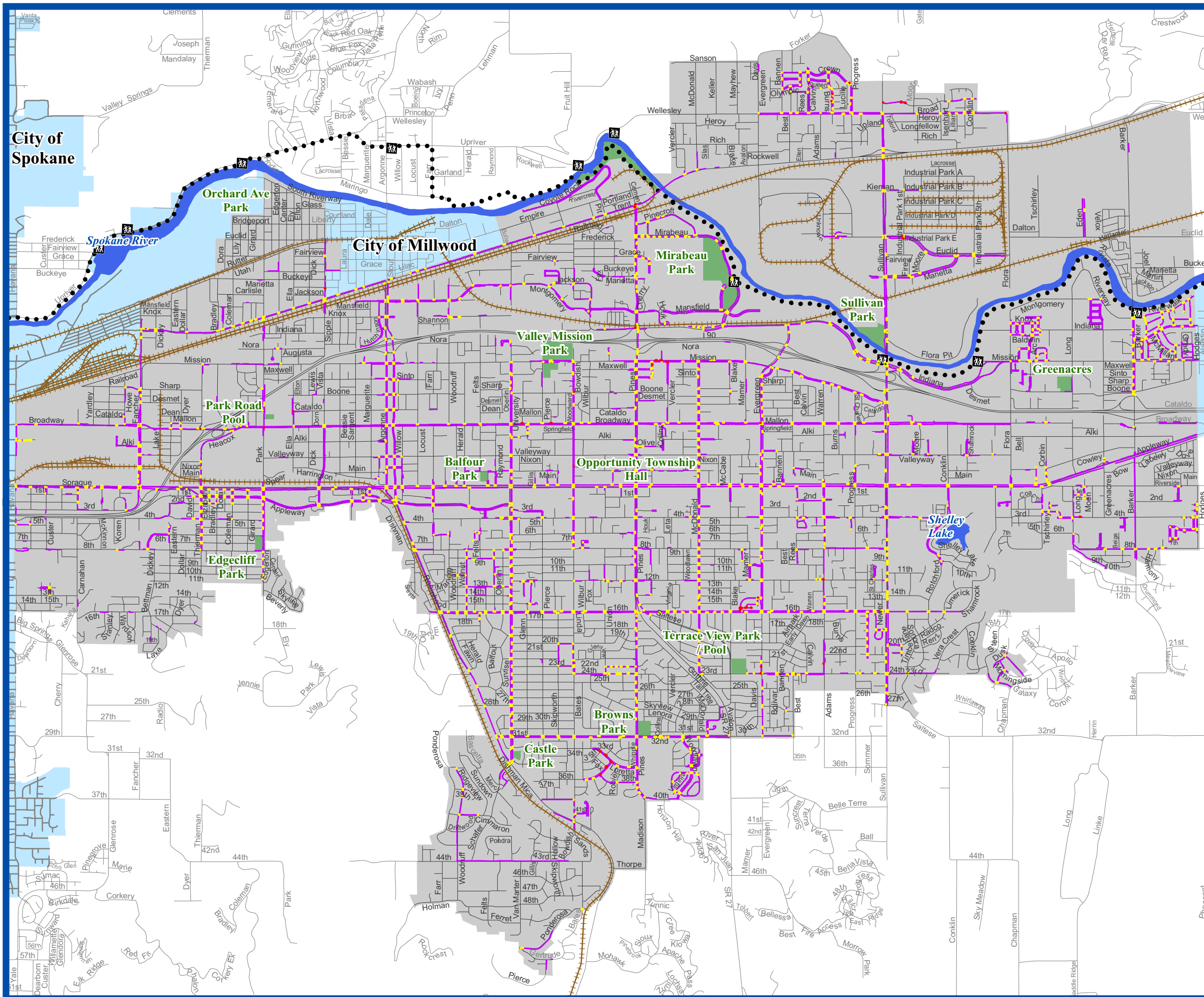
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Map 11.3 Existing Sidewalk Network



Legend

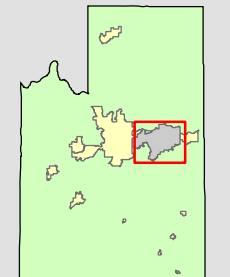
Sidewalk Inventory

-  Sidewalks
-  Curb Ramps
-  Textured Curb Ramps
-  Centennial Trail
-  Trailheads
-  Schools
-  Railroad
-  Other Municipalities
-  City of Spokane Valley
-  Parks
-  Water Bodies

Effective Date: XX/XX/XX
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Map Location



