



CITY OF KIRKLAND
Department of Public Works
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MEMORANDUM

To: Kurt Triplett, City Manager

From: Laura Drake, P.E., Project Engineer
David Snider, P.E., Capital Projects Manager
Kathy Brown, Public Works Director

Date: March 3, 2016

Subject: KIRKLAND ITS IMPLEMENTATION PHASE II PROJECT
AWARD CONTRACT

RECOMMENDATION:

Staff recommends that the City Council:

- Receive a project update on the Kirkland Intelligent Transportation System (ITS) Implementation Phase II Project (Project), including a discussion on multiple options for filling a projected budget shortfall; and
- Approve by motion staff's conclusion and recommendation for completing the Project, as originally envisioned, using REET 2 Reserves in the amount of \$360,000; and
- Award by motion the construction contract for the Project to Totem Electric, Inc., Tacoma, WA, in the amount of \$1,729,338.50.

BACKGROUND DISCUSSION:

The ITS Phase II Project will upgrade traffic signal equipment, interconnect traffic signals, and add data collection and field monitoring equipment at various locations throughout the 100th Ave NE, NE 124th St, and NE 132nd St corridors in the Juanita, Totem Lake, and Kingsgate Areas (Attachment A). Specific equipment elements for Phase II include new signal cabinet assemblies, signal controllers with accessible pedestrian signals (APS), central control hardware and software, and closed circuit television (CCTV) cameras for traffic monitoring and video detection.

The ITS Phase II Project is the second of three related ITS projects scheduled for completion by 2017. The Phase I of the overall project included construction of the Traffic Management Center (TMC) at City Hall, as well as signal improvements along Lake Washington Blvd., Market Street, 100th Avenue NE, Central Way, and NE 85th Street (Attachment B). The Phase I work was accepted by City Council at the February 16, 2016 meeting with a reported positive project balance of approximately \$7,000. The final ITS project for completion in 2017, the Citywide Safety Project, will install fourteen additional signal controllers and provide for full coordination and timing of all three Phases of ITS connected signals throughout the City. The Citywide Safety Project is scheduled to begin upon the completion of the ITS Phase II Project.

An engineer's estimate for the Phase II Project was prepared, totaling \$1,476,595.00. This estimate was an updated number, based on the average unit prices received during the Phase I bid results, including a reasonable inflationary adjustment for 2015. In spite of these precautionary cost estimate updates, all bids on the project have come in considerably higher than the engineer's estimate.

The Phase II Project was advertised for contractor bids in December, 2015. On January 27, 2016, three bids were received, with Totem Electric, Inc., being the lowest responsive and responsible bidder. The bid results are as follows:

Table 1 – Bid Results

Contractor	Total Bid
<i>Engineer's Estimate</i>	<i>\$1,476,595.00</i>
Totem Electric	\$1,724,759.50
Prime Electric, Inc.	\$ 1,775,375.00
Elcon Corporation	\$1,792,452.00

As shown, the lowest bid is \$248,264.50 over the engineer's estimate. This bid price, combined with other known and anticipated costs (including a 5% construction contingency), raises the total Project cost estimate from \$2,951,000 to \$3,311,000 (Attachment C).

Increased Costs

The design phase for the Project began in September, 2013, and was completed in December, 2015. Over the course of that Project Phase, certain changes associated with grant funding and existing site conditions led to anticipated cost increases; however, the full extent of those increases was not completely known until the bids were opened. Armed with the information received through the bid opening, staff analyzed the bids to more fully understand the causes for the disparity between the engineer's estimate and the three reasonably consistent bid prices received. The following is a summary of the two main reasons behind the higher-than-anticipated contractor bid prices:

- **Traffic Control:** In June, 2015, with the ITS Phase II plans and specification at a 90% complete state, the Washington State Department of Transportation/Local Programs (WSDOT/LP) Office, as the grant administrator, implemented a new requirement for the production of project-specific traffic control plans for all federally funded projects. As a result, 53 new engineered and professionally stamped Traffic Control Plans and Details were developed by the consultant to be included in the final Project plans. These Project-specific traffic control plans eliminated the contractors' ability to choose their own appropriate means and methods for the implementation of traffic control. While the engineer's estimate allowed for an increase due to the changed traffic control requirements, all three contractors' bids came in much higher than expected. For all items associated with traffic control, the low bidder's price of \$211,220 represents 207% of the engineer's estimate of \$101,600 ($\$211,220 - \$101,600 = \$109,620$).
- **Mobilization:** In general, the majority of all individual bid prices were higher than estimated for all three bids. The bid item "Mobilization," which represents the contractors' prices for all preconstruction expenses and costs of preparatory work, was nearly double that of the engineer's estimate. Specifically for this bid item, the low bidder's price of \$158,690 representing 240% of the engineer's estimate of \$66,300 ($\$158,690 - \$66,300 = \$92,390$).

As a result, for just these two bid items alone, the low bidder's price is over \$202,000 of the nearly \$248,164 increase above the engineer's estimate.

Funding Approval Request:

The Project is currently funded through \$2,201,141 in federal Congestion and Mitigation of Air Quality (CMAQ) grant funds with City matching funds of \$749,900; the currently approved total budget is \$2,951,000. Based on the bid results, plus updated numbers for known and anticipated costs for engineering, construction management and inspection, grant documentation and City pre-purchased ITS equipment (with grant funding), the revised overall total Project budget is \$3,311,000. The resultant additional funding needed to complete the Project is \$360,000 (Attachment C).

Additional Funding Options

In order to address the projected budget deficit, staff evaluated a number of options as possible offsets to the additional funds needed: 1) rejection of the bids with a recommended re-bid, 2) a reduction in the Project scope, 3) the reprioritizing of existing Transportation projects in the current CIP, and 4) the use of existing reserves or other revenue funds available for use on Transportation projects. On February 24, 2016, staff met with the Kirkland Transportation Commission (TC) to review the options and to receive Commissioners' input. Through that consultation with the TC, staff has developed the following list of options with "pros" and "con" for consideration:

- Option 1 – Seek City Council authorization to reject all bids.
 - Pro: Allows more time to identify and pursue additional funding.
 - Con: Typically, a re-bid does not result in lower bid prices and given the current state of the construction market, there is every indication that costs are increasing monthly and a delay will likely result in even more funding needed to complete the work. Also, the fact that all three bid prices were relatively close indicates that there was a consistent understanding of project scope and a consistent market approach to the bids.
- Option 2 - Reduction in the current Project scope.
 - Pro: A relatively simple process from a contracting perspective, complicated by the fact that the current project was advertised with the full scope and any change at this point would have to be made through a WSDOT/LP approved change order after a contract award is made.
 - Con: All traffic signal controller cabinets and equipment has been procured for the Project using grant funds -- the configuration and testing of the equipment has also begun. Due to federal grant requirements, not installing all cabinets and controllers during ITS Phase 2 would require Kirkland to return the federal funds spent on the unused cabinets. Returning cabinets to the manufacturer would require, at a minimum, un-configuring the cabinets and paying restocking fees with local funds. Alternatively, if the cabinets are not able to be returned, the procurement cost for the unused cabinets and equipment would come out of local funds. Additionally, delaying portions of the project would require redesign and would likely require additional equipment to meet more stringent future national standards. Finally, reduction in scope along the 100th Ave NE and NE 124th St corridors would prevent closing out the agreement with King

County. For an annual fee, the agreement allows Kirkland to use King County's fiber optic communication system to operate traffic signals along the corridors. (Attachment B).

- Option 3 – Delay/re-prioritize other funded projects in the adopted CIP
 - Pro: City Council has approved budgets for several current and future Transportation projects in the CIP. With City Council's authorization, it would be possible to deduct funds from selected projects. By delaying the start of these projects, staff would work towards re-balancing those project funds through the upcoming CIP process. Potential 2016 projects for consideration of deduct and future replacement of fund include:

Table 2A – Existing CIP Project B Total

Funding Source	CIP Project Funding Available
TR 0116 – Signal Maintenance Program	\$150,000
TR 0117 002 – Vision Zero Safety Imps	\$50,000
TR 0117-003 – Neighborhood Traffic Control	\$50,000
NM 0006-201 – Neighborhood Safety Program	\$200,000
TOTAL	\$450,000

