

Washington State University Bicycle and Pedestrian Plan

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1 Background

The setting of any community has a large impact on how people travel in and through that community, and ultimately affects the type of recommendations that will be effective in improving the bicycling and walking environment. For this study, the setting is viewed through the following lenses:

Study Area

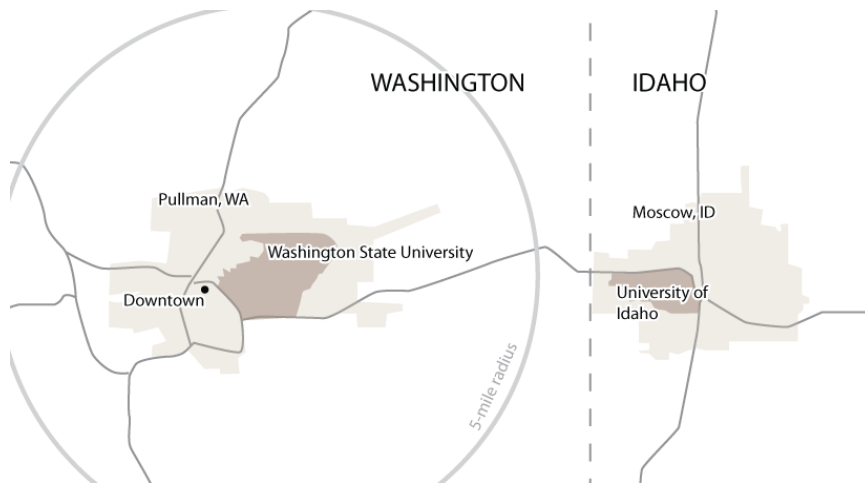


Figure 1-1: WSU Campus and the City of Pullman with 5-mile Study Area Radius in Relation to Moscow ID



The Palouse

Pullman is located in the heart of the agricultural region known as the Palouse. It is the home of Washington State University (WSU), a land grant institution founded in 1890.

The estimated 2013 population of Pullman is 31,000. The 2013 enrollment of WSU is 19,243.

Several types of land uses, varying in intensity from open space to industrial, are found in Pullman. WSU owns or controls nearly 50 percent of the land in Pullman. The remainder of Pullman is occupied primarily by residential uses in a relatively compact development pattern.

The Pullman area climate is semi-arid, features dry and clear weather for much of the year, with hot, dry summers and cold, wet winters.

Campus Master Planning



Figure 1-2: WSU Campus Master Plan Map (Source: Pullman Campus Master Plan Update 2012)

A Vision of the Future

The 2012 Campus Master Plan Update establishes a vision for campus growth to 2030 and beyond.

One of the key recommendations to come out of the campus master planning effort was the closure of NE Stadium Way between Grimes Way and NE North Fairway Road to through motor vehicle traffic.

This Bicycle and Pedestrian Plan will recognize this vision for growth that was inspired by the campus, its students, faculty, and staff and the result of months of work spanning June 2010 to October 2011.

Following this Bicycle and Pedestrian Plan, WSU will develop a comprehensive transportation plan, focusing on vehicular and transit circulation.

Vision, Goals and Objectives

A Vision for the Plan

WASHINGTON STATE UNIVERSITY IS FIRMLY COMMITTED TO SETTING POLICY, DEVELOPING PROGRAMS, AND INCREASING INFRASTRUCTURE TO SUPPORT AND SAFELY ACCOMMODATE BICYCLING AND WALKING TO, FROM, AND ON THE PULLMAN CAMPUS.

- *Project Vision Statement for the Washington State University Bicycle and Pedestrian Plan*

The Project Vision Statement and recommended goals and objectives for the Washington State University Bicycle and Pedestrian Plan were developed from research of existing national, state, and university goals, policies and objectives.

Goals and objectives should support WSU's mission and describe the most important aspects of programs, priorities, and attitudes. The goals and objectives for the Washington State University Bicycle and Pedestrian Plan are organized into seven categories on the following page.

Health and Safety - Providing and promoting safe and accessible routes and accommodations for walking and biking as a daily form of physical activity.

- a) Reduce crashes involving bicyclists, pedestrians, and motorists.
- b) Provide bicycle facilities and accommodations on campus that minimize conflict between bicyclists and pedestrians.
- c) Promote safe bicycling and walking through the use of encouragement, incentives, and bicycle-friendly programs.

Education and Encouragement - Implement comprehensive education and encouragement programs targeted at students, faculty, and staff.

- a) Educate students, faculty, and staff on bicycle and pedestrian safety issues.
- b) Encourage non-motorized transportation with programs that target pedestrians, bicyclists, motorists, and public transit users.
- c) Encourage students, faculty, and staff to use a bicycle for daily travel to campus instead of driving.
- d) Develop and install consistent campus bikeway signage to increase awareness of bicyclists on campus.
- e) Develop and install consistent campus pedestrian and bicycle wayfinding signage on campus.
- f) Provide incentives and support facilities for individuals that commute by bicycle.
- g) Promote walking and bicycling through WSU sponsored events.

- h) Provide secure bicycle storage facilities and racks throughout campus.
- i) Provide bikeway and pedestrian route maps both online and in hard copy form.
- j) Coordinate with nearby agencies and groups on annual bicycle and pedestrian events such as “Bike/Walk to Work Day,” “Bike/Walk to School Day,” and bicycle safety courses.

Enforcement - Improve enforcement of bicycling and walking on campus.

- a) Maintain a positive enforcement program for safe walking and bicycling behaviors and increase positive enforcement during periods of peak public awareness.
- b) Reduce negligent behavior among drivers, bicyclists, and pedestrians.
- c) Ensure that all bicycle or pedestrian crashes are accurately recorded into a crash database for future analysis and monitoring.
- d) Encourage bicyclists and pedestrians to report all crashes to WSU or Pullman Police Departments.
- e) Reduce the number of bicycle thefts on campus.
- f) Encourage students to register bicycles to aid in returning recovered bicycles if stolen.

Transit Integration - Improve the connection between bicyclists and transit on campus.

- a) Provide convenient, covered, and secure bicycle parking at Pullman Transit bus stations on campus and focal points such as residence halls, instructional buildings, and major campus and city employment centers.
- b) Accommodate bicycles on all campus shuttles and increase bike carrying-capacity when demand warrants.
- c) Provide opportunities for students to learn how to use the bicycle racks on transit vehicles.

Sustainability - Support campus sustainability goals.

- a) Reduce emissions and traffic congestion by increasing bicycling and walking mode share.
- b) Support the City of Pullman as it develops on- and off-street facilities that serve WSU off-campus housing.
- c) Support the Climate Action Plan by accommodating campus expansion needs while reducing vehicular parking demands.

Implementation - Create a campus non-motorized network that is integrated into existing and future off-campus facilities.

- a) Create a sustainable, dedicated source of bikeway and walkway funding within the annual budget.
- b) Develop a continuous bicycle system with access to major activity areas on campus and maintain the system so that it provides safe and convenient travel.

- c) Eliminate bicycling and pedestrian barriers and hazards.
- d) Avoid missed opportunities by ensuring all campus construction projects address non-motorized paths of travel and related projects as recommended in the Bicycle and Pedestrian Plan.
- e) Implement less-complicated and inexpensive projects first for efficiency.
- f) Institutionalize non-motorized transportation in all campus transportation planning, design, and construction activities.

Accountability - Monitor implementation of the WSU Bicycle and Pedestrian Plan.

- a) Track the success of the Bicycle and Pedestrian Plan as a percent completed of the total recommended improvements.
- b) Track WSU mode share trends through expanded annual bicycle counts and commuter surveys.
- c) Continue to monitor bicycle parking demand and increase parking supply, with temporary or permanent facilities as needed.
- d) Monitor bicycle and pedestrian crash data to reduce bicycle and pedestrian crash rates.
- e) Regularly assess the needs of the campus walking and bicycling population and respond accordingly to these needs.
- f) Produce an annual report card identifying non-motorized trends and accomplishments.

Plan and Policy Review

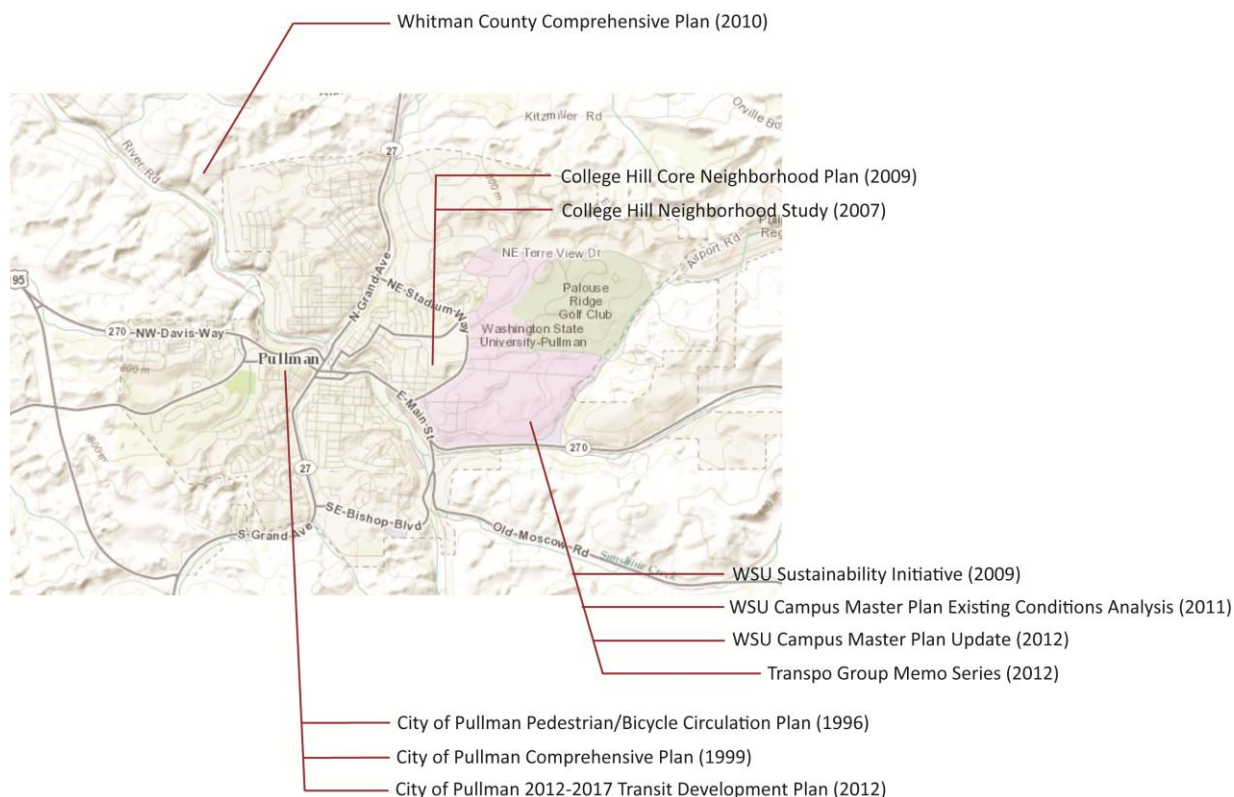


Figure 1-3: Existing plans relevant to the Bicycle and Pedestrian Master Plan

Planning for the Future

Many plans exist to guide future land use and transportation investments in Pullman and the WSU Campus area.

Existing plans and policies from WSU, Pullman, and Whitman County that are relevant to the Washington State University Bicycle and Pedestrian Plan were examined to inform the recommendations in this plan. The geography covered by these documents is identified on the map to the left.

The full summary is available in Appendix B: Plan and Policy Review.

Public Involvement

These three groups and gatherings formed the foundation of public involvement opportunities during the project:

Community Workshops

Community workshops helped engage WSU students, employees, and other Pullman community members in the planning process. The first workshop was held early in the process to provide an opportunity to review the existing conditions and needs analysis, and offer improvement ideas. The second and third workshops solicited feedback on draft recommendations.

WSU Bicycle and Pedestrian Plan Task Force (Task Force)

The Task Force is made up of staff from WSU Transportation Services (WSU TS), WSU Public Safety, WSU Facilities Services, WSU University Recreation, City of Pullman (City) Public Works and a member of City Council. WSU assembled this group to provide input related to the general direction and oversight for the study.

Stakeholder Meetings

Key stakeholders were interviewed to determine needs and issues related to bicycle and pedestrian network planning for their respective areas of responsibility.

Everyone's Voice

This section summarizes the public involvement strategy for the Washington State University Bicycle and Pedestrian Plan. The process included outreach methods, participants, dates, formats, and purposes for each meeting designed to effectively reach relevant stakeholders.

A fully detailed Public Involvement Plan is available in Appendix C: Public Involvement Plan.

Stakeholder Interviews

From the various group discussions, the following themes emerged as constant across stakeholder groups. A detailed list of questions, responses, and interviewees is available in Appendix D: Outreach Summary.

Programmatic Efforts

Programmatic efforts range from education/Public Service Announcements aimed at bicyclists, pedestrians, and drivers to new bicycle routing maps for Pullman and on campus. Education efforts targeted at developing courteous and lawful bicyclists would be highly effective with a captive population such as at WSU. Providing a user map that identifies low(er) stress routes to travel around Pullman and campus will provide confidence and encouragement to new (and returning) riders.

Fill in the Gaps

While the trails in Pullman provide an excellent environment for walking and biking, there are gaps in both the trail system and the on-street and campus connections to that trail system. These gaps make it difficult to walk or bike safely to campus and other destinations.

Provide Facilities for All Ages, All Abilities

Along with providing additional educational opportunities on biking and walking in a safe and secure manner, there was a strong desire to see facilities that provide access and connectivity for all users, not just those that are already confident bicyclists. Sidewalks are not typically designed to accommodate bicycle traffic, although they are commonly used for such purposes in Pullman and on campus. Designing and providing bicycle-only facilities, in particular facilities that provide separation from motor vehicles (paths, cycle tracks and buffered bicycle lanes) will attract the greatest number of users while providing the safest environment to bicycle in.

Along with the desire for separate facilities, the topography of Pullman can be an obstacle to bicycling. Identifying routes that facilitate easier movement uphill and providing sufficient wayfinding and facility design was another theme.

Coordination

With the need to fill in the gaps and provide facilities for all ages, all abilities comes the need to have strong coordination between city staff and university staff to identify priorities, potential funding mechanisms, and communicating to all residents the non-motorized transportation opportunities available to them.

Benefits of Healthy Design

Neighborhoods that are designed around the automobile are often not well designed for walking and biking as a form of transportation and for recreation. Bicycling and walking, however, have many proven benefits which include mobility, health, economic, environmental, and equity benefits. This section discusses each of these benefits, which can be associated with healthy design principles, practices, and treatments.

Mobility

Walking and bicycling are the most efficient types of transportation available. These trips require less infrastructure, reduce congestion, and improve personal health. However, too often, these forms of transportation are viewed as only recreation-based. Nationally, according to an FHWA National Household Travel Survey completed in 2009, walking trips make up 10.9% of trips (42 billion out of 388 billion annually). Further, every transportation trip begins and ends as a pedestrian.

An estimated 40% of all trips (commute and non-commute) taken by Americans are less than two miles, equivalent to a bike ride of 10 minutes or less, yet just 13% of all trips are made by walking or bicycling nationwide.

Germany, Denmark, and the Netherlands are wealthy countries with high rates of vehicle ownership, like the United States, yet an emphasis on providing quality walking and bicycling facilities has alleviated the reliance on motor vehicles for short trips. In the United States, bike commuting increased 71% from 2000 to 2009 in the 31 largest Bicycle-Friendly Communities, 62% in the 70 largest cities, and 44% across the United States. This suggests that bike commuting will increase more significantly in urban areas that have made their communities more walkable and bikeable.

By providing better conditions for pedestrians and bicyclists, Pullman and WSU could likewise take advantage of these low-impact modes.

Health

Health is not merely the absence of illness. It is determined by how we live, work, learn, and play, not just how often we visit the doctor. A healthy community is one with physical and social environments that make healthy choices the easy choices. In recent decades, we have built physical activity out of our lives and environments. Our transportation system is a major part of the physical environment, and it currently poses barriers to better health in Pullman and WSU.

Regular physical activity is one of the simplest solutions to give ourselves a longer, healthier life. Increasing one's level of physical activity reduces the risk and impact of cardiovascular disease, diabetes, and some cancers. It also helps to control weight, improves mood, and reduces the risk of premature death. Furthermore, regardless of one's weight, regular physical activity delays the onset and reduces the likelihood of developing chronic diseases. Children and adults can lead measurably healthier lives by incorporating 30 or more minutes of activity each day. Using active transportation to and from school, work, parks, restaurants, stores, and other routine destinations is one of the best things we can do to prevent chronic diseases.

The public health impacts of the transportation system extend beyond physical inactivity and obesity. By shifting more students/staff/residents to walking and bicycling for transportation, even for small trips, Pullman and WSU will reduce automobile emissions and improve air quality. Cleaner air leads to fewer symptoms and illnesses for those suffering from asthma and other chronic respiratory conditions.

Health professionals and advocates have become new partners in promoting and planning for active transportation. After carefully considering the best science and converging evidence, public health authorities, including the Centers for Disease Control and Prevention and the Institute of Medicine, have recommended road improvements, connectivity, land use policies, active transportation to schools, and programs to advance walking and bicycling.

Economics

While they are currently a small part of the Palouse regional economy, walking and bicycling activities generate significant economic benefits. Facilities for bicyclists and pedestrians generate economic returns through improved health, safety and environmental conditions, raise property values, and attract visitors. Walking and biking are also economically efficient transportation modes.

The walking environment's contribution to quality of life or livability has a profound impact on attracting businesses and workers as well as tourism. In addition to increased property values, improved walking environments have been correlated to increased retail sales and economic development opportunities.

Environment

When people choose to get out of their cars and walk, bike, or take transit, they make a positive environmental impact and improve air quality. People choosing to walk rather than drive are typically replacing short automobile trips, which contribute disproportionately high amounts of pollutant emissions. These emission reductions benefit all residents, whether they choose a non-motorized trip or not. They reduce their vehicle miles traveled, reducing traffic, congestion, and the volume of pollutants in the air. Other environmental impacts can be a reduction in overall neighborhood noise levels and improvements in local water quality as fewer automobile-related discharges wind up in local wetlands, streams, rivers, and lakes.

In 2009, the National Household Travel Survey found that roughly 40% of all trips taken by car are less than two miles. By taking short trips on foot, rather than in a car, citizens can have a substantial impact on local traffic and congestion. A complete bicycle and pedestrian network that connects homes, schools, parks, downtown, and recreation and cultural destinations can encourage walking and biking.

Equity

Accessibility and economics are inherently tied to equitable transportation solutions. While some residents choose not to own a motor vehicle, others cannot afford one. For those who cannot use other modes of transportation, the ability to walk and bike safely is essential. For young people, walking and biking affords a sense of independence, and for seniors, walking is an effective means to stay active both physically and socially. In addition, people living with disabilities are more likely to be pedestrians, as some physical limitations make driving difficult. Equitable services and investments provide the same opportunities for all people.

2 Existing Conditions

A full accounting of WSU campus existing conditions is available in Appendix E: Detailed Existing Conditions Analysis.

The League of American Bicyclists (LAB) uses the 5E's – Engineering, Education, Encouragement, Enforcement, and Evaluation – as an organizing principle for assessing a community's achievements and for identifying a Bicycle Friendly Community (BFC). This chapter utilizes the same organizing principle to examine the existing conditions on the WSU campus and city of Pullman. Table 2-1 below explains the 5E's in more detail.

Table 2-1: The 5E's

Category	Factor(s)
Engineering	What facilities exist?
Education	What education programs/opportunities are there for bicyclists, pedestrians, and motorists?
Encouragement	How do WSU, Pullman, and other interested groups promote and encourage biking and walking?
Enforcement	What connections exist between law enforcement (city and campus) and biking and walking groups?
Evaluation	Do WSU and Pullman measure biking and walking rates and crash rates?

Each of the following sections has both an Existing Conditions (what is) segment and an Assessment (what it means) segment that complement one another.

Engineering: Existing Bikeway Network

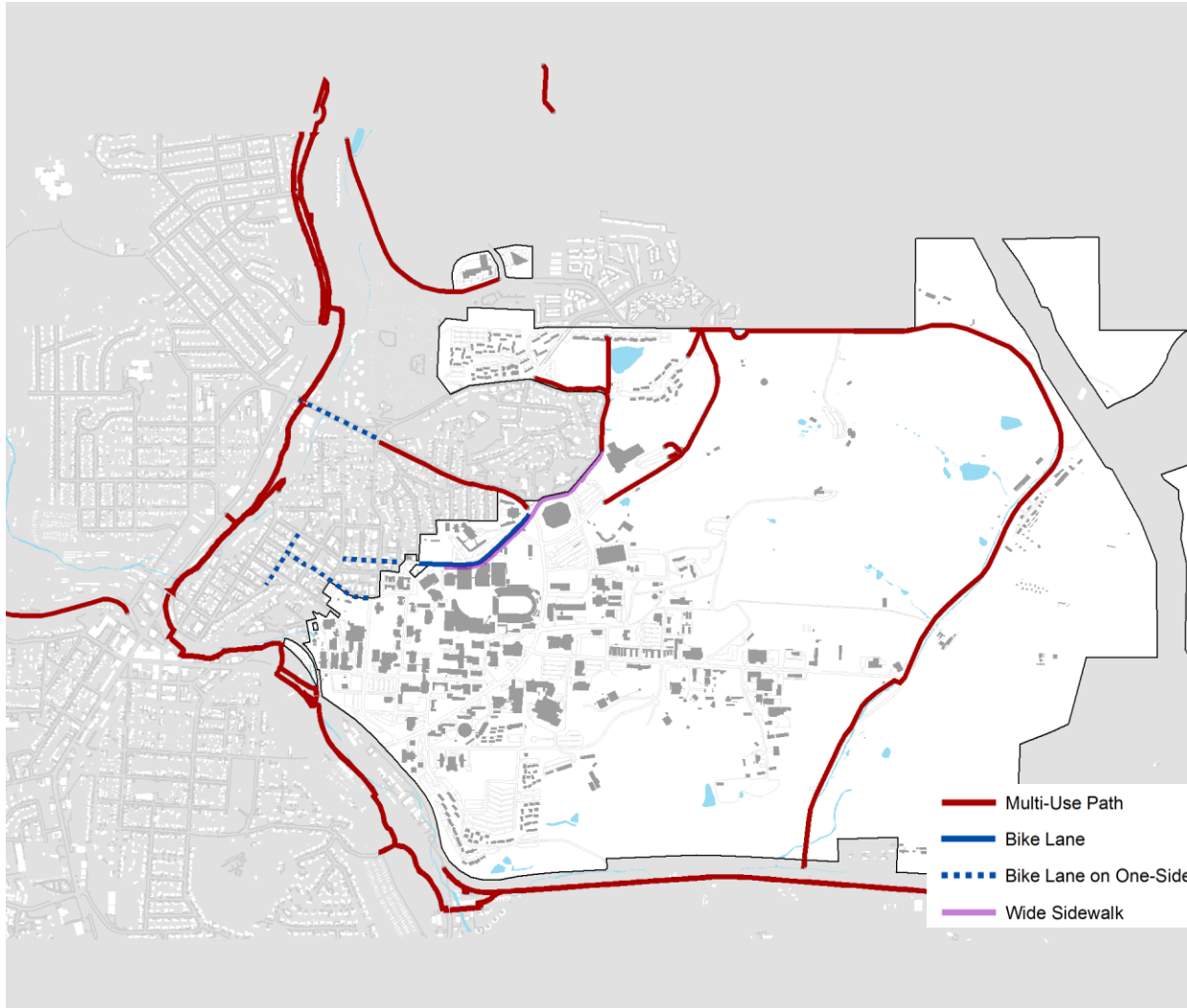


Figure 2-1: Existing Bikeway Network on WSU Campus and the City of Pullman

Existing Conditions

The Bikeway network of WSU and Pullman is largely made up of a network of multi-use paths. Some on-street bike-lanes are provided.

Table 2-2: Existing Bikeways

Type ¹	Length
Pullman Multi-Use Paths	10.3 mi
Regional Multi-Use Path (Chipman Trail)	7.0 mi
Bike Lane (both sides)	0.34 mi
Bike Lane (one side)	0.79 mi
Wide Sidewalks	0.54 mi

¹ Pedestrian malls and paths through campus are used by bicyclists, but are not included here as designated bikeways.

