

# Department of Parks and Recreation

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
K730145	12th Avenue Square Park Development - 2008 Parks Levy (formerly East James Court)	This project will add 7,332 square foot of pedestrian friendly space to Seattle Parks.	0 12th AVE/E James CT
K730176	14th Avenue NW Park Boulevard Development (NW 58th to NW 62nd)	This project will provide 17,000 square feet of pedestrian and environmentally-friendly amenities such as swales, natural landscaping, and benches.	0 E 14th AVE NW/NW 58th ST/NW 62nd ST
K730309	Activating and Connecting to Greenways	This project will increase the number of miles of safe pedestrian routes for all ages.	200 Citywide
K73484	Belltown Neighborhood Center	This project will provide approximately 6,000 square feet of leased space on an ongoing basis to accommodate community gatherings in the Belltown area.	0 2407 1st Ave
K732480	Bryant Site Development	This project will increase the waterfront parkland in Seattle by 3.9 acres.	0 1101 NE Boat ST
K730308	Develop 14 New Parks at Land-Banked Sites	This project will add 14 developed parks for active recreation to help meet the City's parks and open space goals.	4,998 Citywide
K730139	Donations- Green Space	This project will acquire various new properties.	0 Citywide
K730148	East John Street Open Space Development	This project adds green, environmentally sensitive improvements in an existing park.	0 Summit AVE E/E John ST
K732391	Golf Master Plan Implementation	This project includes new driving ranges, building replacements, perimeter trails and cart paths.	0 Citywide
K730011	Green Space Acquisitions- 2008 Parks Levy	This project will acquire various new properties.	0 Citywide
K730091	Hing Hay Park Development	This project adds .31 acres of parkland to an existing neighborhood park.	0 423 Maynard AVE S
K730100	Marra-Desimone Park Development	This project will provide community and recreation space to the 8.7 acre site.	0 9026 4th AVE S
K730010	Neighborhood Park Acquisitions- 2008 Parks Levy	This project will acquire various new properties.	0 Multiple Locations
K730040	Opportunity Fund Acquisitions- 2008 Parks Levy	This project will acquire various new properties.	0 Citywide
K730306	Park Land Acquisition and Leverage Fund	This project will add acreage to Seattle's total park land acreage.	2,000 Citywide
K730155	Troll's Knoll (Aurora Avenue N. and N 36th St.) Park Development	This project adds 1.75 acres of sustainable park space.	0 Aurora AVE N/N 36th ST/N 36TH ST

*\*Amounts in thousands of dollars*

### 2016 - 2021 Adopted Capital Improvement Program

## Department of Parks and Recreation

### New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
K730115	Victor Steinbrueck Park Renovation	Capacity will depend on the project scope that will be the subject of additional citizen review consistent with the Parks Department's Public Involvement Policies.	0 2001 Western AVE
K730132	Washington Park Arboretum Improvements- 2008 Parks Levy	This project renovates park areas with new horticultural displays and trails.	0 2300 Arboretum DR E

## Seattle Department of Transportation

### New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
TC367420	23rd Avenue Corridor Improvements	This project will install road improvements and improve the efficiency of Seattle's transportation network and of the regional transit network.	11,162 23rd AVE S/E John ST/Rainier AVE S
TC367370	3rd Avenue Corridor Improvements	This project will increase the person-carrying capacity of Seattle's transportation network and of the regional transit network.	5,426 3rd AVE/S Jackson ST/Denny WAY
TC367330	Alaskan Way Main Corridor	The program will construct a new Alaskan Way surface street and public space.	40,050 Various
TC366050	Alaskan Way Viaduct Replacement	This project funds the City's involvement in the replacement of the Alaskan Way Viaduct and Seawall.	0 ALASKAN WY VI SB/BATTERY ST TUN OFF RP
TC367220	Aurora Rapid Ride Improvements	This project implements improvements for transit speed, reliability, access and convenience, consistent with the Transit Master Plan.	2 Various
TC367390	Ballard to Downtown High Capacity Transit and Ship Canal Crossing Project	This project will increase the person-carrying capacity of Seattle's transportation network and of the regional transit network	0 Downtown Ballard/Downtown Seattle
TC366760	Bike Master Plan Implementation	This program will install bike lanes and bicycle route signing, and complete links or reconstruct key sections of urban trails in order to increase bicycle safety and access.	9,250 Citywide
TC367690	Bike Share Expansion	Expand the bikeshare system to 250 stations with 2,500 bikes.	5,000 Citywide
TC367240	Broadway Streetcar Extension	This project will build a half-mile streetcar line.	1,065 Broadway E/E Denny Way/E Roy ST

*\*Amounts in thousands of dollars*

### 2016 - 2021 Adopted Capital Improvement Program

# Seattle Department of Transportation

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
TC364830	Burke-Gilman Trail Extension	This project will construct three miles of new multi-use trail.	0 Various
TC367070	Cheshiahud Lake Union Trail Project	This project will install a six mile loop trail.	0 Lake Union
TC323860	Collision Evaluation Program	This program identifies and facilitates safety improvements for high collision street locations.	165 Citywide
TC367100	First Hill Streetcar	The project constructs a modern, low-floor streetcar system.	0 Various
TC365850	Freight Spot Improvement Program	This project will improve mobility. Specific projects and the corresponding impacts on capacity are still to be determined.	0 Citywide
TC367530	Greenwood Avenue Sidewalks	This project will complete the sidewalk system on the east side of Greenwood Avenue N, between NW 92nd St and NW 105th St.	0 Greenwood AVE N/NW 92nd ST/NW 105th ST
TC327000	Lake Union Ship Canal Trail	This project will construct 0.75 miles of new trail.	0 W Nickerson St/6th Ave W/15th Ave W
TC366930	Linden Avenue North Complete Streets	This project will install road improvements (concrete sidewalks, curb and gutters, and asphalt road section) on Linden from N 145th - N 128th.	0 Linden Ave N/N 128th St/N 145th St
TC367480	Madison Street Bus Rapid Transit	This project will increase the person-carrying capacity of Seattle's transportation network and of the regional transit network.	2,300 Madison ST/Alaskan WAY/Martin Luther King Junior WAY E
TC366060	Magnolia Bridge Replacement Project	This project will build a new bridge to current engineering standards to replace the existing bridge.	0 W Garfield St/15th Ave W/Thorndyke Ave W
TC365500	Mercer Corridor Project	This project will provide transportation improvements to enhance all modes of travel, including pedestrian mobility, and better utilize existing street capacity in the South Lake Union area.	0 Mercer St/Fairview Ave N/Dexter Ave N
TC367110	Mercer Corridor Project West Phase	The project will provide an east/west connection between I-5, SR99, and Elliott Ave W.	3,909 Mercer ST/Elliott AVE W/Dexter AVE N
TC365750	Mountains to Sound Greenway Trail	This project will construct 0.25 miles of new trail.	0 TP-28 12th Ave. S/Golf Dr. S TP-28 4th Ave. S/S Royal Brougham Way
TC323250	Neighborhood Traffic Control Program	This program will install traffic calming devices on neighborhood streets.	298 Citywide

*\*Amounts in thousands of dollars*

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Proj. ID	Project Title	Capacity	2016* Location
TC367700	New Traffic Signals	This project will install new traffic signals to improve traffic flow, reduce the frequency and severity of traffic accidents, and support pedestrian activity.	498 Citywide
TC367090	Railroad Crossing Signal Improvements	This project will install new railroad crossing gates and flashing lights.	0 Broad St B/Alaskan Way/Elliott Ave Broad St B/Alaskan Way/Elliott Ave
TC367380	Roosevelt Multimodal Corridor	This project will increase the person-carrying capacity of Seattle's transportation network and of the regional transit network.	2,000 Eastlake AVE/Stewart ST/NE 65th ST
TC366150	S Lander St. Grade Separation	The project will develop a grade separation of the S Lander St. roadway and the Burlington Northern mainline tracks between 1st and 4th Avenues S.	0 S Lander St/1st Ave S/4th Ave S
TC367520	Safety and Maintenance Project	This project will upgrade existing signals and signs, and install new ADA ramps, and pedestrian safety improvements.	0 Citywide
TC367410	Sound Transit - East Link	This project will provide design review, permitting, and construction support services for the Sound Transit - East Link project.	0 Citywide
TC367040	Sound Transit - University Link	This project will provide design review, permitting, and construction support services for the Sound Transit University Link project.	10 TBD
TC367190	Sound Transit North Link	Construct a 4.3-mile light rail line and three stations at Northgate, Roosevelt and University District.	87 Various
TC367350	Sound Transit North Link Station Bike and Pedestrian Improvements	This program will design and build pedestrian and bicycle improvements in order to increase safety and improve access to transit modes.	3,516 TBD
TC367400	South Lake Union Streetcar	This project will add one streetcar to the South Lake Union line.	0 Various
TC364800	Spokane St. Viaduct	This project will install a temporary median barrier, make seismic improvements, widen the viaduct structure and build a new off-ramp at 4th Ave S.	0 S Spokane St/6th Ave S/E Marginal Wy S
TC366860	Transit Corridor Improvements	This program implements projects that improve transit speed, reliability, access, and convenience, consistent with the Transit Master Plan.	1,873 Citywide

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### 2016 - 2021 Adopted Capital Improvement Program

## Seattle Department of Transportation

### New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
TC367130	West Duwamish Trail	This project will build a new section of a multi-use trail.	0 TBD

### Finance and Administrative Services

### New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
A1GM902	ADA Improvements - Citywide	This is an Asset Preservation project and has no requirements under the Growth Management Act (GMA).	195
A1ADA01	ADA Improvements - FAS	This is an Asset Preservation project and has no requirements under the Growth Management Act (GMA).	0
A1GM128	Central Neighborhood Service Center Tenant Improvement	This is a tenant improvements project and has no requirements under the Growth Management Act (GMA).	0 2301 S Jackson ST
A1GM501	Civic Square	The Civic Square will extend the accessible public space of the municipal civic center in a manner consistent with the Civic Center Master Plan.	0 600 3rd Ave
A1MSY02	Electric Vehicle Charging Stations for Airport Way Center, Building C	This is an Asset Preservation project and has no requirements under the Growth Management Act (GMA).	200 2203 Airport WAY S
A1FL120	Fire Station 20	This project replaces the existing Fire Station 20 with a new 8,400 square foot facility, adding approximately 5,500 square feet.	0 2800 15th AVE W
A1FL122	Fire Station 22	This project replaces the existing Fire Station 22 with a new 8,200 square foot facility, adding approximately 4,000 square feet.	3,885 901 E Roanoke St
A1FL128	Fire Station 28	This project replaces the existing Fire Station 28 with a new 14,200 square foot facility and may add a 5,400 square foot Urban Search and Rescue (USAR) building to the site, for a total of approximately 10,600 square feet.	0 5968 Rainier Ave S
A1PS207	Fire Station 31 Expansion		450 1319 N Northgate Way
A1FL132	Fire Station 32	This project replaces the existing Fire Station 32 with a new 20,000 square foot, 3 story facility, adding approximately 11,500 square feet.	7,004 3715 SW Alaska St

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### 2016 - 2021 Adopted Capital Improvement Program

## Finance and Administrative Services

### New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
A1PS107	North Precinct	The North Precinct serves all of Seattle north of the ship canal. The existing facility was built for a staff of 115 and is severely undersized for its current staffing of more than 200. SPD expects that the staffing for this precinct will continue to rise to meet public safety needs in the north end. Expanding the facility beyond the existing footprint is not feasible because of environmental concerns on the existing site. SPD would prefer to keep the precinct facility as a single command to minimize command and administrative costs. Conceptual planning considers replacing the existing facility with a new 60,000 square foot facility at a different location, adding approximately 43,000 square feet of precinct space, including holding cells and locker rooms, and a parking structure.	4,000 WAY/N 130th ST/Aurora AVE N
A1GM129	Seattle Municipal Courts	This is an Asset Preservation project and has no requirements under the Growth Management Act (GMA).	488 600 5th AVE
A1GM127	Seattle Municipal Tower IDF Infrastructure Upgrades	This is an Asset Preservation project and has no requirements under the Growth Management Act (GMA).	2,500 700 Fifth AVE

## Seattle City Light

### New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
8426	Advanced Metering Infrastructure	Rationale: City Light is at a point where replacement is unavoidable and needed in the short term due to the age and condition of its meters, meter reading equipment, and software. Approximately 50% of 350,000 residential meters in the field are at least 30 years old, which is outside the estimated lifespan for electro-mechanical meters. As of February 2009, residential electro-mechanical meters are no longer being manufactured. The software and handheld devices currently used by City Light	26,896

*\*Amounts in thousands of dollars*

### 2016 - 2021 Adopted Capital Improvement Program

meter readers to manually capture and record reads will no longer be supported after 2012. In addition, City Light currently employs 57 FTEs in Customer Billing and 44 FTE Meter Readers, of which 43%, or 25 FTE and 19 FTE respectively, are eligible to retire by 2014. This presents an opportunity for SCL to make operational changes that move the utility from a manual to an automated system at a time when it is needed. Alternative(s):

Option 1 - Recommended solution: Full AMI implementation as entered. This option's up front capital costs result in significant net savings due primarily to reduced labor costs and increased revenue. In addition, it establishes the infrastructure, technology, and capabilities for improved customer service and support for future plans and operations.

