

MEMORANDUM

То:	Kurt Triplett, City Manager
From:	Laura Drake, P.E, Project Engineer Rod Steitzer, P.E., Capital Projects Manager Julie Underwood, Director of Public Works
Date:	April 22, 2021
Subject:	KIRKLAND AVENUE/LAKE STREET INTERSECTION IMPROVEMENTS— PROJECT UPDATE

RECOMMENDATION:

It is recommended that the Council receive an update about the Kirkland Avenue/Lake Street Intersection Improvement Project and provide direction on whether to expand the scope of the project. There are two scope enhancement opportunities for the Council to consider:

- Scope Enhancement #1: Signal and Surface Water Infrastructure
- Scope Enhancement #2: Urban Design Features

BACKGROUND DISCUSSION:

The intersection of Kirkland Avenue and Lake Street is at the heart of downtown and has a high level of pedestrian activity (see Attachment A, Vicinity and Area Map). Presently, pedestrians experience long delays waiting to cross the intersection, and curb ramps are not ADA compliant. There is a history of pedestrian/vehicular collisions at this intersection attributable in part to permissive turning movements for vehicles while pedestrians are crossing the street.

To improve safety, reduce crossing times, and increase sight distance, the current project scope is to build a raised intersection, replace ADA ramps, add curb bulbs, and modify the signal system to implement a "pedestrian scramble phase," during which all vehicles will be stopped while pedestrians are able to utilize any crosswalk in any direction. These changes will reduce vehicle peak-hour level of service from "B" to "C," but will improve pedestrian safety and accessibility. Additionally, the project will enhance the storm water system to accommodate the roadway improvements, handle surface water flow volumes, and treat surface water runoff.

Scope Enhancement Opportunity

This project requires excavation of the entire intersection to install the raised all-way pedestrian crossing. During excavation there are opportunities to accomplish additional utility and related infrastructure work that has been identified that is beyond the original scope. Because this project is still in its preliminary stages of design and engineering, staff is bringing forward several of these opportunities for the Council's consideration. If approved these actions would lead to scope amendments and require additional funding today but would save money for future projects and reduce the need for future excavations in this intersection. Potential funding sources for these scope changes is described later in the memo.

Existing site conditions include:

- Broken signal conduits;
- Aged traffic signal poles that are inconsistent with current signal and signing standards;
- The power service cabinet is two blocks away from the intersection; and
- Failing surface water conveyance pipes.

Replacing the signal conduits will allow for the installation of new cabling that is needed to implement the pedestrian scramble. Additionally, a portion of this conduit is planned to be utilized by the future Intelligent Transportation System Phase 3 Project. Given these present and planned needs, the conduit could be replaced with this project while the contractor is already excavating to install the raised intersection. While this scope modification would add costs to this project, it would be significantly more expensive to replace under a separate, future project in the same area.

The southbound signal is supported by a span wire instead of a signal pole. This intersection is one of only two locations in the City that still utilizes span wire for traffic signals (the other is at NE 145th Street on Juanita-Woodinville Road NE). The City standard is to use mast arms because of increased reliability and reduced ongoing maintenance. Mast arms are stable against environmental stresses, such as wind and snow, and provide a solid mount for the signal lights, which improves the life cycle of the signal light. Additionally, signals and signs hung on span wire are less visible to drivers, especially during windy conditions. While span wire is used only for the southbound direction, the three existing mast arm poles at the intersection are dated and undersized for current design standards. The timely replacement of the signal poles as part of this project would increase the intersection's lifespan and reduce the ongoing maintenance needs.

The existing power source that feeds the traffic signal at this intersection is adjacent to the parking lot at Merrill Gardens and is not visible from the intersection. When maintenance requires deenergizing the traffic signal system, one signal technician must go to the power service cabinet and turn off power, while another technician at the intersection calls to confirm the power is off. Although this condition is workable, it is not standard and causes increased issues for maintenance. One opportunity is to decommission the power source that serves the intersection from the Merrill Gardens lot and establish a new service connection and cabinet at the intersection.

Finally, the current existing surface water utility infrastructure is in poor condition. Surface Water Engineering has included this infrastructure on the City's "Aging and Failing" list and the Surface Water Maintenance Crew identified additional operational needs to address.

