

Seattle Department of Transportation

# 2020 ANNUAL STREETCAR OPERATING REPORT



October 2021



**Seattle**  
Department of  
Transportation

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# 1. EXECUTIVE SUMMARY

The Seattle Streetcar system, owned by the Seattle Department of Transportation (SDOT), 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 (Metro) to serve as the operator of the system on the City's behalf. This report reflects 2020 performance and financial metrics, including the significant changes in ridership and operating status resulting from the COVID-19 pandemic.

In 2020, the COVID-19 pandemic significantly affected streetcar operations, resulting in suspension of SLU service from late March through mid-September 2020 and a reduction in FHS service. Metro operations staff were significantly impacted by the pandemic, with several staff utilizing available leave for extended periods due to health risks. Available staffing resources were consolidated to prioritize service on First Hill to support essential trips. Due to reduced service, transit being designated for essential trips only, and statewide stay-at-home directives, transit ridership was significantly reduced, with a Streetcar systemwide reduction of 60% or approximately 1.1 million riders across both FHS and SLU services. Fare collection was also suspended for all Metro services in March 2020 through mid-October 2020. ORCA revenue, the single largest source of fare revenue for the streetcar system, decreased systemwide in 2020, by 75% (approximately \$1,250,000).

The federal government responded to the pandemic by providing financial assistance via the Coronavirus Aid Relief and Economic Security Act (CARES) and Coronavirus Response and Relief

Supplemental Appropriations Act (CRRSAA), both of which dedicated significant revenues to transit agencies. The City of Seattle received just over \$688,000 from the CARES Act for streetcar operations and nearly \$1,155,000 of CARES funds through an agreement with King County Metro. SDOT anticipates receiving approximately \$785,000 of CRRSAA funds for streetcar in 2021 and \$1,280,000 of CRRSAA funds through an agreement with King County Metro. This funding has provided important relief due to decreased revenues brought on by the pandemic.

Highlights from 2020 include:

## **SDOT and Metro Streetcar staff responded to the COVID-19 global pandemic**

The pandemic required streetcar operations to adjust to dynamic and evolving federal, state, and local directives in response to COVID-19. Streetcar operations responded through a variety of measures, including:

- Implementing physical safety measures to support social distancing on streetcar vehicles. This included removing seats and hanging a chain barrier to keep riders 6 feet from the operator's cab. Metro also installed signage and mask dispensers to support federal, state, and local mask directives. SLU service was paused from mid-March through mid-September due to operator shortages. Service on First Hill was reduced from 2019 levels based on staffing availability. Statewide stay-at-home directives and the reduction in service resulted in a 60% drop in ridership as compared to 2019.





- In light of overall agency financial concerns brought on by the pandemic, SDOT and Metro collaborated to reduce discretionary spending and implement planned 2021 budget reductions beginning in September 2020. This included a reduction in service levels for 2021 and 2022 as compared to 2019.

### **SDOT Streetcar Operations staff implemented new federal safety requirements**

In 2019, there were several new changes to federal requirements governing rail safety oversight, requiring SDOT to assume new responsibilities in managing and planning streetcar safety. In 2020, SDOT adopted its first Public Transportation Agency Safety Plan (PTASP) based on a Safety Management System (SMS) philosophy in accordance with the new federal requirements. SDOT has three years to fully implement the PTASP. In 2020, SDOT focused on familiarizing staff with the new safety plan, right-sizing new processes and staffing, and working with Metro to modify existing safety practices to align with the new plan.



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

The SDOT Transit Spot Improvements Program advanced work on several spot improvements to increase safety for people on bicycles around streetcar tracks, reduce disruptive conditions identified through operations, and improve streetcar travel time and increase reliability. Notable projects included relocation of the bus stop at Yesler & 14th Ave, construction of a new protected bicycle lane on Yesler from 14th Ave to 12th Ave, and bicycle channelization improvements at various locations in South Lake Union to improve bicycle flow over streetcar tracks.