Option 2 - Status quo: Continue current meter replacement cycle using current commercially available digital meters without communication capabilities. At the current expenditure rate, between 5,000 and 7,000 meters are installed annually (replacement of failed meters, new meter growth, service changes, etc.). This option minimizes current annual capital costs, but does not provide for timely replacement of all electro-mechanical meters. In the event of accelerated failure rates from the aging meter population, capital costs would escalate.

Other options previously screened out:

A. Replace failed electro-mechanical meters with working electro-mechanical meters. The cost of purchasing electro-mechanical meters is currently lower than digital units but they are no longer being manufactured. SCL would have to acquire used or refurbished replacement meters from other utilities or companies, with the risk that availability will be reduced over time.

B. Replace current electro-mechanical meters on an accelerated schedule using commercially available digital meters without communication capabilities. This option carries significant capital costs for

*\*Amounts in thousands of dollars*

## **2016 - 2021 Adopted Capital Improvement Program**

meters, although it does not require the communications and IT infrastructure. It provides limited benefits, primarily through increased meter accuracy, but provides severely limited benefits compared to AMI deployment.

C. Deploy AMI on a limited basis to Commercial and Industrial customers, plus a limited number of small services with access problems. Partial implementation would require reduced capital costs but substantially the same investment.

8307 Alaskan Way Viaduct and Seawall Replacement - Utility Relocs

Rationale: The Alaskan Way Viaduct replacement includes a complex transmission and network/non-network relocation, design and construction, and is on a fast track. This work is integrated and required by the broader transportation project. The externally generated project and schedule includes significant electrical relocation work in the near term that will extend for over a decade. The utility is required to relocate for transportation relocated projects. The City's overall plan for the Alaskan Way Viaduct project includes utility funded relocations for the viaduct replacement and for rebuilding the Seawall. The series of subprojects that make up the Alaskan Way Viaduct replacement have opportunities for system improvements that will also be funded under this program. For most of the subprojects in the Alaskan Way Viaduct project, utility relocations will lead the construction. Therefore any delay in accomplishing SCL work will result in delays along the overall projects critical path. While the designs & construction schedules for the various subprojects in the Alaskan Way Viaduct program are being sequenced and detail design is underway for the immediate projects, the central waterfront elements of the overall project are beyond this budget cycle and are still in the preliminary design phases.  
Alternative(s): The Alaskan Way Viaduct program provides the utility with a combination of obligations and opportunities for system improvements over the next 6 years. The Alaskan Way

5,964 SR 99 / Battery St

*\*Amounts in thousands of dollars*



Viaduct program will likely be the City's primary construction focus as its various projects impact traffic and roadway construction, seawall stabilization, and urban design on the waterfront. Seattle City Light facility relocations will be a part of each of these projects. The global nature of the Viaduct Program also provides the opportunity to make system improvements that will provide for increased reliability and capacity for our customers. For example, work in the south end will include system improvements that will increase feeder capacity and reliability for Port customers. Undergrounding of transmission lines near Broad Sub are being done as part of an overall SDOT street improvement with costs shared based on a negotiated MOA with SDOT. The return of Aurora, north of Harrison Street to a city street, and the decommissioning of the Battery Street Tunnel provides an opportunity to extend ducts and vault across Aurora to help provide system capability to the NODO area.

9950 Automated Utility Design Implementation

Rationale: Presently, non-Network distribution engineers use a four version old release of a drafting tool called AutoCad. This tool incorporates significant custom code, making any updates costly and impractical. It has very limited design functionality needed to produce engineering designs and drawings. AutoCad cannot retrieve essential design data from the Distribution Automated Mapping System, requiring a manual process to incorporate needed data into the final design and drawings. It also does not provide design functionality such as cost estimating, material request creation, and customer letters. These design tasks are now done using a variety of stand alone manual tools which are inefficient, error prone, and time consuming. The AUD software will provide significant design and production efficiencies at a time when the engineering work load is increasing because of a shift to the engineers of production tasks. Additionally, the AUD software will enforce common North and South Service

644 System Wide

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Center engineering practices and procedures and provide an essential interface with WAMS (Work and Asset Management System) and OMS (Outage Management System).

Alternative(s): Option I. Purchase design software and consultant services: This will result in appreciable savings, efficiencies, better staff utilization, and more standard and accurate engineering drawings and supply chain data. It will also eliminate custom code, enabling easy version updates. This is the preferred option because it will result in appreciable savings, efficiencies, better staff utilization, common engineering practices, and more accurate engineering drawings and supply chain data. It will also eliminate custom code enabling easy version updates and systems integration of AutoCad data with OMS and WAMS. Option II. Do nothing: The do nothing option will perpetuate the inefficient and costly engineering practices resulting from the use of drafting tools instead of design tools in the engineering process. It will also continue reliance and use of unsupported vendor software.

6533

Boundary - New Unit - 57

Rationale: Add a new Hydro Unit 57 on the right bank, complete with its own powerhouse, intake, power tunnel, etc. Use abandoned pickle forks for primary feed to BPA's switchyard. Use new unit for:

- 1) Exclusive load balancing, reducing the wear and tear on the existing units 51-56, and allowing steady-state operation.
- 2) Minimization of Total Dissolved Gas (TDG) values in certain spill conditions.
- 3) More power production instead of wasting water resources to spill.

Alternative(s): No Alternatives Provided.

0

*\*Amounts in thousands of dollars*

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**New or Expanded Capital Facilities**

Proj. ID	Project Title	Capacity	2016* Location
6493	Boundary Switchyard - Generator Step-up Transformers	Rationale: Design to begin in 2010. Closeout in 2017. First transformer delivered in 2012. Alternative(s): An alternative approach would be to repair or replace units as they fail from deferred maintenance. This approach would eventually result in a significant loss of revenue and/or fines from a regulatory agency. Accepting the risk of failure would not be in the best interest of the utility. Having a spare unit onsite would prevent such failures.	7,156 10382 Boundary Rd, Metaline, WA 99153
8203	Broad Street Substation - Network	Rationale: Customer demand for higher loads continues. Capacity of the cables serving two sub-networks is near overload, requiring immediate attention to avoid cable failure and customer outages. In the next five years, customers are projected to exceed the capacity of cables in another five network subareas. This capital project addresses the means to serve customer demand for higher capacity. Reliability measures identified in the Network Strategic System Plan are incorporated into this capacity driven work. Without this critical project it is very likely that there will be insufficient reliable electrical capacity in the very near future to hook up new customers and to serve present customers such as the Westin building. hernanju (7/29/21010): The project goal increases capacity of present Broad Street Substation network feeder cables to their ultimate service build-out limit (an overall increase of just under 100 MVA) as determined by Broad Street Substation's transformer capacity. This project constructs ten vaults and ten blocks of duct banks, re-conductors and relocates three primary feeders per year, upgrades/optimizes network transformers as needed, reduces secondary bus ties (reduce the size of the secondary grid resulting in greater reliability), and performs ancillary work. Alternative(s): Alternatives	16,754 319 6th AVE N

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include: 1. Do nothing. Make no improvements to system reliability or additions to feeder capacity. This would allow customer load to continue growing without commensurate additions to capacity of feeders serving this area, ultimately leading to multiple cable failures and extended customer outages. This would reduce the customer reliability of the network systems from its present level, subjecting it to infrequent but lengthier outages. 2. Reduce customer demand for more loads with demand side management measures. This alternative was evaluated in the Network Strategic Systems Plan and found to have negligible ability to reduce customer demand in the network area. 3. Increase capacity of network feeders incrementally, as little as possible and as close to near-term load requirements as possible. 4. Increase capacity of network feeders to the full limit of the substations capability to deliver power. 5. Add measures that improve system reliability to mitigate the severity of any network event. 6. Add measures that improve customer reliability by preventing the chain of events leading to major customer impacts.

8465 Broadband - City Light

Rationale: The Gigabit Seattle project is a priority of the Mayor, with a letter of intent already signed. It is currently in planning and implementation is expected to start 2013. The Gigabit Squared project alone may generate an additional 250 Joint Use permit applications, doubling the annual average and tripling the number of poles impacted annually. Based on the customer fee to attach to poles and potential for 10,000 poles to be impacted. Types of construction necessary include pole replacement, relocations of existing wires, equipment installation, commissioning, and inspections. All work must meet NESC, SCL, and vendor standards. A Small Works Roster, administered with the Public Works program of Finance and Administration (FAS), is being established to meet customer requests in a timely manner. Construction will be broken up into sections moving through the

2,600

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14 designated neighborhoods. Approximately 20% of the preparation and installation is expected to be installed by the end of 2013. The first phase of work will include installing wireless equipment on designated roof tops throughout the identified 14 neighborhoods and extending high speed fiber from the City's fiber backbone. The remainder of the work will be executed in 2014 including the individual residential street build outs, corrective work, inspections, and close out of the initial deployment will extend into 2015. The goal for Gigabit Squared service is to reach 60,000 homes across 14 different Seattle neighborhoods. This will involve the installation of approximately 200-250 miles of fiber optic cable, impacting about 8,000 - 10,000 utility poles. The majority of the initial Gigabit Squared work will be connected to poles on arterial roadways. These poles are generally in better shape than poles along residential roadways. Additional work to bring fiber to the remaining Seattle neighborhoods is expected to be driven by another vendor that will partner with Gigabit Squared. This work is expected to Alternative(s): No Alternatives Provided.

