

<i>Tab</i>	<i>Action</i>	<i>Option</i>	<i>Version</i>
108	1	A	3

Budget Action description:

This version of green sheet 108-1-A-3 rescinds 108-1-A-2. This new version revises proviso language and removes unnecessary project description language on the CIP project page.

This green sheet creates a new CIP project in the 2015-2020 CIP, and adds \$200,000 in 2015 and \$800,000 in 2016, for the deployment of an Adaptive Signal Control (ASC) system along the Mercer Corridor. This effort takes advantage of the ASC-compatible signal detection, controller and communication equipment being installed as part of the Mercer Corridor project.

To implement ASC in the Mercer Corridor, SDOT will have to complete construction of the West Mercer project (expected to be complete by the end of 2015), gather firm baseline traffic data after normal traffic activity returns to the area (estimated 3 months), and develop the traffic system model with an ASC vendor to program the signals (estimated 9 months). With this funding, ASC on the Mercer Corridor is expected to be operational by the end of 2016. The \$1 million included in this green sheet for ASC on the Mercer Corridor represents Phase 1 of SDOT’s total \$10.5 million ASC proposal for the Seattle Center and South Lake Union area.

This green sheet amends the 2015-2020 CIP to include the Adaptive Signal Control CIP project page as shown in Attachment A.

This green sheet would impose the following budget proviso:

“None of the money appropriated in the 2015 budget for the Seattle Department of Transportation’s Mobility-Capital BCL may be spent for the Adaptive Signal Control Implementation CIP project until the chair of the City Council Transportation Committee files with the City Clerk his certification that the Seattle Department of Transportation has submitted a report to the Transportation Committee on how the money will be spent on this project or whether it will instead be used for other transportation priorities.”

Background

SDOT proposes to deploy ASC in the Seattle Center and South Lake Union area to improve traffic flow from Queen Anne, Westlake, Seattle Center and South Lake Union; improve traffic operations at the SR-99 north tunnel access when the tunnel is open and support integrated corridor management on Denny Way and Mercer. Implementation of this network could take place over a 5-year period in 3 phases. Each phase provides additional benefits to the corridor. The Federal Highway Administration (FHWA) indicates that, in general, these systems improve efficiency by five to ten percent. (Note, the FHWA analysis is not specific to the Mercer corridor but is a blanket statement about these systems in general.) SDOT believes that ASC projects are very competitive for grants and that grant funding could potentially cover up to 2/3’s of the total project costs.

SDOT proposes the following three phases of implementation:

- **Phase 1** implements ASC on 31 intersections on Mercer, Valley and Roy from I-5 to 3rd Ave W. All of the signal infrastructure to support ASC at these intersections has been built as part of the Mercer

Tab	Action	Option	Version
108	1	A	3

project. Phase 1 requires \$1 million in funding to procure an ASC vendor, build the signals system model to operate ASC, and build the back office infrastructure to house ASC in the Traffic Management Center.

- **Phase 2** implements ASC on 17 intersections on Denny Way. Phase 2 requires \$4.66 million to design and construct the signals at these intersections and implement ASC. SDOT has identified \$510,000 of funding for design of the Denny Way infrastructure through an anticipated Puget Sound Regional Council (PSRC) grant and resources in SDOT’s ITS program.
- **Phase 3** implements ASC on 21 intersections on “connector streets” between Mercer and Denny Way, including select locations on Elliott Ave, Queen Anne Ave N, Broad St, Dexter Ave N, Westlake Ave N, Fairview Ave N and 1st, 5th and 9th Ave N. Phase 3 requires \$4.85 million to design and construct the signals at these intersections and implement ASC. These “connector street” intersections will allow for more robust use of ASC on the Mercer and Denny Way Corridors.

The table below shows tasks, timelines and preliminary budgets to complete this work. These are very preliminary cost estimates. The type of detection and the cost of configuration per intersection varies considerably depending on the ASC system selected. For example, installation of detection only and configuration of an intersection can range from \$30,000 to \$75,000 depending on the platform selected.