Engineering: Existing Pedestrian Network

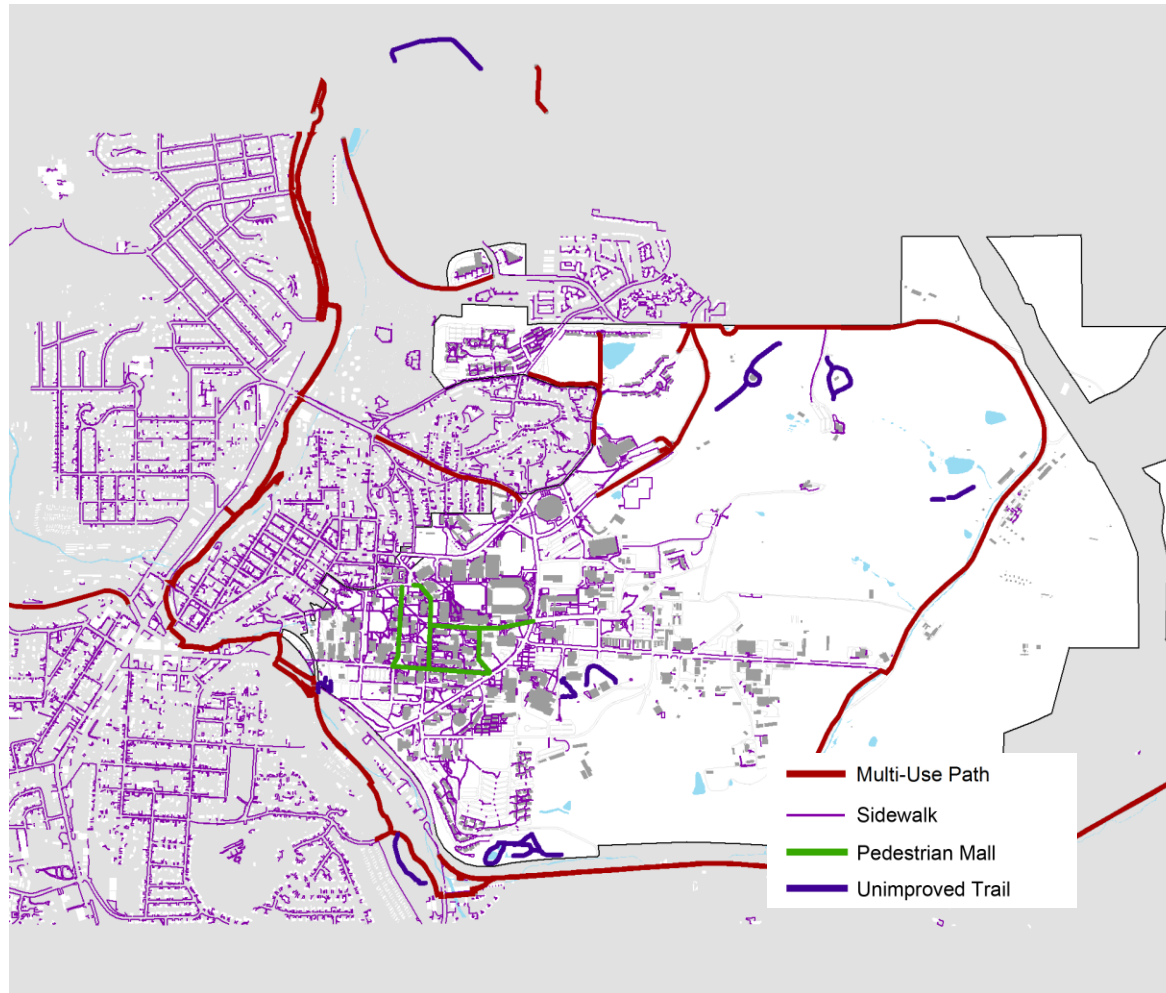


Figure 2-2: Existing Pedestrian Network on WSU Campus and the City of Pullman

Table 2-3: Existing Conditions

Type	Length
Pullman Multi-Use Paths	10.3 mi
Regional Multi-Use Path (Chipman Trail)	7.0 mi
Unimproved Trails ¹	2.0 mi
WSU Campus Sidewalks ²	30.2 mi
Pedestrian Malls	1.1 mi

¹ Unimproved trails were identified by community members, field visits and observation of aerial photography. Unidentified existing unimproved trails are not included here.

² Length of WSU Campus sidewalks was estimated by dividing lengths of edgeline data set by two to calculate linear distance.

Encouragement: Existing End of Trip Facilities

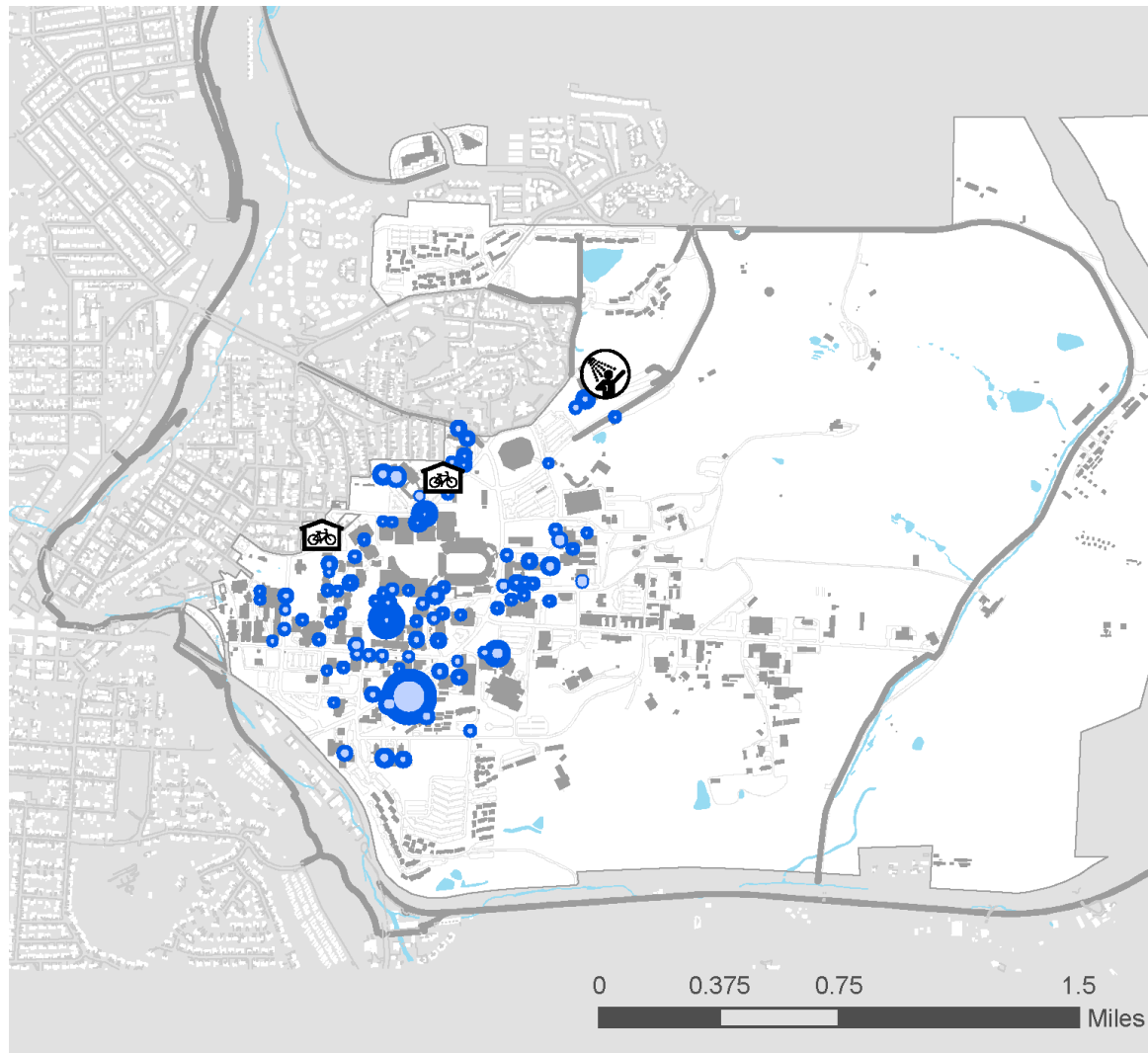


Figure 2-3: Bicycle Parking Provision on WSU Campus

Existing Conditions

Bike parking is provided in the western half of campus area. Utilization levels were calculated through manual counts conducted from 10-11 am each day for one week in April 2013.

A Bike SPA (Secure Parking Area) is provided in an alley off of NE Linden Street and in the Northside Residence Hall.

Shower facilities are available in the Student Recreation Center.

-  Parking Utilization
-  Parking Spaces
-  Shower Facilities
-  Bike SPA (Secure Parking Area)

Evaluation: Collision and Safety History

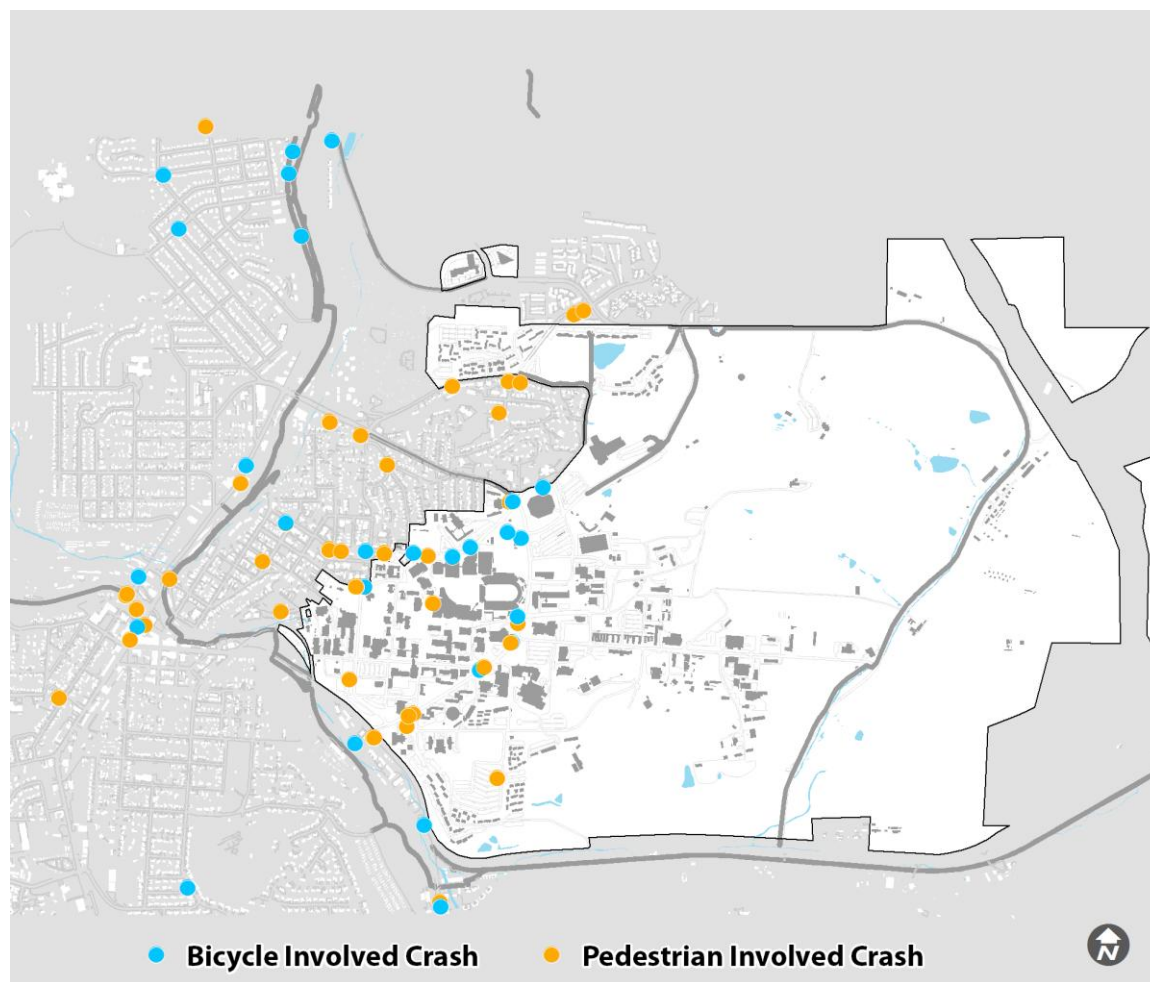


Figure 2-4: WSU Campus and Pullman Reported Crashes 2006 - 2012

Collisions

Reported crashes occurring in Pullman between 2006 and 2012 were analyzed to understand potential safety impacts. Bicycle and pedestrian crashes are typically underreported and near misses are not tracked so the trends should be reviewed with caution.

People on Bikes

- 38 bicycle collisions
- 8 reported collisions identified as evident injury, 12 as possible injury, 18 as serious injury
- Most crashes occurred on clear or partly cloudy days with dry pavement, during daylight hours

People on Foot

- 58 pedestrian collisions
- 1 reported collision reported no injury, 34 as evident injury, 22 possible injury and 1 serious injury
- Most crashes occurred on clear or partly cloudy days with dry pavement, during daylight hours

Encouragement: Existing Multimodal Connections

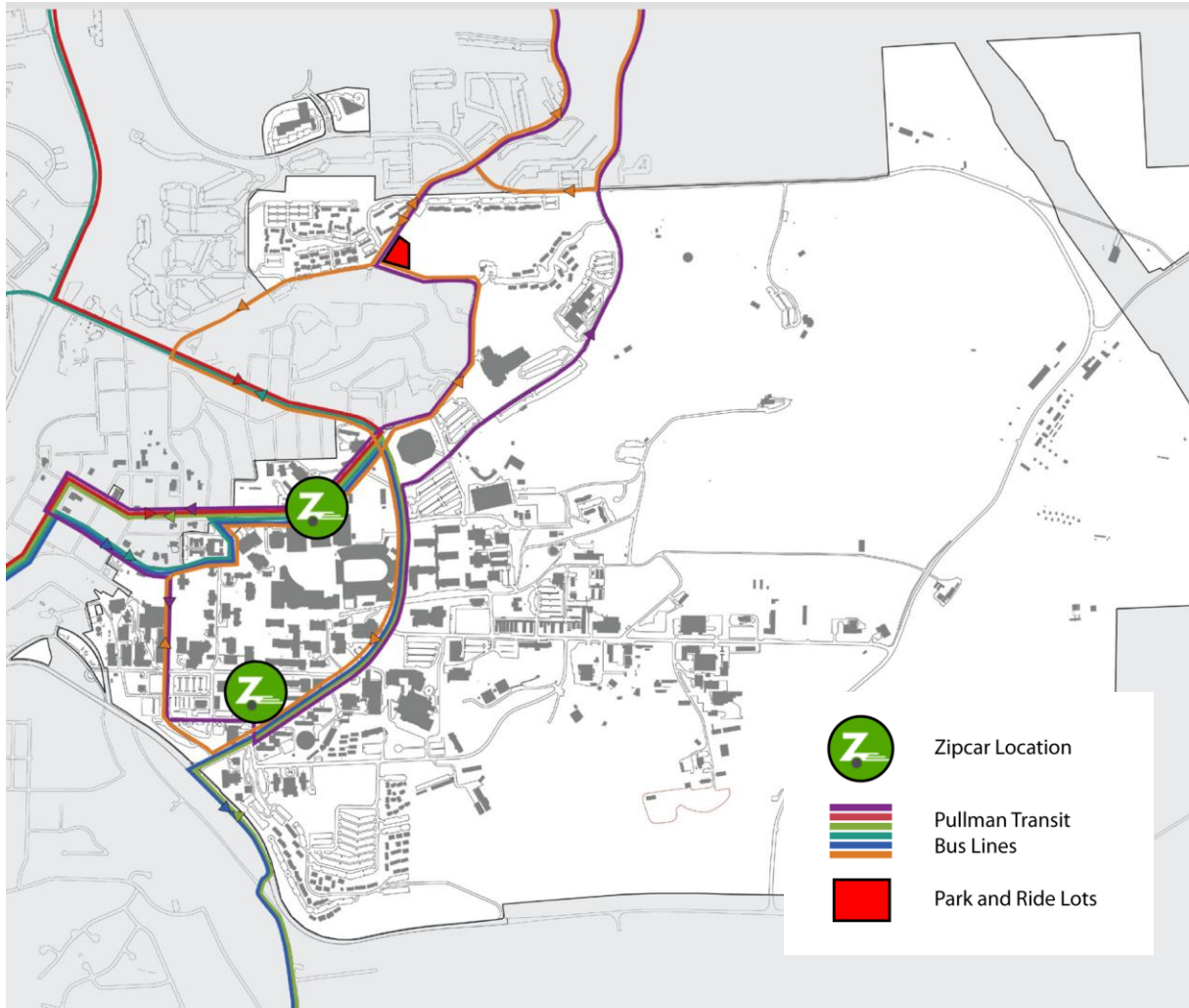


Figure 2-5: Pullman Transit Routes and Stops

Pullman Transit

Pullman Transit provides over 1.4 million rides per year. Pullman Transit operates Monday through Saturday during the academic year. Funded in part by a student-initiated transit fee, Pullman Transit offers Express Routes, transit access to and from the Student Recreation Center, and other on-campus destinations.

Park and Ride

Commuter travel can be accommodated with Park and Ride options. Permits are not required in Park and Ride lots during the day.

Zipcar

WSU students, faculty, and staff can join Zipcar, with 24/7 access to the Zipcars parked on campus.

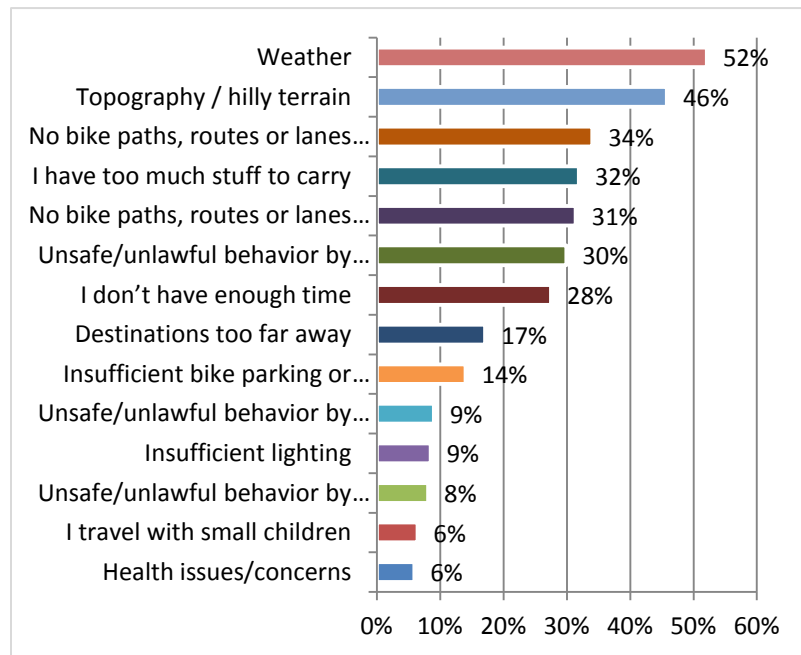
WSU Rideshare Programs

WSU Rideshare Programs help users offer or request rides online for commutes, road trips, and popular events.

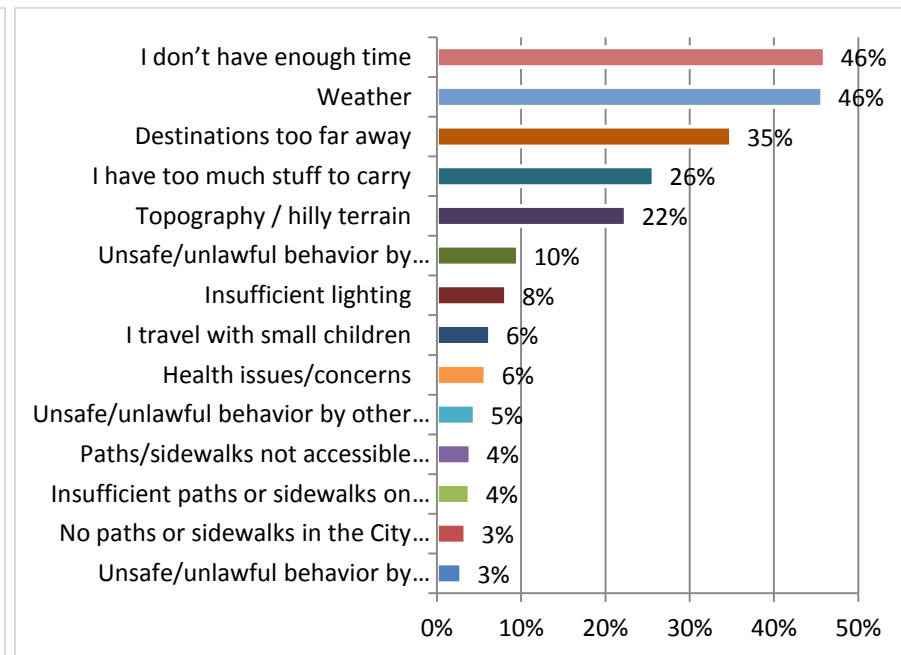
3 Needs Analysis

Online Survey Results

Nearly 1,500 respondents participated in the online survey. Participants gave a variety of reasons for not walking or biking more, including lack of high quality facilities, safety/traffic concerns, inadequate bike parking or storage, poor maintenance of existing infrastructure, and lack of convenient access to a bicycle. Others expressed a preference for a different mode of transportation such as the bus or a personal automobile, in some cases noting that the time required and/or trip distance made walking or biking impractical. Not surprisingly, participants also identified factors outside the control of the project team such as winter weather and hilly terrain.



What keeps you from riding more?



What keeps you from walking more?

Engineering: Bikeway Network Assessment

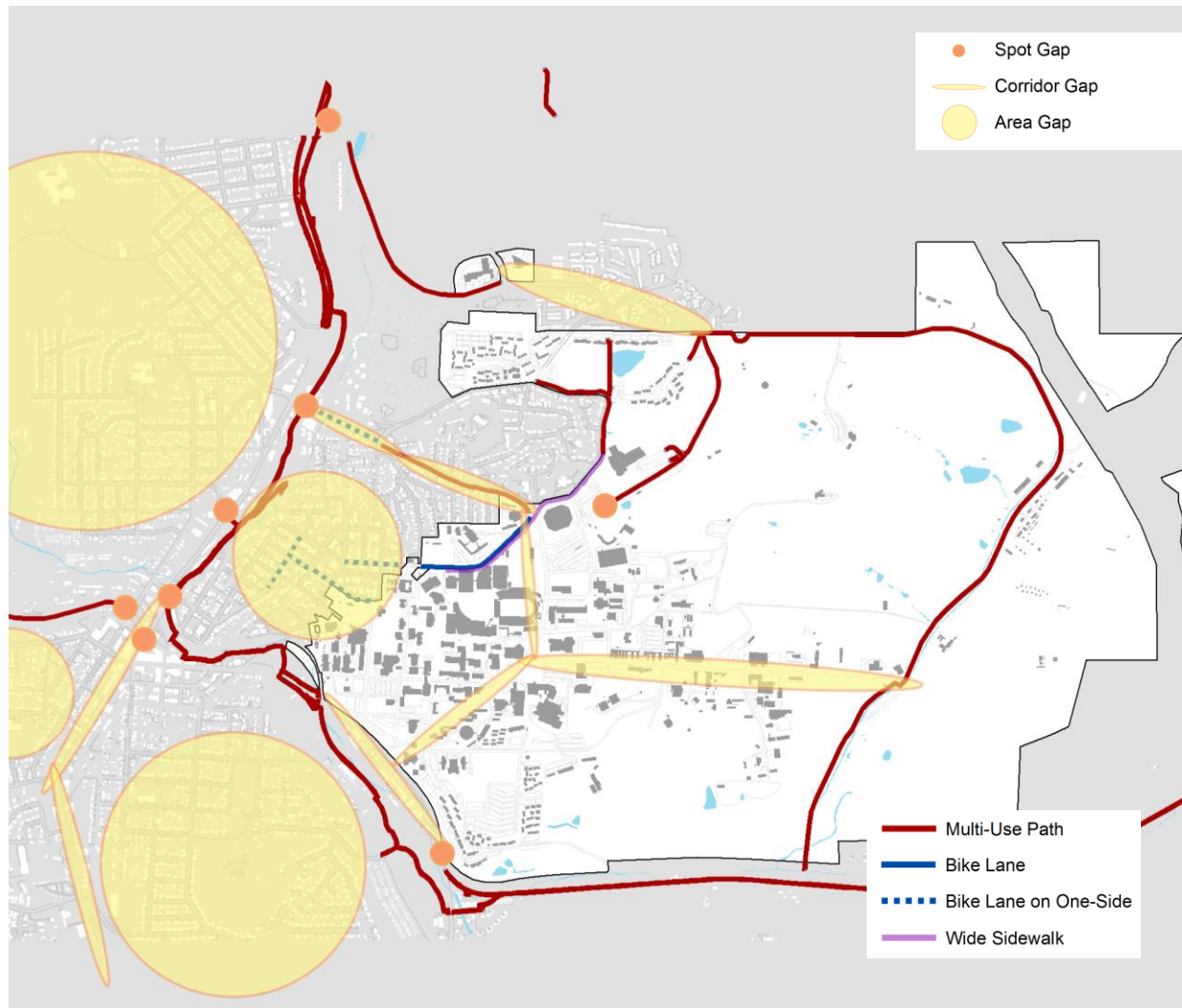


Figure 3-1: Gap Analysis of the WSU and City of Pullman Bikeway Network

Gap Analysis

Spot gaps refer to point-specific locations lacking dedicated facilities or other treatments to accommodate safe and comfortable bicycle travel.

