



City of Cascade, Idaho Bicycle & Pedestrian Plan

A Plan for Action for the People of Cascade



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Acknowledgments

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The Citizens & Businesses of Cascade | City of Cascade Elected Officials and Staff | Cascade Mobility Team | Southern Valley County Recreation District | Valley County | Cascade School District | Cascade Medical Center | Cascade Chamber of Commerce | Idaho Transportation Department | Lake Cascade State Park | University of Idaho Extension
Idaho Walk Bike Alliance | Idaho Smart Growth | Horizons’ Lifestyle Education Team

Project Partners

New Mobility West | The Sonoran Institute | The LOR Foundation | Idaho Smart Growth | Idaho Walk Bike Alliance

Project Consultants

Chris Danley, Vitruvian Planning | Don Kostelec, AICP, Kostelec Planning | Joel Grounds, PE, Precision Engineering

PROJECT PARTNERS



ABOUT NEW MOBILITY WEST

New Mobility West (NMW) provides communities across the Rocky Mountain West with the tools and resources necessary to become stronger, more prosperous places through building smarter transportation systems. NMW offers technical assistance to communities in this region looking to generate real, on-the-ground progress with targeted issues and opportunities at the nexus of transportation planning and community development. Beyond their local impact, these assistance projects create models that inform and inspire smart transportation and land use throughout the region.

This report is the product of a collaborative effort between NMW team members and the partner community that was selected for technical assistance through the program. It provides an overview of the project's goals, process, outcomes and recommended next steps.

NMW is an initiative administered by the Sonoran Institute, a non-profit organization that inspires and enables community decisions and public policies that respect the land and people of western North America. Information about the New Mobility West technical assistance program can be found at www.newmobilitywest.org/community-assistance.

ABOUT VITRUVIAN PLANNING

Vitruvian Planning is an Idaho based consulting firm focused on active transportation and a healthier built environment. Since 2011, Vitruvian Planning has provided planning services throughout the state including plans in the realm of Safe Routes to School, Bicycle and Pedestrian, Health Impact Assessments, Activity Connection Plans®, Complete Street policy analysis and several active transportation workshops.

As a firm dedicated to making a difference in how traditional plans are conducted, Vitruvian Planning has been fortunate to carry out that vision with communities large and small and located from Ponderay to Pocatello and numerous places between.

Other contributors to this report included:

- Don Kostelec, AICP
Kostelec Planning, Asheville, NC
- Joel Grounds, PE
Precision Engineering, Boise, ID

WHY A PLAN FOR CASCADE?

Why a Plan for Cascade?

The City of Cascade and the Cascade Mobility Team submitted a request for funding for technical assistance from the Sonoran Institute and their New Mobility West program. The application was considered, along with others, from a four state area including Idaho, Wyoming, Montana, and Colorado. The selection committee determined Cascade's application to be a strong candidate for the limited technical assistance funding and were thus selected. The intent of the project was to develop a bicycle and pedestrian plan that achieved several stated goals and objectives. Those goals include the following:

1. Developing a community transportation vision that can inform the CIP and a project ranking process;
2. Identifying specific transportation needs and potential project solutions;
3. Developing the framework for an updated CIP;
4. Engaging the public and key stakeholders to generate the input and buy-in necessary for the community transportation vision and an updated CIP; and
5. Providing guidance on funding opportunities.



The plan created herein is the result of the technical assistance funding and the planning process undertaken from April through June 2015. This plan is one that will help to achieve an improved bicycle and pedestrian network for the City, current and future residents, and the many visitors who chose the community for its many recreational assets.

This plan is not simply the result of a few individuals but rather several parties representative of the many interests within Cascade. Inclusive in the planning process were citizens, business community members, public agency staff and leadership, recreational enthusiasts and representatives, educational institution staff, as well as contributions from the state Department of Transportation.

Worth noting is that this effort should not be considered a one time endeavor. The Cascade Bicycle and Pedestrian Plan should be viewed as a living document for a number of reasons.

Federal and State funding for transportation projects is muddled with an unpredictable future. MAP-21, the current (June, 2015) Federal Transportation Bill will be revised in the coming months and will likely result in a significant overhaul of funding programs and requirements.

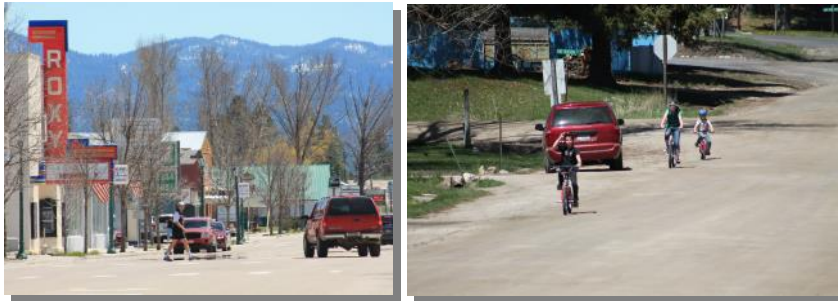
Once projects are completed, others also deemed important should be added in a revised version as priorities and goals change. The plan should be updated and revised on a regular schedule similar to a comprehensive plan.

With the significant presence of Highway 55, this plan should be reviewed in conjunction with the ITD STIP to ensure that opportunities are not lost and that the Department is provided valuable information for consideration with roadway construction or maintenance.

Existing Conditions

The city of Cascade, Idaho is located near the banks of Lake Cascade and situated along State Highway 55. The community of more than 900 residents has a mixture of housing stock established generations ago with a limited number of newer houses. The Highway 55 corridor is a dividing line between east and west Cascade and is home to the community's "Main Street." The eastern edge of the city is largely defined by the Payette River and larger ranch properties.

The street system of Cascade is comprised generally of a grid system layout with some curvilinear streets due mostly to topography. Though several streets are paved most are unimproved and without designated walking or bicycling surfaces. Streets that are paved generally also have some form of sidewalk and in some instances a paved shoulder is provided.



Due to the cost of paving and larger construction costs, the City does not have the intention of paving many of the existing streets into the foreseeable future. It is because of this situation in part, that the plan is mostly comprised of recommendations for those streets that are paved and have some type of additional designated active transportation element or characteristic.

The most significant corridor in Cascade is Highway 55. Through most of the downtown area, the road is a three lane configuration that also includes on-street parking. Several segments have been improved with significant pedestrian realm enhancements including ten-foot sidewalks, curb extensions, crosswalks, and aesthetic features.

The highway currently sees roughly 7,000 vehicles per day, though that is largely seen in the very busy summer months

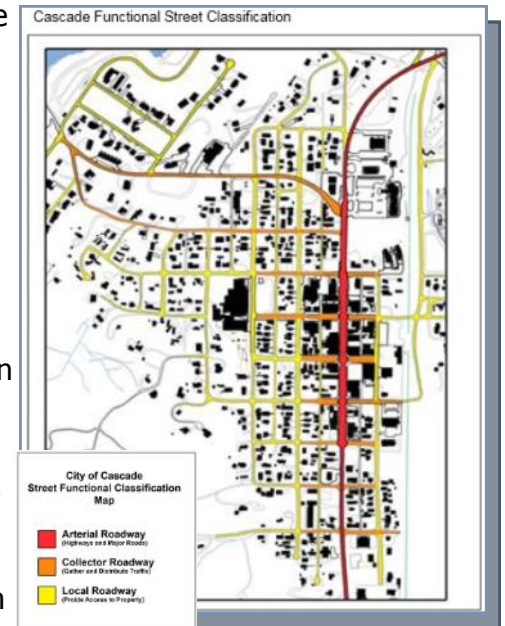
when recreational activity is at its highest.