8403	Citywide Undergrounding Initiative - City Light	Rationale: No Rationale Provided. Alternative(s): No Alternatives Provided.	10 System Wide
8430	Creston-Nelson to Intergate East Feeder Installation	Rationale: No Rationale Provided. Alternative(s): No Alternatives Provided.	339 Tukwila
8404	Denny Substation - Network	Rationale: This project is a result of a four years of advocacy by customers to make sure that the electrical distribution system has sufficient capacity to meet the projected loads in the rapidly growing area of North Downtown, and that the system has the reliability and voltage stability to support the research activities of the emerging biotech industry there. The principal stakeholders are the Fred Hutchinson Cancer Research Center, the UW School of Medicine, the Seattle Biomedical Research Institute, Rosetta Inpharmatics, ZymoGenetics, Children's Hospital and Medical Center, and the startups at the Accelerator Project. This five to seven year infrastructure project	24,349 Valley Street/Denny Ave

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is specifically tailored and designed to the core needs of this business sector in the North Downtown area. The research activities and the laboratory equipment are so sensitive to system reliability and voltage stability that this area requires an extraordinary level of service from the utility. The motto is "World class research requires world class facilities.". The utility through this project is a partner in that effort. Because existing City Light substations cannot accommodate the new network feeders, this project requires the construction of a new North Downtown substation in a three to five year period, proposed as project 7757, North Downtown Substation Development. This network project cannot exist without the new substation.

Alternative(s): 1. Enhance the service using non-network feeders from other substations. 2. Have individual customers invest in private reliability improvements. 3. Install network system in core service area, including the biotech industries. 4. Install network system throughout North Downtown area. Option 1 is not feasible because the availability of feeders from adjacent substations is limited and in question over time. Option 2 has been tried recently, but did not meet the reliability needs of this set of customers. Option 3 is the recommended option, as it is effective in meeting the need and cost effective. Option 4 includes all customers in the area, which is not necessary and expensive.

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## **2016 - 2021 Adopted Capital Improvement Program**

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
7757	Denny Substation Development	<p>Rationale: The key premise of the North Downtown capacity plan is preparedness and flexibility to respond to future growth as it occurs and to provide the operational flexibility to operate the electrical system to serve new development and existing load. The estimates assume that the transmission and distribution getaways into North Downtown Substation will be underground. However, the figures in this project do not provide for undergrounding existing overhead circuits in the neighborhood. See project 8404, North Downtown System Network, which will construct the underground network that links the customers to the substation. City Light expects that the current and planned development of the North Downtown district requires a 200 MVA substation in the area. The factors determining the timing of this substation include actual and anticipated load growth in the North Downtown Area, and the demand for power from other substations that could possibly serve the area. Alternative(s): Updated by Michael Clark 6/10/11: SCL System Planning Group is working with a consultant to validate existing SCL Service Area Loads, perform a 10yr &amp; 20yr forecast for entire SCL Service area, and prepare small area load forecast for the North Downtown service area, with specific recommendations regarding development of a NODO Substation and NODO Network to provide service to this area. The alternatives for the NODO Substation will be: 1. Do nothing. 2. Transfer load to adjacent substations. 3. Reinforce Broad Substation. 4. Construct new North Downtown Substation with Radial or Network Distribution System, Voltage Level (13.8kV or 26kV), and Transmission Alternatives. SCL System Planning Group anticipates making formal recommendations regarding NODO Substation in QTR3 2011.</p>	41,706 System Wide

*\*Amounts in thousands of dollars*

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Proj. ID	Project Title	Capacity	2016* Location
7125	Denny Substation Transmission Lines	Rationale: No Rationale Provided. Alternative(s): No Alternatives Provided.	257 System Wide
6481	Diablo Facility - Storage Building	Rationale: No Rationale Provided. Alternative(s): No Alternatives Provided.	0 Milepost 126 State Highway 20
9307	Distribution Area Communications Networks	Rationale: The communication systems now employed are in need increased capacity, better security, faster speeds, and increased reliability to meet new regulatory requirements. This will meet our ever increasing data and voice communication needs and take us twenty years or more into the future. Maintenance costs are lower because increased redundancy and reliability as well as better system alarms and the capability to remotely troubleshoot and reprogram the system. Traffic on the network is easily rerouted until major failures can be repaired. The new requirements of security, relaying, Automated Meter Reading, Automated Distribution and other automated systems will be easier to implement at lower cost once this project is completed. The system is easily upgraded to increase capacity or take advantage of new technology as it becomes available. Alternative(s): Option 1 Proceed as proposed. Install/complete fiber optic rings. Option 2 Do nothing. Have an inadequate communications network, with a high expense O&M component.	1,250 Citywide

\*Amounts in thousands of dollars

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**New or Expanded Capital Facilities**

Proj. ID	Project Title	Capacity	2016* Location
9966	Distribution Management System	Rationale: City Light currently uses manual processes to accomplish this work, but without the same outcome. Manual processes require reviewing maps to determine system configuration and options. They also do not provide accurate estimates of customers impacted by planned outages, and require additional labor to perform planning. DMS would be installed when it is determined that City Light has enough substation automation, communication infrastructure, Advanced Metering Infrastructure (AMI), and Supervisory Control and Data Acquisition (SCADA) field switching equipment in place to benefit from its use. The labor saving benefit will be achieved by maximizing the utilization of the substation and SCADA field switching equipment linked to the DMS. Customers will receive more accurate information regarding planned outages, and in some cases, reduce the area needed for the outage because of the ability to create switching scenarios during the planning process. Alternative(s): The only alternative direction would be to delay installation of DMS or choose not to install.	0
9101	Equipment Fleet Replacement	Rationale: As mobile equipment ages, it reaches a point where it becomes more economical to replace the equipment than to continue to repair it. In the past, the mobile equipment fleet coordinator used a twenty year replacement plan to maintain City Light's vehicle pool. Due to replacement deferrals starting in the mid 90's and the budget cuts which began in 2000, that replacement plan by necessity was revised. We are now faced with replacing fleet on an as needed basis. That priority is to replace the most often used, specialized, or critical equipment to the Utility, or the most costly to maintain and least reliable vehicles first. To get back to an	5,388 System Wide

\*Amounts in thousands of dollars

established plan will require ten plus years of enhanced financing. A ten year recovery plan adds \$2.7 million to the planned annual purchases required for the year. That plan has been underfunded for 10 years. The planned annual purchases, per the twenty year plan for the heavy fleet equates to approximately \$4 million per year. For the light duty fleet another \$1.3 million is needed. On the ten year recovery plan that equals about \$8 million per year. That \$8 million replaces the equipment that normally needs to be replaced every year and addresses some of the equipment that has been deferred. The proposed \$8 million will not fully cover inflation and the increasing cost of materials as many purchases now have a steel surcharge added. There are also added emissions requirements for the coming years starting in 2007. This will require about \$8,000 per diesel engine along with design changes to accommodate space for higher heat and larger exhaust pipes. The Memorandum of Understanding between the Fleet Management Department (FMD) and Seattle City Light (SCL) regarding financing and management of the City Light Fleet states on June 22, 1998, the City Council adopted Resolution 29771. In that resolution is reference to Timely Replacement of Vehicles. The recommendation is to replace vehicles in a timely manner, when fully depreciated.

Alternative(s): The recommended alternative is to address the backlog of City Light vehicles, heavy and light fleet, on a plan spread over 10 or more years. A second plan would be to not purchase fleet vehicles. This option would result in paying both higher maintenance costs for worn out vehicles and higher rental costs both for specialized vehicles and daily use vehicles. It also has safety ramifications when considering malfunctions and inopportune breakdowns. A third plan would be to continue to not address the back log but replace on an as needed basis. This plan requires more rental costs and time loss due to equipment down time. It also does not address the need to be more fuel efficient and

*\*Amounts in thousands of dollars*

## **2016 - 2021 Adopted Capital Improvement Program**

		environmentally friendly. This plan to replace only as needed would be less reliable for tracking or budgeting. Address the back log through a ten year or longer plan.	
8407	First Hill - Network Load Transfer	Rationale: No Rationale Provided. Alternative(s): No Alternatives Provided.	0 1100 Madison St.
8442	First Hill Connector Streetcar	Rationale: This project is being set up as a separate project similar to other SDOT streetcar projects. The funding for the relocation portion of this project comes from Sound Transit, with the City of Seattle expectation that Sound Transit is covering all construction related costs. SCL is adopting a project management structure to reflect this as a special reimbursement agreement by the City. Alternative(s): Typically, SCL is required by state law to provide power relocations needed to facilitate transportation projects. With Sound Transit funding, this requires special consideration for project structure and reimbursement agreement. SDOT's First Hill Connector project team will establish the final route and placement in the road, based on traffic, utility relocations, and project costs.	194 Broadway / Boren / Jackson / King
6470	Generation Federal Reliability Standards Improvements	Rationale: In June 2007, newly established standards regulating the North American bulk electric power system, which includes generation and transmission, became mandatory. Failure to comply may be punishable by financial penalties of up to \$1 million per day per violation. As of April 2008, there are 140 standards in force; 30 of these apply to Seattle City Light's (SCL) Power Production Division. SCL is in full compliance with many of the standards, but has identified elements of the new standards which require rapid mitigation to avoid financial penalty or other forms of censure. Publication of new and revised standards requires an on-going project level effort to put improvements into service which keep generation equipment and operations in full compliance. Alternative(s): No Alternatives Provided.	10 500 Newhalem Creek Rd, Marblemount, WA 98267
7756	Interbay Substation - Development	Rationale: The Broad Street Substation is reaching its capacity to serve the network and the growing South Lake Union	0 17th Ave West/West Berton: St

*\*Amounts in thousands of dollars*

## 2016 - 2021 Adopted Capital Improvement Program

neighborhood. The limiting factor is an inability to construct additional underground feeders to carry electrical current in to the area. The existing 26 kV distribution system and substations are becoming overloaded and a new 26-kV substation will feed the areas load growth. The 115 kV ring bus work at Broad Street and Canal Substations will provide the connections to the transmission system. The new substations will provide 10 to 15 new 26 kV getaways, adding to the distribution network and providing a new path for power to the area. Because City Light already owns property for a station in Interbay, it is the nearest opportunity we have to add capacity in the western part of the service area that will off-load demand from the Broad Street Substation for the South Lake Union district. Developers who are interested in projects in the SLU district want to know that City Light will be able to serve their needs reliably.

Alternative(s): 1. Not build the new substation.  
2. Option one build: Contract out the design and construction  
3. Option two build: Have City Light design and integrate the facility into the distribution system, and construct the facility.

It requires at least 36 months to site, contract for design, construct, and energize a distribution substation. There are several alternatives such as installing distributed generation facilities to meet load growth. City Light has considered constructing additional transmission corridors from the University Substation and/or Canal Substation. Both alternatives require crossing a body of water, which are expensive options even if environmental challenges do not delay or halt progress. Given the recognized growth in South Lake Union, City Light selected the most cost effective and achievable option - constructing a station at Interbay - to serve the growing load in that part of the service territory.

*\*Amounts in thousands of dollars*

## **2016 - 2021 Adopted Capital Improvement Program**

**New or Expanded Capital Facilities**

Proj. ID	Project Title	Capacity	2016* Location
8365	Large Overhead and Underground Services	Rationale: There is a continuous demand for additional electric power services as new construction and renovation work occurs. Seattle City Light provides service to new customers in a safe, reliable, timely, and cost effective manner as a means to fulfill its commitment to be a customer and community focused organization. Alternative(s): Each service connection may have unique aspects that would require or facilitate design, construction, and financing alternatives. Seattle City Light will fully consider alternatives as a means to fulfill its commitment to be a customer and community-focused organization.	2,947 System Wide

*\*Amounts in thousands of dollars*

Rationale: The rationale for this project is to increase the capacity and reliability of present Massachusetts Street Substation network feeder cables to their ultimate service build out limit (an overall increase of 69 MVA), as determined by Massachusetts Street Substation's transformer capacity, with allowance for feeder imbalances, feeder diversity and diversity among sub-networks. The Alaska Way Viaduct project will require the relocation of all 13kV distribution feeders that are suspended from the viaduct. These include feeders serving Pioneer Square and the downtown core. Additional duct banks and electrical vaults must be built throughout the Pioneer Square area to accommodate the feeder relocations. Doing the engineering for this relocation during 2007 will ensure that timely civil construction can be done in order to avoid many conflicts with other utilities and mitigate some of the traffic impacts that will occur during the Viaduct and Seawall construction. Alternative(s): Alternatives include: 1. Do nothing. Make no improvements to system reliability or additions to feeder capacity. This would allow customer load to continue growing without commensurate additions to capacity of feeders serving this area, ultimately leading to multiple cable failures and extended customer outages. This would reduce the customer reliability of the network systems from its present level, subjecting it to infrequent but lengthier outages. 2. Reduce customer demand for more load with demand side management measures. This alternative was evaluated in the Network Strategic Systems Plan and found to have negligible ability to reduce customer demand in the network area. 3. Increase capacity of network feeders to the full limit of the substations capability to deliver power. 4. Add measures that improve system reliability to mitigate the severity of any network event. 5. Add measures that improve customer reliability by preventing the chain of events leading to major customer impacts.