## *COVID-19 Safety Measures*





*E Yesler Way Protected Bike Lane*



*Harrison & Fairview Bike Crossing*



*Valley Street Bike Lane*



## 2. INTRODUCTION

### 2.1. ORDINANCE 124946

Ordinance 124946 requires SDOT to submit a report to the Chair of City Council's Sustainability and Transportation Committee (now City Council's Transportation and Utilities Committee) 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 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."*

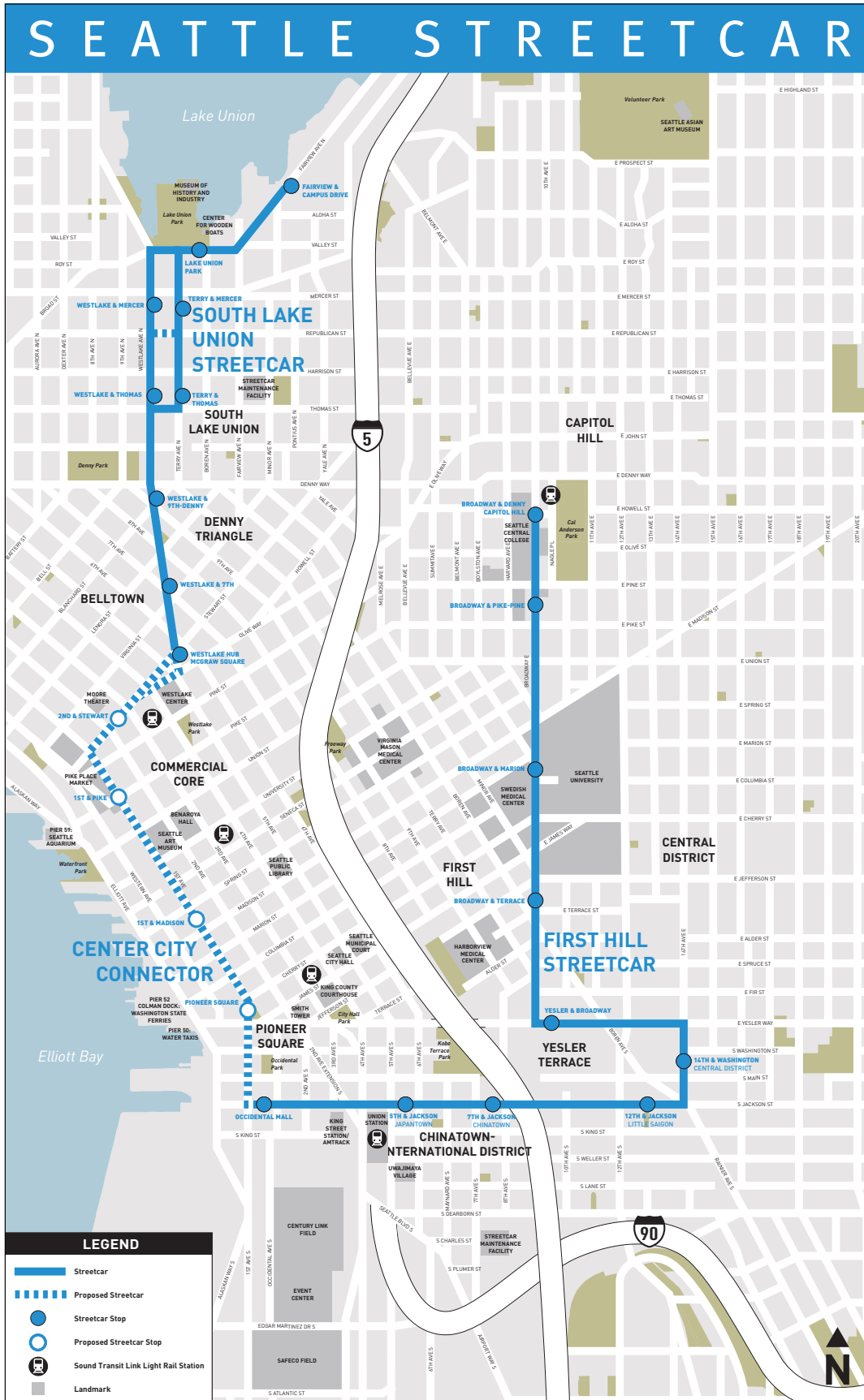
In 2019, SDOT entered into an Interlocal Agreement with King County Metro, whereby operating costs for the First Hill Streetcar and South Lake Union Streetcar are reconciled by June 30 of each year. Through the reconciliation process, Metro compiles all actual costs incurred to operate the streetcars and compares the amount to invoices paid by SDOT monthly throughout the year, with a financial settlement as needed. It takes Metro three months to produce the final actual costs incurred as financial systems close-out the previous year during the first quarter. Once reconciliation is complete, SDOT can prepare the analysis included in the annual report. This reconciliation process only happens once a year. Since 2019, SDOT has prepared an annual report for a Q3 delivery which aligns with the annual reconciliation process with King County Metro described above, rather than the bi-annual report requested in the original legislation.

