



CITY OF KIRKLAND
Department of Public Works
123 Fifth Avenue, Kirkland, WA 98033 425.587.3800
www.kirklandwa.gov

MEMORANDUM

To: Kurt Triplett, City Manager
From: David Godfrey, P.E., Transportation Engineering Manager
Kathy Brown, Public Works Director
Date: April 9, 2015
Subject: Transportation Master Plan Update

RECOMMENDATION:

It is recommended that the City Council receive a briefing and give direction on the Transportation Master Plan (TMP). Specifically, staff is seeking comment on the 20 year transportation project list.

BACKGROUND DISCUSSION:

Introduction

This is another in a series of updates on the TMP. Council has previously reviewed goals and policies (2 separate briefings), introduction to the 20 year transportation project list (October 21, 2014), impact fees and a briefing on concurrency. The Goals and Policies portion of the TMP will constitute the Transportation Element of the Comprehensive Plan. These goals and policies are expanded and amplified with other material to make up the TMP.

A 20 year project list is a required element of the Transportation Element and of the Capital Facilities Element of the Comprehensive Plan. The intent of the Study Session will be for Council to react to a set of projects that is estimated, at a high level, to be funded within reasonably expected revenue. As described below, for some categories project detail is available, but in other areas, more detail is needed before a complete list of projects for the next 20 years can be finished. In these cases, a placeholder amount of funding shown as necessary to complete the 20 year list. The costs projected for many projects is at the planning level and should be considered an initial, rough order of magnitude estimate.

Because the 20 year Transportation Project List will be updated regularly, it should be viewed as a document that gives planning direction and that reflects the policy direction in the TMP rather than spelling out the specifics of each project to be completed between now and 2035. Revisiting the 20 year transportation project list when the Capital Improvement Program is updated would be a logical course of action. The 6-year Capital Improvement Program is the document that draws on the 20 year transportation project list to develop a set of specific projects that can be programmed with immediately available revenue.

At the February 17, 2015 Council meeting, staff updated the Council on a proposed new approach to Concurrency. Additionally, several Councilmembers received individual briefings to provide staff an opportunity to answer specific, detailed questions and to better explain the proposed Concurrency concept. One of the foundations of the Concurrency program is that it monitors the rate at which completion of a network of transportation projects is completed relative to the rate at which new development occurs. Concurrency is achieved if these two rates are approximately equal. Therefore, it is important that the network of transportation projects contain the right mix of projects across and within modes.

Assembling the 20 year Transportation Project List

Because one of goals of the TMP is to be financially sustainable, a reasonable funding assumption is the first step in preparing the 20 year Transportation Project List. This is in contrast to, for example, determining a set of projects that is desired and determining the funding that is required to complete this list. Although funding does not have to be identified for each project on the 20 year list, it is required that, as a whole, funding for the projects can be reasonably expected to be available over the life of the plan.

Based on past data, funding over the next 20 years is expected to be a total of approximately \$250 million for capital needs (Table 1). The appropriate allocation of this \$250 million across project categories is the essence of creating the 20 year project list.

Table 1 Sources of Capital project funding

Capital project funding	
Source	Annual Amount (million)
Gas tax	\$ 0.56
Business License fees	\$ 0.27
Real estate excise tax	\$ 1.42
Street levy	\$ 2.60
Solid waste fund	\$ 0.30
Surface water fund	\$ 0.50
Impact fees	\$ 2.00
Grants	\$ 3.50
Developer Fees	\$ 1.25
Other	\$ 0.25
TOTAL	\$12.65
	<i>Rounded down to \$12.50 million per year or \$250 million over 20 years.</i>

Once overall funding levels were established, staff's approach for preparing the 20 year project list was as follows:

1. Adjust the first 6 years to reflect revenue projections for the current biennial budget. Although \$250 million is a reasonable estimate over the next 20 years, actual revenues will not be spread evenly from year to year. For example, the estimated funding level for the 2016 Transportation CIP is on the order of 7.3 million, not including grants.
2. By policy, recognize a 20 year street maintenance budget of approximately \$85 million of street levy and other committed funds.
3. Following the Goals and Policies in the TMP, establish project categories within each main area of the Plan (Safety, Maintenance, Walk, Bike, Transit, Auto) (see Table 2).
4. For each project category, develop a recommended set of funded projects. For most project categories, this is based on a combination of a) projects that will meet the goals and policies in the draft plan selected from a variety of sources, b) fiscal balance across project types c) projects that have been previously considered and d) staff's judgment of a sensible level of completeness for a project category. Sometimes it represents a placeholder amount awaiting another level of analysis.

It is expected that the 20 year Transportation Project List will serve a main source of future transportation Capital Improvement Program projects and individual projects will be prioritized within groups based on the prioritization criteria in the Goals and Policies of the TMP. As mentioned above, the 20 year Project List should be updated at least every two years in coordination with the Capital Improvement Program process. Revenue assumptions and level of funding will be adjusted with each biennial budget.

Using the method described above, an initial allocation of funding has been made as summarized in Table 2.

Explanation of Table 2

Table 2 contains eight columns as follows:

1. *Mode*: This is the general category of project. In addition to Walk, Bike, Transit and Auto, Safety and Maintenance are included as modes for simplicity. The Safety and Maintenance areas actually have projects in several modes.
2. *Category*: Categories divide the Modes into project areas, like school walk routes vs. projects that support sidewalks in 10 minute neighborhoods. This column includes Map reference number.
3. *Basis for 20 year funding*: This describes how the funding amount was set for the 20 year Transportation Project list in a particular category.
4. *20 Yr. funding*: This a planning level estimate of the amount needed to fund the basis for the 20 year list in millions of dollars.
5. *Early Priorities*: As the title suggests, this is staff's recommendation for the first projects that should be funded in the CIP from this category. Projects that meet multiple policy objectives and grant funded projects were ranked as high priority and should be reflected in the current CIP process.
6. *Key Unfunded Elements*: Projects that are not included in the *Basis for 20 year funding* column are described here. Not all categories have an entry in this column.
7. *Unfunded Costs*: Funding necessary for the key unfunded elements

8. *Transportation Master Plan Policy Support:* Policies from the Master Plan that support the mode and category.

Remarks on the 20 year project list shown in Table 2

- The Transportation Commission has reviewed and commented on the draft 20 year list at both their regular September meeting and a Special meeting on October 3, 2014. The Commission has been using the 20 year list as a basis for developing a recommendation for the 2015-2020 Capital Improvement Program. The Commission has also reviewed and commented on this memo.
- If new funding were available, the Transportation Commission's highest priorities would be for increased funding for the Cross Kirkland Corridor.
- A Transportation Benefit District is an example of a potential new funding source; a \$20 car tab is expected to generate approximately \$2 million per year.
- At this point, the project costs are at a planning level of accuracy. In some cases, the magnitude of the complete or 20 year project need is not known and placeholder amounts are shown. Often a study is called for that will provide guidance for more detailed project analysis.

Table 2a. 20 Year Transportation Project List

MODE	CATEGORY	BASIS FOR 20yr FUNDING	20 YR FUNDING (million)	EARLY PRIORITIES	KEY UNFUNDED ELEMENTS	UNFUNDED COST	TRANSPORTATION MASTER PLAN POLICY SUPPORT
Safety	Vision Zero Safety	Opportunity fund for projects that result from Vision Zero process.	\$ 1.0	Develop a vision zero program.	Unsure until Vision zero gets started.		Develop a vision zero safety plan that is multi-disciplinary and focuses on innovative approaches to safety.
	New signals, driveway management, flashing yellow arrow <i>MAP 1.</i>	Opportunity fund. Estimate of need.	\$ 3.0	Flashing yellow candidate intersections	May need more or different new signal locations, driveway mitigation areas etc.	New signals at around \$.75 m each.	Reduce crash rates for motor vehicles, mitigate impacts of motor vehicles on neighborhood streets.
	Neighborhood Traffic Control Program.	Opportunity fund. Same funding level as when program was previously funded.	\$ 1.0	Previously identified locations; Slater Ave.	This level of funding should be adequate to meet the currently anticipated need.		
Maintenance	Pavement <i>MAP 2.</i>	Pavement Condition Index, meeting 20 year targets of 70 for arterials and collectors and 74 for other streets.	\$ 85.0	Based on existing condition.	Should be adequate to achieve PCI target.		Previous policy decision.
	Signals <i>MAP 3.</i>	Basic replacement schedule.	\$ 7.5	Oldest signals/equipment.	Some items will be obsolete before they are replaced.	\$13.5	Place high priority on maintenance, Use ITS.
	Markings	Estimate of need.	\$ 12.0	Annual inspection.	Funding level should be adequate; reevaluate in the future.		Place high priority on maintenance, increase safety, improve facilities, and build networks for bikes.
	Sidewalk <i>Completeness: MAP 4.</i>	Opportunity fund. Same funding level as past years.	\$ 4.0	Base on inventory of sidewalk conditions. Expected to be completed in 2015.	Reassess after inventory is completed.		Place high priority on maintenance, Remove barriers to walking improve safety of walking, integrate transit with ped/bike networks.

Table 2b. 20 Year Transportation Project List

MODE	CATEGORY	BASIS FOR 20yr FUNDING	20 YR FUNDING (million)	EARLY PRIORITIES	KEY UNFUNDED ELEMENTS	UNFUNDED COST (million)	TRANSPORTATION MASTER PLAN POLICY SUPPORT
Walk	School Walk Routes <i>MAP 5.</i>	Complete sidewalk on one side of arterials and collectors.	\$ 4.5	Places where these 3 categories overlap. Also Revised Active Transportation Plan.	Local streets.		Walking: remove barriers, increase safety, improve walk to school. Improve pedestrian connections to transit Improve walkable neighborhoods, connect to commercial areas. Promote energy efficient modes, reduce pollution, and provide mobility for all users.
	10 min Neighborhoods <i>MAP 6a and 6b.</i>	Top 2 groups on arterials and collectors.	\$ 6.0		Other categories of 10 minute walkability, other street classifications.	\$9	
	Arterials and Collectors <i>MAP 7.</i>	Missing sidewalks on Principal arterials.	\$ 3.0		Complete sidewalk on other streets.	Has not been estimated.	
	New crosswalks, poor lighting, fewer improvements, at signals <i>MAP 8.</i>	Improving lighting at candidate locations on all streets, locations with few improvements on arterials, new crosswalks, improvements at signals.	\$ 9.5	Groups of crosswalks on arterials, NE 124/113 NE signal.	Crosswalks on local streets.	Has not been estimated.	All policies for sidewalks (above) plus, improve crossings for pedestrians
	CKC <i>MAP 9.</i>	Opportunity fund. Some design and some construction of the CKC to master plan vision and completion of some connections to the corridor.	\$ 15.0	Design of NE 124 th /124 th NE bridge, South Kirkland Park and ride to 6 th Section. Connections to Park Place, Forbes Creek drive.	Complete design and construction of corridor and connections.	Design and construction of complete corridor is estimated at \$70 to \$80 m. Full connection costs have not been estimated.	Develop CKC for walking and biking, integrate ped and bike networks with transit, promote energy efficient modes, reduce pollution, implement transit on CKC, Provide mobility for all users.
	Other trails <i>Examples on Finn Hill MAP 10.</i>	Opportunity Fund. Need plan from revised Active Transportation Plan.	\$ 2.0	Connections between Finn Hill and Juanita Beach area.	Reassess after Plan is completed.		
	Accessibility	Opportunity fund, placeholder funding amount.	\$ 7.0	Complete ADA Transition plan.	Reassess after Plan is completed.		Remove barriers to walking, provide mobility for all users, minimize impacts to special need populations.

