

2017

Proposed Transit Improvement Plan



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Transit Improvement Plan Overview

The 2017 Transit Improvement Plan (TIP) provides a long-term forecast of project and transit mode costs, plus reserves set aside for potential future expenditures. The Sound Transit Board adopts the TIP and the annual budget to authorize spending for the budget year, as well as project budgets.

Transit Modes

The TIP includes annual forecasts for six years of operating expenses for each of the agency's transit modes. The expense forecasts are developed in a detailed long-term operating and maintenance plan and reflect service plans contained in the Draft 2017 Service Implementation Plan (SIP).

Projects

The TIP includes project scope, schedule, budget, and risk information for all active projects. Budget information is presented at the phase-level including life-to-date costs, annual spending forecasts for the upcoming six years, summarized costs for years beyond this six-year period, and the total authorized project budget. Only board-approved budget amounts are included. Where a baseline budget has not been approved, the total budget only includes the authorized phases. The baseline budget reflects the estimated costs for the entire project and is used to measure actual project budget performance. For most projects, Phase Gate status is also provided. For ST2 projects only, cost estimate information is shown in the Projects section and in Appendix A. Project budgets for active Sound Move projects are shown in Appendix B.

Reserves

The TIP includes reserves that are set aside for both planned and unplanned expenditures. Reserves are not considered appropriations, and Board authorization is required to use reserved funds.

TRANSIT IMPROVEMENT PLAN SUMMARY
(in millions)

| | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------------|----------------|----------------|----------------|----------------|----------------|--------------|--------------|--------------|-----------------|
| Transit Modes | \$0 | \$287 | \$300 | \$310 | \$317 | \$336 | \$372 | \$0 | \$1,922 |
| Projects | 5,099 | 1,220 | 1,481 | 1,302 | 1,237 | 709 | 507 | 636 | 12,192 |
| Reserves | 330 | 69 | 14 | 9 | 9 | 9 | 4 | 4 | 447 |
| Total | \$5,429 | \$1,289 | \$1,494 | \$1,311 | \$1,246 | \$719 | \$512 | \$640 | \$12,641 |

Financial Plan

In addition to the TIP that is published annually, Sound Transit maintains a long-term agency financial plan – a model of forecasted cash flows through 2060. A review of agency programs against the financial plan ensures a balance of revenues and expenditures, as well as affordability of the overall program. Sensitivity analysis, using the financial plan, gauges the impact of potential changes in the economy as well as changes in project schedule and scope on overall program affordability.

Project Budgeting

Project Prioritization Process

During the development of the budget, the agency follows an objective process to vet all proposed new projects and increases to existing projects that are not part of the Sound Move or ST2 programs. Projects are scored using objective criteria including: safety, sustainability, regulatory, financial, impact on asset “State of Good Repair,” system enhancements, security, and impact on ridership. The goal is to identify high-value, high-priority projects and pair them with available resources.

Budget Approval and Phase Gate Process

Prior to 2010, the Sound Transit Board approved project budgets at the outset of a capital project. Since 2010, our approach to project budgeting has been modified to provide greater Board oversight and control. As projects reach key milestones, requests for budget approval to complete the next project phase are presented for Board approval. Phase Gate, our project management oversight process, confirms that the project is ready to move forward to the next phase and triggers the request to the Board for additional budget. There are exceptions to having projects pass through each gate in sequence, such as procurements and alternative contracting methods, as in design-build.

Typical budget requests include funding for:

- Project development through preliminary engineering and environmental investigation.
- Final design and right-of-way acquisition.
- Baseline or total expected project budget.

The initial project development budget includes alternatives analysis to shape the scope of the project and selection of a preferred alternative, compliance with environmental requirements which may include an Environmental Impact Statement, development of operations and maintenance plans, and preliminary engineering for the preferred alternative.

A final design and right-of-way budget includes funding for all design work, including architectural, civil, structural, electrical, and HVAC systems through to construction procurement documentation, as well as purchase or lease of all property needed to build the project.

A baseline budget is established during final design when sufficient information is available to establish the cost of a project through construction. Project spending is benchmarked against the baseline through completion of the project. Projects are fully funded when the Board approves the baseline.

Cost Estimates

Each ST2 capital project has a cost estimate that originated from the 2008 voter-approved plan. Original ST2 cost estimates, 2016 cost estimates, and 2017 cost estimates for ST2 projects appear in Appendix A.

Our cost estimates are maintained on a current year, constant dollar basis. For instance, in the 2017 TIP, full project cost estimates are presented in constant 2016 dollars. The constant dollar presentation allows for comparison of estimated costs across multiple projects. However, the Board approves budgets in year-of-expenditure dollars to take into account the fact that project spending occurs over several years and so must be adjusted for inflation.

Transit Modes

The Proposed 2017 Transit Improvement Plan (TIP) contains forecasted expenses to operate and maintain the regional transit system from 2017 through 2022. Operating expenses include the costs of third-party operators for light rail, commuter rail, and bus services, as well as Sound Transit's direct costs and administrative overhead for providing those services.

TRANSIT MODES SUMMARY

(in millions)

| Mode | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Total |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| Link Light Rail | \$98 | \$102 | \$106 | \$110 | \$127 | \$153 | \$696 |
| Sounder Commuter Rail | 54 | 59 | 61 | 64 | 59 | 62 | 358 |
| ST Express Bus | 130 | 135 | 137 | 137 | 141 | 145 | 826 |
| Tacoma Link Light Rail | 5 | 5 | 6 | 7 | 9 | 12 | 42 |
| Total | \$287 | \$300 | \$310 | \$317 | \$336 | \$372 | \$1,922 |

As a part of the annual budget, the Sound Transit Board approves spending for each of these modal services for the following fiscal year. The agency also maintains a Service Implementation Plan (SIP) that includes service level and expenditure forecasts for a six-year period. The SIP provides the service plan on which the proposed 2017 budget is based. Reviewed and recommended by the Operations and Administration Committee, the Board adopts the 2017 SIP at the same time as adopting the budget and TIP for 2017. The TIP only includes summary spending information for the six-year period described in the SIP. The SIP may be read at www.soundtransit.org.

In 2017 service levels provided by three of Sound Transit's four modes will be increasing.

- In the fourth quarter of 2017, two additional round trips, one peak and one reverse commute, for Sounder commuter rail service are planned. The midday round trip added in late 2016 will operate for a full year in 2017.
- ST Express will operate a full year of the 32,000 service hours added last year and just 6,428 hours of the 15,000 annual hours to be added in 2017. The new service hours will be phased in for ST Express service to help mitigate degradation of service caused by traffic congestion.
- Link will operate a full year of service to University of Washington and Angle Lake Station that started in 2016. In 2021, light rail service north to Northgate will begin.
- There are no changes planned for Tacoma Link light rail service.

In the next few years, buses will no longer operate in the Downtown Seattle Transit Tunnel and Link light rail operations will take over all costs. Operating underground stations, such as Capitol Hill and University of Washington, is more expensive than anticipated, so projections are higher than in the Adopted 2016 TIP. In 2020 the Link Operations & Maintenance Facility – East will open with all costs attributed to Link operations. Vehicle maintenance costs are expected to increase over this six-year time period due to aging of the fleet, and in 2021 the Northgate Link Extension will begin revenue service with a full year of operations in 2022.

Sounder costs will increase in 2018 due to the full year of the roundtrip added in 2017 and a potential additional trip. In 2021 the new Sounder Maintenance Base is scheduled to open, and we expect our costs to decrease with the close out of our contract with Amtrak.

ST Express costs are expected to rise in 2018 due to the full year of 2017 service additions.

The expansion of Tacoma Link to the Hilltop area of Tacoma is currently in final design with projected revenue service opening in 2022. Expansion of the Tacoma Link Operations & Maintenance Facility is expected to be complete in 2021 and will trigger hiring as early as 2019. Staff, maintenance, insurance, and other costs will increase substantially once the expansion opens.

Projects

The 2017 Transit Improvement Plan (TIP) contains all board-authorized budgets for active projects. The majority of Sound Transit’s projects support the planning, design, and construction of light rail, commuter rail, and express bus transit infrastructure as described in the Sound Move and ST2 plans. The TIP uses project categories, which aligns with common industry practice and provides transparency into the agency’s investment in expanding service versus investment in existing assets. Projects are also reported by program.

PROJECT DELIVERY SUMMARY BY PROJECT TYPE
(in millions)

| | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---|----------------|----------------|----------------|----------------|----------------|--------------|--------------|--------------|-----------------|
| System Expansion | | | | | | | | | |
| Link | \$3,593 | \$977 | \$1,191 | \$1,195 | \$1,116 | \$601 | \$446 | \$563 | \$9,682 |
| Sounder | 701 | 69 | 63 | 11 | 0 | 0 | 0 | 0 | 844 |
| Regional Express | 183 | 43 | 35 | 0 | 29 | 0 | 0 | 0 | 290 |
| Other | 61 | 12 | 40 | 10 | 8 | 5 | 7 | 17 | 161 |
| Subtotal | 4,539 | 1,101 | 1,329 | 1,216 | 1,154 | 606 | 453 | 580 | 10,978 |
| Enhancement | 68 | 26 | 20 | 9 | 1 | 1 | 0 | 0 | 126 |
| Rehabilitation & Replacement | 147 | 17 | 56 | 2 | 1 | 21 | 1 | 3 | 248 |
| Administrative | 345 | 77 | 74 | 75 | 81 | 82 | 53 | 53 | 840 |
| Total | \$5,099 | \$1,220 | \$1,481 | \$1,302 | \$1,237 | \$709 | \$507 | \$636 | \$12,192 |

PROJECT DELIVERY SUMMARY BY MODE
(in millions)

| | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total TIP |
|-------------------------|----------------|----------------|----------------|----------------|----------------|--------------|--------------|--------------|-----------------|
| Link | \$3,613 | \$992 | \$1,196 | \$1,195 | \$1,116 | \$601 | \$446 | \$563 | \$9,722 |
| Sounder | 756 | 86 | 67 | 18 | 0 | 0 | 0 | 0 | 927 |
| Regional Express | 312 | 43 | 98 | 0 | 29 | 19 | 0 | 0 | 502 |
| Other | 417 | 99 | 120 | 89 | 92 | 89 | 61 | 73 | 1,040 |
| Total | \$5,099 | \$1,220 | \$1,481 | \$1,302 | \$1,237 | \$709 | \$507 | \$636 | \$12,192 |

System Expansion

As a relatively young transit system, the majority of Sound Transit’s project budgets are focused on building light rail to connect the region. Both Sound Move and ST2 programs funded light rail facilities and tracks – in tunnels, at grade, and elevated. By 2023, these two programs will extend light rail north to Lynnwood, south to Federal Way, and east to the Overlake area of Redmond.

Commuter rail is focused on providing rail service between Everett and Seattle from the north and Lakewood to Seattle from the south. Projects are now focused on rail station improvements among its 12 commuter rail stations, track and signal improvements in Tacoma, and the improvement of track and signals between Lakewood and Nisqually.

Projects in support of Regional Express bus services are mostly completed, and the focus is now on the expansion of high occupancy vehicle (HOV) transit lanes on I-90.

2017 System Expansion Project Highlights

- Continue East Link Extension construction of segments in south Bellevue, downtown Bellevue-Spring District and Bel-Red area, with tunneling in Bellevue.
- Complete the I-90 Two-Way Transit and HOV Operations Stage 3 allowing the center roadway to be turned over to begin East Link construction on I-90.
- Complete preliminary engineering and commence final design of the preferred alternative to expand Tacoma Link.
- Focus on construction for Northgate Link Extension and complete final design and baseline for Lynnwood Link Extension.
- Continue close out activities for the University Link and South 200th Street extensions that both opened for passenger service in 2016. Complete road improvements within the South 200th Link segment.
- Complete preliminary engineering to Federal Way Transit Center and begin final design to allow for the construction of a light rail extension from South 200th Street to Highline Community College.
- Continue construction on track and signal improvements from Tacoma to Nisqually along Sound Transit owned right-of-way for Point Defiance Bypass.

BUDGET CHANGES

(in thousands)

System Expansion

| Project | Reason | Budget Type | Explanation | Change |
|----------------------------|---------------|--------------------|--|-----------|
| LINK | | | | |
| Tacoma Link Expansion | Phase Gate | Final Design & ROW | Budget was increased to fund pre-construction services which will be needed prior to the project baseline. | \$550 |
| REGIONAL EXPRESS | | | | |
| ST Express Fleet Expansion | Cost Increase | Operating | Additional 11 buses in support of additional 15,000 bus service hours to support increased ridership demands and driving congestion during peak service hours. | \$13,572 |
| OTHER | | | | |
| Fare Administration | Transfer | Program | Scope and budget were transferred from Fare Administration to create a new project for the Fare Policy Program. | (\$1,508) |
| Fare Policy Program | New Project | Program | New project created to separately report the Fare Policy Program from Fare Administration. | \$1,508 |

2017 TIP Cashflow by Budget Approval

(in thousands)

System Expansion LINK

| Project Number and Name | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--|--------------------|------------------|--------------------|--------------------|--------------------|------------------|------------------|------------------|--------------------|
| Preliminary Engineering | | | | | | | | | |
| 400034 Enhancements to Tacoma Link Expansion | 300 | 1,500 | 200 | 0 | 0 | 0 | 0 | 0 | 2,000 |
| 4X445 Federal Way Link Extension | 38,236 | 6,139 | 4,415 | 0 | 0 | 0 | 0 | 0 | 48,790 |
| 4X630 Downtown Redmond Link Extension | 1,967 | 14,225 | 12,425 | 0 | 0 | 0 | 0 | 0 | 28,617 |
| Subtotal | 40,503 | 21,864 | 17,040 | 0 | 0 | 0 | 0 | 0 | 79,407 |
| Final Design & ROW | | | | | | | | | |
| 400008 Tacoma Link Expansion | 11,004 | 9,986 | 5,638 | 1,975 | 1,875 | 2,049 | 1,026 | 0 | 33,552 |
| 4X115 Lynnwood Link Extension | 117,501 | 116,196 | 98,527 | 45,481 | 36,564 | 28,119 | 23,260 | 22,213 | 487,861 |
| Subtotal | 128,505 | 126,182 | 104,166 | 47,455 | 38,439 | 30,168 | 24,286 | 22,213 | 521,413 |
| Baseline | | | | | | | | | |
| 400009 Link Operations & Maintenance Facility - East | 56,693 | 99,847 | 79,095 | 92,773 | 94,385 | 25,236 | 1,191 | 0 | 449,220 |
| 400032 ST2 Light Rail Vehicle Fleet Expansion | 10,791 | 59,534 | 26,368 | 99,138 | 123,584 | 148,945 | 163,010 | 101,635 | 733,006 |
| 4X100 Northgate Link Extension | 778,810 | 258,860 | 320,679 | 224,551 | 100,171 | 43,759 | 14,457 | 158,468 | 1,899,756 |
| 4X200 University Link Extension | 1,519,568 | 7,795 | 2,639 | 21,389 | 204,616 | 0 | 0 | 0 | 1,756,007 |
| 4X420 South 200th Link Extension | 322,010 | 9,428 | 23,569 | 28,234 | 0 | 0 | 0 | 0 | 383,241 |
| 4X600 East Link Extension | 603,511 | 393,373 | 617,564 | 681,205 | 555,181 | 352,797 | 242,896 | 230,624 | 3,677,150 |
| Subtotal | 3,291,383 | 828,837 | 1,069,914 | 1,147,290 | 1,077,937 | 570,738 | 421,554 | 490,727 | 8,898,380 |
| Reserve | | | | | | | | | |
| 4X199 Northgate Link Extension Project Reserve | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50,000 | 50,000 |
| Subtotal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50,000 | 50,000 |
| Operating | | | | | | | | | |
| 400007 First Hill Streetcar | 132,728 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 132,780 |
| Subtotal | 132,728 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 132,780 |
| Total | \$3,593,119 | \$976,890 | \$1,191,127 | \$1,194,753 | \$1,116,383 | \$600,913 | \$445,848 | \$562,948 | \$9,681,980 |

2017 TIP Cashflow by Subarea

(in thousands)

System Expansion LINK

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------|--------------------|------------------|--------------------|--------------------|--------------------|------------------|------------------|------------------|--------------------|
| 1 - Snohomish | 77,356 | 91,555 | 73,570 | 56,212 | 54,615 | 38,526 | 32,512 | 24,325 | 448,669 |
| 2 - North King | 2,500,777 | 356,310 | 392,882 | 315,917 | 377,563 | 107,548 | 75,584 | 250,435 | 4,377,016 |
| 3 - South King | 372,534 | 42,478 | 46,598 | 58,934 | 34,188 | 24,208 | 21,420 | 13,213 | 613,572 |
| 4 - East King | 631,148 | 475,062 | 672,239 | 761,715 | 648,142 | 428,582 | 315,306 | 274,976 | 4,207,171 |
| 5 - Pierce | 11,304 | 11,486 | 5,838 | 1,975 | 1,875 | 2,049 | 1,026 | 0 | 35,552 |
| Total | \$3,593,119 | \$976,890 | \$1,191,127 | \$1,194,753 | \$1,116,383 | \$600,913 | \$445,848 | \$562,948 | \$9,681,980 |

2017 TIP Cashflow by Phase

(in thousands)

| Phase # and Description | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------------|------------------|--------------------|--------------------|--------------------|------------------|------------------|------------------|--------------------|
| 10-Agency Administration | 221,835 | 47,489 | 57,949 | 54,772 | 72,167 | 42,086 | 40,269 | 64,414 | 600,982 |
| 20-Prelim Engineering/Env Review | 186,112 | 11,502 | 10,094 | 250 | 250 | 250 | 271 | 2,705 | 211,433 |
| 30-Final Design+Specifications | 422,840 | 67,920 | 53,595 | 24,215 | 23,396 | 16,073 | 11,642 | 14,987 | 634,668 |
| 35-Third Party | 168,105 | 17,396 | 16,507 | 12,302 | 15,388 | 7,815 | 6,263 | 6,351 | 250,128 |
| 40-Row Acquisition+Permits | 533,506 | 213,596 | 69,911 | 9,588 | 34,725 | 4,000 | 650 | 6,539 | 872,516 |
| 50-Construction | 1,758,553 | 495,112 | 870,291 | 903,552 | 764,152 | 324,786 | 187,170 | 265,335 | 5,568,951 |
| 55-Construction Services | 182,752 | 65,210 | 88,112 | 89,797 | 77,824 | 53,883 | 37,194 | 32,025 | 626,796 |
| 70-Vehicles | 108,172 | 58,667 | 24,613 | 99,059 | 123,412 | 146,746 | 161,015 | 98,393 | 820,077 |
| 80-System Testing+Startup | 11,244 | 0 | 56 | 1,216 | 5,067 | 5,274 | 1,373 | 0 | 24,230 |
| 90-Contingency | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 72,200 | 72,200 |
| Total | \$3,593,119 | \$976,890 | \$1,191,127 | \$1,194,753 | \$1,116,383 | \$600,913 | \$445,848 | \$562,948 | \$9,681,980 |

400034

Enhancements to Tacoma Link Expansion

Managed by: FIT

Scope: Engineering and streetscape design for transit access improvements and station area enhancements around the Tacoma Link Expansion project. This project is also focused on job access needs and identifying barriers that currently limit the Tacoma Hilltop residents from participation in existing workforce training and apprenticeship programs. The City of Tacoma and Sound Transit received a \$2,000,000 grant from the Federal Transit Administration for this project. Sound Transit is the designated recipient and needs to administer the grant while the City of Tacoma will execute the scope and provide \$500,000 in local matching funds.

The scope of this project is independent of the Tacoma Link Expansion project

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$2,000 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$2,000 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|-------|------|------|------|------|------|--------|-------|
| Pierce | 300 | 1,500 | 200 | 0 | 0 | 0 | 0 | 0 | 2,000 |
| Total | 300 | 1,500 | 200 | 0 | 0 | 0 | 0 | 0 | 2,000 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------|--------------|-------|------|------|------|------|------|--------|-------|
| 35-Third Party | 300 | 1,500 | 200 | 0 | 0 | 0 | 0 | 0 | 2,000 |
| Total | 300 | 1,500 | 200 | 0 | 0 | 0 | 0 | 0 | 2,000 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------------|--------------------------|------|
| Estimate Type: | Fixed Contribution | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

Project Risk Assessment

Although the risk is low in both schedule and budget, this project will be managed by a third party and Sound Transit will submit costs for reimbursement. In situations such as this, the risk of not recovering funds due to ineligibility or a delay in schedule always exists.

4X445

Federal Way Link Extension

Managed by: PEPD

Scope: Federal Way Link Extension project adds approximately 7.8 miles of light rail from S. 200th Street in the city of SeaTac to the Federal Way Transit Center. Currently, the agency's Financial Plan includes construction for the initial 2.4-mile segment to Kent/Des Moines only. In 2016 the Board has approved additional budget (Resolution R2016-04) to complete preliminary engineering from Kent/Des Moines through to Federal Way Transit Center.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------------------|--|-----------|
| Phase Gate Passed: | 3-Identify Preferred Alternative | 2008 Cost Estimate: | \$525,433 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$465,782 |
| 2016 TIP: | \$48,790 | 2017 Cost Estimate: | \$465,782 |
| 2017 TIP: | \$48,790 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|-------|------|------|------|------|--------|--------|
| South King | 38,236 | 6,139 | 4,415 | 0 | 0 | 0 | 0 | 0 | 48,790 |
| Total | 38,236 | 6,139 | 4,415 | 0 | 0 | 0 | 0 | 0 | 48,790 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|-------|------|------|------|------|--------|--------|
| 10-Agency Administration | 5,600 | 1,770 | 2,015 | 0 | 0 | 0 | 0 | 0 | 9,385 |
| 20-Prelim Engineering/Env Review | 30,120 | 1,052 | 2,157 | 0 | 0 | 0 | 0 | 0 | 33,329 |
| 35-Third Party | 1,502 | 947 | 0 | 0 | 0 | 0 | 0 | 0 | 2,449 |
| 40-Row Acquisition+Permits | 1,013 | 2,371 | 243 | 0 | 0 | 0 | 0 | 0 | 3,627 |
| Total | 38,236 | 6,139 | 4,415 | 0 | 0 | 0 | 0 | 0 | 48,790 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|------|
| Estimate Type: | Planning | Schedule Risk Level: | High |
| Budget Risk Level: | High | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2018 |

| Project Risk Assessment |
|---|
| Uncertainties exist in design and third party coordination that could present schedule risks. Budget concerns include potential for escalation in right-of-way costs. |

4X630

Downtown Redmond Link Extension

Managed by: PEPD

The Downtown Redmond PE project performs preliminary engineering for a 3.7 mile extension of light rail from Overlake Transit Center to Redmond Terminal Station to establish route and station locations. The project only includes environmental reviews and preliminary engineering for this light rail segment.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------------------|--|----------|
| Phase Gate Passed: | 3-Identify Preferred Alternative | 2008 Cost Estimate: | \$18,530 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$18,422 |
| 2016 TIP: | \$28,617 | 2017 Cost Estimate: | \$18,422 |
| 2017 TIP: | \$28,617 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------|--------------|--------|--------|------|------|------|------|--------|--------|
| East King | 1,967 | 14,225 | 12,425 | 0 | 0 | 0 | 0 | 0 | 28,617 |
| Total | 1,967 | 14,225 | 12,425 | 0 | 0 | 0 | 0 | 0 | 28,617 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|--------|--------|------|------|------|------|--------|--------|
| 10-Agency Administration | 167 | 2,425 | 2,714 | 0 | 0 | 0 | 0 | 0 | 5,306 |
| 20-Prelim Engineering/Env Review | 1,750 | 10,200 | 7,811 | 0 | 0 | 0 | 0 | 0 | 19,761 |
| 35-Third Party | 50 | 1,100 | 1,350 | 0 | 0 | 0 | 0 | 0 | 2,500 |
| 40-Row Acquisition+Permits | 0 | 500 | 550 | 0 | 0 | 0 | 0 | 0 | 1,050 |
| Total | 1,967 | 14,225 | 12,425 | 0 | 0 | 0 | 0 | 0 | 28,617 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|-------|--------------------------|------|
| Estimate Type: | PE/ED | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

| Project Risk Assessment |
|---|
| Project is beginning preliminary engineering work. Uncertainties exist in design, environmental, third party, and jurisdictional requirements that could present budget and schedule risks. |

400008

Tacoma Link Expansion

Managed by: DECM

Scope: In cooperation with the city of Tacoma and Pierce Transit, design and construct of the preferred alternative to expand Tacoma Link from north downtown Tacoma to the Stadium District and Hilltop.