*\*Amounts in thousands of dollars*

## 2016 - 2021 Adopted Capital Improvement Program

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
8366	Medium Overhead and Underground Services	Rationale: There is a continuous demand for additional electric power services as new construction and renovation work occurs. Seattle City Light provides service to new customers in a safe, reliable, timely, and cost effective manner as a means to fulfill its commitment to be a customer and community focused organization. Alternative(s): Each service connection may have unique aspects that would require or facilitate design, construction, and financing alternatives. Seattle City Light will fully consider alternatives as a means to fulfill its commitment to be a customer and community-focused organization.	10,371 System Wide
8443	Mercer Corridor West Phase Relocations	Rationale: Per direction from DOF, this project has been broken out from the former AWV subproject for Mercer West. The rationale is that the Mercer West scope is not well defined as of June, 2009, and while the project ties into the overall AWV program, there is sufficient latitude in the proposed scope and scheduling for some of the construction that is not directly impacted by the North Portal work to justify budgeting in a new PE#. Alternative(s): SCL must by law provide relocations for transportation projects. For the proposed scope of work in the Mercer West area, SCL 's project team will advise the WSDOT & SDOT lead teams as to the specifics of the North Portal's preliminary design that are most likely to have the greatest impacts on the power infrastructure and pose the greatest risk to the overall project's constructability, schedule, and budget. The exact location of the proposed North Portal has not been designated as of June 2009, so it is possible that SCL may have some latitude for the project's scope as it regards placement of the relocated power facilities in the Mercer West area.	523 Mercer/Broad/Aurora

*\*Amounts in thousands of dollars*

### 2016 - 2021 Adopted Capital Improvement Program

Proj. ID	Project Title	Capacity	2016* Location
8054	Meter Additions	<p>Rationale: Background: Of the 400,000 meters in City Light's metering system, approximately 80,000 are older than 30 years. City Light's Rates Unit estimates that replacing the meters would result in an increase in revenues of more than \$450,000 annually. City Light has a fiduciary responsibility to continually update the metering system. Due to continuous budget constraints, both in labor and material, targets of 10,000 obsolete meter exchanges were reduced in 2000, 2006 and 2008 to our current level of 5300, thus the backlog of older meters continues to increase. Methodology: New Service Installations: Over the past 9 years, new or upgraded services have averaged 5,500 a year. Material budgeting was based on a 2006 to 2008 average and current labor figures. These project funds support the demands of new construction and upgraded services. Obsolete Meter Exchange: The life cycle of a meter is 30 years based on the electro-mechanical meter. However, current and future electronic technology may reduce this life-span up to 50%. Older meters slow with age, resulting in a loss of revenue to the Department. Obsolete meters can account for up to 3 percent loss in department revenue. The Technical Metering Unit expects to exchange 10,000 obsolete meters annually starting in 2013 through 2016. Alternative(s): 1. Continue to replace obsolete meters at current level of 5,300 annually. City Light could not accurately bill for electrical consumption. Incur loss of City Light revenue due to slow meters. Results in increasing backlog of meters over 30 years old. Increased future utility costs due to replacing obsolete meters at an accelerated pace with higher labor and material costs. 2. Continue to replace obsolete meters at higher level of 10,000 annually. Increase number of customers who receive accurate and timely bills. Reduce loss of utility revenues due to slow meters. Avoid higher cost of meter replacement when meters fail.</p>	2,246 System Wide

*\*Amounts in thousands of dollars*

**2016 - 2021 Adopted Capital Improvement Program**



**New or Expanded Capital Facilities**

Proj. ID	Project Title	Capacity	2016* Location
8429	Mobile Workforce Implementation	Rationale: No Rationale Provided. Alternative(s): No Alternatives Provided.	1,491 Citywide
8383	Neighborhood Voluntary Undergrounding Program	Rationale: Many residential customers have a strong interest in converting overhead power lines to underground lines. Legislation limits City Light from subsidizing this activity from the general rate base. Since the City enacted Council Ordinance 112738 in 1986, customers wishing to convert an existing service from an overhead to an underground connection have utilized the utility's Voluntary Underground Program (VUP). It requires that the customers pay all costs associated with any residential undergrounding. This is still currently a part of the Seattle Municipal Code (SMC) in Section 21.49.110.T. The Seattle City Light VUP coordinator works with any customer or customer group expressing an interest in undergrounding to form a VUP project. The purpose of the Voluntary Underground Program (VUP) is to satisfy residential customers who are interested in converting their overhead distribution system to an underground system. This project allocates customer support, design, and construction services so that the customers feel well treated whether or not they ultimately decide to go ahead with the conversion. Alternative(s): No Alternatives Provided.	16 System Wide

\*Amounts in thousands of dollars

**New or Expanded Capital Facilities**

Proj. ID	Project Title	Capacity	2016* Location
8405	Network Additions and Services - Denny	Rationale: This is a mandated project that provides electrical service connections and related improvements in response to requests for service from customers. The project provides targeted civil and electrical design assistance to customers to connect existing and proposed buildings to the North Downtown network system. The conversion effort is quite large since we are installing a new network in this area. It is imperative to participate in early design discussions with customers building in the area. For existing buildings, the conversions to network service are complicated and require expert assistance. This project provides service connections to biotech industry, condominiums, office buildings, medical facilities, hotels, and commercial and apartment buildings. Alternative(s): 1. Do nothing. 2. Hook up customers as they request. Option 2 is recommended as it is most compatible with our mission of customer service.	1,508 Valley Street/Denny Ave
8363	Network Additions and Services: Broad Street Substation	Rationale: The Broad Street Substation Network Additions and Services project connects approximately five small, four medium, and five large properties costing \$4.6 million and performs capacity additions work associated with service connections. These connections include condominiums, office buildings, medical facilities, hotels, and commercial and apartment buildings. Alternative (s): No Alternatives Provided.	5,889 319 6th AV N

*\*Amounts in thousands of dollars*

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
8364	Network Additions and Svcs: First Hill, Mass, Union & Univer	Rationale: This Network Additions and Services project for the customers in the First Hill, Massachusetts, Union, and University District network areas provides service connections to approximately nine small, five medium, and four large properties costing \$3.5 million. These connections include condominiums, office buildings, medical facilities, hotels, and commercial and apartment buildings. Alternative(s): No Alternatives Provided.	3,569 1555 Utah AV S
8129	Network Hazeltine Upgrade	Rationale: Using the Network Hazeltine system provides reliable power by remotely monitoring the electrical vaults and electrical equipment within the entire downtown service area. The Power Dispatchers constantly monitor the real time status of the network using the Hazeltine system. This program costs \$304K per year and avoids problems that can easily exceed twice that amount for Seattle City Light and its customers. The utility's cost for one such problem can range from \$200K up to as much as \$3M. Aggregated customer costs can range from \$100K up to \$5M. The benefit cost ratio for any one problem can range from 0.99 ( $[\$200k + \$100k] / \$304k$ ) to be as high as 26.3 ( $[\$3M + \$5M] / \$304k$ ). We usually avoid 4 to 5 smaller problems each year and a larger problem, with combined costs of \$1.53M, every 5 years. The yearly benefit cost is then $[4 * 0.99 + 1.53M / (304k * 5)] = 5.0$ . Alternative(s): 1. Do nothing. Do not change existing Hazeltine system. Hazeltine has changed the production of their transmitters, forcing utilities to pay a premium for the transformers that is a fraction of the cost of upgrading to their Next Generation equipment. 2. Upgrade to Hazeltine's Next Generation system, changing station receivers and transmitters on each transformer. Total cost is about \$2.2 million. 3. Develop	631 System Wide

\*Amounts in thousands of dollars

## 2016 - 2021 Adopted Capital Improvement Program

SCL proprietary network EMS system, capable of monitoring plus a new function of control of NP's, BTS's, and primary switches if they are added. Total cost ranges from \$7 million to \$17 million, depending on communications option selected. This excludes developmental costs. 4. Buy any upgrades from vendors only. Wait for Hazeltine or other vendors, to develop network EMS systems with the desired control and monitoring features. No products or competitors to Hazeltine are available at this time for cost estimates. 5. Add sensors to existing or future Hazeltine system to enhance the monitoring of the network environment. This would enable system operators to detect and respond to abnormal field condition and thereby improve customer reliability. 6. Continue existing program of upgrading the sensors to match the current SCL standard. In 2007 and 2008, review the Hazeltine program and determine if more significant upgrades are feasible. Presently, this is the recommended action and funding level for 2007 and 2008. The 2009 and beyond dollars are expected expenditures for the significant Hazeltine upgrades, if approved.

9103 Office Furniture and Equipment Purchase

Rationale: Workplace and process improvements completed under program 9159, plus ongoing organizational change, require the purchase of office furniture and equipment in order to achieve the project objectives. Each year Utility Support Services completes approximately 450 service requests requiring furniture reconfiguration, at least a third of which involve ergonomic corrections.  
Alternative(s): 1. Fund program 9103. 2. Don't fund program 9103 and purchase all office furnishings and equipment from the O&M budget. 3. Maintain office furniture until it can no longer be sustained in acceptable condition and then replace in total with a future ad hoc program.

