



## Memorandum

To: Seattle Bicycle Advisory Board  
Kevin O'Neill and Sara Zora, SDOT

From: Steve Durrant and Kim Voros, Alta Planning + Design

Date: April 3, 2012

Re: SBMP Task 6.2.1 Draft Prioritization Framework

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The purpose of this memorandum is to suggest a draft policy framework and rationale for infrastructure prioritization for the Seattle Bicycle Master Plan (SBMP) Update. The SBMP Update features a robust bicycle facility network which, when complete, will serve cyclists of all ages and abilities, and facilitate increased trip making across the city, as well as within their neighborhoods.

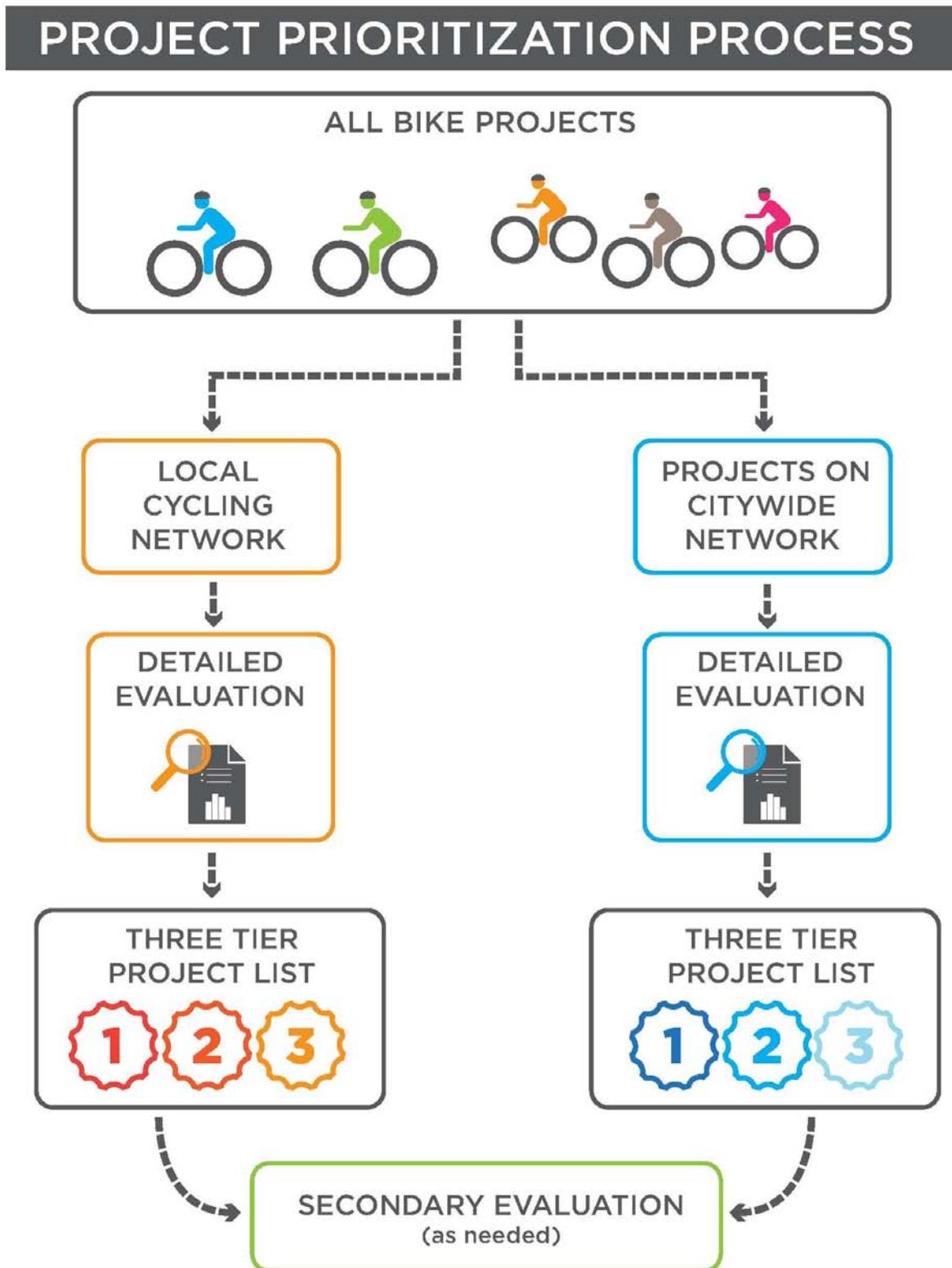
Full implementation of the recommended network (including new facilities and upgrades to existing facilities) will take many years, given the expected funding availability for network development. This makes it necessary to develop a process to select an equitable and realistic set of programmed projects that will provide great returns and fulfill the plan's goals of increased ridership, connectivity, equity, safety and livability while simultaneously providing enough flexibility for Seattle to pursue projects opportunistically.

