

Seattle Department of Transportation

SEATTLE PEDESTRIAN MASTER PLAN 5-YEAR IMPLEMENTATION PLAN AND PROGRESS REPORT



DECEMBER 2019



Seattle
Department of
Transportation



Dear Neighbors,

To help Seattle become a thriving, equitable community, we must create a city with safe, affordable, accessible, and dependable transportation options. As more people choose walking as a transportation mode in Seattle, the reliability of our pedestrian network is more important than ever. Most everyone uses our pedestrian network at one time or another, whether it's walking a few steps to the bus stop or a car or navigating the city by wheelchair or mobility device. To meet the needs of all types of pedestrians, we're committed to achieving our Pedestrian Master Plan (PMP) vision of becoming the most walkable and accessible city in the nation.

Seattle currently lacks sidewalks on about 26% of its streets and has large gaps in pedestrian crossings throughout the city. To advance the PMP vision and address the needs in our pedestrian network, the 2020-2024 PMP Implementation Plan establishes a clear framework for upgrading the pedestrian system. The plan not only sets forth a list for constructing new sidewalks, walkways, and crossings in the highest-priority locations, it also reports on how far we have come in developing our pedestrian network and making Seattle safer, more comfortable, and more accessible for pedestrians.

The 2020-2024 project list includes 163 blocks of new sidewalks and walkways we will construct as well as 147 intersections that we will evaluate for new or upgraded pedestrian crossings. These efforts build on the 50-56 new blocks of sidewalks and walkways being installed in 2019, and the 85 blocks we completed over the past three years.

We know that safe pedestrian facilities are a key strategy to achieve our Vision Zero goal of eliminating traffic deaths and serious injuries by 2030. We closely track pedestrian crashes in Seattle and report on these annually in the PMP Implementation Plan. There has been an uptick in pedestrian crashes and fatalities so far in 2019. This is unacceptable and reinforces our need to continue building dedicated pedestrian spaces and crossings prioritized based on safety data.

To more quickly complete the sidewalk network and enhance safety and comfort for pedestrians on our streets, we are constructing "cost-effective walkways" along with traditional concrete sidewalks to maximize our resources and stretch our investments further. Cost-effective walkways use lower-cost materials and construction methods to provide dedicated pedestrian facilities and can typically be installed for less than one-half the cost of traditional sidewalks. Cost-effective walkways make up about 42% of the blocks of sidewalks we will deliver between 2016 and 2024 and are a key element of our PMP implementation strategy.

In addition to new infrastructure, we are rapidly advancing pedestrian-focused policies and initiatives that promote safety and accessibility for people who walk. In 2019, we adopted a new policy to encourage leading pedestrian intervals at traffic signals and have worked to reduce speed limits within urban villages and key corridors, which we will continue in the coming years.

As we implement the PMP, we look forward to continuing to work with Seattle's dedicated residents to deliver projects, programs, and policies that advance our vision of becoming the most walkable and accessible city in the nation.

Sincerely,
Sam Zimbabwe
Director, Seattle Department of Transportation



CONTENTS

Chapters

1. Introduction	5
2. Project Delivery	7
3. Cost-Effective Walkways	8
4. Capital Project Selection Framework	10
5. Sidewalk Repair Prioritization Framework	22
6. Accessibility	27
7. Art and Enhancements	29

1. INTRODUCTION

BACKGROUND

Most of us are pedestrians at one time or another during the course of a day. Whether it's a walk to school or the bus stop, a few steps to our car, or a few miles around Green Lake, we walk to get places and to get exercise. Whether we are 8 years old or 80 years old, in a stroller, or navigating streets in a wheelchair, supporting a walkable city that's safe, vibrant, equitable, and healthy is key to our collective quality of life. It's also a critical component of achieving Seattle's Vision Zero goal of ending traffic deaths and serious injuries on city streets by 2030. And a safe, complete pedestrian network will support Seattle's Age Friendly efforts to make our communities great places to grow up and grow old.

As Seattle continues to grow, how can we become an even more walkable, accessible city for all? That's the question our Pedestrian Master Plan (PMP) helps to answer, and it's the vision we work to achieve.

To turn that vision into a reality, the PMP calls for improving walkability and accessibility by completing and maintaining Seattle's pedestrian network, focusing investments on streets near schools and frequent transit. Not only does the PMP aim to increase access and safety for people walking, it also establishes strategies and actions that prioritize vibrant public spaces and complete streets to make walking a more comfortable and enjoyable experience. Additionally, the PMP acknowledges the critical role of awareness campaigns to promote health and safety.

The PMP Implementation Plan comprehensively addresses near-term improvements to the

pedestrian environment in Seattle. It recognizes that improvements are developed by both public and private stakeholders and identifies projects and programs that, combined with existing facilities, will make considerable progress towards achieving the PMP vision within the next five years.

Since 2016, the Seattle Department of Transportation (SDOT) has advanced PMP implementation with the voter-approved Levy to Move Seattle. Updated in 2017, the PMP is one of four modal master plans funded by the Levy to Move Seattle: pedestrian, bicycle, transit, and freight. Together, they provide a blueprint for guiding safety and mobility investments through a time of unprecedented growth.

PURPOSE

With significant gaps in Seattle's pedestrian network, including 26% of blockfaces citywide missing sidewalks, this implementation plan describes the work that SDOT and our partners will undertake to implement the PMP over the next 5 years. We update the implementation plan each year to:

- Provide an annual list of projects we plan to build
- Serve as an accountability and reporting tool
- Guide future budget requests

REPORTING REQUIREMENTS

Consistent with [Council Resolution 31743](#), the appendices of this implementation plan will be updated annually by September 1 of each year. Adjustments are made to the project lists and maps in the report appendices to reflect changes to project schedules and project types.

Also, consistent with Council Resolution 31743, the PMP Implementation Plan includes:

- A prioritized list of SDOT's pedestrian capital investments
- A cost and funding summary
- A summary of pedestrian-related initiatives
- Cost-sharing opportunities with utilities and private investment

In the appendices of this plan, we also submit an annual progress report with updated performance measures. The PMP Implementation Plan and progress report are developed with input from the Seattle Pedestrian Advisory Board (SPAB).



Commonly Used Acronyms in this Report

Acronym	Definition
PMP	Pedestrian Master Plan
PIN	Priority Investment Network
SPAB	Seattle Pedestrian Advisory Board
BPSA	Bicycle and Pedestrian Safety Analysis
ATR	Along the Roadway
CTR	Crossing the Roadway

2. PROJECT DELIVERY

We rely on key tools and practices to develop and deliver our projects, including conducting a Complete Streets review, applying the Race and Social Justice Initiative equity toolkit, engaging with the public, and evaluating alternatives. Our public engagement process focuses on soliciting community input to ensure projects achieve their goals while balancing community interests. We describe these tools here and combine them along with guidance in the PMP to direct the project delivery process.

COMPLETE STREETS POLICY

Pedestrian facilities are an integral aspect of [Complete Streets](#). Established in 2007, the Complete Streets ordinance guides how we develop projects to provide for all users of the roadway. We use a checklist to help us review the needs of other modes, relationships to land use, and the future vision for streets so that we can reflect those needs in our project development. Complete Streets checklists also allow us to identify coordination opportunities with other capital projects and ensure that we are delivering pedestrian improvements efficiently.

RACE AND SOCIAL JUSTICE INITIATIVE

The vision of the City of Seattle's [Race and Social Justice Initiative](#) is to eliminate racial inequity in the community. To do this requires ending individual racism, institutional racism, and structural racism. The [Racial Equity Toolkit \(RET\)](#) lays out a process and a set of questions

to help evaluate and guide project and program development. The toolkit is used at the program level to evaluate and improve program delivery and is also used to evaluate and guide project investments.

PUBLIC OUTREACH AND ENGAGEMENT

During the planning, design, and construction phases of all our projects, we plan for inclusive public outreach and engagement and strive to balance varying needs presented by comments that we receive at each step of our outreach processes.