524 System Wide

*\*Amounts in thousands of dollars*

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
8369	Overhead and Underground Relocations	<p>Rationale: This project provides the means to move City Light system infrastructure, located in the public right-of-way for transportation projects, including street widening and street vacation projects. This means moving distribution lines to make way for construction of buildings, bridges, airport runways, tunnels, and for other utilities. This project moves electrical lines to accommodate or take advantage of transportation-related projects being constructed by other agencies. The project builds new and replaces old line segments, installs and replaces poles, and adds or renovates underground facilities to the distribution system, as necessary, to relocate distribution systems for transportation projects, street vacations, or other projects proposed by outside (non-City Light) agencies. Some projects are paid for by City Light and some are paid for by the requesting agencies. This project provides the means to move the system for transportation projects in the public right of way, including street widening and street vacation projects.</p> <p>Alternative(s): The do nothing alternative leaves the distribution of facilities in their current location, which would interfere with the projects of the other agencies.</p>	2,505 System Wide
8355	Overhead Customer Driven Capacity Additions	<p>Rationale: This project adds capacity to the distribution system to accommodate increased load from new services.</p> <p>Alternative(s): The do nothing alternative leaves the existing system in place. New loads added to the system will adversely impact system reliability and voltage stability. It may be necessary, if the load increase is significant, to deny new service connections if the feeder capacity is inadequate.</p>	3,521 System Wide

\*Amounts in thousands of dollars

## 2016 - 2021 Adopted Capital Improvement Program

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
8356	Overhead System Capacity Additions	Rationale: This project adds capacity to the distribution system to maintain the reliability level for the existing customers on the system and accommodate the increased load from new services. Alternative(s): The do nothing alternative leaves the existing system in place. New loads added to the system will adversely impact system reliability and voltage stability. It may be necessary, if the load increase is significant, to deny new service connections if the feeder capacity is inadequate.	2,515 System Wide
9970	PeopleSoft Reimplementation - City Light	Rationale: The City manages the PeopleSoft financial system and City Light needs to be involved in the configuration and implementation in order to ensure the new implementation meets City Light's business needs. The City and its departments have used PeopleSoft as its financial system since 1998, with the last software upgrade done in 2006. Vendor support for the City's current version of PeopleSoft expired on December 31, 2011. Upgrading to the most current version offered by the vendor ensures vendor support through 2021. Alternative(s): No Alternatives Provided.	14,484 System Wide
8452	Pole Attachment Requests Preparation Work	Rationale: City Light is legally and contractually obligated to make space available on its facilities to government and private entities for communication and other purposes. Customers wishing to utilize space on City Light facilities are required to pay in advance for any necessary work required to provide the necessary space and minimum clearances to the electrical equipment. This ensures that the attachments meet all applicable federal, state and local safety codes. Customers are not allowed to make any attachments until all make ready work, including tree trimming, has been completed and the system made safe for the communication worker. Speed to market in the communications	3,489 System Wide

\*Amounts in thousands of dollars

## 2016 - 2021 Adopted Capital Improvement Program

industry is critical for them to maintain their competitive advantage. Customers pay in advance for City Light crews to complete this work on overtime, without interrupting the normal assignments of the crews. All construction charges are deposited into the Light Fund. New wireless facilities and pole attachments generate an additional \$100,000 in rental revenue annually. Currently \$3.3 million in annual rental revenue is being generated and will continue to increase as construction and make ready work is completed. All rental revenue is deposited into the Light Fund. The communications industry and associated technology are growing at an astounding rate. City Light has experienced a 375 percent increase in pole attachment applications since 2007. All trends indicate that this growth will increase by an average of 24 percent annually. This does not take into account major initiatives such as fiber to the home, Advanced Metering Infrastructure (AMI), or vast expansion of existing networks and Distributed Antenna Systems (DAS). Completing the construction for make ready work and wireless facilities will enable City Light to fulfill its legal and contractual obligations to our customers. Customers will be provided a small measure of rate relief through increased revenue streams from these additi

Alternative(s): It is possible that some or all of this construction work could be outsourced to electrical utility construction companies. This alternative presents obstacles like logistics, compatible parts, quality control, and required electrical reviewers. These challenges negate any cost savings and sometimes take longer to construct.

*\*Amounts in thousands of dollars*

## **2016 - 2021 Adopted Capital Improvement Program**

**New or Expanded Capital Facilities**

Proj. ID	Project Title	Capacity	2016* Location
6385	Power Production - Network Controls	<p>Rationale: A 2003 Report from Westin Engineering identified limits to our automation, remote control and supervisory control capabilities at Skagit. Among other things, the report found that there are protocol issues within and between the facilities and between the facilities and the System Control Center. Improvements are necessary before supervisory control, such as remote start stop and remote loading can be achieved. The consequence of not coordinating all the individual controls and monitoring projects is that we will not resolve our protocol issues, and that we will continue to limit our ability to remotely control and operate the plants. This leads to reduced efficiencies and higher production costs. Project Weighted Rating-26.8, Primary Rationale-Reliability</p> <p>Alternative(s): Do nothing. This is not advisable as it can lead to higher maintenance costs and to unscheduled outages due to unforeseen catastrophic bearing failures. Do partial replacements. This has been the approach. However, there are incompatible pieces that cannot be replaced or replicated as some components are no longer in production. This results in greater potential of system failures due to outdated electronic components being run past their life or not updatable.</p>	1,513 500 Newhalem Creek Rd, Marblemount, WA 98267

*\*Amounts in thousands of dollars*



## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
9202	Security Improvements	<p>Rationale: If Seattle City Light's Security Improvements Program is underfunded, its critical facilities face increased risk to sabotage, vandalism, theft, and terrorism that can result in the loss of valuable infrastructure for generation and distribution of power, as well as noncompliance with North American Reliability Council (NERC) 1200 Standards, adopted May 2, 2006, to improve security at critical facilities that house command and control systems. Curtailment of Seattle City Light's electric operations would impact reliability of the power system in the Pacific Northwest, create lost revenues, and jeopardize public safety and emergency response due to loss of lifeline services such as medical services, water and wastewater systems, communications, law enforcement, banking, transportation system, etc.</p> <p>Alternative(s): Option 1, Status Quo: No centralized security system. Operate local security systems in place and use local law enforcement and private security companies to address security on a limited basis. Use private security services and/or request additional assistance from local law enforcement during times when the Federal government has raised the alert level for the nation or region, or for a situation that has occurred requiring additional security services. Option 2, Centralized Security System: Seattle City Light installs security enhancements to delay, detect, and respond to security intrusions at its critical facilities that are connected to a central security monitoring center that will be staffed by trained security guards on a 24/7 basis to monitor and respond to security incidents. Department wide response procedures will be established and coordination with local law enforcement will be established for responding to security incidents.</p>	4,641 System Wide

*\*Amounts in thousands of dollars*

### 2016 - 2021 Adopted Capital Improvement Program

**New or Expanded Capital Facilities**

Proj. ID	Project Title	Capacity	2016* Location
9232	Service Center Development Project	<p>Rationale: The existing South Service Center (SSC) is located in a seismic liquefaction zone. If a major seismic event occurred, access to and use of the site could be significantly compromised, potentially affecting City Light's ability to keep operations going. The North Service Center (NSC) is highly congested and inefficiently designed. The desired outcome is to implement the findings of the Service Center Master Planning process in a manner that addresses the existing challenges and ensures efficient customer service, operational excellence, employee performance and financial strength for the next 30 years.</p> <p>Alternative(s): Options under consideration include the addition of a third service center, a large single facility for all service center functions, alterations and additions to the North Service Center, and essential seismic upgrades to the existing structures at the South Service Center to address long term reliability. A future update of the Strategic Plan will include a more substantive discussion of City Light's service center options and costs.</p>	0

*\*Amounts in thousands of dollars*

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
8320	Shoreline Undergrounding: North City and Aurora Avenue North	<p>Rationale: The City of Shoreline (Shoreline) has a strong interest in undergrounding utility lines along major arterials, which is governed by its franchise agreement with City Light and other local ordinances. This project helps SCL be a customer and community focused organization by delivering undergrounding service to Shoreline with a coordinated and mutually agreed upon scope, schedule, and cost and rate structure. As of Q2-09, all undergrounding work by SCL in Shoreline will be done under the recent franchise agreement with the City of Shoreline. Also, the City of Shoreline, by adopting new commercial area zoning for the project area as outlined in the Shoreline Municipal Code 13.20.050 (A) (1), requires that overhead utilities in the project area be converted to underground systems. Updated by Pete Beaumont 6/23/2009 Alternative (s): A do nothing choice of action would violate the franchise agreement. Alternatives therefore involve scheduling considerations since the franchise agreements require these relocations. Possible alternatives are: 1. Business as usual. Building the project according to the schedules negotiated with the franchise cities on adoption of the MOA's for the projects. 2. Schedule acceleration to the extent possible for our work, per SCL's initiative. 3. Schedule deferral may be the principal alternative, although this could cause conflict with Shoreline's broader project planning. The Option 1 alternative is preferred, since within reason, per the franchise agreement, SCL must make a good faith effort to facilitate Shoreline's undergrounding plans. Last revised by Pete Beaumont, 6/23/2009</p>	54 2136 N 163rd St, Shoreline

\*Amounts in thousands of dollars

## 2016 - 2021 Adopted Capital Improvement Program

**New or Expanded Capital Facilities**

Proj. ID	Project Title	Capacity	2016* Location
8367	Small Overhead and Underground Services	Rationale: There is a continuous demand for additional electric power services as new construction and renovation work occurs. Seattle City Light provides service to new customers in a safe, reliable, timely, and cost effective manner as a means to fulfill its commitment to be a customer and community focused organization. Alternative(s): Each service connection may have unique aspects that would require or facilitate design, construction, and financing alternatives. Seattle City Light will fully consider alternatives as a means to fulfill its commitment to be a customer and community-focused organization.	6,200 System Wide
6600	SMT AutoLab	Rationale: This project supports continued new cyber security and automation projects. The existing equipment lab is too small and the HVAC system doesn't adequately cool existing equipment. Alternative(s): The project will also look at enlarging the existing lab on SMT 35, as well as looking at alternate spaces to create a new lab. Existing IT labs will be considered.	0

*\*Amounts in thousands of dollars*

Proj. ID	Project Title	Capacity	2016* Location
8450	Sound Transit Light Rail East Link - City Light	<p>Rationale: Sound Transit is in the preliminary stages of planning a light rail line running from Seattle's International District Station to the Bellevue Redmond area. As of 2Q2010, final decisions on the alignment to be chosen have not been made by Sound Transit and SCL has not begun engineering. Per Sound Transit's official communications, the current plan states that Sound Transit's board will select the final alignment for East LINK in 2011 after the EIS is completed. As of 2Q2010, SCL has pointed out that the main area of potential concern with its facilities is the possible crossing under SCL's eastside transmission lines in SE Bellevue, depending on the location chosen for the East LINK alignment there. Until a final alignment is chosen, SCL anticipates that we will be acting in an advisory role. So far, discussions regarding the Seattle section of the East LINK alignment have proposed locating a station somewhere in the vicinity of the 23rd Ave E &amp; Rainier Avenue S neighborhood. Also, current plans are that the line would not be underground between the International District Station and the I-90 Bridge, although all plans are subject to change ahead of the board's vote next year. Sound Transit estimates construction could then start in late 2013 or early 2014. SCL will develop engineering estimates and a complete budget, working with Sound Transit's project team, as more details of the project move forward. Depending on the final alignment, SCL will revise our FY2011 budget as needed to fit Sound Transit's time lines. As Sound Transit readies for the board's vote on the alignment, we will work with Sound Transit on an MOA regarding SCL cost reimbursement. It is anticipated that the project will be 100% reimbursable to SCL in keeping with past work with Sound Transit. Alternative(s): SCL must, if possible, facilitate the construction of this customer's project.</p>	107 I-90/International District Station/I-90 Bridge

\*Amounts in thousands of dollars

**2016 - 2021 Adopted Capital Improvement Program**

**New or Expanded Capital Facilities**

Proj. ID	Project Title	Capacity	2016* Location
8427	Sound Transit Northlink - City Light	<p>Rationale: Since Sound Transit's funding for North Link is a different package than that for the Initial Link, as are their contractual agreements, SCL as a key project participant needs to mirror Sound Transit's project management structure to best manage this project, hence the work has been managed under this PE#8427, even when the MOA's governing the project have not kept up with Sound Transit's requirements from us. The project will manage the relocations work &amp; feeder construction needed for Sound Transit to build the North Link line. SCL's current assumption is, per the draft MOA, that the service connections at the sites would be arranged and paid for by Sound Transit's contractor, under a service CIP #, business as usual. The utility relocations and power service provided to Sound Transit will enable the agency to stay on its path according to schedule once the North Link light rail project begins.</p> <p>Alternative(s): For the coming year, given the level of effort so far identified, the do nothing option is not a possibility, as Sound Transit can not meet their proposed schedules without SCL's significant assistance. Sound Transit may wish to modify their schedule somewhat if SCL's engineering and planning for the project offer some possibility of cost savings. We do not know enough about the construction scope to determine this as of 1Q2012.</p>	1,663 University District / Roosevelt / Northgate
7751	Substation Capacity Additions	<p>Rationale: We plan to design the feeder get-aways to carry power from substations as needed.</p> <p>Alternative(s): The alternatives to making capacity additions to existing substations are: 1. Accepting limitations on service to customers. 2. Successfully promoting voluntary power demand reductions. 3. Meeting capacity demand increases by new substations and transmission lines.</p>	1,568 System Wide

