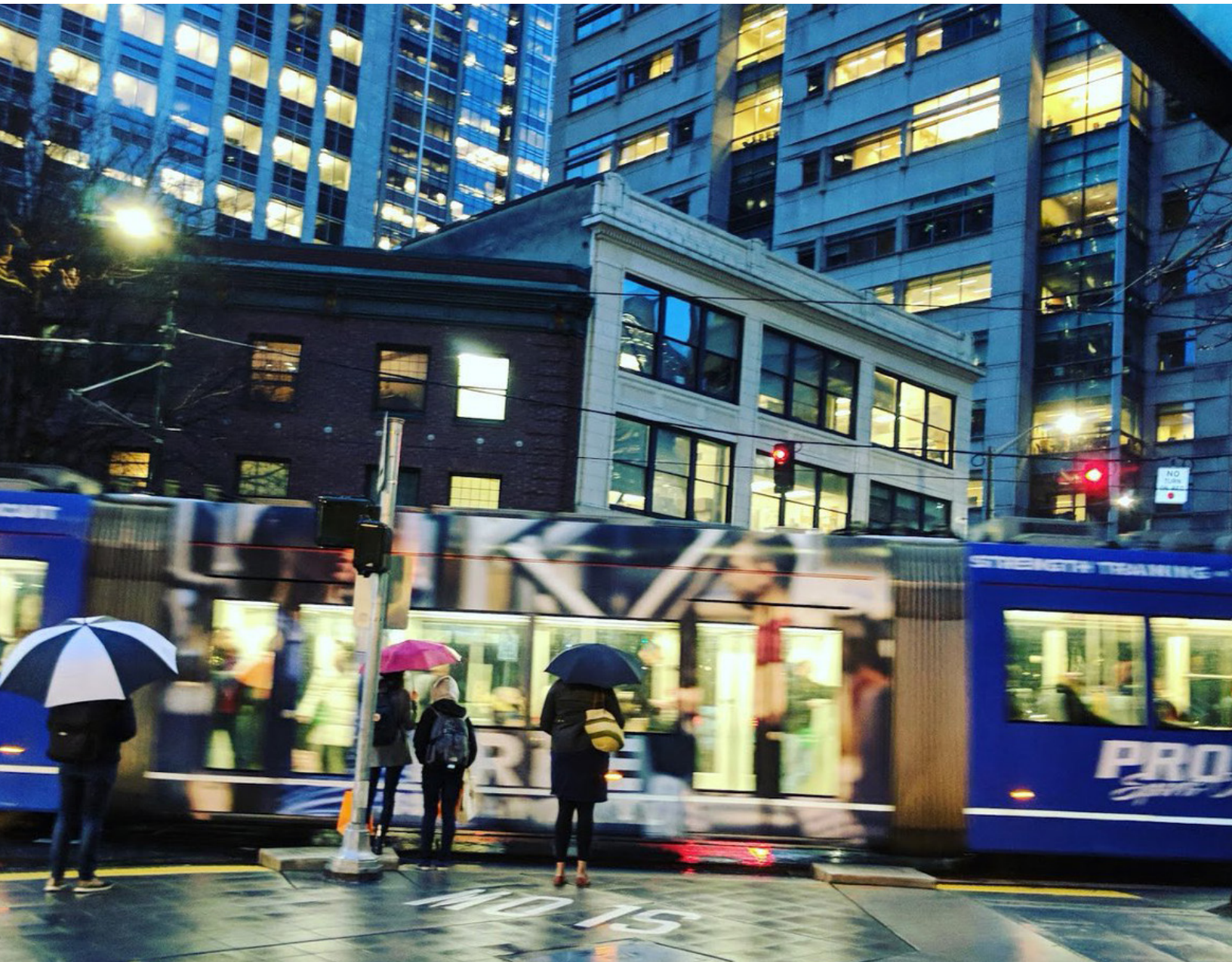


Seattle Department of Transportation

# 2019 ANNUAL STREETCAR OPERATING REPORT



September 2020



**Seattle**  
Department of  
Transportation

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# 1. EXECUTIVE SUMMARY

This report reflects 2019 performance and financial metrics and does not capture the significant changes in ridership and operating status resulting from the COVID-19 pandemic. Those changes will be described in the 2020 Operations Report.

The Seattle Streetcar system consists of two separate, modern streetcar lines: the South Lake Union Streetcar (SLU), which opened in 2007, and the First Hill Streetcar (FHS), which opened in 2016. The system is owned and funded by the City of Seattle, which partners with King County Metro to serve as the operator of the system on the City's behalf.

Highlights from 2019 include:

## **Systemwide ridership continued to grow in 2019, driven by First Hill Streetcar**

In 2019, ridership on the Seattle Streetcar continued to grow, exceeding 2018 ridership by 11%, or 182,000 riders. As in previous years, this growth was driven by substantial ridership growth on the FHS line, which exceeded 2018 ridership by 17%, or 193,000 riders. Ridership on the SLU line continued trends from previous years, remaining relatively flat, declining 2%, or 10,000 riders from 2018.

## **Fare revenue grew in 2019 on both lines**

ORCA fare revenue, the primary source of fare revenue for the Seattle Streetcar, grew in 2019 by approximately 18%, or \$252,000 systemwide. This was driven by increases on both the SLU and FHS lines. ORCA revenue increased by 10% (\$62,000) on SLU and by 24% (\$190,000) on FHS in 2019. This increase in revenue appears to be driven in large part by a commensurate increase in ORCA usage. ORCA taps on SLU and FHS increased by 10% and 22%, respectively in 2019, outpacing ridership gains. Increased ORCA usage is likely due to many factors, which could include increased ORCA distribution through employers or transit agency programs.

## **City and County executed a new 5-year agreement for streetcar operations and maintenance**

A year of cooperative negotiation between the City of Seattle and King County culminated in 2019 with the execution of a new Interlocal Agreement (ILA) for the operations and maintenance of the Seattle Streetcar. The new agreement replaces the expiring 2014 ILA and includes a number of improvements to the City-County relationship, including improved budgeting and invoicing procedures and more efficient maintenance by consolidating previously City-performed maintenance functions with King County.



**SDOT Streetcar Operations staff prepared to implement new federal safety requirements**

2019 saw new changes to federal requirements governing rail safety oversight. These changes require SDOT to assume new responsibilities in managing and planning streetcar safety; most notably, developing a Public Transportation Agency Safety Plan (PTASP). The new PTASP will work in conjunction with a similar plan from King County Metro and will be based on a Safety Management System (SMS) philosophy in accordance with the new federal requirements. Under the new requirements, SDOT was required to certify that it has adopted a PTASP by July 20, 2020. SDOT met this requirement in July 2020.