We have developed an effective public engagement process built on gathering input from community members about their needs and concerns, presenting them with options that meet project goals and objectives, and incorporating their input along with our expertise and collected data in selecting a design for a particular project.

We use a wide variety of methods to reach stakeholders and community members, including mailers, drop-in events, and taking information to regularly scheduled meetings and events of business and community-based organizations. We will continue working with SPAB and the Department of Neighborhoods to strengthen our public outreach strategies and reach more people in engaging ways, including traditionally underserved communities and communities of color.

3. COST-EFFECTIVE WALKWAYS

COST-EFFECTIVE WALKWAYS

Recognizing that approximately 26 percent of all blockfaces in Seattle lack sidewalks and that traditional concrete, curb and gutter sidewalks cost \$350,000 or more per block to construct, we work to maximize resources and provide sidewalks to more streets as quickly as possible by using lower-cost walkway improvements where feasible. Walkways can often be installed for less than one-half the cost of traditional sidewalks and allow us to use our available

resources for pedestrian facilities to provide improvements across a larger portion of the city. There are a variety of walkway treatments we can use, and selected treatments depend on the street, including the available right of way, drainage needs, impacts to parking, street slope, and the location and number of driveways. We continually explore new and innovative solutions to reduce the cost of sidewalks, and the walkway treatments currently in our toolbox include:



Grade-separated asphalt walkways (can be stamped or stained)



Delineated, at-grade concrete or asphalt walkways



Painted walkways



Shared space with calmed traffic

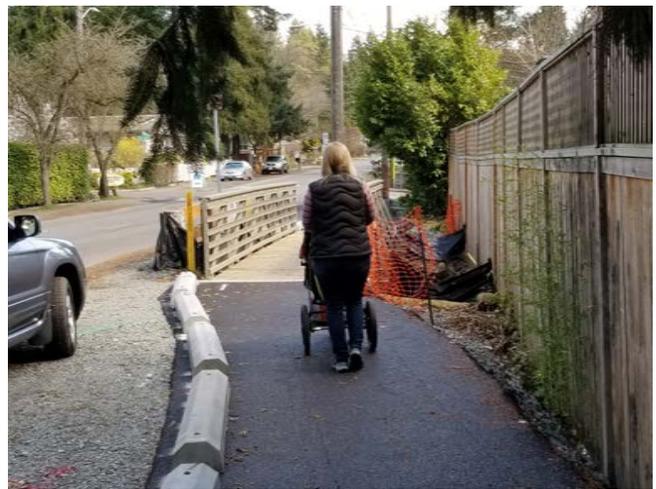
As we implement the PMP, we'll continue to use cost-effective walkways where appropriate. Non-arterial residential streets generally have the lowest traffic volumes and are the most ideal locations to provide these treatments while supporting comfortable and inviting spaces for pedestrians. For this reason, cost-effective options will be the most common treatment for non-arterial streets. With higher speeds and traffic volumes on arterial streets, our goal is to install grade-separated concrete sidewalks

with curb, gutter, and a buffer from moving vehicle traffic. There may be opportunities, however, for an incremental approach, where cost-effective walkway improvements are completed before full sidewalk, curb, and gutter can be installed. To ensure we're efficiently using PMP implementation and partner funding, we will evaluate all new sidewalk projects for their potential for cost-effective options while prioritizing pedestrian safety and comfort.

Recent Cost-Effective Walkways



S Kenyon St between Rainier Ave S and 52nd Ave S



NE 110th St between 35th Ave NE and 36th Ave NE



S Byron St between MLK Jr Way S and Rainier Ave S



N 100th St between Linden Ave N and Aurora Ave N

4. CAPITAL PROJECT SELECTION FRAMEWORK

As discussed throughout this plan, pedestrian improvements in Seattle, including new sidewalks, crossing upgrades, and public space enhancements, are delivered by various public and private stakeholders, including utility providers, outside agencies, and private developers. Recognizing that our partners are contributing towards the PMP’s vision, we use a data-informed process to prioritize PMP implementation funding to leverage the contribution of partner projects and equitably deliver the highest value mobility and safety improvements for pedestrians. The following

chapter describes the process we are using to prioritize near-term investments that move Seattle toward being the most walkable city in the nation.

PIN DEVELOPMENT AND SCORING

The PMP defines a “Priority Investment Network” (PIN) that identifies the locations most in need of pedestrian improvements and are the focus of our investments. The PIN is comprised of streets and pedestrian crossings that serve as key routes to K-12 public schools and frequent transit stops, as defined by the following walkshed analyses.

Factor	Source	Scoring
¼ mile walkshed to all K-12 Seattle Public Schools	SDOT GIS	Scoring is binary: either a segment is included or it is not. There is not a higher weighting for segments that fall within multiple walksheds. A street segment is included within the PIN if any portion of that segment lies within the prescribed walkshed distance to a K-12 Seattle Public School.

Factor	Source	Scoring
Frequent Transit Network arterials	Transit Master Plan	Scoring is binary: either a segment is included or it is not.
Walksheds to Frequent Transit Network stops ⅛ mile to frequent bus stops ¼ mile to all Bus Rapid Transit (BRT) and Streetcar stops ½ mile around all Light Rail Transit (LRT) stops ½ mile around all existing or planned transit hubs*	Transit Master Plan	Scoring is binary: either a segment is included or it is not. There is not a higher weighting for segments that fall within multiple walksheds. A street segment is included within the PIN if any portion of that segment lies within the prescribed walkshed distance to a frequent transit stop.

*Transit hubs are where an existing or planned LRT, BRT or streetcar route, as identified in the Transit Master Plan, intersects with at least one other of these routes.

The PIN includes:

- "Crossing the Roadway" (CTR) locations: pedestrian crossing opportunities at arterial intersections—a total of 4,293 locations
- "Along the Roadway" (ATR) locations: opportunities to improve pedestrian safety and comfort along blockfaces—a total of 24,105 locations

We also assigned a base score to each street segment and intersection within the PIN that accounts for various health and equity factors (focusing on the City's [Race and Social Justice](#) goals), as well as safety factors for arterial streets and intersections. These scores provide the foundation for prioritizing projects for implementation.

FILTERING THE PIN FOR IMPLEMENTATION

The number of potential projects in the PIN greatly outweighs the funding we expect to have available over the next 5 years. Additional criteria are needed to filter the PIN and create a data-informed process to select the highest-priority projects that align with the funding available. The PMP directs us to select near-term projects by building upon the quantitative scoring completed during PMP development and adding qualitative factors to the selection process, including leveraging opportunities, policy directives, community interest, and geographic balancing. These quantitative and qualitative

factors provided the basis for selecting projects for the work plan. Using this project list, we then field checked each project site and adjusted the final list based on the feasibility of constructing an improvement at each location.

Leveraging Opportunities

There are several ways we can leverage funding and resources to reduce implementation costs for pedestrian improvements. The first way is through project coordination. Integrating sidewalks, lighting, and crossing improvements into the construction of adjoining capital projects results in significant cost savings and efficient delivery of improvements. The *Major Projects Update* chapter identifies pedestrian improvements that will be constructed with large capital projects planned throughout Seattle.

We have also developed a process for determining whether PMP funding should be dedicated to future coordinated projects. To evaluate these opportunities, we divided up streets and intersections within the PIN into 5 tiers based on their total scoring (detailed in the table below). During the scoping phase of new capital projects, we identify any crossings or streets in the top 2 tiers that are within the boundaries of the capital project. If these streets or intersections warrant pedestrian investments, we may dedicate PMP implementation funding to the project to build out these improvements and incorporate them into our project list.

Project Tiers and Total Scoring Ranges					
Project Type	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
CTR: Unsignalized Intersections	60-90 (max score)	47-59	36-46	25-35	0-24
CTR: Signalized Intersections	66-84 (max score)	56-65	46-55	35-45	18-34
ATR: Arterials	83-115 (max score)	66-82	51-65	37-50	5-36
ATR: Non-Arterials	48-69 (max score)	34-47	23-33	13-22	0-12

We also leverage our own investments by including “gap fillers” into our sidewalk projects. For example, if 2 blocks missing sidewalks prioritize in the PIN for new sidewalk funding, but are separated by a third block that is also missing sidewalks and does not prioritize, we still package all 3 blocks of sidewalk for construction. This helps us avoid creating a piecemeal sidewalk network and takes advantage of project coordination and cost-saving opportunities.