\*Amounts in thousands of dollars

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
9161	Substation Comprehensive Improvements	Rationale: 1. Reduce the risk to communications equipment and power network controls in order to sustain City Light's historically high system reliability. 2. Reduce workplace complaints among substation staff so that City Light maintains its harmonious relationship with electrical workers. Alternative(s): 1. Fund Program 9161. 2. Eliminate Program 9161 and make limited scope improvements in reaction to critical situations. 3. Eliminate Program 9161 and fund substation improvements out of other programs. 4. Make no improvements and finance increasing risk through insurance. 5. Eliminate Program 9161 and complete substation improvements as an O&M expense.	198 System Wide
7755	Substations Demand Driven Improvements	Rationale: Requests from other agencies typically occur without enough notice to be included in the biennial budgeting process. The Power Stations Division budgets a nominal sum for each year to cover requests and to request spending authority. Alternative(s): The alternative to implementing regional demands is failing to meet City commitments to regional agreements.	5 System Wide

*\*Amounts in thousands of dollars*

### 2016 - 2021 Adopted Capital Improvement Program

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
9230	Technical Training Center Development	Rationale: Seattle City Light currently does not have a training center and we currently deliver our training in multiple disparate, borrowed and shared spaces. A technical training center will enable us to ensure that our workers receive essential training to continue to be a high performance workforce and deliver the high quality of service that our customers expect. Alternative(s): Our alternatives include either the status quo option of delivering training at disparate and borrowed locations or purchasing land on which to build a dedicated training center. The preferred option utilizes a vacant property that is owned by City Light on which to build the training center, which is the best option for the utility.	902 System Wide
9965	Tool Room Automation	Rationale: Seattle City Light's tool room budget is \$1.3M for O&M and \$1M for capital per year. This includes new tool purchases, and maintenance, testing reconditioning, and calibration of existing tools; and replacement of existing tools. Alternative(s): No Alternatives Provided.	342
9952	Transformer and Network Load Management Tools Upgrade	Rationale: The Transformer Load Management system (TLM), the Network Load Management system (NLM) and the Loadflow application are legacy FORTRAN-based applications and engineering modeling tools used everyday at Seattle City Light (SCL) for functionality critical to providing power to our customers. These custom built tools (originally implemented in the 1970s using FORTRAN) have long since exceeded their expected useful life. They are at risk of failure and City IT no longer has personnel with the expertise required to fix them when they do fail. The connection between customer meters and SCL electrical distribution systems are modeled and maintained by these programs. Other SCL systems, such as the Geographic	11 System Wide

\*Amounts in thousands of dollars

### 2016 - 2021 Adopted Capital Improvement Program



Information System (GIS) and Outage Management System (OMS), depend on data maintained by these applications for accurate system mapping and the management of planned and unplanned outages. Performing system planning analysis on the distribution systems relies on system load calculations, using customer meter demand information, which these applications provide. This ongoing analysis of the demand on power lines and transformers is a key process to avoid electrical overloading and premature degradation of SCL distribution systems. This analysis is also needed to ensure that SCL can meet the expectations of fully utilizing our system capacity, as pointed out in the State Auditor's findings in 2009. Loss of the TLM, NLM and Loadflow would mean that SCL would no longer have the load data required to perform necessary system analysis and planning. This may result in more overloading, premature aging of the distribution systems, and more conservative and costly engineering design attempting to mitigate these issues. It also increases the possibility of costly unplanned outages due to the inability to perform effective design, and increases the possible duration of those outages because OMS requires this customer to system connectivity information to efficiently loc Alternative(s): I. Do Nothing: Do not replace the TLM/NLM/Loadflow applications. Continue to support the basic needs of the Outage Management System through a custom software interface. Continue to perform basic and oftentimes manual engineering analysis for loading of the distribution systems. Continue to use a software application (FORTRAN code) that the utility has no IT expertise to support. II. Replace TLM/NLM/Loadflow: Purchase and deploy a vendor application specifically configured to provide (1) enhanced support to OMS because of its capacity to store and maintain a denser set of data than our current system, (2) access to data accomplished through a vendor supplied, rather

*\*Amounts in thousands of dollars*

## 2016 - 2021 Adopted Capital Improvement Program

		than a custom, interface, (3) a robust capability for more complex and accurate engineering analysis for system loading and usage, (4) the ability to effectively store and use smart grid data and technology when the utility starts to deploy it.	
8360	Underground Customer Driven Capacity Additions	Rationale: This project adds capacity to the distribution system to accommodate increased load from new services. Alternative(s): The do nothing alternative leaves the existing system in place. New loads added to the system will adversely impact system reliability and voltage stability. It may be necessary, if the load increase is significant, to deny new service connections if the feeder capacity is inadequate.	2,918 System Wide
8201	Union Street Substation Networks	Rationale: The Union Street Substation Networks project provides sufficient and reliable electrical capacity for the growing power needs of our customers. It is a programmatic approach for comprehensive management of underground network assets (electrical and in some cases civil) serving customers in the area bounded by Yesler Street, Alaska Way, Pike Street, 6th Avenue, Union Street, the Freeway, University Street, 3rd Avenue and the Waterfront area from Denny to Yesler. The project goal is to increase the capacity of present Union Street Substation network feeder cables to their ultimate service build out limit (an overall increase of 128 MVA) as determined by Union Substations transformer capacity, with allowances for feeder imbalances, feeder diversity and diversity among sub-networks. We will re-conductor and re-route four targeted service feeders by the end of 2008 and perform associated work such as feeder balancing. This includes the work in support of finishing the main stem build out and to address capacity issues in the branch portion of the feeder service cables as needed in response to specific service requests, as well as analyses of branch cable congested areas. Work in 2007 and 2008 as well as successive years is necessary to be able to pick up loads that will likely be transferred from Broad Street sub-networks in 5 years. To meet	2,415 1312 Western AV

*\*Amounts in thousands of dollars*

## 2016 - 2021 Adopted Capital Improvement Program

the projected new loads on the Waterfront and at specific downtown core sites we need to complete re-conductoring and re-routing of four targeted service feeders by the end of 2008 and perform associated work such as feeder balancing that will be transferred from Broad Street, and may be transferred from Massachusetts Street; build and energize a new network substation at least six years before all Downtown network capacity is used so that service cutovers can be done with minimal impact to our customers. This work is essential to meet near term load requirements of the SAM/WaMu and Four Seasons projects. This critical project Alternative(s): Alternatives include: 1. Do nothing. Make no improvements to system reliability or additions to feeder capacity. This would allow customer load to continue growing without commensurate additions to capacity of feeders serving this area, ultimately leading to multiple cable failures and extended customer outages. This would reduce the reliability of the network system from its present level, subjecting it to more lengthy outages. 2. Reduce customer demand for more load with demand side management measures. This alternative was evaluated in the Network Strategic Systems Plan and found to have negligible ability to reduce customer demand in the network area. 3. Increase capacity of network feeders incrementally, as little as possible and as close to near-term load requirements as possible. This is no longer feasible as the next increment of feeder capacity additions reach their final capacity targets. 4. Increase capacity of network feeders to the full limit of the substations capability to deliver power. 5. Add measures that improve system reliability to mitigate the severity of any network event. 6. Add measures that improve customer reliability by preventing the chain of events leading to major customer impacts.

## Seattle Public Utilities

*\*Amounts in thousands of dollars*

### 2016 - 2021 Adopted Capital Improvement Program

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
C4102-DWF	Alaskan Way Viaduct & Seawall Replacement Program - DWF	This project will relocate, replace and protect drainage and wastewater facilities affected by the replacement of the Alaskan Way Viaduct and Seawall with a new seawall and transportation facility.	3,081 SR 99 / Battery St
C4102-WF	Alaskan Way Viaduct & Seawall Replacement Program - WF	This project will relocate, replace and protect water facilities affected by the replacement of the Alaskan Way Viaduct and Seawall with a new seawall and transportation facility.	4,904 SR 99 / Battery St
C1606	Ballard Locks Improvements	This project will fund the planning, design, and construction of freshwater conservation and smolt passage facilities at the Ballard Locks.	136 NW 54th St /30th Ave NW
C4119-DWF	Bridging the Gap - DWF	This program will fund projects for drainage and wastewater utility improvements and relocations associated with SDOT's "Bridging the Gap" program.	27 Various Various
C4119-WF	Bridging the Gap - WF	This program will fund projects for water utility improvements and relocations associated with SDOT's "Bridging the Gap" program.	7,988 Various
C3373	Capitol Hill Water Quality Project	The project treats 7.2 cfs of stormwater runoff from Capitol Hill.	0 Yale Ave N/Pontius Ave N/Thomas Street
C1307	Cedar Bridges	This project will replace deteriorated bridges in the Cedar River Watershed.	1 Cedar River Watershed
C1605	Cedar Sockeye Hatchery	This project will construct an incubation facility capable of producing 34 million "swim-up" Sockeye fry.	0 Cedar River Watershed
C3803	Densmore Basin Drainage Improvements	This project will install storm drain improvements that meet the drainage capacity standard of a 25-year storm.	0 Densmore Basin
C1128	Distribution System Improvements	This project will improve the distribution system to meet customer service levels.	3,030 Citywide
C3610	Green Stormwater Infrastructure Program	This project increases capacity to convey combined sewer flows by slowing stormwater flows and reducing volumes entering the combined system, this is achieved by slowing, infiltrating or reusing stormwater.	6,936 Citywide Citywide

\*Amounts in thousands of dollars

## 2016 - 2021 Adopted Capital Improvement Program

# Seattle Public Utilities

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016*	Location
C3802	Localized Flood Control Program	This program will provide flood control and local drainage and wastewater projects in under-served parts of Seattle to improve system capacity or increase the existing level of service.	2,678	Various Various
C3604	Long Term Control Plan	This project will determine size and location of all future CSO control facilities within the City.	750	
C3805	Madison Valley Long Term Solution	The project will provide an estimated additional stormwater storage capacity of 2.8 million gallons.	0	Various Various
C4133-DWF	Mercer Corridor Project West Phase - DWF	This project will provide drainage and wastewater utility improvements related to the SDOT Mercer Corridor Project West Phase.	30	Mercer St Mercer St/Elliott Ave W/Dexter Ave N
C4133-WF	Mercer Corridor Project West Phase - WF	This project will provide water utility improvements related to the SDOT Mercer Corridor Project West Phase.	30	Mercer ST Mercer ST/Elliott AVE W/Dexter AVE N
C4106-DWF	Operational Facility - Construction - DWF	This program will renovate, rehabilitate, and replace existing buildings and construct new facilities at various locations to address deficiencies and functional changes in SPU's Lines of Business.	9,442	Citywide Citywide
C4106-SWF	Operational Facility - Construction - SWF	This program will renovate, rehabilitate, and replace existing buildings and construct new facilities at various locations to address deficiencies and functional changes in SPU's Lines of Business.	310	Citywide
C4106-WF	Operational Facility - Construction - WF	This program will renovate, rehabilitate, and replace existing buildings and construct new facilities at various locations to address deficiencies and functional changes in SPU's Lines of Business.	1,753	Citywide
C4105-DWF	Operations Control Center - DWF	This program will improve facilities at the Operations Control Center.	28	2700 Airport Way S
C4105-SWF	Operations Control Center - SWF	This program will improve facilities at the Operations Control Center.	9	2700 Airport Way S
C4105-WF	Operations Control Center - WF	This program will improve facilities at the Operations Control Center.	63	2700 Airport Way S
C3703	Pump Station and Force Main Improvements	This program will provide wastewater pump station improvements, upgrades, repairs and rehabilitation.	3,913	Various Various