Recent road projects on the highway have included the replacement of the North Bridge (underway) and the South Bridge as well as a new overlay that will occur in the summer of 2015. This overlay will include a new striping configuration which is to include a wider shoulder through downtown that will act as a suitable space for bicyclists.

Several projects were identified in the Cascade draft comprehensive plan, but since the plan has not been adopted, to date none of the projects have been formally adopted into the Idaho Transportation Department's State Transportation Improvement Plan or City led efforts.

Existing challenges facing the city and area residents are many. Due to the nature of the highway and nearby attractions, many freight vehicles, motorhomes, and truck/trailer set ups drive to and through Cascade. The balance that is needed is to provide safe crossings and minimal distances and reduce vehicular conflicts for both pedestrians and bicyclists.

Design elements such as turn radius, pedestrian refuge islands, curb extensions, bike lanes, and pedestrian actuated signals all have to be weighed with user demand, vehicle turning needs and the overall economic impacts of visitors operating larger recreational vehicles.



Plan Creation

The Cascade Bicycle and Pedestrian plan was crafted using several methods and inputs. The plan began with a series of stakeholder sessions with local residents, business leaders, elected officials, and various representatives from entities who have a vested interest in the success of bicycling and walking in the Cascade area. The sessions were held over two full days and included the following elements:

Kick-off Meeting. The project kick-off meeting was used to describe what “walkable” and “bikeable” are, what challenges are posed to the community, and to identify specific corridors and intersections most in need of improvement. The meeting was also helpful to understand local context, future desires beyond the transportation realm such as future land use and economic development and how the plan could help facilitate the changes sought.



Walk Audit and Street Inventory. At the conclusion of the stakeholder meeting the team split participants into two groups and led walk audits of Highway 55. Both groups attempted to evaluate the current system and find ways to improve the use and safety for walkers and bicyclists. The team was also attempting to further understand the needs of the Idaho Transportation Department as the highway plays a role of both regional highway and main street. The audits yielded many results and concepts that are described in the plan.

The remaining city streets and hot spot intersections were inventoried by bicycle to make sure that the team gained a user perspective. The team examined several streets, The Strand trail, sites such as Cascade School, the Lake State Cascade Park system, and Cascade Medical Center.

Implementation Meeting.

At the start of day two, the stakeholders reconvened to learn of the initial findings and suggestions pieced together by the team. Attendees learned of the projects, improvements and preliminary costs and were asked to help identify priorities to be inserted into the plan as part of a Capital Improvement Plan.

Business Forum. A two hour block of time was set aside to specifically converse with the Cascade business community. The meeting was robust and included owners of at least a dozen local or regional businesses. Those who attended also got to hear about the preliminary findings, priorities, potential costs, and the impacts that making such investments could have on the local economy and their businesses.

Left: Stakeholder meeting, day one.

Above: Meeting attendees along the walk audit route.

Right: Roadway inventory by bike

Public Discussion. To conclude the two-day event, public meetings were held. Two meetings were offered so that members of the public could choose to attend the one most convenient to them and their families. The focus of the events were to describe the process, the streets and intersections of focus, initial recommendations, and to get their feedback. Attendees were asked to confirm the plan focus areas and to give their input on other elements that were missed or should be considered.



Plan of Action

The projects identified in this plan were derived principally from extensive stakeholder involvement coupled with the goals and objectives in the draft Comprehensive Plan. The list included specific corridors and intersections that were considered ripe for improvement, safety hazards, or contribute to the existing and/or future needs of the overall network.

- ◆ **Highway 55 South**- this critical element of Cascade Main Street connects the southern end of the community with the heart of Downtown. After walking and riding the section, improvements mainly comprise safety shoulders to promote bikability with dedicated space for walking, though this is more limited due to land uses.
- ◆ **Highway 55 North**- the north section of Main Street is a connection between downtown and the many recreational land uses north of town along the Payette River. Significant improvements are suggested to achieve robust walking and bicycling and to optimize the desired land uses for both residents and visitors.
- ◆ **The Strand**- The Strand trail is a wonderful river trail that needs additional connections and enhancements to elevate the trail to world class status. New road and trail connections, signage and other improvements would increase use, enhance environmental health conditions, and further the recreational experience in the city.
- ◆ **Pine Street**- the Pine Street improvements attempt to take advantage of the existing asphalt and right-of-way in place but also significantly enhance the street for school children and users of The Strand trail to which it connects.
- ◆ **School Street**- Similar to Pine Street, the recommendations were made after walking the road and seeing the existing width, configuration of the school parking area, and understanding its value aligned parallel with Highway 55.



Access along State Highway 55, as well as safer crossings of the highway, were ideas generated the community meetings and walkabouts. Promoting and enhancing The Strand through signage and connectivity was also a major area of emphasis.

With an enhanced sidepath design, both user groups should find getting to and from the school, Cascade Community Center and Cascade Medical Center, improved.

- ◆ **Sawyer Street**- the recommended improvements to Sawyer are extensive and will take significant resources. However, if achieved, this newly constructed street will not only provide safe and extensive facilities for pedestrians and bicyclists but could easily be an economic catalyst formed around the concept of active transportation.
- ◆ **Lake Cascade Parkway**- With improvements already having been made to this street, using existing right-of-way to expand the roadway section to accommodate active transportation users is the primary intent of recommendations. This road that connects the numerous recreational outlets along Lake Cascade to Highway 55/Main Street, if improved can reduce local car trips and improve safety and mobility for all users.

Potential corridors for bicycle and pedestrian improvements



Ranking Process

Having clear priorities is crucial to accomplishing a plan that contains many smaller and inter-connected projects. This plan identifies seven corridors for improvement which range from modest to complex.

To help identify which projects had the most support, participants were asked to list their top selections after learning of the recommended improvements, cost estimates, and complexity. They were then asked to identify additional partners and others affected by the project; and to relate why the corridors are important to the overall system of bike and pedestrian trails. At the public meeting, participants were asked to simply list their top priorities and top three intersections for improvement.

Once the project rankings were collected, each project was ranked from 1st to 7th by adding together the number of 1st, 2nd, and 3rd place votes and ranking them accordingly. The list below displays the result of this analysis.

Streets by Ranking

Pine Street

Highway 55 South

Highway 55 North

Sawyer Street

Lake Cascade Parkway

The Strand Trail

School Street



The Pine Street corridor, which links The Strand trail to Highway 55 and to the Cascade School, rose to the top of shareholder priorities. This relatively short street is one of the most critical east/west street connections in Cascade and helps to circulate pedestrians and bicyclists in a unique way. With the improvements along the corridor and at the Highway 55 intersection, the street can be improved significantly.