**SDOT continued work on spot improvement projects to improve safety and reliability**

SDOT's transit spot improvements program advanced work on several spot improvements to increase safety for bicyclists around streetcar tracks and to reduce congestion and streetcar travel time and increase reliability. Notable projects included delineation of the streetcar-only lane on northbound Terry Avenue between Thomas and Mercer Streets, as well as signage, street markings, and relocation of a bus zone along Yesler Way between Broadway and 14th Ave.



## 2. INTRODUCTION

### 2.1. ORDINANCE 124946

Ordinance 124946 requires the Seattle Department of Transportation (SDOT) to submit a report to the Chair of City Council's Sustainability and Transportation Committee (now City Council's Transportation and Utilities Committee) at least bi-annually on the operations of all operating streetcar lines. This requirement has been in place since December 2015.

Ordinance 124946 states:

*"The report shall include both performance metrics and financial metrics; and will include data for the past 5 years, estimates for the current year, and projections for the next 5 years. Performance metrics shall include ridership, farebox recovery ratio, productivity (riders per revenue hour), fare evasion, and reliability. Financial metrics shall include costs, including operating payments to King County, SDOT direct costs and contingency, and major maintenance expenditures; revenues, including farebox recovery, sponsorships and donations, grants and intergovernmental revenues; and actual use of funds from the Consolidated (Residual) Cash Pool\*<sup>1</sup> for interim financing. Financial reporting shall identify variances from financial projections included in the Adopted Budget. The report shall include a narrative to describe any significant or operational policy changes and explain any significant variation from budgeted projections. SDOT may adjust the performance and financial metrics with the written concurrence of the Chair of the Transportation Committee, to reflect changes to reporting methods from King County or other sources of data. The report shall be submitted in writing to the Chair of the Transportation Committee."*

<sup>1</sup>An interfund loan for streetcar operations is currently supported by the City's Transportation Fund. Legislation for the 2019-2020 Proposed Budget states that the loan is supported by the Move Seattle Levy Fund.

The Seattle Streetcar system consists of two separate, modern streetcar lines: the South Lake Union Streetcar (SLU) and the First Hill Streetcar (FHS). A project to expand and unify the system by connecting these two separate lines along First Avenue and Stewart Street, the Center City Connector, is currently paused.

Figure 1 shows the South Lake Union and First Hill Streetcar segment alignments along with the Center City Connector.

### 2.2. SOUTH LAKE UNION STREETCAR

The South Lake Union (SLU) Streetcar was approved by the City Council in 2005 in response to efforts to develop the South Lake Union neighborhood into a biotechnology and biomedical research hub. The \$56.4 million line was funded nearly 50% by property owners along the alignment, via a capital Local Improvement District, and the remainder by federal, state, and local funds.

The SLU line is 1.3 miles long and operates through mixed traffic. The line is served by a fleet of four Inekon vehicles operating in mixed right of way and powered exclusively by an overhead contact system (OCS). SLU operates an average 10- to 15-minute service frequency most hours of the day it operates, seven days a week.



# SEATTLE STREETCAR

**LEGEND**

- Streetcar
- Proposed Streetcar
- Streetcar Stop
- Proposed Streetcar Stop
- Sound Transit Link Light Rail Station
- Landmark

**Map Labels:**

- Streets:** VALLEY ST, ROY ST, 19TH AVE N, DOCKERT AVE N, 8TH AVE N, 7TH AVE N, WESTLAKE AVE N, 10TH AVE N, 11TH AVE N, 12TH AVE N, 13TH AVE N, 14TH AVE N, 15TH AVE N, 16TH AVE N, 17TH AVE N, 18TH AVE N, 19TH AVE N, 20TH AVE N, 21ST AVE N, 22ND AVE N, 23RD AVE N, 24TH AVE N, 25TH AVE N, 26TH AVE N, 27TH AVE N, 28TH AVE N, 29TH AVE N, 30TH AVE N, 31ST AVE N, 32ND AVE N, 33RD AVE N, 34TH AVE N, 35TH AVE N, 36TH AVE N, 37TH AVE N, 38TH AVE N, 39TH AVE N, 40TH AVE N, 41ST AVE N, 42ND AVE N, 43RD AVE N, 44TH AVE N, 45TH AVE N, 46TH AVE N, 47TH AVE N, 48TH AVE N, 49TH AVE N, 50TH AVE N, 51ST AVE N, 52ND AVE N, 53RD AVE N, 54TH AVE N, 55TH AVE N, 56TH AVE N, 57TH AVE N, 58TH AVE N, 59TH AVE N, 60TH AVE N, 61ST AVE N, 62ND AVE N, 63RD AVE N, 64TH AVE N, 65TH AVE N, 66TH AVE N, 67TH AVE N, 68TH AVE N, 69TH AVE N, 70TH AVE N, 71ST AVE N, 72ND AVE N, 73RD AVE N, 74TH AVE N, 75TH AVE N, 76TH AVE N, 77TH AVE N, 78TH AVE N, 79TH AVE N, 80TH AVE N, 81ST AVE N, 82ND AVE N, 83RD AVE N, 84TH AVE N, 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The SLU line started operations on December 12, 2007. It conveniently connects thousands of jobs in the South Lake Union neighborhood to the downtown core and additional regional transit connections at the Westlake HUB. There are nine stops along the alignment leading to restaurants, retail, businesses and Lake Union's 12-acre waterfront park. The southern terminus at Westlake/McGraw Square is a block away from Monorail and Link Light Rail stations at Westlake Center. SLU is served by an Operations and Maintenance Facility (OMF) located at 318 Fairview Ave N.

### 2.3. FIRST HILL STREETCAR

The First Hill Streetcar connects major medical facilities, Seattle Central College, Seattle University, and mixed income communities to the King Street mobility hub. The First Hill Streetcar line was funded by Sound Transit. Due to high construction and engineering risks, Sound Transit removed the proposed First Hill station from the North Link preferred route in July 2005 and constructed a streetcar connection instead.

The First Hill Streetcar line is 2.5 miles long. It operates with six Inekon vehicles, provides an average 10- to 18-minute service frequency most hours of the day it operates, seven days a week. FHS is served by an Operations and Maintenance Facility (OMF) located at 848 7th Ave S. The line was funded as part of the Sound Transit 2 mass transit expansion ballot measure approved by voters in November 2008. It was approved by the Seattle City Council in December 2008. Sound Transit developed an interlocal agreement with the City of Seattle for the City to design and construct the transit line. Construction began in late April 2012.