Table 2c. 20 Year Transportation Project List

MODE	CATEGORY	BASIS FOR 20yr FUNDING	20 YR FUNDING (million)	EARLY PRIORITIES	KEY UNFUNDED ELEMENTS	UNFUNDED COST (million)	TRANSPORTATION MASTER PLAN POLICY SUPPORT
Bike	On-Street / Protected <i>MAP 11.</i>	Juanita Drive, Protected lane placeholder, other restriping.	\$ 18.0	Juanita Drive and Lakefront grants.	Need to define after revised Active Transportation Plan.		Improve safety, create and improve on-street bikeways, bicycle connections to transit, connect to commercial areas.
	Greenways <i>MAP 11</i>	Complete network.	\$ 6.0	NE 75 th /Kirkland Way, NE 140 th , NE 100 th 128 th Ave	Bridges over I-405 at NE 90 th and NE 140 th Streets. Redefine after revised Active Transportation Plan.	\$9	Improve safety, build a network of greenways, bicycle connections to transit, connect to commercial areas.
Transit	Speed and Reliability <i>MAP 12.</i>	Placeholder -need transit plan.	\$ 6.5	Complete transit plan.	Transit on CKC.	Has not been estimated.	Create environment to support transit service, partner to provide transit projects in exchange for service.
	Passenger environment <i>MAP 13.</i>	Improvements at 30 high ridership stops -need transit plan.	\$ 4.0	Complete transit plan.	Kingsgate P&R TOD.	\$30 (place holder estimate)	Support safe and comfortable passenger facilities.
Auto	Efficiency <i>MAP 14</i>	Placeholder amounts for connecting additional signals, updating control methods, better traveler information.	\$ 5.5	Complete existing ITS projects, Revise ITS plan.	Need to define after revised ITS Plan.		Use ITS to support optimization of roadway networks.
	Respond to Support Development <i>MAP 15.</i>	Opportunity fund for downtown, Totem Lake and parking.	\$ 13.0	Totem Lake Mall improvements (funded separately) downtown parking solutions.	Connections in Totem Lake have not been estimated.		Make investments in capacity to support proposed land use, support economic development goals, tailor improvements to commercial land use districts.
	Other Auto projects <i>MAP 16.</i>	NE 132nd, Juanita Drive, 100th Avenue, interchange development funds.	\$ 35.0	100 th Avenue design and construction.	Many other projects are on the current unfunded CIP list.		Make strategic investments in intersection and street capacity, Work with WSDOT on interchange improvements.

A series of reference maps linked to Table 3 begins on Page 9. The maps are intended to help give geographic context to the projects in Table 3 by showing a variety of: existing conditions, 20 year projects and in some cases, unfunded projects. Text boxes with each map give information about what is funded in the 20 year Transportation Project list. Maps 17 (current) and 18 (2035) show expected levels of auto delay on corridors using a weighted averaged of signalized intersection delay.

Non Capital Projects that support the TMP

Note that, in order to support the goals and policies of the TMP, several non-capital funding categories as shown below. In order to pay for these non-capital projects, other sources of funding would need to be identified.

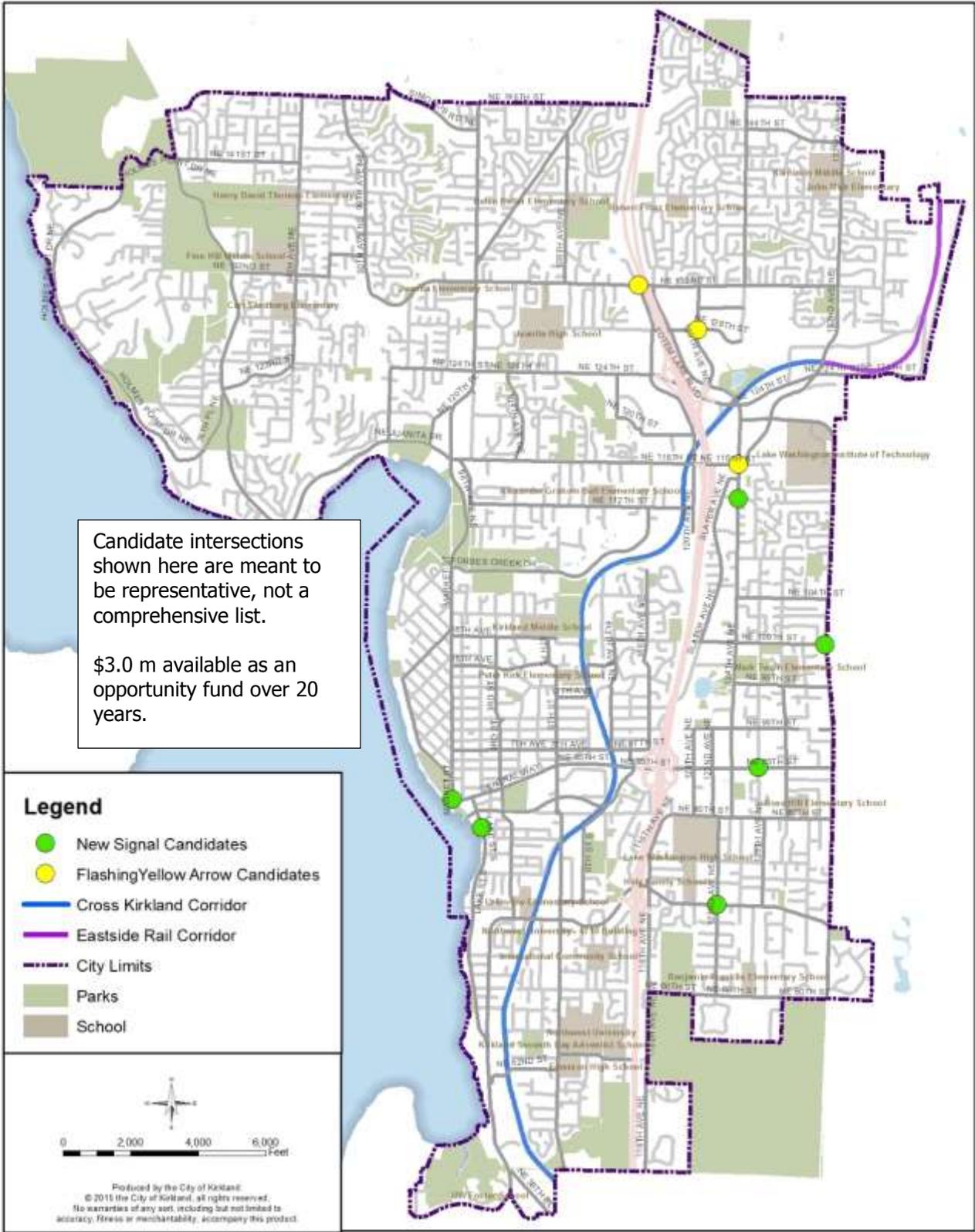
- Support for walking (\$1.3m)
 - Wayfinding
 - Maps
 - Promotion/education
- Support for biking (\$1.6m)
 - Similar to walking (wayfinding, maps, promotion/education)
 - Includes bike parking
- Transit
 - Service (\$10 m)
 - Support for transit
 - Transportation Demand Management } \$1.3 m

Conclusions

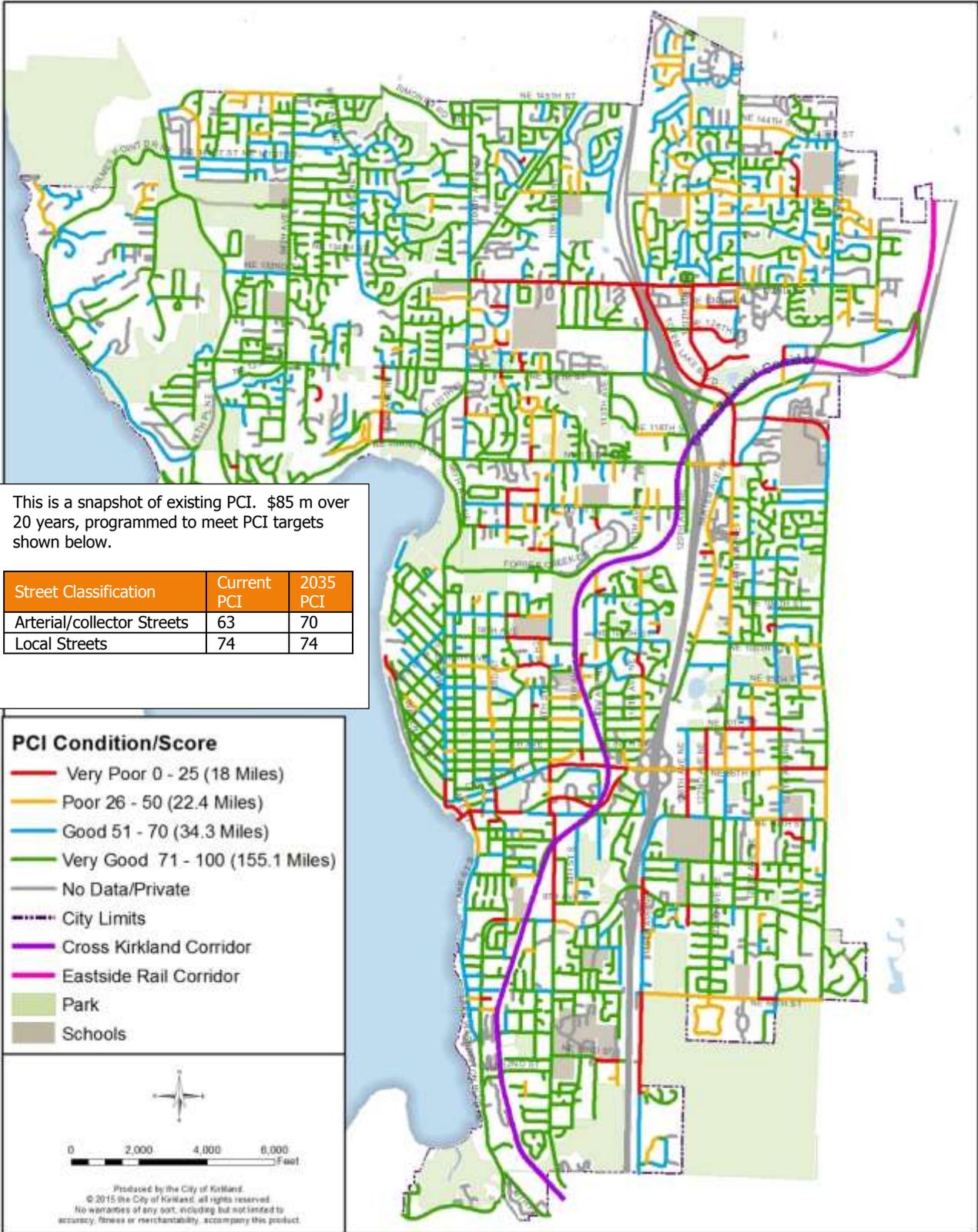
Council's comments on the 20 year Transportation Project list would be very helpful in determining the right mix of projects with which to move forward. Some potential questions/discussion points are presented below:

- Is the balance appropriate across project modes?
- Are there project categories that should be added or modified?
- Does the proposed project list adequately reflect the goals and policies? If not, what changes should be made?
- Are there tradeoffs between funded and unfunded elements that should be made?
- Is additional funding needed?