Federal and state grants provide additional ways to help fund pedestrian infrastructure improvements prioritized in the PIN. As outlined in the PMP, both the State of Washington and the US Department of Transportation offer grant programs designated for non-motorized transportation facilities, which can be used for new sidewalks and crossing improvements.

Policy Directives

The Mayor and City Council frequently adopt plans, policies, and resolutions that direct us

to prioritize certain projects or criteria in our implementation strategy. These directives allow elected officials to respond to the needs of their constituents and accelerate top priority projects. We incorporate policy directives into our work plan and reprioritize projects as warranted by Mayor and City Council action.

An example of a policy directive that informed our PMP implementation strategy is the Age-Friendly Communities Resolution ([Resolution 31739](#)) adopted by the Mayor and City Council in March 2017. This policy directs us to incorporate age-friendly considerations into the PMP Implementation Plan. To respond to this measure, we’ve partnered with the Human Services Department (HSD) to develop an additional “age-friendly” scoring factor that accounts for older adult population density (first-mile network) and older adult-focused destinations (last-mile network) throughout Seattle to shift project prioritization based on these factors. This scoring was added to the base PMP scoring.

Category	Factor	Source	Scoring
First-Mile Network	Percent population over 64 years old by census block group	US Census Bureau	0: 0-7% over 64 y/o 2: 7-13% over 64 y/o 4: 13-20% over 64 y/o 6: 20-32% over 64 y/o 8: 32-58% over 64 y/o
Last-Mile Network	¼ mi to Congregate Meal Program sites for older adults	HSD GIS	Scoring is binary: scoring is either 0 or 1 based on inclusion in the congregate meal sites walkshed.
	¼ mi to senior centers	HSD GIS	Scoring is binary: scoring is either 0 or 2 based on inclusion in the senior centers walkshed.
	¼ mi to health care facilities	US Department of Health and Human Services	Scoring is binary: scoring is either 0 or 2 based on inclusion in the health care facilities walkshed.

Community Interest

Local community members and stakeholders often express interest in pedestrian improvements that are considered priority projects for their neighborhood. To determine which neighborhood priorities should be included in the PMP work plan, we monitor public requests for improvements and balance this with the project’s PIN scoring on a case-by-case basis. Projects with community backing that rank within the top two PIN tiers are reprioritized for implementation in the PMP project list as funding is available. We also look at neighborhood plans and transportation studies to determine which requested projects have been identified as community priorities.

To assist with community requested projects, we leverage partnerships with the City’s community grant programs, including Neighborhood Street Fund, Neighborhood Matching Fund, and Your Voice, Your Choice, to identify community priorities. We contribute PMP implementation funding to these projects where warranted by PIN scoring and where grant funding is unable to cover the full cost of the projects.

Geographic Balancing

In addition to selecting projects based on health, equity, safety, and age-friendly factors, we ensure

that the project list achieves a sound geographic balance without undermining its focus on equity. The PIN map at the end of this chapter highlights the geographic discrepancies in the existing pedestrian network. For example, North Seattle has the greatest gaps in the arterial sidewalk network while South Seattle has a significant number of missing sidewalks on non-arterial streets. This data helps to inform our distribution of project types to ensure that we invest in projects where they are most needed.

After applying all scoring factors to the CTR and ATR locations on the PIN, including the equity/health score, the age-friendly score, and the urban village score (explained in detail below), we found that the distribution of projects were well-balanced citywide with most projects allocated to areas with less-developed pedestrian networks. No additional adjustments were made to redistribute projects geographically.

PRIORITIZATION OF PROJECT TYPES

To develop the final project selection for the PMP work plan, we separated CTR and ATR projects into four project types (shown in the table below) that correspond to the type of improvement(s) that would be made at each location and the budget necessary to implement these projects:

Project Treatments and Assumed Costs*		
Project Types	Treatments	Assumed Cost
CTR: Unsignalized Intersections	New Signal (Full)	\$350,000 - \$500,000
	New Signal (Pedestrian)	\$250,000 - \$500,000
	Rectangular Rapid Flashing Beacons	\$50,000/pair
	New Crosswalk Striping with Signs	\$5,000 - \$10,000
	Pedestrian Refuge Island	\$10,000 - \$30,000
	Curb Bulb/Curb Extension	\$40,000 - \$150,000/corner
	Painted Curb Extension	\$10,000 - \$15,000/corner
	Curb Ramp	\$15,000 - \$20,000/ramp
CTR: Signalized Intersections	Signal Timing Revisions (e.g., Leading Pedestrian Intervals)	\$5,000 - \$50,000
	Turn Restrictions	\$3,000 - \$10,000
	Curb Bulb/Curb Extension	\$40,000 - \$150,000/corner

Project Types	Treatments	Estimated Cost
ATR: Arterials	Traditional Sidewalks	\$350,000 - \$800,000/blockface
ATR: Non-Arterials	Painted Walkways	\$15,000 - \$30,000/blockface
	At-Grade Concrete or Asphalt Walkways	\$50,000 - \$150,000/blockface

*Estimated costs are for the current year and are not adjusted for inflation.

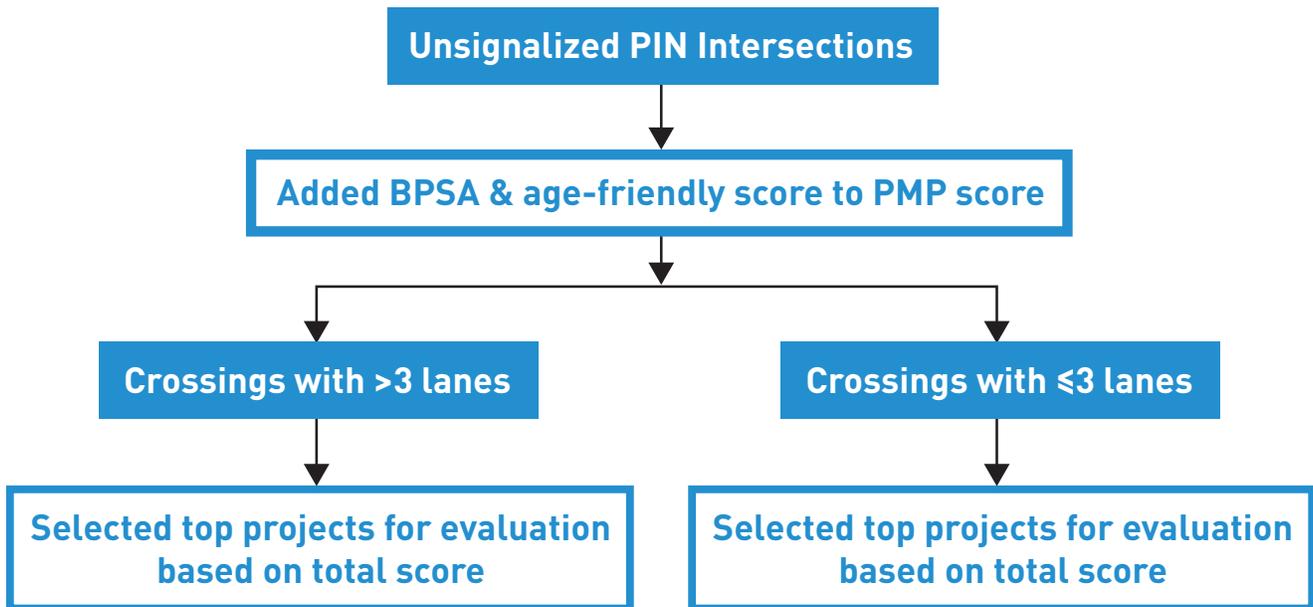
Other PMP-funded improvements, including new stairs and pathways, Safe Routes to School projects, pedestrian lighting, and sidewalk repair, use separate prioritization processes to meet specific program needs.