PLAN OF ACTION

Project	Description	Complexity	Cost Estimate	Timeframe
Pine Street	Improve pedestrian access through minor widening, sharrows on the down hill side and bike lane up hill. RRFB at the intersection of SH-55 and Pine Street.	Low to Moderate	Design: \$25,000 Construction: \$62,000 Total \$87,000	0-3 years
Highway 55 South	Construct plant mix sidewalk from Payette St to Mill St on the east side of SH-55, widen shoulders on SH-55 from the South bridge to approximately the Whitewater Park entrance.	Low	Design: \$10,000 Construction: \$42,000 Total \$52,000	4-6 years
Highway 55 North	Install pedestrian facilities on both sides of SH-55 north of Spring St through Lake Cascade Pkwy intersection; install multi-use facilities on the east side of SH-55 to the north bridge.	Moderate to Difficult	Design: \$20,000-\$80,000 Construction: \$150,000-\$250,000 Total \$170,00-\$330,000	4-6 years
Sawyer Street	Reconstruction of Sawyer Street to Collector road improvements.	Difficult	Design: \$100,000 Construction: \$1M-2M Total \$1.1M-\$2.1M	Beyond 6 years
Lake Cascade Parkway	Widen Shoulders to provide additional width for bikes and pedestrians; install "share the road" and wayfinding signs.	Moderate	Design: \$20,000 Construction: \$62,550 Total \$82,550	4-6 years
The Strand	Install wayfinding signage and bike stations	Low	Design: \$0 Construction: \$22,440 Total \$22,440	0-3 years
School Street	Construct paved pedestrian facilities on the east side of School Street from Lake Cascade Parkway to Cascade Street.	Moderate	Design: \$20,000 Construction: \$67,500 Total \$87,500	4-6 years

PLAN OF ACTION

Types of Improvements

The menu of options below provide some guidance on the types of facility investments Cascade may pursue in implementing improvements identified along the streets and trails within the City. The options are intended to provide cost-effective solutions that are proven to heighten safety and awareness.

Extruded Curb Side-walks



High Visibility Cross-walk



Bike Lanes

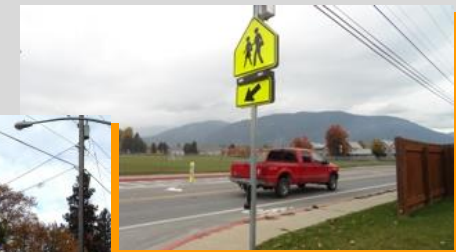
In-pavement Marker



Shared Lane Mark-ings



Buffered Bike Lanes



Rectangular Rapid Flash Beacon (RRFB)

PINE STREET

Pine Street from School Street to The Strand

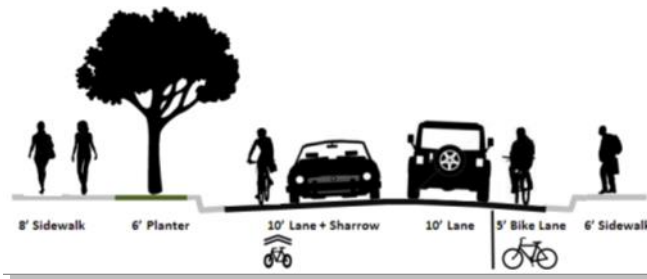
The Pine Street corridor is .35 miles and is a key east/west connection and links Cascade School to downtown and The Strand Trail. The road is only partially improved with a dirt road section east of north Front Street.

The land uses along the route are The Cascade School, Cascade Community Church, residential uses and The Strand trailhead.

Street Recommendations

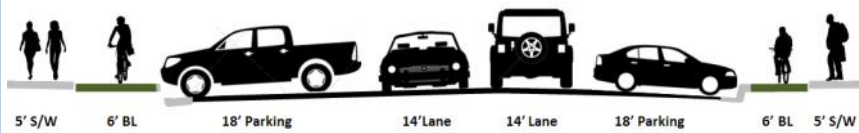
School Street to North Idaho

Pedestrian and Bike Realm– reconstruct street segment to accommodate all users, define the space, slow and calm traffic, and add a welcoming feel to the Cascade School complex. Using 47' of space (1.5' for each gutter pan + spaces depicted) would give students and residents a truly unique and accommodating street.



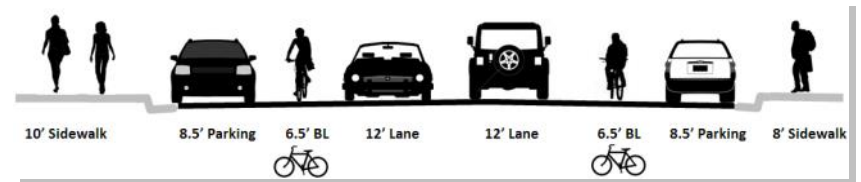
North Idaho to alley way

Pedestrian and Bike Realm– To take advantage of existing sidewalks and permit on-street parking, the one block section should be rebuilt by pulling the parking away from the buildings, and adding dedicated bike lanes. This approach minimizes conflicts by placing riders in front of parking and not in blind spots. With 90' of space from the back of both walking spaces, room for such a design is possible.



Alley way to Highway 55

Pedestrian and Bike Realm– For one block, reconstruct the roadway and the 78' of existing street width, using a design to take advantage of existing sidewalk space, and that accommodates on-street parking. Additionally, the intersection with Highway 55 has curb extensions, which require bicyclists to be aligned in a manner away from the curb.



Highway 55 to The Strand trail connector

Pedestrian and Bike Realm– this section is a mixture of paved and unpaved roadway and is mostly in residential areas and near the railroad spur. Minimal treatments are needed currently, though future consideration should be given to using the designs described when paving or significant reconstruction occurs.

- ◆ Short term, install wayfinding signage, bike fix-it station.

HIGHWAY 55 - SOUTH

Highway 55, from Pine Street to the South Bridge

The southern section of the Highway 55 corridor is approximately 1.45 miles and is comprised of two principal designs including a paved shoulder section mostly towards the south and a curb, gutter, sidewalk section in the downtown core. Ensuring adequate space along this section would allow a network to form for bicyclists and pedestrians and foster movement to land uses along the route and those that connect with the highway, like Kelly's Whitewater Park.

Land uses along this corridor include the downtown core, City Hall, The Cascade Store, D9 grocery, American Legion Hall, City Park, Fischer's Pond, The Strand trail, Kelly's Whitewater Park, Cascade Sports Complex, and Southern Valley County Recreation District.