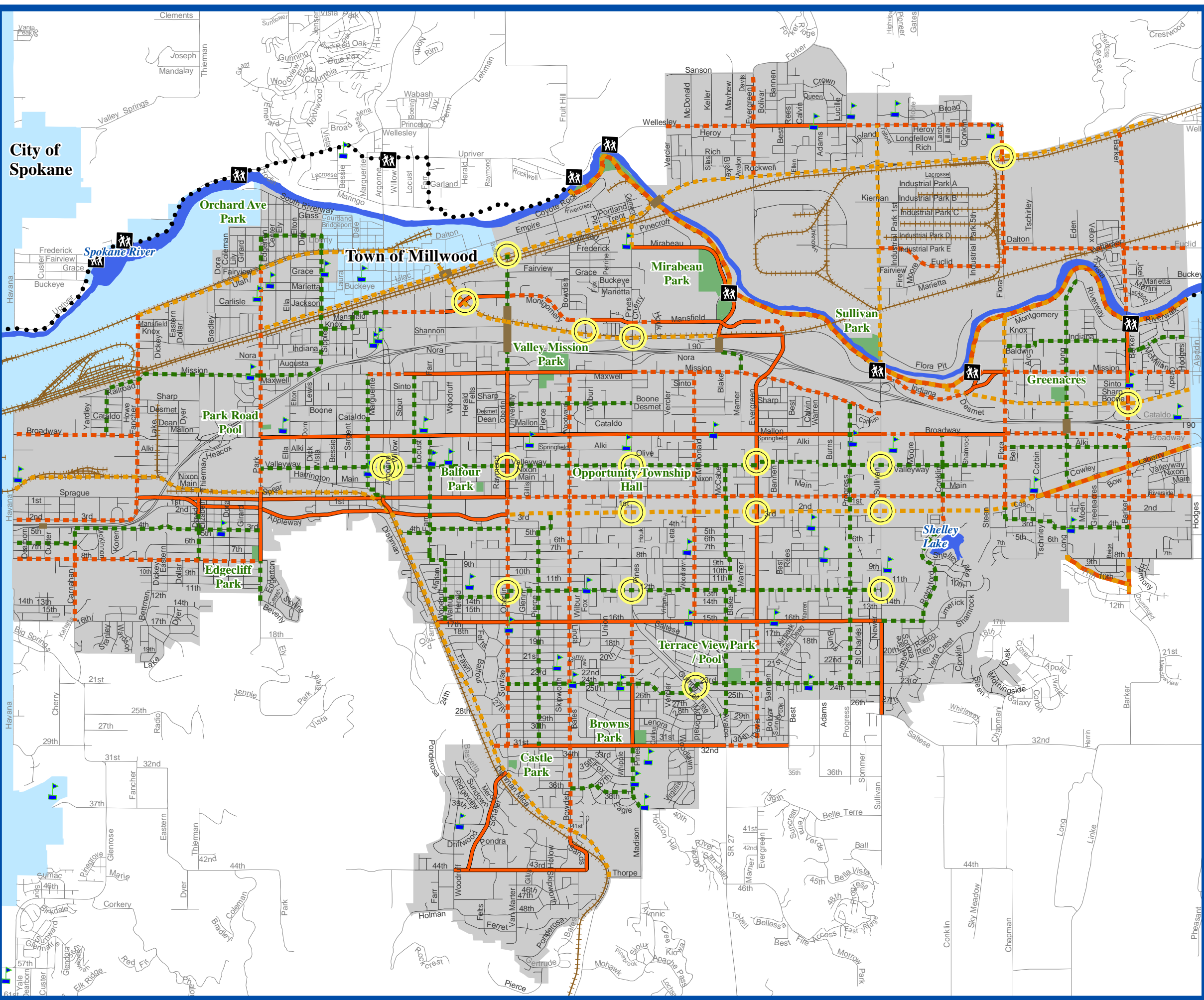
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Map 11.2 Recommended Bikeway Network

City of
Spokane



Legend

Bicycle System

- Existing Bike Lane
- Existing Shared Use Path
- Proposed Bike Friendly Route
- Proposed Bike Lane
- Proposed Shared Use Path
- Proposed Ped/Bike Bridge
- Potential Crossing Treatments

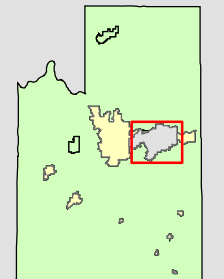
Other Features

- Centennial Trail
- Trailheads
- Schools
- Railroad
- Other Municipalities
- City of Spokane Valley
- Parks
- Water Bodies