Changes in project budget since 2016: Project budget increase by \$550 thousand to support the procurement of preconstruction services by a construction management consultant.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------|--|-----------|
| Phase Gate Passed: | 4-Enter Final Design | 2008 Cost Estimate: | \$106,678 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$144,436 |
| 2016 TIP: | \$33,002 | 2017 Cost Estimate: | \$144,436 |
| 2017 TIP: | \$33,552 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|-------|-------|-------|-------|-------|-------|--------|--------|
| Pierce | 11,004 | 9,986 | 5,638 | 1,975 | 1,875 | 2,049 | 1,026 | 0 | 33,552 |
| Total | 11,004 | 9,986 | 5,638 | 1,975 | 1,875 | 2,049 | 1,026 | 0 | 33,552 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|-------|-------|-------|-------|-------|--------|--------|
| 10-Agency Administration | 3,276 | 1,606 | 1,348 | 1,250 | 1,175 | 1,249 | 698 | 0 | 10,600 |
| 20-Prelim Engineering/Env Review | 5,850 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 5,872 |
| 30-Final Design+Specifications | 1,475 | 4,475 | 3,148 | 575 | 550 | 550 | 57 | 0 | 10,830 |
| 35-Third Party | 125 | 100 | 75 | 50 | 50 | 50 | 50 | 0 | 500 |
| 40-Row Acquisition+Permits | 178 | 2,565 | 457 | 0 | 0 | 0 | 0 | 0 | 3,200 |
| 55-Construction Services | 0 | 440 | 110 | 0 | 0 | 0 | 0 | 0 | 550 |
| 70-Vehicles | 100 | 800 | 500 | 100 | 100 | 200 | 200 | 0 | 2,000 |
| Total | 11,004 | 9,986 | 5,638 | 1,975 | 1,875 | 2,049 | 1,026 | 0 | 33,552 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|-------|--------------------------|------|
| Estimate Type: | PE/ED | Schedule Risk Level: | Low |
| Budget Risk Level: | High | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

| Project Risk Assessment |
|--|
| The Board's preferred alternative may exceed the ST2 cost estimate. Project requires continued coordination with community stakeholders and contribution from public/private partners. |

4X115

Lynnwood Link Extension

Managed by: DECM

Scope: Lynnwood Link Extension extends light rail 8.5 miles from Northgate Station in Seattle through Shoreline and Mountlake Terrace to the Lynnwood Transit Center. The project alignment is primarily along I-5 and includes at-grade, elevated and retained cut/fill segments, with stations at NE 145th Street, NE 185th Street, Mountlake Terrace Transit Center and Lynnwood Transit Center.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------|--|-------------|
| Phase Gate Passed: | 4-Enter Final Design | 2008 Cost Estimate: | \$1,769,504 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$1,507,972 |
| 2016 TIP: | \$487,861 | 2017 Cost Estimate: | \$1,507,972 |
| 2017 TIP: | \$487,861 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|---------|--------|--------|--------|--------|--------|--------|---------|
| Snohomish | 64,155 | 63,443 | 53,796 | 24,833 | 19,964 | 15,353 | 12,700 | 12,128 | 266,372 |
| North King | 53,345 | 52,753 | 44,731 | 20,648 | 16,600 | 12,766 | 10,560 | 10,085 | 221,489 |
| Total | 117,501 | 116,196 | 98,527 | 45,481 | 36,564 | 28,119 | 23,260 | 22,213 | 487,861 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|---------|--------|--------|--------|--------|--------|--------|---------|
| 10-Agency Administration | 12,502 | 7,225 | 11,231 | 11,272 | 11,315 | 11,295 | 11,987 | 11,477 | 88,305 |
| 20-Prelim Engineering/Env Review | 39,299 | 0 | 0 | 0 | 0 | 0 | 0 | 2,701 | 42,000 |
| 30-Final Design+Specifications | 27,210 | 37,750 | 23,893 | 4,100 | 5,000 | 5,000 | 5,000 | 3,500 | 111,453 |
| 35-Third Party | 2,341 | 4,396 | 2,547 | 1,343 | 1,343 | 1,343 | 1,343 | 2,746 | 17,400 |
| 40-Row Acquisition+Permits | 31,249 | 57,025 | 35,505 | 0 | 0 | 0 | 0 | 0 | 123,779 |
| 55-Construction Services | 4,900 | 9,800 | 25,351 | 28,767 | 18,906 | 10,481 | 4,930 | 1,789 | 104,925 |
| Total | 117,501 | 116,196 | 98,527 | 45,481 | 36,564 | 28,119 | 23,260 | 22,213 | 487,861 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------|--------------------------|--------|
| Estimate Type: | PE/ED | Schedule Risk Level: | Medium |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

| Project Risk Assessment |
|---|
| Budget Risk: Working with Final Designer, GC/CM contractor, and Construction Management Consultant to develop updated construction cost estimates. |
| Schedule Risk: Coordination efforts with multiple third parties, stakeholders, and jurisdictions, and complying with the requirements of the Federal Transit Administration's (FTA) New Starts process has the potential to impact the schedule for completion of Final Design. |

400009 Link Operations & Maintenance Facility - East Managed by: DECM

Scope: Development, design, and construction of a light rail operations and maintenance facility in support of link system expansion.

Resolution R2015-34 approved in Dec 2015 increased lifetime budget to \$133,628,000 for the commencement of final design and early ROW activities.

Resolution R2016-18 approved July 2016 increased lifetime budget to \$449,220,000 for establishing the baseline budget, including Construction and Construction Services activities.

Changes in project budget since 2016: Project was baselined in 2016 per Resolution No. R2016-18 and increased by \$315.6 million.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|-----------|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | \$320,432 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$269,918 |
| 2016 TIP: | \$449,220 | 2017 Cost Estimate: | \$413,922 |
| 2017 TIP: | \$449,220 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|--------|--------|--------|--------|--------|-------|--------|---------|
| Snohomish | 11,906 | 20,968 | 16,610 | 19,482 | 19,821 | 5,300 | 250 | 0 | 94,336 |
| North King | 9,468 | 16,674 | 13,209 | 15,493 | 15,762 | 4,214 | 199 | 0 | 75,020 |
| South King | 10,885 | 19,171 | 15,186 | 17,812 | 18,122 | 4,845 | 229 | 0 | 86,250 |
| East King | 24,435 | 43,034 | 34,090 | 39,985 | 40,680 | 10,877 | 514 | 0 | 193,614 |
| Total | 56,693 | 99,847 | 79,095 | 92,773 | 94,385 | 25,236 | 1,191 | 0 | 449,220 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|--------|--------|--------|--------|--------|-------|--------|---------|
| 10-Agency Administration | 1,974 | 2,465 | 3,686 | 3,722 | 3,704 | 860 | 1,163 | 0 | 17,573 |
| 20-Prelim Engineering/Env Review | 9,536 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9,536 |
| 30-Final Design+Specifications | 0 | 0 | 137 | 140 | 54 | 56 | 0 | 0 | 386 |
| 35-Third Party | 0 | 713 | 732 | 751 | 770 | 142 | 0 | 0 | 3,107 |
| 40-Row Acquisition+Permits | 43,166 | 80,464 | 10,899 | 0 | 0 | 0 | 0 | 0 | 134,529 |
| 50-Construction | 2,000 | 13,157 | 59,861 | 84,255 | 84,885 | 20,595 | 0 | 0 | 264,753 |
| 55-Construction Services | 17 | 3,049 | 3,781 | 3,905 | 4,972 | 3,584 | 29 | 0 | 19,337 |
| Total | 56,693 | 99,847 | 79,095 | 92,773 | 94,385 | 25,236 | 1,191 | 0 | 449,220 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | High |
| Budget Risk Level: | High | 2016 Budget Schedule: | 2022 |
| | | 2017 Budget Schedule: | 2022 |

| Project Risk Assessment |
|---|
| Design challenges and coordination efforts with third parties, stakeholders, and jurisdictions have the potential to impact both the budget and the schedule for completing design activities. This could result in potential schedule delays affecting the opening of the facility in 2020 and add costs to the project. |

400032

ST2 Light Rail Vehicle Fleet Expansion

Managed by: DECM

Scope: To provide project management, design, manufacturing, delivery, assembly inspection and testing in the support of a procurement of 122 low floor light rail vehicles (LRVs) to meet fleet requirements to support revenue service of all the ST2 light rail expansion projects; and centralize procurement of the LRVs for Northgate Link Extension, Lynnwood Link Extension and East Link Extension into one project.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|-----------|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | \$594,231 |
| Baseline: | \$733,006 | 2016 Cost Estimate: | \$650,346 |
| 2016 TIP: | \$733,006 | 2017 Cost Estimate: | \$650,346 |
| 2017 TIP: | \$733,006 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|
| Snohomish | 1,295 | 7,144 | 3,164 | 11,897 | 14,830 | 17,873 | 19,561 | 12,196 | 87,961 |
| North King | 3,237 | 17,860 | 7,910 | 29,741 | 37,075 | 44,684 | 48,903 | 30,490 | 219,902 |
| South King | 1,403 | 7,739 | 3,428 | 12,888 | 16,066 | 19,363 | 21,191 | 13,213 | 95,291 |
| East King | 4,856 | 26,790 | 11,866 | 44,612 | 55,613 | 67,025 | 73,355 | 45,736 | 329,853 |
| Total | 10,791 | 59,534 | 26,368 | 99,138 | 123,584 | 148,945 | 163,010 | 101,635 | 733,006 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|
| 10-Agency Administration | 351 | 451 | 405 | 529 | 560 | 571 | 545 | 1,336 | 4,748 |
| 55-Construction Services | 1,853 | 1,217 | 1,850 | 2,075 | 1,712 | 1,828 | 1,650 | 1,906 | 14,090 |
| 70-Vehicles | 8,587 | 57,867 | 24,113 | 96,535 | 121,312 | 146,546 | 160,815 | 98,393 | 714,168 |
| Total | 10,791 | 59,534 | 26,368 | 99,138 | 123,584 | 148,945 | 163,010 | 101,635 | 733,006 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|--------|
| Estimate Type: | Construction | Schedule Risk Level: | Medium |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2024 |
| | | 2017 Budget Schedule: | 2024 |

| Project Risk Assessment |
|---|
| The project is in the initial stages of development and identified risks include establishing a set of specifications that assure the new LRV(s) are system compatible and are interchangeable with the existing fleet. |

4X100 Northgate Link Extension Managed by: DECM

Scope: The Northgate Link Extension extends light rail 4.3-miles from the University of Washington Station north under the campus via twin bored tunnels to an underground U-District Station along Brooklyn Avenue NE between NE 43rd and NE 45th Streets, and underground Roosevelt Station along 12th Avenue NE between NE 65th Street and NE 67th Street, and continuing to an elevated station in Northgate along 1st Avenue NE spanning NE 103rd Street. The Northgate Link Extension is scheduled to be completed in September 2021 and will provide an interim terminus for Link at Northgate until the Lynnwood Link Extension is in service, currently anticipated in 2023.

Changes to project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|-------------|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | \$1,853,049 |
| Baseline: | \$1,899,756 | 2016 Cost Estimate: | \$2,017,384 |
| 2016 TIP: | \$1,899,756 | 2017 Cost Estimate: | \$2,017,384 |
| 2017 TIP: | \$1,899,756 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|---------|---------|---------|---------|--------|--------|---------|-----------|
| North King | 778,810 | 258,860 | 320,679 | 224,551 | 100,171 | 43,759 | 14,457 | 158,468 | 1,899,756 |
| Total | 778,810 | 258,860 | 320,679 | 224,551 | 100,171 | 43,759 | 14,457 | 158,468 | 1,899,756 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|---------|---------|---------|---------|--------|--------|---------|-----------|
| 10-Agency Administration | 45,980 | 14,343 | 17,628 | 14,561 | 11,401 | 9,830 | 7,759 | 26,378 | 147,879 |
| 20-Prelim Engineering/Env Review | 15,077 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15,077 |
| 30-Final Design+Specifications | 102,979 | 3,778 | 5,544 | 4,996 | 3,000 | 2,444 | 586 | 5,841 | 129,167 |
| 35-Third Party | 6,777 | 1,752 | 1,276 | 737 | 350 | 213 | 250 | 446 | 11,800 |
| 40-Row Acquisition+Permits | 102,421 | 2,496 | 681 | 200 | 0 | 0 | 0 | 6,502 | 112,300 |
| 50-Construction | 459,270 | 218,371 | 280,898 | 192,337 | 72,613 | 17,266 | 1,251 | 88,088 | 1,330,093 |
| 55-Construction Services | 46,307 | 18,120 | 14,653 | 10,504 | 7,739 | 8,734 | 3,239 | 9,014 | 118,310 |
| 80-System Testing+Startup | 0 | 0 | 0 | 1,216 | 5,067 | 5,274 | 1,373 | 0 | 12,930 |
| 90-Contingency | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22,200 | 22,200 |
| Total | 778,810 | 258,860 | 320,679 | 224,551 | 100,171 | 43,759 | 14,457 | 158,468 | 1,899,756 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|--------|
| Estimate Type: | Construction | Schedule Risk Level: | Medium |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2021 |
| | | 2017 Budget Schedule: | 2021 |

| Project Risk Assessment |
|---|
| Risks associated with underground conditions, limited site access, deep stations and groundborne noise and vibration have the potential to impact costs and schedule. This remains a potential for delaying critical path work. |

4X200**University Link Extension****Managed by: DECM**

Scope: University Link Extension is a 3.15-mile light rail extension located entirely underground extending east from the Downtown Seattle Transit Tunnel, under I-5 to an underground Capitol Hill Station that will serve the First Hill/Capitol Hill urban center. The tunnel route crosses under the Lake Washington Ship Canal to an interim terminus in an underground University of Washington Station near Husky Stadium. University Link Extension will generate high ridership by connecting the three major population and employment centers of Downtown Seattle, Capitol Hill, and the University District.

University Link opened for revenue service on March 19, 2016, and project close-out is anticipated in 2019. Budget cash flow in 2020 reflects projected surplus budget.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOY dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------------|--|-----|
| Phase Gate Passed: | 7-Transition to Operations | 2008 Cost Estimate: | N/A |
| Baseline: | \$1,756,007 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$1,756,007 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$1,756,007 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|-------|--------|---------|------|------|--------|-----------|
| North King | 1,519,568 | 7,795 | 2,639 | 21,389 | 204,616 | 0 | 0 | 0 | 1,756,007 |
| Total | 1,519,568 | 7,795 | 2,639 | 21,389 | 204,616 | 0 | 0 | 0 | 1,756,007 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|-------|--------|---------|------|------|--------|-----------|
| 10-Agency Administration | 80,922 | 1,457 | 1,523 | 4,707 | 24,945 | 0 | 0 | 0 | 113,554 |
| 20-Prelim Engineering/Env Review | 24,261 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24,261 |
| 30-Final Design+Specifications | 87,406 | 1,099 | 0 | 0 | 1,802 | 0 | 0 | 0 | 90,308 |
| 35-Third Party | 11,880 | 160 | 52 | 1,235 | 5,319 | 0 | 0 | 0 | 18,646 |
| 40-Row Acquisition+Permits | 126,440 | 0 | 0 | 0 | 25,892 | 0 | 0 | 0 | 152,332 |
| 50-Construction | 992,480 | 4,450 | 1,064 | 12,079 | 138,710 | 0 | 0 | 0 | 1,148,783 |
| 55-Construction Services | 87,294 | 628 | 0 | 944 | 5,948 | 0 | 0 | 0 | 94,814 |
| 70-Vehicles | 99,485 | 0 | 0 | 2,424 | 2,000 | 0 | 0 | 0 | 103,909 |
| 80-System Testing+Startup | 9,400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9,400 |
| Total | 1,519,568 | 7,795 | 2,639 | 21,389 | 204,616 | 0 | 0 | 0 | 1,756,007 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

Project Risk Assessment

With the opening of University Link for revenue service in March 2016, project budget and schedule risks are very low.

4X420 **South 200th Link Extension** **Managed by: DECM**

Scope: The South 200th Link Extension will extend light rail approximately 1.6 miles south from Sea-Tac/Airport Station to Angle Lake Station at South 200th Street. The design features an elevated light rail guide way, an elevated station, and detached park-and-ride facility at South 200th. The project is being delivered through a design-build (DB) delivery strategy and is expected to began revenue service operation in the 3rd Quarter of 2016.

The indexing of the project estimate to 2016 constant dollars results in a higher estimate than the actual cost as the project is at substantial completion and has expended its budget in prior years.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|-----------|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | \$430,859 |
| Baseline: | \$383,241 | 2016 Cost Estimate: | \$413,082 |
| 2016 TIP: | \$383,241 | 2017 Cost Estimate: | \$413,082 |
| 2017 TIP: | \$383,241 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|--------|--------|------|------|------|--------|---------|
| South King | 322,010 | 9,428 | 23,569 | 28,234 | 0 | 0 | 0 | 0 | 383,241 |
| Total | 322,010 | 9,428 | 23,569 | 28,234 | 0 | 0 | 0 | 0 | 383,241 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|--------|--------|------|------|------|--------|---------|
| 10-Agency Administration | 15,889 | 1,170 | 83 | 0 | 0 | 0 | 0 | 0 | 17,142 |
| 20-Prelim Engineering/Env Review | 5,698 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5,698 |
| 30-Final Design+Specifications | 8,848 | 100 | 576 | 0 | 0 | 0 | 0 | 0 | 9,523 |
| 35-Third Party | 4,045 | 77 | 2,963 | 0 | 0 | 0 | 0 | 0 | 7,085 |
| 40-Row Acquisition+Permits | 38,045 | 100 | 5,404 | 0 | 0 | 0 | 0 | 0 | 43,549 |
| 50-Construction | 232,266 | 7,381 | 13,141 | 28,234 | 0 | 0 | 0 | 0 | 281,022 |
| 55-Construction Services | 15,376 | 600 | 1,345 | 0 | 0 | 0 | 0 | 0 | 17,322 |
| 80-System Testing+Startup | 1,844 | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 1,900 |
| Total | 322,010 | 9,428 | 23,569 | 28,234 | 0 | 0 | 0 | 0 | 383,241 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|--|
| After the project opens for revenue service in September 2016, the budget and schedule risk will be low. |

4X600 East Link Extension Managed by: DECM

Scope: East Link extends light rail 14 miles to East King County from downtown Seattle serving Mercer Island via I-90, Bellevue and the Overlake area of Redmond, with ten new light rail stations. Revenue service to the Overlake Transit Center is forecasted for mid-2023.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|-------------|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | \$3,545,597 |
| Baseline: | \$3,677,150 | 2016 Cost Estimate: | \$3,288,852 |
| 2016 TIP: | \$3,677,150 | 2017 Cost Estimate: | \$3,288,852 |
| 2017 TIP: | \$3,677,150 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|---------|---------|---------|---------|---------|---------|---------|-----------|
| North King | 3,621 | 2,360 | 3,705 | 4,087 | 3,331 | 2,117 | 1,457 | 1,384 | 22,063 |
| East King | 599,890 | 391,013 | 613,858 | 677,118 | 551,850 | 350,680 | 241,438 | 229,240 | 3,655,087 |
| Total | 603,511 | 393,373 | 617,564 | 681,205 | 555,181 | 352,797 | 242,896 | 230,624 | 3,677,150 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|---------|---------|---------|---------|---------|---------|---------|-----------|
| 10-Agency Administration | 54,937 | 14,571 | 17,308 | 18,725 | 19,060 | 18,275 | 18,110 | 25,215 | 186,200 |
| 20-Prelim Engineering/Env Review | 54,521 | 250 | 126 | 250 | 250 | 250 | 250 | 3 | 55,900 |
| 30-Final Design+Specifications | 194,921 | 20,717 | 20,297 | 14,405 | 12,990 | 8,024 | 6,000 | 5,646 | 283,000 |
| 35-Third Party | 8,595 | 6,652 | 7,312 | 8,187 | 7,557 | 6,068 | 4,621 | 3,160 | 52,150 |
| 40-Row Acquisition+Permits | 190,994 | 68,074 | 16,173 | 9,388 | 8,834 | 4,000 | 650 | 37 | 298,150 |
| 50-Construction | 72,538 | 251,753 | 515,326 | 586,647 | 467,944 | 286,925 | 185,919 | 177,247 | 2,544,300 |
| 55-Construction Services | 27,004 | 31,356 | 41,022 | 43,603 | 38,546 | 29,256 | 27,346 | 19,316 | 257,450 |
| Total | 603,511 | 393,373 | 617,564 | 681,205 | 555,181 | 352,797 | 242,896 | 230,624 | 3,677,150 |

| Budget Risk Assessment | |
|------------------------|--------------|
| Estimate Type: | Construction |
| Budget Risk Level: | Medium |

| Schedule Risk Assessment | |
|--------------------------|--------|
| Schedule Risk Level: | Medium |
| 2016 Budget Schedule: | 2023 |
| 2017 Budget Schedule: | 2023 |

Project Risk Assessment

The project presents technical and third party approval challenges, and requires close coordination with stakeholders and other governmental jurisdictions. Timely decision-making, maintaining the schedule on the issuance of the NTPs on the various construction segments are key in commencing the overall construction activities in 2017. Project costs continues to be heavily influenced by the competitiveness in the construction and labor market. While ROW phase is adequately budgeted, the inflationary real estate market has been a consistent risk to ST acquisition schedule due to longer as well as tougher negotiation timeline.

4X199 Northgate Link Extension Project Reserve Managed by: DECM

Scope: Project reserve created for the Northgate Link Extension that, if required, can be directed to mitigate budget risks associated with project construction. Funding for the reserve originated from unused funds in the project reserve that was set up for the Initial Segment. The project reserve cannot be used for additional scope and its use requires super-majority approval by the Board.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOY dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------|--|-----|
| Phase Gate Passed: | None | 2008 Cost Estimate: | N/A |
| Baseline: | \$50,000 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$50,000 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$50,000 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|--------|
| North King | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50,000 | 50,000 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50,000 | 50,000 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------|--------------|------|------|------|------|------|------|--------|--------|
| 90-Contingency | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50,000 | 50,000 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50,000 | 50,000 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2021 |
| | | 2017 Budget Schedule: | 2021 |

| Project Risk Assessment |
|---|
| This project reserve was established to mitigate potential project risks especially during tunnel activities. As the tunnel activity is substantially complete the risk is lower. |

400007

First Hill Streetcar

Managed by: PEPD

Scope: Provide funding for planning, design and construction of a street car providing connections between Capitol Hill and International District/Chinatown stations via the First Hill neighborhood. Revenue operations began in 2015. Balance of activity supports potential third party work request items related to the operation of the project.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------------|--|-----------|
| Phase Gate Passed: | 7-Transition to Operations | 2008 Cost Estimate: | \$140,663 |
| Baseline: | \$132,780 | 2016 Cost Estimate: | \$139,295 |
| 2016 TIP: | \$132,780 | 2017 Cost Estimate: | \$139,295 |
| 2017 TIP: | \$132,780 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|---------|
| North King | 132,728 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 132,780 |
| Total | 132,728 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 132,780 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|--------------|------|------|------|------|------|------|--------|---------|
| 10-Agency Administration | 237 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 289 |
| 35-Third Party | 132,491 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 132,491 |
| Total | 132,728 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 132,780 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------------|--------------------------|------|
| Estimate Type: | Fixed Contribution | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2015 |
| | | 2017 Budget Schedule: | 2015 |

| Project Risk Assessment |
|--|
| The project is in revenue service and overall budget and schedule risk is low. |

2017 TIP Cashflow by Budget Approval

(in thousands)

System Expansion SOUNDER

| Project Number and Name | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--|--------------|----------|----------|----------|------|------|------|--------|-----------|
| Preliminary Engineering | | | | | | | | | |
| 300004 Sounder Maintenance Base | 3,011 | 3,367 | 463 | 0 | 0 | 0 | 0 | 0 | 6,841 |
| 300017 Puyallup Station Improvements | 3,661 | 4,379 | 375 | 0 | 0 | 0 | 0 | 0 | 8,414 |
| 300018 Sumner Station Improvements | 5,387 | 701 | 384 | 0 | 0 | 0 | 0 | 0 | 6,472 |
| 300019 Lakewood Station Improvements | 375 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 404 |
| 300035 Kent Station Access Improvements | 271 | 506 | 54 | 0 | 0 | 0 | 0 | 0 | 831 |
| 300040 Auburn Station Access Improvement | 271 | 506 | 54 | 0 | 0 | 0 | 0 | 0 | 831 |
| Subtotal | 12,976 | 9,487 | 1,329 | 0 | 0 | 0 | 0 | 0 | 23,793 |
| Final Design & ROW | | | | | | | | | |
| 3X510 Sounder South Expanded Service | 194,583 | 4,800 | 120 | 2,464 | 0 | 0 | 0 | 0 | 201,968 |
| Subtotal | 194,583 | 4,800 | 120 | 2,464 | 0 | 0 | 0 | 0 | 201,968 |
| Baseline | | | | | | | | | |
| 300021 Tacoma Trestle Track & Signal | 85,935 | 38,133 | 36,997 | 0 | 0 | 0 | 0 | 0 | 161,065 |
| 300026 Sounder Yard Expansion | 11,940 | 4,755 | 3,855 | 0 | 0 | 0 | 0 | 0 | 20,550 |
| 300027 Point Defiance Bypass | 62,587 | 6,972 | 14,111 | 0 | 0 | 0 | 0 | 0 | 83,670 |
| 3X130 M St-Lakewood Track & Signal | 80,435 | 0 | 219 | 0 | 0 | 0 | 0 | 0 | 80,654 |
| 3X135 D St-M St Track & Signal | 152,831 | 71 | 5,360 | 0 | 0 | 0 | 0 | 0 | 158,262 |
| 3X206 Mukilteo Station, S Platform | 16,777 | 320 | 1,216 | 0 | 0 | 0 | 0 | 0 | 18,313 |
| 3X236 Tukwila Station | 37,446 | 366 | 0 | 8,157 | 0 | 0 | 0 | 0 | 45,969 |
| Subtotal | 447,950 | 50,617 | 61,758 | 8,157 | 0 | 0 | 0 | 0 | 568,482 |
| Operating | | | | | | | | | |
| 7X755 Sounder ST2 Fleet Expansion | 45,701 | 3,829 | 0 | 0 | 0 | 0 | 0 | 0 | 49,530 |
| Subtotal | 45,701 | 3,829 | 0 | 0 | 0 | 0 | 0 | 0 | 49,530 |
| Total | \$701,211 | \$68,733 | \$63,207 | \$10,622 | \$0 | \$0 | \$0 | \$0 | \$843,773 |

2017 TIP Cashflow by Subarea
(in thousands)

System Expansion
SOUNDER

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------|------------------|-----------------|-----------------|-----------------|------------|------------|------------|------------|------------------|
| 1 - Snohomish | 17,228 | 825 | 1,286 | 0 | 0 | 0 | 0 | 0 | 19,339 |
| 3 - South King | 44,268 | 3,879 | 2,135 | 8,157 | 0 | 0 | 0 | 0 | 58,440 |
| 5 - Pierce | 639,715 | 64,029 | 59,786 | 2,464 | 0 | 0 | 0 | 0 | 765,994 |
| Total | \$701,211 | \$68,733 | \$63,207 | \$10,622 | \$0 | \$0 | \$0 | \$0 | \$843,773 |

2017 TIP Cashflow by Phase
(in thousands)

| Phase # and Description | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|------------------|-----------------|-----------------|-----------------|------------|------------|------------|------------|------------------|
| 02-Operation+Maintenance-Agency | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 |
| 10-Agency Administration | 26,936 | 4,637 | 1,957 | 1,141 | 0 | 0 | 0 | 0 | 34,672 |
| 20-Prelim Engineering/Env Review | 15,893 | 4,842 | 1,794 | 0 | 0 | 0 | 0 | 0 | 22,529 |
| 30-Final Design+Specifications | 39,988 | 2,062 | 2,365 | 552 | 0 | 0 | 0 | 0 | 44,966 |
| 35-Third Party | 1,500 | 1,256 | 340 | 130 | 0 | 0 | 0 | 0 | 3,226 |
| 40-Row Acquisition+Permits | 267,290 | 4,201 | 2,081 | 1,860 | 0 | 0 | 0 | 0 | 275,432 |
| 50-Construction | 268,127 | 43,204 | 47,511 | 6,402 | 0 | 0 | 0 | 0 | 365,244 |
| 55-Construction Services | 16,785 | 4,703 | 7,157 | 536 | 0 | 0 | 0 | 0 | 29,182 |
| 70-Vehicles | 63,605 | 3,829 | 0 | 0 | 0 | 0 | 0 | 0 | 67,434 |
| 80-System Testing+Startup | 1,046 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,046 |
| Total | \$701,211 | \$68,733 | \$63,207 | \$10,622 | \$0 | \$0 | \$0 | \$0 | \$843,773 |