\*Amounts in thousands of dollars

### 2016 - 2021 Adopted Capital Improvement Program

## Seattle Public Utilities

### New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
C4107-WF	Regional Facility - WF	This program will improve facilities at SPU's regional sites.	1,570 Various
C1504	Regional Water Conservation Program	This project will extend SPU's water supply by up to 11 MGD using demand reduction from customer upgrades in water-using facilities and equipment to be more water efficient.	1,472 Citywide Plus Wholesale
C1411	Reservoir Covering - Maple Leaf	This project will underground Maple Leaf Reservoir to protect drinking water quality.	1,306 NE 86th St/Roosevelt Wy NE
C1410	Reservoir Covering - Myrtle	This project will underground Myrtle Reservoir to protect drinking water quality.	55 SW Myrtle St/35th Ave SW
C1409	Reservoir Covering - West Seattle	This project will underground West Seattle Reservoir to protect drinking water quality.	50 SW Henderson St/8th Ave SW
C3608	S Genesee Combined Sewer Overflow	This project will construct or modify facilities to manage Combined Sewer Overflow control volumes totaling approximately 3 to 5 million gallons. Estimates are from the Draft CSO 2010 Plan Update.	137 S. Genesee St. S. Genesee St.
C3609	S Henderson Combined Sewer Overflow Storage	This project will construct or modify facilities to manage Combined Sewer Overflow control volumes totaling approximately 26 million gallons. Estimates are from the Draft CSO 2010 Plan Update.	26,134 S Henderson St. S Henderson St.
C1505	Seattle Direct Service Additional Conservation	This project will upgrade water-using facilities to be more water efficient and accelerate conservation savings by 3 million gallons per day in conjunction with reservoir covering, other system efficiencies, and upgrades to low income customer facilities.	681 Citywide & Direct Service
C4113-DWF	Security Improvements - DWF	This program will provide increased security and protection at SPU facilities.	128 Citywide Citywide
C4113-SWF	Security Improvements - SWF	This program will provide increased security and protection at SPU facilities.	110 Citywide
C4113-WF	Security Improvements - WF	This program will provide increased security and water quality protection at SPU facilities.	783 Citywide
C4135-DWF	Sound Transit - North Link - DWF	N/A	359 Various Various
C4135-WF	Sound Transit - North Link - WF	N/A	485 Various Various

*\*Amounts in thousands of dollars*

### 2016 - 2021 Adopted Capital Improvement Program

# Seattle Public Utilities

## New or Expanded Capital Facilities

Proj. ID	Project Title	Capacity	2016* Location
C4125	Sound Transit - Water Betterment	This project will fund the relocation or replacement of water mains and other facilities related to the development of Sound Transit's Light Rail system.	0 Central & South areas of Seattle
C4122-DWF	Sound Transit-East Link	This program will fund projects for utility improvements and relocations associated with the development of Sound Transit's Light Rail system.	20 Various Various
C4122-WF	Sound Transit-East Link	This program will fund projects for utility improvements and relocations associated with the development of Sound Transit's Light Rail system.	170 Various Various
C3806	South Park Pump Station	New Pump Station with capacity of 44 cubic feet per sec, an associated stormwater filtration facility will treat flows up to 11 CFS, with the balance of higher flows bypassing filtration and pumped directly to the river.	2,897 698 S Riverside DR/Holden/Austin
C2302	South Transfer Station Rebuild	This project will replace the existing facility to increase the capacity to recycle more solid waste and improve the transfer capability of non-recyclable materials.	6,732 8100 2nd AVE S
C3353	Taylor Creek Culvert Replacement	This project will increase the capacity of the culvert under Rainier Ave S to pass 25 year storm event flows and allow unimpeded fish passage.	0 Taylor Creek at Rainier Ave S
C3811	Thornton Confluence Improvement	This project will increase floodplain capacity at the Thornton Creek confluence.	50 Thornton Creek
C3333	Venema Creek Natural Drainage System	This project increases the capacity to convey stormwater flows.	0 1st and 2nd Ave NW/NW 120th St/NW 122nd St
C1112	Water Infrastructure - New Hydrants	This project will improve fire protection by increasing the number of fire hydrants in the city.	25 Citywide
C1113	Water Infrastructure - New Taps	This project will install approx. 800 new taps per year to domestic, commercial, and fire protection systems.	6,630 Citywide
C1111	Water Infrastructure - Watermain Extensions	This project will install approximately 8,000 feet of new watermains per year.	828 Citywide
C3605	Windermere Combined Sewer Overflow Storage	This project will construct approximately 2,000,000 gallons of Combined Sewer Overflow storage capacity.	162 NE 65th St./Sand Point Way NE NE 65th St./Sand Point Way NE

\*Amounts in thousands of dollars

### 2016 - 2021 Adopted Capital Improvement Program

**New or Expanded Capital Facilities**

<b>Proj. ID</b>	<b>Project Title</b>	<b>Capacity</b>	<b>2016* Location</b>
S0501	Lot 2 Development	This project adds a 10,500 square foot skatepark.	0 5th Ave N/Republican St

*\*Amounts in thousands of dollars*



## Appendix B

### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
<b>Seattle Center</b>				
S0702	Monorail Improvements Debt Service	This project provides for the payment of debt service on 10-year LTGO bonds issued in 2007 to fund rehabilitation work on the Seattle Center monorail. LTGO bonds are one fund source for the work described in the Department's Monorail Improvements project (S9403).	\$551	Seattle Center
<b>Department of Parks and Recreation</b>				

## Appendix B

### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
K730300	Major Maintenance Backlog and Asset Management	This ongoing project provides funding for major maintenance projects for assets in all of the city parks and recreation facilities, including athletic fields, play areas, swimming pools, trails, buildings, accessibility elements, outdoor infrastructure, and related work. This project also funds a new integrated asset management and work order system to better track and forecast long-term asset and maintenance needs. The project also increases Parks' ability to remove property encroachments. Typical major maintenance improvements may include, but are not limited to renovating buildings, Americans with Disabilities (ADA) access improvements, replacing play area structures, forest, landscape, trail maintenance and improvements, swimming pool repairs, athletic field refurbishment, and installation of energy efficient lighting, and related major maintenance work. These projects will address health and safety codes, extend the life of the asset, improve access for all, reduce energy costs, reclaim Parks property, and improve the overall park experience for the public. This project is part of the Metropolitan Parks District measure put before voters in 2014.	\$16,862	CityWide

## Appendix B

### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
K730311	Smith Cove Park Development	This project, funded by the MPD, develops the 4.9 acre waterfront portion of Smith Cove Park located just west of Pier 91 on Elliott Bay. The park will be developed following a planning and design process for the site. These amenities may include paths, landscaping, waterfront access points, a play area, and related improvements. Some improvements will also be made to the existing part of Smith Cove Park (west of this site), currently used for sports such as soccer. The improved park will provide waterfront access and ADA accessibility; provide enhanced opportunities for active recreation, increase environmental-sensitivity, and make the park inviting and usable for more people.	\$550	W Galer ST / 23rd Ave W

## Appendix B

### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
K732493	Parks Central Waterfront Piers Rehabilitation	The Waterfront Park and Pier 62/63 are public park facilities that provide public access to Elliott Bay and host a range of public events, markets and performances. Both piers need a full seismic upgrade to meet current life safety codes, and Waterfront Park needs significant access improvements. Waterfront Park is envisioned as a flexible public recreation and open space. Pier 62/63 is anticipated to be more heavily programmed, with a flexible activity rink, events, and performances. The Department of Parks and Recreation (DPR) owns the piers, but the Central Waterfront Improvement Fund will pay for the rehabilitation. This project is part of the overall waterfront improvement program.	\$2,247	Alaska Way / Peir 62/63

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**Department of Finance and Administration**

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## Appendix B

### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
A1APSC H101	Asset Preservation - Schedule 1 Facilities	This ongoing program provides for long term preservation and major maintenance to the Department of Finance and Administration's schedule 1 facilities. Schedule 1 facilities comprise existing and future office buildings located in downtown Seattle, including but not limited to City Hall, the Seattle Municipal Tower and the Justice Center. Typical improvements may include, but are not limited to, energy efficiency enhancements through equipment replacement, upgrades/repairs to heating/ventilation/air conditioning systems, upgrades/repairs to electrical systems, upgrades/repairs to fire suppression systems, roof repairs or replacement, and structural assessments and repairs. This work ensures the long-term preservation of the operational use of the facilities.	\$4,411	Various locations

## Appendix B

### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
A1APSC H201	Asset Preservation - Schedule 2 Facilities	This ongoing program provides for long term preservation and major maintenance to the Department of Finance and Administration's schedule 2 facilities. Schedule 2 facilities comprise existing and future structures, shops and yards located throughout Seattle, including but not limited to City vehicle maintenance facilities at Haller Lake and Charles Street, Finance and Administrative Services shops located at Airport Way S., fire stations, police precincts including the animal shelter, and other FAS managed facilities used for City Services. Typical improvements may include, but are not limited to, energy efficiency enhancements through equipment replacement, upgrades/repairs to heating/ventilation/air conditioning systems, upgrades/repairs to electrical systems, upgrades/repairs to fire suppression systems, roof repairs or replacement, and structural assessments and repairs. This work ensures the long-term preservation of the operational use of the facilities.	\$2,981	Various locations
A1FL122	Fire Station 22	This project, part of the 2003 Fire Facilities and Emergency Response Levy Program, rebuilds Fire Station 22. The existing Fire Station 22 is seismically vulnerable, and cannot feasibly be renovated to support modern emergency equipment. The project protects firefighters in the event of an earthquake and allows them to provide high-quality emergency services to the Roanoke community.	\$3,885	901 E Roanoke St

## Appendix B

### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
A1PS205	Fire Station 5	This project, located on the downtown Seattle waterfront, provides a seismic and safety upgrade for Fire Station 5 and makes minor functional improvements to the facility. The project protects fire fighters in the event of an earthquake and allows them to provide high-quality marine and land-based emergency service.	\$2,242	925 Alaska Way

#### Seattle City Light

6422	Diablo Powerhouse - Rebuild Generator Unit 31	This project rebuilds Generator 31 at Diablo Powerhouse, which provides 4.4 percent of the total power Seattle City Light generates. This project is part of the Utility's Generator Rebuild Program, a series of projects to maintain and extend the useful life of the Utility's aging generators. The program rebuilds ten generators, accounting for 70 percent of City Light's generating capability.	\$5,101	Milepost 126 State Highway 20
6415	Skagit Powerhouses - Install Protection Relays	This project enhances generating reliability by adding protective relays to generating systems at the Ross, Diablo, and Gorge plants, whose generator protective relays do not meet present IEEE Standards. The project funds the addition of microprocessor relays to the existing system, certain auxiliary protective equipment, and modifies the design of the existing protection system to upgrade functionality. This will limit the potential for damage when surges and faults occur in transmission lines due to lightning strikes, load rejections, and other unexpected events.	\$854	Newhalem Creek Rd, Marblemount, WA 98267