Effective Date: XX/XX/XX
Ordinance No.: XX-XXX



Map Location



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








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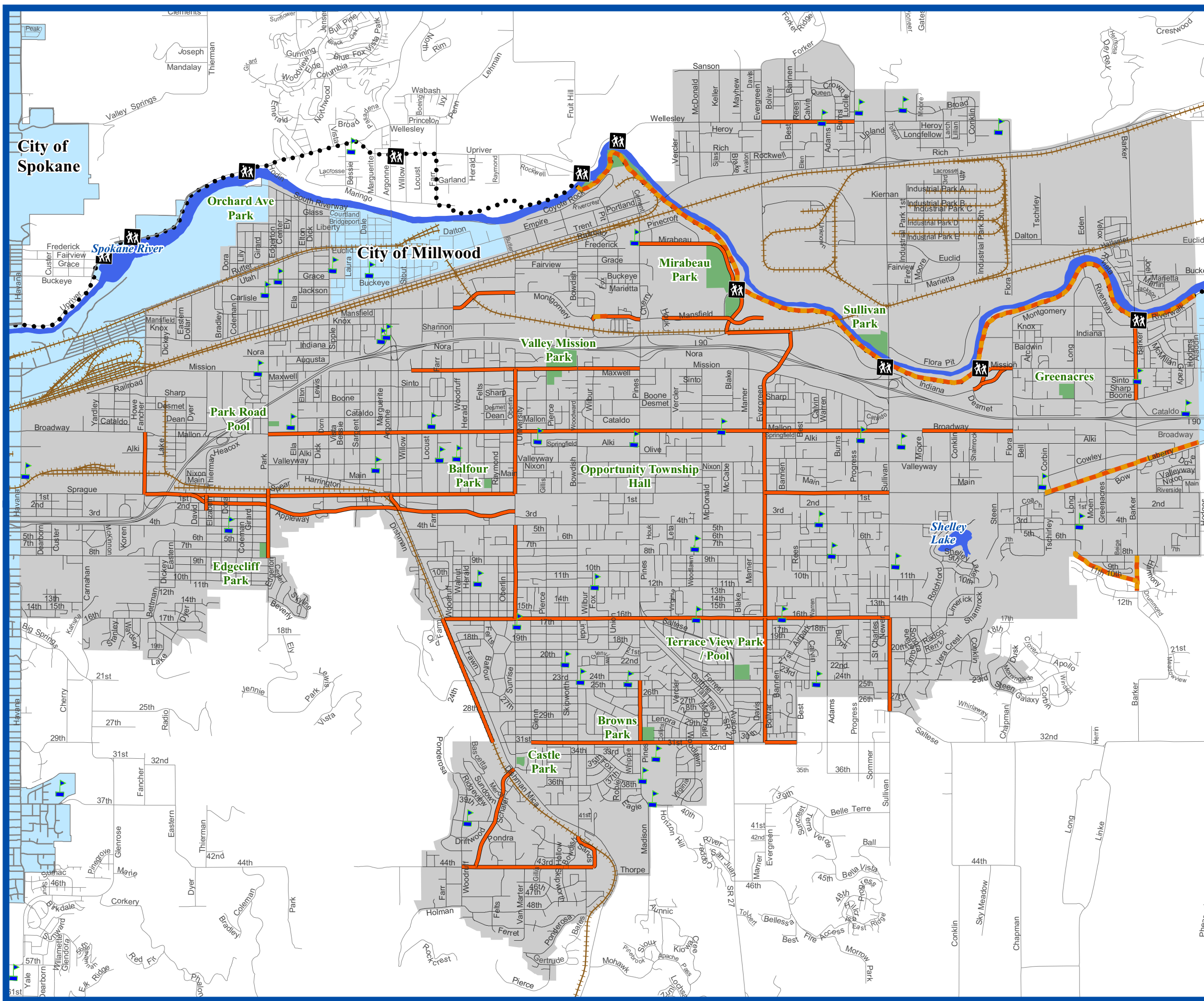
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Map 11.1 Existing Bike Facilities

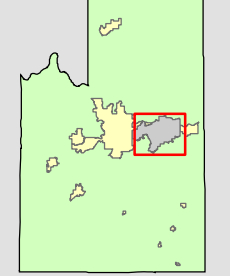
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Existing Facilities

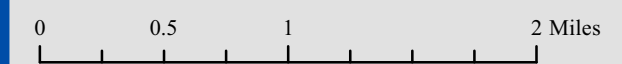
-  Existing Bike Lane
-  Existing Shared Use Path
-  Centennial Trail
-  Trailheads
-  Schools
-  Railroad
-  Other Municipalities
-  City of Spokane Valley
-  Parks
-  Water Bodies



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