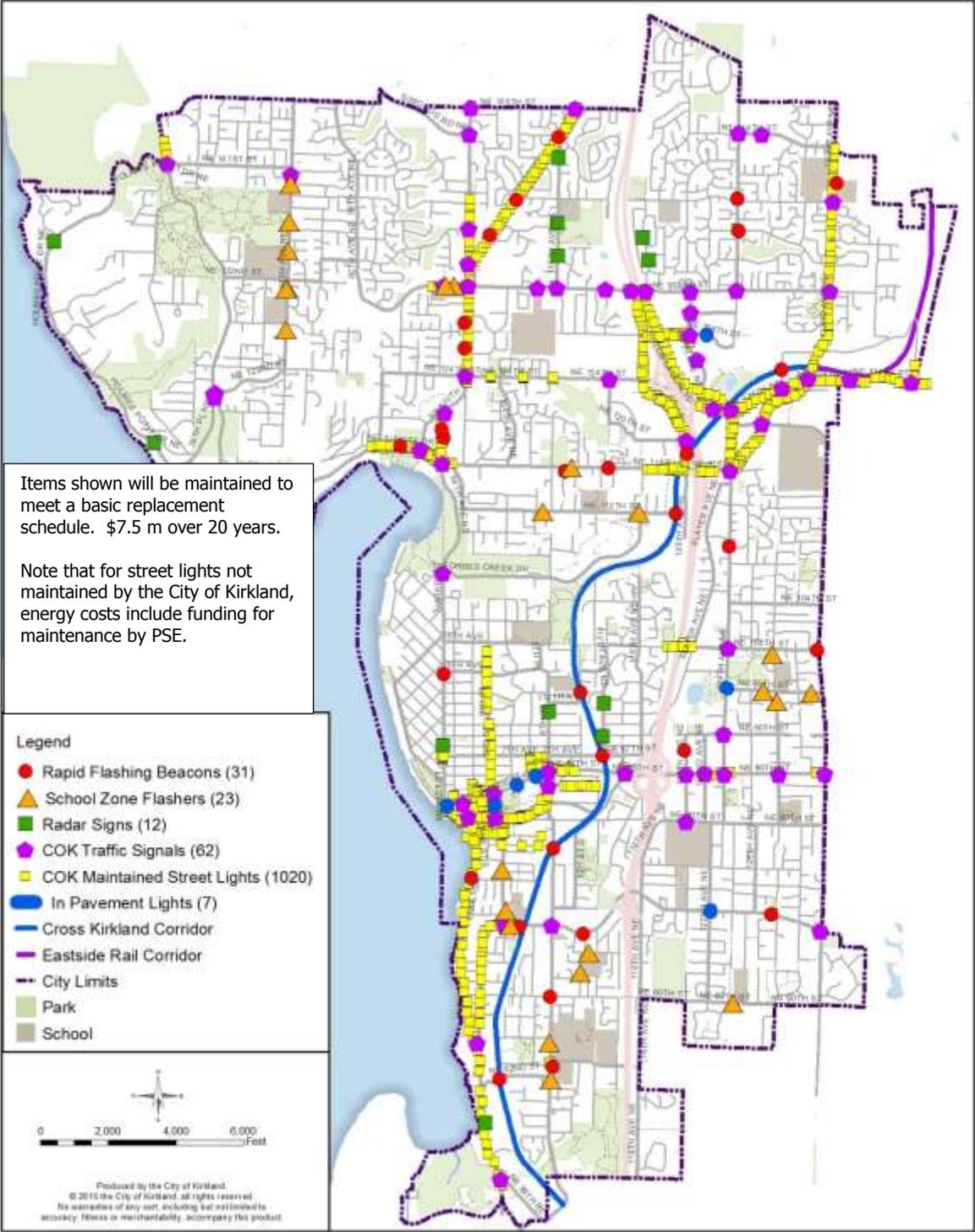
During April, the TMP will be reviewed by the Planning Commission and the Houghton Community Council. Outreach on the next draft of the TMP is planned for May and another Study Session with Council is planned for June 16 to review a final draft of the completed Plan. Adoption of the Plan will likely take place at the same time that the Comprehensive Plan is adopted. The Transportation Commission will continue to shepherd the development of the Plan.



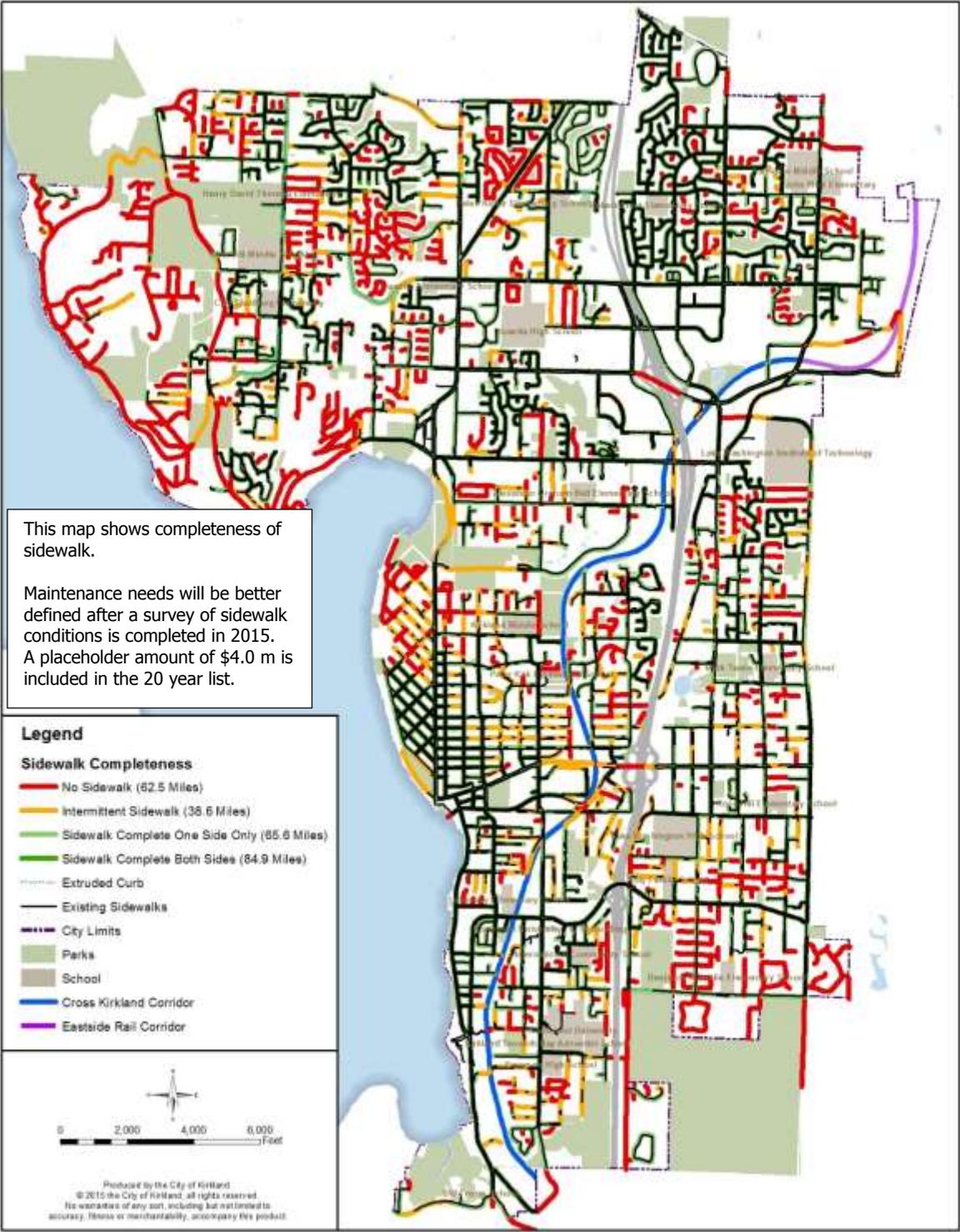
Map 1: New Signal and Flashing Yellow Arrow Candidate Intersections