Recommended Improvements: Highway 55 and Mill Road

-  Pedestrian Realm
 - ◆ Install rectangular rapid flash beacon


Highway 55 and Cascade Street

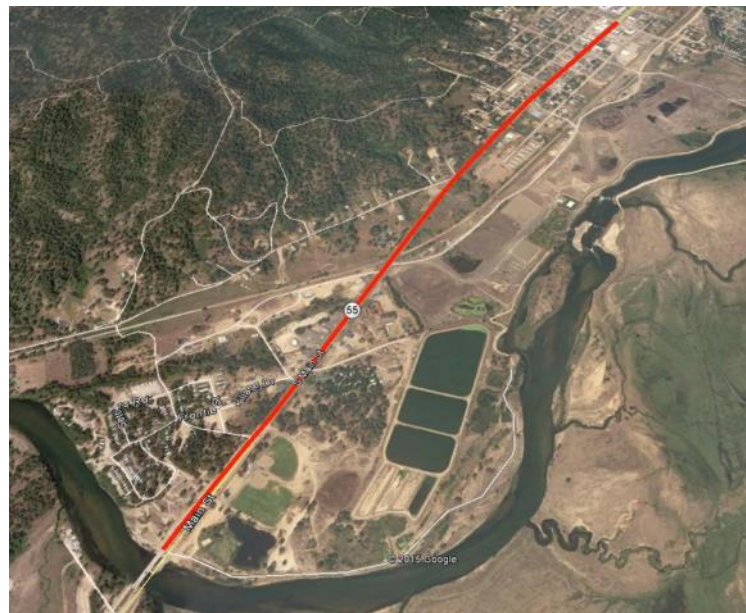
-  Pedestrian Realm
 - ◆ Install rectangular rapid flash beacon

Mill Street to Payette Street

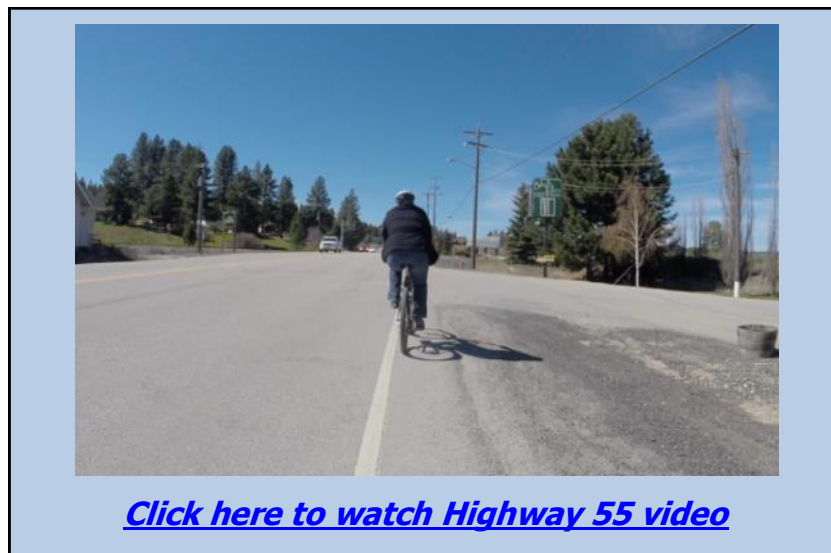
-  Pedestrian Realm
 - ◆ Construct curb, gutter and sidewalk in the same fashion as the blocks north.

South Bridge to Mill Street

-  Pedestrian and Bike Realm
 - ◆ Pave and extend the existing shoulders along the highway to a consistent five feet. This is particularly problematic from the South Bridge to the entrance of Kelly's Whitewater park.



While on site, the consultant team rode most of Cascade's streets and the Highway. Video footage was collected for later use and demonstration purposes. While watching, it is particularly evident how the existing paved shoulder shrinks as the bicyclist travels north. The usable space is minimized to a point where the users body and buffer space protrudes into the travel lane due to necessity and having a solid navigable surface.



[Click here to watch Highway 55 video](#)

HIGHWAY 55 - NORTH

Highway 55, from Pine Street to North Bridge

The northern segment of the highway corridor is 0.7 miles in length yet changes in design quickly as it heads north. From the Pine Street intersection to Spring Street, generous sidewalks are in place and intersection curb extensions utilized. From Spring Street north, the roadway loses all pedestrian facilities with the exception of a narrow and deteriorated sidewalk on the west side connecting Spring Street to Lake Cascade Parkway.

Land Uses: County Courthouse, Howdy's, the Ashley Inn, Family Dollar, LDS Church, National Forest Service, Water's Edge RV Park.

Recommended Improvements:

Pine Street Intersection

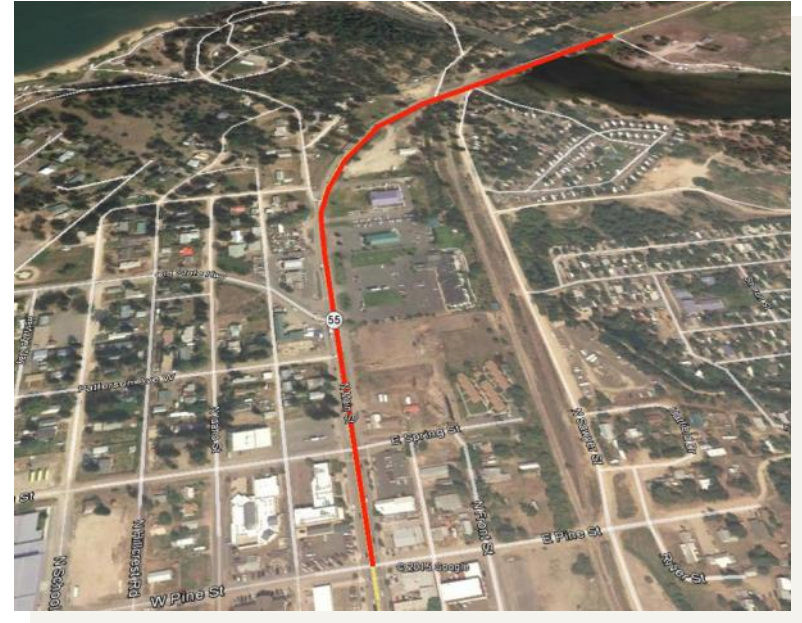
- ◆ Install Rectangular Rapid Flash Beacons

Spring Street to Lake Cascade Parkway

- ◆ On west side of highway, install asphalt sidewalks using existing roadway space until full reconstruction occurs in future.

Lake Cascade Parkway Intersection

- ◆ Reconstruct intersection to include high visibility crosswalk markings spanning Lake Cascade Parkway and Highway 55, pedestrian refuge island, and limited median as depicted in rendering below.



Lake Cascade Parkway to Dam Road

- ◆ Construct 6' sidewalk with 2' buffer on west side of roadway. Buffer can be stamped concrete or something similar to minimize long term maintenance by the City.

Crown Point Trail Connection


- ◆ Install high visibility crosswalk connecting to trail head and seek to extend reduced speed limits north of crossing and bridge.



Significant improvements are possible at the Highway 55/Lake Cascade Parkway intersection. The west leg of the intersection is over 120 feet wide, has high speed turning radii, and sees many large vehicle types including motorhomes and truck/boat set ups. Narrowing the crossing, elevating the pedestrian profile, and defining the travel spaces may improve the overall safety of the intersection and promote walking trips as sought by the residents of and visitors to Cascade.