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### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
6520	Skagit - Facilities Plan	This project implements a comprehensive facility plan to optimize buildings and structures at two Skagit town sites. The project preserves essential facilities that support SCL's power production needs, and retains important civic, cultural, and historic features in keeping with the historic preservation requirements of the Skagit FERC Licensing agreement. The project will reduce operational costs by dismantling and removing surplus facilities that require significant on-going maintenance.	\$2,265	Skagit
6385	Power Production - Network Controls	This project provides the infrastructure required to install the basic control network and integrate existing, major control systems for a Skagit wide network controls program, to be located at each of the Skagit facilities. This project improves monitoring and control of the Skagit facilities, reduces maintenance and potential outages, and reduces cost and time of maintenance and outages. This project incorporates features that lead to enhanced data acquisition that is part of the NERC requirements.	\$1,513	Newhalem Creek Rd, Marblemount, WA 98267
9006	Safety Modifications	This ongoing project modifies City Light's facilities and provides equipment to correct imminent and critical safety hazards. The project includes upgrades and revisions to systems, equipment and operations, properties and facilities, as needed to comply with safety regulations and best practices for a safe, efficient, and secure work environment.	\$1,290	Citywide



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### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
8461	Transmission Line Inductor Installation	This project addresses the issue of increased electric transmission congestion load growth in the Puget Sound Area. The project funds the installation of inductors or phase shifting transformers which curtail the flow of power through the Seattle area, while improving customer and asset strengths and maintaining reliability.	\$6,958	
8462	Transmission Line Reconductoring	This project addresses the issue of increased electric transmission congestion load growth in the Puget Sound Area by increasing the capacity of the Bothell-SnoKing double circuit 230kv line to meet area reliability requirements. The project funds the re-conductoring of both the Bothell-SnoKing double circuit 230kV line and the Delridge-Duwamish 230kV line to increase capacity and meet regional reliability requirements.	\$7,072	

## Appendix B

### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
8425	Distribution Automation	This ongoing project automates radial distribution feeders, which includes installation of equipment to provide remote control of operations of switches on power lines and gather real time data on conditions in distribution power lines. The installation of strategically placed switches will provide the ability to automatically perform outage restoration, shift blocks of load to maximize efficiencies of feeders, and reconfigure the feeder grid. Typical operation will involve remotely detecting that a feeder fault has occurred, locating the damaged portion of the feeder between two remote controlled line switches, isolating the damaged portion of the feeder by opening appropriate remote controlled line switches, and re-energizing undamaged portions of the feeder via the primary feeder source and one or more backup sources using automatically controlled tie switches.	\$3,190	Citywide
8465	Broadband - City Light	This project provides support for expansion of broadband service to the entire City. This will involve the installation of approximately 200-250 miles of fiber optic cable, impacting about 8,000 - 10,000 utility poles. Types of construction City Light will perform include pole replacements, relocations of existing wires, equipment installation, commissioning, and inspections. This work is 100% customer driven and reimbursable.	\$2,600	CityWide

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### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
9957	Enterprise Geographic Information System	This project investigates, evaluates, and makes a recommendation to develop a unified GIS system that meets all of the needs of the Utility, replacing the two separate and incompatible Geographic Information Systems (GIS) that City Light currently maintains, and allowing integration with future software systems (such as Mobile Workforce).	\$1,990	CityWide
9962	Enterprise Document Management System	This project plans, builds, deploys, and provides ongoing management of an enterprise document management system that effectively and efficiently captures, secures, shares, and distributes digital and paper based documents and reports. The project streamlines collaboration, automates routine tasks, and lowers costs related to creation, management, and storage of business documents. The project provides the governance and audit capabilities needed to minimize the risks and costs associated with regulatory and legal compliance.	\$1,033	CityWide

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### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
9970	PeopleSoft Reimplementation - City Light	The PeopleSoft reimplementation and upgrade is a City-wide effort to replace the City's accounting system with an upgraded version of the PeopleSoft software. In addition to City Light's costs for the upgrade, reflected in the 2013-2020 Strategic Plan - FinMAP CIP Project 9961, this project includes \$6.2M from the 2014 Strategic Plan update, which is a 25% allocated share of the City's Financial and Administrative Services departments estimated project costs.	\$14,484	CityWide

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#### **Seattle Department of Transportation**

TC367610	Pavement Microsurfacing	This program funds the microsurfacing of streets. Microsurfacing creates a protective layer which preserves the underlying structure and prevents the need for more expensive repairs in the future. It extends the life of the pavement from seven to ten years.	\$2,500	CityWide
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### Capital Projects passing the \$5 million threshold with the 2016 allocations (as Adopted in the 2016 Adopted Budget)

<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
TC36763 0	Overlook Walk and East-West Connections Project	Removing the Alaskan Way Viaduct provides the opportunity for the City to improve key connections between the downtown core and the waterfront. The specific east/west streets targeted for improving connections include: Bell Street, Union Street, Pike Street, Pine Street, Main Street, Washington Street, and Railroad Way. In addition to these east/west street connections, the waterfront improvement program also includes Overlook Walk, which would provide a pedestrian oriented connection between the waterfront, the Aquarium and Pike Place Market with ADA access, views, and public open spaces. This project is part of the overall waterfront improvement program.	\$1,605	Pike Place Market
TC36724 0	Broadway Streetcar Extension	This project extends the First Hill Streetcar to the north end of Broadway (approximately Denny Way to Roy Street). The First Hill Streetcar line is currently under construction and will connect First Hill employment centers to the regional Link light rail system, including but not limited to the International District/Chinatown Station, and Capitol Hill Station at Broadway and John Street. This half-mile extension to the retail core of Broadway will reach a high density residential area with reliable frequent service (approximately 10 minute headways) mirroring the hours of operation of Link light rail system.	\$1,065	Broadway E between Denny Way & Roy St.

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<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
C1207	Transmission Pipelines Rehabilitation	This program rehabilitates and upgrades water pipes and associated structures in the City of Seattle's transmission system. It assists SPU in providing agreed-upon pressure and flow for wholesale customers, limiting drinking water supply outages, and meeting applicable regulatory requirements of the Washington Department of Health (DOH).	\$2,568	CityWide
C1601	Watershed Road Improvement/Decommissioning	This program provides forest road improvements and decommissioning in the Cedar River Watershed. The purpose of this program is to reduce the delivery of sediment into the waterways in the watershed to protect both aquatic habitat and water quality. This program is a requirement under the Cedar River Watershed Habitat Conservation Plan (HCP.)	\$981	Ceder River
C2302	South Transfer Station Rebuild	This program provides for the replacement of the existing South Recycling and Disposal Station (SRDS) in South Park. The existing solid waste transfer station was built in 1966 and is outdated and nearing the end of its useful life. The design and construction of replacement facilities is a two phase project. The first phase includes the development of a new transfer station and associated facilities adjacent to the existing facility on a 9.1 acre parcel to the northwest of the existing station. The second phase includes demolition of the existing facilities and development of new recycling and reuse facilities, a household hazardous waste facility, and other utility facilities.	\$6,732	8100 2nd Ave S

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<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
C2306	North Transfer Station Rebuild	This project provides for the replacement of the existing North Recycling and Disposal Station (NRDS) in Wallingford. The existing station was built in 1967 and is outdated and nearing the end of its useful life. The project includes the demolition of the existing transfer station and warehouse building on the adjacent property to the east. The new transfer station campus includes the tipping floor, recycling facility, educational center, new administrative building and employee facilities.	\$18,949	1350 N 34th St
C3609	S Henderson Combined Sewer Overflow Storage	This project provides construction of combined sewer overflows (CSO) facilities in the Henderson area in the southeast part of Seattle. Facilities will be built to meet level of service requirements for CSOs and comply with state and federal regulations. The project will meet requirements of the City's current National Pollutant Discharge Elimination System (NPDES) Wastewater Discharge Permit. Maintenance costs will not begin until after 2020, when the project completes construction.	\$26,134	S Henderson St

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<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
C3610	Green Stormwater Infrastructure Program	This ongoing program provides construction of Green Stormwater Infrastructure (GSI) as a component of combined sewer overflow (CSO) reduction within the uncontrolled CSO basins. Work includes roadside raingardens, permeable pavement alleys, and the RainWise program. RainWise provides financial incentives to private property owners within our uncontrolled CSO basins for construction of properly sized and installed raingardens or cisterns. The program supports the City's current regulatory strategy for compliance with CSO National Pollutant Discharge Elimination System (NPDES) permit.	\$6,936	CityWide



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<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
C3614	Ship Canal Water Quality Project	<p>The City of Seattle (the City) has prepared a comprehensive strategy, called The Plan to Protect Seattle's Waterways (the Plan); to reduce overflows and discharge of pollutants from combined sewers and the storm drain system. The City must control sewer discharges to protect public health, the environment, to comply with the Clean Water Act, the United States District Court Consent Decree, and state regulations. On May 29, 2015, the City submitted the plan to EPA and Ecology for approval. The Plan recommends a Shared West Ship Canal Project (aka Ship Canal Water Quality Project) between SPU and King County to provide offline storage of Combined Sewer Overflows for SPU Ballard CSO basins (outfalls 150/151 and 152), Fremont/Wallingford CSO basins (outfalls 147 and 174), King County's 3rd Ave West regulator (DSN 008) and King County's avenue NW Regulator (DSN 004). The Project has a storage capacity of 15.24 million gallons and will bring the seven CSO basins into compliance with the State's control standard of one untreated overflow per year per outfall on a 20-year moving average.</p>	\$17,690	

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<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
C3710	Pipe Renewal Program	SPU operates and maintains approximately 1,400 miles of wastewater conveyance (combined and separated) pipe. The age of this infrastructure varies; however, significant portions of the system were constructed prior to 1950. There are a number of factors that impact pipe life thereby creating complex renewal decisions. This program is a capital reinvestment program into the repair, replacement, rehabilitation and renewal of the collection system by various contracting and construction methods.	\$13,520	CityWide
C4106-DWF	Operational Facility - Construction - DWF	This ongoing facilities program renovates, rehabilitates, and replaces existing buildings and constructs new facilities at various locations within the city limits to address deficiencies, failures, and functional changes in the SPU Lines of Business. Typical improvements include, but are not limited to, roof replacements, exterior wall or cladding replacements, and improvements to administrative office space, crew and shop space, lighting, heating and ventilation systems, and facilities structures. These improvements increase the useful life of the facilities, preserve the value of the assets, and provide a safe working environment.	\$9,442	CityWide

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<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
C4106-WF	Operational Facility - Construction - WF	This ongoing facilities program renovates, rehabilitates, and replaces existing buildings and constructs new facilities at various locations within the city limits to address deficiencies, failures, and functional changes in the SPU Lines of Business. Typical improvements include, but are not limited to, roof replacements, exterior wall or cladding replacements, and improvements to administrative office space, crew and shop space, lighting, heating and ventilation systems, and facilities structures. These improvements increase the useful life of the facilities, preserve the value of the assets, and provide a safe working environment.	\$1,753	CityWide
C5406	Science & System Performance	This ongoing program will provide new and improved technology applications and accompanying data management tools to support the gathering, monitoring, tracking and analysis of science and engineering information. Several planned projects include replacement of obsolete regulatory compliance tracking applications, upgrades to field monitoring equipment, and the integration of SCADA data with other data systems. This program enhances SPU's ability to control water quality and comply with environmental and health regulations.	\$942	CityWide

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<b>Project ID</b>	<b>Project Title</b>	<b>Project Description</b>	<b>2016 (000's)</b>	<b>Location</b>
C5407	Asset Information Management	This ongoing program provides applications, upgrades and data management tools in support of SPU's work and asset management programs. Several new and updated technology solutions designed to enhance the efficiency and effectiveness of drinking water, sewer, drainage, and solid waste operations are planned. These include the development of an Asset Data Register in support of performance analytics, and dispatch and emergency response systems. Other related, but as yet undetermined projects will be undertaken to further enhance safety and improve responsiveness of SPU's utility operations.	\$2,744	CityWide