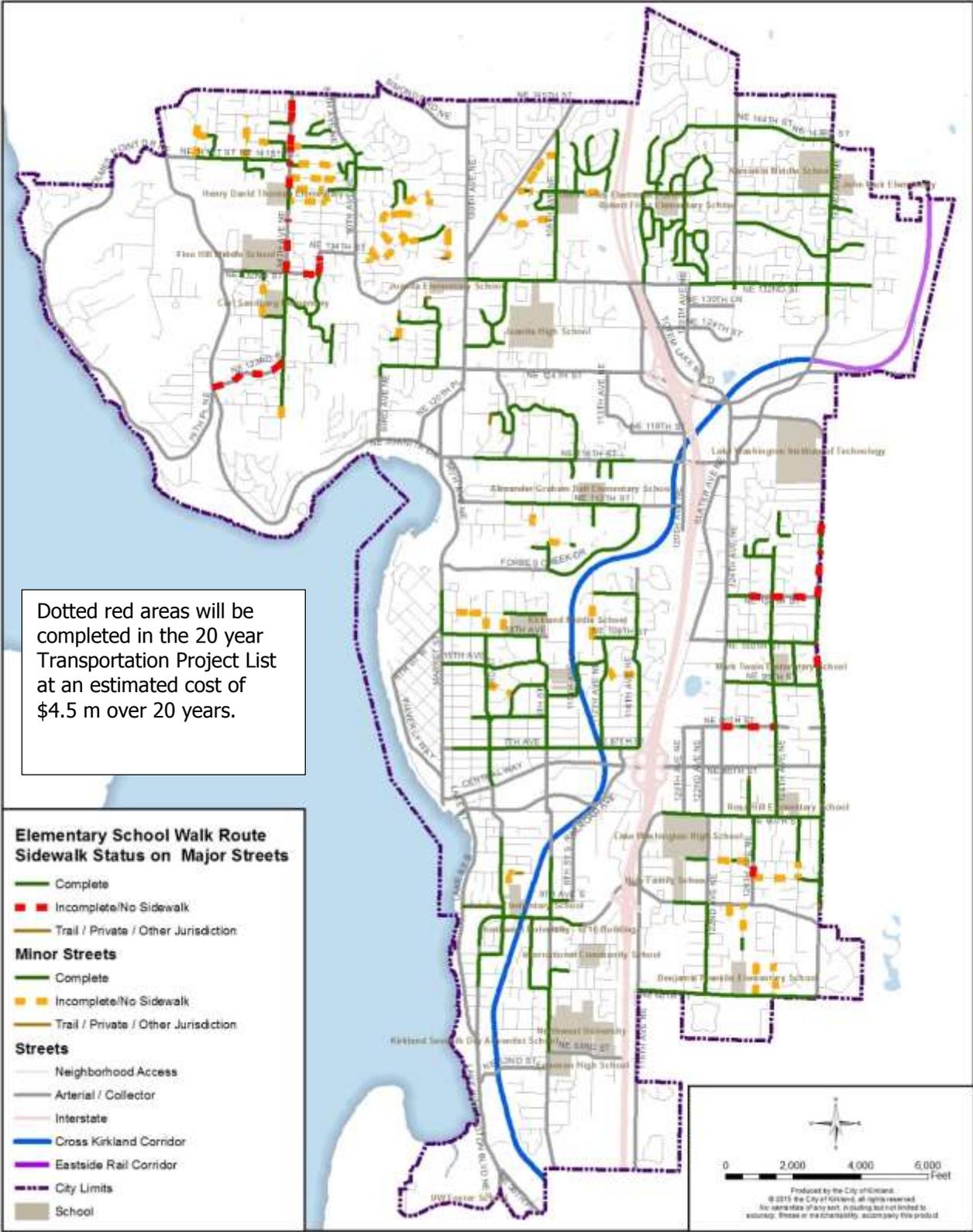
Map 2: 2014 Pavement Condition



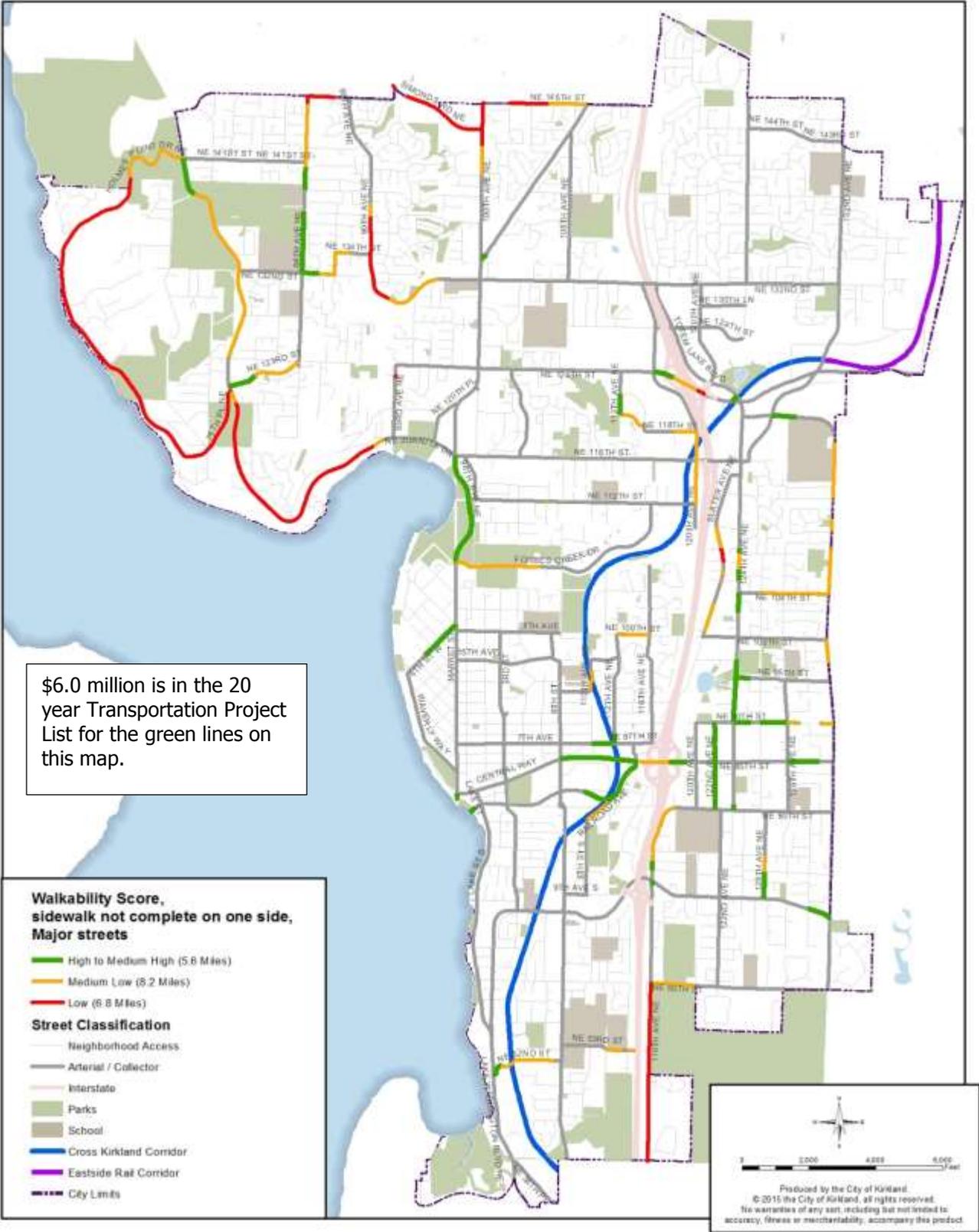
Map 3: Signals, Lighting and Other Devices Maintained by the City of Kirkland