HIGHWAY 55 - NORTH

Recommended Improvements:

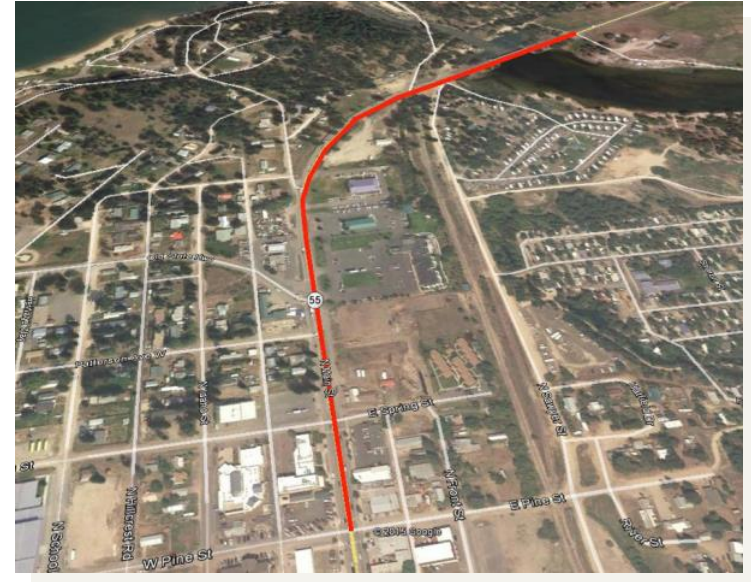
 Pedestrian and Bike Realm

Spring Street to Sawyer Street

Install a 12' two-directional sidepath. There is adequate public right-of-way to create a facility that allows both bicycle and pedestrian traffic on the east side of the highway. The facility should be buffered from the travel lanes using any number of appropriate techniques.

Buffers can be created using paint and reflective candles, curbing, planters and concrete barriers. The buffer space is needed between the Spring Street intersection and the northern driveway to the LDS church. From that point heading north, the pathway can be aligned to the inside of the existing bio swales as ITD right of way extends east into the corner of the corridor.

Such a connection allows both pedestrians and bicyclists to not only access downtown, but also connect from the lake to the Payette River, The Strand trail, the RV park, and Ashley Inn, and many other highly sought after locations.



Sidepaths shown include the new path along Highway 95 in Sandpoint (Upper left); Sun Valley (Upper right); and Highway 44, Glenwood Boulevard in Garden City (Lower left). Additionally, having a 12' path allows a full sized snow plow to operate without restriction. (Lower right)

SAWYER STREET

Sawyer Street

Currently, Sawyer Street is an unimproved corridor that is under varying control. If improved, this street could not only provide a valuable parallel route to Highway 55, but also be a catalyst to future economic development including businesses, new residential, and hospitality sectors. The road spans approximately 1.35 miles and connects with Highway 55 on both the south and northern ends of the city. The most unique opportunity this street provides is to utilize a completely new design that takes full advantage of the valley view sheds, the slightly elevated alignment from the river floor, and few intersections that foster safer bicycle interaction.

Land uses include Kelly's Whitewater Park, Southern Valley County Recreation District, and Water's Edge RV Park

Street Recommendations

 Pedestrian and Bike Realm

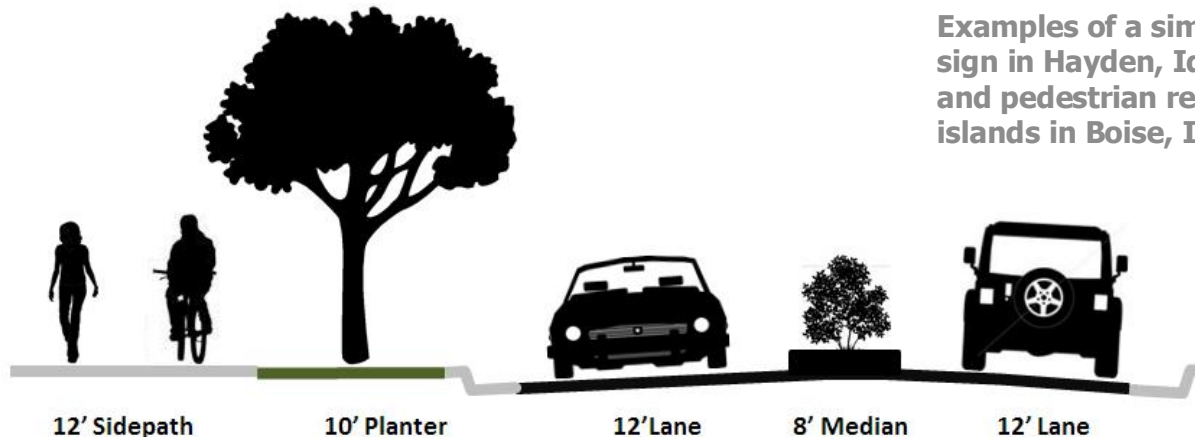
Work with Kelly's Whitewater Park, the Southern Valley County Recreation District, and the owner of the old mill site to jointly fund and construct a roadway that includes a 12' sidepath for pedestrians and bicyclists, a landscape buffer for street trees, two 12' travel lanes, and an 8' planter median. Such a design is intended to be low volume, and slower speeds and not intended to be a bypass to Highway 55. Additional care should be given to limit stormwater run off by using the planters for collection and drainage; intersections should include refuge islands and turn radii at intersections minimized.



An example of more modern storm water collection practices which would reduce and/or eliminate stormwater discharge into the nearby Payette River



Examples of a similar design in Hayden, Idaho and pedestrian refuge islands in Boise, Idaho.



LAKE CASCADE PKWY

Lake Cascade Parkway

This street link may only be a half-mile in length but it is a critical connection for the community. Lake Cascade Parkway, the old state highway, connects the modern day Highway 55 with Lake Shore Drive, the Cascade golf course and numerous state parks sites that dot the eastern shoreline. In between these two points are the Cascade Community Center, Cascade Medical Center, Cascade golf course, and several residential streets and neighborhoods.

Land uses along the route include Howdy's, Cascade Community Center, Cascade Medical Center, Cascade golf course, and Lake Cascade.

Street Recommendations

 Pedestrian and Bike Realm

The existing paved roadway is roughly 32' or less and includes a 5'-6' shoulder on the south side of the street. The shoulder is intended to provide a space for bicyclists and pedestrians in lieu of constructing full curb, gutter and sidewalk or bike lanes. Such upgrades would be difficult and expensive due to the lack of available right-of-way, grade, and drainage needs. In addition to serving active transportation users, the road also accommodates higher volume of large recreational vehicles and truck/camper combinations which necessitate improvements.

- ◆ Widen shoulder on the north side of the street to 5 feet, 6 feet where possible to balance the street. Due to the significant grade and instability of bicyclists, in the interim, restripe the road to allow a shoulder on the north side rather than the south. Since there are drastic speed differences between moving vehicles and either bicyclist or pedestrians the shoulder should be on the up-hill side of the street providing extra room and improve safety.



To watch video taken from the western portion of Lake Cascade Parkway Part I— [Click Here](#)



To watch video taken from the eastern portion of Lake Cascade Parkway Part II— [Click Here](#)

THE STRAND TRAIL

The Strand Trail

One of the true gems of Cascade is The Strand trail. The multi-use trail is located along banks of the Payette River and has some of the most stellar views in the valley. The trail spans 2.3 miles with multiple connection points.

Prominent land uses along The Strand include Fischer Pond, Cascade Athletic Complex, Southern Valley County Recreation District, Kelly's Whitewater Park, and Water's Edge RV Park.

Street Recommendations

The trail itself does not need any major improvements. What is needed for the trail to realize its full potential are several add-on elements that bolster overall appeal and functionality.

Connections

The trail has few official connections and several unofficial and less obvious connections. If a trail is limited to a few connections, it is limited in terms of accessibility. The farther a potential user has to travel to gain access to the trail, the more of a deterrent it poses.