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

### 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.

FIGURE 1 - SEATTLE STREETCAR SYSTEM MAP



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 from 6:00am – 9:00pm weekdays, 7:00am-9:00pm Saturdays and 10:00am-7:00pm Sundays.

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, which provides connections to Sounder trains, Link light rail, and regional bus transit. 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 15-minute service frequency from 5:00am-10:30pm weekdays, 6:00am-10:30pm Saturdays and 10:00am-8:00pm Sundays. 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, and operation began in January 2016.

### **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 was significantly higher than the budget passed in 2017. In August 2019, City Council authorized \$9 million in funding for critical design and planning work needed to advance the C3 project. Mayor Durkan also announced plans to work with community members, 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 can be used as local funding to close the capital budget gap. City Council approved the new TNC tax in December 2019. However, in June 2020, SDOT paused the project again due to significant decline of revenues for the City and funding partners related to the COVID-19 pandemic.

For the purposes of this report, future year projections include only SLU and FHS operations due the continued pause of the C3 project.



# 3. OPERATIONS HIGHLIGHTS

## 3.1. 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, 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 ILA between the City of Seattle and King County.

The new ILA clarifies the budget and invoicing process with Metro to reduce the potential amount 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 allows Metro and SDOT to identify and attempt to account for any major changes to operating needs on an annual basis. Invoicing occurs monthly rather than quarterly.

In 2020, SDOT Streetcar staff included the Streetcar & Transit Corridors Manager and the Streetcar Chief Safety Officer, who are part of the Transit and Mobility Division. As part of beginning

implementation of the PTASP, the staff member in the role of the Streetcar Operations Manager completed training to become the Streetcar Chief Safety Officer, and SDOT began steps leading to a 2021 hiring of a Streetcar Program Manager to oversee program management and operations. This separation of safety and operational responsibilities is a requirement of the Federal Transit Administration (FTA).

Metro, as operator of the system, employs approximately 55 operators, supervisors, and maintenance staff dedicated to streetcar operations. While nearly all day-to-day operations and maintenance responsibilities reside with Metro under the current ILA, SDOT is currently responsible for decisions regarding safety, overall budget and financial planning, level of service, fare policy and enforcement, and long-term asset management.

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>1</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 safety oversight, repairs, right-of-way maintenance, and other operations and maintenance activities not performed by Metro.

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<sup>1</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.

### 3.2. 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. In July 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 made major changes to the safety requirements and responsibilities of rail transit agencies, the largest of which requires SDOT to develop a PTASP based on Safety Management System (SMS) principles and methods.

Under the new safety plan, SDOT's role in safety oversight has significantly expanded. SDOT now has a Chief Safety Officer (CSO) who reports directly to the Accountable Executive (SDOT Director) on streetcar safety. The CSO has direct responsibility for implementing the new safety plan as well as the associated Safety Management System which is designed to broaden the culture of safety within a transit agency.

Many of the day-to-day responsibilities governing safety and security continue to be administered by Metro as the operator, including accident notification, reporting, and investigation. SDOT continues 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) which is referenced by the PTASP and reinforces State of Good Repair decision making.