The line opened with a soft launch on January 23, 2016, with two weeks of free rides until the grand opening on February 13, during the Lunar New Year celebrations in Chinatown- International District.

### 2.4. CENTER CITY CONNECTOR

The Center City Connector (C3) project is an expansion of the Seattle Streetcar system that will join the existing SLU and the FHS lines, creating new north-south connections from Stewart St. in Westlake to Jackson St. in Pioneer Square. The project is anticipated to be funded through a combination of local and federal funds, including a Federal Transit Administration (FTA) Small Starts grant.

SDOT has been advancing the C3 project since its inclusion in the 2012 Seattle Transit Master Plan and 2016 update.

In March 2018, SDOT paused all work on the C3 project pending an independent review of operating and capital costs led by the City Budget Office. In January 2019, Mayor Durkan announced that the results of the third-party analyses showed that the overall capital cost of the project had increased significantly from the budget passed in 2017. In August 2019, City Council authorized \$9 Million in funding to advance design and planning work to restart the C3 project. The Mayor also announced that she would work with community members, members of the City Council, transit partners, businesses, and stakeholders to move forward on the project. In September 2019, Mayor Durkan proposed a new tax on Transportation Network Company (TNC) trips, the proceeds of which will be used to close the capital shortfall. City Council approved the new TNC tax in December 2019.

SDOT continued working with the FTA to advance the City's Small Starts grant application for the project. This process requires extensive oversight review by FTA and has contributed to the extension of the timeline of the project.

As of June 23, 2020, this project is on hold. The decision to put a pause on this project, along with many others, is in response to the significant decline of revenues for the City and our funding partners related to the COVID-19 crisis. For the purposes of this report, future year projections include only SLU and FHS operations.

## 3. FINANCIAL METRICS

### 3.1. OPERATIONS & MAINTENANCE COSTS

Operations and maintenance costs for the Seattle Streetcar increased by a total of 7.5% in 2019. O&M costs for the FHS line increased by 8.6% and on SLU by 4.9%. In addition to budgeted cost increases, the larger increase on FHS reflects some high cost spare parts purchases in 2019, such as pantographs, which connect the streetcar to overhead wire. Additional spare purchases were initiated in 2019, such as traction control and battery units, as well as equipment required for upcoming scheduled maintenance overhauls.

Detailed financial metrics, including historic and projected operations and maintenance costs, can be found in Table 2 and Table 3.

### 3.2. REVENUE

ORCA revenue, the single largest source of fare revenue for the system, increased systemwide in 2019, by 18% (\$252,000). This increase was driven by increases on both the SLU and FHS lines of 10% and 24%, respectively. ORCA revenue per boarding in 2019 remained consistent with 2018, averaging \$1.53. This reflects the fact that streetcar has one of the highest transfer rates under the ORCA system, averaging 64% in 2019. This means that a high percentage of streetcar trips taken using the ORCA Passport product also involve other ORCA modes of transit (e.g., Metro bus, Link Light Rail). As ORCA Passport revenue for a given trip is shared between the modes of travel involved according to a complex formula, this high transfer rate translates to a lower revenue per boarding. This does suggest, however, that streetcar is being used frequently

in conjunction with other transit modes as part of the larger transit network.

Sponsorship revenue on the SLU line continued to be popular in 2019, with revenue increasing 10% over 2018. Systemwide, however, sponsorship revenue declined significantly, driven by a lack of sponsorship revenue on the FHS line. Sponsorship revenue comes from the sale of exterior streetcar vehicle wraps, interior signage, and station stop shelter wraps.

Metro and Sound Transit contributions to the SLU and FHS lines, respectively, continued to be the largest sources of streetcar revenue in 2019. The Sound Transit contribution to FHS of \$5.0 million annually concludes in 2023, while the Metro contribution to SLU of \$1.55 Million annually will continue for another five years through 2024 under the new Interlocal Agreement executed at the end of 2019.

Detailed financial metrics, including historic and projected revenues, can be found in Table 1 and Table 2

### 3.3. INVESTMENT IN STREETCAR OPERATIONS

Streetcar revenues do not fully cover operations and maintenance costs. As such, the City invests other transportation focused resources, such as Commercial Parking Tax and Street Use Fees, to maintain service levels. Table 1 shows the projected funding investments required by each streetcar line.



**TABLE 1 - PROJECTED STREETCAR BALANCES AND INVESTMENT PER RIDER**

	PROJECTED*						
	2019	2020	2021	2022	2023	2024	2025
<b>Projected Streetcar Balances</b>							
SLU Surplus/Deficit	(768,770)	(1,459,694)	(1,746,000)	(1,966,000)	(2,196,000)	(2,436,000)	(4,236,000)
FHS Surplus/Deficit	(3,091,840)	(3,395,201)	(3,820,000)	(4,290,000)	(4,780,000)	(10,290,000)	(10,820,000)
Total Additional Investment Needed	(3,860,610)	(4,854,895)	(5,566,000)	(6,256,000)	(6,976,000)	(12,726,000)	(15,056,000)
<b>Operating Investment per rider</b>							
SLU Projected Investment per rider	\$1.53	\$2.90	\$3.47	\$3.91	\$4.37	\$4.84	\$8.42
FHS Projected Investment per rider	\$2.29	\$2.44	\$2.66	\$2.90	\$3.14	\$6.56	\$6.70
Combined Operating Investment per rider	\$2.08	\$2.56	\$2.87	\$3.16	\$3.44	\$6.14	\$7.11

\*Reflects pre-COVID-19 activity. COVID-19 impact has not yet been estimated and is not included here.

Nearly all public transit systems require some subsidy in addition to fares to meet operating expenses. The extent to which fare revenue covers operating expense is measured using the fare recovery ratio.

In 2019, farebox recovery ratios for SLU and FHS were 20% and 12%, respectively, despite increases in fare revenue. By comparison, Portland Streetcar fare recovery is reported at 14% for 2017 and 13% for 2018.<sup>2</sup> Sound Transit Link Light Rail fare recovery rate for 2017 is reported at 42% for 2017<sup>3</sup> and 38.3% for 2018.<sup>4</sup> It should be noted that Link Light Rail employs a robust fare enforcement program, while Seattle Streetcar does not have dedicated fare enforcement officers. King County Metro also employs dedicated fare enforcement officers for

Rapid Ride routes. King County Metro bus farebox recovery is reported at 27.3% for 2017.<sup>5</sup> Tacoma Link streetcar operates fare free until 2022.