300004

Sounder Maintenance Base

Managed by: PEPD

Scope: Sound Transit is evaluating operations and maintenance cost efficiencies associated with the development of commuter rail operations and maintenance facilities to support existing and future service levels. Funding has been approved for completing site selection, preliminary engineering (30% design), and environmental determination. Detailed project oversight requires a step by step involvement of the Board before moving from one project phase to another.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------------------|--|-----------|
| Phase Gate Passed: | 3-Identify Preferred Alternative | 2008 Cost Estimate: | \$186,150 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$162,518 |
| 2016 TIP: | \$6,841 | 2017 Cost Estimate: | \$162,518 |
| 2017 TIP: | \$6,841 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------|--------------|-------|------|------|------|------|------|--------|-------|
| Snohomish | 452 | 505 | 69 | 0 | 0 | 0 | 0 | 0 | 1,026 |
| Pierce | 2,560 | 2,862 | 393 | 0 | 0 | 0 | 0 | 0 | 5,815 |
| Total | 3,011 | 3,367 | 463 | 0 | 0 | 0 | 0 | 0 | 6,841 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 604 | 186 | 70 | 0 | 0 | 0 | 0 | 0 | 860 |
| 20-Prelim Engineering/Env Review | 1,777 | 3,066 | 273 | 0 | 0 | 0 | 0 | 0 | 5,116 |
| 40-Row Acquisition+Permits | 630 | 115 | 120 | 0 | 0 | 0 | 0 | 0 | 865 |
| Total | 3,011 | 3,367 | 463 | 0 | 0 | 0 | 0 | 0 | 6,841 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------|--------------------------|------|
| Estimate Type: | PE/ED | Schedule Risk Level: | High |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|---|
| Uncertainties exist in siting, design, environmental, third party and jurisdictional requirements that present budget and schedule risks. |

300017

Puyallup Station Improvements

Managed by: PEPD

Scope: The Puyallup Station Access Improvement Project is evaluating potential capital improvements to facilitate access to Puyallup Station for pedestrians, bicyclists, and drivers. Improvements include additional parking facilities, pedestrian access improvements, bicycle route improvements, and secure bicycle storage.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------------------|--|----------|
| Phase Gate Passed: | 3-Identify Preferred Alternative | 2008 Cost Estimate: | \$73,587 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$62,254 |
| 2016 TIP: | \$8,414 | 2017 Cost Estimate: | \$62,254 |
| 2017 TIP: | \$8,414 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|-------|------|------|------|------|------|--------|-------|
| Pierce | 3,661 | 4,379 | 375 | 0 | 0 | 0 | 0 | 0 | 8,414 |
| Total | 3,661 | 4,379 | 375 | 0 | 0 | 0 | 0 | 0 | 8,414 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 580 | 141 | 36 | 0 | 0 | 0 | 0 | 0 | 757 |
| 20-Prelim Engineering/Env Review | 1,823 | 518 | 339 | 0 | 0 | 0 | 0 | 0 | 2,680 |
| 40-Row Acquisition+Permits | 1,257 | 3,720 | 0 | 0 | 0 | 0 | 0 | 0 | 4,977 |
| Total | 3,661 | 4,379 | 375 | 0 | 0 | 0 | 0 | 0 | 8,414 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------|--------------------------|--------|
| Estimate Type: | PE/ED | Schedule Risk Level: | Medium |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|---|
| Uncertainties exist in siting, design, environmental, third party and jurisdictional requirements that present budget and schedule risks. |

300018

Sumner Station Improvements

Managed by: PEPD

Scope: The Sumner Station Access Improvement Project is evaluating potential capital improvements to facilitate access to Sumner Station for pedestrians, bicyclists, and drivers. Improvements include additional parking facilities, pedestrian access improvements, bicycle route improvements, and secure bicycle storage.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------------------|--|----------|
| Phase Gate Passed: | 3-Identify Preferred Alternative | 2008 Cost Estimate: | \$52,034 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$47,449 |
| 2016 TIP: | \$6,472 | 2017 Cost Estimate: | \$47,449 |
| 2017 TIP: | \$6,472 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|------|------|------|------|------|------|--------|-------|
| Pierce | 5,387 | 701 | 384 | 0 | 0 | 0 | 0 | 0 | 6,472 |
| Total | 5,387 | 701 | 384 | 0 | 0 | 0 | 0 | 0 | 6,472 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 589 | 144 | 29 | 0 | 0 | 0 | 0 | 0 | 762 |
| 20-Prelim Engineering/Env Review | 1,828 | 518 | 339 | 0 | 0 | 0 | 0 | 0 | 2,685 |
| 40-Row Acquisition+Permits | 2,873 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 2,912 |
| 50-Construction | 97 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 113 |
| Total | 5,387 | 701 | 384 | 0 | 0 | 0 | 0 | 0 | 6,472 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------|--------------------------|--------|
| Estimate Type: | PE/ED | Schedule Risk Level: | Medium |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|---|
| Uncertainties exist in siting, design, environmental, third party and jurisdictional requirements that present budget and schedule risks. |

300019

Lakewood Station Improvements

Managed by: PEPD

Scope: Construction of a pedestrian bridge in the city of Lakewood connecting the community to the northwest of Lakewood Station with the station. This work is partly funded by a capped contribution from Sound Transit. Additional access improvements contemplated in ST2 and reflected in the ST2 cost estimate were evaluated through the Station Access and Demand Study project and may be proposed in the future.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|----------|
| Phase Gate Passed: | Pending | 2008 Cost Estimate: | \$46,948 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$39,953 |
| 2016 TIP: | \$404 | 2017 Cost Estimate: | \$39,953 |
| 2017 TIP: | \$404 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|------|------|------|------|------|------|--------|-------|
| Pierce | 375 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 404 |
| Total | 375 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 404 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 37 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| 35-Third Party | 338 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 363 |
| Total | 375 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 404 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------------|--------------------------|------|
| Estimate Type: | Fixed Contribution | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

Project Risk Assessment

Currently this project is a capped contribution in support of a local grant match minimizing the project risk.

300035

Kent Station Access Improvements

Managed by: PEPD

Evaluate and construct capital improvements to facilitate access to Kent Station for pedestrians, bicyclists, and drivers. Improvements include additional parking facilities, pedestrian access improvements, bicycle route improvements and bicycle storage.

Project was established in 2016 per Resolution No. R2016-09 in the amount of \$831 thousand.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-----------------------------|--|----------|
| Phase Gate Passed: | 1-Enter Project Development | 2008 Cost Estimate: | \$33,115 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$33,145 |
| 2016 TIP: | \$831 | 2017 Cost Estimate: | \$33,115 |
| 2017 TIP: | \$831 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| South King | 271 | 506 | 54 | 0 | 0 | 0 | 0 | 0 | 831 |
| Total | 271 | 506 | 54 | 0 | 0 | 0 | 0 | 0 | 831 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 75 | 107 | 25 | 0 | 0 | 0 | 0 | 0 | 207 |
| 20-Prelim Engineering/Env Review | 180 | 365 | 29 | 0 | 0 | 0 | 0 | 0 | 574 |
| 40-Row Acquisition+Permits | 16 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| Total | 271 | 506 | 54 | 0 | 0 | 0 | 0 | 0 | 831 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|-------|--------------------------|------|
| Estimate Type: | PE/ED | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

Project Risk Assessment

| |
|--|
| Achieving local jurisdiction consensus on scope and budget remains a key to project development. |
|--|

300040

Auburn Station Access Improvement

Managed by: PEPD

Evaluate and construct capital improvements to facilitate access to Auburn Station for pedestrians, bicyclists, and drivers. Improvements include additional parking facilities, pedestrian access improvements, bicycle route improvements and bicycle storage.

Project was established in 2016 per Resolution No. R2016-08 with the amount of \$831 thousand.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-----------------------------|--|----------|
| Phase Gate Passed: | 1-Enter Project Development | 2008 Cost Estimate: | \$34,812 |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$831 | 2017 Cost Estimate: | \$34,812 |
| 2017 TIP: | \$831 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| South King | 271 | 506 | 54 | 0 | 0 | 0 | 0 | 0 | 831 |
| Total | 271 | 506 | 54 | 0 | 0 | 0 | 0 | 0 | 831 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 75 | 107 | 25 | 0 | 0 | 0 | 0 | 0 | 207 |
| 20-Prelim Engineering/Env Review | 180 | 365 | 29 | 0 | 0 | 0 | 0 | 0 | 574 |
| 40-Row Acquisition+Permits | 16 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| Total | 271 | 506 | 54 | 0 | 0 | 0 | 0 | 0 | 831 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|-------|--------------------------|------|
| Estimate Type: | PE/ED | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

| Project Risk Assessment |
|--|
| Achieving local jurisdiction consensus on scope and budget remains the focus during project development. |

3X510

Souder South Expanded Service

Managed by: DECM

Scope: Purchase of four additional commuter rail easements between Seattle and Lakewood from Burlington Northern Santa Fe (BNSF) Railroad. BNSF is responsible for track and signal improvements; Sound Transit maintains responsibility for environmental permitting and mitigation. The fourth easement payment was made in 2015.

Sound Transit is working with BNSF and federal and local environmental regulatory agencies on environmental impacts and mitigation. A fish passage culvert will be designed by ST and construction will be performed by King County. Construction to be complete by April 2018.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------|--|-----------|
| Phase Gate Passed: | 4-Enter Final Design | 2008 Cost Estimate: | \$225,229 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$285,103 |
| 2016 TIP: | \$201,968 | 2017 Cost Estimate: | \$285,103 |
| 2017 TIP: | \$201,968 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|-------|------|-------|------|------|------|--------|---------|
| Pierce | 194,583 | 4,800 | 120 | 2,464 | 0 | 0 | 0 | 0 | 201,968 |
| Total | 194,583 | 4,800 | 120 | 2,464 | 0 | 0 | 0 | 0 | 201,968 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|------|-------|------|------|------|--------|---------|
| 10-Agency Administration | 1,203 | 300 | 50 | 146 | 0 | 0 | 0 | 0 | 1,700 |
| 20-Prelim Engineering/Env Review | 479 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 479 |
| 30-Final Design+Specifications | 254 | 370 | 20 | 256 | 0 | 0 | 0 | 0 | 900 |
| 35-Third Party | 30 | 40 | 0 | 130 | 0 | 0 | 0 | 0 | 200 |
| 40-Row Acquisition+Permits | 185,211 | 40 | 0 | 1,235 | 0 | 0 | 0 | 0 | 186,485 |
| 50-Construction | 7,407 | 4,000 | 50 | 597 | 0 | 0 | 0 | 0 | 12,054 |
| 55-Construction Services | 0 | 50 | 0 | 100 | 0 | 0 | 0 | 0 | 150 |
| Total | 194,583 | 4,800 | 120 | 2,464 | 0 | 0 | 0 | 0 | 201,968 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Final Design | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

| Project Risk Assessment |
|-------------------------|
| N/A |

300021

Tacoma Trestle Track & Signal

Managed by: DECM

Scope: Design and construct additional track, bridge and platforms along an approximately 0.65 mile section of track between the existing Tacoma Dome Station and the vicinity of M Street in Tacoma.

Project baseline was established in 2015 per Resolution No. R2015-09. Project was re-baselined in 2016 per Resolution No. R2016-20 to add WSDOT funded scope and consequent budget. The added scope and complexity of construction support the variance between the baseline and the ST2 Cost Estimate.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|----------|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | \$80,436 |
| Baseline: | \$161,065 | 2016 Cost Estimate: | \$68,017 |
| 2016 TIP: | \$161,065 | 2017 Cost Estimate: | \$68,017 |
| 2017 TIP: | \$161,065 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|--------|--------|------|------|------|------|--------|---------|
| Pierce | 85,935 | 38,133 | 36,997 | 0 | 0 | 0 | 0 | 0 | 161,065 |
| Total | 85,935 | 38,133 | 36,997 | 0 | 0 | 0 | 0 | 0 | 161,065 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|--------|--------|------|------|------|------|--------|---------|
| 10-Agency Administration | 4,892 | 2,524 | 679 | 0 | 0 | 0 | 0 | 0 | 8,094 |
| 20-Prelim Engineering/Env Review | 4,062 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,062 |
| 30-Final Design+Specifications | 12,438 | 1,640 | 1,121 | 0 | 0 | 0 | 0 | 0 | 15,198 |
| 35-Third Party | 491 | 1,190 | 101 | 0 | 0 | 0 | 0 | 0 | 1,781 |
| 40-Row Acquisition+Permits | 9,761 | 33 | 267 | 0 | 0 | 0 | 0 | 0 | 10,061 |
| 50-Construction | 52,048 | 30,196 | 32,043 | 0 | 0 | 0 | 0 | 0 | 114,288 |
| 55-Construction Services | 2,244 | 2,550 | 2,787 | 0 | 0 | 0 | 0 | 0 | 7,581 |
| Total | 85,935 | 38,133 | 36,997 | 0 | 0 | 0 | 0 | 0 | 161,065 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | High |
| Budget Risk Level: | High | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

Project Risk Assessment

The schedule has been accelerated in order to meet a Fall 2017 completion date which allows for maximum use of expiring grant revenues. Several challenges to the construction of the project are recognized and may result in potential lost of grant revenues supporting the project.

300026

Sounder Yard Expansion

Managed by: DECM

Scope: Increase track capacity at the layover facility in Lakewood to store up to seven train sets. The project will also complete drainage improvements and increase electrical power to accommodate additional wayside power and yard lighting. The increase in capacity is needed for the additional ST2 Sounder South service that begins in 2016 before the Sounder Yard & Shops Facility project is complete.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|----------|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | N/A |
| Baseline: | \$20,550 | 2016 Cost Estimate: | \$22,302 |
| 2016 TIP: | \$20,550 | 2017 Cost Estimate: | \$22,302 |
| 2017 TIP: | \$20,550 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|-------|------|------|------|------|--------|--------|
| South King | 6,280 | 2,501 | 2,027 | 0 | 0 | 0 | 0 | 0 | 10,809 |
| Pierce | 5,660 | 2,254 | 1,827 | 0 | 0 | 0 | 0 | 0 | 9,741 |
| Total | 11,940 | 4,755 | 3,855 | 0 | 0 | 0 | 0 | 0 | 20,550 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|-------|------|------|------|------|--------|--------|
| 10-Agency Administration | 836 | 204 | 160 | 0 | 0 | 0 | 0 | 0 | 1,200 |
| 20-Prelim Engineering/Env Review | 1,233 | 10 | 786 | 0 | 0 | 0 | 0 | 0 | 2,029 |
| 40-Row Acquisition+Permits | 250 | 10 | 140 | 0 | 0 | 0 | 0 | 0 | 400 |
| 50-Construction | 8,912 | 4,058 | 2,551 | 0 | 0 | 0 | 0 | 0 | 15,521 |
| 55-Construction Services | 709 | 473 | 218 | 0 | 0 | 0 | 0 | 0 | 1,400 |
| Total | 11,940 | 4,755 | 3,855 | 0 | 0 | 0 | 0 | 0 | 20,550 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|--------|
| Estimate Type: | Construction | Schedule Risk Level: | Medium |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2017 |

Project Risk Assessment

Any risk to completing this project is very low but diligence to complete in time for the addition of nine cab cars to be delivered in 2017.

300027

Point Defiance Bypass

Managed by: DECM

Scope: Sound Transit will administer the construction of the Point Defiance Bypass Project which will construct a new second track adjacent to Sound Transit's existing main line between South Tacoma (South 66th Street Bridge) and Lakewood (Bridgeport Way) and install new rails, ties, and ballast on Sound Transit's existing track between Lakewood and Nisqually. Improvements will be made at the connection to BNSF's main line near Nisqually and safety improvements will be made at some existing at-grade crossings within the project corridor.

The project started in 2014 with \$6.4 million lifetime budget which is used for the procurement of a construction services contract, right-of-way acquisition, and associated staff costs to administer the same in support of the construction of a second track between South Tacoma and Lakewood. These costs are reimbursable through the Federal High Speed Rail grant administered by the Washington State Department of Transportation (WSDOT).

Project was re-baselined in 2016 per Resolution No. R2016-19 by \$44.3 million.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|-----|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | N/A |
| Baseline: | \$83,670 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$83,670 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$83,670 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|-------|--------|------|------|------|------|--------|--------|
| Pierce | 62,587 | 6,972 | 14,111 | 0 | 0 | 0 | 0 | 0 | 83,670 |
| Total | 62,587 | 6,972 | 14,111 | 0 | 0 | 0 | 0 | 0 | 83,670 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------------------------------|--------------|-------|--------|------|------|------|------|--------|--------|
| 02-Operation+Maintenance-Agency | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 |
| 10-Agency Administration | 2,349 | 810 | 0 | 0 | 0 | 0 | 0 | 0 | 3,159 |
| 30-Final Design+Specifications | 148 | 42 | 10 | 0 | 0 | 0 | 0 | 0 | 200 |
| 40-Row Acquisition+Permits | 210 | 170 | 20 | 0 | 0 | 0 | 0 | 0 | 400 |
| 50-Construction | 54,558 | 4,350 | 10,715 | 0 | 0 | 0 | 0 | 0 | 69,623 |
| 55-Construction Services | 5,280 | 1,600 | 3,366 | 0 | 0 | 0 | 0 | 0 | 10,246 |
| Total | 62,587 | 6,972 | 14,111 | 0 | 0 | 0 | 0 | 0 | 83,670 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | High |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2017 |

Project Risk Assessment

Due to grant requirements and potential expiration of grant fund eligibility, the project is on a very tight schedule to maximize reimbursement opportunities. Although mitigated through WSDOT financial commitment, there remains a risk that Sound Transit may be liable for a portion of the work not completed by grant submission deadlines.

3X130

M St-Lakewood Track & Signal

Managed by: DECM

Scope: Reconstruction of approximately seven miles of rail track between M Street in Tacoma and Lakewood was completed in 2010. Remaining project elements include restoration of the South 66th Street Bridge and installation of the Centralized Train Control system. Commuter rail service began in 2012 following the completion of the D Street to M Street Track and Signal project (Project 3x135). Project will be completed in 2016.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------------|--|-----|
| Phase Gate Passed: | 7-Transition to Operations | 2008 Cost Estimate: | N/A |
| Baseline: | \$78,630 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$80,654 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$80,654 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|------|------|------|------|------|------|--------|--------|
| Pierce | 80,435 | 0 | 219 | 0 | 0 | 0 | 0 | 0 | 80,654 |
| Total | 80,435 | 0 | 219 | 0 | 0 | 0 | 0 | 0 | 80,654 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|--------|
| 10-Agency Administration | 3,652 | 0 | 113 | 0 | 0 | 0 | 0 | 0 | 3,765 |
| 20-Prelim Engineering/Env Review | 1,496 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,496 |
| 30-Final Design+Specifications | 2,982 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2,985 |
| 40-Row Acquisition+Permits | 12,773 | 0 | 42 | 0 | 0 | 0 | 0 | 0 | 12,815 |
| 50-Construction | 50,579 | 0 | 60 | 0 | 0 | 0 | 0 | 0 | 50,639 |
| 70-Vehicles | 8,953 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8,953 |
| Total | 80,435 | 0 | 219 | 0 | 0 | 0 | 0 | 0 | 80,654 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|-------------------------|
| N/A |

3X135

D St-M St Track & Signal

Managed by: DECM

Scope: Design and construct a 1.4 mile rail connection between Tacoma Dome Station and Sound Transit owned right-of-way at the Lakewood Subdivision Line. Construction included; rail work, an overpass at Pacific Avenue, roadway improvements, utility relocations and centralized traffic control for the rail line. The project completed construction and began Sounder service between Lakewood and Tacoma in October 2012. Follow-on work identified is complete. Legal issues need resolution prior to project completion anticipated by the end of 2017.

Funds cash flowed in 2018 are considered surplus.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------------|--|-----|
| Phase Gate Passed: | 7-Transition to Operations | 2008 Cost Estimate: | N/A |
| Baseline: | \$161,581 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$158,262 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$158,262 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|------|-------|------|------|------|------|--------|---------|
| Pierce | 152,831 | 71 | 5,360 | 0 | 0 | 0 | 0 | 0 | 158,262 |
| Total | 152,831 | 71 | 5,360 | 0 | 0 | 0 | 0 | 0 | 158,262 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|-------|------|------|------|------|--------|---------|
| 10-Agency Administration | 8,882 | 70 | 654 | 0 | 0 | 0 | 0 | 0 | 9,606 |
| 20-Prelim Engineering/Env Review | 1,733 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,733 |
| 30-Final Design+Specifications | 17,308 | 0 | 804 | 0 | 0 | 0 | 0 | 0 | 18,112 |
| 35-Third Party | 606 | 1 | 240 | 0 | 0 | 0 | 0 | 0 | 846 |
| 40-Row Acquisition+Permits | 42,137 | 0 | 1,492 | 0 | 0 | 0 | 0 | 0 | 43,629 |
| 50-Construction | 66,994 | 0 | 1,570 | 0 | 0 | 0 | 0 | 0 | 68,563 |
| 55-Construction Services | 5,173 | 0 | 600 | 0 | 0 | 0 | 0 | 0 | 5,773 |
| 70-Vehicles | 8,953 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8,953 |
| 80-System Testing+Startup | 1,046 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,046 |
| Total | 152,831 | 71 | 5,360 | 0 | 0 | 0 | 0 | 0 | 158,262 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|--|
| Continued coordination with local jurisdictions may result in additional requirements. |

3X206

Mukilteo Station, S Platform

Managed by: DECM

Scope: The Mukilteo Station South Platform project includes the second platform, stair, and elevator towers for both platforms and the pedestrian bridge connecting them.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|-----|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | N/A |
| Baseline: | \$18,313 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$18,313 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$18,313 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------|--------------|------|-------|------|------|------|------|--------|--------|
| Snohomish | 16,777 | 320 | 1,216 | 0 | 0 | 0 | 0 | 0 | 18,313 |
| Total | 16,777 | 320 | 1,216 | 0 | 0 | 0 | 0 | 0 | 18,313 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|-------|------|------|------|------|--------|--------|
| 10-Agency Administration | 1,404 | 20 | 116 | 0 | 0 | 0 | 0 | 0 | 1,540 |
| 30-Final Design+Specifications | 2,240 | 0 | 407 | 0 | 0 | 0 | 0 | 0 | 2,647 |
| 35-Third Party | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 |
| 40-Row Acquisition+Permits | 1,778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,778 |
| 50-Construction | 9,556 | 300 | 507 | 0 | 0 | 0 | 0 | 0 | 10,363 |
| 55-Construction Services | 1,764 | 0 | 186 | 0 | 0 | 0 | 0 | 0 | 1,950 |
| Total | 16,777 | 320 | 1,216 | 0 | 0 | 0 | 0 | 0 | 18,313 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|--------|
| Estimate Type: | Construction | Schedule Risk Level: | Medium |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|--|
| Schedule delays have pushed the project completion into 2016 as the certificate of occupancy issuance was delayed. |

3X236

Tukwila Station

Managed by: DECM

Scope: Construction of a new permanent commuter rail station to replace the existing temporary Tukwila Sounder Station on Sound Transit owned property at Longacres Way in Tukwila. The project includes two 600-foot-long platforms with shelters, ADA compliant ramps, stairs, ticket vending machines, improvements to the underpass connecting the two platforms, a bus transit area with shelters, 390 car parking stalls, 68 bicycle parking spaces, and underground water quality and stormwater detention facilities. Project is expected to continue well into 2016 to complete follow-on work including potential platform crack repairs, removal of soil stockpile, and possible lighting enhancements.

Funds cash flowed in 2019 are considered surplus.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|----------|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | \$43,236 |
| Baseline: | \$45,969 | 2016 Cost Estimate: | \$52,128 |
| 2016 TIP: | \$45,969 | 2017 Cost Estimate: | \$52,128 |
| 2017 TIP: | \$45,969 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|-------|------|------|------|--------|--------|
| South King | 37,446 | 366 | 0 | 8,157 | 0 | 0 | 0 | 0 | 45,969 |
| Total | 37,446 | 366 | 0 | 8,157 | 0 | 0 | 0 | 0 | 45,969 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|-------|------|------|------|--------|--------|
| 10-Agency Administration | 1,757 | 21 | 0 | 995 | 0 | 0 | 0 | 0 | 2,773 |
| 20-Prelim Engineering/Env Review | 1,101 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,101 |
| 30-Final Design+Specifications | 4,619 | 10 | 0 | 296 | 0 | 0 | 0 | 0 | 4,924 |
| 40-Row Acquisition+Permits | 10,378 | 5 | 0 | 626 | 0 | 0 | 0 | 0 | 11,009 |
| 50-Construction | 17,976 | 300 | 0 | 5,805 | 0 | 0 | 0 | 0 | 24,081 |
| 55-Construction Services | 1,615 | 30 | 0 | 436 | 0 | 0 | 0 | 0 | 2,081 |
| Total | 37,446 | 366 | 0 | 8,157 | 0 | 0 | 0 | 0 | 45,969 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Final Design | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|-------------------------|
| N/A. |

7X755 **Sounder ST2 Fleet Expansion** **Managed by: Operations**

Scope: Fleet expansion to add train sets to support additional trips between Seattle and Lakewood. The number of coaches and cab cars that will be procured will be refined based on ridership trends and forecasts. In 2012, three locomotives were ordered and received from Motive Power, Inc. Nine cabs were ordered in 2013 from Bombardier and will be received in 2015 through 2016.