Linear gaps are missing link segments on a clearly defined and otherwise well-connected bikeway. These gaps will sometimes encompass entire street corridors.

Area gaps are larger geographic areas (e.g., a neighborhood or business district) where few or no bikeways exist. Bicycling may be possible through these areas today, but navigation through unfamiliar areas may be difficult without designated marked and signed bikeways.

Detailed comments from open house attendees identify additional issues not included here in Appendix D: Outreach Summary.

Engineering: Pedestrian Network Assessment

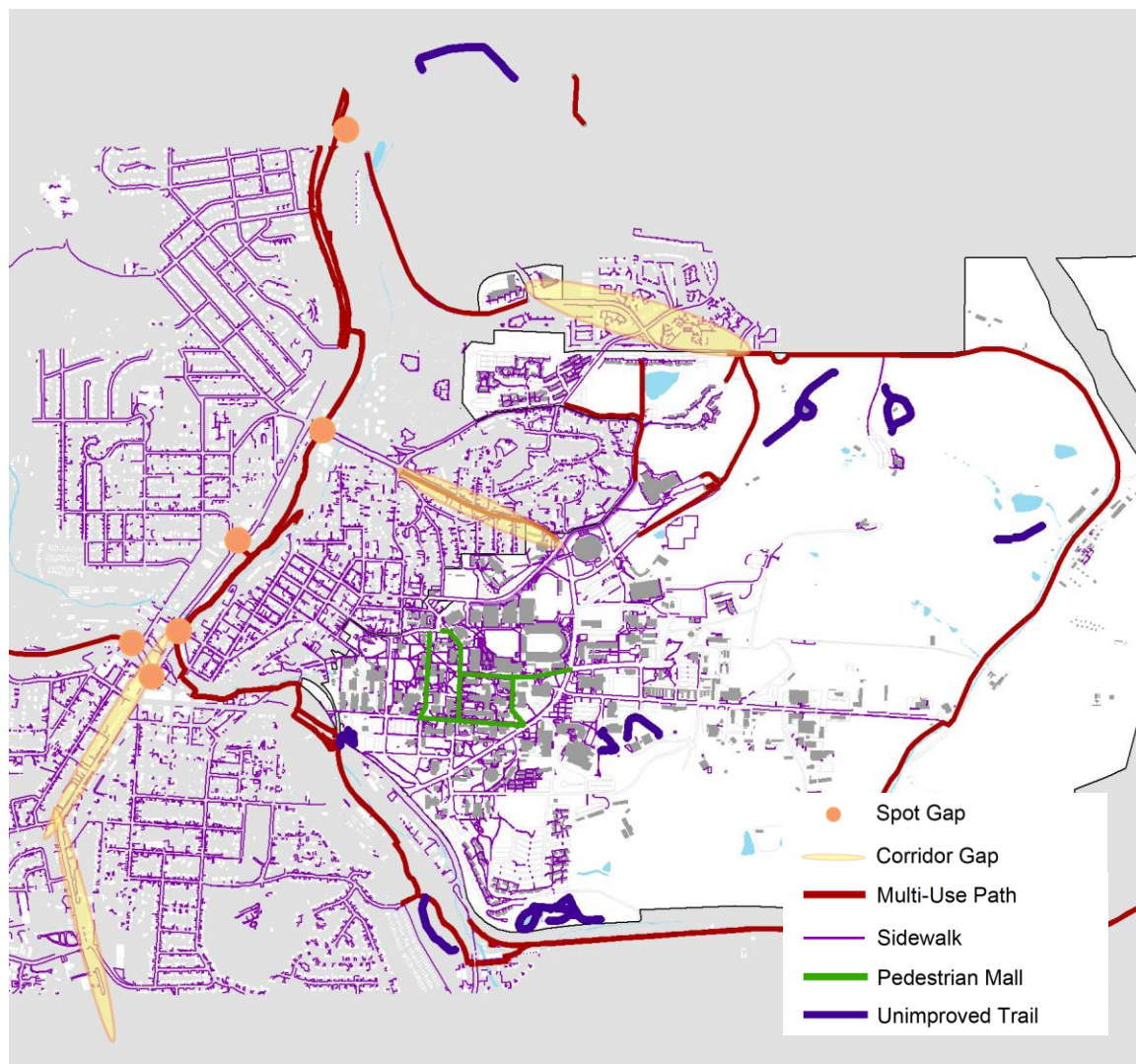


Figure 3-2: Gap Analysis of the WSU and City of Pullman Pedestrian Network

Gap Analysis

The pedestrian gap analysis shares some of the same results as the bikeway gap analysis, primarily along the multi-use path network, but also identifying streets where walking may be unsafe or uncomfortable.

Spot gaps refer to point-specific locations lacking dedicated facilities or other treatments to accommodate safe and comfortable walking.

Linear gaps are substandard segments on a clearly defined and otherwise well-connected walkway. These gaps will sometimes encompass entire street corridors where conditions are unpleasant for people on foot.

Detailed comments from open house attendees identify additional issues not included here in Appendix D: Outreach Summary.

Evaluation: Collision and Safety Assessment

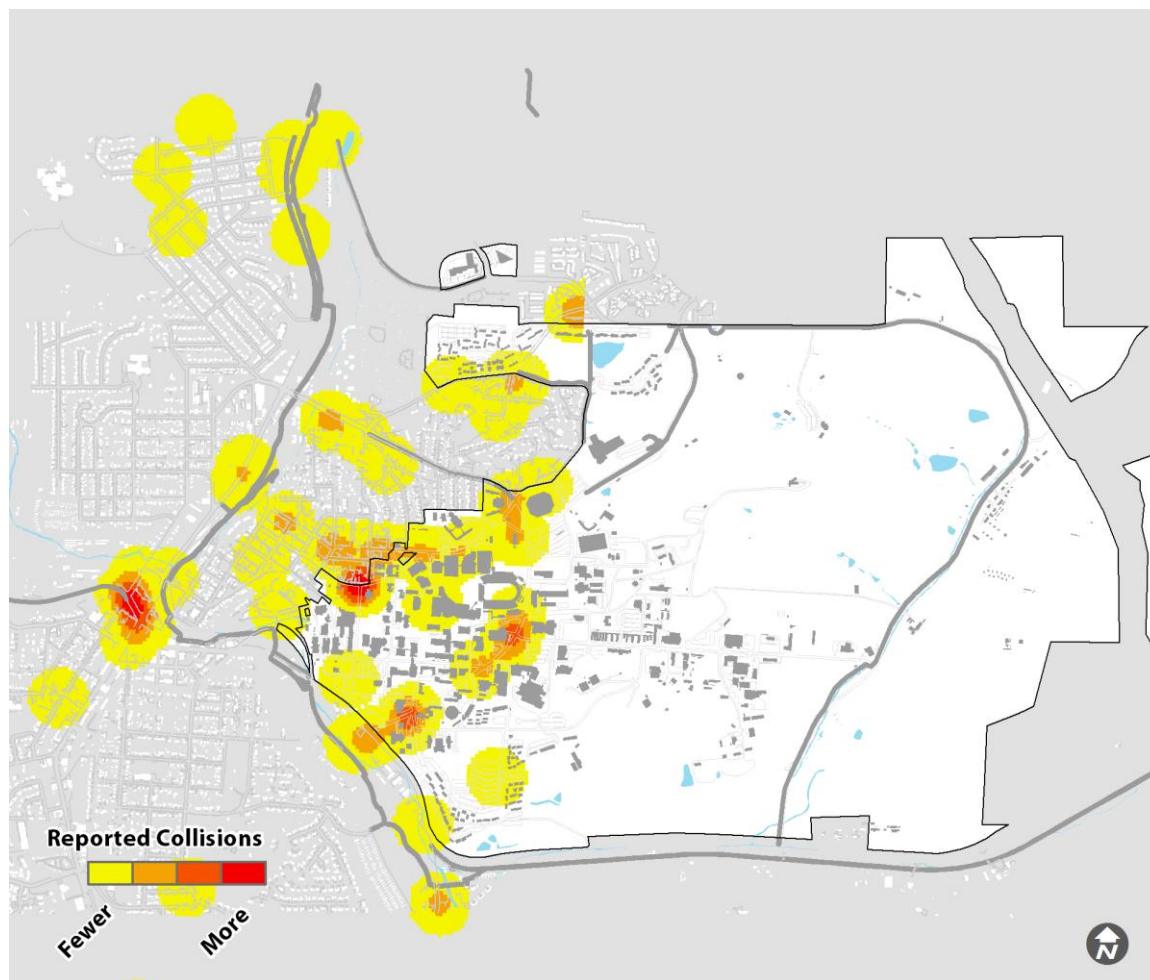


Figure 3-3: Reported Bicycle and Pedestrian Crashes 2006 - 2012 Hot Spot Analysis

Opportunities and Constraints

Identified hot spots include:

- NE Campus Street near NE B Street
- NE Stadium Way near NE Grimes Way
- NW State Street near NW Davis Way

These locations would benefit from infrastructure improvements that enhance bicycle and pedestrian visibility at intersections and complete the pedestrian network. The greatest number of these crashes occurred when a motorist made a left turn.

4 Recommended Improvements

Introduction

Based on the needs analysis and stakeholder/public input received from previous tasks, a series of strategies were developed utilizing the “5Es” approach (Engineering, Education, Encouragement, Enforcement and Evaluation) that WSU, Pullman and regional partners can implement to meet the goals of this study.

Engineering

Based on the study objectives, key findings from the first five tasks, campus community and stakeholder input, and direction received from WSU, a recommended network of bicycle and pedestrian facilities for the WSU campus and surrounding area was developed.

Education

Educational strategies are extremely effective in improving the walking and cycling environment while promoting non-motorized transportation. Utilizing several innovative educational approaches, WSU has the potential to build on its solid foundation of supporting multi-modal transportation and to become a model walking and bicycling campus. This section identifies strategic opportunities for providing education

and educational materials to the campus community.

Encouragement

If you build a facility, people will use it; however, if you build the facility and tell people about it, they will embrace it. This section identifies encouragement strategies for WSU and other partners to promote walking and bicycling as viable transportation options. The recommendations are based both on findings of previous tasks plus experience gained in communities around the region and the United States.

Enforcement

This section identifies enforcement strategies that have proven effective at creating greater compliance to the “rules of the road,” and also foster greater mutual respect toward sharing the road among all transportation users.

Evaluation

Evaluation strategies were developed and designed to assist WSU staff in measuring the success of this Plan over time. There are two distinctly separate yet related items identified as baseline and benchmarking tools – system usage and system expansion. The baselines will be established during the planning process to allow WSU staff to track usage and expansion over time.

The City of Pullman has identified similar education, encouragement and enforcement opportunities in the 1996 Pedestrian/Bicycle Circulation Plan, and have implemented many of the recommended programs to some degree. This plan reiterates some concepts and recommendations for the City and WSU to continue, enhance and expand.

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Engineering

Section Overview

The purpose of this chapter is to identify recommended projects that will ultimately make it easier to walk or bike to and on campus.

In completing the needs analysis and reviewing the input from the stakeholder and public, it became logical to think of projects in a geographic sense (where the recommended project is located) rather than a mode sense (a bicycle or pedestrian project).

The recommendations, therefore, are organized in the following categories:

- Fix What You Have
- Bicycle Connections
- Circulation

The categories are defined further on the following page.

Project Totals

Overall, there are 49 projects recommended for implementation in this plan. Projects are either bicycle, pedestrian, or trail projects; and may be either corridor improvements or spot improvements.

Table 4-1: Recommended Washington State University Bicycle and Pedestrian Projects (by category)

# of Projects	Total Length (mi.)
Fix What You Have	
16	1.9
Bicycle Connections	
15	6.3
Circulation	
18	4.2
Totals	
49	12.4

Recommendations Framework (The Three Categories)

Fix What You Have

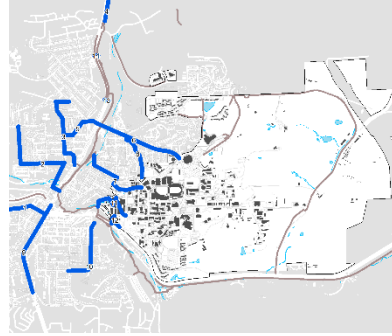


These are the highest priority projects identified. The focus is on improving the existing system while adding to the system as funding allows. Project types include both on-campus and off-campus projects.

Project types that fall into this category include:

- Gap closures
- Crossing improvements
- Wayfinding / signage
- Maintenance / repaving needs

Bicycle Connections

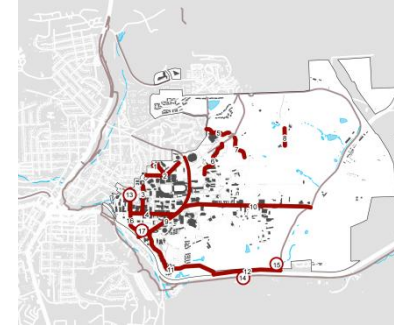


These projects are intended to improve bicycle connectivity to downtown Pullman and the WSU campus.

Project types that fall into this category include:

- New neighborhood greenways
- New trails
- Extensions of existing paths
- New roadway cross-sections to accommodate bicyclists and/or pedestrians

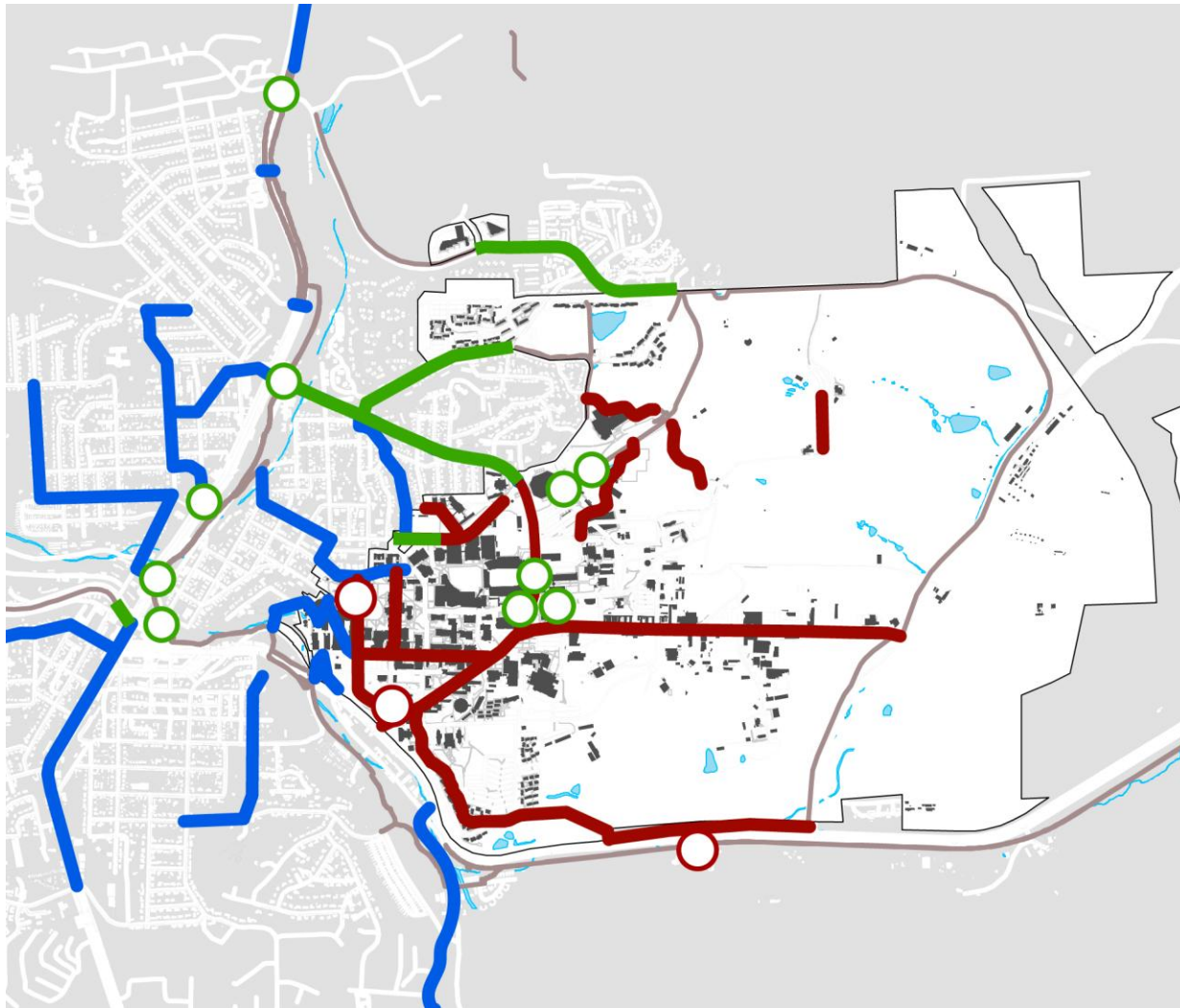
Circulation



These projects are intended to improve circulation within the campus, and include both long- and short-term priorities. Many of the long-term recommendations are designed to respond to the planned Campus Master Plan recommendations. Project types that fall into this category include:

- Priority bicycle route/campus greenway improvements (sharrows, signage, wayfinding)
- New campus trails
- Major capital projects (Stadium Way/Grimes Way realignment)
- Long-term campus planning efforts (Campus Master Plan, proposed Multimodal Transit Center)
- Pedestrian Mall design/re-design recommendations

Overall Project Map



Green = Fix What You Have

Blue = Connections to Campus

Red = Circulation Within Campus

Figure 4-1: Overall Project Map

Fix What You Have: Strengthening Existing Assets

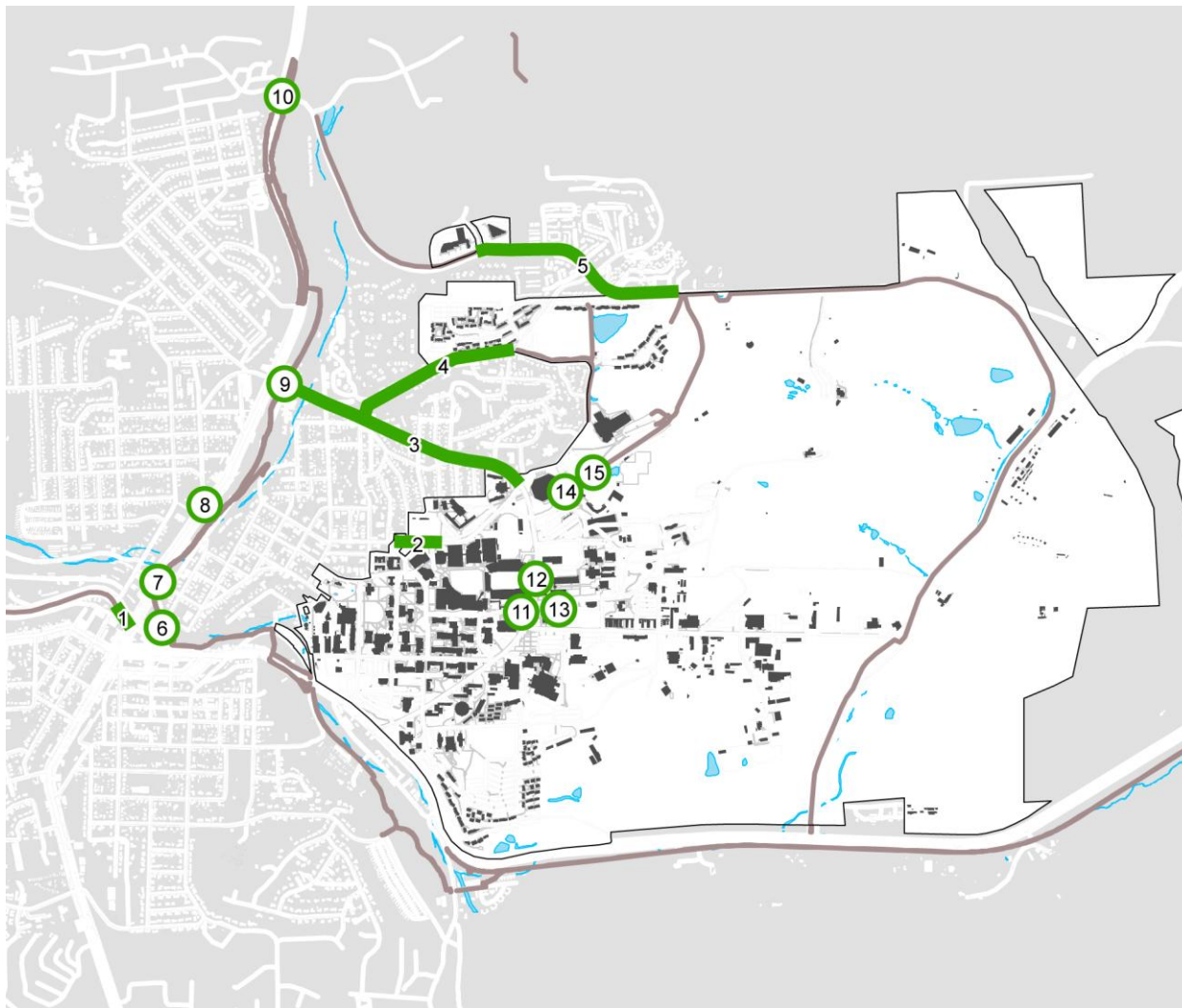


Figure 4-2: *Fix What You Have* Overview Map

Table 4-2: Fix What You Have

#	Project	Length (ft)
1	NW Davis Way Trail gap (NW State St to Grand)	370
2	Add shared lane markings (Colorado St; Campus, City - where appropriate)	650
3	Stadium Way (Grand to Colorado) (short-term improvements)	3,700
4	NE Valley Road - Uphill buffered bike lane, downhill shared lane markings	2,400
5	Completion of Terre View Trail	3,000
6	Trail / roadway crossing @ Kamiaken	
7	Trail / roadway crossing @ Whitman	
8	Trail / roadway crossing @ Ritchie Street	
9	Trail / roadway crossing @ Stadium Way	
10	Trail / roadway crossing @ Terre View	
11	Automate pedestrian signals (Campus, City)	
12	Update flashing crosswalk lights to LED (Campus)	
13	Add countdown signal heads to pedestrian signals (Campus, City)	
14	Additional / Improved Bike Parking (Campus, City)	
15	NE North Fairway Road trail to sidewalk transition	
16	Curb cut infill/retrofit (Campus, City) (Not on map)	

Fix What You Have #1: NW Davis Way Trail Gap

Existing Conditions

A 10 foot wide sidepath exists on the south side of NW Davis Way from NW Golden Hills Drive to NW State Street. At that point (~370 feet from the intersection), the sidepath becomes a 5 foot wide sidewalk, continuing to the intersection at N Grand Avenue.

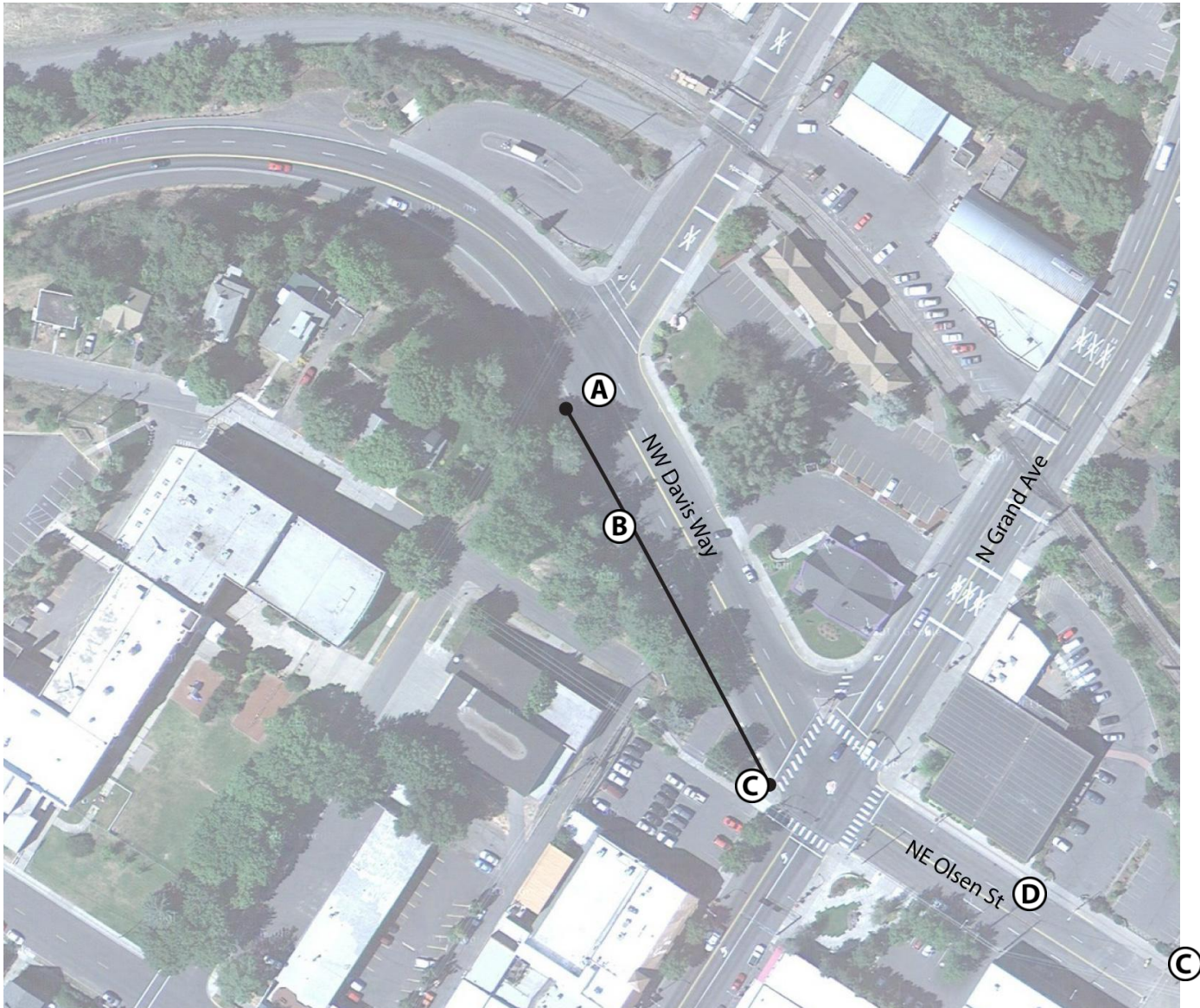


This transition from a 10 foot wide sidepath to 5 foot wide sidewalk is difficult for bicyclists as it (a) does not allow for 2-way bicycle travel and (b) makes it difficult for eastbound bicyclists to approach the intersection safely.