Metro Streetcar Operation Supervisors conduct fare inspection surveys on the SLU and FHS lines for approximately one hour per shift per day to collect data on fare payment. The Supervisor uses a smartphone equipped with the King County ORCA inspection application to scan ORCA cards and visually inspects paper tickets. The Streetcar Operations Base Chief compiles the daily reports generated by the Operations Supervisors and includes the results in monthly streetcar operations reports to SDOT. Based on this limited information, the rate of non-payment for SLU in 2019 was 7.1%, down from 8.5% in 2018. The rate of non-payment for FHS was 20.2% in 2019, down slightly from 20.5% in 2018.

<sup>2</sup>Source: Portland Streetcar 2018 Annual Report, [https://storage.googleapis.com/streetcar/files/FNL\\_REV\\_Streetcar\\_Annual-Report-2018\\_Digital.pdf](https://storage.googleapis.com/streetcar/files/FNL_REV_Streetcar_Annual-Report-2018_Digital.pdf)

<sup>3</sup>Source: Sound Transit December 2017 Service Performance Report, [www.soundtransit.org/sites/default/files/december-2017-service-performance-report.pdf](http://www.soundtransit.org/sites/default/files/december-2017-service-performance-report.pdf)

<sup>4</sup>Source: Sound Transit December 2018 Service Performance Report, [www.soundtransit.org/sites/default/files/documents/monthly-service-performance-report-201812.pdf](http://www.soundtransit.org/sites/default/files/documents/monthly-service-performance-report-201812.pdf)

<sup>5</sup>Source: King County Metro, <https://kingcounty.gov/depts/transportation/metro/about/accountability-center/performance/financial/annual.aspx#metro-bus-farebox-recovery>



Given the minimal time allocated to this data collection activity, the number of surveyed passengers relative to ridership is small. In 2018, less than 1% of riders were surveyed on FHS, and only 1.3% were surveyed on SLU. Metro Supervisors are not authorized to issue citations for non-payment and do not collect data on the reasons for non-payment.

As a possible future activity, SDOT may consider additional data collection and surveying on the two streetcar lines to more fully understand fare payment behaviors and circumstances which may prevent riders from proper fare payment.

TABLE 2 - FIRST HILL STREETCAR FINANCIALS

	Historical				Adopted	Actual	Adopted	Projections *							
	2016	2017	2018	2019				2020	2021	2022	2023	2024	2025	2026	2027
1 <b>Costs</b>	<b>\$7,124,764</b>	<b>\$7,714,003</b>	<b>\$8,096,831</b>	<b>\$8,846,937</b>	<b>\$8,795,010</b>	<b>\$8,795,010</b>	<b>\$9,420,579</b>	<b>\$9,870,000</b>	<b>\$10,340,000</b>	<b>\$10,830,000</b>	<b>\$11,340,000</b>	<b>\$11,870,000</b>	<b>\$11,870,000</b>	<b>\$12,440,000</b>	<b>\$13,030,000</b>
2 Operating & Maintenance	\$7,124,764	\$7,714,003	\$8,096,831	\$8,846,937	\$8,795,010	\$8,795,010	\$9,420,579	\$9,870,000	\$10,340,000	\$10,830,000	\$11,340,000	\$11,870,000	\$11,870,000	\$12,440,000	\$13,030,000
3 Metro/KCM	\$6,094,519	\$6,567,926	\$7,337,722	\$7,586,907	\$7,794,924	\$7,794,924	\$8,122,748	\$8,530,000	\$8,960,000	\$9,410,000	\$9,880,000	\$10,370,000	\$10,370,000	\$10,890,000	\$11,430,000
4 City	\$1,030,245	\$1,146,077	\$759,109	\$1,260,030	\$1,000,086	\$1,000,086	\$1,297,831	\$1,340,000	\$1,380,000	\$1,420,000	\$1,460,000	\$1,500,000	\$1,500,000	\$1,550,000	\$1,600,000
5 <b>Revenues</b>	<b>\$5,863,760</b>	<b>\$5,919,349</b>	<b>\$4,256,893</b>	<b>\$6,364,425</b>	<b>\$6,029,463</b>	<b>\$6,029,463</b>	<b>\$6,025,378</b>	<b>\$6,050,000</b>	<b>\$6,050,000</b>	<b>\$6,050,000</b>	<b>\$1,050,000</b>	<b>\$1,050,000</b>	<b>\$1,050,000</b>	<b>\$1,050,000</b>	<b>\$1,050,000</b>
6 Sound Transit Contribution	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$-	\$-	\$-	\$-	\$-
7 Fares	\$736,406	\$769,349	\$844,077	\$1,047,861	\$1,029,463	\$1,029,463	\$925,378	\$930,000	\$930,000	\$930,000	\$930,000	\$930,000	\$930,000	\$930,000	\$930,000
8 ORCA	\$654,963	\$709,780	\$780,878	\$984,664	\$970,065	\$970,065	\$860,179	\$860,000	\$860,000	\$860,000	\$860,000	\$860,000	\$860,000	\$860,000	\$860,000
9 Pay Stations & Passes	\$81,443	\$59,569	\$65,199	\$63,197	\$59,398	\$59,398	\$65,199	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000
10 FTA Funding	\$-	\$-	\$258,185	\$258,064	\$-	\$-	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
11 Grants – 5307/5309	\$-	\$-	\$-	\$258,064	\$-	\$-	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
12 Other	\$127,354	\$150,000	\$152,631	\$58,500	\$-	\$-	\$-	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
13 Sponsorship	\$127,354	\$150,000	\$152,631	\$58,500	\$-	\$-	\$-	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
14 Surplus/(Deficit)	<b>\$11,261,005</b>	<b>\$11,794,654</b>	<b>\$11,839,937</b>	<b>\$12,482,512</b>	<b>\$12,765,547</b>	<b>\$12,765,547</b>	<b>\$13,395,201</b>	<b>\$13,820,000</b>	<b>\$14,290,000</b>	<b>\$14,780,000</b>	<b>\$10,290,000</b>	<b>\$11,390,000</b>	<b>\$10,820,000</b>	<b>\$11,390,000</b>	<b>\$11,980,000</b>

\*Reflects pre-COVID-19 Activity. Impacts of COVID-19 have not been estimated and are not included here.