Changes in lifetime budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------|--|----------|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | \$37,526 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$30,993 |
| 2016 TIP: | \$49,530 | 2017 Cost Estimate: | \$30,993 |
| 2017 TIP: | \$49,530 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|-------|------|------|------|------|------|--------|--------|
| Pierce | 45,701 | 3,829 | 0 | 0 | 0 | 0 | 0 | 0 | 49,530 |
| Total | 45,701 | 3,829 | 0 | 0 | 0 | 0 | 0 | 0 | 49,530 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|--------------|-------|------|------|------|------|------|--------|--------|
| 10-Agency Administration | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 70-Vehicles | 45,699 | 3,829 | 0 | 0 | 0 | 0 | 0 | 0 | 49,528 |
| Total | 45,701 | 3,829 | 0 | 0 | 0 | 0 | 0 | 0 | 49,530 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|---------|--------------------------|--------|
| Estimate Type: | Scoping | Schedule Risk Level: | Medium |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|---|
| Time between the contract for purchase and delivery can be affected by manufacturing delays or unforeseen challenges. |

2017 TIP Cashflow by Budget Approval

(in thousands)

System Expansion

REGIONAL EXPRESS

| Project Number and Name | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--|--------------|----------|----------|------|----------|------|------|--------|-----------|
| Preliminary Engineering | | | | | | | | | |
| 500005 ST Express Bus Base | 1,296 | 587 | 3,925 | 0 | 0 | 0 | 0 | 0 | 5,808 |
| Subtotal | 1,296 | 587 | 3,925 | 0 | 0 | 0 | 0 | 0 | 5,808 |
| Final Design & ROW | | | | | | | | | |
| 500030 Bothell Transit Related Improvements | 4 | 5,036 | 0 | 0 | 0 | 0 | 0 | 0 | 5,040 |
| Subtotal | 4 | 5,036 | 0 | 0 | 0 | 0 | 0 | 0 | 5,040 |
| Baseline | | | | | | | | | |
| 500020 ST Express Mid-Day Bus Storage | 2,315 | 0 | 813 | 0 | 0 | 0 | 0 | 0 | 3,128 |
| 5X142 Kirkland Transit Center/3rd | 10,828 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 10,959 |
| 5X387 I-90 Two-Way Transit & HOV Operations, Stage 3 | 164,034 | 23,721 | 8,565 | 0 | 29,328 | 0 | 0 | 0 | 225,648 |
| Subtotal | 177,178 | 23,721 | 9,510 | 0 | 29,328 | 0 | 0 | 0 | 239,736 |
| Operating | | | | | | | | | |
| 700720 ST Express Fleet Expansion | 4,897 | 13,649 | 21,211 | 0 | 0 | 0 | 0 | 0 | 39,757 |
| Subtotal | 4,897 | 13,649 | 21,211 | 0 | 0 | 0 | 0 | 0 | 39,757 |
| Total | \$183,375 | \$42,992 | \$34,646 | \$0 | \$29,328 | \$0 | \$0 | \$0 | \$290,341 |

2017 TIP Cashflow by Subarea
(in thousands)

System Expansion
REGIONAL EXPRESS

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------|------------------|-----------------|-----------------|------------|-----------------|------------|------------|------------|------------------|
| 1 - Snohomish | 844 | 1,811 | 3,354 | 0 | 0 | 0 | 0 | 0 | 6,009 |
| 3 - South King | 684 | 1,556 | 2,767 | 0 | 0 | 0 | 0 | 0 | 5,007 |
| 4 - East King | 179,015 | 38,911 | 25,879 | 0 | 29,328 | 0 | 0 | 0 | 273,133 |
| 5 - Pierce | 2,832 | 714 | 2,646 | 0 | 0 | 0 | 0 | 0 | 6,192 |
| Total | \$183,375 | \$42,992 | \$34,646 | \$0 | \$29,328 | \$0 | \$0 | \$0 | \$290,341 |

2017 TIP Cashflow by Phase
(in thousands)

| Phase # and Description | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|------------------|-----------------|-----------------|------------|-----------------|------------|------------|------------|------------------|
| 10-Agency Administration | 3,239 | 389 | 727 | 0 | 1,483 | 0 | 0 | 0 | 5,838 |
| 20-Prelim Engineering/Env Review | 3,830 | 505 | 3,360 | 0 | 0 | 0 | 0 | 0 | 7,695 |
| 30-Final Design+Specifications | 19,883 | 40 | 36 | 0 | 4,191 | 0 | 0 | 0 | 24,150 |
| 35-Third Party | 0 | 5,000 | 0 | 0 | 0 | 0 | 0 | 0 | 5,000 |
| 40-Row Acquisition+Permits | 191 | 10 | 197 | 0 | 0 | 0 | 0 | 0 | 398 |
| 50-Construction | 151,096 | 23,400 | 8,983 | 0 | 23,654 | 0 | 0 | 0 | 207,133 |
| 55-Construction Services | 238 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 270 |
| 70-Vehicles | 4,897 | 13,649 | 21,211 | 0 | 0 | 0 | 0 | 0 | 39,757 |
| 90-Contingency | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| Total | \$183,375 | \$42,992 | \$34,646 | \$0 | \$29,328 | \$0 | \$0 | \$0 | \$290,341 |

500005

ST Express Bus Base

Managed by: PEPD

Scope: Sound Transit is evaluating constructing an ST Express Bus Base for operating and maintaining the ST Express bus fleet. The Board has approved initial project development activities including confirmation of fleet operating assumptions, development of facilities and site programming evaluations and review of alternative project delivery methods.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-----------------------------|--|-----------|
| Phase Gate Passed: | 1-Enter Project Development | 2008 Cost Estimate: | \$210,557 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$203,637 |
| 2016 TIP: | \$5,808 | 2017 Cost Estimate: | \$203,637 |
| 2017 TIP: | \$5,808 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|-------|------|------|------|------|--------|-------|
| Snohomish | 232 | 105 | 703 | 0 | 0 | 0 | 0 | 0 | 1,040 |
| South King | 150 | 68 | 455 | 0 | 0 | 0 | 0 | 0 | 674 |
| East King | 603 | 273 | 1,825 | 0 | 0 | 0 | 0 | 0 | 2,701 |
| Pierce | 311 | 141 | 942 | 0 | 0 | 0 | 0 | 0 | 1,394 |
| Total | 1,296 | 587 | 3,925 | 0 | 0 | 0 | 0 | 0 | 5,808 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|-------|------|------|------|------|--------|-------|
| 10-Agency Administration | 395 | 72 | 377 | 0 | 0 | 0 | 0 | 0 | 844 |
| 20-Prelim Engineering/Env Review | 898 | 505 | 3,360 | 0 | 0 | 0 | 0 | 0 | 4,763 |
| 40-Row Acquisition+Permits | 3 | 10 | 188 | 0 | 0 | 0 | 0 | 0 | 201 |
| Total | 1,296 | 587 | 3,925 | 0 | 0 | 0 | 0 | 0 | 5,808 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|--------|
| Estimate Type: | Planning | Schedule Risk Level: | Medium |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|---|
| Uncertainties exist in siting, design, environmental, third party and jurisdictional requirements that present budget and schedule risks. |

500030

Bothell Transit Related Improvements

Managed by: PEPD

Scope: Capital contribution to transit center/park-and-ride project near SR 527/Bothell Way NE and NE 185th Street in the downtown Bothell area. Sound Transit and the city of Bothell would enter into an memorandum of understanding to confirm the responsibilities of each party, the project capital component(s) to receive funding, and the financial participation schedule.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|---------|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | \$6,495 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$6,195 |
| 2016 TIP: | \$5,040 | 2017 Cost Estimate: | \$6,195 |
| 2017 TIP: | \$5,040 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------|--------------|-------|------|------|------|------|------|--------|-------|
| East King | 4 | 5,036 | 0 | 0 | 0 | 0 | 0 | 0 | 5,040 |
| Total | 4 | 5,036 | 0 | 0 | 0 | 0 | 0 | 0 | 5,040 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|--------------|-------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 4 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| 35-Third Party | 0 | 5,000 | 0 | 0 | 0 | 0 | 0 | 0 | 5,000 |
| Total | 4 | 5,036 | 0 | 0 | 0 | 0 | 0 | 0 | 5,040 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------------|--------------------------|------|
| Estimate Type: | Fixed Contribution | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

Project Risk Assessment

The execution of the grant matching contribution is reliant on the city of Bothell receiving the grant award. As such the actual payment may be carried over year to year until such time the grant is received.

500020

ST Express Mid-Day Bus Storage

Managed by: DECM

Scope: Replace temporary bus storage at the Link Operations Maintenance Facility employee parking area with permanent storage with capacity for 30, forty-five foot buses. The project is complete, any remaining funds are considered surplus.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOY dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------------|--|---------|
| Phase Gate Passed: | 7-Transition to Operations | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | \$3,542 |
| 2016 TIP: | \$3,128 | 2017 Cost Estimate: | \$3,542 |
| 2017 TIP: | \$3,128 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|------|------|------|------|------|------|--------|-------|
| Pierce | 2,315 | 0 | 813 | 0 | 0 | 0 | 0 | 0 | 3,128 |
| Total | 2,315 | 0 | 813 | 0 | 0 | 0 | 0 | 0 | 3,128 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 226 | 0 | 127 | 0 | 0 | 0 | 0 | 0 | 353 |
| 20-Prelim Engineering/Env Review | 229 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 229 |
| 30-Final Design+Specifications | 419 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 455 |
| 40-Row Acquisition+Permits | 1 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 10 |
| 50-Construction | 1,201 | 0 | 610 | 0 | 0 | 0 | 0 | 0 | 1,811 |
| 55-Construction Services | 238 | 0 | 32 | 0 | 0 | 0 | 0 | 0 | 270 |
| Total | 2,315 | 0 | 813 | 0 | 0 | 0 | 0 | 0 | 3,128 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2015 |
| | | 2017 Budget Schedule: | 2015 |

| Project Risk Assessment |
|-------------------------|
| N/A |

5X142

Kirkland Transit Center/3rd

Managed by: DECM

Scope: Design and construct, and place into service, a new regional transit center in Kirkland on Third Street, south of Central Way to accommodate existing and anticipated bus service by King County Metro and ST Express routes. The project also includes a capped contribution for intersection improvements near the transit center to enhance bus service speed and reliability. This project was completed in 2015 and will be closed in 2016. Any remaining funds are considered surplus.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------------------------|--|-----|
| Phase Gate Passed: | 7-Transition to Operations | 2008 Cost Estimate: | N/A |
| Baseline: | \$13,300 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$10,959 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$10,959 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------|--------------|------|------|------|------|------|------|--------|--------|
| East King | 10,828 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 10,959 |
| Total | 10,828 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 10,959 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|--------|
| 10-Agency Administration | 948 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 953 |
| 20-Prelim Engineering/Env Review | 1,154 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,154 |
| 30-Final Design+Specifications | 1,574 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,574 |
| 40-Row Acquisition+Permits | 187 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 187 |
| 50-Construction | 6,965 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 6,991 |
| 90-Contingency | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| Total | 10,828 | 0 | 132 | 0 | 0 | 0 | 0 | 0 | 10,959 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2015 |
| | | 2017 Budget Schedule: | 2015 |

| Project Risk Assessment |
|-------------------------|
| N/A |

5X387

I-90 Two-Way Transit & HOV Operations, Stage 3

Managed by: DECM

Scope: Stage 3 of the I-90 Two-way Transit and HOV Operations project will provide reliable two-way transit and HOV operations eastbound and westbound on I-90 between 80th Avenue SE on Mercer Island and Rainier Avenue/I-5 in Seattle. This stage will also include the installation of screening on the shared pathway on the I-90 floating bridge. Upon completion of the Stage 3 project, the center roadway will be closed to allow the construction of East Link to proceed.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOY dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|-----|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | N/A |
| Baseline: | \$225,648 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$225,648 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$225,648 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------|--------------|--------|-------|------|--------|------|------|--------|---------|
| East King | 164,034 | 23,721 | 8,565 | 0 | 29,328 | 0 | 0 | 0 | 225,648 |
| Total | 164,034 | 23,721 | 8,565 | 0 | 29,328 | 0 | 0 | 0 | 225,648 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|--------|-------|------|--------|------|------|--------|---------|
| 10-Agency Administration | 1,666 | 281 | 219 | 0 | 1,483 | 0 | 0 | 0 | 3,648 |
| 20-Prelim Engineering/Env Review | 1,549 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,549 |
| 30-Final Design+Specifications | 17,890 | 40 | 0 | 0 | 4,191 | 0 | 0 | 0 | 22,121 |
| 50-Construction | 142,930 | 23,400 | 8,347 | 0 | 23,654 | 0 | 0 | 0 | 198,330 |
| Total | 164,034 | 23,721 | 8,565 | 0 | 29,328 | 0 | 0 | 0 | 225,648 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|--------|
| Estimate Type: | Construction | Schedule Risk Level: | Medium |
| Budget Risk Level: | High | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|--|
| Fire Life Safety in a tunnel retrofit does create risk in cost and in schedule. Commissioning of the fire life safety equipment and system will require a multi-phase detailed plan through commissioning. Other construction risks are known and suitable contingencies and project schedule float included in the baseline budget. |

700720

ST Express Fleet Expansion

Managed by: Operations

Scope: Procure and accept 38 buses to support the increase in peak hour bus service with an additional 32,000 hours of annualized peak hours in 2016 and an additional 15,000 hours of peak service hours to meet service level demands as a result of East Link construction, route congestion, ridership demands and appropriate bus spare ratio in 2017.

Changes in project budget since 2016: Increased by \$13.6 million for additional 11 buses in support of an additional 15,000 bus service hours.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------|--|----------|
| Phase Gate Passed: | None | 2008 Cost Estimate: | \$41,790 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$46,045 |
| 2016 TIP: | \$26,185 | 2017 Cost Estimate: | \$59,016 |
| 2017 TIP: | \$39,757 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|--------|--------|------|------|------|------|--------|--------|
| Snohomish | 612 | 1,706 | 2,651 | 0 | 0 | 0 | 0 | 0 | 4,970 |
| South King | 534 | 1,488 | 2,312 | 0 | 0 | 0 | 0 | 0 | 4,333 |
| East King | 3,545 | 9,882 | 15,357 | 0 | 0 | 0 | 0 | 0 | 28,784 |
| Pierce | 206 | 573 | 891 | 0 | 0 | 0 | 0 | 0 | 1,670 |
| Total | 4,897 | 13,649 | 21,211 | 0 | 0 | 0 | 0 | 0 | 39,757 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-------------|--------------|--------|--------|------|------|------|------|--------|--------|
| 70-Vehicles | 4,897 | 13,649 | 21,211 | 0 | 0 | 0 | 0 | 0 | 39,757 |
| Total | 4,897 | 13,649 | 21,211 | 0 | 0 | 0 | 0 | 0 | 39,757 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|---------|--------------------------|------|
| Estimate Type: | Scoping | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

Project Risk Assessment

Some uncertainty exists with the composition of the fleet with bus type, size and fuel as well as our transit partners ability to base and maintain our buses as we approach base capacities.

2017 TIP Cashflow by Budget Approval

(in thousands)

System Expansion
OTHER

| Project Number and Name | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-----------------|------------------|
| Preliminary Engineering | | | | | | | | | |
| 809100 ST3 Planning | 21,291 | 6,850 | 24,507 | 0 | 0 | 0 | 0 | 0 | 52,648 |
| 809103 Central & East HCT Study | 2,152 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,152 |
| Subtotal | 23,442 | 6,850 | 24,507 | 0 | 0 | 0 | 0 | 0 | 54,800 |
| Baseline | | | | | | | | | |
| 6X668 SStart | 16,804 | 1,390 | 6,662 | 6,188 | 4,235 | 3,451 | 2,076 | 8,462 | 49,267 |
| Subtotal | 16,804 | 1,390 | 6,662 | 6,188 | 4,235 | 3,451 | 2,076 | 8,462 | 49,267 |
| Operating | | | | | | | | | |
| 600668 SStart Operations & Maintenance | 905 | 239 | 184 | 171 | 180 | 183 | 189 | 2,877 | 4,927 |
| Subtotal | 905 | 239 | 184 | 171 | 180 | 183 | 189 | 2,877 | 4,927 |
| Program | | | | | | | | | |
| 3X212 Fare Collection | 8,741 | 148 | 388 | 351 | 735 | 397 | 360 | 3,619 | 14,739 |
| 5X410 Research & Technology | 10,173 | 2,297 | 2,696 | 2,801 | 2,034 | 0 | 0 | 0 | 20,000 |
| 600016 Fare Administration | 943 | 600 | 5,638 | 673 | 500 | 1,086 | 4,352 | 2,310 | 16,103 |
| 600039 Fare Policy Program | 0 | 400 | 400 | 300 | 300 | 108 | 0 | 0 | 1,508 |
| Subtotal | 19,857 | 3,445 | 9,123 | 4,124 | 3,569 | 1,591 | 4,713 | 5,929 | 52,351 |
| Total | \$61,008 | \$11,924 | \$40,476 | \$10,483 | \$7,983 | \$5,225 | \$6,978 | \$17,267 | \$161,344 |

2017 TIP Cashflow by Subarea
(in thousands)

System Expansion
OTHER

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-----------------|------------------|
| 1 - Snohomish | 3,676 | 192 | 757 | 701 | 596 | 444 | 302 | 1,915 | 8,583 |
| 2 - North King | 5,220 | 381 | 1,602 | 1,488 | 1,033 | 850 | 530 | 2,653 | 13,757 |
| 3 - South King | 6,503 | 361 | 1,434 | 1,328 | 1,100 | 830 | 558 | 3,449 | 15,563 |
| 4 - East King | 8,528 | 667 | 2,797 | 2,598 | 1,817 | 1,490 | 932 | 4,716 | 23,545 |
| 5 - Pierce | 4,675 | 175 | 644 | 594 | 604 | 416 | 303 | 2,224 | 9,635 |
| 6 - Systemwide | 32,407 | 10,147 | 33,241 | 3,774 | 2,834 | 1,194 | 4,352 | 2,310 | 90,259 |
| Total | \$61,008 | \$11,924 | \$40,476 | \$10,483 | \$7,983 | \$5,225 | \$6,978 | \$17,267 | \$161,344 |

2017 TIP Cashflow by Phase
(in thousands)

| Phase # and Description | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-----------------|------------------|
| 01-Operation+Maintenance | 259 | 95 | 98 | 101 | 104 | 107 | 110 | 614 | 1,488 |
| 02-Operation+Maintenance-Agency | 645 | 144 | 86 | 70 | 76 | 76 | 79 | 2,263 | 3,439 |
| 10-Agency Administration | 5,878 | 2,578 | 2,093 | 747 | 845 | 346 | 316 | 1,991 | 14,794 |
| 20-Prelim Engineering/Env Review | 22,851 | 5,850 | 23,666 | 379 | 300 | 208 | 75 | 94 | 53,424 |
| 26-Research+Technology | 7,352 | 2,117 | 7,684 | 3,004 | 2,122 | 986 | 4,277 | 2,216 | 29,757 |
| 40-Row Acquisition+Permits | 52 | 100 | 148 | 0 | 0 | 0 | 0 | 0 | 300 |
| 50-Construction | 8,039 | 0 | 388 | 351 | 668 | 397 | 360 | 3,202 | 13,405 |
| 61-Art | 15,932 | 1,040 | 6,312 | 5,832 | 3,869 | 3,105 | 1,760 | 6,887 | 44,737 |
| Total | \$61,008 | \$11,924 | \$40,476 | \$10,483 | \$7,983 | \$5,225 | \$6,978 | \$17,267 | \$161,344 |

809100

ST3 Planning

Managed by: PEPD

Scope: Provide funding for the study of future regional transit system expansion beyond the Sound Move and ST2 programs. The ST3 plan includes funding for studying public transit expansion options in nine corridors. These studies were split into their own projects reducing the scope to long-range planning beyond the Sound Move and ST2 programs. The project is currently in the ST3 Planning Phase and on track for public ballot.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-----------------------------|--|----------|
| Phase Gate Passed: | 1-Enter Project Development | 2008 Cost Estimate: | \$64,969 |
| Baseline: | \$0 | 2016 Cost Estimate: | \$51,008 |
| 2016 TIP: | \$52,648 | 2017 Cost Estimate: | \$51,008 |
| 2017 TIP: | \$52,648 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|--------|------|------|------|------|--------|--------|
| Systemwide | 21,291 | 6,850 | 24,507 | 0 | 0 | 0 | 0 | 0 | 52,648 |
| Total | 21,291 | 6,850 | 24,507 | 0 | 0 | 0 | 0 | 0 | 52,648 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|--------|------|------|------|------|--------|--------|
| 10-Agency Administration | 2,972 | 1,500 | 1,366 | 0 | 0 | 0 | 0 | 0 | 5,838 |
| 20-Prelim Engineering/Env Review | 18,267 | 5,250 | 22,993 | 0 | 0 | 0 | 0 | 0 | 46,510 |
| 40-Row Acquisition+Permits | 52 | 100 | 148 | 0 | 0 | 0 | 0 | 0 | 300 |
| Total | 21,291 | 6,850 | 24,507 | 0 | 0 | 0 | 0 | 0 | 52,648 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|------|
| Estimate Type: | Planning | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

| Project Risk Assessment |
|-------------------------|
| N/A |

809103

Central & East HCT Study

Managed by: PEPD

Scope: Identify and evaluate alternative high-capacity transit (HCT) modes, routes, and potential station areas along high-capacity transit corridors.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | |
|---|-----------------------------|
| Phase Gate Passed: | 1-Enter Project Development |
| Baseline: | \$0 |
| 2016 TIP: | \$2,152 |
| 2017 TIP: | \$2,152 |

| ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|--|---------|
| 2008 Cost Estimate: | N/A |
| 2016 Cost Estimate: | \$2,141 |
| 2017 Cost Estimate: | \$2,141 |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 1,076 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,076 |
| East King | 1,076 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,076 |
| Total | 2,152 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,152 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 142 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 142 |
| 20-Prelim Engineering/Env Review | 2,010 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,010 |
| Total | 2,152 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,152 |

| Budget Risk Assessment | |
|------------------------|----------|
| Estimate Type: | Planning |
| Budget Risk Level: | Low |

| Schedule Risk Assessment | |
|--------------------------|------|
| Schedule Risk Level: | Low |
| 2016 Budget Schedule: | 2017 |
| 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|-------------------------|
| N/A |

6X668

STart

Managed by: DECM

Scope: The Sound Transit Art Program (STart) incorporates art into Sound Transit facilities. The artwork is intended to reflect the communities served and contribute to a positive experience for customers. The Board supports a public art budget of one percent of construction costs excluding tunneling for all Sound Move and ST2 projects. In 2010, Resolution No. R2010-21 consolidated the Sound Move and ST2 Art programs and established an Art Policy. Ten percent of the total Art program funding is earmarked for the maintenance of the art collection (see project 600668).

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------|--|----------|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | \$49,936 |
| 2016 TIP: | \$49,267 | 2017 Cost Estimate: | \$49,936 |
| 2017 TIP: | \$49,267 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Snohomish | 1,647 | 136 | 653 | 606 | 415 | 338 | 203 | 829 | 4,828 |
| North King | 3,932 | 325 | 1,559 | 1,448 | 991 | 808 | 486 | 1,980 | 11,529 |
| South King | 3,176 | 263 | 1,259 | 1,170 | 800 | 652 | 392 | 1,599 | 9,312 |
| East King | 6,839 | 566 | 2,711 | 2,519 | 1,724 | 1,405 | 845 | 3,444 | 20,052 |
| Pierce | 1,210 | 100 | 480 | 446 | 305 | 248 | 149 | 609 | 3,547 |
| Total | 16,804 | 1,390 | 6,662 | 6,188 | 4,235 | 3,451 | 2,076 | 8,462 | 49,267 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| 10-Agency Administration | 872 | 350 | 350 | 356 | 366 | 346 | 316 | 1,574 | 4,530 |
| 61-Art | 15,932 | 1,040 | 6,312 | 5,832 | 3,869 | 3,105 | 1,760 | 6,887 | 44,737 |
| Total | 16,804 | 1,390 | 6,662 | 6,188 | 4,235 | 3,451 | 2,076 | 8,462 | 49,267 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|------|
| Estimate Type: | Planning | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2023 |
| | | 2017 Budget Schedule: | 2023 |

| Project Risk Assessment |
|-------------------------|
| N/A |

600668 **STart Operations & Maintenance** **Managed by: DECM**

Scope: Maintain Sound Transit art installations, including documentation, monitoring, cleaning, repair and occasional replacement. As part of the Sound Transit Art program (STart), the lifetime budget is set at ten percent of the total STart program.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|---------|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | \$4,927 |
| 2016 TIP: | \$4,927 | 2017 Cost Estimate: | \$4,927 |
| 2017 TIP: | \$4,927 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| Snohomish | 89 | 23 | 18 | 17 | 18 | 18 | 19 | 282 | 483 |
| North King | 212 | 56 | 43 | 40 | 42 | 43 | 44 | 673 | 1,153 |
| South King | 171 | 45 | 35 | 32 | 34 | 35 | 36 | 544 | 931 |
| East King | 368 | 97 | 75 | 70 | 73 | 74 | 77 | 1,171 | 2,005 |
| Pierce | 65 | 17 | 13 | 12 | 13 | 13 | 14 | 207 | 355 |
| Total | 905 | 239 | 184 | 171 | 180 | 183 | 189 | 2,877 | 4,927 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 01-Operation+Maintenance | 259 | 95 | 98 | 101 | 104 | 107 | 110 | 614 | 1,488 |
| 02-Operation+Maintenance-Agency | 645 | 144 | 86 | 70 | 76 | 76 | 79 | 2,263 | 3,439 |
| Total | 905 | 239 | 184 | 171 | 180 | 183 | 189 | 2,877 | 4,927 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|------|
| Estimate Type: | Planning | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2023 |
| | | 2017 Budget Schedule: | 2023 |

| Project Risk Assessment |
|-------------------------|
| N/A |

| | | |
|--------------|------------------------|------------------------|
| 3X212 | Fare Collection | Managed by: FIT |
|--------------|------------------------|------------------------|

Scope: Maintain and upgrade as required, Agency fare collection systems which includes: Ticket Vending Machines (TVMs), One Regional Card for All (ORCA) system, secure payment requirements, and electronic citations for fare validation and enforcement.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: N/A | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$14,870 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$14,870 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|--------|
| Snohomish | 1,941 | 33 | 86 | 78 | 163 | 88 | 80 | 803 | 3,272 |
| South King | 3,156 | 53 | 140 | 127 | 265 | 143 | 130 | 1,306 | 5,321 |
| East King | 245 | 4 | 11 | 10 | 21 | 11 | 10 | 101 | 413 |
| Pierce | 3,400 | 58 | 151 | 136 | 286 | 154 | 140 | 1,408 | 5,734 |
| Total | 8,741 | 148 | 388 | 351 | 735 | 397 | 360 | 3,619 | 14,739 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|--------|
| 10-Agency Administration | 552 | 148 | 0 | 0 | 67 | 0 | 0 | 417 | 1,184 |
| 20-Prelim Engineering/Env Review | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 150 |
| 50-Construction | 8,039 | 0 | 388 | 351 | 668 | 397 | 360 | 3,202 | 13,405 |
| Total | 8,741 | 148 | 388 | 351 | 735 | 397 | 360 | 3,619 | 14,739 |

| Budget Risk Assessment | Schedule Risk Assessment |
|--|--|
| Estimate Type: Construction | Schedule Risk Level: Medium |
| Budget Risk Level: High | 2016 Budget Schedule: 2023 |
| | 2017 Budget Schedule: 2023 |

| Project Risk Assessment |
|---|
| The current budget and schedule is based on early planning estimates for rehabilitation and replacement for these assets. The costs are at high risk until more detailed assessment of the condition of the fielded assets and associated repair and replacement costs are developed. |

5X410

Research & Technology

Managed by: FIT

Scope: Assess and implement new transit technologies to improve the agency's operational effectiveness, efficiency and customer experience. This program focuses on system wide security and safety technology, real-time service information and passenger communications, and deploying applications to manage operations better.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOY dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$20,000 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$20,000 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|-------|-------|-------|------|------|--------|--------|
| Systemwide | 10,173 | 2,297 | 2,696 | 2,801 | 2,034 | 0 | 0 | 0 | 20,000 |
| Total | 10,173 | 2,297 | 2,696 | 2,801 | 2,034 | 0 | 0 | 0 | 20,000 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|-------|-------|-------|------|------|--------|--------|
| 10-Agency Administration | 1,339 | 580 | 378 | 391 | 412 | 0 | 0 | 0 | 3,100 |
| 20-Prelim Engineering/Env Review | 1,595 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 1,600 |
| 26-Research+Technology | 7,238 | 1,717 | 2,319 | 2,405 | 1,622 | 0 | 0 | 0 | 15,300 |
| Total | 10,173 | 2,297 | 2,696 | 2,801 | 2,034 | 0 | 0 | 0 | 20,000 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|------|
| Estimate Type: | Planning | Schedule Risk Level: | High |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2023 |
| | | 2017 Budget Schedule: | 2023 |

| Project Risk Assessment |
|--|
| Elements of this program are in various stages of design and include new technologies that require custom software development which creates budget and schedule risk while a project goes from an idea or concept to a fully scoped project. Extensive coordination with external agencies adds level of schedule risk. |

600016

Fare Administration

Managed by: FIT

Scope: Create and install fare system enhancements to the existing regional smart card system (ORCA) and fare collection systems. Project includes the planning, development and implementation of a new fare collection system, ngORCA. The program also manages fares and pricing for Sound Transit.