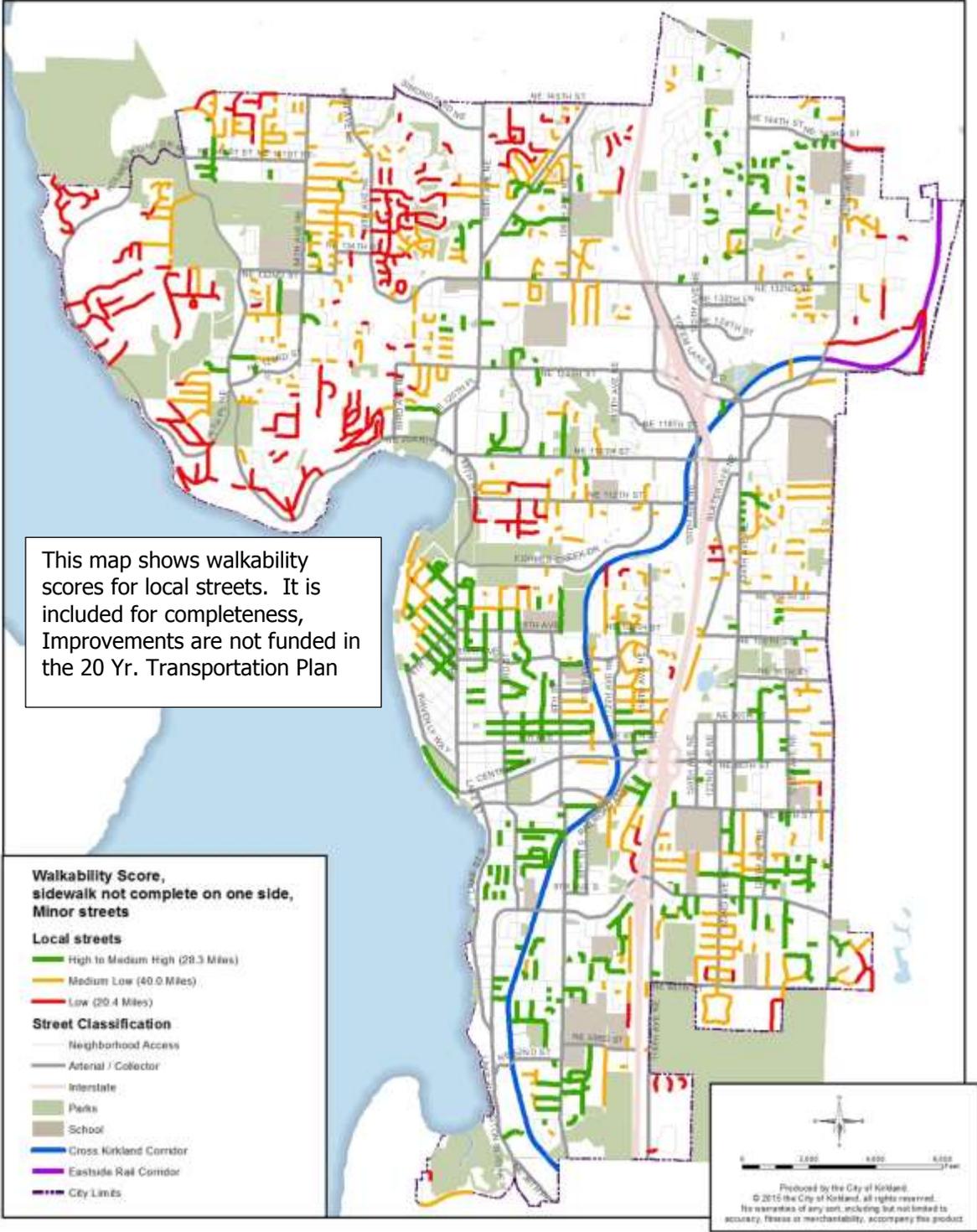
Map 4: Sidewalk Completeness



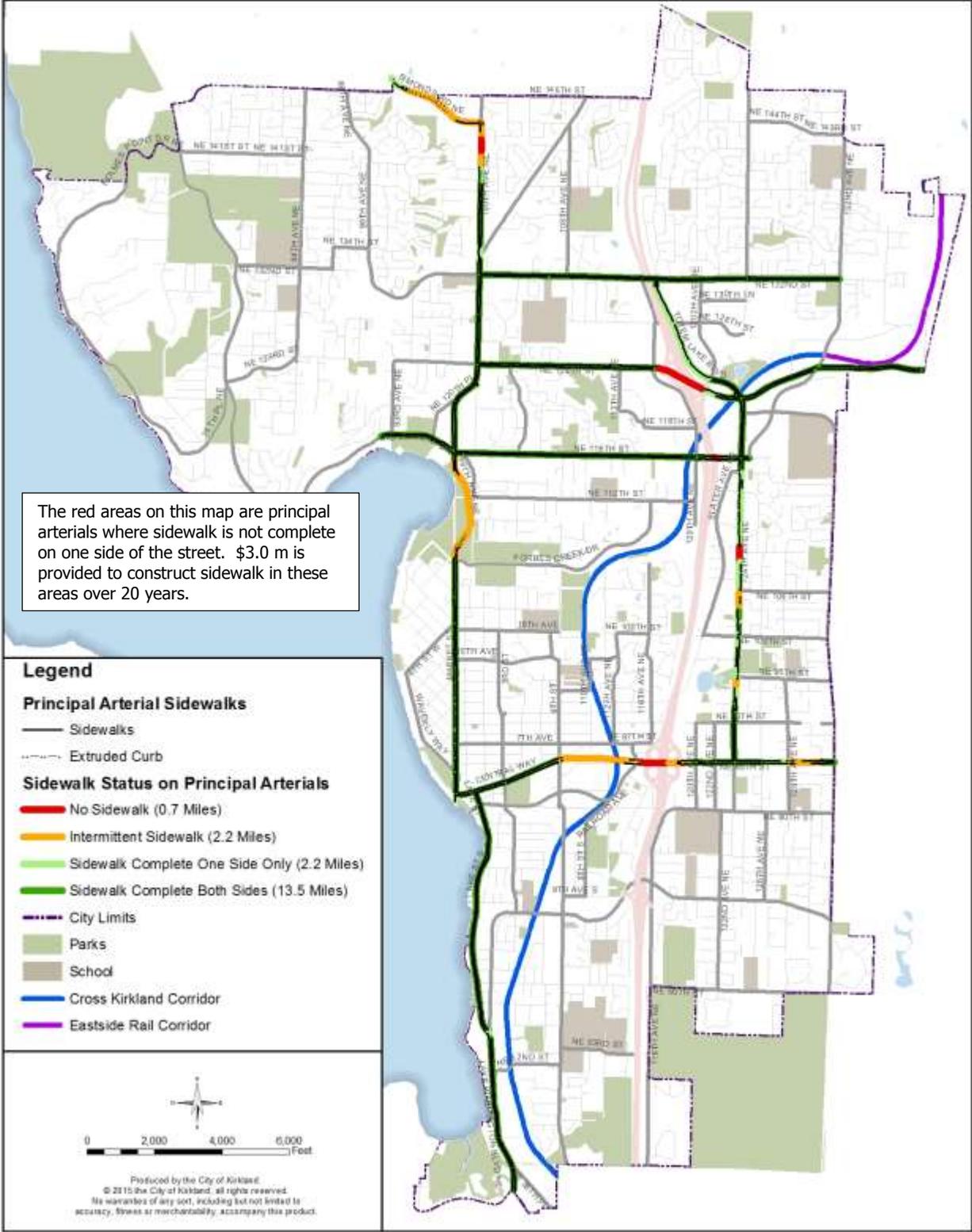
Map 5: School Walk Routes



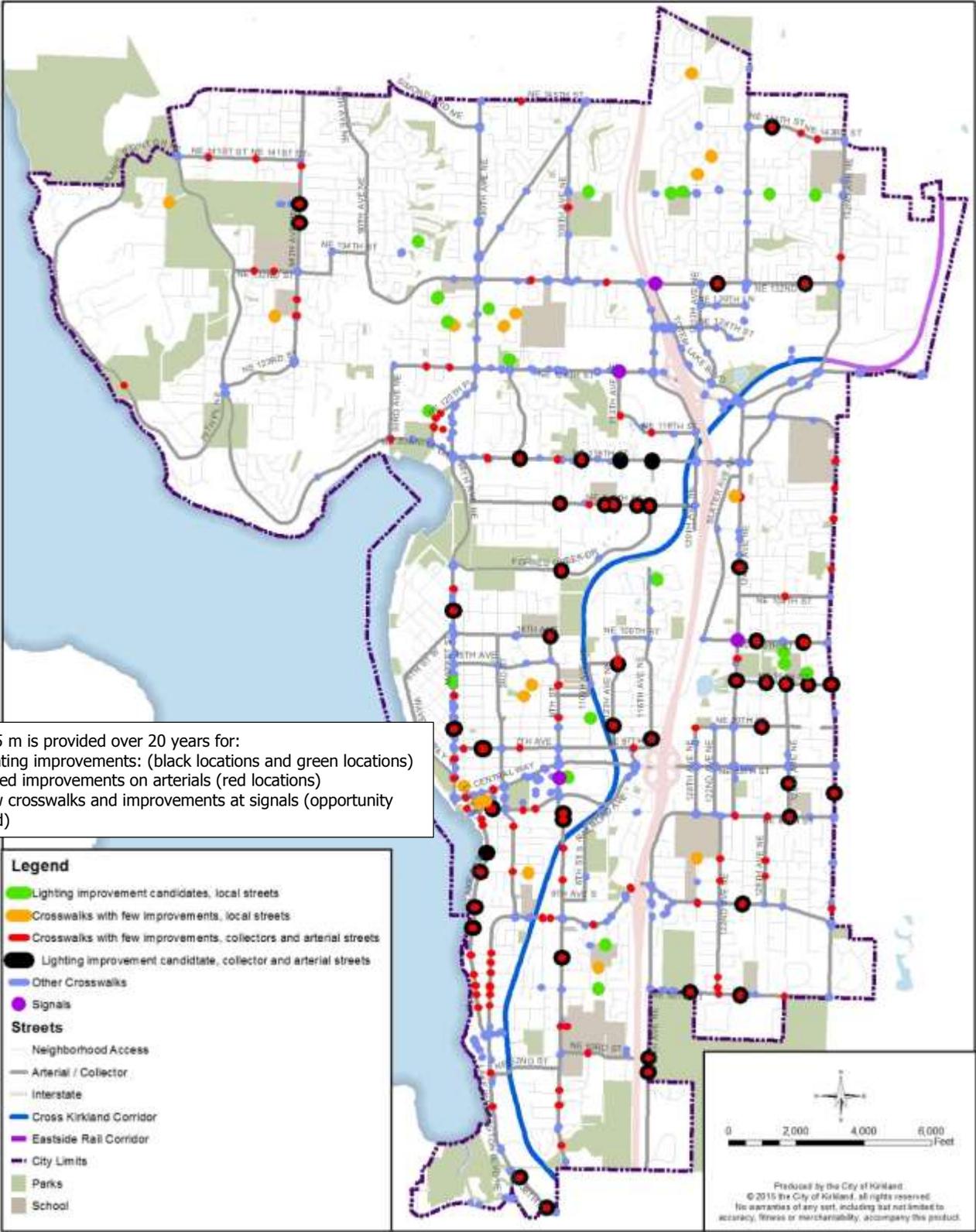
Map 6a: 10 min. Neighborhood Score (Walkability) and Sidewalk Completeness Major Streets



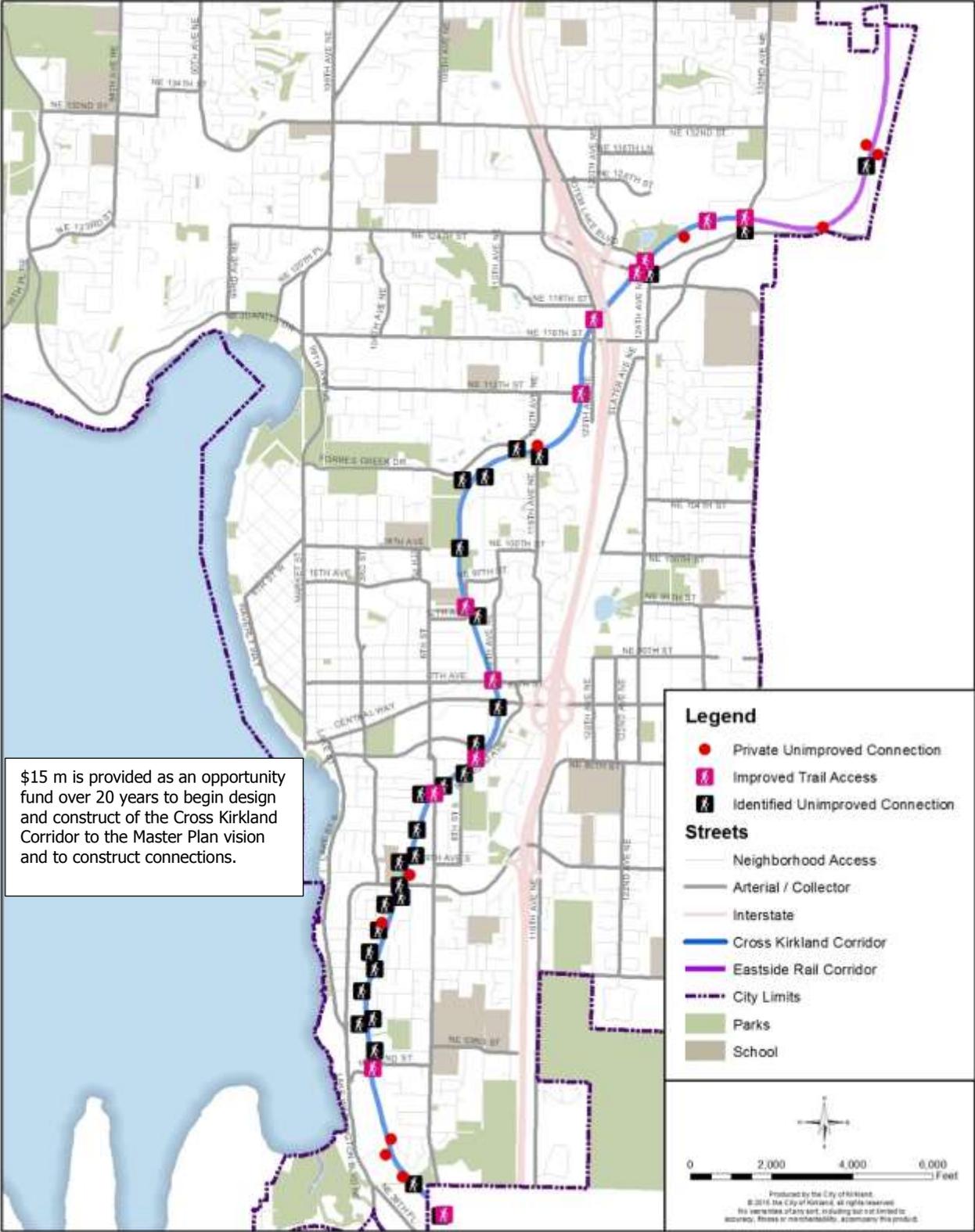
Map 6b: 10 min. Neighborhood Score (Walkability) and Sidewalk Completeness Minor Streets