Crossing the Roadway: Unsignalized Intersections

Intersections undergo extensive case-by-case evaluations to determine whether a pedestrian crossing is appropriate. If an intersection meets our guidelines for a crossing, we evaluate what treatments should be installed to best enhance safety for pedestrians. We look at factors such as traffic speeds and volumes, pedestrian volumes, the number of roadway lanes, and the distance to the nearest controlled crossing when identifying crossing improvements. For this reason, we are not able to scope every individual crossing treatment to be implemented over the next 5 years based on our existing data alone. Instead, we use the PMP scoring to select intersections to evaluate for crossings.

With existing unsignalized intersections, we know that providing crossings on streets with more than three lanes of vehicle traffic typically requires a new traffic signal due to the risk of a multiple threat collision—a situation on multi-lane streets where a driver in one lane stops for a pedestrian, obscuring the view between the driver in the adjacent lane and the pedestrian. The pedestrian continues to cross the street and a collision occurs as the driver in the second lane continues through the crosswalk. Streets with three or fewer lanes, however, may only need a simple marked crosswalk, curb extension, or flashing beacon, which are significantly less costly treatments. For this reason, we separated these 2 types of crossings when selecting intersections to evaluate.

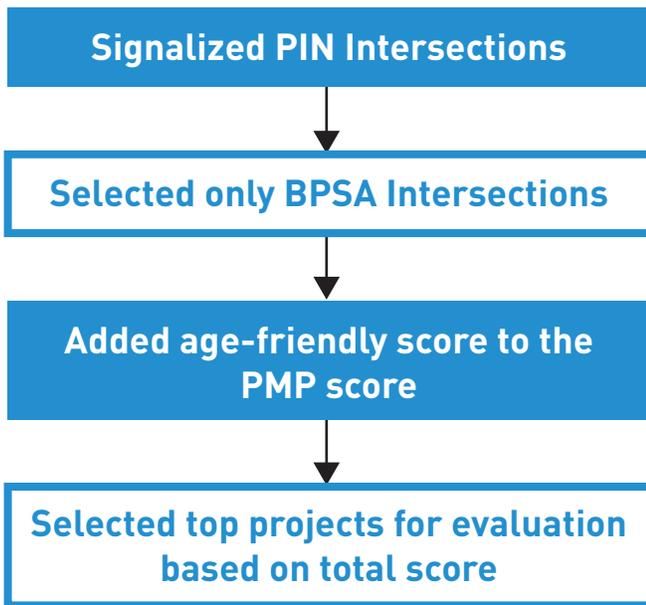
In our prioritization process, we also included a binary scoring factor (score of either 0 or 5) based on whether the intersection was identified as a “higher priority intersection for pedestrians” in our Bicycle and Pedestrian Safety Analysis (BPSA). The BPSA examines collision patterns to



proactively identify locations and prioritize safety improvements with the goal of preventing future crashes. We added the BPSA score to the PMP base score and age-friendly score to produce a total score to use in selecting the intersections to evaluate.

Crossing the Roadway: Signalized Intersections

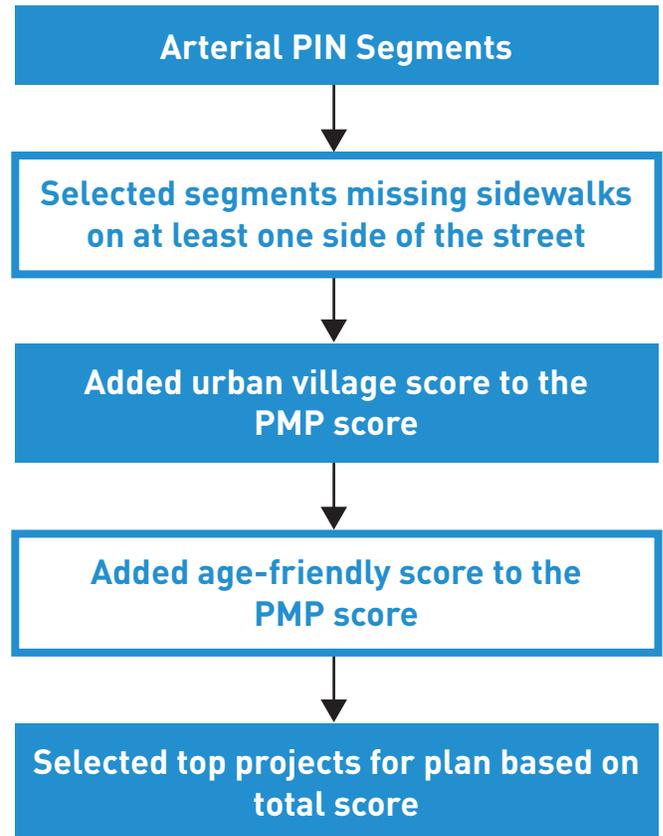
Most of the higher priority intersections in the BPSA are existing signalized intersections. Recognizing that these intersections have characteristics correlated with higher rates of pedestrian collisions, we're focusing our signalized intersection investments only at these locations. Using strategies such as leading pedestrian intervals, turn restrictions, protected turning movements, countdown signals, and curb extensions, we selected signalized intersections based on the total project scoring.



Along the Roadway: Arterials

To complete the prioritization of arterial blocks for new sidewalk construction, we started with all arterial blocks within the PIN, then selected all blocks that were missing sidewalks on at least one side of the street, recognizing that arterials are high priority for full sidewalk construction on both sides of the street.

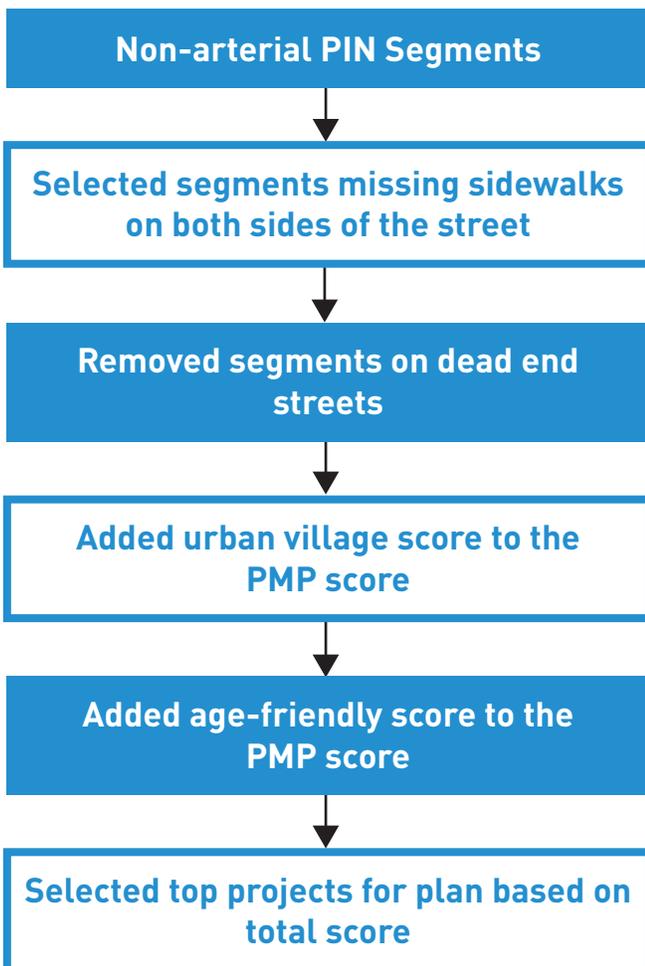
Consistent with [Seattle's Comprehensive Plan, Seattle 2035](#), we further prioritized sidewalk development around urban centers and urban villages by adding a binary scoring factor (score of 0 or 15) to street segments within or adjacent to residential urban villages, hub urban villages, urban centers, or urban center villages. These are places with a higher density of people living and walking. These are also places where 80% of pedestrian collisions occur. The maps at the end of this chapter show the PIN overlaid on Seattle's urban villages and urban centers.