Changes in project budget since 2016: \$1.5 million transferred to the new Fare Policy Program project.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$17,611 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$16,103 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|-------|------|------|-------|-------|--------|--------|
| Systemwide | 943 | 600 | 5,638 | 673 | 500 | 1,086 | 4,352 | 2,310 | 16,103 |
| Total | 943 | 600 | 5,638 | 673 | 500 | 1,086 | 4,352 | 2,310 | 16,103 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|-------|------|------|-------|-------|--------|--------|
| 10-Agency Administration | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-Prelim Engineering/Env Review | 830 | 200 | 273 | 74 | 0 | 100 | 75 | 94 | 1,646 |
| 26-Research+Technology | 114 | 400 | 5,365 | 599 | 500 | 986 | 4,277 | 2,216 | 14,457 |
| Total | 943 | 600 | 5,638 | 673 | 500 | 1,086 | 4,352 | 2,310 | 16,103 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|------|
| Estimate Type: | Planning | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2023 |
| | | 2017 Budget Schedule: | 2023 |

| Project Risk Assessment |
|-------------------------|
| N/A |

| | | |
|---------------|----------------------------|------------------------|
| 600039 | Fare Policy Program | Managed by: FIT |
|---------------|----------------------------|------------------------|

Scope: Research and develop business practices and strategic initiatives to improve regional mobility and system efficiency. Develop and implement programs to improve the match between market needs and system performance.

Changes in project budget since 2016: \$1.5 million transferred to new Fare Policy Program from Fare Administration.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: | |
| Baseline: \$0 | 2008 Cost Estimate: N/A |
| 2016 TIP: \$0 | 2016 Cost Estimate: N/A |
| 2017 TIP: \$1,508 | 2017 Cost Estimate: N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| Systemwide | 0 | 400 | 400 | 300 | 300 | 108 | 0 | 0 | 1,508 |
| Total | 0 | 400 | 400 | 300 | 300 | 108 | 0 | 0 | 1,508 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 20-Prelim Engineering/Env Review | 0 | 400 | 400 | 300 | 300 | 108 | 0 | 0 | 1,508 |
| Total | 0 | 400 | 400 | 300 | 300 | 108 | 0 | 0 | 1,508 |

| Budget Risk Assessment | Schedule Risk Assessment |
|-------------------------|----------------------------|
| Estimate Type: Planning | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: |
| | 2017 Budget Schedule: 2021 |

| Project Risk Assessment |
|---|
| The project risk is minimal as the policy review is limited by available funds. |

Enhancement

Although the majority of Sound Transit's projects are related to expanding the regional transit system, work is planned and ongoing to improve operating efficiency and effectiveness, improve the rider experience, increase system functionality, or reduce operating costs.

2017 Enhancement Project Highlights

- Install brighter, more energy efficient LED lighting and energy efficient upgrades at the Operations and Maintenance Facility (OMF).
- Complete and certify Positive Train Control (PTC) to increase operational safety of commuter rail in accordance with National Transportation Safety Board requirements.
- Complete installation of a second light rail vehicle lift at the Link Operations & Maintenance Facility (OMF).
- Upgrade the Link Closed Circuit Television System (CCTV) camera system by upgrading aged analog cameras to new digital cameras with higher resolution.
- Install modifications to the washer for light rail vehicles, in order to allow the washing of two vehicles and automated forehead washing of the LRVs.
- Install switches along the link overhead catenary system to allow for the turning off of power to specific locations along the alignment.
- Install a security system at the Bellevue Transit Center.

BUDGET CHANGES

(in thousands)

Enhancement

| Project | Reason | Budget Type | Explanation | Change |
|----------------------------------|-------------|-------------|--|---------|
| LINK | | | | |
| LRV Wash Bay Modifications | New Project | Operating | Modifications to LRV car wash system required to automate LRV forehead cleaning. | \$300 |
| LRV Wheel Flat Software | New Project | Operating | Add software to the existing LRV wheel flat detection system to more accurately and efficiently identify and remedy sources of vibration in LRVs. | \$250 |
| OMF Energy Efficiency | New Project | Operating | Replace existing Operations and Maintenance Facility (OMF) shop bay lighting and HVAC controls to increase energy efficiency and reduce operating costs. | \$1,098 |
| SOUNDER | | | | |
| Customer Emergency Stations | New Project | Operating | Customer emergency stations are required at the Kent and Auburn parking garages. | \$800 |
| Locomotive Inboard Cameras | New Project | Operating | New FRA rule that requires inboard facing cameras to monitor the actions of the engineers in handling a train. | \$300 |
| SCR Passenger Emergency Intercom | New Project | Operating | Install improved Passenger Emergency Intercom system to fulfill new FRA rule requiring passengers to be able to speak directly with a train crew member. | \$1,500 |
| REGIONAL EXPRESS | | | | |
| Bellevue TC Security System | New Project | Operating | Security systems are required at the Bellevue Transit Center. | \$150 |

2017 TIP Cashflow by Budget Approval

(in thousands)

Enhancement
ALL MODES

| Project Number and Name | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--|---------------|--------------|---------------|--------------|----------|----------|------------|-----------|---------------|
| Preliminary Engineering | | | | | | | | | |
| 5X261 Bus Maintenance Facility | 9,374 | 0 | 12,659 | 0 | 0 | 0 | 0 | 0 | 22,033 |
| 700723 Downtown Seattle Transit Tunnel Mitigation | 500 | 1,834 | 0 | 0 | 0 | 0 | 0 | 0 | 2,334 |
| 700730 Operations & Maintenance Facility LRV Lift | 661 | 4,237 | 0 | 0 | 0 | 0 | 0 | 0 | 4,898 |
| 700736 Union Station Garden Level Remodel | 302 | 1,082 | 0 | 0 | 0 | 0 | 0 | 0 | 1,383 |
| 700784 Regional Parking Pilot Project | 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 475 |
| 700793 Signage Improvements | 197 | 735 | 0 | 0 | 0 | 0 | 0 | 0 | 931 |
| 700798 Link Remote Switch Heaters | 16 | 184 | 0 | 0 | 0 | 0 | 0 | 0 | 200 |
| Subtotal | 11,524 | 8,071 | 12,659 | 0 | 0 | 0 | 0 | 0 | 32,255 |
| Baseline | | | | | | | | | |
| 300011 Positive Train Control | 37,579 | 8,002 | 0 | 7,474 | 0 | 0 | 0 | 0 | 53,054 |
| 4X210 LRV On Board Energy Storage | 1,580 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 1,643 |
| 4X340 Noise Abatement | 8,999 | 130 | 3,871 | 0 | 0 | 0 | 0 | 0 | 13,000 |
| 600029 Tacoma Link Fare Collection | 64 | 0 | 0 | 0 | 0 | 0 | 382 | 67 | 514 |
| 700774 Central Link HVAC - Instrument House and UPS Room | 1,146 | 86 | 0 | 0 | 0 | 0 | 0 | 0 | 1,232 |
| 7X753 Bike Locker Program | 1,315 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 1,355 |
| Subtotal | 50,684 | 8,257 | 3,934 | 7,474 | 0 | 0 | 382 | 67 | 70,797 |
| Operating | | | | | | | | | |
| 700706 OMF Energy Efficiency | 0 | 1,042 | 38 | 18 | 0 | 0 | 0 | 0 | 1,098 |
| 700707 Bellevue TC Security System | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 150 |
| 700708 Customer Emergency Stations | 0 | 300 | 500 | 0 | 0 | 0 | 0 | 0 | 800 |
| 700710 Locomotive Inboard Cameras | 0 | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 300 |
| 700711 SCR Passenger Emergency Intercom | 0 | 750 | 750 | 0 | 0 | 0 | 0 | 0 | 1,500 |
| 700712 LRV Wheel Flat Software | 0 | 250 | 0 | 0 | 0 | 0 | 0 | 0 | 250 |
| 700713 LRV Wash Bay Modifications | 0 | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 300 |
| 700724 Puyallup Station LED Lighting | 178 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 178 |
| 700725 Summer Station LED Lighting | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 134 |
| 700726 Kent Station Platform Lighting | 236 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 |
| 700727 Kent Station Parking Lot Paving | 65 | 635 | 0 | 0 | 0 | 0 | 0 | 0 | 700 |
| 700733 OMF LRV Wash Heater System | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 300 |

2017 TIP Cashflow by Budget Approval

(in thousands)

Enhancement
ALL MODES

| Project Number and Name | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--|--------------|----------|----------|---------|---------|-------|-------|--------|-----------|
| 700775 Central Link Card Readers | 128 | 295 | 0 | 0 | 0 | 0 | 0 | 0 | 423 |
| 700777 Central Link Overhead Catenary System Tie Switch | 155 | 2,845 | 0 | 0 | 0 | 0 | 0 | 0 | 3,000 |
| Subtotal | 1,196 | 6,867 | 1,288 | 18 | 0 | 0 | 0 | 0 | 9,369 |
| Program | | | | | | | | | |
| 700781 Non-revenue Support Vehicles | 1,276 | 316 | 256 | 223 | 58 | 0 | 0 | 0 | 2,130 |
| 804100 Transit-Oriented Development Property Disposition | 3,613 | 2,758 | 2,130 | 1,480 | 1,050 | 584 | 0 | 0 | 11,615 |
| Subtotal | 4,890 | 3,074 | 2,386 | 1,703 | 1,108 | 584 | 0 | 0 | 13,745 |
| Total | \$68,294 | \$26,270 | \$20,267 | \$9,194 | \$1,108 | \$584 | \$382 | \$67 | \$126,166 |

2017 TIP Cashflow by Subarea
(in thousands)

Enhancement
ALL MODES

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------|-----------------|-----------------|-----------------|----------------|----------------|--------------|--------------|-------------|------------------|
| 1 - Snohomish | 4,189 | 725 | 2,110 | 531 | 0 | 0 | 0 | 0 | 7,554 |
| 2 - North King | 15,165 | 12,283 | 5,032 | 1,640 | 1,089 | 584 | 0 | 0 | 35,792 |
| 3 - South King | 7,412 | 4,539 | 3,588 | 409 | 20 | 0 | 0 | 0 | 15,967 |
| 4 - East King | 4,463 | 151 | 6,000 | 0 | 0 | 0 | 0 | 0 | 10,615 |
| 5 - Pierce | 36,287 | 7,490 | 3,538 | 6,614 | 0 | 0 | 382 | 67 | 54,379 |
| 6 - Systemwide | 777 | 1,082 | 0 | 0 | 0 | 0 | 0 | 0 | 1,858 |
| Total | \$68,294 | \$26,270 | \$20,267 | \$9,194 | \$1,108 | \$584 | \$382 | \$67 | \$126,166 |

2017 TIP Cashflow by Phase
(in thousands)

| Phase # and Description | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|-----------------|-----------------|-----------------|----------------|----------------|--------------|--------------|-------------|------------------|
| 10-Agency Administration | 4,417 | 1,231 | 687 | 1,031 | 200 | 135 | 0 | 0 | 7,700 |
| 20-Prelim Engineering/Env Review | 477 | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 552 |
| 30-Final Design+Specifications | 774 | 832 | 70 | 70 | 0 | 0 | 0 | 0 | 1,745 |
| 35-Third Party | 3,010 | 3,224 | 0 | 367 | 0 | 0 | 0 | 0 | 6,601 |
| 40-Row Acquisition+Permits | 3,006 | 1,740 | 1,554 | 1,100 | 800 | 449 | 0 | 0 | 8,649 |
| 50-Construction | 50,764 | 17,015 | 16,598 | 1,529 | 50 | 0 | 382 | 0 | 86,338 |
| 55-Construction Services | 2,912 | 408 | 1,102 | 3,151 | 0 | 0 | 0 | 0 | 7,573 |
| 70-Vehicles | 2,849 | 316 | 257 | 223 | 58 | 0 | 0 | 0 | 3,703 |
| 80-System Testing+Startup | 86 | 1,404 | 0 | 0 | 0 | 0 | 0 | 0 | 1,490 |
| 90-Contingency | 0 | 25 | 0 | 1,725 | 0 | 0 | 0 | 67 | 1,817 |
| Total | \$68,294 | \$26,270 | \$20,267 | \$9,194 | \$1,108 | \$584 | \$382 | \$67 | \$126,166 |

5X261

Bus Maintenance Facility

Managed by: Operations

Scope: Fund expansion of Sound Transit's fleet maintenance capacity through contributions to facilities managed by third party service providers. The cash flow is flexible as often no projects are planned for a given year.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------|--|-----|
| Phase Gate Passed: | None | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$22,033 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$22,033 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|--------|------|------|------|------|--------|--------|
| Snohomish | 1,481 | 0 | 2,000 | 0 | 0 | 0 | 0 | 0 | 3,481 |
| South King | 1,041 | 0 | 1,405 | 0 | 0 | 0 | 0 | 0 | 2,446 |
| East King | 4,443 | 0 | 6,000 | 0 | 0 | 0 | 0 | 0 | 10,444 |
| Pierce | 2,409 | 0 | 3,253 | 0 | 0 | 0 | 0 | 0 | 5,662 |
| Total | 9,374 | 0 | 12,659 | 0 | 0 | 0 | 0 | 0 | 22,033 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|--------|------|------|------|------|--------|--------|
| 10-Agency Administration | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 |
| 20-Prelim Engineering/Env Review | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 40-Row Acquisition+Permits | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 59 |
| 50-Construction | 9,282 | 0 | 12,659 | 0 | 0 | 0 | 0 | 0 | 21,941 |
| Total | 9,374 | 0 | 12,659 | 0 | 0 | 0 | 0 | 0 | 22,033 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|------|
| Estimate Type: | Planning | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2017 |

Project Risk Assessment

The schedule is flexible as it is predicated on partners to submit projects for participation. The schedules dates can change if no projects are planned.

700723 **Downtown Seattle Transit Tunnel Mitigation** **Managed by: Operations**

Scope: This project reflects the Sound Transit contribution to a partnership for a series of mitigation improvements, including street improvements in downtown Seattle, to mitigate impacts to bus operations as buses transition from the Downtown Seattle Transit Tunnel (DSTT) to surface streets to accommodate increased light rail activity in the tunnel.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$2,334 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$2,334 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|------|------|------|------|------|--------|-------|
| North King | 500 | 1,834 | 0 | 0 | 0 | 0 | 0 | 0 | 2,334 |
| Total | 500 | 1,834 | 0 | 0 | 0 | 0 | 0 | 0 | 2,334 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------|--------------|-------|------|------|------|------|------|--------|-------|
| 35-Third Party | 500 | 1,834 | 0 | 0 | 0 | 0 | 0 | 0 | 2,334 |
| Total | 500 | 1,834 | 0 | 0 | 0 | 0 | 0 | 0 | 2,334 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------------|--------------------------|------|
| Estimate Type: | Fixed Contribution | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|---|
| Project risk is minimal as Sound Transit's contribution is fixed. |

700730 Operations & Maintenance Facility LRV Lift Managed by: DECM

Scope: Design, procure and install a second lift in the Link Operations and Maintenance Facility (OMF). The installation of a second lift in support of operations is required to accommodate scheduled and unscheduled light rail vehicle (LRV) maintenance needs and capacity.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|-----|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | N/A |
| Baseline: | \$4,898 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$4,898 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$4,898 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|------|------|------|------|------|--------|-------|
| North King | 564 | 3,615 | 0 | 0 | 0 | 0 | 0 | 0 | 4,179 |
| South King | 97 | 622 | 0 | 0 | 0 | 0 | 0 | 0 | 719 |
| Total | 661 | 4,237 | 0 | 0 | 0 | 0 | 0 | 0 | 4,898 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 237 | 162 | 0 | 0 | 0 | 0 | 0 | 0 | 399 |
| 20-Prelim Engineering/Env Review | 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 200 |
| 30-Final Design+Specifications | 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 200 |
| 50-Construction | 24 | 3,812 | 0 | 0 | 0 | 0 | 0 | 0 | 3,836 |
| 55-Construction Services | 0 | 263 | 0 | 0 | 0 | 0 | 0 | 0 | 263 |
| Total | 661 | 4,237 | 0 | 0 | 0 | 0 | 0 | 0 | 4,898 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|------------------------|--------------------------|------|
| Estimate Type: | Conceptual Engineering | Schedule Risk Level: | High |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|--|
| Constructability of project, given the constraints of having to install the lift in an on-going working environment, creates challenges in both schedule and cost. |

| | | |
|---------------|---|-------------------------------|
| 700736 | Union Station Garden Level Remodel | Managed by: Operations |
|---------------|---|-------------------------------|

Scope: Renovate Union Station's Garden Level: convert cubicle space from 8X8 to 6X8 configuration, add 7 enclosed offices, relocate 3 offices, create a new mailroom, install new carpet, purchase and install 132 cubicles, and install new data cabling to support additional staff and consultants.

Change in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOY dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: N/A | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$1,383 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$1,383 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|------|------|------|------|------|--------|-------|
| Systemwide | 302 | 1,082 | 0 | 0 | 0 | 0 | 0 | 0 | 1,383 |
| Total | 302 | 1,082 | 0 | 0 | 0 | 0 | 0 | 0 | 1,383 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|-------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 30-Final Design+Specifications | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 |
| 50-Construction | 278 | 1,082 | 0 | 0 | 0 | 0 | 0 | 0 | 1,360 |
| Total | 302 | 1,082 | 0 | 0 | 0 | 0 | 0 | 0 | 1,383 |

| Budget Risk Assessment | Schedule Risk Assessment |
|--|---|
| Estimate Type: Planning | Schedule Risk Level: Low |
| Budget Risk Level: Medium | 2016 Budget Schedule: 2016 |
| | 2017 Budget Schedule: 2017 |

| Project Risk Assessment |
|---|
| In any remodel project the risk of scope creep for unknown conditions exists. |

| | | |
|---------------|---------------------------------------|-------------------------------|
| 700784 | Regional Parking Pilot Project | Managed by: Operations |
|---------------|---------------------------------------|-------------------------------|

Scope: Conduct test and evaluate parking management strategies under the system implementation of customer parking permits to include: vanpool customer parking, community outreach activities and real time parking availability monitoring.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: N/A | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$475 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$475 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| Systemwide | 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 475 |
| Total | 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 475 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 20-Prelim Engineering/Env Review | 202 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 202 |
| 50-Construction | 273 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 273 |
| Total | 475 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 475 |

| Budget Risk Assessment | Schedule Risk Assessment |
|-------------------------|----------------------------|
| Estimate Type: Planning | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: 2016 |
| | 2017 Budget Schedule: 2016 |

| Project Risk Assessment |
|-------------------------|
| N/A |

| | | |
|---------------|-----------------------------|-------------------------------|
| 700793 | Signage Improvements | Managed by: Operations |
|---------------|-----------------------------|-------------------------------|

Scope: Sound Transit is modifying and updating signage at existing Link and Sounder stations and ticket vending machine (TVM) locations to improve wayfinding and reflect system expansion. Work includes design, fabrication, and installation of new signage elements.

TVM Signage Reface work was completed in 2016.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: N/A | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$931 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$931 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| Snohomish | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| North King | 94 | 351 | 0 | 0 | 0 | 0 | 0 | 0 | 445 |
| South King | 101 | 377 | 0 | 0 | 0 | 0 | 0 | 0 | 478 |
| East King | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Pierce | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Total | 197 | 735 | 0 | 0 | 0 | 0 | 0 | 0 | 931 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 54 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 76 |
| 30-Final Design+Specifications | 94 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 94 |
| 50-Construction | 16 | 712 | 0 | 0 | 0 | 0 | 0 | 0 | 728 |
| 55-Construction Services | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 |
| Total | 197 | 735 | 0 | 0 | 0 | 0 | 0 | 0 | 931 |

| Budget Risk Assessment | Schedule Risk Assessment |
|------------------------|----------------------------|
| Estimate Type: Scoping | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: 2016 |
| | 2017 Budget Schedule: 2017 |

| Project Risk Assessment |
|-------------------------|
| N/A |

700798

Link Remote Switch Heaters

Managed by: Operations

Scope: Install remote switch heaters at Rainier Beach Station and Stadium Station interlockings to enhance the capabilities of providing all-weather service.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$200 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$200 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 16 | 184 | 0 | 0 | 0 | 0 | 0 | 0 | 200 |
| Total | 16 | 184 | 0 | 0 | 0 | 0 | 0 | 0 | 200 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 14 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 33 |
| 20-Prelim Engineering/Env Review | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 50-Construction | 0 | 165 | 0 | 0 | 0 | 0 | 0 | 0 | 165 |
| Total | 16 | 184 | 0 | 0 | 0 | 0 | 0 | 0 | 200 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|------------------|--------------------------|------|
| Estimate Type: | Initial Estimate | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|--|
| Remote switch heaters will be installed by Sound Transit maintenance staff. Risk of other work receiving the resource allocations resulting in delays to the project schedule. |

300011

Positive Train Control

Managed by: DECM

Scope: Integrate command, control, communications, and information systems for controlling passenger train movements with safety, security, precision, and efficiency. These systems will improve railroad safety by significantly reducing the probability of collisions between trains, casualties to railway workers and damage to their equipment, and over speed accidents. Federal regulations had previously mandated that PTC be operational on all passenger rail systems by the end of December 2015, but this was recently extended by three years. The project was originally scheduled to be completed in 2015, however due to third party delays, it will now likely complete in third quarter of 2017. Budget displayed in 2019 is considered surplus at this time.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOY dollars) | |
|---|---------------------------|
| Phase Gate Passed: | 6-Proceed to Construction |
| Baseline: | \$53,054 |
| 2016 TIP: | \$53,054 |
| 2017 TIP: | \$53,054 |

| ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|--|-----|
| 2008 Cost Estimate: | N/A |
| 2016 Cost Estimate: | N/A |
| 2017 Cost Estimate: | N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------|---------------|--------------|----------|--------------|----------|----------|----------|----------|---------------|
| Snohomish | 2,668 | 568 | 0 | 531 | 0 | 0 | 0 | 0 | 3,767 |
| South King | 1,653 | 352 | 0 | 329 | 0 | 0 | 0 | 0 | 2,334 |
| Pierce | 33,257 | 7,081 | 0 | 6,614 | 0 | 0 | 0 | 0 | 46,953 |
| Total | 37,579 | 8,002 | 0 | 7,474 | 0 | 0 | 0 | 0 | 53,054 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|---------------|--------------|----------|--------------|----------|----------|----------|----------|---------------|
| 10-Agency Administration | 1,357 | 150 | 0 | 731 | 0 | 0 | 0 | 0 | 2,238 |
| 30-Final Design+Specifications | 226 | 0 | 0 | 52 | 0 | 0 | 0 | 0 | 279 |
| 35-Third Party | 2,510 | 1,390 | 0 | 367 | 0 | 0 | 0 | 0 | 4,267 |
| 50-Construction | 32,609 | 4,937 | 0 | 1,449 | 0 | 0 | 0 | 0 | 38,995 |
| 55-Construction Services | 791 | 120 | 0 | 3,151 | 0 | 0 | 0 | 0 | 4,062 |
| 80-System Testing+Startup | 86 | 1,404 | 0 | 0 | 0 | 0 | 0 | 0 | 1,490 |
| 90-Contingency | 0 | 0 | 0 | 1,725 | 0 | 0 | 0 | 0 | 1,725 |
| Total | 37,579 | 8,002 | 0 | 7,474 | 0 | 0 | 0 | 0 | 53,054 |

| Budget Risk Assessment | |
|------------------------|--------------|
| Estimate Type: | Construction |
| Budget Risk Level: | Low |

| Schedule Risk Assessment | |
|--------------------------|--------|
| Schedule Risk Level: | Medium |
| 2016 Budget Schedule: | 2016 |
| 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|---|
| Limited availability of contractor technical staff and high demand for their services. Availability of Federal Railroad Administration staff for final certification. |

4X210

LRV On Board Energy Storage

Managed by: DECM

Scope: Design, procure, and install energy storage units on up to five light rail vehicles to capture and store energy generated by vehicle braking for reuse to improve vehicle operational efficiencies, lower energy consumption, and reduce operating costs. The project is partially funded by a Transit Investment for Greenhouse Gas and Energy Reduction (TIGGER) grant awarded to Sound Transit in 2011.

Work was completed in June 2014, and contract warranty support closed out in 2016. Project close-out is expected in 2017. Budget cash flow in 2018 reflects projected surplus budget.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------------------------|--|-----|
| Phase Gate Passed: | 6-Proceed to Construction | 2008 Cost Estimate: | N/A |
| Baseline: | \$1,643 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$1,643 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$1,643 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 1,580 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 1,643 |
| Total | 1,580 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 1,643 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 7 | 0 | 53 | 0 | 0 | 0 | 0 | 0 | 60 |
| 30-Final Design+Specifications | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 10 |
| 70-Vehicles | 1,573 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,573 |
| Total | 1,580 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 1,643 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|-------------------------|
| N/A |

| | | |
|--------------|------------------------|-------------------------|
| 4X340 | Noise Abatement | Managed by: DECM |
|--------------|------------------------|-------------------------|

Scope: Design and construct a noise wall along the Link elevated guideway in Tukwila. Funding for the completion of the Residential Sound Insulation Program (RSIP) for residences impacted by noise from operations of Central Link in the Rainier Valley is included in this project.

Construction of the noise wall was completed in 2013. Environmental testing is expected to complete in 2017, with project close-out anticipated in 2018. Budget cash flow in 2018 reflects projected surplus budget.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: 6-Proceed to Construction | |
| Baseline: \$13,000 | 2008 Cost Estimate: N/A |
| 2016 TIP: \$13,000 | 2016 Cost Estimate: N/A |
| 2017 TIP: \$13,000 | 2017 Cost Estimate: N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|-------|------|------|------|------|--------|--------|
| North King | 6,145 | 89 | 2,643 | 0 | 0 | 0 | 0 | 0 | 8,876 |
| South King | 2,855 | 41 | 1,228 | 0 | 0 | 0 | 0 | 0 | 4,124 |
| Total | 8,999 | 130 | 3,871 | 0 | 0 | 0 | 0 | 0 | 13,000 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|-------|------|------|------|------|--------|--------|
| 10-Agency Administration | 1,024 | 5 | 171 | 0 | 0 | 0 | 0 | 0 | 1,200 |
| 30-Final Design+Specifications | 5 | 0 | 55 | 0 | 0 | 0 | 0 | 0 | 60 |
| 40-Row Acquisition+Permits | 21 | 25 | 54 | 0 | 0 | 0 | 0 | 0 | 100 |
| 50-Construction | 5,861 | 100 | 2,489 | 0 | 0 | 0 | 0 | 0 | 8,450 |
| 55-Construction Services | 2,088 | 0 | 1,102 | 0 | 0 | 0 | 0 | 0 | 3,190 |
| Total | 8,999 | 130 | 3,871 | 0 | 0 | 0 | 0 | 0 | 13,000 |

| Budget Risk Assessment | Schedule Risk Assessment |
|-----------------------------|----------------------------|
| Estimate Type: Construction | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: 2016 |
| | 2017 Budget Schedule: 2017 |

| Project Risk Assessment |
|-------------------------|
| N/A |

| | | |
|---------------|------------------------------------|------------------------|
| 600029 | Tacoma Link Fare Collection | Managed by: FIT |
|---------------|------------------------------------|------------------------|

Scope: Install and commission eight ticket vending machines at Tacoma Link stations, establish a spare parts inventory, set up fare collection and fare enforcement support, and conduct public outreach. No planned budgeted activity until 2022.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: N/A | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$514 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$514 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|------|------|------|------|------|------|--------|-------|
| Pierce | 64 | 0 | 0 | 0 | 0 | 0 | 382 | 67 | 514 |
| Total | 64 | 0 | 0 | 0 | 0 | 0 | 382 | 67 | 514 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------------|--------------|------|------|------|------|------|------|--------|-------|
| 50-Construction | 64 | 0 | 0 | 0 | 0 | 0 | 382 | 0 | 447 |
| 90-Contingency | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 67 |
| Total | 64 | 0 | 0 | 0 | 0 | 0 | 382 | 67 | 514 |

| Budget Risk Assessment | Schedule Risk Assessment |
|--|--|
| Estimate Type: Initial Estimate | Schedule Risk Level: Medium |
| Budget Risk Level: Low | 2016 Budget Schedule: 2016 |
| | 2017 Budget Schedule: 2022 |

Project Risk Assessment

Key project risks include a further deferment of implementation. Additionally, fare system contractor timelines for software development and ability to reach intergovernmental agreements for fare enforcement may cause a delay once implementation is approved.