Add connections at the following locations:

Water's Edge RV Park-

- ◆ Work with the property owner to determine the least invasive yet effective connection between The Strand and Highway 55/Sawyer intersection. Ideally this section should be paved as it would likely see high volumes of all user types.
- ◆ Seek to make the two unofficial connections of-ficial through either land purchase or property easements. Improve connections by improving surface and adding way-finding signage along Sawyer.



- ◆ When the old mill site develops, make an additional connection to the trail from the end of the currently platted loop road connecting to Sawyer Street.
- ◆ Make a future connection linking Mill Street and the trail and improve with paving and wayfinding.
- ◆ Formalize connection at the beginning of Kelly's Parkway to trail.
- ◆ Make a short connection between the end of the dirt parking lot north of Fischer's Pond and the trail.



[Video of the Stand Trail near Fisher Pond](#)

SCHOOL STREET

School Street

School Street is a street that is aligned parallel with Highway 55 and provides direct access to the Cascade School complex. Only portions of the road are currently paved and there are no plans for improvement in the near future.



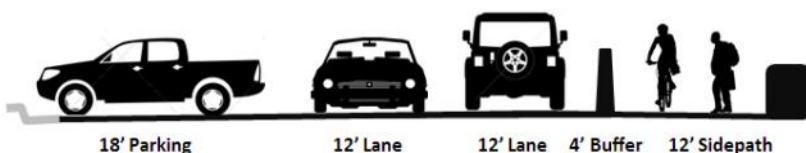
Land uses include housing, Cascade School, and Cascade Community Center.

Street Recommendations

Pine Street to Spring Street

  Pedestrian and Bike Realm

Refine the existing space in conjunction with parking lot changes to foster improved movement to and from the existing crosswalk. Add a vertical barrier to create a 12' sidepath and calm traffic.



Spring Street to Lake Cascade Parkway

 Pedestrian Realm

When the street segment is paved in the future, add 5' asphalt sidewalks to reduce project costs.

 Bike Realm

Also when street is paved, add shared lane markings 11'-12' from curb face according to MUTCD standards.



By reconfiguring the school parking lot and closing the western driveway, safety for school kids will improve due to a more orderly ingress and egress. The lot is well suited for this type of movement and has more than enough room to accommodate the volumes.



(Parking stalls are not to scale as the space, if organized, can accommodate roughly 90+ stalls as stalls are typically 10' wide)



Implementation

Implementation of the recommendations made in this plan will require a menu of options ranging from typical maintenance level improvements to special projects, which will require partnerships and additional funding sources.

Maintenance. Projects falling under “maintenance” generally consist of paint, smaller improvement projects like shoulder paving and in some instances, adding facilities such as sidewalks or paths. Bike lanes, shared lane markings, crosswalks, or newly defined pedestrian walkways can be done at any time using a small crew and paint truck or paint equipment.



Paint applications can be applied using a variety of tools including by hand.



Development. New development in the city should be required to contribute to the public transportation realm when appropriate. Future sidewalks, pathway connections, bike parking, and lighting are examples of elements vital to the system ripe for private investment. These systematic characteristics are common in most communities and if not constructed by the private sector will be borne by the Cascade tax payers.

Reconstruction. Streets are often reconstructed due to damage, wear, or for significant underground utility projects. For these regularly scheduled projects, coordination of recommendations from this

plan should be considered, reviewed and inserted into construction plans. Though improvements may take longer than anticipated with a standalone construction project, constructing new elements while reconstructing existing facilities can be financially advantageous.

Future Roadways. In the event of new streets being constructed in Cascade, sidewalks should be constructed and context considered when determining if attached or detached sidewalks are built. If the street is to carry local traffic only, bicycle facilities are likely not needed unless special circumstances are present. Bicycle facilities should also be added if the street provides collector like functions, has above average traffic volumes, or serves land uses which will be connected with or directly access those that have an expectation of attracting or generating bicyclists.

Special Projects. These kinds of projects occur out of the realm of normal operations, development, or even reconstruction. Special projects will include joint partnerships with railroads, pathway connections with ITD facilities, pathways in conjunction with parks and schools, or other such arrangements. These types of projects will take additional planning, dialogue and agreements as well as funding sources that may be grant related, endowment funds, or general purpose tax dollars.



FUNDING OPTIONS

Funding Options— Federal and state funding for active transportation projects is currently in a state of flux. The sources listed in the table below are viable options but are subject to change in the short term. More specific information about these funding sources, who applies for them, maximum award amounts, and timing cycles, can be found at the following sites:

http://itd.idaho.gov/bike_ped/undingGuide2013.pdf

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

Funding Source	Projects	Programs	Max Award	Local Match
Transportation Alternatives Program (TAP)	X	X	\$500,000	>7.34%
Recreational Trails	X		Varies	20%
Bikes Belong	N/A	X	\$10,000	
Community Development Block Grant (HUD)	X	N/A	Varies	Varies
5310, Enhanced Mobility for Seniors	X		Varies	>20%
Federal Lands Access Program	X		Varies	>7.34%
Highway Safety Grant Program	X	X	Varies	25%
ID ADA Curb Ramp Improvement Program	X		\$60,000	Not Req.
Idaho Community Foundation		X	\$5,000	Not Req.
Local Rural Highway Investment Program	X	X	\$100,000	Not Req.
5311, Rural Areas Formula Grants (Transit Focused)	X	X	Varies	8%-20%
5311 (F), Rural Formula	X	X	Varies	
Surface Transportation Program, Rural	X	X	Varies	>7.34%
USDA Community Facility Grants	X	X	Varies	25%
Rural Community Development Initiative		X	Varies	50%

Changing Policy

Cascade Policies and Regulations

The City of Cascade aspires to increase the access and safety of city streets for pedestrians and bicyclists. Current policies have begun to outline goals for how to make these improvements. The table below identifies specific chapters, goals, objectives and policies from the City Comprehensive Plan and City Code and suggests improvements to encourage more pedestrian and bicycle use and to likely enhance safety for those who want or need to walk and bike.

The policy support will only be implemented if the City changes the laws that govern how development occurs and the expenditures that it makes on infrastructure improvements. Included in the table are recommendations to consider revisions to the Comprehensive Plan and to adopt specific City standards for roadway design. There are also shorter term recommendations for lesser amendments to the code that could lead to improvements.

Additionally there are recommendations regarding transportation. The City should develop standard roadway cross-sections that require pedestrian and bicycle facilities and offer predictable clear guidance to developers and community members on what is expected. These cross sections should strive to provide safe facilities, including designated walking and bicycling surfaces which could include sidewalks, pathways, bike lanes, or other context sensitive tools. The City should also review the priorities for Capital Improvements and other planned expenditures on a regular basis in conjunction with the goals and projects listed in this plan.