TABLE 3 – SOUTH LAKE UNION STREETCAR FINANCIALS

	Historical					Adopted	Actual	Adopted	Projections						
	2013	2014	2015	2016	2017				2018	2019	2020	2021	2022	2023	2024
1 <b>Costs</b>	<b>\$2,857,984</b>	<b>\$3,094,273</b>	<b>\$3,130,465</b>	<b>\$3,027,802</b>	<b>\$3,369,119</b>	<b>\$3,612,215</b>	<b>\$4,211,265</b>	<b>\$4,211,265</b>	<b>\$4,211,265</b>	<b>\$4,211,265</b>	<b>\$4,356,803</b>	<b>\$4,560,000</b>	<b>\$4,780,000</b>	<b>\$5,010,000</b>	<b>\$5,250,000</b>
2 Operating & Maintenance	\$2,857,984	\$3,094,273	\$3,130,465	\$3,027,802	\$3,369,119	\$3,612,215	\$4,211,265	\$4,211,265	\$4,211,265	\$4,356,803	\$4,560,000	\$4,780,000	\$5,010,000	\$5,250,000	\$5,500,000
3 Metro/KCM	\$2,683,116	\$2,725,742	\$2,798,008	\$2,852,740	\$3,022,833	\$3,154,660	\$3,625,795	\$3,625,795	\$3,625,795	\$3,753,769	\$3,940,000	\$4,140,000	\$4,350,000	\$4,570,000	\$4,800,000
4 City	\$174,868	\$368,531	\$332,457	\$175,062	\$346,286	\$457,554.58	\$585,470	\$585,470	\$585,470	\$603,034	\$620,000	\$640,000	\$640,000	\$680,000	\$700,000
5 <b>Revenues</b>	<b>\$1,380,226</b>	<b>\$1,616,079</b>	<b>\$3,022,992</b>	<b>\$2,795,233</b>	<b>\$3,051,237</b>	<b>\$2,829,746</b>	<b>\$3,127,177</b>	<b>\$3,127,177</b>	<b>\$3,127,177</b>	<b>\$2,998,995</b>	<b>\$2,889,109</b>	<b>\$2,797,000</b>	<b>\$2,797,000</b>	<b>\$2,814,000</b>	<b>\$1,264,000</b>
6 Metro/KCM Contribution	\$-	\$-	\$1,350,000	\$1,400,000	\$1,450,000	\$1,500,000	\$1,550,000	\$1,550,000	\$1,550,000	\$1,550,000	\$1,550,000	\$1,550,000	\$1,550,000	\$1,550,000	\$-
7 Fares	\$855,820	\$521,188	\$551,276	\$736,833	\$759,148	\$728,677	\$912,635	\$912,635	\$912,635	\$775,379	\$730,067	\$720,000	\$720,000	\$720,000	\$720,000
8 ORCA	\$756,504	\$418,036	\$445,698	\$595,117	\$458,355	\$624,312	\$805,704	\$805,704	\$805,704	\$688,146	\$625,702	\$630,000	\$630,000	\$630,000	\$630,000
9 Pay Stations & Passes	\$99,316	\$103,152	\$85,578	\$141,716	\$100,793	\$104,365	\$106,931	\$106,931	\$106,931	\$87,233	\$104,365	\$90,000	\$90,000	\$90,000	\$90,000
10 FTA Funding	\$279,496	\$514,900	\$551,688	\$54,442	\$194,057	\$52,249	\$172,042	\$172,042	\$172,042	\$97,573	\$172,042	\$90,000	\$90,000	\$90,000	\$90,000
11 Grants – 5307/5309	\$189,185	\$348,035	\$545,578	\$54,442	\$194,057	\$52,249	\$172,042	\$172,042	\$172,042	\$97,573	\$172,042	\$90,000	\$90,000	\$90,000	\$90,000
12 Capital Improvement	\$90,311	\$166,865	\$6,110	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-	\$-
13 Other	\$244,910	\$579,991	\$570,028	\$603,958	\$448,032	\$548,820	\$492,500	\$492,500	\$492,500	\$576,043	\$437,000	\$437,000	\$437,000	\$454,000	\$200,000
14 Sponsorship	\$244,910	\$512,986	\$324,082	\$300,618	\$337,692	\$192,500	\$255,500	\$255,500	\$255,500	\$211,723	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
15 318 Fairview Lease	\$-	\$67,005	\$89,340	\$89,340	\$89,340	\$127,320	\$-	\$-	\$-	\$127,320	\$-	\$-	\$-	\$-	\$-
16 Amazon Contribution	\$-	\$-	\$156,606	\$214,000	\$221,000	\$229,000	\$237,000	\$237,000	\$237,000	\$237,000	\$237,000	\$237,000	\$237,000	\$254,000	\$-
18 <b>Surplus/ (Deficit)</b>	<b>\$11,477,758</b>	<b>\$11,478,194</b>	<b>\$11,074,731</b>	<b>\$12,322,569</b>	<b>\$13,177,862</b>	<b>\$12,765,547</b>	<b>\$13,395,201</b>	<b>\$13,820,000</b>	<b>\$14,290,000</b>	<b>\$14,780,000</b>	<b>\$10,290,000</b>	<b>\$11,390,000</b>	<b>\$10,820,000</b>	<b>\$11,390,000</b>	<b>\$11,980,000</b>



# 4. PERFORMANCE METRICS

## 4.1. RIDERSHIP

Ridership on the Seattle Streetcar system grew significantly in 2019 due to major increases on the FHS line.