700774 **Central Link HVAC - Instrument House and UPS Room** **Managed by: DECM**

Scope: Install HVAC system in the uninterruptible power supply (UPS) rooms and signal houses. This project consists of installing AC units in ten instrument houses along the Central Link corridor. AC units are needed to keep equipment inside the bungalows from overheating during periods of hot weather. This project is necessary to ensure the continued integrity of the signal equipment throughout the system. This is the current design standard for Link light rail.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOY dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$1,232 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$1,232 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 766 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 824 |
| South King | 379 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 408 |
| Total | 1,146 | 86 | 0 | 0 | 0 | 0 | 0 | 0 | 1,232 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 434 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 450 |
| 30-Final Design+Specifications | 129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 129 |
| 40-Row Acquisition+Permits | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32 |
| 50-Construction | 551 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 621 |
| Total | 1,146 | 86 | 0 | 0 | 0 | 0 | 0 | 0 | 1,232 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|--|
| Project delays associated with small right-of-way needs to allow for the proper installation of equipment. |

7X753 **Bike Locker Program** **Managed by: DECM**

Scope: Install new bicycle parking at various Sounder commuter rail, ST Express bus, and Link light rail stations. In addition, project-funded design and construction of a bicycle plaza adjacent to the light rail Columbia City station. In King County, Sound Transit will add bicycle parking spaces at six light rail and commuter rail stations (Tukwila Station, Kent Station, Auburn Station, Columbia City Station, Othello Station, and Rainier Beach Station). In Pierce County, Sound Transit will expand secured bicycle parking at Puyallup and Sumner Stations. The project will also add benches, lighting, signage, and other pedestrian and bicycle amenities at the commuter rail stations.

Anticipated completion of this project is 2016.

Changes in project budget since 2015: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$1,355 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$1,355 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| Snohomish | 39 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 41 |
| North King | 648 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 668 |
| South King | 364 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 375 |
| East King | 20 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| Pierce | 243 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 251 |
| Total | 1,315 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 1,355 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 343 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 383 |
| 30-Final Design+Specifications | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 98 |
| 40-Row Acquisition+Permits | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 |
| 50-Construction | 861 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 861 |
| Total | 1,315 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 1,355 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|-------------------------|
| N/A |

| | | |
|---------------|------------------------------|-------------------------------|
| 700706 | OMF Energy Efficiency | Managed by: Operations |
|---------------|------------------------------|-------------------------------|

Scope: Replace existing Operations and Maintenance Facility (OMF) shop bay lighting (metal halide) with LED fixtures and replace the Direct Digital Control (DDC) controls on the HVAC system to allow integration with Union Station controls to increase energy efficiency and reduce operating costs.

Changes in project budget since 2016: \$1.1 million for new project.

| Board Approved Capital Budget (in thousands of YOY dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|--|---|
| Phase Gate Passed: N/A | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$0 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$1,098 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|------|------|------|------|------|--------|-------|
| North King | 0 | 696 | 25 | 12 | 0 | 0 | 0 | 0 | 733 |
| South King | 0 | 346 | 13 | 6 | 0 | 0 | 0 | 0 | 365 |
| Total | 0 | 1,042 | 38 | 18 | 0 | 0 | 0 | 0 | 1,098 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|-------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 0 | 10 | 33 | 0 | 0 | 0 | 0 | 0 | 43 |
| 30-Final Design+Specifications | 0 | 227 | 5 | 18 | 0 | 0 | 0 | 0 | 250 |
| 50-Construction | 0 | 805 | 0 | 0 | 0 | 0 | 0 | 0 | 805 |
| Total | 0 | 1,042 | 38 | 18 | 0 | 0 | 0 | 0 | 1,098 |

| Budget Risk Assessment | Schedule Risk Assessment |
|---------------------------------|---------------------------------|
| Estimate Type: Initial Estimate | Schedule Risk Level: Medium |
| Budget Risk Level: Low | 2016 Budget Schedule: |
| | 2017 Budget Schedule: 2019 |

| Project Risk Assessment |
|---|
| Work will need to be coordinated with Link Operations to avoid impacts to light rail vehicle maintenance. |

700707

Bellevue TC Security System

Managed by: Operations

Scope: Procure and install security systems in the Bellevue Transit Center.

Changes in project budget since 2016: \$150 thousand for new project.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$0 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$150 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------|--------------|------|------|------|------|------|------|--------|-------|
| East King | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 150 |
| Total | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 150 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------------|--------------|------|------|------|------|------|------|--------|-------|
| 50-Construction | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 150 |
| Total | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 150 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|------------------|--------------------------|------|
| Estimate Type: | Initial Estimate | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | |
| | | 2017 Budget Schedule: | 2017 |

Project Risk Assessment

The risk of budget or schedule changes is minimal given the scope of the project.

| | | |
|---------------|------------------------------------|-------------------------------|
| 700708 | Customer Emergency Stations | Managed by: Operations |
|---------------|------------------------------------|-------------------------------|

Scope: Installation of customer emergency stations at the Kent and Auburn parking garages.

Changes to project budget since 2016: \$800 thousand for new project.

| Board Approved Capital Budget (in thousands of YOY dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: | |
| Baseline: \$0 | 2008 Cost Estimate: N/A |
| 2016 TIP: \$0 | 2016 Cost Estimate: N/A |
| 2017 TIP: \$800 | 2017 Cost Estimate: N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| South King | 0 | 300 | 500 | 0 | 0 | 0 | 0 | 0 | 800 |
| Total | 0 | 300 | 500 | 0 | 0 | 0 | 0 | 0 | 800 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------------|--------------|------|------|------|------|------|------|--------|-------|
| 50-Construction | 0 | 300 | 500 | 0 | 0 | 0 | 0 | 0 | 800 |
| Total | 0 | 300 | 500 | 0 | 0 | 0 | 0 | 0 | 800 |

| Budget Risk Assessment | Schedule Risk Assessment |
|-------------------------|----------------------------|
| Estimate Type: Planning | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: |
| | 2017 Budget Schedule: 2018 |

Project Risk Assessment

However slight, when installing this many stations (4 per floor) unexpected site conditions may result in schedule or budget changes.

| | | |
|---------------|-----------------------------------|-------------------------------|
| 700710 | Locomotive Inboard Cameras | Managed by: Operations |
|---------------|-----------------------------------|-------------------------------|

New FRA rule that requires inboard facing cameras to monitor the actions of the engineers in handling a train. This project is for a total of 41 pieces of equipment.

Changes in project budget since 2016: \$300 thousand new project.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: N/A | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$0 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$300 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| Snohomish | 0 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 44 |
| South King | 0 | 143 | 0 | 0 | 0 | 0 | 0 | 0 | 143 |
| Pierce | 0 | 114 | 0 | 0 | 0 | 0 | 0 | 0 | 114 |
| Total | 0 | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 300 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 30 |
| 30-Final Design+Specifications | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 30 |
| 50-Construction | 0 | 240 | 0 | 0 | 0 | 0 | 0 | 0 | 240 |
| Total | 0 | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 300 |

| Budget Risk Assessment | Schedule Risk Assessment |
|-----------------------------|----------------------------|
| Estimate Type: Construction | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: |
| | 2017 Budget Schedule: 2018 |

| Project Risk Assessment |
|-------------------------|
| |

700711 SCR Passenger Emergency Intercom Managed by: Operations

New FRA rule requires passengers to be able to speak directly with a train crew member. The new Bombardier Cab Cars are coming with a system to meet this new rule. However, this system will only allow passengers to talk directly with the engineer, not the conductor. There is an "Emergency Order" put out by the FRA that prohibits an engineer from being disturbed by a cell phone. This project upgrades this system which will require an upgrade on all cars with a Passenger Emergency Intercom (PEI) system that will enable passengers to speak directly to the conductor instead of the engineer so as not to allow passengers to disturb the engineer.

Changes in project budget since 2016: \$1.5 million new project.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$0 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$1,500 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| Snohomish | 0 | 110 | 110 | 0 | 0 | 0 | 0 | 0 | 219 |
| South King | 0 | 356 | 356 | 0 | 0 | 0 | 0 | 0 | 713 |
| Pierce | 0 | 284 | 284 | 0 | 0 | 0 | 0 | 0 | 569 |
| Total | 0 | 750 | 750 | 0 | 0 | 0 | 0 | 0 | 1,500 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 150 |
| 30-Final Design+Specifications | 0 | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 300 |
| 50-Construction | 0 | 300 | 750 | 0 | 0 | 0 | 0 | 0 | 1,050 |
| Total | 0 | 750 | 750 | 0 | 0 | 0 | 0 | 0 | 1,500 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | |
| | | 2017 Budget Schedule: | 2019 |

| Project Risk Assessment |
|-------------------------|
| |

| | | |
|---------------|--------------------------------|-------------------------------|
| 700712 | LRV Wheel Flat Software | Managed by: Operations |
|---------------|--------------------------------|-------------------------------|

Scope: Based on agreements with the University of Washington (UW), Link light rail trains operating in the vicinity of the University must remain within agreed-upon vibrational criteria. To enable vehicle maintenance staff to more accurately and efficiently identify and remedy sources of vibration in light rail vehicles (LRVs), an additional axle identifier (transponder) software module that will interface with the existing LRV wheel flat detection system will be purchased and installed, including selection of a contractor experienced with the software to oversee its installation.

Changes in project budget since 2016: \$250 thousand for new project.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: None | |
| Baseline: \$0 | 2008 Cost Estimate: N/A |
| 2016 TIP: \$0 | 2016 Cost Estimate: N/A |
| 2017 TIP: \$250 | 2017 Cost Estimate: N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 0 | 167 | 0 | 0 | 0 | 0 | 0 | 0 | 167 |
| South King | 0 | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 83 |
| Total | 0 | 250 | 0 | 0 | 0 | 0 | 0 | 0 | 250 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| 30-Final Design+Specifications | 0 | 150 | 0 | 0 | 0 | 0 | 0 | 0 | 150 |
| 50-Construction | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| Total | 0 | 250 | 0 | 0 | 0 | 0 | 0 | 0 | 250 |

| Budget Risk Assessment | Schedule Risk Assessment |
|--|---|
| Estimate Type: Initial Estimate | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: |
| | 2017 Budget Schedule: 2017 |

| Project Risk Assessment |
|--|
| Careful planning is required so that installation does not impact daily train maintenance operations at the Operations and Maintenance Facility. |

| | | |
|---------------|-----------------------------------|-------------------------------|
| 700713 | LRV Wash Bay Modifications | Managed by: Operations |
|---------------|-----------------------------------|-------------------------------|

Scope: Modify the Link light rail vehicle (LRV) car wash system at the Operations and Maintenance Facility (OMF), including upgrades to electrical and mechanical equipment, to provide automatic LRV forehead cleaning and eliminate manual washing.

Changes in project budget since 2016: \$300 thousand for new project.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: N/A | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$0 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$300 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 0 | 200 | 0 | 0 | 0 | 0 | 0 | 0 | 200 |
| South King | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Total | 0 | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 300 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 25 |
| 30-Final Design+Specifications | 0 | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 75 |
| 50-Construction | 0 | 200 | 0 | 0 | 0 | 0 | 0 | 0 | 200 |
| Total | 0 | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 300 |

| Budget Risk Assessment | Schedule Risk Assessment |
|---------------------------------|----------------------------|
| Estimate Type: Initial Estimate | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: |
| | 2017 Budget Schedule: 2017 |

| Project Risk Assessment |
|---|
| Reduction in availability of the LRV wash system while modifications are installed. |

| | | |
|---------------|--------------------------------------|-------------------------------|
| 700724 | Puyallup Station LED Lighting | Managed by: Operations |
|---------------|--------------------------------------|-------------------------------|

Scope: Install energy efficient lighting at Puyallup Station. Work will result in receiving a utility incentive based upon the energy reduction achieved and will reduce energy consumption on a ongoing basis.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|--|---|
| Phase Gate Passed: N/A | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$178 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$178 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|------|------|------|------|------|------|--------|-------|
| Pierce | 178 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 178 |
| Total | 178 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 178 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------------|--------------|------|------|------|------|------|------|--------|-------|
| 50-Construction | 178 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 178 |
| Total | 178 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 178 |

| Budget Risk Assessment | Schedule Risk Assessment |
|-------------------------------|---------------------------------|
| Estimate Type: Construction | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: 2016 |
| | 2017 Budget Schedule: 2016 |

| Project Risk Assessment |
|--|
| Risk is minimal for a straight procurement |

700725 **Sumner Station LED Lighting** **Managed by: Operations**

Scope: Install energy efficient lighting at Sumner Station. Work will result in receiving a utility incentive based upon the energy reduction achieved and will reduce energy consumption on a ongoing basis.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOY dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$134 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$134 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|------|------|------|------|------|------|--------|-------|
| Pierce | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 134 |
| Total | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 134 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------------|--------------|------|------|------|------|------|------|--------|-------|
| 50-Construction | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 134 |
| Total | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 134 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|---|
| Risk is minimal for a straight procurement. |

| | | |
|---------------|---------------------------------------|-------------------------------|
| 700726 | Kent Station Platform Lighting | Managed by: Operations |
|---------------|---------------------------------------|-------------------------------|

Scope: Install energy efficient lighting at Kent Station. In late 2012 lighting was upgraded in the Kent Garage, this project will extend the upgrades to the platform, surface lots, pedestrian bridge, and bus loop areas. Work will result in receiving a utility incentive based upon the energy reduction achieved and will reduce energy consumption on an ongoing basis.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOY dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$236 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$236 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| South King | 236 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 |
| Total | 236 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------------|--------------|------|------|------|------|------|------|--------|-------|
| 50-Construction | 236 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 |
| Total | 236 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

| Project Risk Assessment |
|---|
| Risk is minimal for a straight procurement. |

| | | |
|---------------|--|-------------------------------|
| 700727 | Kent Station Parking Lot Paving | Managed by: Operations |
|---------------|--|-------------------------------|

Scope: Design and install paved and landscaped commuter parking to an additional 36 standard spaces, 1 compact space and 2 Americans with Disabilities Act (ADA) spaces.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOY dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|--|---|
| Phase Gate Passed: N/A | |
| Baseline: \$0 | 2008 Cost Estimate: N/A |
| 2016 TIP: \$700 | 2016 Cost Estimate: N/A |
| 2017 TIP: \$700 | 2017 Cost Estimate: N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| South King | 65 | 635 | 0 | 0 | 0 | 0 | 0 | 0 | 700 |
| Total | 65 | 635 | 0 | 0 | 0 | 0 | 0 | 0 | 700 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-Prelim Engineering/Env Review | 65 | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 140 |
| 50-Construction | 0 | 560 | 0 | 0 | 0 | 0 | 0 | 0 | 560 |
| Total | 65 | 635 | 0 | 0 | 0 | 0 | 0 | 0 | 700 |

| Budget Risk Assessment | Schedule Risk Assessment |
|-------------------------------|---------------------------------|
| Estimate Type: Construction | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: 2016 |
| | 2017 Budget Schedule: 2016 |

| Project Risk Assessment |
|---|
| The risk of a changing scope could effect the ultimate budget as requirements may change. |

| | | |
|---------------|-----------------------------------|-------------------------------|
| 700733 | OMF LRV Wash Heater System | Managed by: Operations |
|---------------|-----------------------------------|-------------------------------|

Scope: Install a heating system within the OMF LRV washbay facility that includes overhead radiant heaters, water line heat tracing, and a small unit heater. The installation of the system will allow for all-weather operation and reduce the risk to operators of working in icy conditions when weather is below freezing.

Changes to project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: 1-Enter Project Development | |
| Baseline: \$0 | 2008 Cost Estimate: N/A |
| 2016 TIP: \$300 | 2016 Cost Estimate: N/A |
| 2017 TIP: \$300 | 2017 Cost Estimate: N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 201 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 201 |
| South King | 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 99 |
| Total | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 300 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 135 |
| 50-Construction | 165 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 165 |
| Total | 300 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 300 |

| Budget Risk Assessment | Schedule Risk Assessment |
|---------------------------------|----------------------------|
| Estimate Type: Initial Estimate | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: 2016 |
| | 2017 Budget Schedule: 2016 |

| Project Risk Assessment |
|---|
| Modifications to existing systems pose potential compatibility issues potentially putting schedule and budget at risk however slight. |

700775 **Central Link Card Readers** **Managed by: DECM**

Scope: Install card readers on all doors at Central Link stations' public areas. Card readers are required to ensure secure premises, eliminate the need to issue keys to a large number of staff and ensure consistency in key control.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$423 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$423 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 85 | 197 | 0 | 0 | 0 | 0 | 0 | 0 | 283 |
| South King | 42 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 140 |
| Total | 128 | 295 | 0 | 0 | 0 | 0 | 0 | 0 | 423 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 54 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 75 |
| 30-Final Design+Specifications | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| 50-Construction | 74 | 175 | 0 | 0 | 0 | 0 | 0 | 0 | 249 |
| 55-Construction Services | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 25 |
| 90-Contingency | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 25 |
| Total | 128 | 295 | 0 | 0 | 0 | 0 | 0 | 0 | 423 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|---|
| The readers will be installed at multiple locations providing a slight risk to schedule and budget. |

700777 Central Link Overhead Catenary System Tie Switch Managed by: Operations

Scope: Install the mechanical means to electrically bridge the Overhead Catenary System (OCS) section insulators at approximately 34 various locations throughout the Link alignment to allow inspection and maintenance of traction power substations without interrupting Link service.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$3,000 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$3,000 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|------|------|------|------|------|--------|-------|
| North King | 104 | 1,903 | 0 | 0 | 0 | 0 | 0 | 0 | 2,007 |
| South King | 51 | 942 | 0 | 0 | 0 | 0 | 0 | 0 | 993 |
| Total | 155 | 2,845 | 0 | 0 | 0 | 0 | 0 | 0 | 3,000 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|--------------|-------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-Construction | 155 | 2,845 | 0 | 0 | 0 | 0 | 0 | 0 | 3,000 |
| Total | 155 | 2,845 | 0 | 0 | 0 | 0 | 0 | 0 | 3,000 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|---------|--------------------------|--------|
| Estimate Type: | Scoping | Schedule Risk Level: | Medium |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|---|
| Project is intended to be completed by Link Maintenance staff. There is a risk to schedule when competing projects use limited resources initially allocated to this project. |

| | | |
|---------------|-------------------------------------|-------------------------------|
| 700781 | Non-revenue Support Vehicles | Managed by: Operations |
|---------------|-------------------------------------|-------------------------------|

Scope: Purchase and replace maintenance vehicles to improve maintenance efficiencies for the Link light rail system.

Changes in lifetime budget since 2015: None

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: N/A | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$2,130 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$2,130 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 849 | 210 | 170 | 148 | 39 | 0 | 0 | 0 | 1,416 |
| South King | 428 | 106 | 86 | 75 | 20 | 0 | 0 | 0 | 713 |
| Total | 1,276 | 316 | 256 | 223 | 58 | 0 | 0 | 0 | 2,130 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-------------|--------------|------|------|------|------|------|------|--------|-------|
| 70-Vehicles | 1,276 | 316 | 256 | 223 | 58 | 0 | 0 | 0 | 2,130 |
| Total | 1,276 | 316 | 256 | 223 | 58 | 0 | 0 | 0 | 2,130 |

| Budget Risk Assessment | Schedule Risk Assessment |
|-------------------------|----------------------------|
| Estimate Type: Planning | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: 2019 |
| | 2017 Budget Schedule: 2019 |

| Project Risk Assessment |
|-------------------------|
| N/A |

804100 **Transit-Oriented Development Property Disposition** **Managed by: PEPD**

Scope: Provide planning and technical assistance to local jurisdictions and Sound Transit project teams to help identify and shape transit oriented development and joint development opportunities. Dispose of properties that have been declared surplus and are suitable for transit oriented development based on size and proximity to ST transit services.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOY dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$11,615 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$11,615 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|-------|-------|-------|------|------|--------|--------|
| North King | 3,613 | 2,758 | 2,130 | 1,480 | 1,050 | 584 | 0 | 0 | 11,615 |
| Total | 3,613 | 2,758 | 2,130 | 1,480 | 1,050 | 584 | 0 | 0 | 11,615 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------|--------------|-------|-------|-------|-------|------|------|--------|--------|
| 10-Agency Administration | 731 | 530 | 430 | 300 | 200 | 135 | 0 | 0 | 2,326 |
| 40-Row Acquisition+Permits | 2,880 | 1,715 | 1,500 | 1,100 | 800 | 449 | 0 | 0 | 8,444 |
| 50-Construction | 2 | 513 | 200 | 80 | 50 | 0 | 0 | 0 | 845 |
| Total | 3,613 | 2,758 | 2,130 | 1,480 | 1,050 | 584 | 0 | 0 | 11,615 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|------|
| Estimate Type: | Planning | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2023 |
| | | 2017 Budget Schedule: | 2023 |

| Project Risk Assessment |
|-------------------------|
| N/A |

Rehabilitation & Replacement

Rehabilitation & Replacement projects extend the life of existing system assets and replace those at the end of their useful life. As the transit system ages, investment in maintaining our assets in a state of good repair will rise.

2017 Rehabilitation & Replacement Project Highlights

- Replace the bus loops at the Tukwila International Blvd Station and the Auburn Station.
- Upgrade and replace the hardware and software backbone of Sound Transit legacy information technology systems.
- Overhaul three Sounder locomotives to maintain them in good repair and meet higher emissions standards.
- Rehabilitate 11 Sounder HEP (Power) Controllers which provide wayside power to locomotives reducing locomotive idling time and fuel consumption.
- Begin the process of refurbishing 58 passenger doors on Sounder passenger cars which have begun to fail due to repeated use.
- Perform bridge repairs to two bridge segments supporting the Link system.