Recommended Improvements

- A** Maintaining the existing curb line (preserving existing on-street parking), widen the 5 foot wide sidewalk to 10 feet wide to match the width of the existing sidepath.
 - B** Widening the sidewalk to 10 feet wide will require grading and the installation of a retaining wall for a portion of the new trail length.
 - C** Add wayfinding signage at the intersection of NW Davis Way/N Grand Avenue/NE Olsen Street.
- Add wayfinding signage at the intersection of NE Olsen Street and NE Kamiaken Street to direct non-motorized users to the Bill Chipman Trail.
- D** Add shared lane markings (sharrows) to NE Olsen Street in both directions.

Fix What You Have #1: NW Davis Way Trail Gap



Fix What You Have #3: Stadium Way (Grand to Colorado - short-term)

Existing Conditions

The extent of this project is shown in green below.



Stadium Way is a busy thoroughfare and connector to campus for all travel modes. In this segment, Stadium Way has 4 travel lanes (2 in each direction), with left turn pockets at the major intersections.

For pedestrians, a minimum 5 foot wide sidewalk exists on both sides of Stadium Way (and is wider in certain sections).

Bicyclists have two options for travel along Stadium Way:

Option 1 is to ride in the street, taking a lane (this means that the bicyclist rides in the middle of the lane, acting as a vehicle, so that any driver who wishes to pass would need to change lanes, rather than passing in the same lane). This is allowed by law, and a minority of bicyclists choose this option. This works best for bicyclists heading west towards Grand Avenue, as this is the downhill direction, and confident bicyclists can take the lane and maintain a speed similar to that of motorists.

Option 2 is to use the existing sidepath on the south side of the road. This option is intended for bicyclists headed east, in the uphill direction, as bicyclists traveling uphill will have a large speed differential with the adjacent motor vehicles.

The existing sidepath is narrow, has become broken and uneven in places, and is bordered by landscaping that has started to encroach on the usable space of the sidepath itself. Along with older style curb cuts, the sidepath can be difficult for some to use comfortably.

Recommended Improvements

A Remove and replace all sections of the existing path where the asphalt is in need of maintenance to create a smoother surface for bicyclists.

B Replace the existing overgrown landscaping with dwarf plant varieties to reclaim the width that should be dedicated to the existing sidepath.

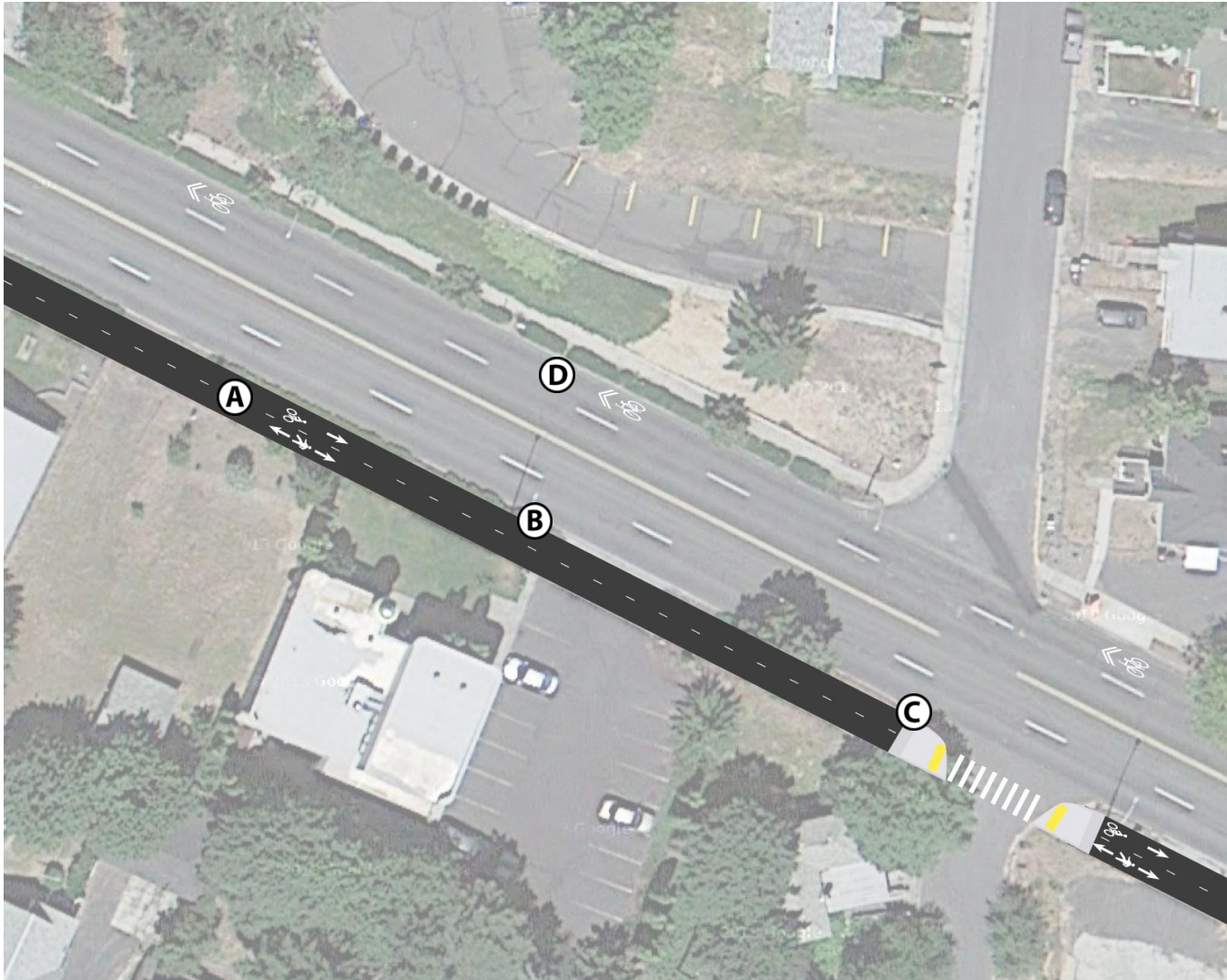


C Install new “full-width” curb cuts at all intersections along the sidepath to make access easier and safer for bicyclists and pedestrians.

D Install shared lane markings in the westbound outside lane to indicate to bicyclists proper lane positioning and to indicate to motorists that they can expect bicyclists to be using the lane.

E Extend the path 1 block east to reach the intersection with NE Colorado St.

Fix What You Have #3: Stadium Way (Grand to Colorado – short-term)



Fix What You Have #4: NE Valley Road (NE Stadium Way to NE Merman Drive)

Existing Conditions

The extent of this project is shown in green below.



NE Valley Road is an important connector between the apartments to the north, campus and downtown. In this segment, NE Valley Road is a two lane roadway with turn pockets at major intersections. There is a sidepath on the north side of the road beginning at NE Merman Drive.

For pedestrians, a 5 foot wide sidewalk exists on both sides of the road.

Bicyclists are expected to use the road from NE Stadium Way to NE Merman Drive.

Recommended Improvements

A Provide a buffered bike lane (5 foot bike lane +3 foot painted buffer) in the uphill, eastbound direction. This provides greater separation between the slower moving bicyclists and the adjacent traffic.

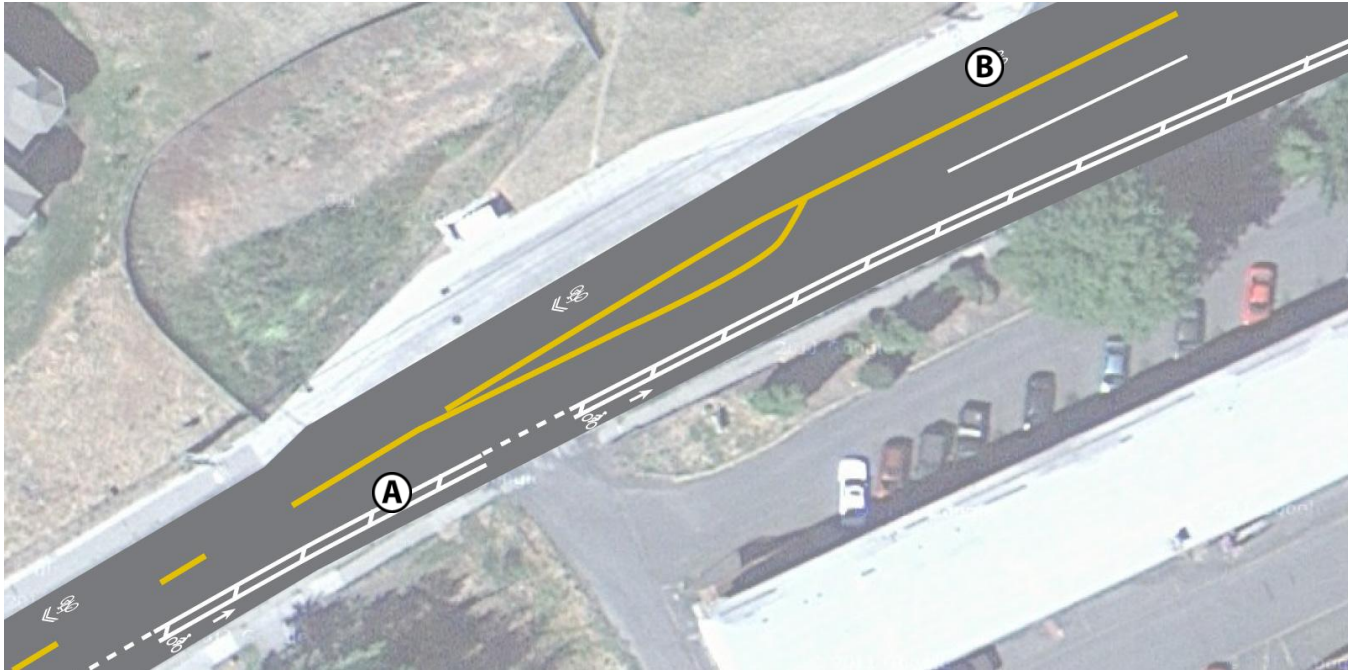
Current curb-to-curb width is 30 feet, serving two 15 foot wide travel lanes.

Reconfiguration is possible with two 11 foot travel lanes and one 8 foot buffered bike lane.

B Install sharrows in the downhill, westbound direction to indicate to bicyclists proper lane positioning and to indicate to motorists that they can expect bicyclists to be using the lane.

C Fix sidewalks adjacent to the apartments (WSU).

Fix What You Have #4: NE Valley Road (NE Stadium Way to NE Merman Drive)



Fix What You Have #5: NE Terre View Drive

Existing Conditions

The extent of this project is shown in green below.



NE Terre View Drive is an important connector between the various apartment complexes to the north and campus. In this segment, NE Terre View Drive is a two lane roadway with no turn lanes.

For pedestrians, a continuous 5 foot wide sidewalk exists on the north side of the road, with segments of sidewalk located on the south side.

Bicyclists are expected to use the road in this section of NE Terre View Drive.

Recommended Improvements

- Ⓐ Construct a sidepath on the south side of the roadway from Northwood Drive to the end of the Campus Commons South apartment complex.
- Ⓑ Add a high visibility crosswalk from the new sidepath to the existing sidepath on the north side of NE Terre View Drive.
- Ⓒ Explore the potential for speed reduction efforts on Terre View Drive.

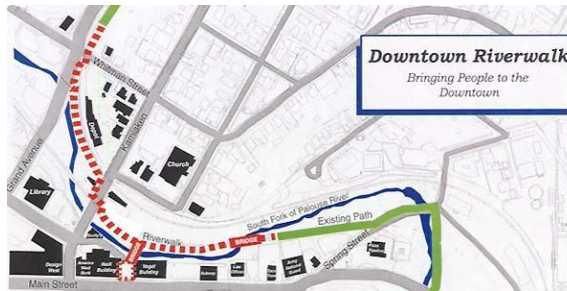
Fix What You Have #5: NE Terre View Drive



Fix What You Have #6: Trail/Roadway Crossing @ Kamiaken

Existing Conditions

As the Downtown Riverwalk enters downtown from behind the Armory, it crosses Kamiaken Street and continues along the river next to the Pufferbelly Depot.

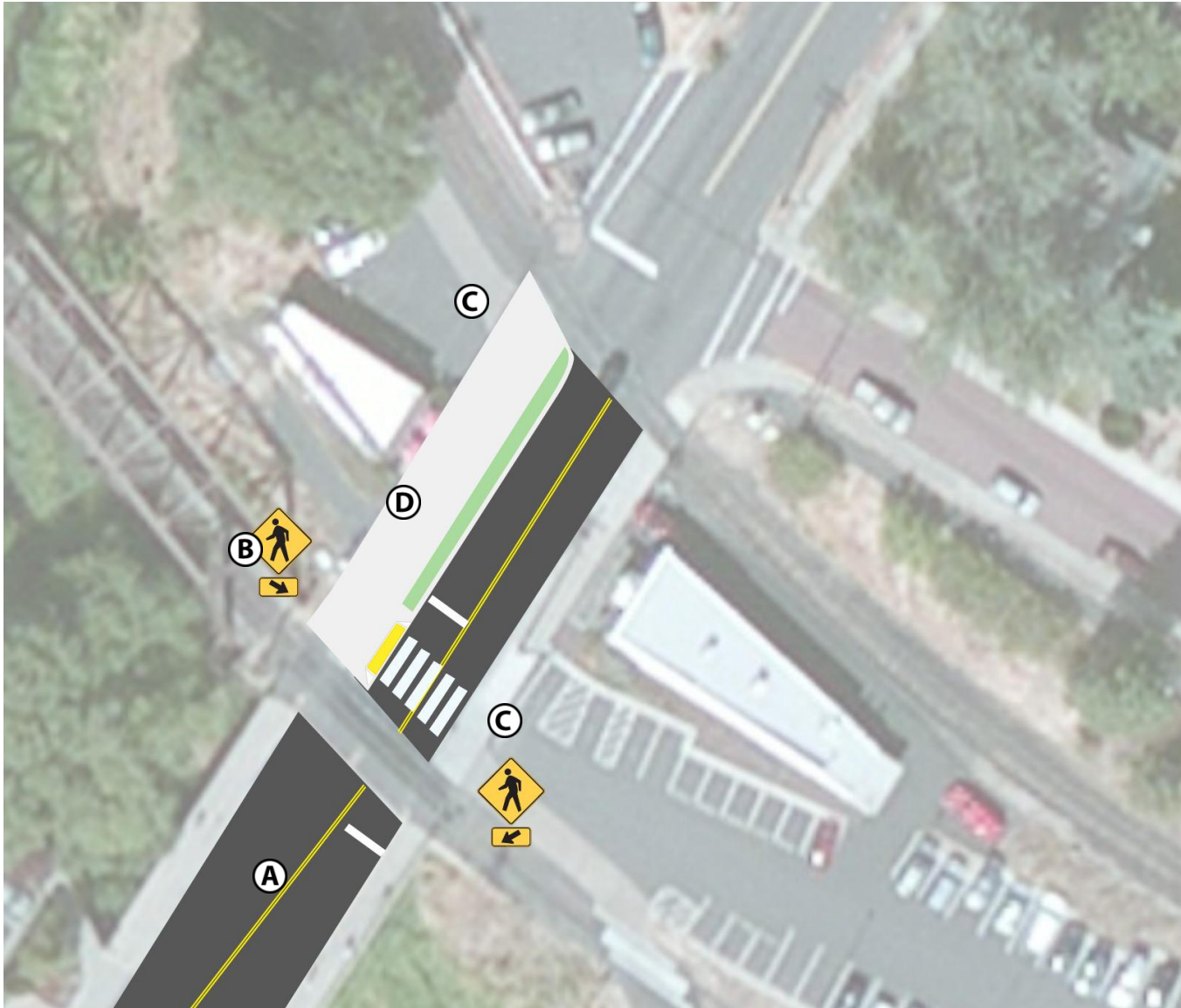


Currently, the trail is offset at the trail/roadway crossing of Kamiaken and utilizes a portion of sidewalk, making it difficult for new trail users to follow the correct route. Improving this crossing and clarifying the proper trail route will make it easier and safer for all users.

Recommended Improvements

- Ⓐ The alignment of the lanes on Kamiaken have to be shifted slightly to the east between just south of the railroad tracks to NE Palouse Street to accommodate the widened sidepath on the west side of the road.
- Ⓑ Add new signs to clearly identify the mid-block crossing.
- Ⓒ Add new wayfinding signs to direct trail users to nearby destinations (WSU, downtown, NW Davis Way trail, etc).
- Ⓓ The sidewalk on the west side of Kamiaken (between the trail sections) is widened to a minimum of 12 feet to visually and functionally serve as the Downtown Riverwalk. To accommodate the widened sidepath, it is recommended that on-street parking be restricted in this location.

Fix What You Have #6: Trail/Roadway Crossing @ Kamiaken



Fix What You Have #7: Trail/Roadway Crossing @ Whitman

Existing Conditions

As the Downtown Riverwalk transitions to the Grand Avenue Greenway, trail users must cross NE Whitman Street. The trail crossing of NE Whitman is difficult for the following reasons:

- Offset trail sections. The north side section of the trail aligns with the driveway of the Pufferbelly Depot, leading many trail users to continue south through that property rather than on the trail.
- North side trail has no direct connection to signalized intersection.
- The south side trail section is difficult to see from the north side trail.

Recommended Improvements

- Ⓐ Formalize the trail connection on the north side from the Grand Avenue Greenway to the intersection of Grand Avenue and Whitman Street. This will require the relocation of one power pole. For the trail, a short segment of centerline is striped at the entrance to give further indication to trail users the correct route to follow.
- Ⓑ Reconstruct and clearly define the driveway entrances on either side of Whitman Street. For the driveway entrance to the Pufferbelly Depot, this also involves moving the driveway entrance to the east slightly so that it is no longer aligned with the driveway opposite it across Whitman. This should also serve as a visual reminder to trail users to follow the trail to the crossing at the intersection.
- Ⓒ Relocate the pole supporting the pedestrian push buttons and signal heads so that the pole is out of the line of travel of bicyclists and pedestrians.

Fix What You Have #7: Trail/Roadway Crossing @ Whitman



Fix What You Have #8: Trail/Roadway Crossing @ Ritchie

Existing Conditions

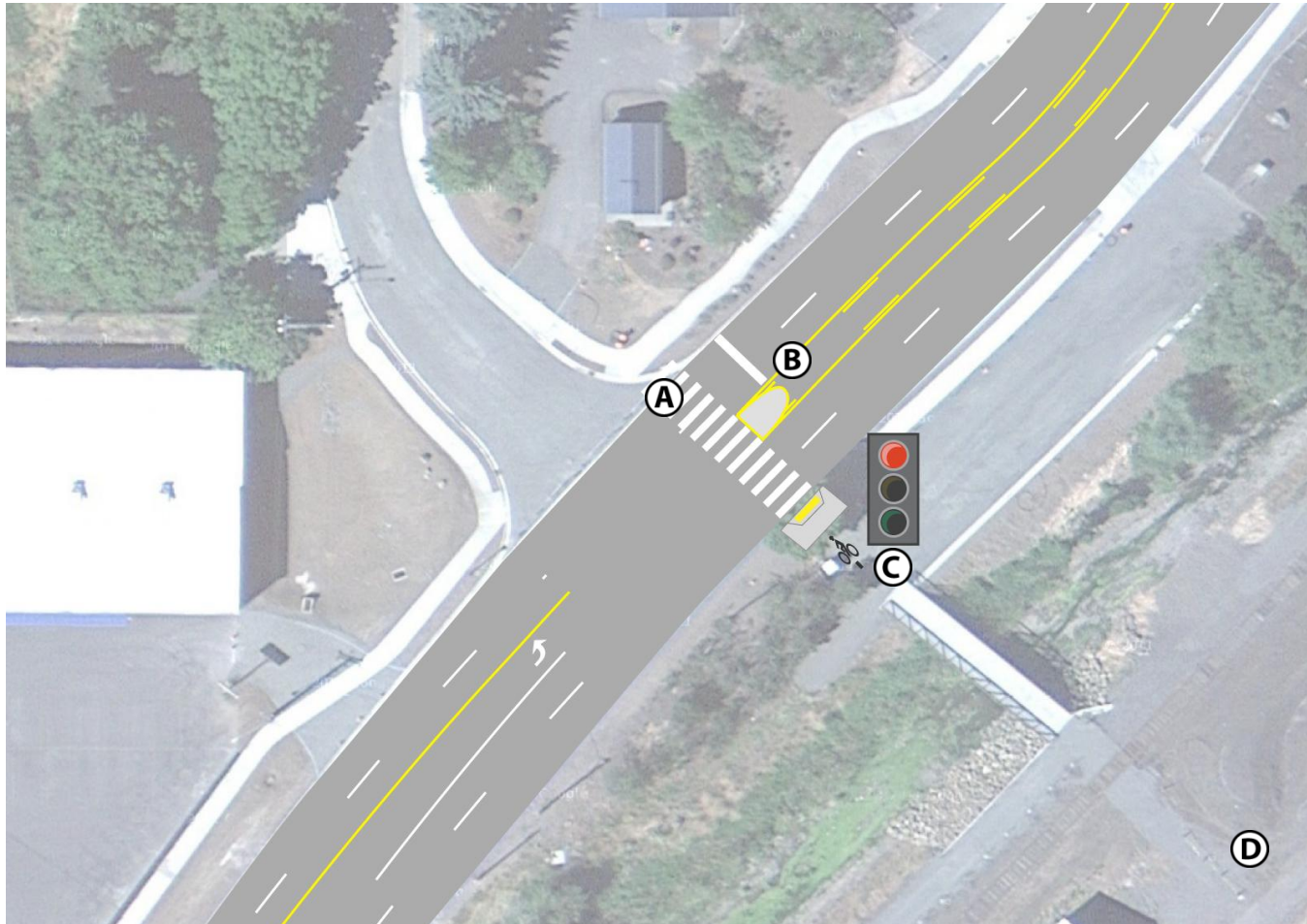
As Grand Avenue Greenway continues north parallel to Grand Avenue, a spur trail connects trail users directly to Grand Avenue opposite NW Ritchie Street. The crossing of Grand Avenue for bicyclists and pedestrians at this location is difficult for the following reasons:

- 5 lane cross-section of Grand Avenue. The length of this crossing makes it difficult for non-motorized users to cross safely.
- No marked crossing. There are no indicators to bicyclists and pedestrians where they could cross, and no indicator to motorists that people might wish to cross at this location.

Recommended Improvements

- Ⓐ Stripe a crosswalk on the north side of the Ritchie/Grand intersection.
- Ⓑ Install a small median on the north side of the intersection to provide visual cues to motorists that there is a crossing at this location and to provide a more protected refuge for pedestrians while making the crossing.
- Ⓒ Install a pedestrian traffic signal for the bicycle and pedestrian crossing. Pedestrians will use a pushbutton to activate the signal; bicyclists should stand on the bike detection marking or use the pushbutton to actuate the signal.
- Ⓓ Install wayfinding signs at the main trail to indicate to trail users what destinations can be reached by using the spur trail (Ritchie Street Neighborhood Greenway, Cougar Country Drive-In, etc).

Fix What You Have #8: Trail/Roadway Crossing @ Ritchie



Fix What You Have #9: Trail/Roadway Crossing @ Stadium Way

Existing Conditions

The current alignment of the Grand Avenue Greenway intersects Stadium Way about 150 feet east of the intersection at Grand Avenue. Because of the proximity to the Grand Avenue intersection, all trail users are expected to use the existing sidewalks to travel to the signalized intersection and cross Stadium Way. Traveling out of direction and along a sidewalk is less attractive to many trail users, leading to the risky behavior of crossing the 5 lanes of traffic where the Greenway trail intersects Stadium Way.