During plan development, the project team has grappled with several key questions about the decision making process, which this policy framework strives to address:

- How should new facility installation vs. facility upgrades be considered?
- How should the geographic distribution of projects be considered during implementation?
- How should facilities of different types (e.g., neighborhood greenways or cycle tracks vs. intersections and bike lanes) be prioritized in relation to each other?

The purpose of the Prioritization Framework is to provide a flexible process that guides facility implementation in Seattle in the near term and longer term. An outline of the recommended approach is shown in Figure 1.

Figure 1. Draft Project Prioritization Process



Many prioritization approaches exist, and a single approach will not work for every community. A review of prioritization schemes documented in “Best Practices White Paper #2: Prioritization”, suggests the following lessons are relevant for Seattle:

- Prioritization can be framed with a qualitative policy framework. This framework facilitates opportunistic pursuit of projects while systematically building an agreed upon list of projects.
- Quantitative metrics should be based on data that are both reliable and cost efficient to collect and maintain.
- Focusing implementation on a single goal or theme (e.g., completing a connected network) can efficiently help to develop project priorities.
- Successful prioritization will include a way to reorder or revisit prioritization as part of an agreed upon workflow to account for changes to funding, political will or public desire.
- Division of projects into two distinct categories that can be prioritized and funded from different sources, which can reduce competition between projects that are important for different reasons (e.g., citywide connectivity vs. intra/inter-neighborhood connectivity).

## 1.1 Recommended Policy Framework

Table 1 shows a framework loosely based on a strategy used in the Santa Monica Bike Action Plan. The framework has been adapted and recognizes two categories for project prioritization based on its identification as part of the citywide or local connections network.

The proposed “citywide network” connects clusters of activity centers with facilities that are appropriate for riders of all ages and abilities (off-street trails, cycle tracks, or neighborhood greenways. The local connections part of the network will provide connections within neighborhoods and link to the citywide network, Facilities in the local connections network will include neighborhood greenways, bike lanes, buffered bike lanes, and shared lanes (sharrows). Both networks include both existing and proposed bicycle facilities, multimodal corridors (where decisions about accommodating cyclists on the main line or via an alternative parallel route will be necessary) and “heroic projects” that would create enhanced connectivity by eliminating a major system gap (such as a new crossing of I-5). These projects will require significant financial investment or creative engineering solutions. Detailed project evaluation criteria provide a relative priority ranking for projects in both categories<sup>1 2</sup>.

One strength of this framework is the provision of both short- and longer-term goals. Projects in both the citywide and local cycling networks are important to improve Seattle’s bicycling infrastructure. While the citywide network provides connectivity between dense activity clusters, the local network promotes improvements to the neighborhood cycling networks that are used for short trips near a person’s home or

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<sup>1</sup> A list of heroic projects that may require more effort to implement (e.g., a new bicycle and pedestrian bridge) will be included as part of the updated Plan. This list, currently under development, will include projects previously identified in the 2007 Plan and new projects identified during the 2012 / 2013 update.