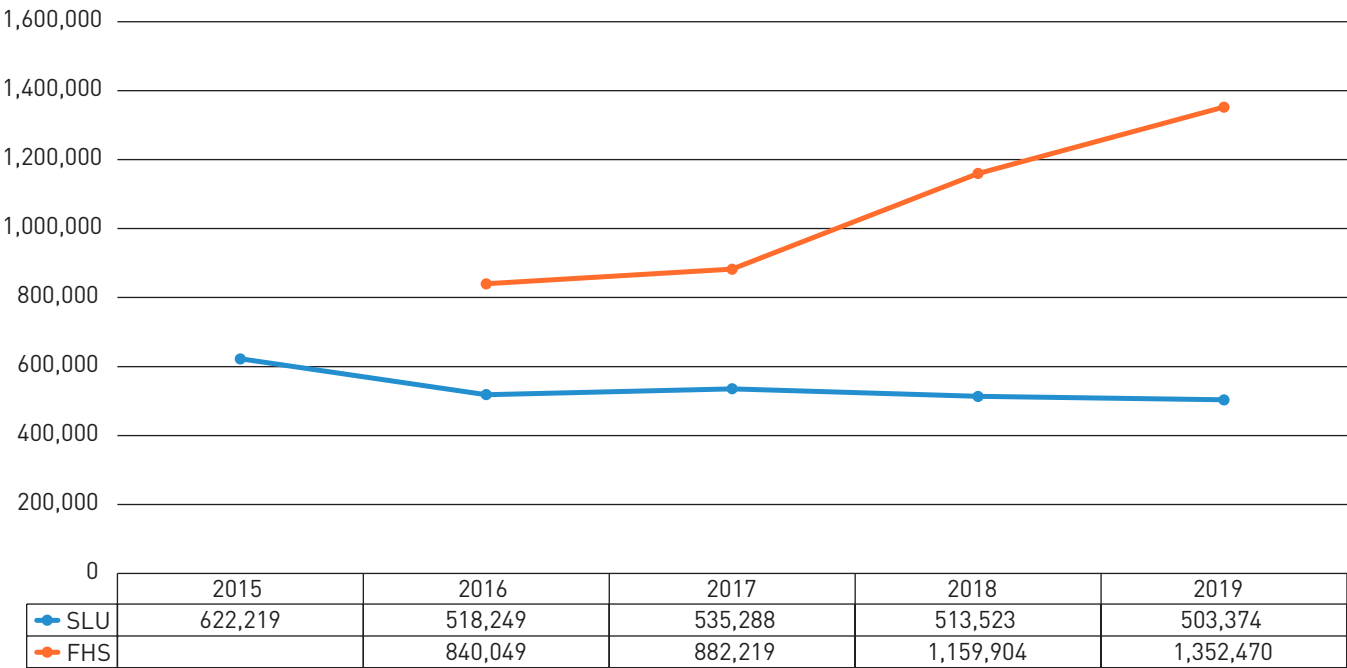
Ridership on FHS line (as reported by Metro to the National Transit Database) increased by 17% from 2018 to 2019. Ridership on the FHS totaled approximately 1,350,000 riders, an increase of approximately 190,000 over 2018. This continues a trend of robust ridership growth on the FHS since it opened in 2016.

Ridership on the South Lake Union line decreased by approximately 2% in 2019, with a total of approximately 503,000 riders. This total represents a decrease of approximately 10,000 riders from 2018. It should be noted that bus service through the South Lake Union

neighborhood began in 2016 and is among the higher ridership routes in the Metro system, providing frequent connection into South Lake Union. Installation of transit priority along Westlake Ave. benefitting streetcar service also benefitted parallel bus routes such as the RapidRide C and Route 40. In addition to increasing bus options, increased TNC activity and employer shuttle service provide competing transportation options as well as increased congestion, which negatively impacts streetcar speed and reliability, and may be factors contributing to SLU ridership declines.

Overall, these totals added up to a combined system-wide ridership of 1,856,000 riders, an increase of 11%, or approximately 182,000 riders, over 2018.

FIGURE 2 - SEATTLE STREETCAR RIDERSHIP (NTD REPORTED) 2015-2019



## 4.2. RELIABILITY

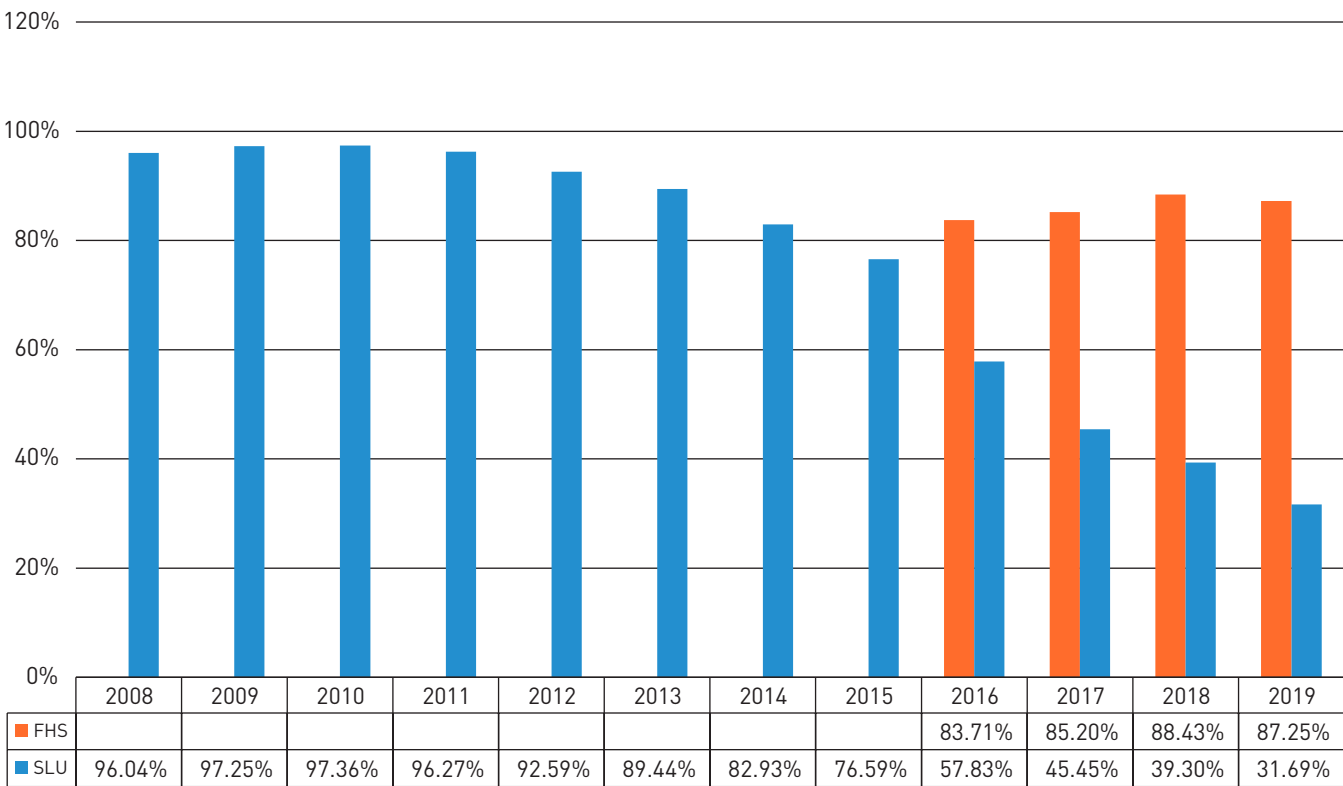
Reliability for the FHS line, as measured by On Time Performance (OTP), dipped slightly in 2019 from 88.43% to 87.25%, while OTP on the SLU line declined from 39.30% to 31.69%

Reliability is measured based on the arrival time of a given streetcar at designated points along the route between 7:00am and 7:00pm relative to the scheduled arrival time. A streetcar is “on-time” if it arrives within a window five minutes prior to or later than the scheduled time at the designated time point. Metro reports on-time performance to SDOT on a monthly basis. Figure 2 shows the average annual percentage of time each line was operating “on-time.”