Recommended Improvements

A North of Stadium Way, install a new section of Greenway heading west just north of the Jack in the Box parking lot.

Implementation will require the cooperation of the property owner.

B The new section of greenway will require a prefabricated bridge to be installed over the creek.

C Widen the existing sidewalk on the east side of Grand to the fullest extent possible to create a new section of greenway.

D Install a new section of greenway by removing one eastbound travel lane.

E Install wayfinding signs.

F With the removal of a short section of the eastbound travel lane, the eastbound lane on NW Stadium Way on the approach to Grand Avenue will need to be converted to a right-turn only.

G Remove the old path and replant with grass or landscaping.

Fix What You Have #9: Trail/Roadway Crossing @ Stadium Way



Fix What You Have #10: Trail/Roadway Crossing @ Terre View

Existing Conditions

While Terre View Drive provides the most direct connection into campus from northern Pullman, the connections from the Grand Avenue Greenway to Terre View Drive are difficult for non-motorized users. Pedestrians have created demand paths from the greenway to Terre View Drive on both the south and north sides.

Bicyclists are expected to use the trail access on Grand Avenue that is more than 430 feet from the Grand Avenue/Terre View intersection. This places 2-way bicycle traffic into an 6 foot wide space defined by jersey barriers and a fence.

Note: The designs for trail improvements in this area will be reevaluated as plans for N. Grand improvements are developed.

Recommended Improvements

- A** Add a direct trail connection from the Grand Avenue Greenway to the signalized intersection at Grand and Terre View. This trail will require a retaining wall and will need to avoid the existing power poles adjacent to Grand Avenue.
- B** Install new marked crossings on the east and south legs of the intersection.
- C** Install a sidepath on the north side of Terre View Drive by widening the sidewalk using width taken from the wide outside lane.
- D** Continue the sidepath on the north side of Terre View Drive by widening the sidewalk to the outside (away from the travel lane). This will require building the extended width section on fill and a retaining wall.
- E** Rebuild the curb cuts to maintain a straight path across the intersection, parallel to Terre View Drive. Stripe a new crosswalk.
- F** Fill in the short gap of missing trail just to the south of NE Hopkins Street. May require relocation of light pole.

Fix What You Have #10: Trail/Roadway Crossing @ Terre View



Fix What You Have #11/12/13/16: Pedestrian Safety Improvements

Background

Every time Pullman or WSU eliminates a barrier to making walking easier will ultimately encourage more people to walk on campus and throughout Pullman. This suite of recommendations is intended to make small but noticeable changes in the pedestrian environment.

Recommended Improvements

#11. Automate Pedestrian Signals (Campus + City). Almost all pedestrian signals throughout Pullman require an action by the pedestrian to call the WALK signal. This requires that pedestrians reach the intersection prior to the signal change to call for the WALK signal. When that doesn't happen, many pedestrians will choose to walk anyway, crossing on a DON'T WALK signal when motorists may not be expecting them.

Automating the WALK signal (during peak travel times if not all day long) provides pedestrians the frequent opportunity to cross safely when a crossing is available. In times of low pedestrian traffic, signals may be continued to require actuation by pedestrians.

Key locations for automated pedestrian signals include, but are not limited to:

- NE Stadium Way and NE Colorado St
- NE Stadium Way and NE Wilson Rd
- NE Stadium Way and SE Nevada Street
- NE Stadium Way and Grimes Way
- NE Stadium Way and NE Valley Road/NE B Street

#12. The flashing lights at the crosswalks on campus work well. Replacing the existing lights with LEDs will make the flashing lights more visible to drivers, especially in low light/poor weather conditions.

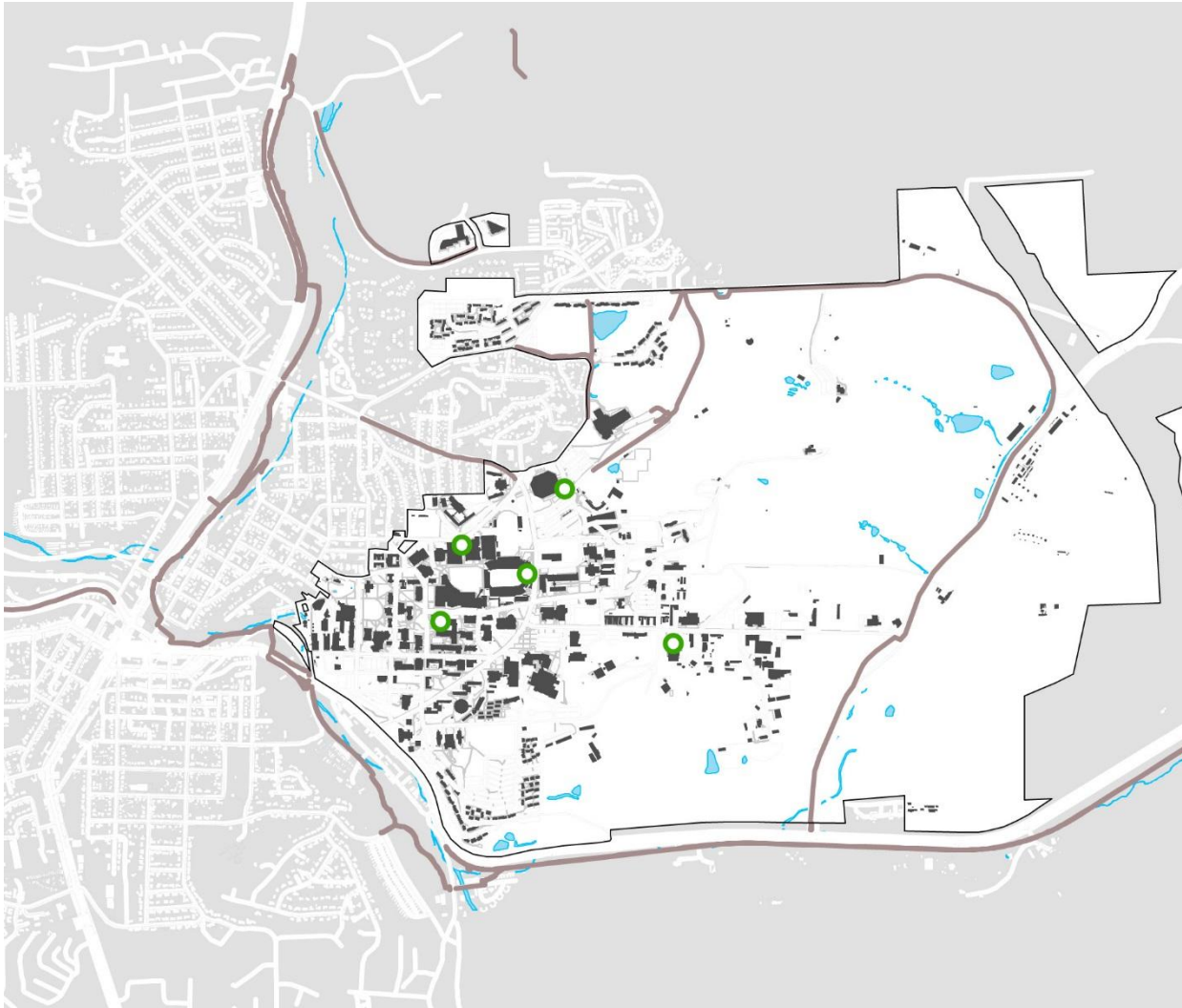
#13. In addition to automating the pedestrian signals at intersections, replacing the current pedestrian signal heads with countdown signal heads (where not present) will provide additional information to pedestrians and bicyclists as they cross the street. Pullman and WSU currently have a program to implement this recommendation in a phased manner.

#16. Curb cut infill/retrofit. At some point in anyone's life, the presence of a curb cut will improve the ability to cross the street safely in a timely manner. Identify locations throughout campus where the installation of a curb cut would improve bicycle and pedestrian mobility. Curb cuts should be at least as wide as the sidewalk or trail to allow wheelchair users, pedestrians, and cyclists to retain their appropriate relative positions while proceeding through intersections.

Key locations for new curb cuts include, but are not limited to:

- NE Stadium Way and McCoy Hall driveway, SE corner
- (On Stadium Way) Both sides of marked crosswalk under Gannon-Goldsworthy overcrossing. At the very least, on the east side for bike access to Stadium Way
- (On Stadium Way) Both sides of marked crosswalk adjacent to Kruegel Hall. At the very least, on the east side for bike access to Stadium Way
- (On Stadium Way) Both sides of crosswalk just east of SE Spokane Street
- On Wilson Road, at marked crosswalk from School of Economic Sciences
- Grimes Way / Lincoln Drive (all need upgrade), but SW corner first
- 2 marked crosswalks on Grimes Way just east of NE Stadium Way intersection
- Colorado Street marked crosswalk adjacent to Smith Gym
- NE College Ave and NE Spokane intersection, NE and NW corners
- NE College and SE Idaho Street, SE corner
- Colorado Street and N B Street, all corners but the NW corner
- Colorado Street and Monroe Street marked crosswalk, SE corner
- Terre View Drive and Merman Drive, NE corner
- Arbor Link / Terre View Pathway to Airport Road

Fix What You Have #14: Additional/Improved Bike Parking



Existing Conditions

Bike parking is at a premium in several locations throughout campus. Based on comments received, the following were the most desirable locations for additional bike parking.

Recommended Improvements

Add additional, high-quality bike parking to the following locations (among others):

- Student Rec Center
- Martin Stadium
- Underneath overhang at PE Building
- Central campus (Todd, Wilson-Short, Fulmer)
- Grounds Shop area

Fix What You Have #15: NE North Fairway Road Trail Transition

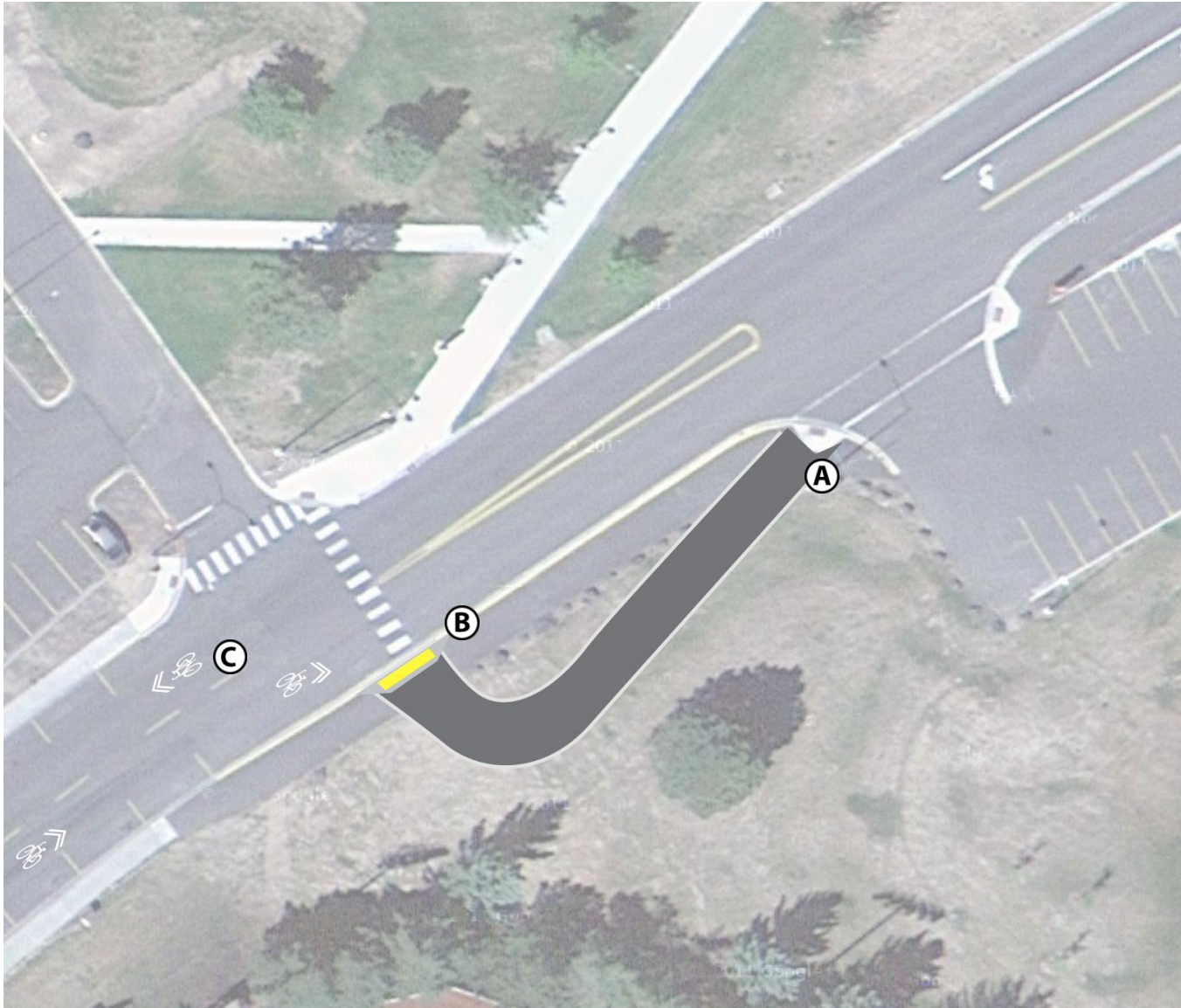
Existing Conditions

NE North Fairway Road has an excellent sidepath that runs from the intersection with NE Terre View Drive to Bailey-Brayton Field. At this point, the path suddenly narrows from 10 feet wide to 5 feet wide, changes from asphalt to concrete, and becomes a sidewalk. This is a difficult and sometimes dangerous transition for bicyclists to make.

Recommended Improvements

- Ⓐ Continue the existing trail to the current crosswalk to the Student Recreation Center. Curving the trail provides a cue to bicyclists that they need to be slowing down as they approach the intersection.
- Ⓑ Add a new curb cut to allow bicyclists to enter and leave the trail.
- Ⓒ Stripe sharrows on NE North Fairway Road from where the trail intersects the roadway to the intersection with NE Stadium Way.

Fix What You Have #15: NE North Fairway Road Trail Transition



Bicycle Connections: Getting People to Campus

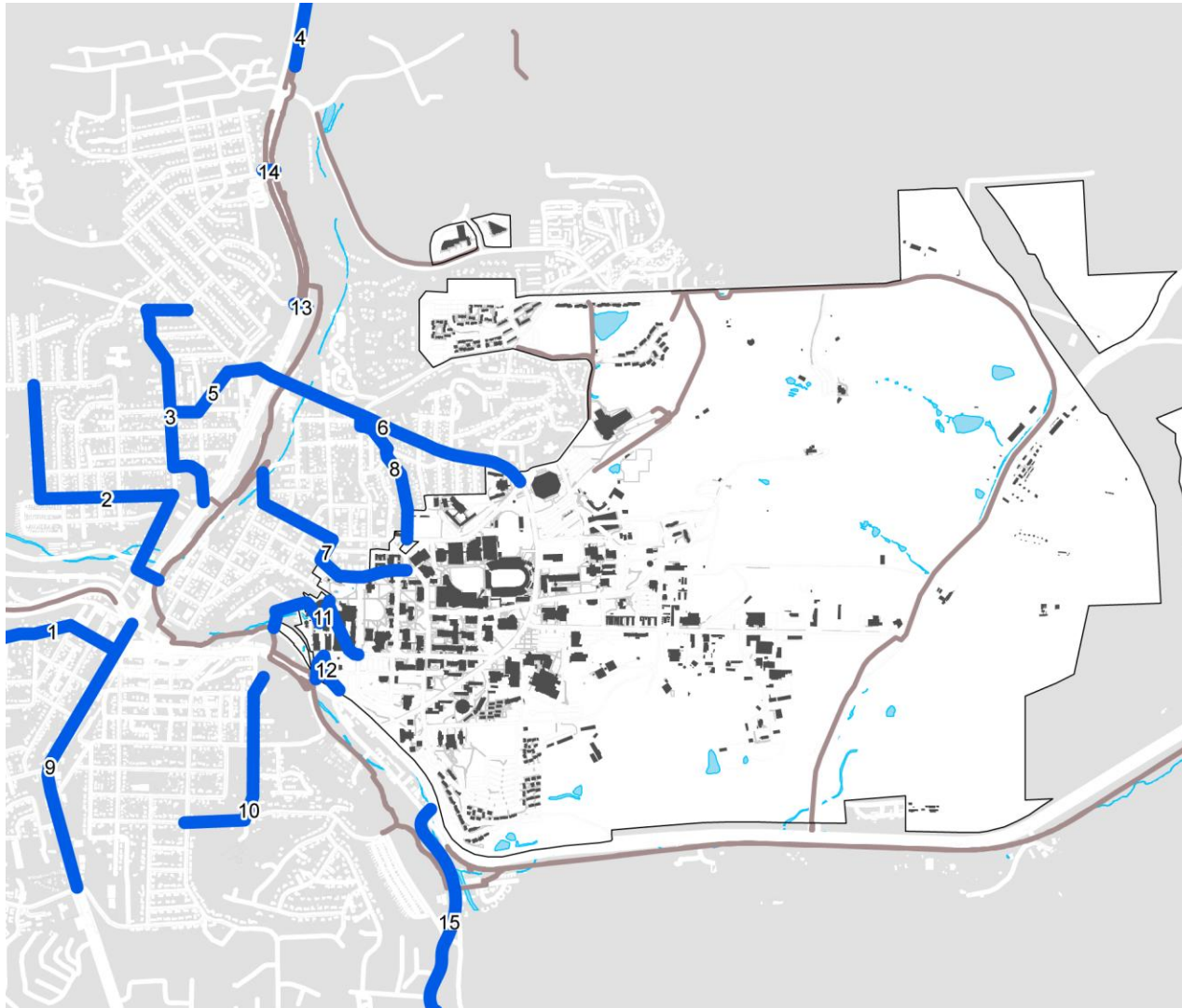


Figure 4-3: Connections Overview Map

The Importance of Trails

Many WSU employees and students live outside of Pullman in neighboring towns. If safe and well designed multi-use trails are available some of these individuals may choose to commute by bicycle. Some faculty, staff and students now commute daily from Moscow on the Bill Chipman Trail. If the opportunity arises, a multi-use trail to Albion and Colfax would open commuting opportunities for additional individuals.

Table 4-3: Bicycle Connections

#	Project	Description	Length (ft)
1	Sunnyside Hill Neighborhood Greenway spine (connecting to trails)	A neighborhood greenway connecting the residential areas of Sunnyside Hill to the trails will serve as part of the spine of a broader neighborhood greenway network in Pullman.	3,100
2	Military Hill Route B	A neighborhood greenway.	4,800
3	Military Hill Neighborhood Greenway spine (connecting to trails)	A neighborhood greenway connecting the residential areas of Military Hill to the trails will serve as part of the spine of a broader neighborhood greenway network in Pullman.	3,500
4	Grand Avenue Greenway extension to Kitzmiller Road	An extension of the Grand Avenue Greenway connecting to Kitzmiller Road, providing a stronger connection to Pullman Albion Road for regional/recreational bicyclists.	1,200
5	Military Hill Route C	A neighborhood greenway.	1,700
6	Long-term Stadium Way Improvements (Grand to Colorado)	See Project Sheet.	3,700
7	College Hill Neighborhood Greenway spine (connecting to trails)	A neighborhood greenway connecting the residential areas of College Hill to the trails will serve as part of the spine of a broader neighborhood greenway network in Pullman.	3,000
8	D Street Neighborhood Greenway	A neighborhood greenway.	1,900
9	Grand Avenue bike lanes (south of Olsen)	Working with the existing curb-to-curb width, add appropriate bicycle facilities (bike lanes or shared lane markings) along Grand Avenue south of NE Olsen Street based on a safety analysis and engineering judgment.	3,900
10	Pioneer Hill Neighborhood Greenway spine (connecting to trails)	A neighborhood greenway connecting the residential areas of Pioneer Hill to the trails will serve as part of the spine of a broader neighborhood greenway network in Pullman.	2,800
11	SW Gateway - the "WSU Wiggle"	See Project Sheet.	2,200
12	SW Gateway Trail	See Project Sheet.	900
13	Trail / roadway crossing @ Turner	Improved crossing from Grand Avenue Greenway at NW Turner Drive, with enhanced crossing markings and a pedestrian actuated beacon or signal.	
14	Trail / roadway crossing @ Larry	Review the crossing of Grand Avenue at NW Larry Street for potential safety improvements.	
15	SE Bishop Boulevard	Consider the potential to accommodate bicyclists on SE Bishop Boulevard. Bike lanes may be provided through roadway widening or potentially through reconfiguring the roadway striping to remove the center turn lane to provide space for bike lanes.	

Bicycle Connections #1-5, 7, 8, 10: Neighborhood Greenways

Neighborhood Greenways

Projects 1-5, 7, 8, 10 are all on-street bikeways called neighborhood greenways.

Neighborhood Greenways are low-volume, low-speed streets modified to enhance bicyclist comfort by using treatments such as signage, pavement markings, traffic calming and/or traffic reduction, and intersection modifications. These treatments allow through-movements of bicyclists while discouraging similar through-movements by non-local motorized traffic.

Guidelines:

Speed Limit: 25 mph or slower

Traffic Volume: 1,500 vpd or lower

Marking/Signage: Bike Route/ Wayfinding signs and Shared Lane Markings on the roadway.

Traffic Calming: If conditions do not meet these speed and volume criteria, efforts should be made to limit speeds through traffic calming and limit volume through access management.

Crossings: Where these neighborhood greenways cross major streets, enhancements such as median islands and/or traffic signals should be pursued to assist in safe, comfortable crossing.

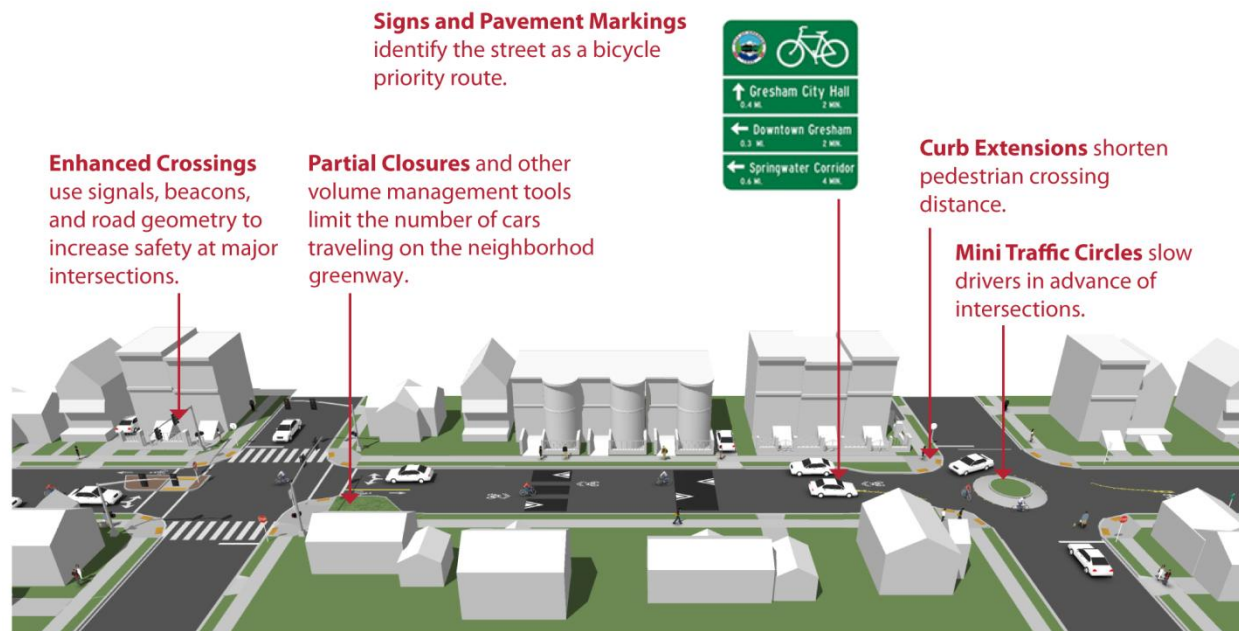
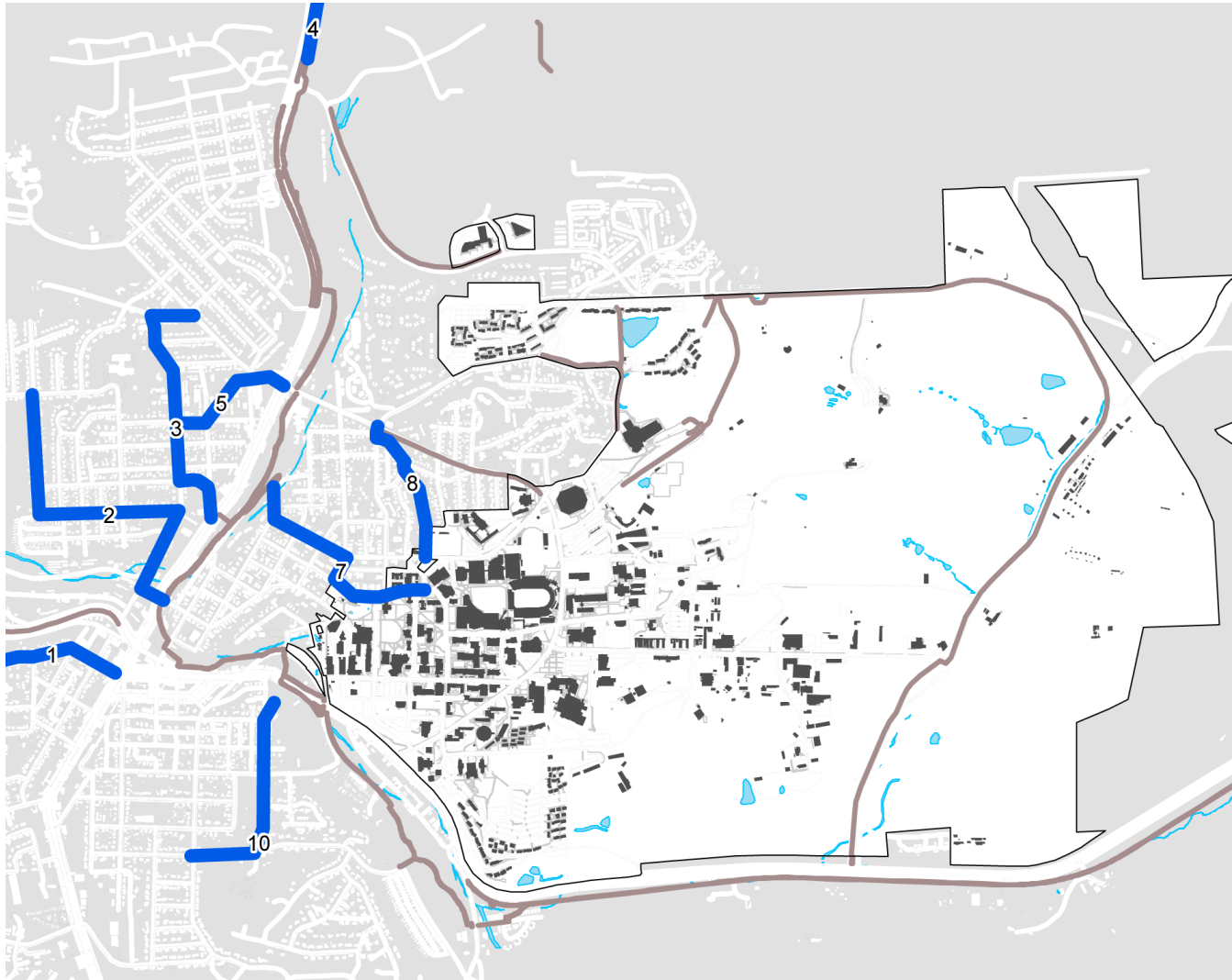


Illustration of potential design elements used on a typical neighborhood greenway.