With the urban village scoring included, we then added the age-friendly score and spot checked the top-scoring blocks to remove blocks that wouldn't provide the highest value for near-term investments. These include blocks that are not feasible or desirable to construct a sidewalk, such as freeway on/off-ramps, or blocks that don't provide connections to other existing sidewalks or destinations.

Along the Roadway: Non-Arterials

We selected non-arterial sidewalk projects using largely the same process as arterials, but focused only on blocks missing sidewalks on both sides of the street. We also included an additional filtering factor that removed all dead end blocks from our prioritization. This is based on the assumption that dead end streets offer a more comfortable pedestrian environment due to lower vehicle volumes.



Sidewalk Development on Aurora Ave N

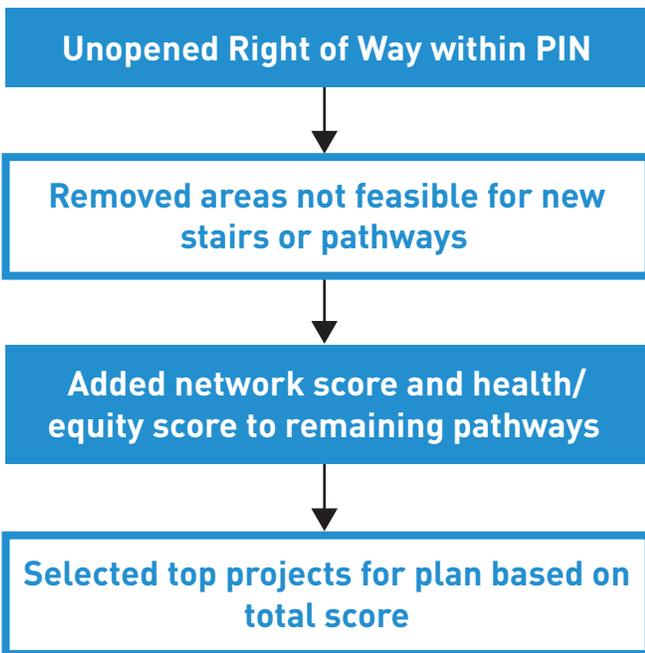
There are currently about 30 blocks of missing sidewalk along the Aurora Ave N corridor. While this corridor scores highly in the PIN, supports frequent transit, and offers connections to housing and businesses, the costs to implement new sidewalks along Aurora Ave N exceed our available funding due to long blocks and available right of way. As a result, we plan to study pedestrian and traffic safety alternatives along the corridor over the next several years with the goal of locating additional funding for implementation.

In the meantime, we are partnering with the Washington State Department of Transportation (WSDOT) to construct safety and accessibility improvements in priority areas along the corridor. As part of WSDOT's recent repaving of Aurora Ave N, we built new curb ramps, red bus lane markings, concrete bus pads, and enhanced turn restrictions at N 143rd St and N 83rd St. We will also be constructing a crossing improvement in 2020 at Aurora Ave N & N 83rd St that will include new curb bulbs, curb ramps, signal improvements, and an additional marked crosswalk.

Off-Street Stairways and Pathways

Stairs and pathways in unimproved rights of way can provide people with access to key destinations in areas where the existing street network doesn't offer an easy or direct connection. While only a small portion of PMP implementation funding is used to open rights of way with new stairs and walkways, we have developed a prioritization framework for where these investments should occur.

Starting with all unimproved rights of way within the PIN, we removed all areas that would not provide a reasonable stair or walkway connection, such as areas of right of way that do not connect to existing streets. With a list of potential stair and walkway sites, we added the PMP’s health/equity score to each site as well as a “network score” that measures the reduced walking distance by adding a new stair or walkway connection versus using the existing street network. Based on this total scoring, we selected the top projects for implementation while ensuring geographic balance throughout Seattle. Although the scoring system differs for new stairways and pathways, the project list for these off-street connections



has been added to the project list for non-arterial sidewalk projects. This allows us to more clearly show how these projects integrate with the implementation plan for new sidewalks.

SAFE ROUTES TO SCHOOL PROJECTS

The Safe Routes to School program builds and improves infrastructure to support safe school environments. While the program focuses on pedestrian safety improvements near schools, it is funded separately from PMP implementation projects.

To make sure that we’re responsive to school safety needs, we use a school-based prioritization process for Safe Routes to School projects, rather than a project-based prioritization. This process, which we established in the [Safe Routes to School Action Plan](#), uses the average PMP score for street segments and intersections within a 600-foot walking radius around each school. It applies additional safety and equity criteria to identify the highest priority schools where Safe Routes to School infrastructure funding will be focused. This helps us direct investment to the schools with the greatest needs.

We prioritized schools separately for ATR and CTR projects due to the differing safety needs at schools across the city. With this prioritization, we created two separate lists of priority schools for the program. Schools with higher scores are higher priorities for improvements.

Along the Roadway Prioritization Criteria for Safe Routes to School Projects		
Category	Measure	Points
System completeness	Current network completeness, based on the average PMP score for all street segments within the school area	50
Equity	Percentage of students at the school within communities of color	40
Safety	Bicycle and pedestrian collisions from past three years within school area	10

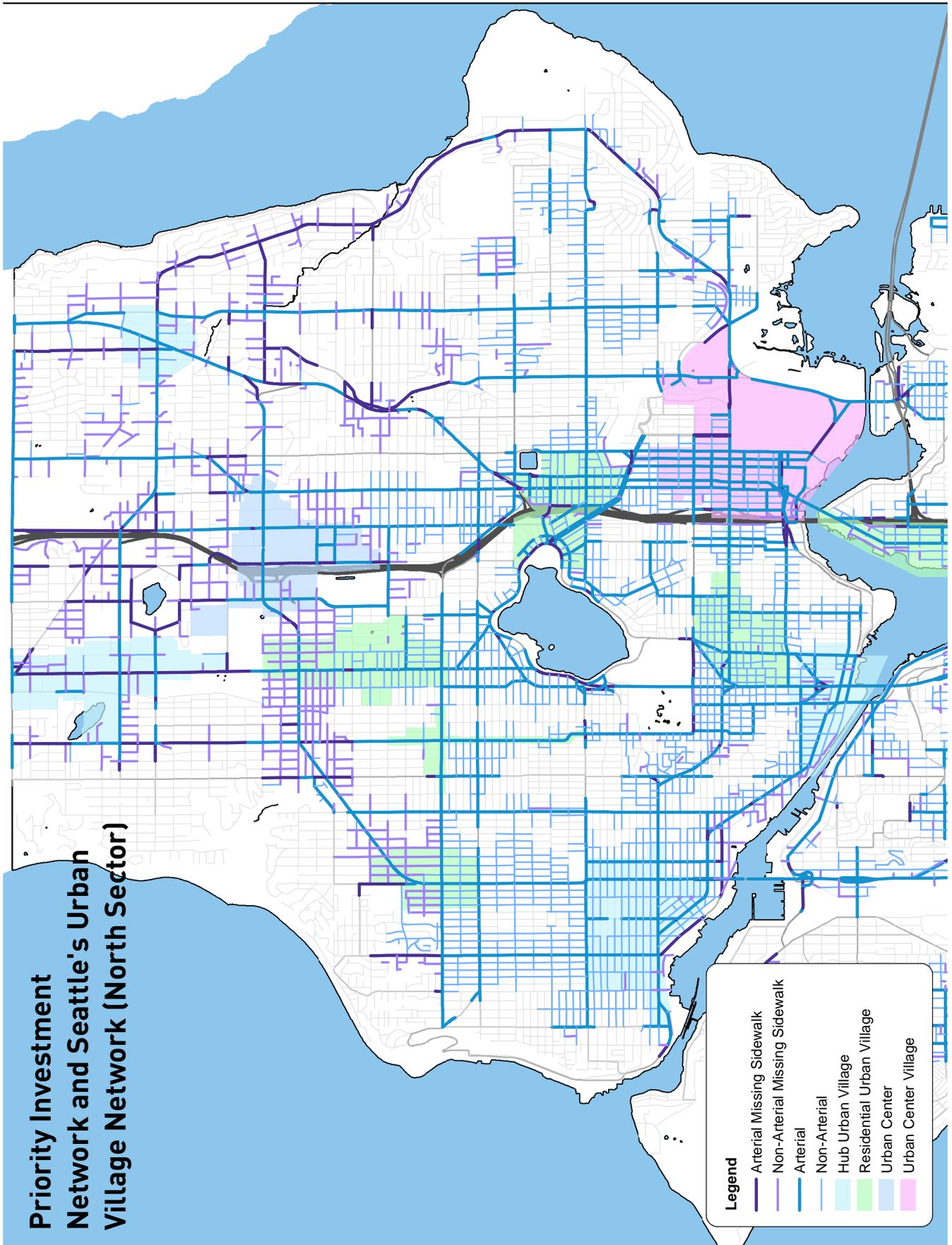
Crossing the Roadway Prioritization Criteria for Safe Routes to School Projects		
Category	Measure	Points
System completeness	Current network completeness, based on the average PMP score for all intersections within the school area	50
Equity	Percentage of students at the school within communities of color	40
Safety	Bicycle and pedestrian collisions from past three years within school area	10