BUDGET CHANGES

(in thousands)

Rehabilitation And Replacement

| Project | Reason | Budget Type | Explanation | Change |
|---------------------------------------|---------------|-------------|---|---------|
| LINK | | | | |
| Link Bridge Repairs | New Project | Operating | Repairs to bridge structures within the Link light rail alignment are required to correct areas of deterioration that have developed over time. | \$550 |
| Link CCTV System Upgrade | Cost Increase | Operating | Additional scope added to project. | \$2,154 |
| Link Radio Upgrade | New Project | Operating | Upgrade Distributed Antenna System in support of Link tunnel operations. | \$1,000 |
| SOUNDER | | | | |
| Sounder Vehicle Overhaul Program | Cost Increase | Program | To add HEP Controllers Overhaul (\$550k) and Passenger Car Door Rehabilitation (\$250k). | \$800 |
| Station Midlife Refurbishment Program | Cost Increase | Program | Additional budget required to rehabilitate the TIBS bus loop. | \$245 |
| OTHER | | | | |
| Small Works Program | Cost Increase | Program | Extend the program another year and added budget based on work identified for 2017. | \$3,366 |

2017 TIP Cashflow by Budget Approval

(in thousands)

Rehabilitation and Replacement

ALL MODES

| Project Number and Name | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--|------------------|-----------------|-----------------|----------------|----------------|-----------------|----------------|----------------|------------------|
| Preliminary Engineering | | | | | | | | | |
| 700718 Tacoma Link Light Rail Vehicle Overhaul | 104 | 418 | 209 | 0 | 0 | 0 | 0 | 0 | 731 |
| 870100 IT Link Light Rail | 607 | 1,597 | 1,548 | 183 | 0 | 0 | 0 | 0 | 3,935 |
| Subtotal | 712 | 2,015 | 1,757 | 183 | 0 | 0 | 0 | 0 | 4,666 |
| Operating | | | | | | | | | |
| 600033 Link CCTV System Upgrade | 700 | 2,154 | 0 | 0 | 0 | 0 | 0 | 0 | 2,854 |
| 700704 Link Radio Upgrade | 0 | 1,000 | 0 | 0 | 0 | 0 | 0 | 0 | 1,000 |
| 700705 Link Bridge Repairs | 0 | 550 | 0 | 0 | 0 | 0 | 0 | 0 | 550 |
| 700728 Link Station Braided Tile Replacement | 0 | 435 | 0 | 0 | 0 | 0 | 0 | 0 | 435 |
| 700769 LRV Overhaul | 5,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5,000 |
| 7X356 Tacoma Dome Station | 0 | 414 | 0 | 0 | 0 | 0 | 0 | 0 | 414 |
| Subtotal | 5,700 | 4,552 | 0 | 0 | 0 | 0 | 0 | 0 | 10,252 |
| Program | | | | | | | | | |
| 700770 Sounder Vehicle Overhaul Program | 15,816 | 6,652 | 2,634 | 0 | 0 | 0 | 0 | 0 | 25,101 |
| 700771 Station Midlife Refurbishment Program | 1,155 | 540 | 0 | 0 | 0 | 0 | 0 | 0 | 1,695 |
| 7X701 ST Express Fleet Replacement | 119,463 | 25 | 50,669 | 0 | 0 | 19,111 | 0 | 0 | 189,269 |
| 7X740 Small Works Program | 4,021 | 2,588 | 1,107 | 1,006 | 992 | 979 | 614 | 0 | 11,308 |
| 870101 IT Transit Systems | 295 | 355 | 305 | 550 | 343 | 840 | 486 | 2,731 | 5,905 |
| Subtotal | 140,750 | 10,160 | 54,715 | 1,556 | 1,335 | 20,931 | 1,100 | 2,731 | 233,278 |
| Total | \$147,162 | \$16,727 | \$56,471 | \$1,739 | \$1,335 | \$20,931 | \$1,100 | \$2,731 | \$248,196 |

2017 TIP Cashflow by Subarea
(in thousands)

Rehabilitation and Replacement
ALL MODES

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------|------------------|-----------------|-----------------|----------------|----------------|-----------------|----------------|----------------|------------------|
| 1 - Snohomish | 23,715 | 1,252 | 9,423 | 131 | 129 | 3,491 | 80 | 0 | 38,220 |
| 2 - North King | 4,866 | 4,665 | 1,313 | 286 | 149 | 147 | 92 | 0 | 11,518 |
| 3 - South King | 23,771 | 5,695 | 7,065 | 198 | 149 | 2,077 | 92 | 0 | 39,048 |
| 4 - East King | 55,717 | 503 | 23,518 | 191 | 188 | 8,977 | 117 | 0 | 89,212 |
| 5 - Pierce | 38,798 | 4,256 | 14,848 | 382 | 377 | 5,398 | 233 | 0 | 64,293 |
| 6 - Systemwide | 295 | 355 | 305 | 550 | 343 | 840 | 486 | 2,731 | 5,905 |
| Total | \$147,162 | \$16,727 | \$56,471 | \$1,739 | \$1,335 | \$20,931 | \$1,100 | \$2,731 | \$248,196 |

2017 TIP Cashflow by Phase
(in thousands)

| Phase # and Description | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|------------------|-----------------|-----------------|----------------|----------------|-----------------|----------------|----------------|------------------|
| 09-Admin Capital | 607 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 607 |
| 10-Agency Administration | 453 | 202 | 0 | 0 | 0 | 0 | 0 | 0 | 655 |
| 20-Prelim Engineering/Env Review | 127 | 115 | 0 | 0 | 0 | 0 | 0 | 0 | 242 |
| 30-Final Design+Specifications | 69 | 235 | 0 | 0 | 0 | 0 | 0 | 0 | 304 |
| 35-Third Party | 156 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 156 |
| 50-Construction | 9,839 | 9,081 | 2,959 | 1,739 | 1,335 | 1,819 | 1,100 | 2,731 | 30,603 |
| 70-Vehicles | 135,912 | 7,094 | 53,512 | 0 | 0 | 19,111 | 0 | 0 | 215,630 |
| Total | \$147,162 | \$16,727 | \$56,471 | \$1,739 | \$1,335 | \$20,931 | \$1,100 | \$2,731 | \$248,196 |

| | | |
|---------------|--|-------------------------------|
| 700718 | Tacoma Link Light Rail Vehicle Overhaul | Managed by: Operations |
|---------------|--|-------------------------------|

Scope: Maintain, preserve, and extend the life of Tacoma Link light rail vehicles. This program overhauls the traction motors and trucks for the Tacoma Link fleet comprised of three light rail vehicles.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: Pending | |
| Baseline: \$0 | 2008 Cost Estimate: N/A |
| 2016 TIP: \$731 | 2016 Cost Estimate: N/A |
| 2017 TIP: \$731 | 2017 Cost Estimate: N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|------|------|------|------|------|------|--------|-------|
| Pierce | 104 | 418 | 209 | 0 | 0 | 0 | 0 | 0 | 731 |
| Total | 104 | 418 | 209 | 0 | 0 | 0 | 0 | 0 | 731 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-------------|--------------|------|------|------|------|------|------|--------|-------|
| 70-Vehicles | 104 | 418 | 209 | 0 | 0 | 0 | 0 | 0 | 731 |
| Total | 104 | 418 | 209 | 0 | 0 | 0 | 0 | 0 | 731 |

| Budget Risk Assessment | Schedule Risk Assessment |
|------------------------|----------------------------|
| Estimate Type: Scoping | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: 2018 |
| | 2017 Budget Schedule: 2018 |

| Project Risk Assessment |
|-------------------------|
| N/A |

| | | |
|---------------|---------------------------|------------------------|
| 870100 | IT Link Light Rail | Managed by: FIT |
|---------------|---------------------------|------------------------|

Scope: Maintain the lifecycle maintenance of the IT infrastructure behind the Link light rail (LLR) SCADA system to mitigate equipment failure of an operationally-critical system. This project will provide for lifecycle maintenance of SCADA systems including, but not limited to, servers, SANs, networking equipment, Video Messaging Systems/backend and other computer-based infrastructure. This will also entail enhancements and maintenance for IT SCADA security.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: None | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$3,935 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$3,935 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|-------|------|------|------|------|--------|-------|
| North King | 450 | 1,183 | 1,147 | 135 | 0 | 0 | 0 | 0 | 2,915 |
| South King | 157 | 414 | 401 | 47 | 0 | 0 | 0 | 0 | 1,020 |
| Total | 607 | 1,597 | 1,548 | 183 | 0 | 0 | 0 | 0 | 3,935 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------------|--------------|-------|-------|------|------|------|------|--------|-------|
| 09-Admin Capital | 607 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 607 |
| 50-Construction | 0 | 1,597 | 1,548 | 183 | 0 | 0 | 0 | 0 | 3,328 |
| Total | 607 | 1,597 | 1,548 | 183 | 0 | 0 | 0 | 0 | 3,935 |

| Budget Risk Assessment | Schedule Risk Assessment |
|--|---|
| Estimate Type: Construction | Schedule Risk Level: Low |
| Budget Risk Level: Medium | 2016 Budget Schedule: 2023 |
| | 2017 Budget Schedule: 2023 |

| Project Risk Assessment |
|--|
| Potential for risk of increased cost as system expands and integration and support require more resources to meet system compliance standards. |

600033 **Link CCTV System Upgrade** **Managed by: Operations**

Scope: Upgrade existing Link light rail Closed-Circuit Television (CCTV) NiceVision system at 16 stations and Link Operations and Maintenance Facility (OMF). This upgrade will be compatible with the new equipment for University Link and South 200th Link extensions.

New addition to the project scope in 2017 will include replacing cameras throughout the Central Link system (not including U-Link or S-Link as they already possess updated equipment). The additional scope will upgrade analog cameras to digital formats improving resolution. The Central Link cameras are currently the oldest cameras in the CCTV system.

Changes in project budget since 2016: \$2.15 million additional scope to project.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$700 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$2,854 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|------|------|------|------|------|--------|-------|
| North King | 468 | 1,441 | 0 | 0 | 0 | 0 | 0 | 0 | 1,909 |
| South King | 232 | 713 | 0 | 0 | 0 | 0 | 0 | 0 | 945 |
| Total | 700 | 2,154 | 0 | 0 | 0 | 0 | 0 | 0 | 2,854 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|-------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| 30-Final Design+Specifications | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| 50-Construction | 700 | 2,084 | 0 | 0 | 0 | 0 | 0 | 0 | 2,784 |
| Total | 700 | 2,154 | 0 | 0 | 0 | 0 | 0 | 0 | 2,854 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|---------|--------------------------|------|
| Estimate Type: | Scoping | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2018 |

| Project Risk Assessment |
|--|
| Completion of the project in 2017 requires a Q1 2017 contract award to ensure all stations can be scheduled for installation of a large volume of cameras and integration into the agency CCTV system. |

| | | |
|---------------|---------------------------|-------------------------------|
| 700704 | Link Radio Upgrade | Managed by: Operations |
|---------------|---------------------------|-------------------------------|

Install upgraded Distributed Antenna System (DAS) in two Link tunnel systems (Downtown Seattle Transit Tunnel - DSTT and Beacon Hill Tunnel - BHT).

Changes in project budget since 2016: \$1 million new project.

| Board Approved Capital Budget (in thousands of YOE dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: | |
| Baseline: \$0 | 2008 Cost Estimate: N/A |
| 2016 TIP: \$0 | 2016 Cost Estimate: N/A |
| 2017 TIP: \$1,000 | 2017 Cost Estimate: N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|------|------|------|------|------|--------|-------|
| North King | 0 | 668 | 0 | 0 | 0 | 0 | 0 | 0 | 668 |
| South King | 0 | 332 | 0 | 0 | 0 | 0 | 0 | 0 | 332 |
| Total | 0 | 1,000 | 0 | 0 | 0 | 0 | 0 | 0 | 1,000 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 0 | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 80 |
| 20-Prelim Engineering/Env Review | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| 30-Final Design+Specifications | 0 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 120 |
| 50-Construction | 0 | 700 | 0 | 0 | 0 | 0 | 0 | 0 | 700 |
| Total | 0 | 1,000 | 0 | 0 | 0 | 0 | 0 | 0 | 1,000 |

| Budget Risk Assessment | Schedule Risk Assessment |
|-----------------------------|----------------------------|
| Estimate Type: Construction | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: |
| | 2017 Budget Schedule: 2018 |

| Project Risk Assessment |
|--|
| There is a low potential for a radio system failure during the installation of the upgraded system which would prevent Link operations in the tunnels until fixed. |

| | | |
|---------------|----------------------------|-------------------------------|
| 700705 | Link Bridge Repairs | Managed by: Operations |
|---------------|----------------------------|-------------------------------|

Scope: Repair bridge structures within the Tukwila Freeway Route (C755) and E-3 Busway (C700) segments of the Link light rail alignment to correct areas of deterioration that have developed over time as a result of weather, change of seasons and vibration caused by the operating trains.

Changes in project budget since 2016: \$550 thousand for new project.

| Board Approved Capital Budget (in thousands of YOY dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|--|---|
| Phase Gate Passed: None | |
| Baseline: \$0 | 2008 Cost Estimate: N/A |
| 2016 TIP: \$0 | 2016 Cost Estimate: N/A |
| 2017 TIP: \$550 | 2017 Cost Estimate: N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 0 | 550 | 0 | 0 | 0 | 0 | 0 | 0 | 550 |
| Total | 0 | 550 | 0 | 0 | 0 | 0 | 0 | 0 | 550 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| 30-Final Design+Specifications | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| 50-Construction | 0 | 450 | 0 | 0 | 0 | 0 | 0 | 0 | 450 |
| Total | 0 | 550 | 0 | 0 | 0 | 0 | 0 | 0 | 550 |

| Budget Risk Assessment | Schedule Risk Assessment |
|--|--|
| Estimate Type: Initial Estimate | Schedule Risk Level: Medium |
| Budget Risk Level: Medium | 2016 Budget Schedule: |
| | 2017 Budget Schedule: 2017 |

| Project Risk Assessment |
|---|
| There is a limited repair window to affect repairs without impacting light rail operations requiring effective schedule and efficient execution of repairs. |

700728

Link Station Braided Tile Replacement

Managed by: Operations

Scope: Demolition and reinstallation of braided wayfinding tile at five Link light rail stations: Stadium, Sodo, Columbia City, Othello, and Rainier Beach.

Changes in project budget since 2016 - None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$435 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$435 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 0 | 435 | 0 | 0 | 0 | 0 | 0 | 0 | 435 |
| Total | 0 | 435 | 0 | 0 | 0 | 0 | 0 | 0 | 435 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 22 |
| 50-Construction | 0 | 413 | 0 | 0 | 0 | 0 | 0 | 0 | 413 |
| Total | 0 | 435 | 0 | 0 | 0 | 0 | 0 | 0 | 435 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|------------------|--------------------------|------|
| Estimate Type: | Initial Estimate | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|-------------------------|
| N/A |

700769

LRV Overhaul

Managed by: DECM

Scope: Complete repairs of the gear units and traction motors on light rail vehicles (LRVs), and purchase materials, equipment, services, and labor necessary to complete repairs. Work is projected to be completed in 2016.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$5,000 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$5,000 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 3,345 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,345 |
| South King | 1,655 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,655 |
| Total | 5,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5,000 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-------------|--------------|------|------|------|------|------|------|--------|-------|
| 70-Vehicles | 5,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5,000 |
| Total | 5,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5,000 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|------------------|--------------------------|------|
| Estimate Type: | Initial Estimate | Schedule Risk Level: | Low |
| Budget Risk Level: | High | 2016 Budget Schedule: | 2016 |
| | | 2017 Budget Schedule: | 2016 |

Project Risk Assessment

Budget risk remains high given no agreement regarding the warranty coverage on repairs has been reached between manufacturer, supplier and Sound Transit.

| | | |
|--------------|----------------------------|-------------------------------|
| 7X356 | Tacoma Dome Station | Managed by: Operations |
|--------------|----------------------------|-------------------------------|

Scope: Provide financial support to address major maintenance requirement at Tacoma Dome Station per agreement with Pierce Transit.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOY dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: N/A | |
| Baseline: \$0 | 2008 Cost Estimate: N/A |
| 2016 TIP: \$414 | 2016 Cost Estimate: N/A |
| 2017 TIP: \$414 | 2017 Cost Estimate: N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---------|--------------|------|------|------|------|------|------|--------|-------|
| Pierce | 0 | 414 | 0 | 0 | 0 | 0 | 0 | 0 | 414 |
| Total | 0 | 414 | 0 | 0 | 0 | 0 | 0 | 0 | 414 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------------|--------------|------|------|------|------|------|------|--------|-------|
| 50-Construction | 0 | 414 | 0 | 0 | 0 | 0 | 0 | 0 | 414 |
| Total | 0 | 414 | 0 | 0 | 0 | 0 | 0 | 0 | 414 |

| Budget Risk Assessment | Schedule Risk Assessment |
|--|---|
| Estimate Type: Fixed Contribution | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: 2018 |
| | 2017 Budget Schedule: 2018 |

| Project Risk Assessment |
|-------------------------|
| |

700770

Sounder Vehicle Overhaul Program

Managed by: Operations

Scope: Maintain, preserve, and extend the life of Sounder locomotives and cab car fleet. This program overhauls 11 locomotives of the Sounder fleet while upgrading technologies and emission efficiencies, truck overhauls of cab cars and HVAC upgrades to the same.

Change in project budget since 2016: Additional work to include HEP (Head End Power) Controllers Overhaul \$550 thousand and Passenger Door Rehabilitation \$250 thousand.

| Board Approved Capital Budget (in thousands of YOY dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$24,301 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$25,101 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|-------|------|------|------|------|--------|--------|
| Snohomish | 2,167 | 911 | 361 | 0 | 0 | 0 | 0 | 0 | 3,439 |
| South King | 8,287 | 3,485 | 1,380 | 0 | 0 | 0 | 0 | 0 | 13,153 |
| Pierce | 5,361 | 2,255 | 893 | 0 | 0 | 0 | 0 | 0 | 8,509 |
| Total | 15,816 | 6,652 | 2,634 | 0 | 0 | 0 | 0 | 0 | 25,101 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------------|--------------|-------|-------|------|------|------|------|--------|--------|
| 50-Construction | 4,661 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,661 |
| 70-Vehicles | 11,155 | 6,652 | 2,634 | 0 | 0 | 0 | 0 | 0 | 20,441 |
| Total | 15,816 | 6,652 | 2,634 | 0 | 0 | 0 | 0 | 0 | 25,101 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|------------------|--------------------------|------|
| Estimate Type: | Initial Estimate | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2018 |
| | | 2017 Budget Schedule: | 2018 |

| Project Risk Assessment |
|---|
| Multiple Sounder vehicles being overhauled or under going major repairs continue to run the risk of cost overruns or schedule delays. |

700771

Station Midlife Refurbishment Program

Managed by: Operations

Scope: Provide rehabilitation and mid-life maintenance for Sound Transit facilities that have been in service for fifteen years or longer.

Changes in project budget since 2016: Increase project budget by \$245 thousand for TIBS (Tukwila International Blvd Station) bus loop rehabilitation project.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$1,450 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$1,695 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| South King | 771 | 360 | 0 | 0 | 0 | 0 | 0 | 0 | 1,131 |
| Pierce | 385 | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 565 |
| Total | 1,155 | 540 | 0 | 0 | 0 | 0 | 0 | 0 | 1,695 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 10-Agency Administration | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 50-Construction | 1,148 | 540 | 0 | 0 | 0 | 0 | 0 | 0 | 1,688 |
| Total | 1,155 | 540 | 0 | 0 | 0 | 0 | 0 | 0 | 1,695 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|--------|
| Estimate Type: | Planning | Schedule Risk Level: | Medium |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|---|
| Undefined scope of work at the various station locations could affect both the budget and schedule. |

7X701

ST Express Fleet Replacement

Managed by: Operations

Scope: Funds the bus fleet replacement program for ST Express.

Current Assumptions: FTA guidelines indicate that buses are to be replaced no earlier than either 12 years of service or 500,000 miles. Due to the unique service characteristics of the ST Express fleet, Sound Transit buses typically reach 500,000 miles after only 10 years of operations yet Sound Transit often keeps buses for several years past the minimal deadline. Replacement decisions are informed by specific fleet performance in consultation with our operating partner agencies. During the period from 2017-2022 150 buses will be replaced. The fleet size as of 2017 is 318.

Changes in lifetime since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-----------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$189,269 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$189,269 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------|----------------|-----------|---------------|----------|----------|---------------|----------|----------|----------------|
| Snohomish | 21,026 | 4 | 8,918 | 0 | 0 | 3,364 | 0 | 0 | 33,311 |
| South King | 12,066 | 3 | 5,118 | 0 | 0 | 1,930 | 0 | 0 | 19,116 |
| East King | 54,953 | 12 | 23,308 | 0 | 0 | 8,791 | 0 | 0 | 87,064 |
| Pierce | 31,419 | 7 | 13,326 | 0 | 0 | 5,026 | 0 | 0 | 49,778 |
| Total | 119,463 | 25 | 50,669 | 0 | 0 | 19,111 | 0 | 0 | 189,269 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------------|----------------|-----------|---------------|----------|----------|---------------|----------|----------|----------------|
| 50-Construction | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 |
| 70-Vehicles | 119,416 | 25 | 50,669 | 0 | 0 | 19,111 | 0 | 0 | 189,222 |
| Total | 119,463 | 25 | 50,669 | 0 | 0 | 19,111 | 0 | 0 | 189,269 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|------|
| Estimate Type: | Planning | Schedule Risk Level: | Low |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2021 |
| | | 2017 Budget Schedule: | 2021 |

Project Risk Assessment

Budget risk is a concern as the cost estimates and vehicle types are annually reviewed as replacements are identified and the agency adopts on-board technologies to be included in future replacements.

7X740 **Small Works Program** **Managed by: Operations**

Scope: Projects completed under the small works program include modification/repairs of operating facilities and systems with an estimated total cost of less than \$200,000 per project. The budget for this program is based on number of sites maintained, age of facilities, and amount of use.

Changes in project budget since 2016: Project budget increased by \$3.4 million which includes extending the program another year.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$7,942 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$11,308 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|-------|-------|------|------|------|--------|--------|
| Snohomish | 523 | 336 | 144 | 131 | 129 | 127 | 80 | 0 | 1,470 |
| North King | 603 | 388 | 166 | 151 | 149 | 147 | 92 | 0 | 1,696 |
| South King | 603 | 388 | 166 | 151 | 149 | 147 | 92 | 0 | 1,696 |
| East King | 764 | 492 | 210 | 191 | 188 | 186 | 117 | 0 | 2,148 |
| Pierce | 1,528 | 983 | 421 | 382 | 377 | 372 | 233 | 0 | 4,297 |
| Total | 4,021 | 2,588 | 1,107 | 1,006 | 992 | 979 | 614 | 0 | 11,308 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|-------|-------|------|------|------|--------|--------|
| 10-Agency Administration | 446 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 475 |
| 20-Prelim Engineering/Env Review | 127 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 142 |
| 30-Final Design+Specifications | 69 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 84 |
| 35-Third Party | 156 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 156 |
| 50-Construction | 2,988 | 2,528 | 1,107 | 1,006 | 992 | 979 | 614 | 0 | 10,215 |
| 70-Vehicles | 236 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 |
| Total | 4,021 | 2,588 | 1,107 | 1,006 | 992 | 979 | 614 | 0 | 11,308 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|---------|--------------------------|------|
| Estimate Type: | Scoping | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2020 |
| | | 2017 Budget Schedule: | 2022 |

| Project Risk Assessment |
|---|
| Project risks are minimal, however, the volume of small works eligible projects and the limits of internal resources could impact the delivery of project requests. |

870101

IT Transit Systems

Managed by: FIT

Scope: Maintain, upgrade and replace multiple computer and technology-based systems at Sounder stations and ST Express transit centers to keep them safe, secure, and functional for our customers.

Systems maintained include: Sounder Stations & Transit Centers - Closed circuit television (CCTV) access control and customer emergency stations. Sounder - Passenger information systems, automated passenger counters and variable message signage.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$5,905 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$5,905 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| Systemwide | 295 | 355 | 305 | 550 | 343 | 840 | 486 | 2,731 | 5,905 |
| Total | 295 | 355 | 305 | 550 | 343 | 840 | 486 | 2,731 | 5,905 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|-----------------|--------------|------|------|------|------|------|------|--------|-------|
| 50-Construction | 295 | 355 | 305 | 550 | 343 | 840 | 486 | 2,731 | 5,905 |
| Total | 295 | 355 | 305 | 550 | 343 | 840 | 486 | 2,731 | 5,905 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|--------|
| Estimate Type: | Construction | Schedule Risk Level: | Medium |
| Budget Risk Level: | Medium | 2016 Budget Schedule: | 2023 |
| | | 2017 Budget Schedule: | 2023 |

Project Risk Assessment

Information technology is ever changing and could adversely affect both the cost of the equipment and the availability of the equipment and technology.

Administrative

Administrative projects are not specific to any transit mode or capital program. Projects fund disposition of surplus real estate, procurement of administrative equipment, facilities, and technology, as well as administrative support critical to the successful operation of the agency. Administrative costs that support projects are charged to construction in progress and capitalized with the resulting assets.

2017 Administrative Project Highlights

- Replace eight non-revenue vehicles used by administrative staff and add 7 vehicles to the fleet in support of increased pool usage and direct need due to increased program activity.
- Commence a three year program to replace the roof top cooling towers and 98 variable air volume exchangers at Union Station.
- Install Americans with Disabilities Act (ADA) compliant entrance to the south access of Union Station.
- Continue landscape and wetland hydrology mitigation and maintenance activities at selected Sound Transit properties.
- Migrate SharePoint to Microsoft 365 Cloud.
- Implement stringent information security controls and monitoring.
- Upgrade Contract Manager software in support of the procurement division.
- Investigate the potential of a business intelligence system to enhance usability of agency and industry data.

2017 TIP Cashflow by Budget Approval
(in thousands)

Administrative
ALL MODES

| Project Number and Name | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|---|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Program | | | | | | | | | |
| 0X002 Agency Administration Operating | 322,327 | 71,735 | 70,767 | 71,789 | 78,256 | 78,723 | 50,309 | 48,012 | 791,918 |
| 600025 Environmental Mitigation, Monitoring & Maintenance | 538 | 165 | 138 | 110 | 0 | 0 | 0 | 472 | 1,423 |
| 802000 Administrative Capital | 6,639 | 2,259 | 1,041 | 886 | 701 | 794 | 551 | 612 | 13,484 |
| 803800 Information Technology Program | 14,937 | 2,274 | 2,371 | 2,456 | 2,403 | 2,140 | 2,148 | 3,507 | 32,235 |
| 804500 Surplus Property Disposition | 525 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 708 |
| Subtotal | 344,965 | 76,616 | 74,317 | 75,242 | 81,360 | 81,657 | 53,008 | 52,604 | 839,768 |
| Total | \$344,965 | \$76,616 | \$74,317 | \$75,242 | \$81,360 | \$81,657 | \$53,008 | \$52,604 | \$839,768 |

2017 TIP Cashflow by Subarea
(in thousands)

Administrative
ALL MODES

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| 1 - Snohomish | 94 | 29 | 24 | 19 | 0 | 0 | 0 | 83 | 249 |
| 2 - North King | 525 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 708 |
| 3 - South King | 333 | 102 | 86 | 68 | 0 | 0 | 0 | 293 | 882 |
| 4 - East King | 31 | 10 | 8 | 6 | 0 | 0 | 0 | 28 | 83 |
| 5 - Pierce | 79 | 24 | 20 | 16 | 0 | 0 | 0 | 69 | 209 |
| 6 - Systemwide | 343,902 | 76,268 | 74,179 | 75,132 | 81,360 | 81,657 | 53,008 | 52,132 | 837,637 |
| Total | \$344,965 | \$76,616 | \$74,317 | \$75,242 | \$81,360 | \$81,657 | \$53,008 | \$52,604 | \$839,768 |

2017 TIP Cashflow by Phase
(in thousands)

| Phase # and Description | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| 02-Operation+Maintenance-Agency | 192 | 150 | 0 | 0 | 34 | 0 | 0 | 124 | 500 |
| 09-Admin Capital | 20,269 | 4,163 | 3,144 | 3,173 | 2,970 | 2,773 | 2,589 | 3,676 | 42,757 |
| 10-Agency Administration | 323,226 | 71,915 | 70,934 | 71,849 | 78,256 | 78,774 | 50,309 | 48,012 | 793,276 |
| 20-Prelim Engineering/Env Review | 753 | 165 | 238 | 220 | 100 | 110 | 110 | 792 | 2,488 |
| 40-Row Acquisition+Permits | 525 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 708 |
| 90-Contingency | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| Total | \$344,965 | \$76,616 | \$74,317 | \$75,242 | \$81,360 | \$81,657 | \$53,008 | \$52,604 | \$839,768 |

Scope: Funds administrative overhead expenses that are charged to capital projects and overhead expenses that are not allocated to either projects or transit operations. Overhead expenses allocated to projects are included in the capitalized cost of the resulting assets. Unallocated overhead expenses are included in general and administrative expenses for the agency.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-----------|--|-----|
| Phase Gate Passed: | N/A | | |
| Baseline: | \$0 | 2008 Cost Estimate: | N/A |
| 2016 TIP: | \$0 | 2016 Cost Estimate: | N/A |
| 2017 TIP: | \$791,918 | 2017 Cost Estimate: | N/A |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|--------|--------|--------|--------|--------|--------|--------|---------|
| Systemwide | 322,327 | 71,735 | 70,767 | 71,789 | 78,256 | 78,723 | 50,309 | 48,012 | 791,918 |
| Total | 322,327 | 71,735 | 70,767 | 71,789 | 78,256 | 78,723 | 50,309 | 48,012 | 791,918 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|--------------|--------|--------|--------|--------|--------|--------|--------|---------|
| 10-Agency Administration | 322,327 | 71,735 | 70,767 | 71,789 | 78,256 | 78,723 | 50,309 | 48,012 | 791,918 |
| Total | 322,327 | 71,735 | 70,767 | 71,789 | 78,256 | 78,723 | 50,309 | 48,012 | 791,918 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|------|
| Estimate Type: | Planning | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2023 |
| | | 2017 Budget Schedule: | 2023 |

| Project Risk Assessment |
|-------------------------|
| N/A |

600025 Environmental Mitigation, Monitoring & Maintenance Managed by: PEPD

Scope: Monitor and maintain post-construction environmental mitigation including wetland hydrology, plant establishment, and other site features. Duration depends upon permit conditions and may be 10 years and/or may last for the life of the property.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|---------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$1,423 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$1,423 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| Snohomish | 94 | 29 | 24 | 19 | 0 | 0 | 0 | 83 | 249 |
| South King | 333 | 102 | 86 | 68 | 0 | 0 | 0 | 293 | 882 |
| East King | 31 | 10 | 8 | 6 | 0 | 0 | 0 | 28 | 83 |
| Pierce | 79 | 24 | 20 | 16 | 0 | 0 | 0 | 69 | 209 |
| Total | 538 | 165 | 138 | 110 | 0 | 0 | 0 | 472 | 1,423 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 20-Prelim Engineering/Env Review | 538 | 165 | 138 | 110 | 0 | 0 | 0 | 472 | 1,423 |
| Total | 538 | 165 | 138 | 110 | 0 | 0 | 0 | 472 | 1,423 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|--------------|--------------------------|------|
| Estimate Type: | Construction | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2030 |
| | | 2017 Budget Schedule: | 2030 |

Project Risk Assessment

This project is funded through budget transfers from projects requiring long term mitigation or monitoring. Uncertainty in the term of monitoring or the exact form of mitigation does present a slight risk but has not been an issue in the project up to this point.

| | | |
|---------------|-------------------------------|------------------------|
| 802000 | Administrative Capital | Managed by: FIT |
|---------------|-------------------------------|------------------------|

Scope: Funds capital expenditures for administrative assets that support agency staff, including administrative facilities, non-revenue administrative fleet, office equipment, space planning, and furnishings.