Work cooperatively with Cascade School District in support of transportation policies that offer opportunities to show support for the health benefits of walking and biking and to set goals for encouragement of walking and biking. Idaho Smart Growth has developed examples of what such policies look like and can be viewed at the following link: <http://www.idahosmartgrowth.org/app/uploads/2014/05/Model-School-Policies.pdf>

What	Existing Policy	Recommendations
Chapter 2, Economic Development	"Maintain streets and sidewalks including snow removal."	This can be strengthened as it does not identify the parties responsible for maintenance or enforcement thereof. Adding code enforcement language can be helpful.
Chapter 2, Economic Development	"Encourage office uses on the upper levels of Main Street retail fronts" "Encourage the development of residential units within walking distance of the downtown retail-shopping district."	Both goals point to a higher concentration of population and users within and near a short distance of downtown. These goals reiterate the need to improve walkability and bikability within 1/4 to 1/2 mile of Main Street. Such goals should drive priorities of resources to be a catalyst to encourage such private investment.
Chapter 3, Transportation	"Where practicable and appropriate to the development and location within the community, require all new commercial and residential developments to provide safe and efficient bicycle and pedestrian connections to existing networks, or provide easements for new ones consistent with adopted plans"	City code is less ambiguous about pedestrian infrastructure and states: "Sidewalks shall be required on both sides of the street. Pedestrian walkways shall have easements at least ten feet (10') in width and include a paved walk at least four feet (4') in width. Sidewalks and crosswalks shall be constructed in accordance with the standards and specifications as adopted by the council and comply with ADA standards" Amend Comprehensive Plan language to reflect the requirements of facilities as per City Code.

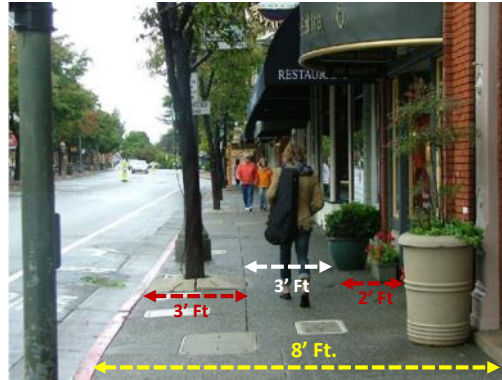
CHANGING POLICY

What	Existing Policy	Recommendations
Chapter 3 Transportation	<p>Collectors– ...“Recommended right-of way width for a 2-Lane collector is 80-120 feet with pavement width of 28 feet.”</p> <p>Local Streets– ...“Recommended right-of-way width for a 2-lane local street is 60-80 feet with pavement width of 26 feet.”</p>	<p>Create a series of street cross sections based on typology including residential, commercial/retail, and industrial. Collector street width including 10'-12' travel lanes, 5' bike lanes, and sidewalks of 5'-8' are desirable for Collectors. In certain instances other street characteristics such as landscape buffers, on-street parking, or furniture zones can be included.</p> <p>The only difference between Local Streets and Collectors to date is two feet of pavement. Local streets should also be subject to new street designs. Bicycle facilities are subject to the context of the local road, but not typical of local streets. Sidewalks or walking facilities are necessary as typically is on-street parking.</p>
Chapter 3 Transportation	Projects and Plans: “Another important community enhancement project is to obtain right-of-way and/or easement between State Highway 55 at the entrance to the Whitewater Park...This would facilitate a couplet with Sawyer Street and Highway 55...”	As per this plan, Sawyer Street should be improved and connected, however not as a couplet. Minimal, mainly local traffic that is two-way with significant bicycle and pedestrian facilities would boost access, enhance safety and stimulate economic development without faster moving one-way traffic like a couplet.
Chapter 3 Transportation	“Encourage new development to provide pathway connections between neighborhoods, parks, schools, shopping and other destinations....”	New developments could be subject to a connectivity index approach, and paths that bisect streets or connect with other streets at their terminus such as a cul-de-sac. (More information on the use of connectivity indices can be found at: http://www.vtpi.org/tdm/tdm116.htm)
Chapter 10 School Facilities	“Ensure that school facility planning is a collaborative effort between cities county and school district.”	Consider adding language that encourages school sites to be safer and efficient for walking and bicycling and for the schools to encourage such activities for those students able to participate in such modes.
City Code	“It shall be unlawful for any person to ride a bicycle upon a sidewalk within a business district of the City.”	With most of the business district aligned along Highway 55, for a portion of bicyclists riding on the Highway is not a desired option and thus riding on the sidewalks more likely. This language could be amended to define an age such as 10-12 (Idaho Falls has similar language), or state that bicyclists must yield the right of way to pedestrians.
City Code	“Sidewalks shall be required on both sides of the street. Pedestrian walkways shall have easements at least ten feet (10') in width and include a paved walk at least four feet (4') in width .”	Four feet is exceptionally narrow and meets the bare minimum for ADA compliance. Sidewalks in residential areas should be at least five feet but six is optimum. Sidewalk width should also be subject to the new street designs.

Needs of Walkers & Bikers

Human beings require space while walking or bicycling. The space we need is determined by our size and shape as well as our physical ability to move.

As a pedestrian, we require buffer space to feel comfortable. We need space above and to our side to be comfortable and avoid being struck with objects. The speed at which we move greatly differs as much as people do. Runners can run up to 10 miles per hour while mobility impaired individuals may move at less than 1 mile per hour.



Bicyclists require just as much consideration with regard to width, height, and speed. A child riding a bike will ride at a slower speed and can be less predictable. A mother may choose to use a bicycle chariot to carry a toddler, adding both length and width to her needed space.

Yet despite these normal human tendencies both the walking and bicycling realm are seldom given the depth of thought necessary to accommodate such variability and instead a limited few design options made the default.

The intention of this section is to highlight how humans can differ and why context is such a valuable contributor to planning, design and operation of our communities transportation infrastructure.

Dimensions of Humans: Pedestrians

Speed. Humans move at different speeds. Federal guidelines for crosswalks require enough time be given for people to walk at a 3.5 feet per second pace or 2.38 miles per hour. In many instances this may be appropriate, but in areas with school zones, population of senior citizens, or those with mobility limitations, additional time may be appropriate given user ability.

Width. The space we occupy also extends to our sides as much as in front or behind our bodies. Generally, an adult is 12-24" wide, but with an additional six inches of comfort space, a person may need up to three feet to feel comfortable walking in a given space. If a person is wheelchair bound, walking with another adult or child, the width demands are greater. Furthermore, if in an environment with opening doors, fences, mail boxes, and street furniture, space can become narrowed and less accommodating.

Height. Though still a factor, height is generally less of an issue for walkers as it may be for bicyclists. The taller of Americans are between 6'-6-3". To accommodate the normal height and beyond an 8' vertical minimum should be observed.



Other Needs. Other common users also need to be accommodated in various ways. A wheel chair user needs facilities to be compliant with ADA so that they are able to safely negotiate sidewalks, curb ramps, crossings and other such facilities. An elderly person using a walker for assistance is also in need of a relatively flat and smooth surface free of trip hazards. Parents pushing strollers, dog owners walking their dogs, and even the physiological changes seen in American populations with the epidemic of obesity, all have concerns and considerations when choosing how to design a pedestrian network.



Pedestrians can embody multiple user types and abilities. Travel speed, buffer spaces, and land uses can all shape the facilities used and the environments where people either flourish or struggle.

Though often lumped together in the same category as pedestrians, bicyclists are very much their own category of road user. A bicyclist can be a child on a small bicycle traveling at a slow speed, a novice rider on a beach cruiser type bike out for a weekend ride or an expert road rider who may travel at speeds equal to moving traffic for the purposes of commuting. Each type of rider and circumstance is unique and deserving of specific context analysis to determine facility type.