Because of the significant earth work inherent in the original project scope, there is an opportunity to leverage this project to address the deficiencies mentioned above. Addressing them at this time will reduce the risk of signal and surface water system failures during construction, save time and costs through simultaneous design and construction, and bring the system improvements up to standard for long-term reliable infrastructure operation and maintenance. Additionally, the simultaneous construction will have less overall impact on the public and businesses.

Scope Enhancement #2: Urban Design Features

In 2001, the Council adopted the *Kirkland Downtown Strategic Plan*, which noted, "the goal of transforming downtown Kirkland into a high-quality pedestrian village is broadly supported—it is the bedrock of common ground in the community." Together with the Council's own goals of "high quality of life in neighborhoods" and to "attract, retain, and grow our economic base," staff investigated the possibility of adding urban design features to this project, such as shown by way of example in Figure 1.

Urban design ideas and features may include:

- Decorative concrete sidewalk;
- Decorative concrete roadway;
- Decorative crosswalk treatment;
- Artistic pavement markings;
- Decorative bollards;
- Ornamental landscaping;
- Bench and bicycle rack; and/or
- Public art.

The illustrative ideas and features mentioned above could be added independent of each other (i.e., they are not necessary a



Figure 1: Possible Urban Design Features at Lake Street and Kirkland Avenue

"package"), and they could be designed and added within a range of minimal, moderate, or higher potential cost estimates.

While these urban features are not included in the current project scope, they would align with the goals and policies outlined in the 2019 *Greater Downtown Urban Center Plan*, including:

- Goal ED-4: Provide the infrastructure and public facilities to support economic activity and growth.
- Goal CF-1: Contribute to the quality of life in Kirkland through provision of public capital facilities and utilities.
- Policy CF-1.3: Encourage public amenities and facilities which serve as catalysts for beneficial development.

Given that the current proposed project would in itself cause significant construction and disruption in the downtown area, staff is seeking the Council's discussion and direction whether to include such enhancements in the project's initial design and engineering scope.

Budget

To improve pedestrian safety at this intersection, the City was awarded \$500,000 through the federally funded 2018 Washington State Department of Transportation Safety Grant Program. The City also received approval from the Department of Commerce to repurpose \$1,000,000 of State grant funds from the South Kirkland Park-and-Ride Project (awarded originally in 2013) to this project.

The current funding plan includes \$462,400 of City funds (23% of total funding), as shown in Table 1, below.

Table 1: Current Funding

Funding Source	Kirkland Ave/Lake St Intersection Improvements (TRC1370)	Lake Street Stormwater Repair (SDC1230)	Total Funding
City Contribution	\$ 177,500	\$ 284,900	\$ 462,400
State Funding (Department of Commerce)	\$1,000,000	-	\$1,000,000
Federal Funding	\$ 500,000	-	\$ 500,000
Total Funding	\$1,677,500	\$ 284,900	\$1,962,400

Scope Enhancement #1: Estimated Expenses and Funding

For Scope Enhancement #1, it would require an additional \$580,000 of City funding. The estimated costs for the elements of the scope enhancement are shown below.

- Replacing failing surface water conveyance pipes is estimated at \$105,000.
- To ensure proper operations of the enhanced signal option and allow for the greatest life cycle, the signal related elements of scope enhancement #1 are packaged together; as a result, the signal related enhancements are estimated at \$475,000.
 - Broken signal conduits \$120,000;
 - Replacing aged traffic signal poles that are inconsistent with current signal and signing standards \$190,000;
 - Replacing the power service cabinet two blocks away from the intersection \$165,000;

Table 2, below, shows projected expenses and current funding levels.

	City Funding	External Funding	Total
Total Funding Currently	\$462,400	\$1,500,000	\$1,962,400
Professional Services	(\$135,103)	(\$500,000)	(\$635,103)
In House	(\$160,497)	-0-	(\$160,497)
Construction	(\$588,000)	(\$1,000,000)	(\$1,588,000)
Contingency	(\$158,800)	-0-	(\$158,800)
Total Estimated Expenses	(\$1,042,400)	(\$1,500,000)	(\$2,542,400)
Difference	(\$580,000)	-0-	(\$580,000)
Additional Funding Needed	\$580,000	-0-	\$580,000

Table 2: Estimated Expenses and Funding

If the Council would like to enhance the current project scope to include "Scope Enhancement #1," then staff recommends the following sources to meet the additional funding needed:

- \$40,000: Intelligent Transportation Systems Phase 3 project (TRC12000); and
- \$540,000: Real Estate Excise Tax reserves.