While OTP for FHS has remained consistently high since its opening in 2016, OTP on SLU has declined steadily since 2011 and has dropped considerably over the past four years. SDOT is working with Metro to collect more data related to blockages and other issues affecting OTP. Anecdotally, it is believed that the recent dramatic increase in construction activity and traffic congestion in the South Lake Union neighborhood is a contributing factor to this decline. Section 4.4 below describes spot improvements undertaken in 2018 and 2019 to improve operations.

Historical and projected OTP for the streetcar can be found in Figure 3.

**FIGURE 3 - ON-TIME PERFORMANCE 2008-2019**





### 4.3. PRODUCTIVITY

Productivity on the SLU and FHS lines, as measured by riders per revenue hour<sup>6</sup>, increased in 2019. SLU operated approximately 12,000 revenue hours, serving 44 riders per revenue hour. FHS operated approximately 28,000 revenue hours, serving 50 riders per revenue hour.

### 4.4. PROPOSED OPERATIONS IMPROVEMENTS

In 2019, SDOT, through the Transit Spot Improvements program, pursued several spot improvements aimed at improving streetcar safety, speed and reliability. Many of these improvements were identified in a 2018 SDOT report to the Seattle City Council Sustainability and Transportation Committee on efforts to analyze and identify spot improvements aimed at improving streetcar speed and reliability. In 2018, SDOT also reported on efforts to identify improvements to increase safety around streetcar tracks for bicyclists. These improvements have focused on smaller scale improvements that would not require major capital work.

Table 6 shows planned and implemented improvements for 2018 and 2019.

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<sup>6</sup>Revenue Hours are defined as the number of hours streetcars are operating scheduled service. This time does not include layover or deadhead time



**TABLE 4 - FIRST HILL STREETCAR PERFORMANCE**

	Historical				Estimated *					
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Ridership	840,049	882,219	1,159,904	1,352,470	1,393,000	1,435,000	1,478,000	1,522,000	1,568,000	1,615,000
Farebox Recovery Ratio	10%	10%	10%	12%	13%	10%	9%	9%	9%	8%
Productivity (Riders/Revenue Hour)	32	34	41	49	50	52	53	55	56	58
"Fare Evasion"	7.5%	13.5%	20.5%	20.2%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Reliability (On-Time Performance)	84%	85%	88%	87%	87%	87%	87%	87%	87%	87%

\*Reflects pre-COVID-19 Activity. Impacts of COVID-19 have not been estimated and are not included here.

**TABLE 5 - SOUTH LAKE UNION STREETCAR PERFORMANCE**

	Historical					Estimated					
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Ridership	622,219	518,249	535,288	513,523	503,374	503,000	503,000	503,000	503,000	503,000	503,000
Farebox Recovery Ratio	18%	24%	23%	20%	22%	23%	17%	16%	16%	15%	14%
Productivity (Riders/Revenue Hour)	51	40	38	36	43	44	46	47	48	50	51
"Fare Evasion"	4.9%	4.4%	4.8%	8.5%	7.1%	8%	8%	8%	8%	8%	8%
Reliability (On-Time Performance)	77%	58%	41%	80%	80%	80%	80%	80%	80%	80%	80%

\*Reflects pre-COVID-19 Activity. Impacts of COVID-19 have not been estimated and are not included here.

**TABLE 6 - OPERATIONS IMPROVEMENTS**

Line	Location	Proposed Improvement	Streetcar Benefit	Status
FHS	East Yesler Way (between Boren and 14th Avenues)	Yesler Way/Boren Avenue: restrict afternoon peak left turning vehicles (eastbound and westbound)	Reduce travel time between 20 and 50 seconds per trip during PM peak period	Completed in 2018
		Yesler Way/12th Avenue: restrict left turning vehicles		Completed in 2018
		Yesler Way/14th Avenue: Synchronize signal and improve stop bar visibility		Completed in 2018
FHS	South Jackson Street (between Occidental and 14th Avenues)	Transit signal priority at 2nd, 5th, and Maynard Avenues	Reduce travel between 40 and 70 seconds per trip during PM peak period	Completed in 2018
		Restrict on-street parking east of 12th Avenue		Completed in 2018
FHS	Yesler Way (between 14th Avenue and 12th Avenue)	Relocate bus zone and install protected bike lane	Separate bicyclists and Streetcar	In progress
FHS	14th Avenue (between Jackson and Yesler Way)	Relocate bicycle lane next to the curb and convert angled parking to parallel parking	Separate bicyclists and Streetcar	In progress
FHS	Broadway and Denny	Install left turn pocket for bicyclists	Separate bicyclists and Streetcar	In progress
FHS	12th Ave S and E Yesler Way	Install two stage left turn	Separate bicyclists and Streetcar	In progress
FHS	12th Ave S and E Yesler Way	Install a floating bus stop to separate bicyclists and from streetcar tracks	Separate bicyclists and Streetcar	In progress
FHS	10th Avenue S and E Yesler Way	Straighten the angle to lessen conflict with streetcar tracks	Separate bicyclists and Streetcar	In progress
SLU	Broad Street/ Westlake Avenue	Move stop bar back and install curb to prevent cars from using streetcar lane.	Reduce travel time by 2 minutes per trip during PM peak period	Project submitted for delivery on March 13, 2020. Expected delivery date: fall 2020
SLU	Terry Avenue (between Mercer Street and Thomas Street)	Northbound transit-only lane	Reduce travel time between 1 and 2 minutes per trip during PM peak period	Project nearly complete. Terry Avenue between Thomas and Harrison is waiting for construction to be cleared. Target date: fall 2020
SLU		Restrict eastbound left turns from Thomas Street to Terry Avenue		
SLU	Thomas Street @ Terry Avenue	Install advanced warning signs indicating the skewed track crossing for westbound cyclists. Install pavement marking that indicates the appropriate path of travel a cyclist should take at the rail crossing;	Improved bicycle and streetcar interaction	Completed in 2019
SLU	E Harrison @ Terry Ave N	Add shared-lane markings to the east lane on Terry Ave to direct cyclists away from the track lane and to alert motorists to the presence of bicycles. Install advanced warning signs indicating the skewed track crossing (for northbound and westbound cyclists). Install pavement markings that indicate the appropriate path of travel a cyclist should take at the rail crossings.	Improved bicycle and streetcar interaction	Completed in 2019
SLU	E Harrison @ Fairview	Install pavement markings alongside the curb for eastbound cyclists on Harrison St just east of the intersection at Fairview Ave to guide bicyclists across turning streetcar tracks at a safe angle. Add pavement marking to notify all road users that eastbound Harrison St is only one lane	Improved bicycle and streetcar interaction	Completed in 2019
SLU	Valley Street @ Terry Avenue	Replace westbound cross-bike markings with a more direct path. West of the signal (i.e., westbound on Valley St just past Terry Ave), move the beginning of the right turn pocket farther west, closer to Valley St & Westlake Ave.	Improved bicycle and streetcar interaction	Completed in 2019