Bicyclist Type

Just as there are a wide variety of pedestrian types, there are also several bicyclist types. The newest way to view population segments was created in 2006 by Roger Geller with the City of Portland. The four types described by Mr. Geller give a more relatable illustration as to the desires of bicyclists ranging from those willing to ride in any conditions or in any traffic scenario to those totally unwilling to ride under any circumstance.

- ◆ **The Strong and Fearless.** These are the people who will ride regardless of roadway conditions. They are ‘bicyclists’ and riding is a strong part of their identity and they are generally undeterred by roadway conditions.
- ◆ **The Enthused and the Confident.** Those who have been attracted to cycling because of supporting infrastructure. They are comfortable sharing the roadway with automotive traffic, but prefer to operate on their own facilities.
- ◆ **The Interested But Concerned.** Curious about bicycling and about the need for people to lead more active lives, they would like to ride more, but, are afraid to ride.
- ◆ **No Way, No How.** This group is currently not interested in bicycling at all, for reasons of topography, inability, or simply a complete and utter lack of interest.

Sources:

<http://www.portlandoregon.gov/transportation/article/264746>

<http://bikeportland.org/2006/12/07/what-type-of-cyclist-are-you-2650>

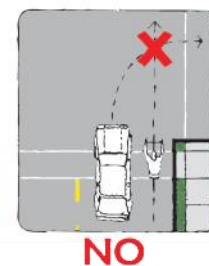
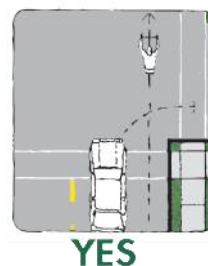
Dimensions of Humans: Bicyclists

Speed. Typically, most bike riders travel between 12-15 miles per hour. However, this can greatly vary as older riders or young children could ride slower than 10mph while expert, well conditioned riders as high as 25mph.

Width. Depending on the bicycle and to a degree the rider, width is generally defined as the width of the handlebars plus buffer space of one foot on either side. However this dimension could increase with the use of panniers, a child chariot or unique bicycle.

Height. Often a bicyclist has no greater demands for vertical clearance than does a pedestrian, however that can change for taller individuals or for bike riders riding bikes with frame dimensions outside the normal sizes. Eight feet vertical clearance is regarded as the minimum for objects, signs or landscaping.

Other Needs. Often overlooked when thinking about bicyclists and their needs are other features not always synonymous with ‘infrastructure’. System elements such as safe, stable, and usable bike racks, space free of debris and obstruction, and a driver awareness of poor etiquette such as ‘right hooks’ and overtaking without giving bicyclists at least a 3 foot buffer., are all critical to making a communities investment into bicycle infrastructure successful and valued.



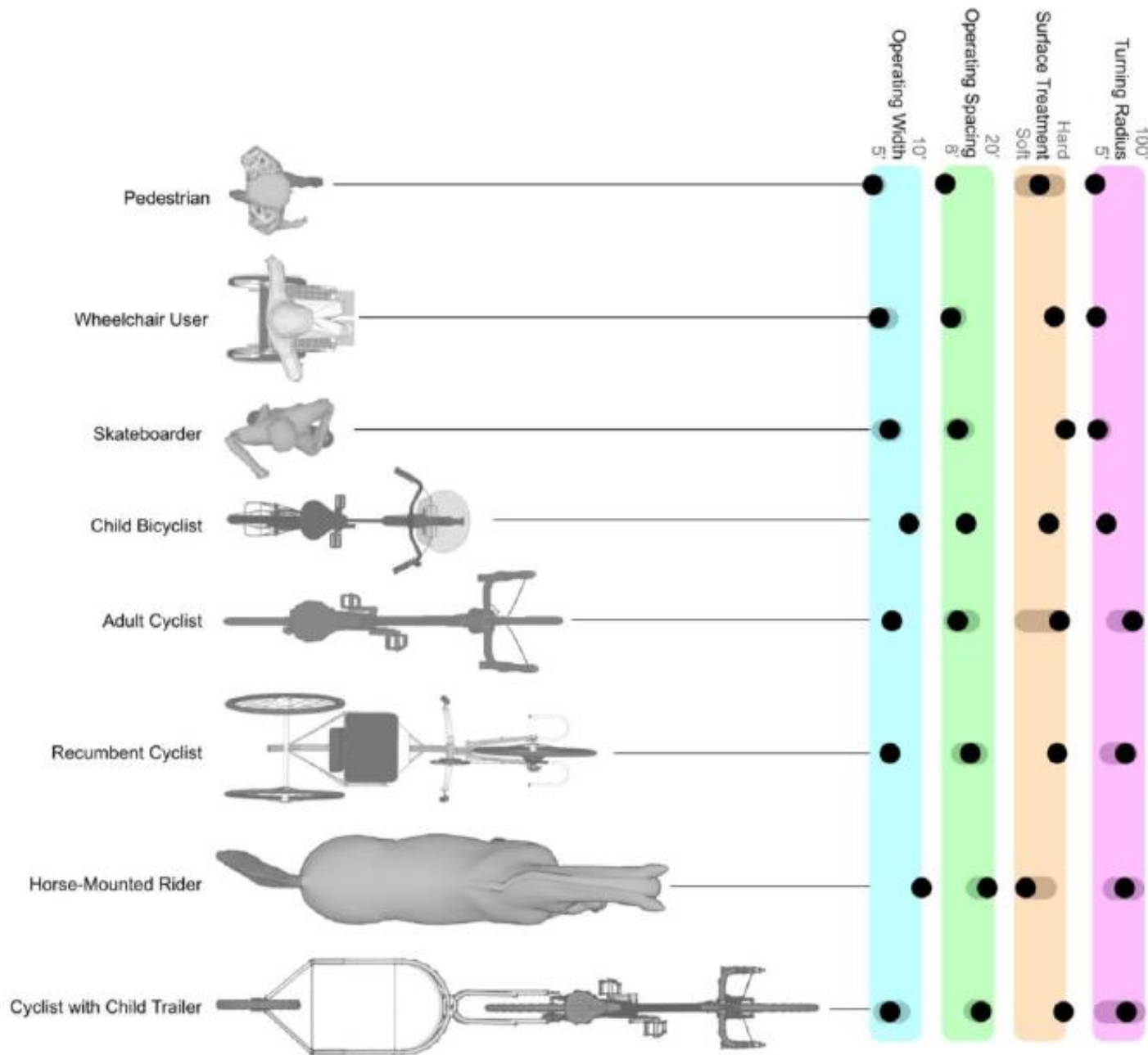
‘Right Hook’ Source:

‘3 Foot Rule’ Source:

<http://www.mybikeadvocate.com.html>

<http://onespeedgo.blogspot.com>

The illustration below shows the different operating dimensions of pedestrians and bicyclists, as well as other multi-use trail users. It shows why planners and designers should be careful when identifying design options for facilities that incorporate these many user needs.



Typical operating widths, spacing requirements and turning radii depend on forward velocity as well as the experience of the operator. Skilled skateboarders frequently turn in less than the length of their own skateboards, for example. The preferred surface treatment for an adult cyclist will also depend on the type of bicycle (e.g., road or mountain or hybrid) that is being ridden as well as the purpose of the ride, for example, commuting as opposed to recreation.

Illustration: J. Scott Lane