Table 2B – Existing CIP Project by Year

Project Number	Project Title	2015	2016	2017	2018	2019	2020	2015-2020 Total
TR 0116	Annual Signal Maintenance Program		150,000	150,000	150,000	200,000	200,000	850,000
TR 0117 002	Vision Zero Safety Improvement		50,000	50,000	50,000	50,000	50,000	250,000
TR 0117 003	Neighborhood Traffic Control		50,000		50,000		50,000	150,000
NM 0006 201	Neighborhood Safety Program Imps	200,000	200,000	200,000	200,000	200,000	200,000	1,200,000

- Con: The three "TR" projects listed above represent maintenance projects that were fully developed and vetted during the Transportation Master Plan process, with the guidance and input of the Kirkland Transportation Commission, as well as though many Study Session meetings and updates with City Council. With additional input from the Transportation Commission at their February 24, 2016 meeting, the Commission members reiterated the importance of not deferring the Annual Signal Maintenance Program (TR 0116) until 2017 or sacrificing other big initiative projects such as Vision Zero Safety Improvements (TR 0117-002) or the Neighborhood Traffic Control Projects (TR 0117-003). The Transportation Commission members did, however, suggest the Neighborhood Safety Program (NM 006-201) as a more practical option as it represents "legacy" improvements as opposed to the deferring of maintenance and/or projects benefiting a larger segment of the general public. From a staff perspective, however, significant collaborative effort has occurred with the neighborhoods and a ramping-down would likely be extremely disappointing to community members who have participated in the process.
- Option 4 – Use of REET 2 revenue/REET 2 reserves
 - Pro: allows completion of projects currently identified in the TMP and funded in the CIP. REET revenues have been coming in above anticipated budget

because of recent strong economic activity. This additional revenue is well in excess of the \$360,000 and will be recognized later this year, replenishing the reserve. Additionally, current REET 2 reserve balances are already above target. This condition has been discussed in CIP and operating budget discussions with Council; it has also been a topic included in quarterly financial reports.

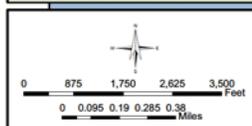
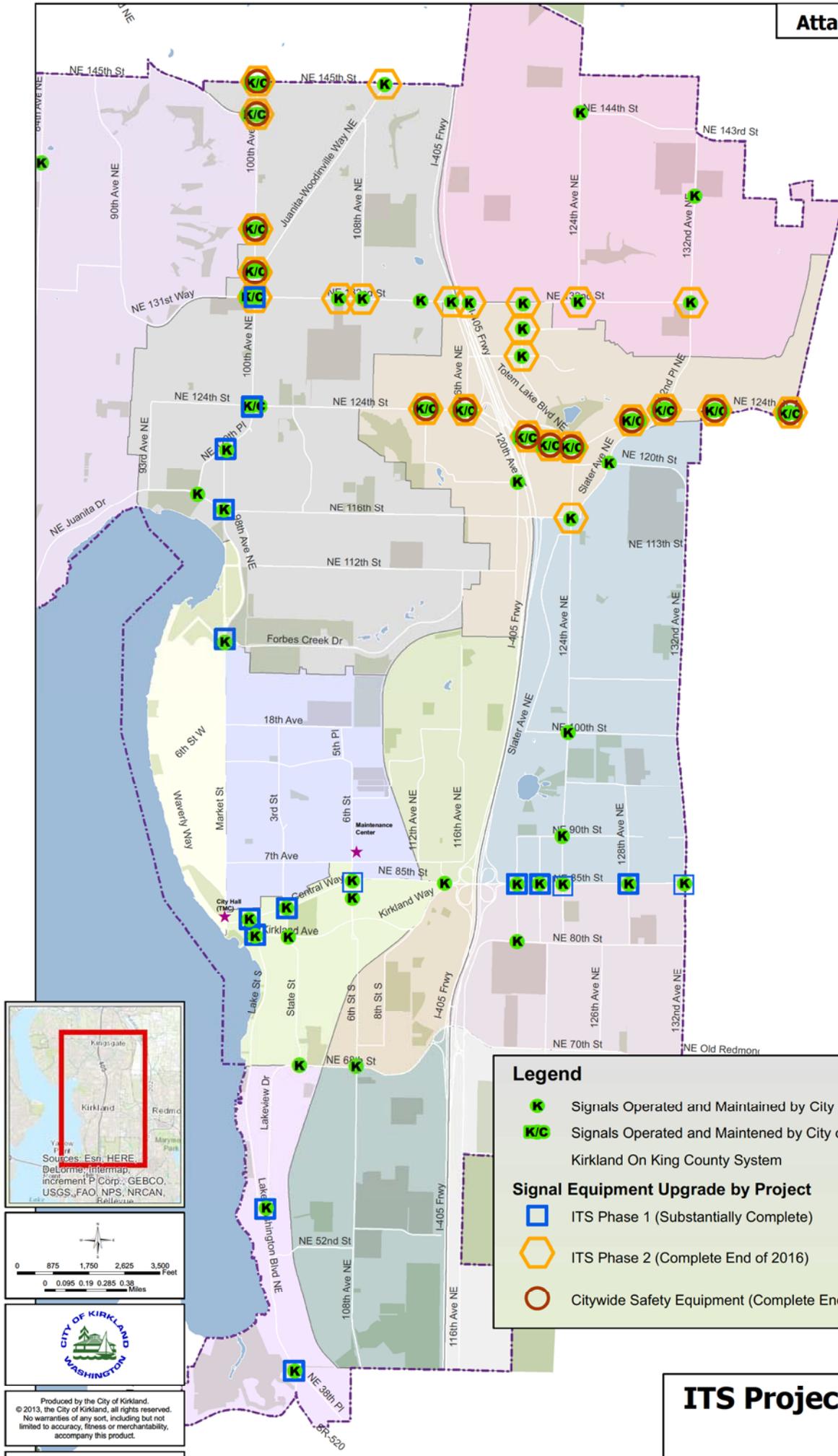
- Con: funds used here would not available to support other projects and/or be available for grant matching needs in the immediate future.