Phase and Task	2015	2016	Funding and Schedule TBD	Total Estimated Costs (\$1,000)
Phase 1 – Mercer ASC Implementation				\$1,000
Select adaptive signal control system through RFP process and complete data collection to support implementation	\$200 ¹			\$200 ¹
Implement ASC on Mercer, Valley and Roy		\$800		\$800
Phase 2 – Denny Way ASC Implementation				\$4,660
Design infrastructure for Denny Way	\$510 ²			\$510 ²
Construct Denny Way infrastructure			\$3,800	\$3,800
Implement ASC on Denny Way			\$350	\$350
Phase 3 – Connector Street ASC Implementation				\$4,850
Design infrastructure on “connector streets”			\$650	\$650
Construct infrastructure on “connector streets”			\$3,600	\$3,600
Implement ASC on “connector streets” completing ASC network for Seattle Center/SLU			\$600	\$600
Total ASC Project	\$710	\$800	\$9,000	\$10,510

Notes:

¹ Approximately \$50,000 to \$75,000 will be used to purchase servers, workstations and miscellaneous operating equipment that will be housed in the TMC to operate ASC on all corridors in the city

<i>Tab</i>	<i>Action</i>	<i>Option</i>	<i>Version</i>
108	1	A	3

² SDOT has identified \$510,000 of funding for design of the Denny Way infrastructure through an anticipated Puget Sound Regional Council (PSRC) grant and resources in SDOT's ITS program.

<i>Tab</i>	<i>Action</i>	<i>Option</i>	<i>Version</i>
108	1	A	3

Budget Action Transactions

Budget Action Title: Create a new CIP project, add \$200,000 in 2015 and \$800,000 in 2016 for Adaptive Signal Control deployment in the Mercer Corridor, and add a proviso

#	Transaction Description	Position Title	Number of Positions	FTE	Dept	BCL or Revenue Source	Summit Code	Fund	Year	Revenue Amount	Expenditure Amount
1	Increase use of 2015 Fund Balance by \$200,000 for the Adaptive Signal Control CIP project				SDOT	USE OF FUND BALANCE	379100	10310	2015	\$200,000	
2	Increase use of 2016 Fund Balance by \$800,000 for the Adaptive Signal Control CIP project				SDOT	USE OF FUND BALANCE	379100	10310	2016	\$800,000	
3	Add \$200,000 of 2015 appropriations to Mobility-Capital BCL for the Adaptive Signal Control CIP project				SDOT	Mobility-Capital	19003	10310	2015		\$200,000
4	Add \$800,000 of 2016 appropriations to the Mobility-Capital BCL for the Adaptive Signal Control CIP project				SDOT	Mobility-Capital	19003	10310	2016		\$800,000

Seattle Department of Transportation

Adaptive Signal Control Implementation

BCL/Program Name:	Mobility-Capital	BCL/Program Code:	19003
Project Type:	New Facility	Start Date:	Q1/2015
Project ID:	TC367650	End Date:	Q4/2019
Location:			
Neighborhood Plan:	Not in a Neighborhood Plan	Council District:	7
Neighborhood District:	In more than one District	Urban Village:	In more than one Urban Village

This project implements adaptive signal control (ASC) in the Seattle Center and South Lake Union area, and supports integrated corridor management on Denny Way, Mercer, and SR-99 north tunnel access. Phase 1 begins operation of 31 intersections on Mercer, Valley, and Roy that have been built as part of the Mercer project. Phase 2 includes 17 intersections along the Denny Way corridor. Phase 3 includes several connector streets between Mercer and Denny Way, including Elliott Ave, Queen Anne Ave N, Broad St, Dexter Ave N, Westlake Ave N, Fairview Ave N, 1st Ave N, 5th Ave N, and 9th Ave N. Phase 1 funding is proposed for 2015 and 2016.

	LTD Actuals	2014 Rev	2015	2016	2017	2018	2019	2020	Total
Revenue Sources									
Commercial Parking Tax	0	0	200	800	0	0	0	0	1,000
To be determined	0	0	0	0	4,800	3,600	600	0	9,000
Total:	0	0	200	800	4,800	3,600	600	0	10,000

Fund Appropriations/Allocations

Transportation Operating Fund	0	0	200	800	0	0	0	0	1,000
Total*:	0	0	200	800	0	0	0	0	1,000

O & M Costs (Savings) 0 0 0 0 0 0 0 0

**This detail is for information only. Funds are appropriated in the budget at the Budget Control Level. Amounts are in thousands of dollars.*