# 5. OPERATIONS HIGHLIGHTS

## 5.1. GOVERNANCE STRUCTURE AND BUDGET OVERVIEW

The South Lake Union and First Hill Streetcar lines are owned by the City of Seattle and operated by King County Metro (Metro). This partnership, including respective roles and responsibilities, and funding commitments, is detailed in the 2019 Interlocal Agreement (ILA) between the City of Seattle and King County regarding the Seattle Streetcar.

The 2019 agreement was executed in December 2019 following a year-long negotiation between SDOT and King County to replace the 2014 Amended & Restated Interlocal Agreement (ILA) between the City of Seattle and King County regarding the Seattle Streetcar that was set to expire at the end of 2019.

The new ILA clarifies the budget and invoicing process with Metro to reduce the magnitude of year-end reconciliations. The new process calls for increased coordination early in SDOT and Metro budget cycles. Annual projections for operating expenses and revenues are based on historical actuals, rather than a schedule of estimated costs and revenues as seen in the previous ILA. This will allow Metro and SDOT to identify and attempt to account for any major changes to operating needs on an annual basis. Invoicing will occur monthly rather than quarterly. Further, the new ILA includes continuation of the County's annual \$1.55 million contribution to SLU operations until 2024. In addition, the new ILA consolidates certain operations and maintenance functions previously performed by SDOT into Metro operations and maintenance. These functions include station platform maintenance, facility maintenance for the First Hill OMF, and track drain maintenance.

SDOT Streetcar Operations staff includes the Streetcar Operations Manager, which is part of the Transit and Mobility Division. Metro, as operator of the system, employs approximately 58 operators, supervisors, and maintenance staff dedicated to streetcar operations. While nearly all operations and maintenance responsibilities reside with the County under the current ILA, SDOT is currently responsible for decisions regarding fare policy and enforcement.

In addition to revenues and expenses described in the ILA, the overall streetcar operations and maintenance budget includes revenue generated from the streetcar sponsorship program, Sound Transit contributions<sup>7</sup>, federal grants, and cash fares collected directly by SDOT from streetcar ticket vending machines. It also includes costs directly incurred by SDOT for such items as labor for program management and oversight, repairs, right-of-way maintenance, and other operations and maintenance activities not performed by Metro.

## 5.2. SAFETY & SECURITY UPDATE

The Seattle Streetcar is a Rail Transit Agency (RTA) subject to oversight by the Washington State Department of Transportation (WSDOT), which serves on behalf of the federal government as the State Safety Oversight Agency (SSOA) for the State of Washington. While many of the day-to-day responsibilities governing safety and security are administered by King County as the operator, the City of Seattle, as the owner of the system, and King County, as the operator,

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<sup>7</sup>Under a separate Funding and Cooperative Agreement between Sound Transit and the City of Seattle for the First Hill Streetcar project, Sound Transit provides an annual contribution of \$5.0M to First Hill Streetcar operations and maintenance through 2023.



share responsibilities for compliance with the Washington State Rail Safety Oversight Program Standard (Program Standard).

The Seattle Streetcar System Safety Program Plan (SSPP) serves as the primary document for streetcar safety planning and compliance with the state program standard in 2019. Under the SSPP, the SDOT Director and Metro General Manager both serve as Accountable Executives for the system. Day-to-day safety administration for the streetcar is performed by King County Rail Safety and Streetcar Operations staff. These include incident investigation, development of the SSPP, and reporting to the National Transit Database (NTD).

In 2019, SDOT and Metro worked cooperatively with WSDOT on several safety compliance activities. In early 2019, SDOT and Metro completed the WSDOT Triennial Audit of the SSPP. In May 2019, SDOT and Metro submitted the required annual update to the SSPP for WSDOT approval, which was approved by WSDOT in June 2019.

In 2020, SDOT Streetcar Operations staff will be continuing the required internal audit of the SSPP. SDOT staff have also been active in reviewing and commenting on WSDOT's forthcoming revision to the WSDOT Program Standard, expected in spring 2020.

### **5.2.1. CHANGES TO STREETCAR SAFETY MANAGEMENT**

On July 19, 2019 the Federal Transit Administration's (FTA) Public Transportation Agency Safety Plan final rule (49 CFR Part 673), as authorized by the Moving Ahead for Progress in the 21st Century Act (MAP-21), became effective. The final rule makes major changes to the safety requirements and responsibilities of rail transit agencies, the largest of which requires

the Seattle Department of Transportation (SDOT) to develop a Public Transportation Agency Safety Plan (PTASP) based on Safety Management System (SMS) principles and methods. SDOT must certify that it has a PTASP meeting the requirements of the rule by July 20, 2020 or risk losing eligibility for federal funding. SDOT met this requirement in July 2020.

The new federal guidance expands SDOT's role in safety and security management for the Seattle Streetcar. Under the new 49 CFR Part 673 requirements, SDOT must develop its own PTASP, which will replace the SSPP. SDOT streetcar operations staff have been working closely with King County Metro and WSDOT to draft a PTASP that meets the 49 CFR Part 673 requirements by the July 2020 deadline. In general, KCM will continue to be responsible for daily operations and maintenance activities. Additionally, KCM's safety unit will continue to perform most of the safety related duties for day-to-day functions including accident notification, reporting, and investigation.

SDOT will continue to be responsible for the administrative functions related to streetcar. These duties include managing the annual budget, all decision-making regarding system expansions (including capital and safety certification), safety oversight, and internal safety auditing. SDOT is also the owner of the Transit Asset Management Plan (TAMP) and is the owner of the streetcar configuration management and change control process.

Under the new rule, the PTASP establishes the SDOT Director as the Accountable Executive for the Seattle Streetcar and requires the establishment of a Streetcar Chief Safety Officer (CSO) within SDOT, responsible for overseeing implementation of the PTASP. The CSO must report to the Accountable Executive and be certified under the Transportation Safety Institute's Transit Safety and Security Program (TSSP).







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