Map 7: Sidewalk Completeness on Arterial Streets

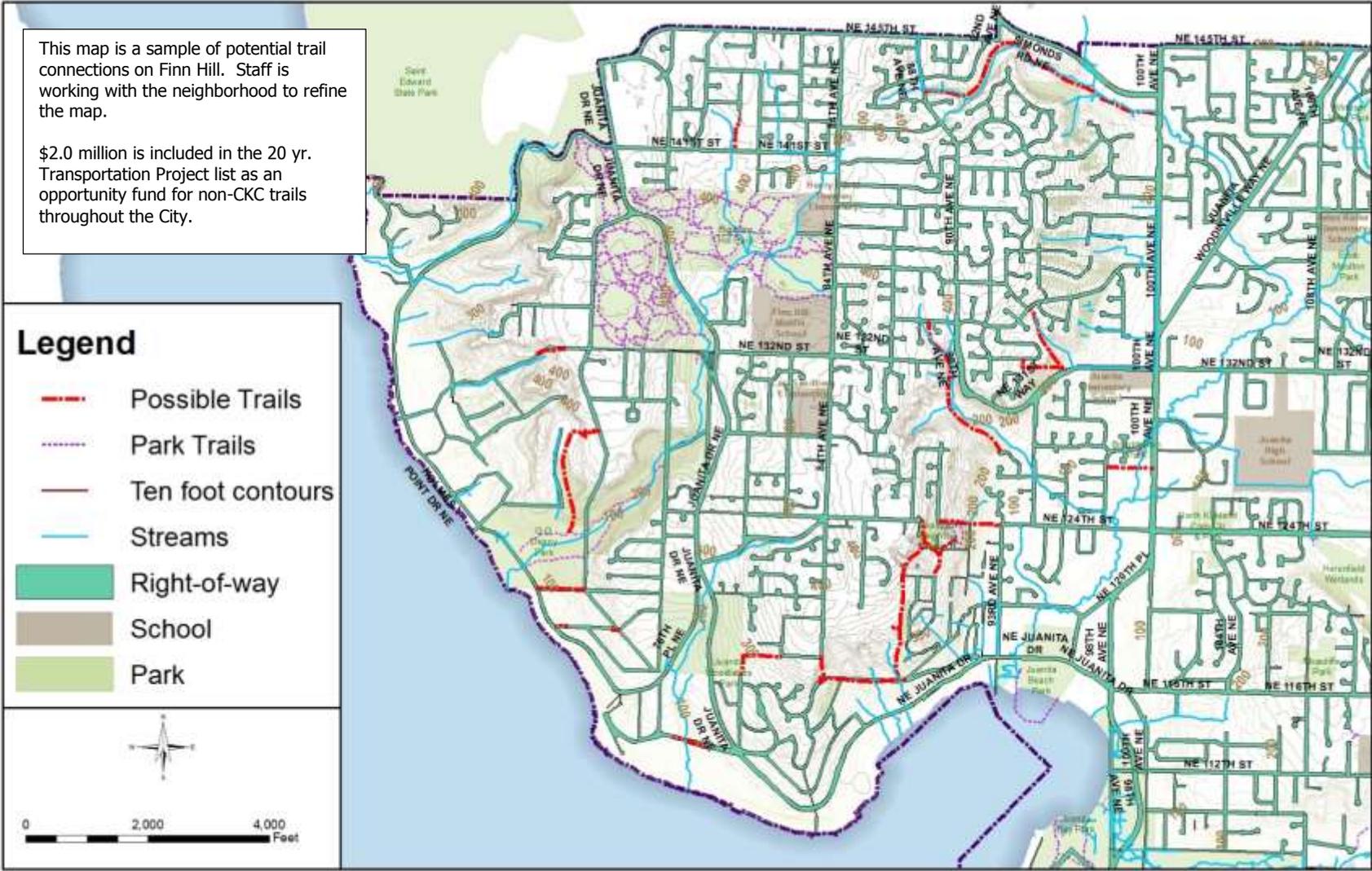


Map 8: Crosswalk Improvement Candidates

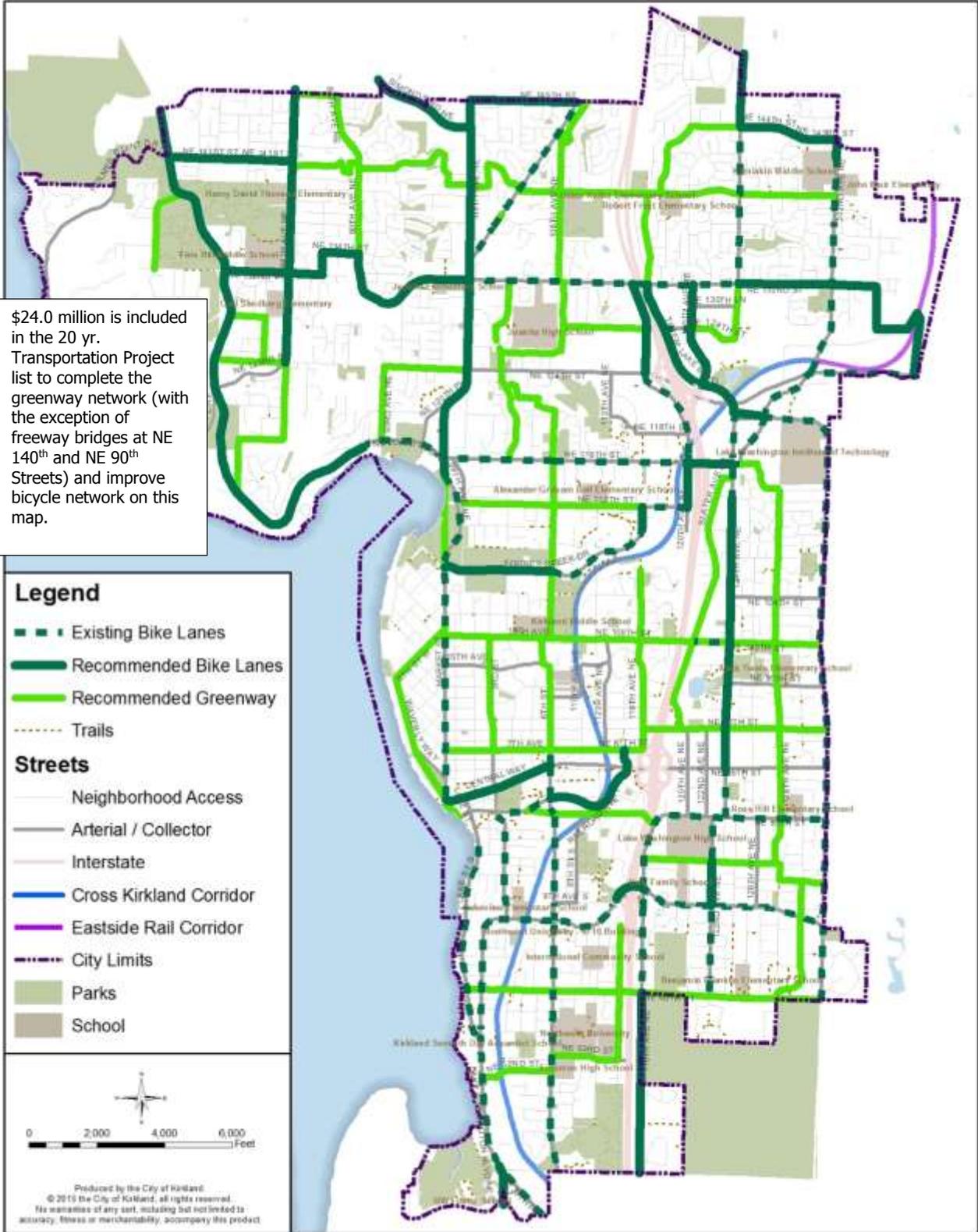


\$15 m is provided as an opportunity fund over 20 years to begin design and construct of the Cross Kirkland Corridor to the Master Plan vision and to construct connections.

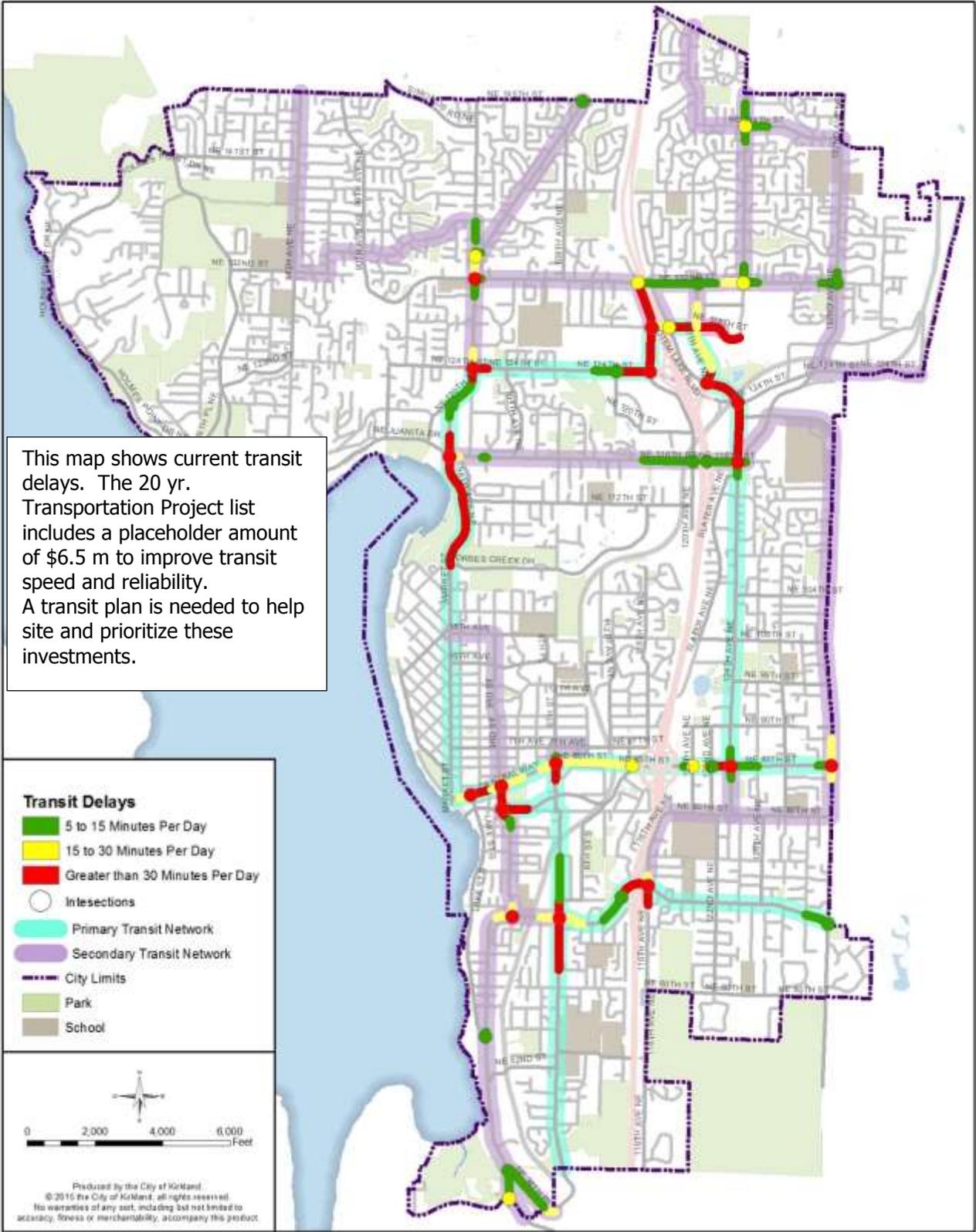
Map 9: Cross Kirkland Corridor & Connections