On July 2, 2020, SDOT submitted the adopted PTASP to WSDOT, meeting the federal timeline for submittal. The PTASP replaces the prior System Safety Program Plan (SSPP), which King County Metro has historically authored and maintained. In fall 2020, SDOT's Chief Safety Officer completed the annually required internal safety audit of the streetcar system and submitted it to WSDOT in accordance with the timeframe laid out in their Program Standard. Looking ahead, the internal audit program will continue to mature in 2021. Representatives from SDOT's Health, Safety & Security Team will lead elements of the 2021 internal audit to have an independent review separate from the Chief Safety Officer. In 2021, SDOT will also undertake the first internal audit of streetcar's PTASP which will provide further opportunity to refine new processes associated with the plan.

## 4. PERFORMANCE METRICS

### 4.1. RIDERSHIP

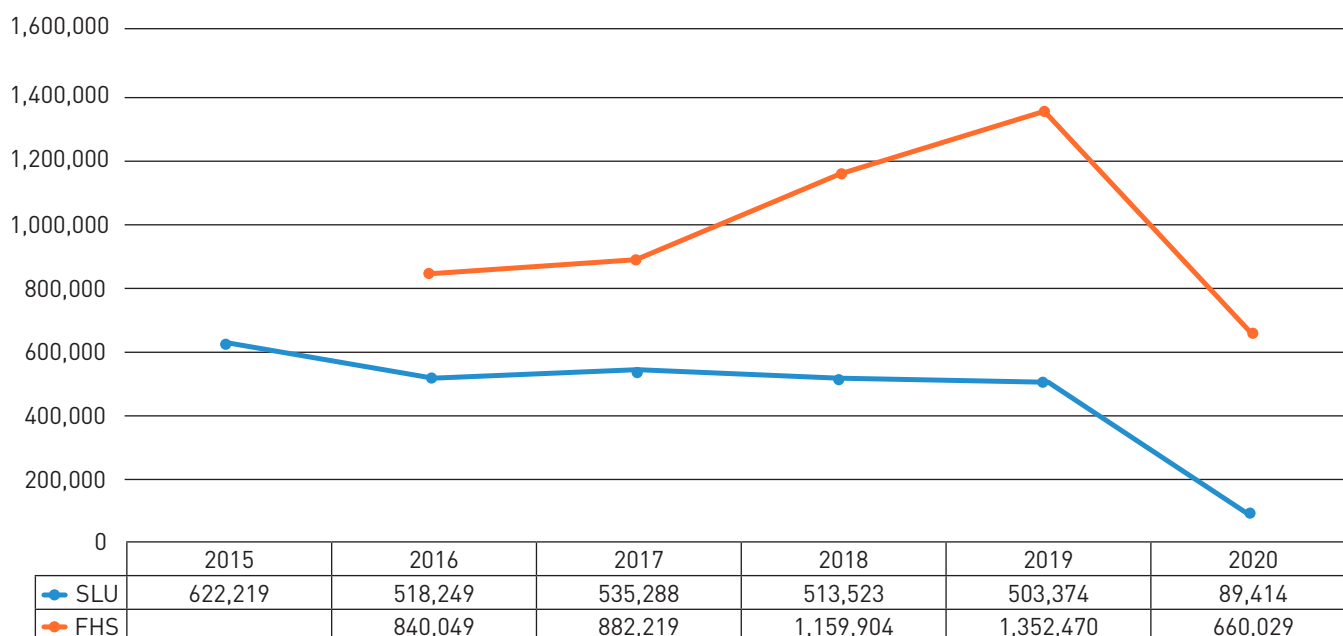
Ridership on the Seattle Streetcar system dropped significantly in 2020 due to impacts of the COVID-19 pandemic. In response to direction from King County – Seattle Public Health, all transit service in King County was designated as “Essential Trips Only.” Additionally, the bulk of downtown office workers across nearly all sectors were directed to work from home where possible. The resulting drop in transit ridership was significant, with a Streetcar systemwide reduction of 60% or approximately 1.1 million riders across both FHS and SLU services.

- Ridership declined on SLU due to service being suspended from March – September 2020. The line saw an overall drop in ridership of 82% compared to 2019. This is comparable to the 78% ridership reduction Metro observed on South Lake Union bus transit routes.