If Council concurs with Scope Enhancement #1, staff will return to the May 18 meeting with a fiscal note for adoption.

Scope Enhancement #2: Estimated Expenses and Funding

Cost estimates ranging from minimal, moderate, or high are shown in Table 3, below.

Table 5. Cost Estimates for Orban Design Features						
Item	High	Moderate	Minimal			
Decorative concrete sidewalk	Х	Х				
Decorative concrete roadway	Х					
Decorative crosswalk	V	V				
treatment	^	^				
Artistic pavement markings	Х					
Decorative bollards	Х	Х	Х			
Ornamental landscaping	Х	Х	Х			
Bench and bicycle rack	Х	Х	Х			
Public art	Х	Х				
Concept level cost estimate	\$550,000	\$250,000	\$100,000			

Table 3: Cost Estimates for Urban Design Features

If the Council would like more information about the possibilities for adding urban design features to the scope, then staff will return to the Council at a future meeting with more information about urban design enhancement options, associated costs, and potential funding sources. Alternately, the Council could direct staff to proceed with the project without any of these features.

National Environmental Policy Act (NEPA)

A condition of the \$500,000 of federal funding for this project is that it obtain National Environmental Policy Act (NEPA) approval, which involves environmental impact review from several federal agencies. One of the federal agencies that reviews and comments on NEPA approval is the National Marine Fisheries Service (NMFS) to assess compliance with the Endangered Species Act. Historically, the typical response from NMFS on local transportation projects pursuing NEPA approval through the FHWA/WSDOT grant program is an informal consultation process, with local transportation projects likely receiving a "Not Likely to Adversely Affect" determination.

Recently, as the City has been experiencing with the 100th Avenue NE Project—which is at 100% design—NMFS has indicated it no longer considers previous, mutually-agreed guidelines for information to be sufficient. In the case of 100th Avenue NE project, the City supplied documentation with the project's NEPA application that it did meet the previous, mutuallyagreed guidelines and requirements for a "Not Likely to Adversely Affect" determination.¹ NMFS has a "best available science" standard and recent scientific studies show that chemicals in automobile tires may be contributing to the decline of endangered salmonid species. As a result, NMFS is looking at projects that expand vehicle lanes and add impervious surface much more carefully. 100th Avenue NE also discharges some of the stormwater directly into Cedar Creek. A more detailed presentation on this issue will be provided at a future Council meeting. While City staff continue to work with federal partners to navigate the 100th Avenue NE situation to a predictable and successful outcome, staff believes it should flag this situation for the Council's attention in the event the Kirkland Avenue/Lake Street Intersection project runs into a similar situation. Unlike the 100th Avenue NE project, the intersection project does not expand capacity for vehicles, nor add additional impervious surface. There is also no direct stormwater discharge into an open stream. For all these reasons, the Kirkland Scramble project may be less likely to trigger vehicle tire chemical-related concerns.

¹ Once staff obtains additional information about the 100th Avenue project and NEPA, staff will brief the Council.

Schedule and Outreach

Project design efforts began in March 2021 with survey and data gathering. Design will continue until late Autumn 2021. Were the contract to be advertised at the end of 2021, the selected contractor would begin long-lead procurement in early 2022. Construction is planned to span Spring and Summer 2022. If environmental permits are obtained successfully in a timely manner, permitting will be in place by the end of 2021. However, if NEPA approval becomes complicated because of NMFS review processes, staff will return to the Council with an updated schedule and recommended next steps.

As part of the design process, Public Works staff will keep businesses and residents apprised of the project's progress through informational flyers and regular updates to the project website that has been created.

Attachment A: Vicinity and Area Map

Attachment A



LI START

Vicinity and Area Map Kirkland Avenue/Lake Street Intersection Improvements