PEDESTRIAN LIGHTING

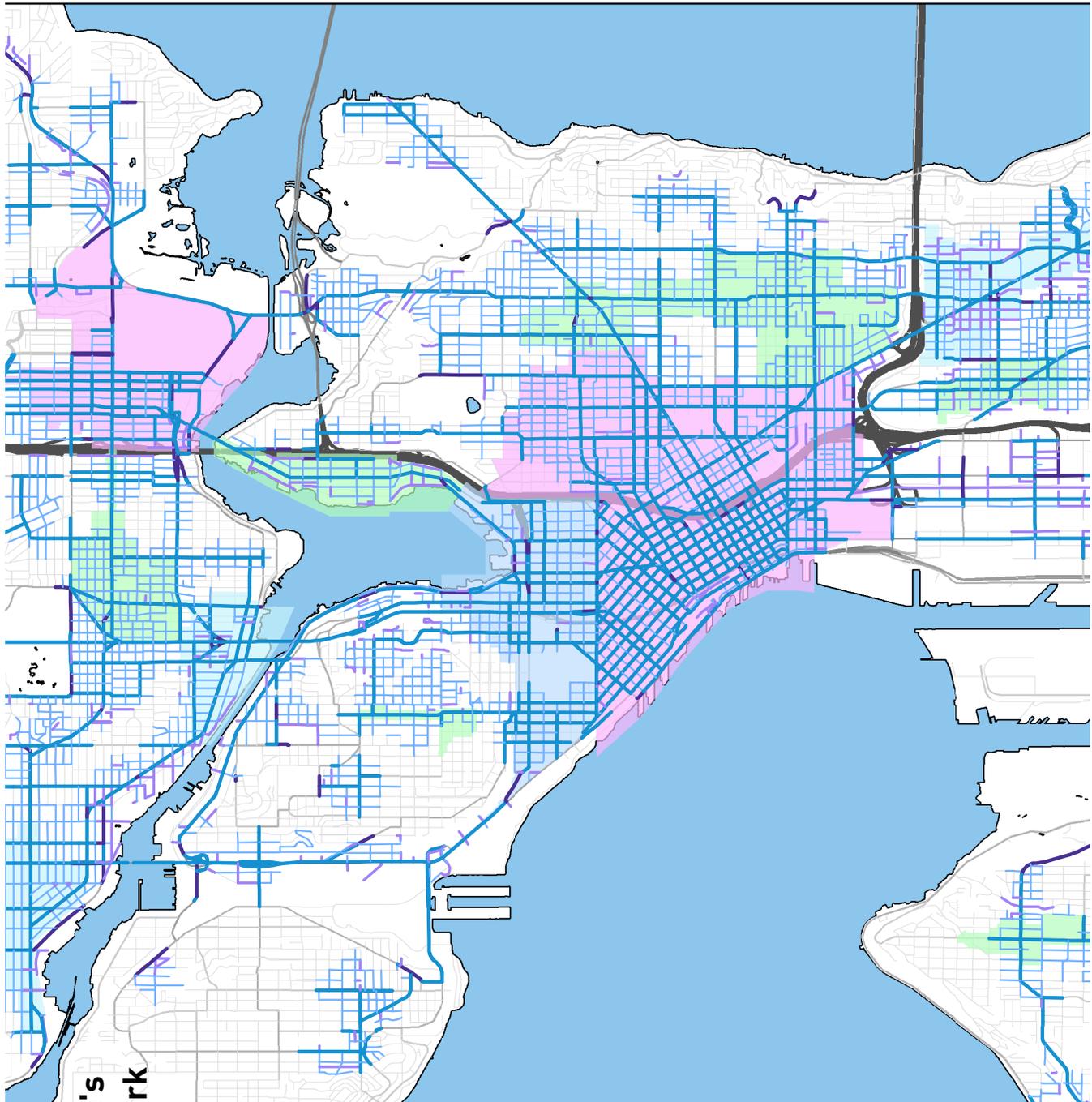
Pedestrian lighting is necessary for navigation and providing visibility and security in spaces where people walk. While we have a small budget to construct pedestrian-scale lighting in priority locations with capital projects, we are working with Seattle City Light to identify additional funding sources and programs that could be

leveraged for more widespread installation of new pedestrian lighting. Until new funding is secured, pedestrian lighting will continue to be integrated into projects where funding is available and will be based on project needs and the recommendations and priority areas outlined in the [2012 Pedestrian Lighting Citywide Plan](#).

Priority Investment Network and Seattle's Urban Village Network (North Sector)