Changes in project budget since 2016: None

| Board Approved Capital Budget (in thousands of YOY dollars) | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) |
|---|--|
| Phase Gate Passed: N/A | 2008 Cost Estimate: N/A |
| Baseline: \$0 | 2016 Cost Estimate: N/A |
| 2016 TIP: \$13,484 | 2017 Cost Estimate: N/A |
| 2017 TIP: \$13,484 | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|-------|------|------|------|------|--------|--------|
| Systemwide | 6,639 | 2,259 | 1,041 | 886 | 701 | 794 | 551 | 612 | 13,484 |
| Total | 6,639 | 2,259 | 1,041 | 886 | 701 | 794 | 551 | 612 | 13,484 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------------|--------------|-------|-------|------|------|------|------|--------|--------|
| 09-Admin Capital | 6,639 | 2,219 | 1,041 | 886 | 701 | 794 | 551 | 612 | 13,444 |
| 90-Contingency | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| Total | 6,639 | 2,259 | 1,041 | 886 | 701 | 794 | 551 | 612 | 13,484 |

| Budget Risk Assessment | Schedule Risk Assessment |
|--|---|
| Estimate Type: Planning | Schedule Risk Level: Low |
| Budget Risk Level: Low | 2016 Budget Schedule: 2023 |
| | 2017 Budget Schedule: 2023 |

| Project Risk Assessment |
|-------------------------|
| N/A |

| | | |
|---------------|---------------------------------------|------------------------|
| 803800 | Information Technology Program | Managed by: FIT |
|---------------|---------------------------------------|------------------------|

Scope: Support agencywide hardware and software infrastructure, develop and implement technology solutions to improve administrative efficiency through 2023.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOY dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|----------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$32,235 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$32,235 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|-------|-------|-------|-------|-------|-------|--------|--------|
| Systemwide | 14,937 | 2,274 | 2,371 | 2,456 | 2,403 | 2,140 | 2,148 | 3,507 | 32,235 |
| Total | 14,937 | 2,274 | 2,371 | 2,456 | 2,403 | 2,140 | 2,148 | 3,507 | 32,235 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------------|--------------|-------|-------|-------|-------|-------|-------|--------|--------|
| 02-Operation+Maintenance-Agency | 192 | 150 | 0 | 0 | 34 | 0 | 0 | 124 | 500 |
| 09-Admin Capital | 13,630 | 1,944 | 2,103 | 2,286 | 2,269 | 1,979 | 2,038 | 3,064 | 29,313 |
| 10-Agency Administration | 899 | 180 | 167 | 60 | 0 | 51 | 0 | 0 | 1,357 |
| 20-Prelim Engineering/Env Review | 216 | 0 | 100 | 110 | 100 | 110 | 110 | 319 | 1,065 |
| Total | 14,937 | 2,274 | 2,371 | 2,456 | 2,403 | 2,140 | 2,148 | 3,507 | 32,235 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|------------------------|--------------------------|------|
| Estimate Type: | Conceptual Engineering | Schedule Risk Level: | High |
| Budget Risk Level: | High | 2016 Budget Schedule: | 2023 |
| | | 2017 Budget Schedule: | 2023 |

| Project Risk Assessment |
|---|
| Future year forecasts reflect initial planning estimates so costs are subject to change. Schedules are dependent on staff capacity and the specific application or approach selected. |

804500

Surplus Property Disposition

Managed by: DECM

Scope: Prepare surplus properties for sale that due to their size or location do not lend themselves to Transit-Oriented Development (TOD) opportunities. Surplus properties represent remnant properties that may have been used during construction or were acquired and no longer needed for transit use.

Changes in project budget since 2016: None.

| Board Approved Capital Budget (in thousands of YOE dollars) | | ST2 Total Project Cost Estimate (in thousands of 2016 dollars) | |
|---|-------|--|-----|
| Phase Gate Passed: | N/A | 2008 Cost Estimate: | N/A |
| Baseline: | \$0 | 2016 Cost Estimate: | N/A |
| 2016 TIP: | \$708 | 2017 Cost Estimate: | N/A |
| 2017 TIP: | \$708 | | |

TIP Cashflow (in thousands)

| Subarea | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|------------|--------------|------|------|------|------|------|------|--------|-------|
| North King | 525 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 708 |
| Total | 525 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 708 |

| Phase | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|----------------------------|--------------|------|------|------|------|------|------|--------|-------|
| 40-Row Acquisition+Permits | 525 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 708 |
| Total | 525 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 708 |

| Budget Risk Assessment | | Schedule Risk Assessment | |
|------------------------|----------|--------------------------|------|
| Estimate Type: | Planning | Schedule Risk Level: | Low |
| Budget Risk Level: | Low | 2016 Budget Schedule: | 2017 |
| | | 2017 Budget Schedule: | 2017 |

| Project Risk Assessment |
|-------------------------|
| N/A |

Project Budget Changes from 2016 to 2017

The 2017 TIP contains the expenditures for active phases of capital and operating projects as authorized by the Board through the agency's Phase Gate process. The table below reconciles the changes in project budgets for each project category from the Adopted 2016 TIP to the Proposed 2017 TIP.

SUMMARY OF PROJECT BUDGET CHANGES FROM 2016 TO 2017
(in thousands)

| Project Type | 2016 Project Total | 2016 Closed Projects | 2017 New Projects | Budget Transfers | Budget Inc/(Dec) | Transfer from Cost Estimates | 2017 Project Budget |
|---------------------------------------|--------------------------|----------------------------|-------------------------|---------------------|---------------------|------------------------------------|---------------------------|
| System Expansion | | | | | | | |
| Link Light Rail | \$11,457,606 | (\$2,091,768) | \$0 | \$0 | \$0 | \$316,142 | \$9,681,980 |
| Sounder | 852,339 | (6,455) | - | - | (3,774) | 1,662 | \$843,772 |
| Commuter Rail | | | | | | | |
| Regional Express | 321,813 | (45,045) | - | - | 13,572 | - | \$290,341 |
| Bus | | | | | | | |
| Other | 163,728 | (2,253) | | - | - | - | \$161,476 |
| System Expansion Subtotal | \$12,795,486 | (\$2,145,520) | \$0 | \$0 | \$9,798 | \$317,804 | \$10,977,568 |
| Enhancement | 138,921 | (16,453) | 4,398 | (700) | - | | \$126,166 |
| Rehabilitation and Replacement | 242,278 | (2,896) | 1,550 | 700 | 6,565 | | \$248,197 |
| Administrative | 839,768 | - | - | - | - | - | \$839,768 |
| Total | \$14,016,454 | (\$2,164,869) | \$5,948 | \$0 | \$16,363 | \$317,804 | \$12,191,700 |

2016 Closed Projects – Closed projects are excluded from the 2017 TIP.

- Thirteen projects completed Phase Gate 8 and were closed in September 2016.

2017 New Projects – Newly created projects for the 2017 budget year.

- Nine projects are new for 2017.
 - Link Light Rail Vehicle (LRV) Wash Bay modification for \$300 thousand, to allow for two-car washing and automated forehead (front) washing of the LRV, current done manually. This modification will reduce washing times and improve driver safety as they will no longer have to manually wash the forehead of the LRV.
 - LRV Wheel Flat Software for \$250 thousand, which will allow for the automated identification of LRV truck wheels which are out of round. This can be accomplished while the wheels remain on the LRV. Further, this allows for the continued monitoring, awareness and causes of noise and vibration along the link system.
 - Link OMF Energy Efficiency project for \$1.1 million at the OMF on Forest Street. This project will reduce energy consumption by approximately 880,000 kilowatts of energy annually.
 - Customer Emergency Stations at Kent and Auburn Sounder station parking garages for \$800 thousand. These emergency stations will be located on each parking garage floor allowing riders to alert staff of potential security issues in the garage.

- Locomotive Inboard Facing Camera project for \$300 thousand is a Federal Railroad Administration requirement to install cameras to monitor the engineer while operating the locomotive.
- Sounder Passenger Emergency Intercom for \$1.5 million will allow Sounder passengers to communicate directly with the conductor in emergencies which is a change from communicating with the engineer and having the concerns relayed to the conductor.
- Installation of a security system at the Bellevue Transit Center for \$150 thousand, which will add CCTV and other security enhancements to the transit center in 2017.
- Link Bridge Repairs for \$550 thousand will commence on two bridges after structural inspection identified some required repairs to maintain the life of the structures.
- Link Radio Upgrades for \$1 million will replace the distributed antenna system as the current antenna system has reached the end of its useful life.

Budget Transfers –Moving project budget to new or existing projects.

- Link CCTV Upgrades of \$700 thousand was moved from Enhancements to Rehabilitation and Replacement as the project was better categorized as Rehabilitation and Replacement project.

Budget Increases (Decreases) – Project budget increases or decreases that are not transfers.

- Link CCTV Upgrades was increased by \$2.2 million to fund the replacement of all analog cameras which had reached the end of their useful life with modern digital format CCTV cameras.
- Sounder Midlife Maintenance increased by \$800 thousand to support the rehabilitation of passenger doors on older Sounder cab cars and to rehabilitate wayside power units (HEP Controllers) to provide alternative power to locomotives on standby versus running the locomotive engines.
- Station Midlife Maintenance increased by \$245 thousand to fund the replacement of the bus loop at the Tukwila International Boulevard Station.
- Small Works Program increased the project budget \$3.4 million to add a year to the program and fund issues requiring immediate attention.
- ST Express Fleet Expansion project increased \$13.6 million to increase the ST Express bus fleet by 11 buses in support of a 15,000 service hour increase in response to ridership demand and route congestion.
- 2016 Amendments changing existing projects.
 - Tacoma Trestle Track and Signal project budget was increased by \$40.6 million when the project's baseline budget was increased to accommodate additional project scope.
 - Point Defiance Bypass project budget was decreased by \$44.3 million to recognize the reduction of project risk as the project's scope became more clearly defined.

Transfer from Cost Estimate – Budget approved for an amount that is within the ST2 cost estimate for the project.

- Tacoma Link Expansion was increased by \$550 thousand to fund pre-construction services.
- 2016 Amending actions that resulted in transfers from cost estimates:
 - Auburn Station Access Improvements project was established in 2016 and has an authorized budget of \$831 thousand. The project will include improvements to parking facilities, pedestrian and bicycle access, and bicycle storage.
 - Kent Station Improvements project was established in 2016 and has an authorized budget of \$831 thousand. The project will include improvements to parking facilities, pedestrian and bicycle access, and bicycle storage.
 - Operations and Maintenance Facility – East (previously Operations and Maintenance Satellite Facility) was increased by \$315.6 million when the project's baseline budget was adopted.

Reserves

The 2017 TIP includes history and forecasts for reserve fund contributions through 2023 to support emergencies as well as unplanned expenditures.

AGENCY RESERVE SUMMARY

(in millions)

| | Life to Date | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Future | Total |
|--------------------------|--------------|-------------|-------------|------------|------------|------------|------------|------------|--------------|
| Emergency Loss | \$15 | \$3 | \$3 | \$3 | \$3 | \$3 | \$4 | \$4 | \$38 |
| Insurance Systemwide | 0 | 0 | 6 | 6 | 6 | 6 | 0 | 0 | 23 |
| Operations & Maintenance | 0 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 66 |
| Systemwide Contingency | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 5 |
| Capital Replacement | 315 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 315 |
| Total | \$330 | \$69 | \$14 | \$9 | \$9 | \$9 | \$4 | \$4 | \$447 |

Emergency/Loss

While the agency maintains a comprehensive insurance program, the policies do contain retentions (deductibles), which the agency would have to cover in the event of an insurable loss. In such instances, the Board could authorize the use of the emergency/loss fund on a case-by-case basis.

Insurance Systemwide

The insurance systemwide reserve is forecasted to be made available to partially pay for builders' risk insurance in conjunction with funds provided by building contractors.

Operations & Maintenance

Sound Transit's financial policies require the agency to maintain an operation and maintenance reserve equal to two months of department operating expenses, including costs allocated to transit modes and projects.

Systemwide Contingency

The systemwide contingency is forecasted as part of the Sound Move program and supplemented in the ST2 plan. This fund is for use by the Board to deal with any unforeseen events.

Capital Replacement

The agency maintains a minimum \$300.0 million reserve for unanticipated expenditures necessary to keep the system in good working condition.

In 2015, the Sound Transit Board adopted an Asset Management Policy establishing guidelines for forecasting and budgeting capital replacement and lifecycle maintenance to ensure the regional system is maintained in a state of good repair. The following are financial elements of the policy:

- \$300 million minimum Capital Replacement Reserve to be maintained by the agency for unanticipated or emergency capital replacements. The reserve balance is currently \$315.2 million.
- A rolling 40-year State of Good Repair Forecast (SGRF) will inform the inclusion of a 6 year funding of the replacement of agency assets and major mid-life maintenance, which will be included annually in the TIP. Independent assessments of the plan will be conducted every five years. The six year finding forecast is provided in the Reserve table.
- Appendix C provides a more detailed explanation of the policy and the categories of assets accounting for the financial set asides.

Appendix A - Sound Transit 2 Cost Estimates

The agency maintains cost estimates for all of its capital projects that are funded in the agency's financial plan. These estimates are updated as new engineering, right-of-way, public outreach, and other project information are developed. Project cost estimates are updated prior to seeking Board authorization of budgets for preliminary engineering, final design and right-of-way acquisition, and baseline budget, which includes total project costs and construction.

ST2 cost estimates were initially developed and reported in 2007 constant-year dollars. To enable comparisons between cost estimates, the figures in this appendix have been updated to 2015 constant-year dollars based on the agency's August 2015 inflation forecasts. The table on the next page includes the following information:

- 2008 cost estimates are from the initial ST2 plan approved by voters in November 2008.
- 2016 cost estimates match the proposed 2016 TIP.
- 2017 cost estimates include all ST2 projects currently funded in the agency's financial plan.

The changes to the cost estimates between 2016 and 2017 include:

- The establishment of the Auburn and Kent Station Access Improvement projects to improve facility access and parking and sidewalk improvements for rider access to the station and platforms. Deferred during the program realignment process in 2010, the Board reestablished the projects in 2016.
- Increasing ST Express Fleet Expansion by adding 11 buses to support ridership demands and congestion impacts during peak hours.
- Increasing the Link Maintenance Facility also known as the Operations and Maintenance Facility (OMF) – East to address increased scope and an ambitious schedule.

ST2 COST ESTIMATES

(in thousands/constant 2016 dollars)

| | 2008 Estimate | Inc / (Dec) | 2016 Estimate | Inc / (Dec) | 2017 Estimate |
|---|----------------------|-----------------------|----------------------|-------------------|----------------------|
| Link Light Rail | | | | | |
| East Link | \$ 3,545,597 | \$ (256,746) | \$ 3,288,852 | \$ - | \$ 3,288,852 |
| Downtown Redmond PE | \$ - | - | \$ 18,422 | - | \$ 18,422 |
| Northgate Link Extension | \$ 1,853,049 | 164,335 | \$ 2,017,384 | - | \$ 2,017,384 |
| Lynnwood Link Extension | \$ 1,769,504 | (261,533) | \$ 1,507,972 | - | \$ 1,507,972 |
| First Hill Link Connector | \$ 140,663 | (1,368) | \$ 139,295 | - | \$ 139,295 |
| South 200th Street Link Extension | \$ 430,859 | (17,778) | \$ 413,082 | - | \$ 413,082 |
| South Corridor HCT - S200th to KDM Rd | \$ 525,433 | (59,651) | \$ 465,782 | - | \$ 465,782 |
| South Corridor HCT - KDM Rd to S 272nd St | \$ 571,070 | (571,070) | \$ - | - | \$ - |
| HCC to Tacoma Dome - P/E & ROW | \$ 54,491 | (54,491) | \$ - | - | \$ - |
| South Corridor Alternatives Analysis | \$ 84,434 | (81,301) | \$ 3,133 | - | \$ 3,133 |
| Tacoma Link Expansion | \$ 106,678 | 37,759 | \$ 144,436 | - | \$ 144,436 |
| Link Maintenance & Storage | \$ 320,432 | (50,515) | \$ 269,918 | 144,005 | \$ 413,922 |
| Link Fleet Expansion | \$ 594,231 | 56,115 | \$ 650,346 | - | \$ 650,346 |
| Subtotal Link Light Rail | \$ 9,996,443 | (1,096,244) | \$ 8,918,621 | 144,005 | \$ 9,062,626 |
| Souder Commuter Rail | | | | | |
| Station Access & Demand Study | \$ 90,051 | (24,805) | \$ 65,246 | - | \$ 65,246 |
| Sumner Station Improvements | \$ 52,034 | (4,584) | \$ 47,449 | - | \$ 47,449 |
| Puyallup Station Improvements | \$ 73,587 | (11,332) | \$ 62,254 | - | \$ 62,254 |
| Lakewood Station Improvements | \$ 46,948 | (6,994) | \$ 39,953 | - | \$ 39,953 |
| Kent Station Improvements | \$ 33,115 | (33,114.72) | \$ - | 33,115 | \$ 33,115 |
| Auburn Station Improvements | \$ 34,812 | (34,812.06) | \$ - | 34,812 | \$ 34,812 |
| Souder Yard & Shop Facility | \$ 186,150 | (23,632) | \$ 162,518 | - | \$ 162,518 |
| Souder Yard Expansion | \$ - | 22,302 | \$ 22,302 | - | \$ 22,302 |
| Tukwila Permanent Station | \$ 43,236 | 8,892 | \$ 52,128 | - | \$ 52,128 |
| Edmonds Permanent Station | \$ 28,990 | (28,990) | \$ - | - | \$ - |
| Seattle to Lakewood - Expanded Service | \$ 225,229 | 59,874 | \$ 285,103 | - | \$ 285,103 |
| Souder ST2 Fleet Expansion | \$ 37,526 | (6,533) | \$ 30,993 | - | \$ 30,993 |
| Reservation Junction - Track & Signal | \$ 80,436 | (12,419) | \$ 68,017 | - | \$ 68,017 |
| Tacoma Track & Signal | \$ 32,475 | (325) | \$ 32,150 | - | \$ 32,150 |
| Platform Extensions - South King / Pierce | \$ 63,974 | (63,974) | \$ - | - | \$ - |
| Eastside Rail Partnership | \$ 58,635 | (58,634) | \$ 1 | - | \$ 1 |
| Subtotal Souder Commuter Rail | \$ 1,087,198 | (219,082) | \$ 868,116 | 67,927 | \$ 936,042 |
| Regional Express | | | | | |
| ST Express Bus Base | \$ 210,557 | (6,920) | \$ 203,637 | - | \$ 203,637 |
| Mid-Day Bus Storage | \$ - | 3,542 | \$ 3,542 | - | \$ 3,542 |
| ST Express Fleet Expansion | \$ 41,790 | 4,255 | \$ 46,045 | 12,971 | \$ 59,016 |
| ST Express Capital Reserve Program | \$ 28,678 | (28,678) | \$ - | - | \$ - |
| I-90 Contribution | \$ 58,455 | - | \$ 58,455 | - | \$ 58,455 |
| Burien - Parking Garage / Transit Center | \$ 17,374 | (1,376) | \$ 15,999 | - | \$ 15,999 |
| Bothell - Parking Garage / Transit Center | \$ 6,495 | (300) | \$ 6,195 | - | \$ 6,195 |
| Subtotal Regional Express | \$ 363,350 | (29,477) | \$ 333,873 | 12,971 | \$ 346,844 |
| Other | | | | | |
| ST3 Planning | \$ 64,969 | (13,961) | \$ 51,008 | - | \$ 51,008 |
| HCT Corridor Planning Studies | \$ - | 60 | \$ 60 | - | \$ 60 |
| Central and East HCT Study | \$ - | 2,141 | \$ 2,141 | - | \$ 2,141 |
| ST Art Program | \$ - | 29,003 | \$ 29,003 | - | \$ 29,003 |
| Subtotal Other | \$ 64,969 | 17,243 | \$ 82,212 | - | \$ 82,212 |
| Total ST2 Cost Estimate | \$ 11,511,960 | \$ (1,327,560) | \$ 10,202,822 | \$ 224,903 | \$ 10,427,725 |

Note: The cost estimates included in the table above reflect the amount funded in the Agency's long-term Financial Plan. Projects proposed to proceed with only limited engineering activity are funded only to the extent that activity requires. Projects proposed to be suspended or deleted have no funding in the current Long-term Financial Plan.

Appendix B - Sound Move Project Budgets

The agency has two voter-approved system expansion programs, Sound Transit 2 (ST2) approved in 2008 and the earlier Sound Move program approved in 1996. Appendix A reflects the cost estimates in constant-year dollars for all projects funded under the ST2 program. This appendix displays adopted project budgets in year-of-expenditure dollars for active Sound Move system expansion projects.

Project budgets for Sound Move projects were adopted as total project budgets/baseline budgets, since these projects pre-date the agency's Phase Gate process. As with the ST2 projects in Appendix A, Sound Move project budgets are shown for 2008, 2016, and 2017.

The changes between 2016 and 2017 include:

Link Light Rail

- Initial Segment was closed in 2016.

Regional Express

- 85th Corridor, Kirkland was closed in 2016.
- Federal Way Transit Center was closed in 2016.

Note:

The I-90 Two-Way Transit and HOV Operations, Stage 3 project was baselined in 2014. This project is funded by Sound Move & ST2, Regional Express Reserve, and agency financial capacity.

I-90 TWO-WAY AND HOV OPERATIONS, STAGE 3 TOTAL FUNDING (in thousands)

| | |
|---------------------------|------------------|
| Sound Move | \$64,222 |
| I-90 Contribution (ST2) | 45,000 |
| REX Program Reserve | 27,126 |
| Agency Financial Capacity | 89,300 |
| Total Project Cost | \$225,648 |

ADOPTED PROJECT BUDGETS FOR ACTIVE SOUND MOVE PROJECTS

Year of Expenditure (YOE) Dollars (in thousands)

| | 2008 | Inc/(Dec) | 2016 | Inc/(Dec) | 2017 |
|---|---------------------|-------------------|---------------------|-------------|---------------------|
| <u>Link Light Rail</u> | | | | | |
| University Link | \$ 1,614,007 | \$ 142,000 | \$ 1,756,007 | \$ - | \$ 1,756,007 |
| Total Link Light Rail | 1,614,007 | 142,000 | 1,756,007 | - | 1,756,007 |
| <u>Souder Commuter Rail</u> | | | | | |
| M Street to Lakewood Track and Signal | 73,601 | 7,053 | 80,654 | - | 80,654 |
| D Street to M Street Track and Signal | 76,025 | 82,237 | 158,262 | - | 158,262 |
| Mukilteo Station, South Platform | 9,371 | 8,942 | 18,313 | - | 18,313 |
| Tukwila Station (see Notes) | - | - | - | - | - |
| Total Souder Commuter Rail | 158,997 | 98,232 | 257,229 | - | 257,229 |
| <u>Regional Express</u> | | | | | |
| I-90 2-Way Transit & HOV Op, Stage 3 (see note) | 1,722 | 223,926 | 225,648 | - | 225,648 |
| Kirkland Transit Center | 13,300 | (2,341) | 10,959 | - | 10,959 |
| Total Regional Express | 15,022 | 221,585 | 236,607 | - | 236,607 |
| STart Program | 18,100 | 16,100 | 34,200 | - | 34,200 |
| Total Active Sound Move Projects | \$ 1,806,126 | \$ 477,917 | \$ 2,284,043 | \$ - | \$ 2,284,043 |

Notes: Numbers may not add due to rounding.

Tukwila Station is a project recognized in ST2, but Sound Move did fund the project through Final Design.

I-90 2-Way Transit and HOV Op, Stage 3 is recognized in Sound Move, but ST2 contributed \$45 million of planned funding.

The agency used \$89.3 million of financial capacity to fully fund the project and the balance of the REX program reserve of \$27.2 million.

Appendix C – State of Good Repair Forecast (SOGRF)

In accordance with the agency asset management policy, the agency will maintain a rolling 40-year state of good repair forecast (SOGRF) for the purpose of advance funding for replacement of assets and major midlife maintenance. The full 40-year rolling forecast is included in the agency's finance plan to account for the use of long term revenues for the replacement of assets which is intended to reduce net borrowing costs to the agency. Additionally, an annual SOGRF spending forecast for the period 2017-2023 is displayed below.

The Capital Replacement Reserve (CRR) will be maintained and serve as a funding source for emergency or unexpected capital replacements. The CRR balance will be maintained at a minimum of \$300 million and if used, must be replenished to the minimum level within 5 years. The current CRR balance is \$315 million.

The following table represents the two most current years of the 40-year rolling forecast. Below represents the two most current years forecast. The variance between 2015 and 2016 would be the increase in anticipated cost of replacing qualifying assets, as well as the anticipated addition of assets to the replacement schedule.

STATE OF GOOD REPAIR FORECAST (in millions and in YOE)

| 40-year Rolling Forecast | 2015-2054 | 2016-2055 |
|--|----------------|----------------|
| Administrative Facilities | \$99 | \$100 |
| Track and Power | 594 | 588 |
| Transit Centers/Parking Lots | 799 | 810 |
| Stations/Platforms/Ped Bridges/Garages | 578 | 601 |
| O&M Facilities | 424 | 425 |
| Infrastructure | 1,541 | 1,537 |
| Rolling Stock | 1,728 | 1,739 |
| Fare Collection | 216 | 213 |
| Non-Revenue Fleet | 16 | 16 |
| Other | 44 | 42 |
| Total | \$6,040 | \$6,071 |

The following table represents the annual state of good repair forecast for the period 2017-2023. The actual spending is represented in the TIP under the Rehabilitation and Replacement projects, for 2017 those projects total \$16.7 million. The variance between the forecast and the proposed spending is the timing of payments for bus replacements.

STATE OF GOOD REPAIR (in millions)

| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|
| State of Good Repair Forecast | \$11 | \$67 | \$21 | \$36 | \$76 | \$101 | \$164 |