Bicycle Connections #1-5, 7, 8, 10: Neighborhood Greenways



Bicycle Connections #6: Long-term Stadium Way Improvements

Existing Conditions

In the long-term, Stadium Way will no longer be a through road for motorists traveling from Main Street/Highway 270. With this change in circulation, Stadium Way will not need a 4-lane cross section.

Recommended Improvements

- Ⓐ Change the cross-section from 5 lanes (2 lanes in each direction + a two-way center turn lane) to 3 lanes (one lane in each direction + a two-way center turn). Stripe in a wide buffered bike lane in each direction where the outside lane was previously.
- Ⓑ Stripe a dashed bike lane through the intersection.

Bicycle Connections #6: Long-term Stadium Way Improvements



Bicycle Connections #11/12: SW Gateway – The WSU Wiggle & SW Gateway Trail

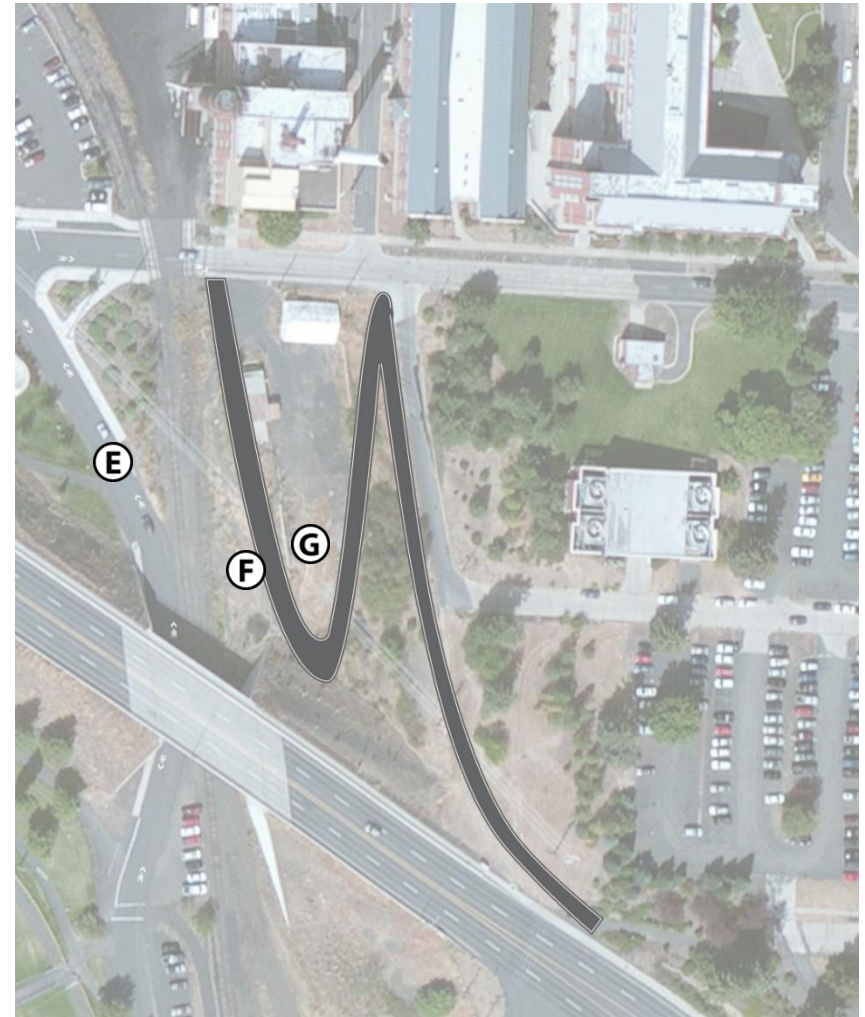
Existing Conditions

Reaching campus from the southwest can be difficult given the hilly terrain. Identifying the least hilly existing route (#11) and creating a new route (#12) will improve connectivity to campus.

Recommended Improvements

- Ⓐ Formally designate the route from Reaney Park to Spokane Street “The WSU Wiggle”.
- Ⓑ Add wayfinding signs to direct bicyclists to the Wiggle.
- Ⓒ Add bollards to prevent motorists from using this section of Reaney Way.
- Ⓓ Add paint, bollards or other visual clues to communicate to drivers that bicyclists will be on this section of the roadway.
- Ⓔ Add shared lane markings from the trail connection at the City Playfields to NE College Avenue. These markings will guide bicyclists underneath the viaduct toward the proposed trail.
- Ⓕ Build a 12-14 foot wide trail connection that switchbacks up the hill connecting from the College Ave/Spring St intersection to the existing path south of the Spokane Street parking lot. This will require building a retaining wall to support the new trail as it switchbacks up the hillside.
- Ⓖ Incorporate new landscaping to accompany the trail.

Bicycle Connections #11/12: SW Gateway – The WSU Wiggle & SW Gateway Trail



Circulation: Getting Around

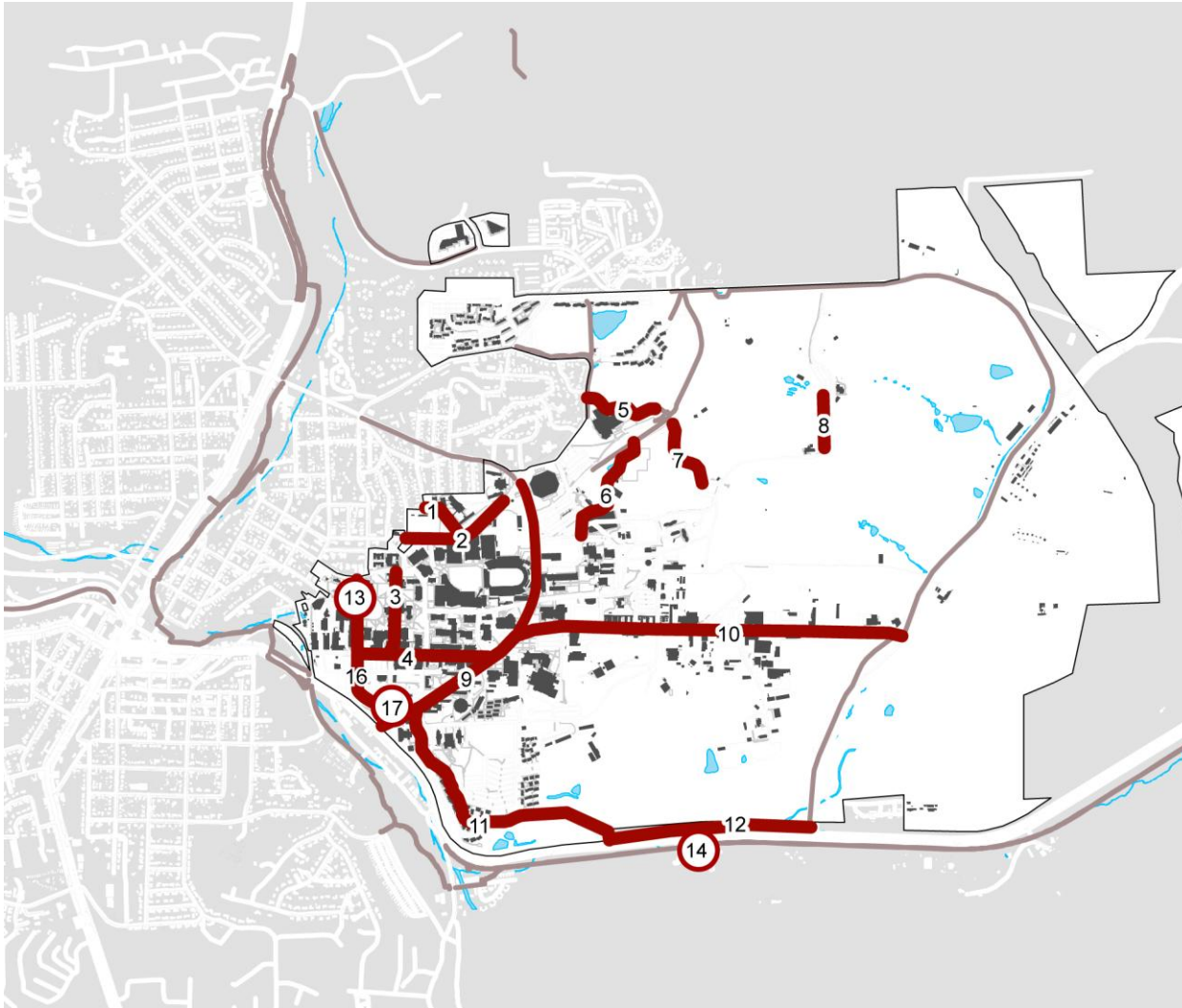


Figure 4-4: Circulation Overview Map

Table 4-4: Circulation

#	Project	Description	Length (ft)
1	Colorado Connector - Widened sidewalk	Widen the sidewalk outside Barnard Hall and connects the D Street Neighborhood Greenway via Shaw St to NE Colorado Street.	700
2	Priority bicycle route improvements (sharrows, signage, wayfinding)	Add bicycle improvements to NE Colorado Street.	1,500
3	Veterans Way Pedestrian Mall design recommendations	Develop a design for current and future pedestrian malls where higher speed traffic (bicycles, service vehicles, skateboards, etc) are channeled to the middle while maintaining the edges for pedestrian travel.	1,200
4	College Pedestrian Mall design recommendations		1,800
5	Rec Center Bypass	New trail for improved connectivity.	1,000
6	Ferdinand's Connector		1,600
7	Tennis Court Bypass		1,000
8	Golf Course Connector		720
9	Stadium Way to Grimes Way reconfiguration	With the roadway reconfiguration, adding protected bike lanes in each direction, with a 3-lane cross-section (one travel lane in each direction + 2-way center turn lane) where needed, and one travel lane in each direction in other locations.	2,200
10	Grimes Way reconfiguration		2,600
11	Forest Way connections	New trail/neighborhood greenway for improved connectivity.	3,900
12	South Campus Trail (on the north side of 270)	New trail for improved connectivity.	2,100
13	Stairs to ramps conversions/additions @ key locations	Conversions at selected locations for improved connectivity.	
14	Connection from Chipman Trail to the new South Campus Trail	A new signalized mid-block crossing of Hwy 270 near the existing driveway entrance.	
15	Multimodal Transit Center design recommendations	Addition of showers, lockers, and long-term secure bicycle parking at the new multimodal transit center. (Not on map)	
16	Spokane Street improvements	Reconfiguration with reduced parking, extended sidewalks, and a bikeway with an uphill bike lane and downhill shared lane markings.	2,166
17	Spokane St/Stadium Way intersection improvements	Realignment of the path and crosswalk for improved visibility and safety.	210
18	Green Bike Program expansion	Provide additional Green Bike stations and bikes to serve more campus areas. (Not on map)	

Circulation #3/4: Pedestrian Mall Design Recommendations

Existing Conditions

There are several current pedestrian malls on the WSU campus, and with the redesign of Stadium Way and Grimes Way, there may be several more identified.

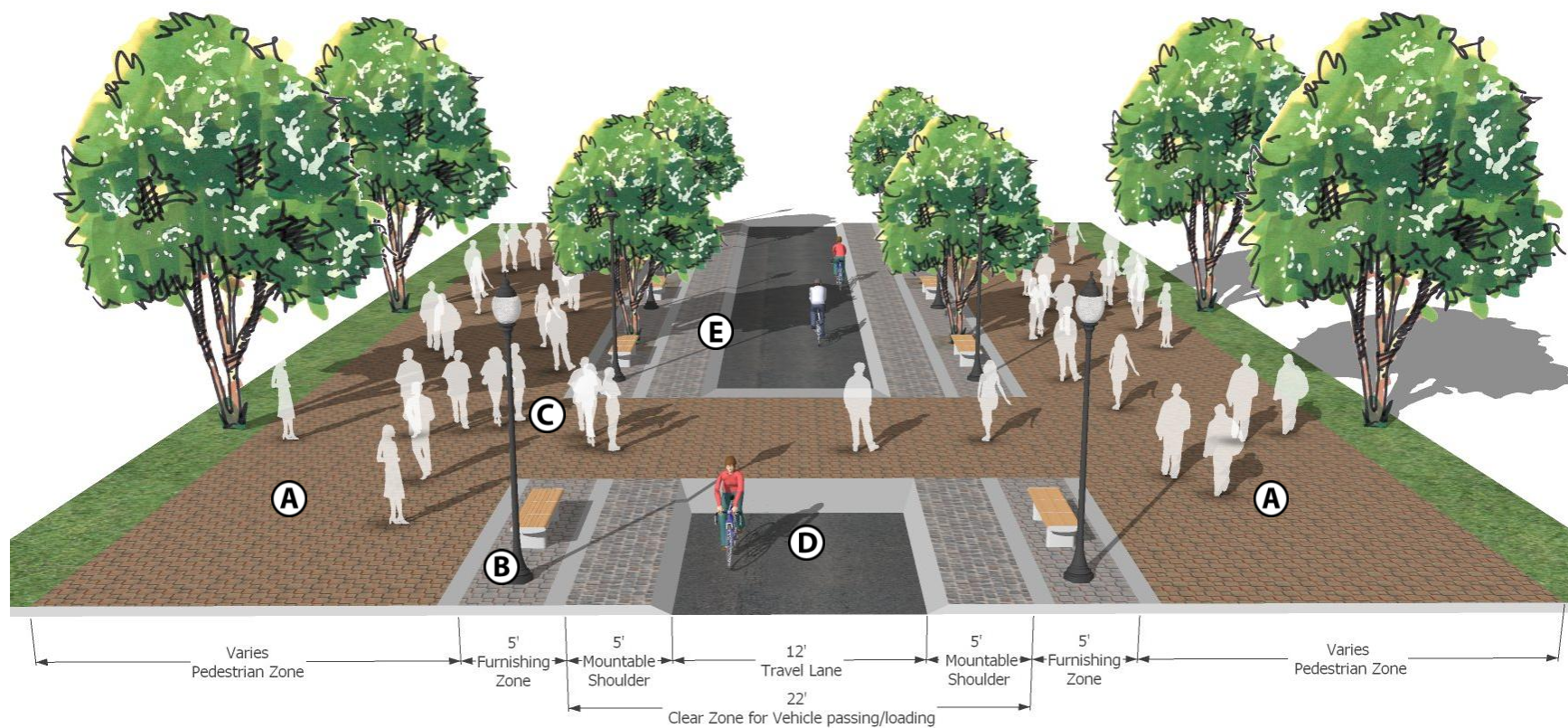
While these locations are called pedestrian malls, they are spaces that allow for the through traffic of all non-motorized travel, as well as university service and law enforcement vehicles, and provide access to designated disability parking spaces.

A pedestrian mall should provide ample space for pedestrians to walk and talk, while still providing for the access and through travel needs of other allowed users.

Recommended Improvements

- Ⓐ Provide a dedicated pedestrian zone for through pedestrian movement. This zone should be located toward the edges of the pedestrian mall, where pedestrians will be entering and exiting adjacent buildings.
- Ⓑ Provide a furnishing zone with pedestrian-scale lighting, seating, and trash receptacles to provide a place for users to rest and gather.
- Ⓒ At appropriate intervals (depending on building spacing and usage) provide crossing zones from one pedestrian zone to another. These areas also provide access to motorized vehicles (delivery, law enforcement, disability parking access).
- Ⓓ Provide a through travel lane for users (bicyclists and allowed vehicle operators) traveling faster than pedestrians. This separation reduces conflict among users. Having the travel lane distinguished by paving surface/type increases the legibility of the pedestrian mall for all users.
- Ⓔ Provide a mountable shoulder as (a) additional room for vehicle operators to slowly pass bicyclists and (b) act as a transition from the through travel space to the furnishings zone.

Circulation #3/4: Pedestrian Mall Design Recommendations



Circulation #9: Stadium Way Reconfiguration

Existing Conditions

In the long-term, Stadium Way will no longer be a through road for motorists traveling from Main Street/Highway 270. With this change in circulation, Stadium Way will most likely not need a 4-lane cross section, allowing for reallocation of the existing roadway space.

In conjunction with the closing of Stadium Way as a through route for motorists, Grimes Way will be upgraded to serve as the eastern gateway to WSU.

Option A on the next page could also be used on an interim or trial basis before other roadway changes/improvements occur.

Recommended Improvements

A With the opportunity for a reduction in the number of lanes, Stadium Way should have sidewalks, a cycle track, and one through travel lane in each direction.

B Replacing one travel lane in each direction with a cycle track for bicyclists.

Option A: The cycle track is at roadway level, separated from the adjacent travel lane by a 3 foot wide horizontal buffer defined by paint, and if desired, planters or other physical barriers. The

planters can be removed during the winter to facilitate snow removal along the roadway.

Option B: The roadway is re-graded for slope and drainage, and the cycle track is curb separated from the vehicle travel lane.

C Transit vehicle operations would be as follows:

Option A: Any physical barriers separating the cycle track from the vehicle lane would be removed and the cycle track would become a shared bus/bike lane for the bus to access the transit stops at the curb.

Option B: The bus would stop in the travel lane at the cycle track curb to allow for boarding and alighting of transit passengers. The cycle track would have an identified pedestrian crossing at the bus stop, along with additional signs and symbols warning bicyclists that pedestrians will be crossing the cycle track in this location.

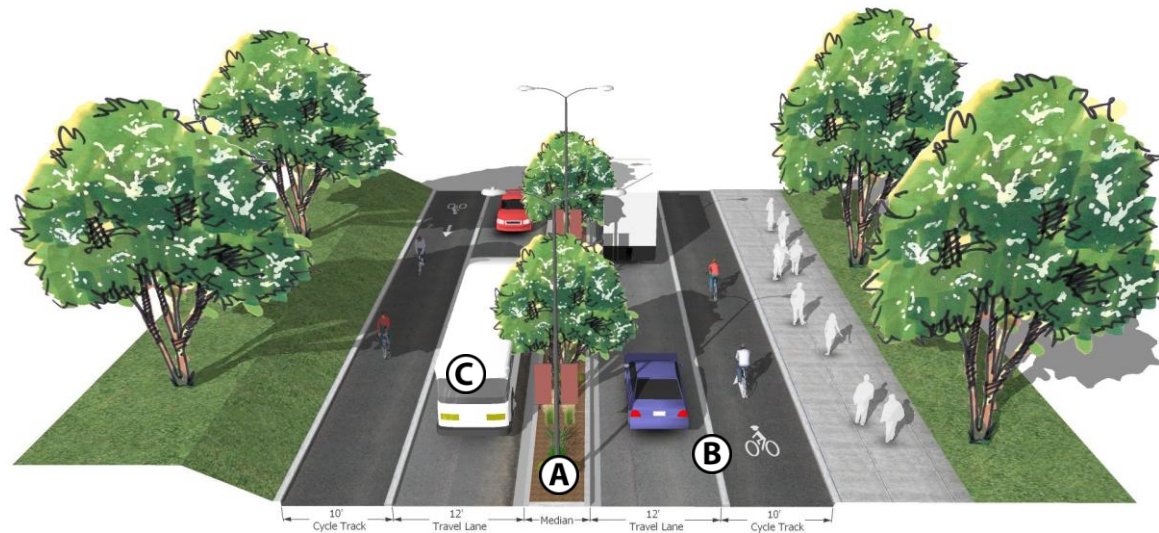
D If implemented in the short-term while through traffic is preserved on Stadium Way, the two-lane configuration will need to transition back into the current 4-lane cross section near the intersection with Colorado St.

To offer a more continuous bicycle facility, it is preferred to make this transition north of the intersection. This may be done by converting one southbound lane into a right-turn-only lane, as illustrated to the right.



A silhouette diagram of a street scene. From left to right, it features a large tree, a car, a small planter box with a plant, two people walking, a group of three people (one in a wheelchair), and a tall street lamp. The scene is set against a light blue background with a white road surface and a black curb.

A silhouette diagram of a street scene. On the left is a large tree. In the center is a car. To the right of the car are two people walking, followed by a group of three people including one in a wheelchair. On the far right is a tall street lamp. The ground is represented by a black line with a small step or curb.



Circulation #10: Short-term Grimes Way Reconfiguration

Existing Conditions

In the long-term, Grimes Way is planned to serve as the eastern gateway to WSU. Grimes Way will connect to a realigned Stadium Way, and should match the same cross-section design as Stadium Way (see Circulation #9 on the previous pages).

In the short-term, there are a few improvements that could be made to Grimes Way to improve the experience for bicyclists.

Recommended Improvements

Ⓐ Provide curb ramps for the sidewalk and path at intersection crossings and street connections so that bicyclists may travel smoothly, without needing to navigate around or dismount to avoid curbs.

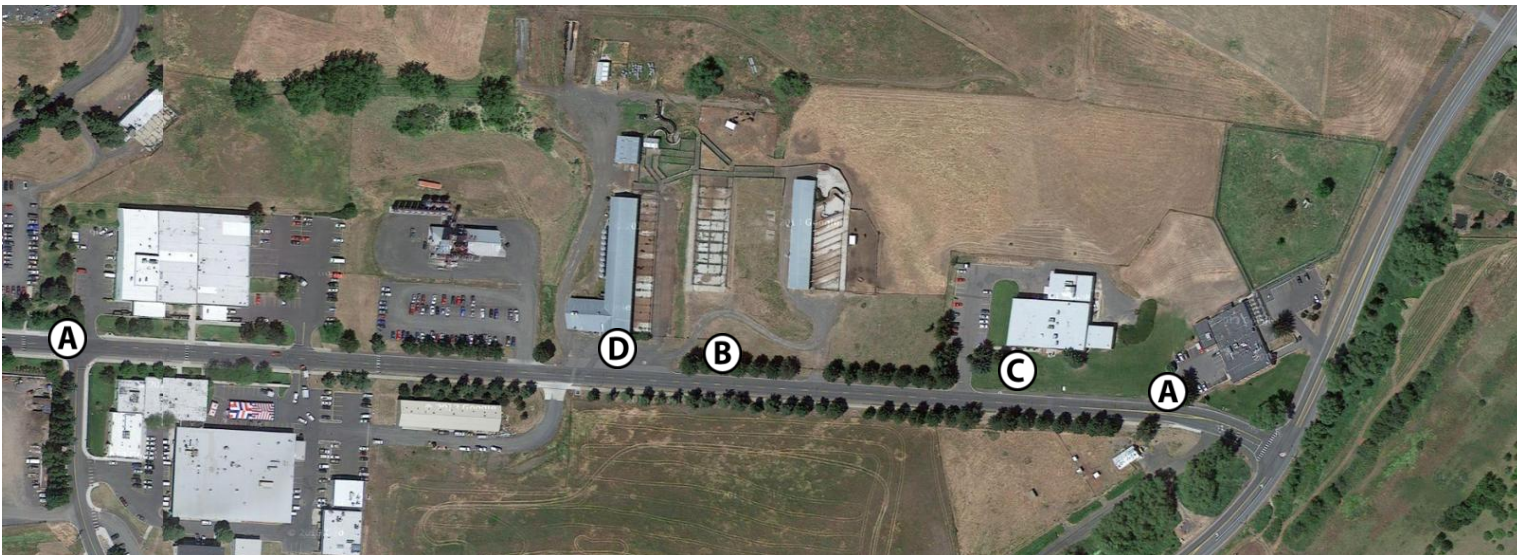
This will be required at most corners of the Grimes Way corridor, and locations that are not labeled individually.