- Ridership also declined on FHS. The line remained in operation to support essential trips, such as to medical facilities on First Hill, but operated at reduced frequency. The line saw an overall drop in ridership of 51% compared to 2019. For comparison, Metro observed a 66% ridership reduction systemwide.

Overall, these totals add up to a combined systemwide ridership of just under 750,000 riders, a decrease of 60%, or approximately 1.1 million riders, compared with 2019. In years prior, staff have assumed 3% year-over-year growth in ridership for projection purposes. As a result of COVID, SDOT has revised assumptions for future years. Additional details on these assumptions as well as updated projections are located within the First Hill and South Lake Union performance tables, respectively.

FIGURE 2 - SEATTLE STREETCAR RIDERSHIP (NTD REPORTED) 2015-2020





## 4.2. RELIABILITY

Reliability for the FHS line, as measured by On Time Performance (OTP), dipped in 2020 from 87% to 63%, while OTP on the SLU line improved from 32% to 46%. In reviewing this data, staff identified a technology malfunction that impacted the accuracy of this data, as staff observations suggest a higher rate of OTP on both lines in 2020. Work is underway to correct this for 2021.

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 3 shows the average annual percentage of time each line was operating “on-time.”

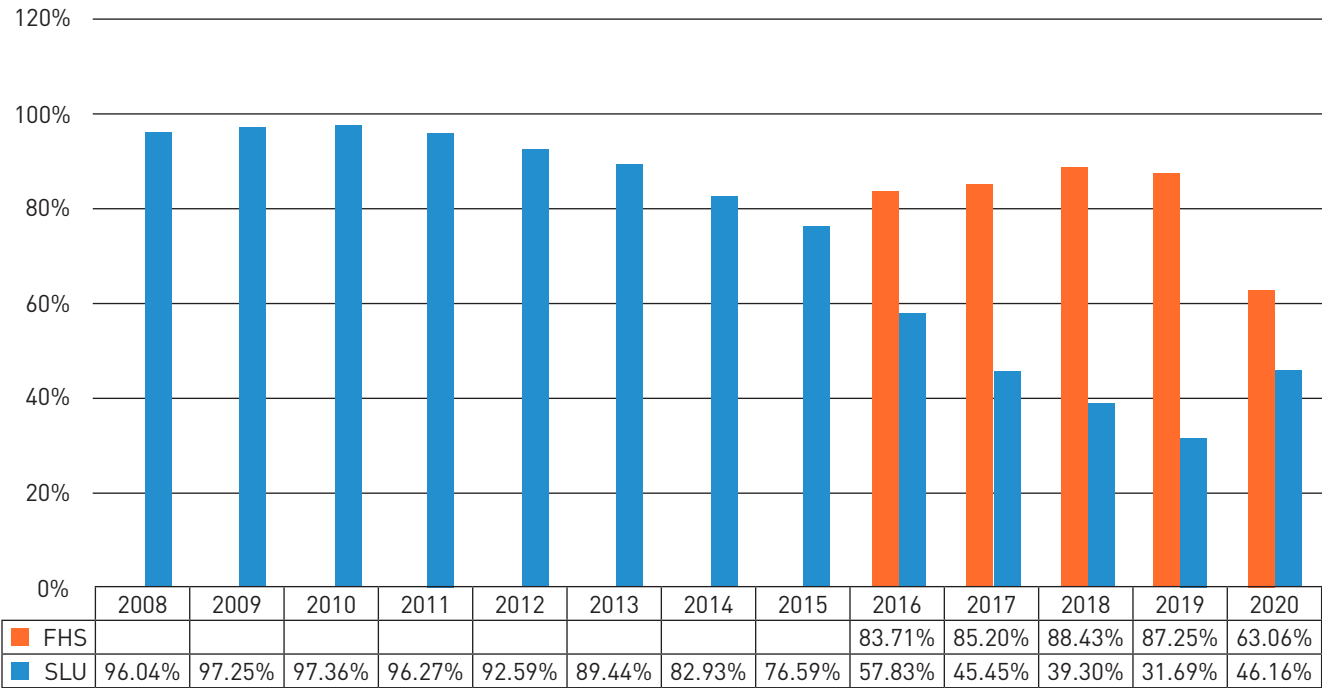
Section 4.4 below describes spot improvements undertaken in 2019 and 2020 to improve operations.