Conclusion and Staff Recommendation

Staff recommends Option 4, the use of existing REET 2 reserves for completing the project. The reserves will be replenished later in the year. The Project is currently funded at a ratio of 75% grant to 25% local match. An increase of \$360,000 will result in a ratio change to 62% grant to 38% local match.

If the Council concurs with the staff recommendation it would need to approve the funding and the award of the construction contract by motion. With a City Council award of the construction contract at the March 15, 2016, construction would begin in spring, 2016, with an expected substantial completion in late fall following a 120 working day schedule. In advance of the construction, staff will renew public outreach efforts by distributing regular Project updates through various means, including regular Project website updates on contractor work zones, construction schedules, and progress.

Attachment A: Vicinity Map
Attachment B: ITS Projects Map
Attachment C: Project Budget Report
Attachment D: Fiscal Note



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Author: Joe Plattner / Phil Larkin / Laura Drake
 Name: ITS-Phase-II ITS-Projects-Map.v1
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Legend

-  Signals Operated and Maintained by City of Kirkland
-  Signals Operated and Maintained by City of Kirkland On King County System

Signal Equipment Upgrade by Project

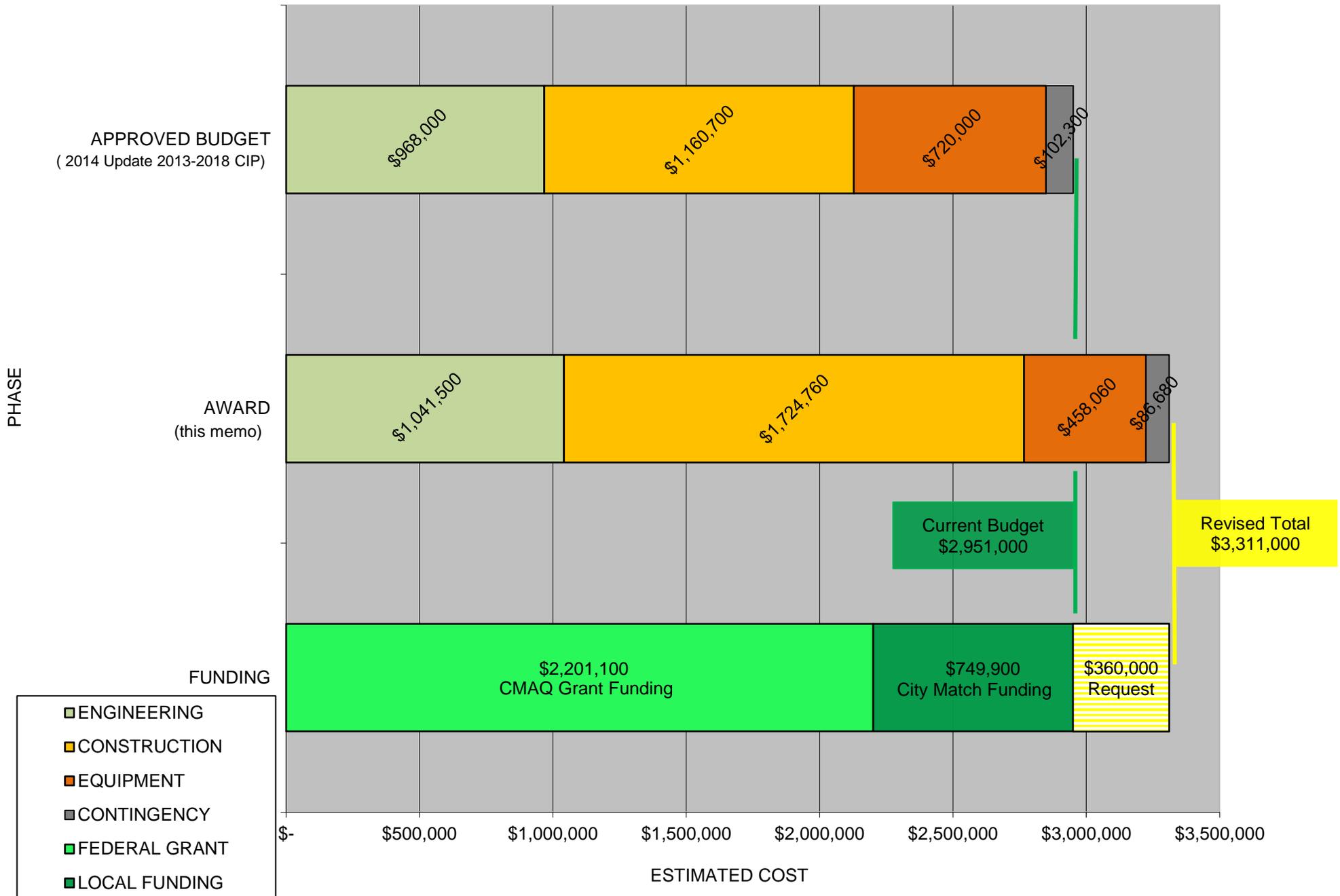
-  ITS Phase 1 (Substantially Complete)
-  ITS Phase 2 (Complete End of 2016)
-  Citywide Safety Equipment (Complete End of 2016)

ITS Projects Map 2016

Kirkland ITS Implementation Phase II (CTR-0111-003)

Attachment C

PROJECT BUDGET REPORT



FISCAL NOTE

CITY OF KIRKLAND

Source of Request							
Kathy Brown, Public Works Director							
Description of Request							
Funding for Kirkland ITS Implementation Phase 2 CTR 0111 003 as described in the attached memo. Request of \$360,000 from REET 2 reserves.							
Legality/City Policy Basis							
Fiscal Impact							
One-time use of \$360,000 from 2015 REET 2 reserves. This reserve is fully able to fund this request.							
Recommended Funding Source(s)							
	Description	2016 Est End Balance	Prior Auth. 2015-16 Uses	Prior Auth. 2015-16 Additions	Amount This Request	Revised 2016 End Balance	2016 Target
	REET 2 Reserve	6,360,344	0	0	360,000	6,000,344	2,436,255
Reserve	Prior use of \$270,000 for Juanita Quick Wins, which was returned in the 2015-2020 CIP Update. Balance above reflects adjustments to reserves incorporated in the 2015-2020 CIP Adoption for 2015-2016. Actual 2015 revenue exceeded budget by \$1,869,400. Reserves will be replenished when actual revenue above budget is recognized at the end of 2016.						
Revenue/Exp Savings							
Other Source							
Other Information							
Prepared By	Neil Kruse, Senior Financial Analyst				Date	March 8, 2016	