<sup>2</sup> A methodology to guide the selection of bicycle facility construction on or along multi-modal corridors will be included in the updated plan and should be used as a complement to the prioritization process described here.

workplace. The review and analysis of funding streams will provide dedicated funding for both the citywide and local cycling network.

While heroic projects are part of both the citywide and local cycling networks and may be prioritized within this framework, it is likely that alternative funding sources (e.g., grant funding) will be necessary to successfully complete many of these projects.

**Table 1. Draft Project Prioritization Framework and Project Categories**

Project categories	Near term strategy: Increasing all ages and abilities ridership through connected facilities	Longer term strategy: Completing Seattle’s connections
Citywide Network	<ul style="list-style-type: none"> <li>• Completing/upgrading high-demand segments</li> <li>• Closing system gaps</li> </ul>	<ul style="list-style-type: none"> <li>• Projects with strategic challenges (e.g., funding, feasibility, or political issues) or major modal tradeoffs</li> </ul>
Local Connections	<ul style="list-style-type: none"> <li>• Intra-neighborhood connectivity</li> <li>• Intersection improvements</li> <li>• Connections to Citywide Network</li> </ul>	<ul style="list-style-type: none"> <li>• Inter-neighborhood connectivity</li> </ul>

## 1.2 Detailed Project Evaluation Criteria

Project evaluation provides a guide in the ordering of facility construction. The intent is to prioritize projects that bring greatest benefit to be built first, based upon a set of mutually agreed upon quantifiable criteria. Project evaluation criteria can be weighted, if desired, to highlight the relative importance of one metric over another.

When developing a weighting scheme, consultation with both the SBAB and the Project Executive Steering Committee can help the plan move ahead under commonly understood and recognized principles. Weighting could be revisited biannually, or during the next plan update. Table 2 shows the proposed evaluation criteria, a scoring method, and data sources<sup>3</sup>.

The citywide and the local cycling networks will be grouped into three tiers based on natural breaks in the number of points they scored, or number of projects falling into each tier. All projects in the citywide network and local connections network will be scored against each other, regardless of facility type. Projects in the highest tier would be top priority; the second tier would be moderate priority and so forth. Planning and phasing of actual construction is dependent on the amount of funding available and cost of different types of bicycle facilities.

A third step to guide annual prioritization is a set of criteria that focus on more qualitative factors as opposed to quantifiable criteria. (Table 3).

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<sup>3</sup> Standalone intersection projects may be evaluated using these criteria, though generally intersection improvements should be considered as part of each linear corridor.

Table 2. Detailed Evaluation Criteria

Theme or Category	Definition	Measurement Methodology	Score	Data Source	Notes
Enhance <b>SAFETY</b>	Addresses location with bike crash history and emphasis on vulnerable roadway users	A link or intersection with a cyclist fatality in the last 3 years	10	SDOT GIS	Responsive
		A link or intersection with 2 or more crashes in the last 3 years	5		
		A link or intersection with 1 crash in the last 3 years	3		
Enhance <b>SAFETY</b> ( <b>Local</b> Roadway Evaluation)	Enhances cyclist safety by promoting travel on streets that typically have lower speeds and motor vehicle volumes	Facility receives full points if a local roadway will be upgraded to a neighborhood greenway.	10	SDOT GIS	Used for roadways classified as local.
Enhance <b>SAFETY</b> ( <b>Arterial</b> Roadway Evaluation)	Addresses locations or streets that are associated with greater cyclist stress and more severe cyclist / motorist crash potential by considering higher motor vehicle volumes described as Average Daily Traffic (ADT)	Roadway ADT > 15,000	5	SDOT GIS	Predictive - 10 potential points between speed / ADT metrics. Used for roadways classified as arterials.
		Roadway ADT 8,000 - 15000	3		
		Roadway ADT < 8,000	1		
	Addresses locations / corridors with a higher potential for cyclist / motorist crashes of greater severity by considering posted or 85th percentile travel speed (best available data)	Roadway is signed, or has an 85th percentile travel speed equal to or greater than 35 mph	5	SDOT GIS	Predictive - 10 potential points between speed / ADT metrics. Used for roadways classified as arterials.
		Roadway is signed at, or has an 85th percentile travel speed equal to or greater than 25 mph	3		
		Roadway is signed at, or has an 85th percentile travel speed equal to or less than 25 mph	1		