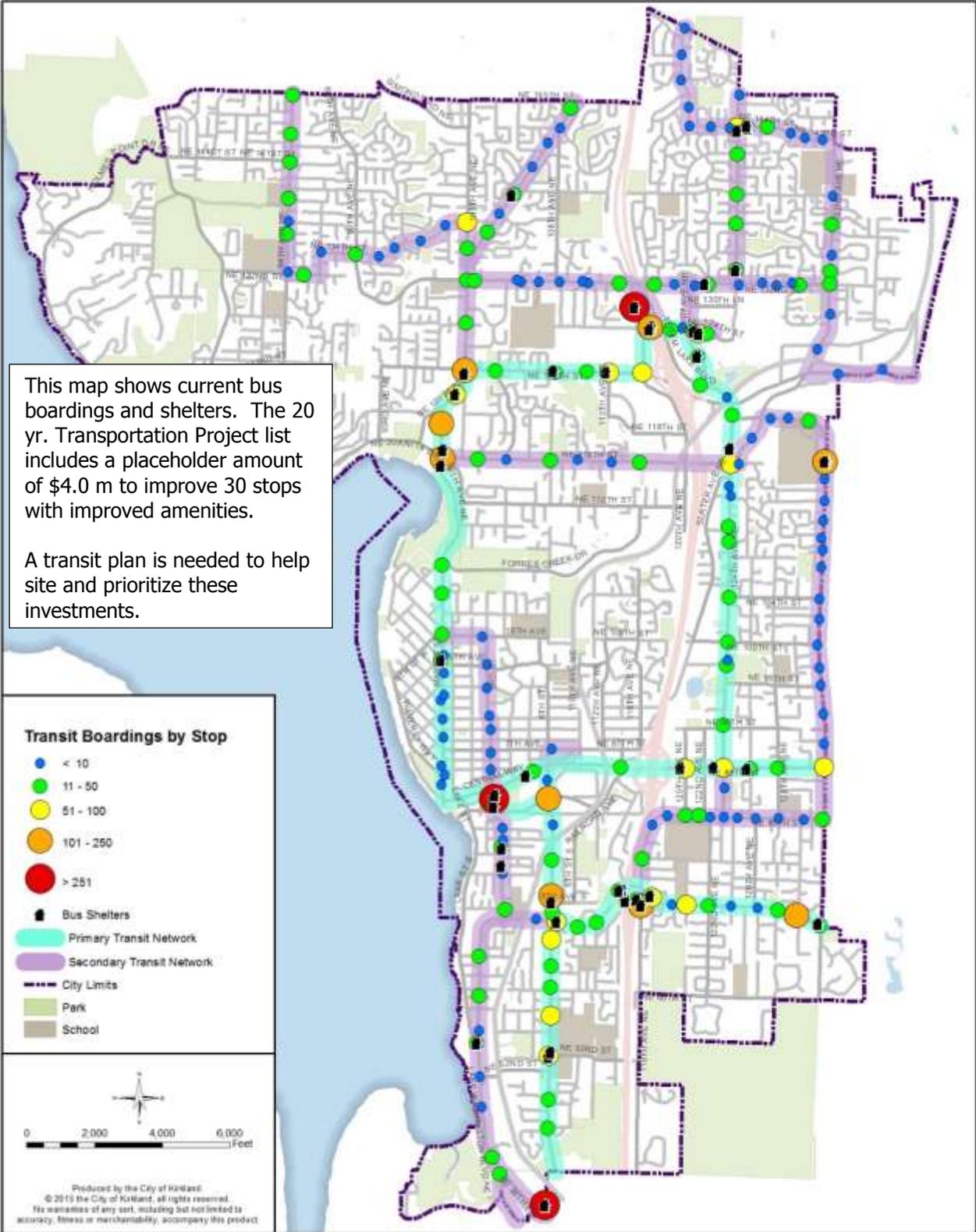
Map 10: Example Future Trail Connections in the Finn Hill Neighborhood