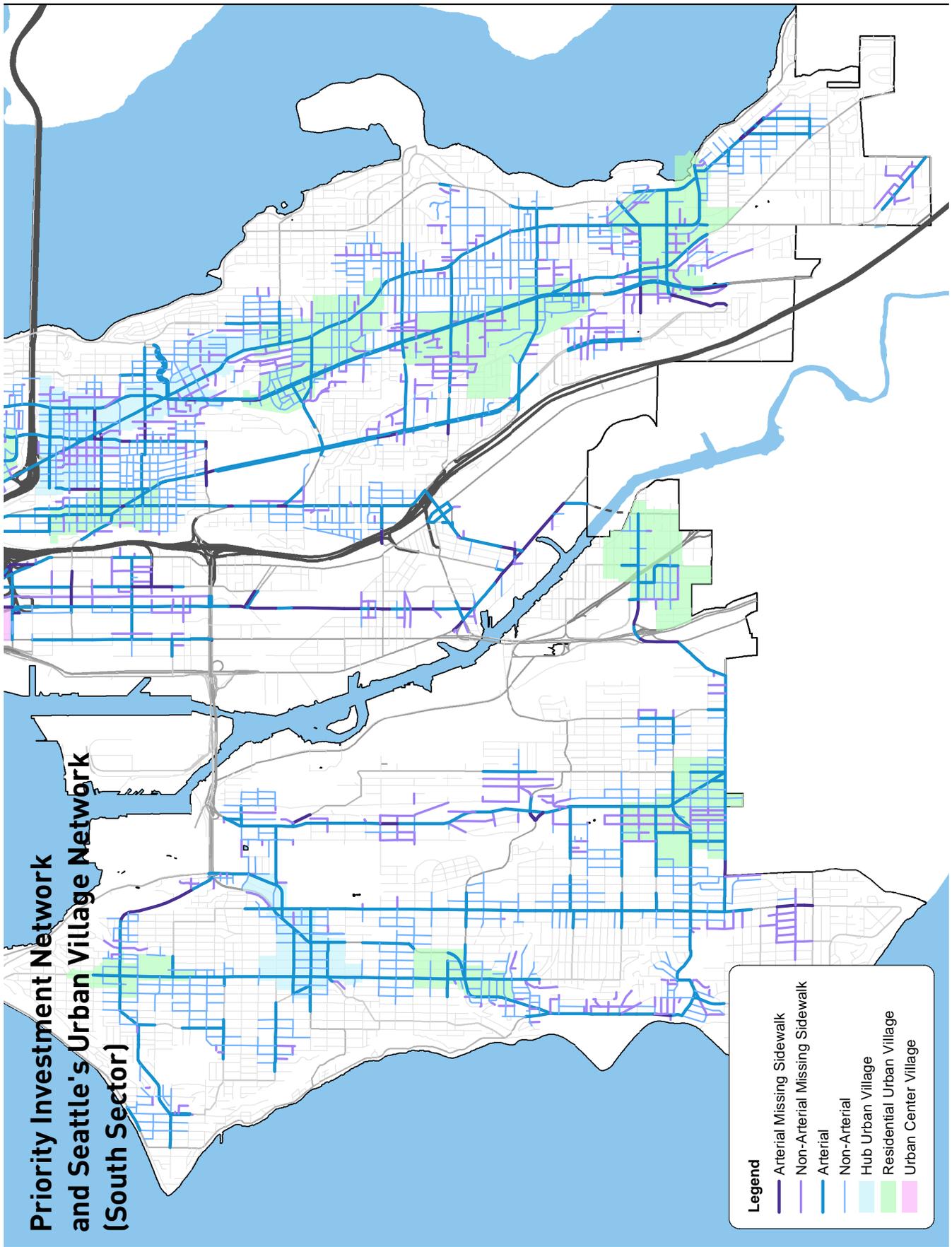


Priority Investment Network and Seattle's Urban Village Network (Central Sector)



Legend

- Arterial Missing Sidewalk
- Non-Arterial Missing Sidewalk
- Arterial
- Non-Arterial
- Hub Urban Village
- Residential Urban Village
- Urban Center
- Urban Center Village



5. SIDEWALK REPAIR PRIORITIZATION FRAMEWORK

Sidewalk repair is critical for making sure the pedestrian network is accessible for all pedestrians. After completing the citywide sidewalk condition assessment in 2017, we added a proactive approach to our existing repair and maintenance program. The following section describes the prioritization framework for sidewalk repairs using this new data source. The goal of the prioritization effort is to provide the highest value of safety and mobility improvements to the community, given a finite program budget.

Observations collected through the condition assessment included cracks, uplifts, cross-slopes, obstructions, and other safety risks and mobility impairments. In addition, our comprehensive sidewalk inventory data includes the proximity of the sidewalk to important destinations, such as health facilities, government services, schools, transit, and commercial centers. We will use this proximity

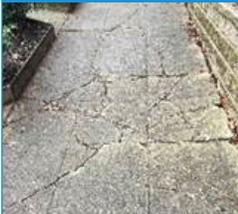
data to assess the usage value of each block of sidewalk.

DETERMINING POTENTIAL SIDEWALK REPAIRS

The condition assessment data located and measured the height of uplifts, obstructions, cross-slopes, missing sections, and other information to help us determine potential cost for repair. With this data, we can assess which repairs would provide the highest value improvements in safety and mobility at the lowest cost. The lowest cost means to improve safety and mobility—which can be used on an interim basis—include asphalt shims (i.e., wedges) or beveling (i.e., sawcutting) an uplift. As described below, these mitigation measures are factored into our sidewalk repair prioritization process.

Data Collected

The table below shows examples of the types of observations that have been collected.

Attribute & Image	Description
<p>Uplift</p> 	<p>A vertical change in height along a sidewalk that exceeds 1/2 inch at its highest point. This can either occur at areas where the different panels of the sidewalk meet, or at locations where the sidewalk has cracked.</p>
<p>Cracking</p> 	<p>Locations where the paved surface of the sidewalk has cracked and shows signs of crumbling and/or movement.</p>

Attribute & Image	Description
Settling	
	<p>The sinking of sidewalk panels that creates vertical height differences on either side of the panel.</p>
Fixed Obstructions	
	<p>Fixed obstructions are those objects that reduce sidewalk width to less than 36". These include transit shelters, utility poles, fencing, hydrants, and non-flush utility vault lids.</p>
Vegetation Obstruction	
	<p>Like fixed obstructions, these obstructions reduce the horizontal clearance of the sidewalk to below 36". In this case, this is caused by overgrowth of vegetation near the sidewalk.</p>
Vertical Obstruction	
	<p>Vertical obstructions are those objects that are between 27" and 80" in height, but extend more than 12" over the sidewalk. These can be fixed like awnings from businesses or cafes, or they can be vegetation such as tree branches.</p>

Sidewalk Repair Prioritization Methodology

The goal of the prioritization model is to provide the best value to the community given a limited repair budget. We'll score each sidewalk on a scale of low, medium, and high in four categories:

1. Safety score
2. Mobility impairment score
3. Cost score
4. Usage

The safety risk score weighs the potential injury risk to someone traveling on a sidewalk. For example, an uplift greater than 2" would receive a "high" safety risk score.

The mobility impairment score captures the hindrance to people with limited walking abilities (e.g., those with wheelchairs or mobility devices). For example, a fixed utility pole that reduces the walking surface to less than 36 inches on either side of the pole would receive a "high" mobility impairment score.

The cost score indicates the relative expense to correct the sidewalk safety risk or mobility impairment condition. For example, an uplift greater than 2 inches that requires complete sidewalk reconstruction would receive a "low" cost score. A high cost repair gets a low priority cost score, while a low-cost repair gets a high priority cost score.

	High	Low
<p>Safety Risk Score Lift, Settlement, cracks, gaps</p>		
<p>Mobility Impairment Score Obstruction, minimum passable width and height, cross-slope</p>		
<p>Cost Score Maintenance, repair, replacement</p>		
<p>Usage Score Proximity to ADA Title II identified facilities</p>		

The usage score concerns the number and purpose of sidewalk users. Sidewalks that serve important and high demand facilities (identified in Title II of the ADA) are prioritized. These facilities include government facilities (community centers, libraries, parks, social services), healthcare services/hospitals, transit stations and corridors, employment centers, schools, and housing for older adults and people with disabilities. For example, a sidewalk near hospitals, schools, and transit will receive a “high” usage score.

After the sidewalks have been scored using this prioritization framework, a variety of additional factors are considered in the final selection process to meet other citywide and departmental policies and objectives, including race and social justice objectives and coordination with the PIN and other city programs.

SIDEWALK SAFETY, ENFORCEMENT, AND REPAIR PRIORITIZATION

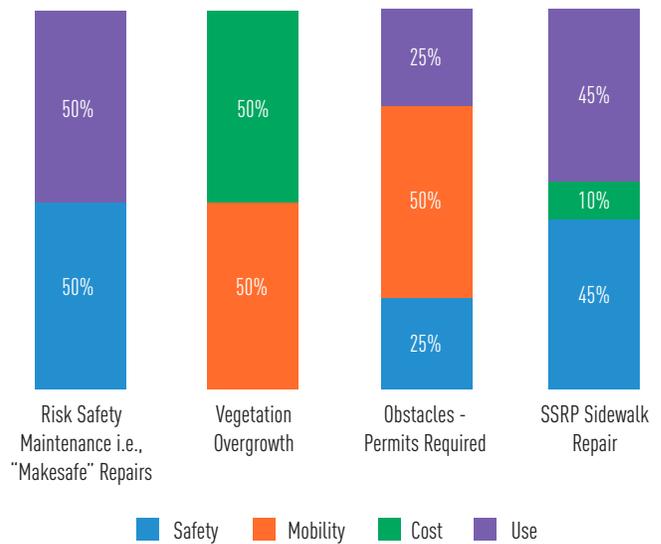
Building upon the sidewalk repair prioritization model, we developed several variations of the prioritization model described above to tailor to the specific needs of our Sidewalk Safety Repair Program. These are comprised of four task-specific prioritization models that serve as a basis for the proactive work managed by the program and were created using sidewalk condition assessment data, work order data, asset management data, and the dataset used to create the usage score described above.