Ⓑ In locations where the path surface is gravel or otherwise poor quality, refinish the surface with asphalt.

Ⓒ Where possible, widen the path to 12 feet (10 feet minimum).

Ⓓ Through the wide open front parking lots, define the bounds of the path using raised asphalt or roadway markings. Consider elevating the path through these areas.

Circulation #10: Short-term Grimes Way Reconfiguration



Circulation #16: NE Spokane Street Improvements

Existing Conditions

NE Spokane Street offers a direct and downhill connection between Campus Street and College Avenue, and continues in a winding path to Stadium Way. This street is narrow but it provides important access for both cars and transit vehicles.

Between Campus Street and College Avenue there is one lane of parking on the west side of the street. Between College Avenue and Stadium Way there are two parking lanes.

Recommended Improvements

A From Campus to College, remove the existing parking lane and extend the west-side sidewalk 6 feet eastward into the roadway where the parking lane was. This provides additional space for pedestrian circulation.

B At west-side bus stops, include extended length bus pull outs to allow for the bus to pull fully to the curb, out of the way of downhill drivers.

C Restripe the roadway to include a 6 foot wide dedicated bike lane in the uphill direction, and shared lane markings in the downhill direction.

D Between College Avenue and Stadium Way remove the east-side parking lane and reallocate that space to provide wider auto lanes and a dedicated bike lane similar to the segment to the north. This will provide a consistent bicycle facility between Campus Street and Stadium Way.

Option: If parking cannot be removed between Campus Street and College Avenue, a constrained cross section with 10 foot travel lanes and a 6 foot bike lane may be considered.

Spokane St from Campus to College:



6 ft sidewalk extension, Bus pull out at bus stops – 11.5 ft lanes – 6 ft bike lane

Spokane St from College to Stadium Way:



8 ft parking – 12 ft lanes – 6 ft bike lane

Circulation #16: NE Spokane Street Improvements



Circulation #17: Spokane Street/Stadium Way Intersection Improvement

Existing Conditions

There are community concerns about the current configuration of intersecting streets and paths at the intersection of Spokane Street and Stadium Way. Skewed crossings, poor visibility and fast moving bicyclists lead to potential unexpected conflicts.

Recommended Improvements

- Ⓐ Realign the existing path to orient bicyclists closer to Stadium Way on the approach to Spokane Street to slow bicyclists and place them in a more conspicuous location for all motorists to see. This realignment may incur significant costs due to necessary grading and retaining walls.
- Ⓑ Realign the crosswalk to be parallel with Stadium Way and the new path alignment. Move the stop sign and stop bar up accordingly. This should improve visibility around the corner and of the approach path users.
- Ⓒ Remove the existing path and reseed.

Circulation #17: Spokane Street/Stadium Way Intersection Improvements



Circulation #18: Green Bike Program Expansion

At WSU, the Green Bike Program is dedicated to increasing the availability of bikes for students and to further encourage a bike friendly culture.

Consider expanding the program into other high-demand areas of campus not currently served by Green Bike stations. See Figure 4-5 on the next page for a map of recommended additional station sites.

Now that more bikes and more stations are available, consider decreasing the amount of time the bikes can be out to put more bikes into circulation.

Additional Green Bike program recommendations include:

- Make sure you have a plan for employees and growth.
- Hire a full-time manager to run the program efficiently. The current manager also manages the rental fleet.
- Hire a half-time maintenance manager.
- Revisit the allowed check-out time. Currently, the program allows a one day check out which has not changed significantly since they had only two locations and 32 bikes at the beginning.

Circulation #18: Green Bike Program Expansion

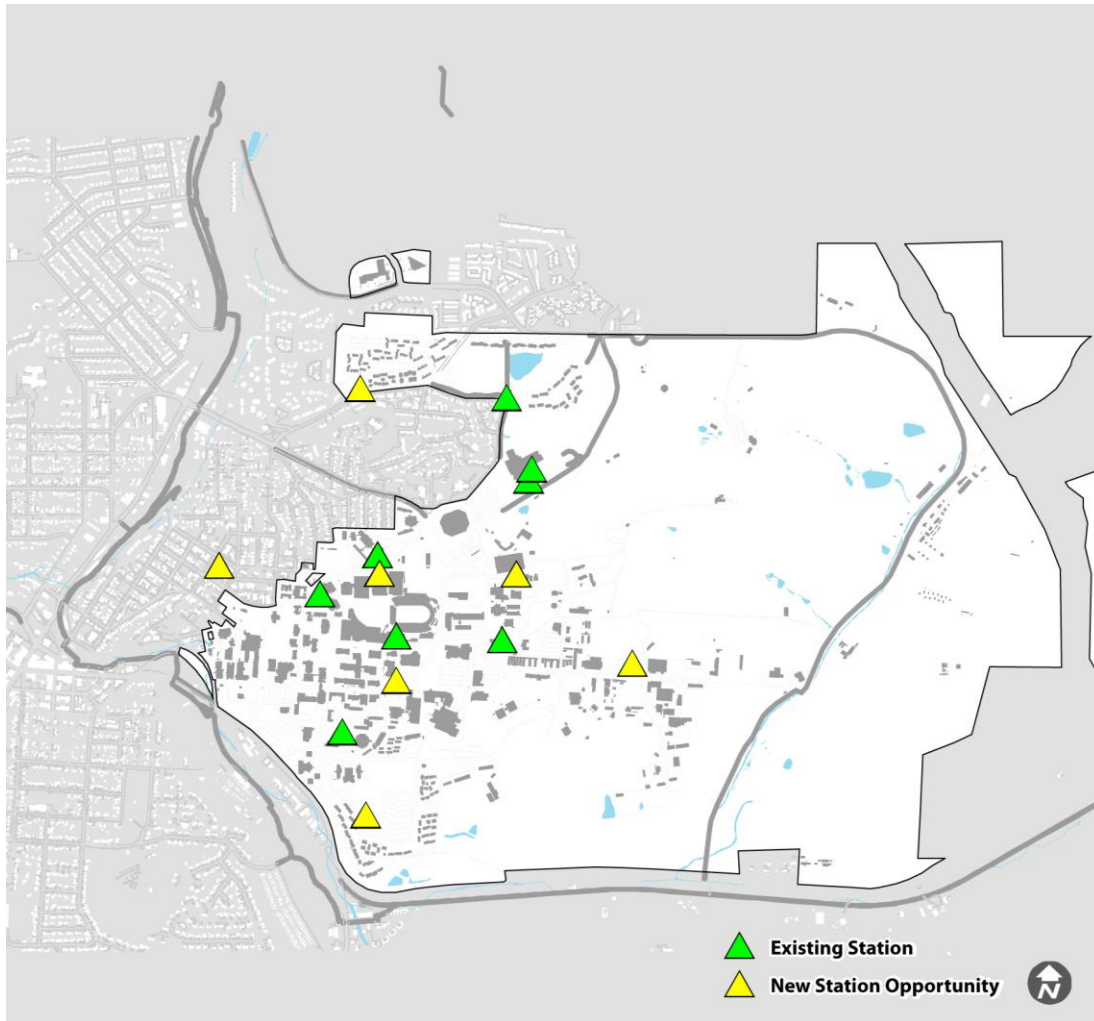


Figure 4-5: Green Bike Station Locations

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Education

Equally as important as providing bicycle and pedestrian infrastructure is ensuring that users are familiar with the treatments and know how to use them. This section presents recommended bicycle, pedestrian, and motorist education programs.

The recommendations are based both on findings of previous tasks, plus experience gained in communities around the region and the United States.

The recommended strategies are:

- Enhanced/Expanded Alive! Bicycle/Pedestrian Campus Orientation
- Enhanced/Expanded Green Bikes Program Bike Safety Clinic
- Media Safety Campaign
- Hosted Campus Safety Stations / Bicycle Ambassadors

Enhanced/Expanded Alive! Bicycle/Pedestrian Campus Orientation

WSU should work with Alive! and other beginning of year activities to increase the availability of information on walking and biking on campus and in Pullman.

A bicycle/pedestrian campus orientation session at Alive! for all incoming students at the beginning of each school year can introduce bicycling and walking on/around campus to freshmen and transfer students.

A variety of outreach methods and materials can address important topics such as rights and responsibilities, when and where not to bicycle on campus, proper security measures, etc.

The Bicycle/Pedestrian Orientation should include:

- Distribution of information to incoming and returning students at the beginning of the year through school information packets, including how to share the road with cars, proper (and legal) roadway crossing behavior, locations of bike parking, instructions on how to properly lock your bicycle, etc.
- Bike repair clinics and other activities advertised through flyers, email, bulletin boards, and campus newsletters
- Information tabling at campus events and prominent locations (e.g. the CUB)

- Promotion of the WSU Mobility Options website, a resource for all mobility related information on campus
- At-cost or low-cost bike lights and helmets sold at tabling events and through the campus bookstore
- Distribution of free promotional items promoting safe and courteous bicycling and walking on campus

A “bike/walk buddy” program can also be implemented to match current bicycling and walking students with interested students. This can be a simple program where students wear a sticker that says “I bike/walk to WSU, ask me how,” or a more elaborate program that matches bike/walk buddies with interested students who live in the neighborhood.

Enhanced/Expanded Green Bikes Bike Safety Clinic

Bicycle riding is a healthy and fun activity that is enjoyed by people of all ages. From the first time you ride a tricycle at age 2 or 3, there is nothing quite like the freedom that you get from riding a bike.

However, regardless of age proper bicycle safety is very important. In order to ride your bicycle safely, there are a number of factors to keep in mind - the bicycle must be in proper working order, with tires properly inflated, brakes being able to stop the bicycle and the steering must be working properly.

But other factors must be taken into consideration such as wearing a properly fitting bicycle helmet, the size of the bicycle must be appropriate for the rider, and whether you're riding on a bike trail or on the road, you must follow rules of the road.

Nearly every person in America can look forward to in-depth training before receiving a driver's license. Bicycles are also vehicles that are used on the roads, but most Americans do not receive any training about the rules of the road, how bicycles work, or how to ride a bicycle on the roadway.

WSU Transportation Services, in conjunction with the Green Bike Program, should expand on the existing bike safety clinic that is currently offered by the Green Bike Program. At a minimum, curriculum should cover:

- Parts of a bicycle
- How a bike works
- Flat fixing
- Rules of the road
- Right of way
- Road positioning
- On-bike skills lessons (braking, turning, steering)
- On-bike community ride
- Campus routes



Media Safety Campaign

A high-profile marketing campaign that highlights bicyclist and pedestrian safety is an important part of helping all road users – including motorists, bicyclists, and pedestrians – understand their roles and responsibilities on campus roads. This type of campaign is an effective way to raise the profile of bicycling and improve safety for bicyclists, pedestrians, and motorists (including staff who drive on campus as part of their work).

A well-produced safety campaign will be memorable and effective and include clean, clear graphics in a variety of media, such as print or audio/video advertisements, the distribution of free promotional items, and email or in-person outreach. This type of campaign is particularly effective when kicked off in conjunction with other walking/bicycling events or at the beginning of each academic term. It is recommended that WSU develop and launch a mobility safety campaign specific to campus users.

WSU can also use the safety campaign to help brand all of the bicycling- and walking-related efforts on campus. Safety campaign messages can use similar graphics and colors used on bike/pedestrian orientation materials, bicycle-related campus signs, flyers for events, and promotional items, in order to create a cohesive message among all materials.

WSU's safety campaign should address the following safety issues:

- Where bicycling is permitted and where bicyclists should walk their bikes
- Safe bicycling skills (especially in high-pedestrian use areas, such as the Mall)
- How to share the road (for all users – bicyclists, pedestrians, and motorists)
- Safely crossing major roadways on campus
- Light and helmet use
- Bicycling rights
- Yielding to pedestrians



Mobility Ambassadors / Hosted Campus Safety Stations

Mobility ambassadors can disseminate bicycling and walking information to their peers and other campus users related to safety and campus rules, upcoming events, and other mobility programs and opportunities. They can also distribute promotional items such as buttons, magnets, or stickers. Mobility ambassadors can be volunteers or paid campus representatives, and should be trained on campus bicycle rules, safety, local bicycling resources, and successful outreach techniques.

Volunteers or staff can be roving campus ambassadors, or they can reach out to students at events or at a table during a designated time.

Stanford University establishes a campus safety station every Friday at White Plaza, from 11 a.m. - 2 p.m. (weather permitting).

Activities include:

- Bike registration (required by California law)
- Free bike safety check-up
- Access to tire pump and simple tools
- Learn how to lock your bike up properly to avoid bike theft
- Free headlights for FROSH and new transfer students

The ambassadors should wear a distinctive jacket/shirt/button that lets the public know that

they can be approached with questions and comments, and they should be an encouraging presence, giving positive reinforcement and distributing free promotional items where possible.

This type of program could also be established in conjunction with Pullman. The City of Chicago has a robust bicycle ambassador program called Mayor Daley's Bicycling Ambassadors. They are a group of bicycle safety and education specialists who have been reaching out to Chicago residents since 2001. Their mission is to increase bicycle use while decreasing the number of bicycling related injuries and fatalities. This goal is accomplished through educating Chicago residents on the benefits of bicycling and bicycle safety. The major campaigns of the Mayor Daley's Bicycling Ambassadors include bicycle safety, motorist education on sharing the road with bicycles, shopping by bike, commuting to work by bike, and bikes on transit (including bus rack demonstrations).



Encouragement

Similar to education programs, encouragement programs provide incentives and benefits to the public to try bicycling and walking.

This section identifies encouragement strategies for WSU and other partners to promote walking and bicycling as viable transportation options. The recommendations are based both on findings of previous tasks plus experience gained in communities around the region and the United States.

The recommended strategies are:

- Bicycle/Pedestrian Advisory Committee
- Commuter Benefit Program
- Enhanced Website/Mobile as Information Clearinghouse
- Bike Valet for Events
- Embrace the Steam Plant Zig Zag (WSU Wiggle)!
- Biking and Walking Maps
- Car-Free Stadium Way Events

Bicycle/Pedestrian Advisory Committee

Many local governments have an official Bicycle/Pedestrian Advisory Committee made of citizen volunteers, appointed by City Council or the appropriate body, to advise on walking and biking issues. An advisory committee establishes an institution's commitment to making walking and biking safer. With the assistance of campus bicycling advocates or enthusiasts, WSU should form an ongoing Bicycle/Pedestrian Advisory Committee composed of students, faculty, and staff to address mobility issues on campus.

The charges of the Bicycle/Pedestrian Advisory Committee (BPAC) should include some or all of the following:

- Review and provide input on campus facility planning and design as it affects walking and biking (e.g., streets, intersections, signals, and parking facilities).
- Participate in the development, implementation, and evaluation of transportation studies and plans.
- Provide a formal liaison between university faculty, staff, and students.
- Develop and monitor goals and indices related to walking and biking on campus.
- Promote safe and courteous bicycling on campus.

Because BPAC members will be volunteers, it is essential to have strong staffing to support the committee in order for it to be successful. A Transportation Services staff member should be formally assigned to the BPAC and should take charge of managing the recruitment process, managing agendas and minutes, scheduling meetings, bringing agency issues to the BPAC, and reporting back to WSU about the BPAC's recommendations and findings.

Sample committees are:

Michigan State University
<https://www.msu.edu/-auttc/>

Western Washington University
http://www.wvu.edu/transportation/student_involvement.shtml

Commuter Benefit Program

Commuter Benefits are a federally approved employer-provided incentive for employees to save money on their transit, vanpool and parking expenses. Many universities also extend the program to their student body.

Commuter benefits encourage people to walk, bike, rideshare, and take transit to work. This helps relieve traffic congestion and improve air quality, making Pullman and the Palouse a better place to live.

Effective January 1, 2013, the IRS pre-tax deduction limit is \$245/month for transit and vanpool expenses and \$245/month for parking expenses. \$20/month may be offered as a subsidy to employees who commute via bicycle.

Two campus programs are profiled below:

Stanford University

Stanford University has established the Stanford University Commute Club. By not purchasing a Stanford parking permit, and joining the Stanford University Commute Club, members help reduce emissions, minimize the number of vehicles traveling to and from campus, and benefit financially by not driving alone. Rewards can reach up to \$300 (\$25/month) a year in Clean Air Cash or Carpool Credit.

More information can be found at their website:

http://transportation.stanford.edu/alt_transportation/Commute_Club.shtml

Oregon Health & Science University (OHSU)

Oregon Health & Science University (OHSU) provides an incentive for employees who choose to bike to work for at least 2 miles of their trip.

Bicyclists are reimbursed for their commute with one of three incentives for each 30 trips biked. Members of the parking program are refunded one month's parking. Members of the transit pass program receive \$35 (in addition to the overall subsidy on their passes). Bicyclists who are members of neither program receive \$50.

More information can be found in this document:

<http://www.ohsu.edu/parking/bike/OHSUBikeSite2010.pdf>

Enhanced Website/Mobile as Information Clearinghouse

Current and potential bicyclists and pedestrians do not have an easy-to-find place to turn to for information about walking and biking on campus, including rights and responsibilities, bicycling tips, security, groups, and events, etc.

WSU should develop a comprehensive “one-stop shopping” website on their Transportation Services Mobility Options website (or in conjunction with the Green Bike Program) with comprehensive campus walking and bicycling information.

WSU's mobility website should include the following:

- Maps and other bicycling resources (e.g. bicycle parking locations, Pullman, Moscow, and Palouse region bike maps, bikes on Pullman transit, how to securely lock a bike, etc.)
- Event postings, including clinics or workshops, group rides/walks, campus-wide events, volunteer opportunities, and dates when students, faculty, and staff are encouraged not to drive
- Information on how to safely and courteously bike on campus, including rights and responsibilities, where bicycling is permitted and where to walk your bike, and safety tips

- Information about the WSU Bicycle/Pedestrian Advisory Committee (if formed), including how to get involved, meeting times and dates, etc.
- A list of local bike shops, including phone number and address
- A list of all local bicycling groups, including clubs and advocacy groups
- Links to laws and statutes relating to bicycling
- Contact information for TDM/Mobility Coordinator

The website may also feature:

- Bike buddy matching service
- Repair tutorials
- Message boards
- Blog featuring stories and news
- Photo galleries from events and submitted by readers
- Popular bicycling routes
- Information and/or a forum for buying/selling bicycles

A one-stop mobility website will not be difficult to set up, but it will only be successful if the site is both easy to use and updated regularly. All website content should be reviewed regularly for accuracy. Further, if a Bicycle/Pedestrian

Advisory Committee (BPAC) is formed, WSU should consider adding a standing agenda item for the BPAC to discuss website changes or updates.

The website, along with many of the other programs described in this section, can be advertised with branded promotional items such as magnets, buttons, or stickers that highlight biking and walking at WSU. A short memorable slogan (e.g., “I bike WSU”) could be used on promotional items along with the website URL and could be distributed to students, faculty, and staff at events and through campus outreach.

Sample websites include:

University of California, Santa Barbara
<http://bikes.as.ucsb.edu/>

Stanford University
http://transportation.stanford.edu/alt_transportation/AlternativeTransportation.shtml

University of California, Davis
<http://taps.ucdavis.edu/bicycle/>

University of Washington
<http://www.washington.edu/facilities/transportation/commuterservices/>

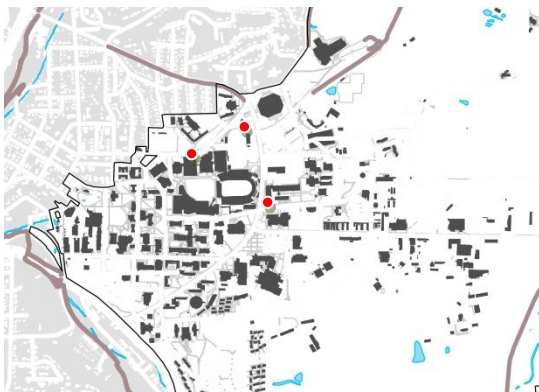
Bike Valet for Events

Bike valet is like a coat check... for your bike! Volunteers set up a secure area of bike racks, and offer valet service to event goers who arrive by bike.

Adding bike parking allows them to be positive and friendly when directing cyclists to the parking corral. As a bonus, most people who would have locked to poles and fences will seek out the corral instead.

Patrons receive a branded claim ticket and leave their bikes in a secure location. Bike valet brings convenience and peace of mind to event patrons, and provides a secure, orderly site plan for event planners.

Bike valet can be offered as a free service or as a fundraiser for various campus groups with a minimal fee of \$2-\$5/bike.



 Potential Bike Valet Locations



Embrace the Steam Plant Hill Zig Zag! (aka “The WSU Wiggle”)

Existing topography in Pullman can be challenging for bicyclists. At times these challenges can be addressed through comprehensive wayfinding and more circuitous routes that minimize climbing grades to the greatest extent possible.

For other times, the hill must be embraced.

Accessing campus from the southwest, particularly from routes coming off of NE Spring Street, is challenging. The recommended improvements identified earlier in this chapter provide some relief, but bicycle access into this part of campus will always be more challenging than from other parts of Pullman.

WSU should acknowledge this challenge, and identify/brand routes up past the old Steam Plant as the Steam Plant Hill Zig Zag. The following case study from San Francisco provides a good example:

The Wiggle

In San Francisco, CA, a one-mile, zig-zagging bicycle route from Market Street to Golden Gate Park has become popularly known as “The Wiggle.” The route minimizes climbing grade for bicycle riders to the greatest extent possible. There are now wayfinding signs and maps that show the route, and it has become a source of city pride along with San Francisco’s iconic topography.



Biking and Walking Maps

Pullman and WSU have some bicycling maps that highlight existing routes. These maps are effective in informing the public where bicycle facilities are located so residents can plan their trips accordingly. However, bicycle facilities vary greatly by type and within type. For example, some bicycle lanes are located on high-speed, high-volume arterials, while others are on collector or local roads that have adequate right-of-way for installation. Less experienced bicyclists may not understand the difference between these facilities and thus be discouraged after riding on a busy arterial that was outside of their comfort zone.

A bicycle map that displays bicycle facilities ranked by relative level of bicyclist comfort will better portray to bicyclists where they will feel comfortable riding. Knowing which routes are on streets with fewer motor vehicles, lower speeds, and other barriers may encourage those not bicycling to try. This map could be an inset on the existing bicycle map or provided as a separate brochure that specifically targets the “interested but concerned” bicycling population. Pullman and WSU could update its existing bicycle maps to reflect user level of comfort.

Walking Maps

Though it is common for jurisdictions to create bicycling maps to highlight existing bicycle routes, it is less common to show people where to walk. As a result, many people are not aware of how easy it can be to get somewhere on foot. For

example, many people don’t realize that it only takes 10 minutes on average to walk half a mile.

Walking maps not only show suggested routes and the locations of pedestrian facilities, but can have a buffered radius or grid to show how long it takes for people to walk to specific destinations. Walking maps should also include parks, schools, libraries, business districts, public restrooms, transit, and other key destinations. Pullman and WSU could distribute and advertise walking maps with its bicycling maps.



Car-Free Stadium Way / Car-Free Campus Events

Usually held on a weekend day, car-free events temporarily close streets to cars and open them up to people walking, bicycling, dancing, hula hooping, skateboarding, playing games, and so on. These events (often called 'ciclovias') have been very successful internationally and are rapidly becoming popular in cities across the world. Car-free events on campus could highlight the ease and convenience of walking and biking to school.

This type of event could include a street fair or other festival-type activities to garner interest, and WSU could partner with Pullman, a local bicycling group, or a campus environmental or social group to host the event.

A car-free day on campus would promote health and community by creating a safe space for physical activity and social interaction, while celebrating bicycling and other forms of non-motorized transportation. A car-free street event could take place one time or annually on a weekend day on campus. It is expected that this type of event would be very popular among students and well-attended by the campus community.



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Enforcement

Enforcing traffic laws related to bicycling and walking helps to promote a safer environment for all road users.

This section presents recommended region-wide bicycle and pedestrian enforcement programs.