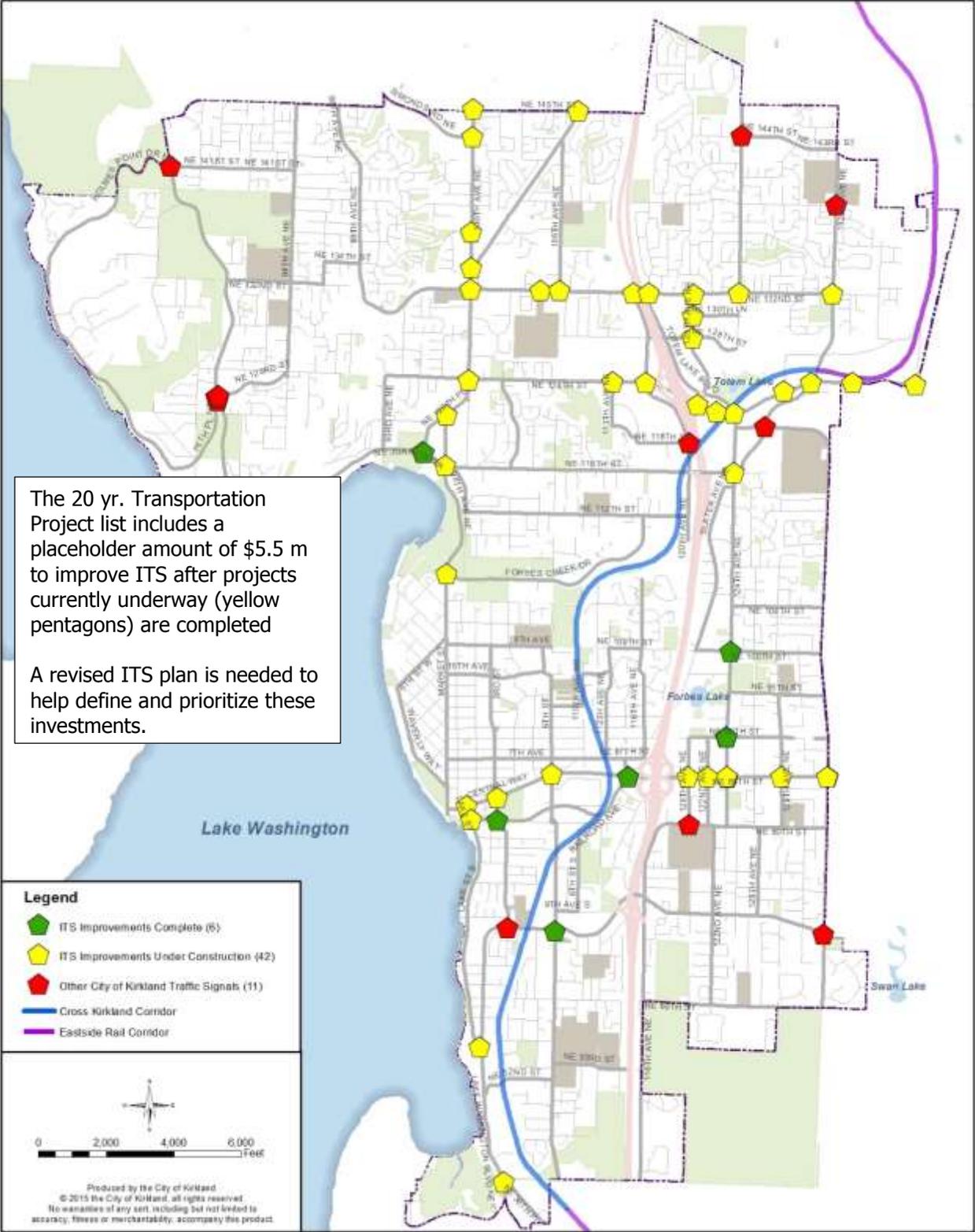
Map 11: Bicycle Network



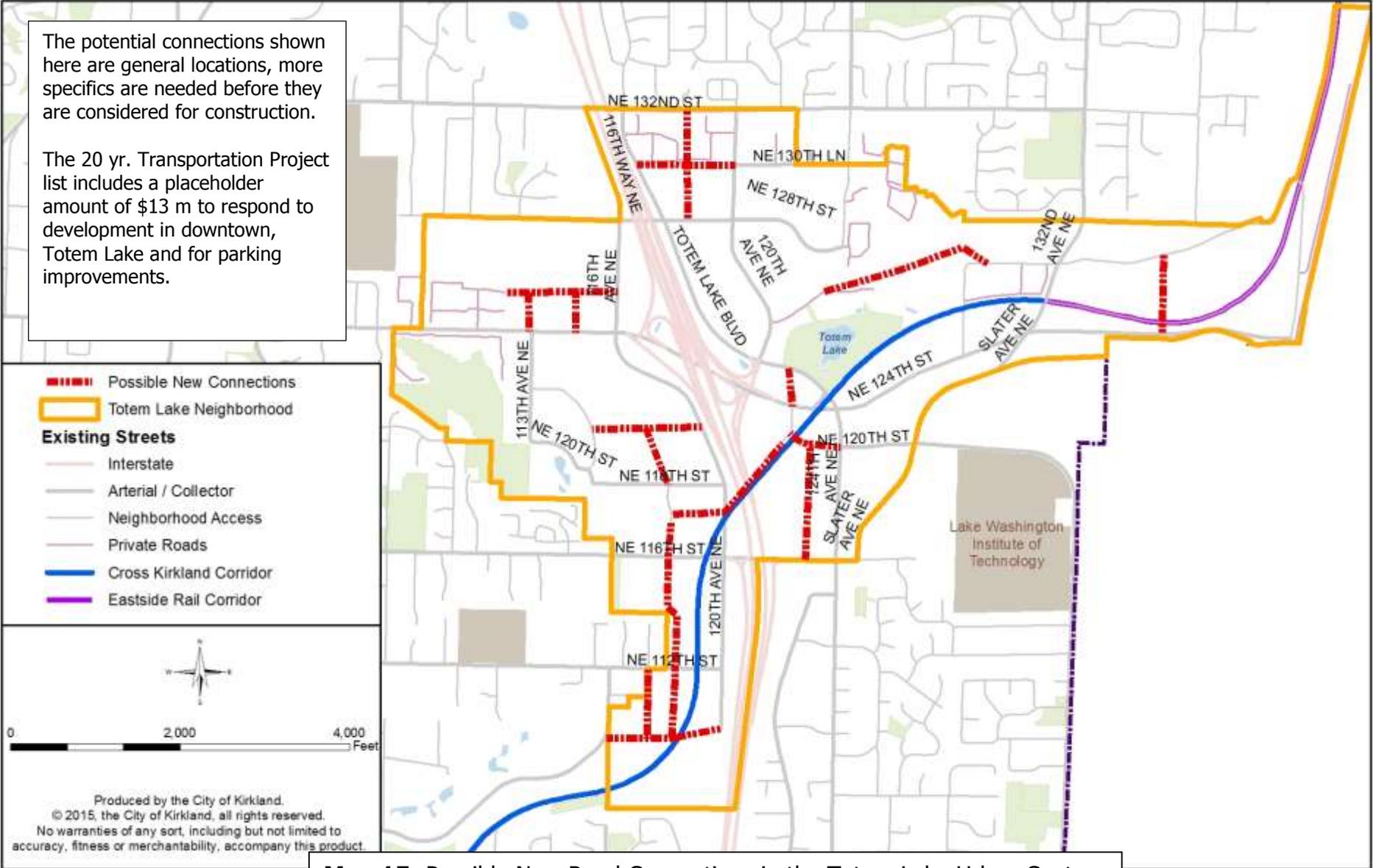
Map 12: Transit Delay



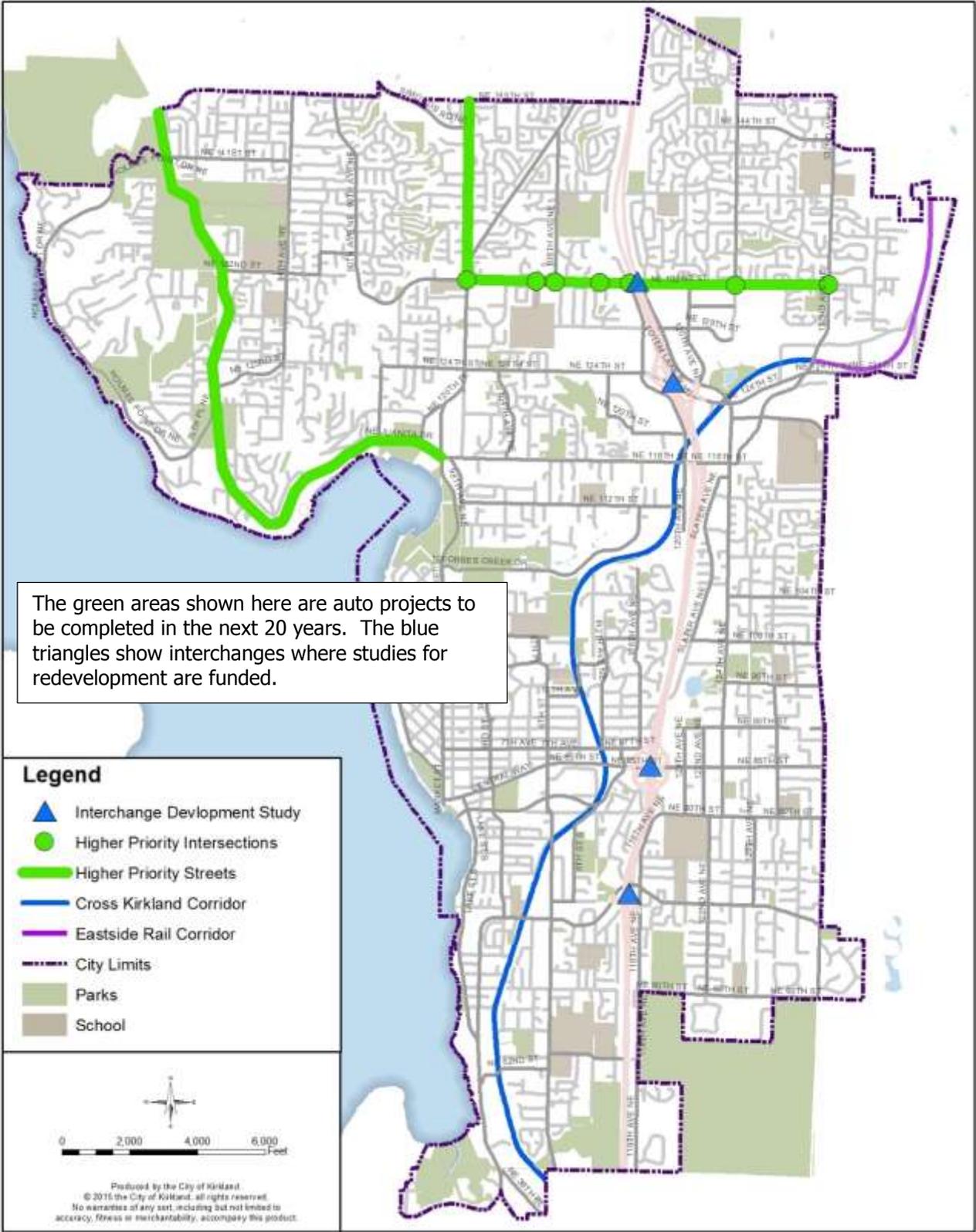
Map 13: Transit Passenger Environment and Boardings



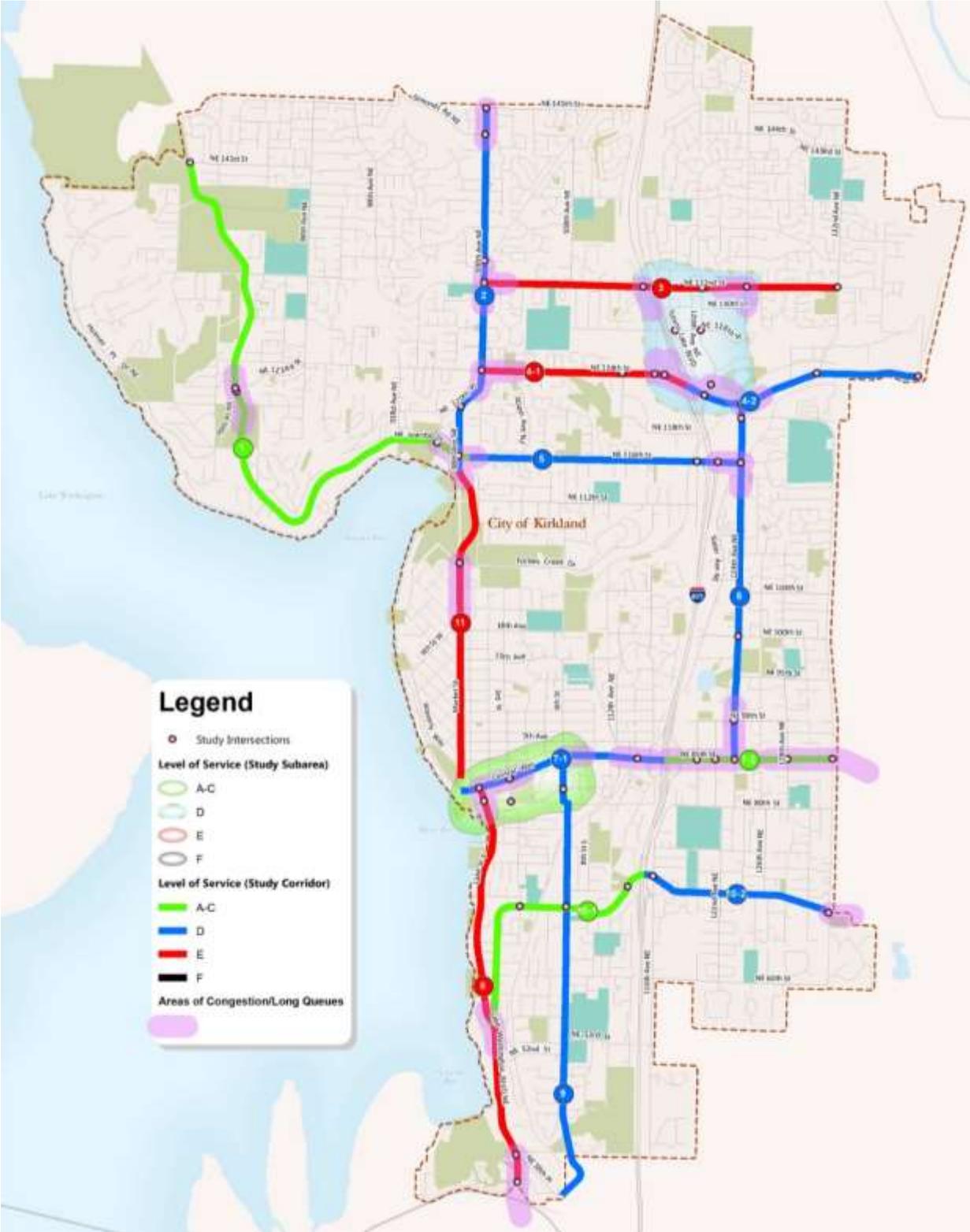
Map 14: Intelligent Transportation System Development



Map 15: Possible New Road Connections in the Totem Lake Urban Center



Map 16: Auto Projects



MAP 17: Auto delay based on volume weighted performance of traffic signals. Estimated based on **Current** Conditions



City of Kirkland
Alternative 1 - Centers 2035 Weighted Average LOS by Corridor and Subarea
(Updated February 14, 2015)



MAP 18: Auto delay based on volume weighted performance of traffic signals. Estimated based on **2035** Land Use and Transportation Network.