The work of the Sidewalk Safety Repair Program falls into three general categories (i.e., safety, enforcement, repair), and the task-specific variations of the prioritization model include:

- Safety: “Mitigation” repairs such as shimming and beveling
- Repair: Permanent repairs completed by the Sidewalk Safety Repair Program that involve removal and replacement of damaged sidewalk
- Enforcement: Privately-maintained vegetation overgrowth
- Enforcement: Obstacles in the right of way that generally require a Street Use permit

Safety	Enforcement (Accessibility)	Repair
Risk Safety Maintenance	Vegetation Overgrowth Permitted Accessibility Issues	SSRP Sidewalk Priority Model (Renewal and Notification)

Task Specific Priority Model Weighting



Safety Model

50% Safety Score/50% Usage Score

This model is used to guide a proactive sidewalk shim and bevel program. The purpose of efforts associated with mitigation repairs is to cost effectively minimize sidewalk uplifts and other differences in grade to minimize trips and falls. The likelihood of a trip or fall occurring increases with use. Therefore, the model includes information on pedestrian generators to prioritize locations that are expected to have higher pedestrian traffic. This model equally weights safety factors and usage.

Factors considered include:

- Usage score dataset
- Vertical level changes (e.g., uplifted sidewalk, settling sidewalk)
- Sidewalk surface conditions (e.g., sidewalk cracking and gaps)
- Sidewalk obstructions from trees or transit stops

Enforcement Model

Two models were developed to enforce accessibility issues in the pedestrian clear zone. One model considers private vegetation encroachments and the other considers obstructions requiring a permit, which are forwarded to our Street Use division.

Vegetation Overgrowth

50% Mobility Score/50% Cost Score

This model is used to guide the enforcement of accessibility issues originating from private property or from the planting strip that is generally the responsibility of the adjacent property owner. The model prioritizes low-cost, high-impact accessibility issues, which a property owner would be most likely to fix upon notice. For example, sweeping gravel or cutting vegetation would be a minimal cost to a property owner compared to moving a rockery or fence.

Factors considered include:

- Sidewalk obstruction from vegetation
- Gravel, debris, or moss on sidewalks

Accessibility/Sidewalk Obstructions

25% Safety Score/50% Mobility Score/25%

Usage Score

This model is used to prioritize sidewalks with accessibility issues related to privately-owned obstructions that are or should be regulated by a Street Use permit.

Factors considered include:

- Usage score dataset
- Sidewalk obstructions from fixed encroachments (e.g., street furnishings, sidewalk cafés, signs)
- Vertical level changes from non-flush utility vaults
- Loose pavers and bricks

Repair Model

45% Safety Score/10% Cost Score/45% Use Score

This model is the foundation for renewal projects (i.e., removal and replacement of existing sidewalks) for the Sidewalk Safety Repair Program. In addition to data collected in the sidewalk condition assessment, we incorporated existing work management data.

During the 2017 Sidewalk Condition Assessment, vertical level changes were not collected if a sidewalk shim was already present. For the purposes of Sidewalk Safety Repair Program renewal projects, it is essential to know where shims have been installed. The data on sidewalk shim installation exists only in our work management system, which was merged with the sidewalk condition assessment data to provide a more complete dataset for the prioritization model.

Factors considered include:

- Usage score dataset
- Work management data (i.e., location of existing shims)
- Vertical level changes (e.g., uplifted sidewalk, settling sidewalk)
- Sidewalk surface conditions (e.g., sidewalk cracking and gaps)

6. ACCESSIBILITY

ADA PROGRAM

Improving accessibility for all pedestrians, including older adults and people with disabilities, is a key strategy of the PMP—we want Seattle to be more walkable and accessible for people of all ages and abilities. As more of our population ages, PMP implementation plays a key role in supporting Seattle's [Age-Friendly initiative](#), which we know serves our youngest and oldest adults.

Title II of the Americans with Disabilities Act (ADA) requires that we prioritize accessibility improvements as we build new pedestrian facilities and develop a transition plan that identifies specific strategies and locations for new accessibility projects.

We are incorporating accessibility into all capital projects through the installation of new curb ramps, detectable warning strips, and accessible pedestrian signals (APS), which will be guided by our ADA Transition Plan. Using dedicated funding for accessibility improvements, our ADA program also prioritizes and constructs curb ramps, APS, and new accessibility technologies where they are most needed. Private developers and utility providers construct accessibility improvements on our streets whenever they are triggered by other paving and development work.

To more quickly improve accessibility on Seattle's streets, we are working to increase the number of curb ramps we construct each year. Ramps we install are primarily derived from three sources: customer service requests, ADA Title II priorities, and capital projects. Anyone with a mobility disability can submit a request for curb ramps that would assist them in their daily activities. We then verify these requests and build at least 150

customer service request ramps per year. Other curb ramps are prioritized and constructed based on ADA Title II identified facilities, in the following order:

- 1) Government offices, facilities, and schools
- 2) Transportation corridors
- 3) Hospitals, medical facilities, assisted living facilities and other similar facilities
- 4) Places of public accommodation such as commercial and business zones
- 5) Facilities containing employers
- 6) Residential neighborhoods

Our ADA Transition Plan will serve as the implementation plan for curb ramps and accessibility improvements. The document will include SDOT's self-evaluation of accessibility barriers, a progress report on curb ramps and other accessibility upgrades constructed, and a prioritization and delivery strategy for making future accessibility upgrades in the pedestrian network. The ADA Transition Plan is a living document that will be updated over time.

INFRASTRUCTURE REPAIR & MAINTENANCE

Proper maintenance of infrastructure is critical for keeping Seattle's pedestrian network accessible for everyone. We operate three programs that focus on maintaining pedestrian assets, all of which are detailed in the PMP:

- Sidewalk Safety Repair Program
- Marked Crosswalk Maintenance Program
- Stairway Rehabilitation Program

Improved sidewalk maintenance is called out as a strategy in the PMP and is a high priority for many residents in Seattle. To address sidewalk maintenance more proactively, we conducted a citywide sidewalk condition assessment during summer 2017 that inventoried conditions on sidewalks that may impede pedestrian access. Maintaining and improving these sidewalks is essential for a healthy, growing city. It's key for us to know what the conditions are so that we can equitably manage and prioritize sidewalk work across the city, and not just where people report an issue.

With data available on the specific locations of sidewalk issues, we are also able to better educate private property owners on their maintenance responsibilities, enforce unpermitted private encroachments on sidewalks, and study new funding approaches to make necessary repairs. See the *Sidewalk Repair Prioritization Framework* chapter for more details about how we are prioritizing sidewalk repairs to improve accessibility.



7. ART AND ENHANCEMENTS

FUNDING AND PRIORITIZATION

The City's 1% for the Arts policy requires 1% of all eligible capital improvement project funds be set aside for the commission, purchase, and installation of artworks across the city. This program includes all PMP-driven capital projects that are not federally funded.

With 1% for the Arts funding available for pedestrian projects on an annual basis, we look to determine which projects will make good candidates for public art and which areas with planned improvements could benefit most from artistic enhancements. We consider the following factors when deciding where to prioritize 1% for the Arts funding:

- **Level of pedestrian density and visibility:** Is the project in an area with a high level of pedestrian traffic?
- **Availability of right of way:** Is there sufficient area in the right of way to locate artwork?
- **Equity:** Is the project located in a community underserved by civic investment or artistic enhancements?
- **Level of community interest:** Is the surrounding community interested in new artwork with the project?
- **Artistic opportunity:** Is the project located in an area that could be an interesting or unusual opportunity for an artist?

Once a project is selected for 1% for the Arts funding, we contract with an artist who works with SDOT and the community to incorporate local ideas and perspective into the planned artwork. The art can then be added into the project engineering plans.

Although the 1% for the Arts program is the largest funding source for art integration with new pedestrian projects, not all artistic enhancements need to go through this program. Some minor artistic elements can be integrated with a sidewalk project using only the project's capital budget.





The Seattle Department of Transportation
700 5th Avenue, Suite 3800
PO Box 34996
Seattle, WA 98124-4996
(206) 684-ROAD (7623)
www.seattle.gov/transportation



Seattle
Department of
Transportation

12.2019