The recommended strategies are:

- Student Community Service Officer
- Speed Radar Trailers
- Continued Targeted Enforcement
- Bicycle and Pedestrian Diversion Course

Student Community Service Officer

Some campuses (such as the University of Arizona) have Student Community Service Officers that assist the campus Police Department with detection of criminal activity. This position is ideal for the enforcement of bicycle and pedestrian violations on campus. Students can patrol by foot or by bike and enforce violations, such as wrong way riding, speeding, illegal crossings, and improper bicycle parking. Since community service officers are also students, this is a way to train the campus population in the rules and regulations of bicycling and allows them to teach their peers as well.

Speed Radar Trailers

Speed radar trailers can help reduce traffic speeds and enforce speed limits in areas with speeding problems, such as Stadium Way. Police set up an unmanned trailer that displays the speed of approaching motorists along with a speed limit sign.

Both WSU and Pullman police departments currently use speed trailers. This practice should be continued, and both departments should work with the public to determine which locations are in most need of enforcement.

Speed trailers work as both an educational and enforcement tool. By itself, the unmanned trailer educates motorists about their current speed in relation to the speed limit.

Speed trailers can transport easily to streets where local residents complain about speeding problems. Pullman's and WSU's police department could station officers with radar speed detectors near the trailer to issue speeding citations when speeding continues to occur.

This program can be administered randomly, cyclically, or as demand necessitates because of the speed trailers' portability. Speed trailers could be especially beneficial on neighborhood greenways to reinforce the role Pullman is taking in improving the bicycle environment for less experienced bicyclists.

On roadways with bike lanes, special care should go to place speed radar trailers outside of the bike lane area.

Continued Targeted Enforcement

Targeted enforcement is one way to publicize bicycle and pedestrian laws in a highly visible and public manner. Examples of directed enforcement actions include; intersection patrols or stings, handing out informational sheets to motorists, bicyclists and pedestrians; and enforcing speed limits and right-of-way.

The Pullman police department currently does this off campus, and the WSU police department currently undertakes many of these steps on campus, and should continue to do so throughout the summer and school year.

Bicycle and Pedestrian Diversion Course

A bicycle and pedestrian diversion course can be offered in lieu of a ticket for bicycle and pedestrian related infractions, or some motorist infractions. Those who are cited can attend a class that teaches bicycle and pedestrian safety. Bicycle and pedestrian diversion courses enforce the law while also reinforcing safe behaviors through education.

At Stanford University, Parking & Transportation Services and Stanford Public Safety co-host a free bike safety class twice a month as a part of SUDPS' Bike Diversion Program. These presentations are part of a program initiative to educate cyclists about fundamental bicycle safety.

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Evaluation

Cities around the world have begun monitoring their bicycle and pedestrian programs in order to track the number of non-motorized users, gauge user perceptions of the bicycle and pedestrian networks, and identify trends in safety. Results are published in a periodic 'report card', which are typically prepared every one to two years.

There are two reasons for regularly measuring and reporting bicycle and pedestrian investment and activity.

First, the information gathered for the report allows the community to measure progress towards achieving stated goals for walking and bicycling.

Second, a quality data monitoring program can help WSU and Pullman to obtain funding for new projects.

Most grant programs require awardees to monitor the results of funded projects, including a baseline count and monitoring usage over time. Communities with established bicycle and pedestrian monitoring programs will tend to have an advantage over other cities when pursuing funding.

The key to a successful monitoring program is to identify useful data that can be gathered through available resources, that is consistently available over time, and that can be used for year-to-year comparisons. WSU and Pullman can issue

bicycle and pedestrian report cards separately or combine them into a non-motorized transportation report card. This report should be made available online.

Key Elements of a Bicycling/Walking Report Card

A set of key figures can be used to identify trends in walking/cycling, miles of pedestrian and bicycle facilities, safety, etc. It is important to supplement this quantitative data with survey data aimed at gauging resident perceptions of the bicycle and pedestrian network. Questions can be tailored to provide information that will inform the location and design of future facilities.

The report card should:

- Utilize performance measures to track progress towards achieving stated objectives related to bicycles and pedestrians.
- Measure the number of non-motorized users.
- Measure user perceptions of the system.
- Measure the quantity of bicycle and pedestrian facilities.
- Measure trends in safety.
- Measure transit use and multi-modal connections.
- Report results in a format that is accessible to the general public.

Quantitative Data

The primary quantitative data sources included in monitoring programs:

- Count Data – There are two types of counts that can be used to measure bicycling and walking.
 - Screen Line Counts monitor the number of pedestrians and bicyclists crossing an invisible line across a roadway. They are primarily used to identify general trends in volumes.
 - Intersection Counts are used to monitor the number of pedestrians and cyclists passing through an intersection. Depending on the volumes of bicyclists, intersection counts may be more complicated and require additional counters because they record two streets as well as turning movements. Intersection crossing counts should be conducted at high crash locations and where safety studies are desired.
- Infrastructure – Measure the number of miles of different types of bicycle and pedestrian facilities, number of bicycle parking spaces, etc. Some of this data is currently available from existing GIS files.
- Safety Data – Track the number of injury and fatality crashes involving bicycles and pedestrians.

To accumulate additional data for benchmarking purposes, WSU and Pullman should consider expanding the count program to additional locations throughout Pullman. Some count programs measure additional items on their count forms, such as gender and helmet use.

User Perception Data

Survey Instrument

Surveys should be utilized to monitor user perceptions, satisfaction and desires with regard to existing facilities. They can also be used to monitor trip purpose, bicycling, and walking habits, etc.

One survey concept that is extremely easy to present and intuitive for people to understand is to simply ask respondents to rate different aspects of bicycling and walking on a scale from 0 to 10, where 0 = strongly disagree and 10 = strongly agree. The report card can then report the average response value in a concise way that allows for easy comparison of perceptions of bicycling and walking over time.

Survey Distribution

There are at least two options for survey distribution and the appropriate methodology may differ for bicycles and pedestrians, as more people on the WSU campus currently walk than bicycle.

- Intercept surveys can be performed at the same time as annual counts. However, depending on the number of counts performed, this may result in a very low sample size. It is common for intercept survey respondents to be given the option of mailing in their survey response (so that they can complete it later) or completing it online.

- Internet/Mail-in surveys can be distributed by Transportation Services to the greater campus community.

Report Format and Frequency

The report card should be visually appealing and be seen as an opportunity for WSU (and Pullman, if participating) to showcase both the importance of non-motorized transportation and highlight what WSU is doing to make campus a great place to walk and ride a bicycle.

The report should have an attractive cover, provide an introduction explaining the purpose of the report, and include abundant photos. Reporting the actual metrics can be done in as few as 1-2 pages. Each report card can dedicate additional pages to highlight recent investments, new facility designs, etc. The report can also include sections about additional information that impact bicycling or walking, such as combining cycling with public transport or the socio-economic benefits of walking/cycling. A survey of international best practices indicates that cities report trends in bicycling and walking as frequently as every year, but sometimes as infrequently as every five years. It is recommended that WSU release its report card(s) every two years.

5 Implementation Strategies

Introduction

As described in Chapter 4 Recommended Improvements, the WSU and City of Pullman recommended non-motorized system consists of a comprehensive network of sidewalks, on-street bikeways, shared-use paths, and various programmatic measures. This chapter proposes an implementation strategy that targets the best way to implement projects and programs.

The chapter also provides planning-level cost projections for proposed non-motorized improvements. The chapter closes with a discussion of supportive policies that can bolster and institutionalize the development of a high-quality non-motorized network.

Implementation Timeline

The recommended Bicycle and Pedestrian Plan projects were divided into short- (Phase I), medium- (Phase II) and long-term (Phase III) priorities for a phased implementation. The prioritization was based on a connected bicycle and pedestrian network, integrated with transit to provide access for key destinations.

Project Prioritization

The project prioritization was developed as the natural extension of the identified goals and

objectives identified in Appendix A: Vision, Goals & Objectives. The goals and objectives help direct resource allocation, program operation, and prioritization. A prioritized list of bicycle and pedestrian projects will help guide the implementation of the proposed bicycle and pedestrian facilities presented in this plan.

The goals and objectives for the Washington State University Bicycle and Pedestrian Plan were organized into the following seven categories:

1. Health and Safety
2. Education and Encouragement (program/ policy action)
3. Enforcement (program/policy action)
4. Transit Integration
5. Sustainability
6. Implementation
7. Accountability

Prioritization criteria were developed to address categories 1, 4, 5, 6, 7 where the goals and objectives addressed capital improvements. Policy and programmatic improvements will also be part of the final recommendations but are not being prioritized.

Based on feedback heard from WSU, stakeholder interviews and public outreach, the recommended projects were categorized in one of three ways:

- Fix What You Have (Phase I)
- Connections (Phase II & III)
- Circulation (Phase II & III)

All projects in the first category – Fix What You Have – were automatically considered the Phase I priorities, as the facility already exists, and WSU and Pullman should concentrate resources on updating and fixing the existing system.

Prioritization Criteria

By creating a series of scoring criteria designed to help differentiate and rank the facility improvements outlined in this Plan, University and City staff can make use of additional priority guidance to aid in the timely, efficient implementation of the proposed bicycle and pedestrian network. The following prioritization criteria were selected to help identify which improvements are likely to provide the most benefit to WSU and Pullman's bicycle and pedestrian system. Recommended facility implementation measures will ultimately have no specific time line, since the availability of funds for implementation is variable and tied to the priorities of WSU and Pullman's capital improvement projects. The proposed criteria for ranking the recommended facility projects are:

- Public Input
- Safety
- Gap Closure
- Anticipated Benefit

Public Input

Public input was received through three open houses and an online survey. Locations most frequently identified as being in need of improvements are given a greater priority.

Safety

Bicycle and pedestrian facilities have the potential to increase safety by reducing the potential conflicts between bicyclists, pedestrians, and motorists that often result in collisions. Projects are of higher priority if they reduce the opportunities for conflicts and increase safety.

Gap Closure

Gaps in the bicycle and pedestrian network come in a variety of forms, ranging from a “missing link” on a roadway to larger geographic areas without non-motorized facilities. Gaps in the network discourage walking and biking because they limit access to key destinations and land uses. Facilities that fill a gap in the existing and proposed network are of high priority.

Anticipated Benefit

Some facilities will serve a greater number of bicyclists and pedestrians based on their length and locations. Facilities that serve or are located within high-traffic areas of campus will have higher anticipated benefits for students, faculty, and staff.

Secondary Prioritization Criteria

Project Cost

While project costs are not considered a primary prioritization criteria, they are useful in prioritizing among projects in the same timeframe category. Funding facilities is a primary focus for all new services and facilities on a university campus. Facilities that need minimal improvements and can be tied in with other construction projects are generally lower in cost and therefore are of high priority.

Project Ranking

Table 5-1 shows how the criteria described in the previous section translates into weights for project prioritization and weighting. Weights are based on direct, secondary, or no service at all. Direct service means that a facility intersects with a facility/destination, whereas secondary access occurs when the primary facility is located in close proximity to an existing facility/destination.

Table 5-1: Project Prioritization Criteria

Criteria	Score	Multiplier	Total
Public Input	2	3	6
	1	3	3
	0	3	0
Safety	2	3	6
	1	3	3
	0	3	0
Gap Closure	2	2	4
	1	2	2
	0	2	0
Anticipated Benefit	2	1	2
	1	1	1
	0	1	0

Table 5-2 presents the list of prioritized projects, with project names and numbers corresponding to the figures in this chapter.

Table 5-2: Prioritized Non-Motorized Projects

Project ID	Project Name	Public Input	Safety	Gap Closure	Benefits	Total
Connections-6	Long-term Stadium Way Improvements	6	6	4	2	18
Circulation-9	Stadium Way to Grimes Way reconfiguration	6	6	4	2	18
Circulation-16	Spokane St Improvements	3	6	4	2	15
Connections-7	College Hill Neighborhood Hill Greenway	6	3	4	2	15
Connections-8	D Street Neighborhood Greenway	6	3	4	2	15
Circulation-10	Grimes Way reconfiguration	3	6	4	2	15
Circulation-1	Colorado Connector	6	3	4	1	14
Circulation-17	Spokane St/Stadium Way intersection improvements	3	6	2	2	13
Circulation-12	South Campus Trail	3	6	2	1	12
Circulation-14	Connections from Chipman Trail to South Campus Trail	3	6	2	1	12
Connections-9	Grand Avenue Bike Lanes (south of Olsen)	0	6	4	2	12
Connections-1	Sunnyside Hill Neighborhood Greenway	3	3	4	2	12
Connections-3	Military Hill Neighborhood Greenway	3	3	4	2	12
Connections-10	Pioneer Hill Neighborhood Greenway	3	3	4	2	12
Connections-11	SW Gateway - the Zig Zag	6	0	2	2	10

Project ID	Project Name	Public Input	Safety	Gap Closure	Benefits	Total
Connections-12	SW Gateway Pathway	6	0	2	2	10
Circulation-2	Priority Bicycle Improvements	3	3	2	2	10
Connections-15	SE Bishop Boulevard	3	3	2	2	10
Connections-2	Military Hill Route B	3	3	2	1	9
Connections-4	Grand Avenue Greenway Extension	0	3	4	2	9
Connections-5	Military Hill Route C	3	3	2	1	9
Circulation-3	Veterans Way Pedestrian Mall re-design	3	3	2	1	9
Circulation-4	College Pedestrian Mall re-design	3	3	2	1	9
Circulation-11	Forest Way connections	3	3	2	1	9
Circulation-18	Green Bike Program expansion	3	3	2	1	9
Circulation-5	Rec Center Bypass	3	0	4	1	8
Circulation-6	Ferdinand's Connector	3	0	4	1	8
Circulation-7	Tennis Court Bypass	3	0	4	1	8
Circulation-8	Golf Course Connector	3	0	4	1	8
Circulation-13	Stairs to ramps conversions	3	0	2	1	6
Connections-13	Trail/roadway crossing @ Turner	0	3	2	1	6
Connections-14	Trail/roadway crossing @ Larry	0	3	2	1	6
Circulation-15	Multimodal Transit Center design	0	0	0	2	2

Phasing Plan

Implementation of the Washington State University Bicycle and Pedestrian Plan will take place incrementally through small steps taken over many years, depending on available funding and coordination with external agencies. The following phasing plan can guide WSU and Pullman toward developing the projects identified in this plan. Ideally, WSU and Pullman should complete higher-priority projects found within the Phase I, Phase II, and Phase III lists below in the general order that they appear in the prioritization matrix. However, many opportunities will likely arise over the years that will make lower priority projects feasible either through efforts of an external agency (e.g. street resurfacing), or through on-campus construction projects.

Table 5-3 shows the phasing plan for the non-motorized prioritized projects. The phasing plan organizes projects into Phase I, Phase II, and Phase III projects.

The intent of prioritizing projects is to identify a strategic timeline for implementation. The recommended implementation schedule is as follows:

- Phase I projects (Fix What You Have) are the top priority projects, which should be implemented within 4 years.
- Phase II projects are planned for implementation within 8-10 years.
- Phase III projects are future projects recommended for implementation within the next 16 years.

These recommendations are designed to encourage WSU and Pullman to develop an interconnected bicycle and pedestrian network that makes best use of existing facilities, key destinations, and other factors that affect walking and bicycling throughout Pullman.

Table 5-3: Phasing of Non-Motorized Projects

Project ID	Project Name	Fix-16	Curb Cut Infill/Retrofit	Connections-11	SW Gateway – the WSU Wiggle
Phase I		Phase II		Connections-12	SW Gateway Pathway
Fix-1	NW Davis Way Pathway Gap	Connections-6	Long-term Stadium Way Improvements	Circulation-2	Priority Bicycle Improvements
Fix-2	Shared Lane Markings - Campus + City	Circulation-9	Stadium Way to Grimes Way reconfiguration	Phase III	
Fix-3	Stadium Way (Grand to Colorado) (short-term)	Circulation-16	Spokane St Improvements	Connections-2	Military Hill Route B
Fix-4	NE Valley Road	Circulation-17	Spokane St/Stadium Way Intersection Improvements	Connections-15	SE Bishop Boulevard
Fix-5	Terre View Pathway completion	Connections-7	College Hill Neighborhood Hill Greenway	Connections-4	Grand Avenue Greenway Extension
Fix-6	Trail/Roadway crossing @ Kamiaken	Connections-8	D Street Neighborhood Greenway	Connections-5	Military Hill Route C
Fix-7	Trail/Roadway crossing @ Whitman	Circulation-10	Grimes Way reconfiguration	Circulation-3	Veterans Way Pedestrian Mall re-design
Fix-8	Trail/Roadway crossing @ Ritchie Street	Circulation-1	Colorado Connector	Circulation-4	College Pedestrian Mall re-design
Fix-9	Trail/Roadway crossing @ Stadium Way	Circulation-17	Spokane St/Stadium Way intersection improvements	Circulation-11	Forest Way connections
Fix-10	Trail/Roadway crossing @ Terre View	Circulation-12	South Campus Trail	Circulation-18	Green Bike Program expansion
Fix-11	Automate Pedestrian Signals (Campus + City)	Circulation-14	Connections from Chipman Trail to South Campus Trail	Circulation-5	Rec Center Bypass
Fix-12	Update flashing crosswalk lights to LED (Campus)	Connections-9	Grand Avenue Bike Lanes (south of Olsen)	Circulation-6	Ferdinand's Connector
Fix-13	Add countdown signal heads to pedestrian signals	Connections-1	Sunnyside Hill Neighborhood Greenway	Circulation-7	Tennis Court Bypass
Fix-14	Additional/Improved Bike Parking	Connections-3	Military Hill Neighborhood Greenway	Circulation-8	Golf Course Connector
Fix-15	NE North Fairway Road Trail to Sidewalk Transition	Connections-10	Pioneer Hill Neighborhood Greenway	Circulation-13	Stairs to ramps conversions
				Connections-13	Trail/roadway crossing @ Turner
				Connections-14	Trail/roadway crossing @ Larry
				Circulation-15	Multimodal Transit Center design

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Implementation Costs

This section summarizes planning level cost opinions associated with the recommended non-motorized improvement projects. The costs are first shown broken down by category, and then by recommended phasing.

Cost Opinions Overview

The total implementation cost of the Washington State University Bicycle and Pedestrian Plan is estimated at approximately \$13.3 million, as shown in Table 5-4 and Table 5-5. Fix What You Have recommendations account for just over \$4.6 million.

Table 5-4: Summary of Cost Opinion by Category

Category	WSU	Pullman	Total
Fix What You Have	\$484,000	\$4,156,000	\$4,640,000
Bicycle Connections	\$1,612,000	\$995,000	\$2,607,000
Circulation*	\$5,835,000	\$215,000	\$6,050,000
Totals	\$7,931,000	\$5,366,000	\$13,297,000

* The Circulation planning-level cost estimates do not include the costs for the Stadium Way/Grimes Way reconfiguration.

The planning-level cost estimate for each project can be found in Appendix H: Planning Level Cost Estimates.

Table 5-5: Summary of Cost Opinion by Phase

Phase	WSU	Pullman	Total
I	\$484,000	\$4,156,000	\$4,640,000
II	\$5,277,000	\$633,000	\$5,910,000
III	\$2,170,000	\$577,000	\$2,747,000
Totals	\$7,931,000	\$5,366,000	\$13,297,000

Implementation Strategies

Implementation strategies and their related action items support the goals, policies and projects outlined above.

1. Health and Safety

Provide and promote safe and accessible routes and accommodations for walking and biking as a daily form of physical activity.

Action 1.1: Reduce Crashes

Reduce crashes involving bicyclists, pedestrians, and motorists by at least 10 percent by 2018.

Action 1.2: Address Conflicts

Use current best engineering practices for minimizing and mitigating conflicts between bicycles, pedestrians, and motorists.

Action 1.3: Promotion

Work with Alive!, the Green Bike Program, UREC, and other campus programs to actively promote walking and biking on campus.

Action 1.4: Prioritize Safety

Prioritize pedestrian and bicyclist safety during construction and maintenance activities and ensure that accessibility guidelines are followed.

2. Education and Encouragement

Increase the public's awareness and usage of the bicycle and pedestrian network on campus and in Pullman through targeted education and encouragement programs.

Action 2.1: Safety Education

Educate the general public on bicycle and walking safety issues and encourage non-motorized transportation with programs that target pedestrians, bicyclists and motorists.

Action 2.2: Promotion through WSU and Pullman Sponsored Events

Encourage pedestrians and bicyclists through Pullman- and WSU-sponsored events, such as "Bike/Walk to Work Day".

Action 2.3: Education on Laws and Regulations

Educate the general public on bicycle and pedestrian laws and regulations via WSU and Pullman's website and other education programs.

Action 2.4: Education for Drivers

Educate drivers (transit drivers, delivery drivers, etc.) on bicyclist rights and safe motoring behavior around bicyclists. Provide appropriate materials to pedestrians, motorists, and cyclists convicted of specified violations.

Action 2.5: Proper and Safe Behavior

Educate bicyclists and pedestrians on proper and safe behavior for biking and walking via WSU and Pullman's website and other education programs.

Action 2.6: Awareness of Pedestrians with Disabilities

Improve the general public's awareness of the transportation needs and requirements of people with a variety of mobility and sensory disabilities via WSU and Pullman's website and other education programs.

Action 2.7: End of Trip Facilities

Install bike racks, accessible parking, and other support infrastructure at destinations citywide, including transit stations, retail area, parks, public facilities, and other high-traffic areas.

Action 2.8: Wayfinding Signage

Install wayfinding signage in proximity to bike lanes, bike boulevards, shared-use paths, and destinations.

3. Enforcement

Enhance safety for all road users through increased traffic enforcement on city streets, walkways, and bikeways.

Action 3.1: Traffic Law Enforcement

Enforce traffic laws consistently for all users.

Action 3.2: Diversion Course

Collaborate with law enforcement and the court system on the development of a traffic skills education course aimed to reduce aggressive and/or negligent behavior among drivers, bicyclists and pedestrians by providing the option of taking a traffic skills education course in lieu of fines for traffic violations.

Action 3.3: Obstruction Prevention

Prevent the obstruction of dedicated bikeways and walkways.

Action 3.4: Violation Reporting

Develop and promote efficient mechanisms for reporting behaviors and conditions that endanger cyclists and pedestrians to law enforcement.

4. Transit Integration**Action 4.1: Partner with Transit**

Work cooperatively with adjoining jurisdictions and transit agencies to coordinate non-motorized planning and implementation activities.

Action 4.2: Routes to Transit

Provide safe and accessible routes and intersections to transit for pedestrians of all abilities.

Action 4.3: Bicycle Facilities at Transit Hubs

Provide safe end-of-trip facilities (bike parking, bike lockers, etc) at all transit hubs/centers.

5. Sustainability

Encourage and improve the appeal of modes of transportation with negligible carbon emissions, such as walking, biking, and using assistive devices, thereby reducing the miles traveled by single occupancy vehicles.

Action 5.1: Sustainability

Support WSU's sustainability goals by developing a comprehensive pedestrian and bicycle network.

Action 5.2: Parking Strategies to Reduce Driving

Support changing parking policies to discourage single occupancy vehicle driving, while recognizing the need to provide ADA parking.

Action 5.3: End of Trip Facilities for Active Commuting

Give incentives for bicycle storage, locker rooms and shower facilities for all major office building construction and remodeling projects in the downtown core.

6. Implementation

Implement the Washington State University Bicycle and Pedestrian Plan's recommendations for developing a non-motorized network that reduces auto travel, increases the number of non-motorized users of all ages and abilities, and improves the health of our people and local ecology.

Action 6.1: Connected Network

Complete the connected network of sidewalks, trails, bike lanes, bike boulevards, shared lane markings, and cycle tracks throughout Pullman that serves pedestrians and all bicycle user groups.

Action 6.2: New Dedicated Source of Funding

Pursue establishment of a new dedicated source of funding for non-motorized improvements.

Action 6.3: Barriers and Hazards

Reduce barriers and hazards to non-motorized users by ensuring safe and sufficient crossings of major roadways and by providing routes that minimize steep slopes.

Action 6.4: Inspection and Maintenance

Create safe and accessible bikeways and walkways through regular inspection and maintenance.

7. Accountability

Establish benchmark measurements and monitor the effectiveness of the Washington State University Bicycle and Pedestrian Plan on an annual basis.

Action 7.1: Bicycle/Pedestrian Tracking

Track trends in non-motorized usage through the use of Census data, annual user surveys, and annual bicycle and pedestrian counts.

Action 7.2: Collision Data

Monitor bicycle and pedestrian collision data with the goal of reducing non-motorized collisions.

Action 7.3: Pedestrian/Bicycle Report Card

Produce a regular report card tracking pedestrian and bicycle trends on the WSU campus and in Pullman including percent of the system that has been completed, funds invested, identification of ongoing problems, public feelings of safety, status of reaching Health and Safety goals, and educational outreach efforts.

Action 7.4: Track Implementation

Track implementation of improved and increased walkway and bikeway facilities, ADA accessible features, and amenities.

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Appendices

This report references detailed appendix items for additional data and support of Plan recommendations. The following appendices are available:

Appendix A: Vision, Goals & Objectives

Appendix B: Plan and Policy Review

Appendix C: Public Involvement Plan

Appendix D: Outreach Summary

Appendix E: Detailed Existing Conditions Analysis

Appendix F: Design Guidelines

Appendix G: Detailed Recommendations

Appendix H: Planning Level Cost Estimates