Theme or Category	Definition	Measurement Methodology	Score	Data Source	Notes
Address <b>EQUITY</b>	Project serves populations that are historically underserved including minority populations, households below poverty level, people under 18, people over 65, or households without access to an automobile.	Each indicator will be broken into quartiles. Census tracts reporting falling into the top quartile for each metric will receive 4 points, for a potential maximum of 20 points.	20	Equity analysis developed for the State of Seattle Bicycling Report	
			16		
			12		
			8		
			4		
			0		
Increase <b>RIDERSHIP</b>	Project provides a bicycle connection to destination clusters as defined in the Bicycle Master Plan.	Areas scores in the highest scoring quartile (25%) for connections to clusters of bicycle friendly destinations.	10	SDOT GIS - Activity node analysis used during bike network development	Considers large employers
			7		
			4		
			1		
Increase <b>RIDERSHIP</b>	Project provides connections to areas with high population density.	Areas scores in the highest scoring quartile (25%) for population density.	10	2010 Census block level population data	
			7		
			4		
			1		

Theme or Category	Definition	Measurement Methodology	Score	Data Source	Notes
Enhance <b>LIVABILITY</b> by serving the greatest spectrum of riders	The project will reach the greatest number of riders, but recognizes that all bike facilities provide a measureable benefit to at least some bicyclists.	New installation or upgrade to cycle track, neighborhood greenway, or trail	10	SDOT GIS	This serves as a proxy for perception of safety.
		Facility would install a new buffered bike lane or upgrade an existing bike lane to a buffered bike lane.	7		
		Installation of new bike lanes or upgrade from existing shared lane markings.	4		
		Installation of new shared lane markings.	1		
Enhance <b>LIVABILITY</b> by providing a health benefit	The project will provide a health benefit for people in areas with the greatest reported health needs, represented by obesity rates, physical activity rates (self-reported) and diabetes rates.	Each health indicator will be broken into quartiles. Health reporting areas falling into the top quartile for each metric will receive 3 points, for a potential maximum of 9 points (plus one de facto point for all projects).	10	King County Community Health Indicators	Data is reported by Health Reporting Areas; Seattle is divided into approximately 15 districts. Most recent data available is 2009 or 2010.
			7		
			4		
			1		
Enhance <b>CONNECTIVITY</b>	The facility will remove a barrier or close a system gap in the bicycling network.	Project is included on the heroic project list AND makes a connection to/on the citywide network	10	SDOT GIS	
		Project is on the heroic project list OR makes a connection to / on the citywide network	5		
		Project is NOT on the heroic project list and does not connect to the citywide network	0		
Enhance <b>CONNECTIVITY</b>	The facility will make a connection that will immediately extend the bicycle network.	A link or intersection that connects 2 or more existing bike facilities	10	SDOT GIS	
		A link or intersection that extends an existing bike facility	5		
		Project does not extend an existing bike facility	0		

Table 3. Secondary Evaluation Criteria

Suggested Annual Evaluation Criteria	
Potential to Leverage Other Funding	Initiating project now will help secure funding
Policy Directive	Project specified by policy or council
Community Interest	Local community has expressed interest in bicycle infrastructure improvements
Geographic balance	Project improves the balance of bicycle funding to be spent among geographic sectors of the City. Project expands the percentage of Seattle residents living within ¼ mile of a bicycle facility

### 1.3 Special Case – Transitioning a Lower Tiered Project to a Higher Tiered Project

Projects may shift from one tier to another tier based on available funding, a new safety need, or new project construction. The following cases will move a Tier 2 or Tier 3 project to the Tier 1 list:

- New reported bicycle crash or other identified safety concern
- A new roadway construction project is identified or initiated
- A decision is made to amend the citywide cycling network