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

## 4.3. PRODUCTIVITY

Productivity on the SLU and FHS lines, as measured by riders per revenue hour<sup>2</sup>, decreased in 2020. SLU operated approximately only 7,900 revenue hours, serving 11 riders per revenue hour. FHS operated approximately 21,000 revenue hours, serving 31 riders per revenue hour.

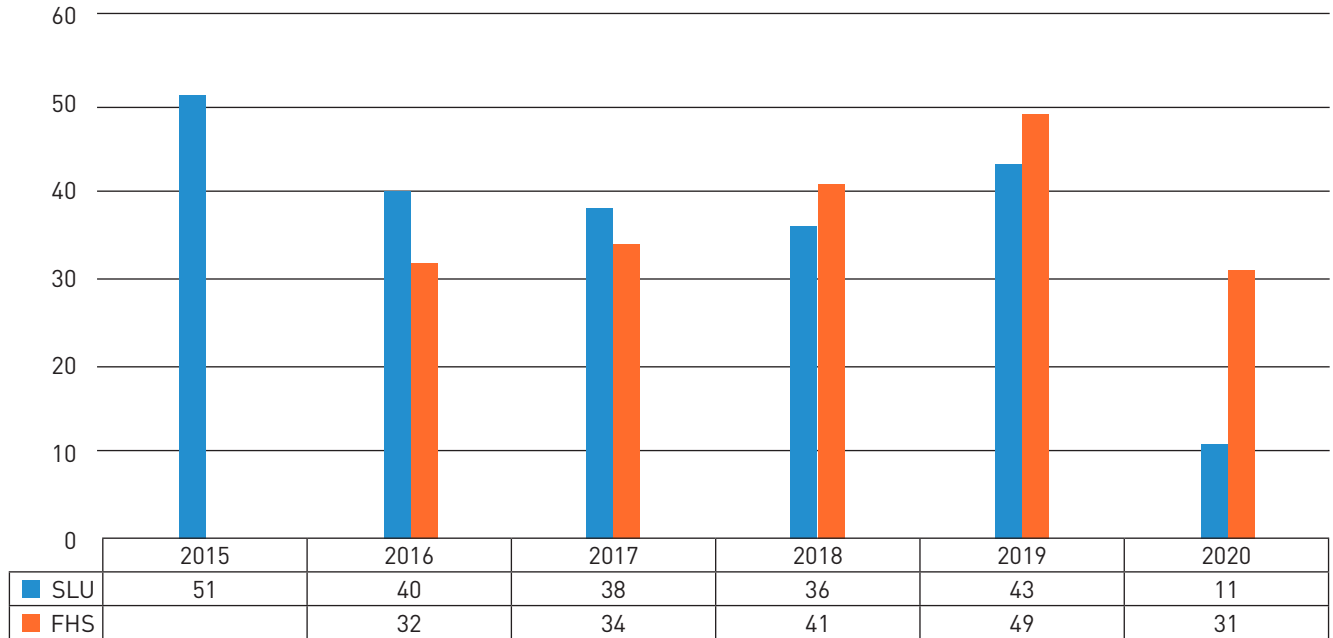
FIGURE 3 - ON-TIME PERFORMANCE 2008-2020\*



\*Note: 2020 data impacted by system data reporting error.

<sup>2</sup>Revenue Hours are defined as the number of hours streetcars are operating scheduled service. This time does not include layover or deadhead time.

FIGURE 4 – PRODUCTIVITY 2015-2020



#### 4.4. PROPOSED OPERATIONS & SAFETY IMPROVEMENTS

In 2020, SDOT, through the Transit Spot Improvements program, pursued several spot improvements aimed at improving streetcar safety, travel time, and reliability. The majority of the improvements made in late 2019 through 2020 were tied to efforts to improve safety around streetcar tracks for people on bicycles.

Additionally, a number of improvements originated within the streetcar safety program and were completed in response to hazards identified by Metro personnel through operation of the streetcar.

Table 6 shows planned and implemented improvements for late 2019 through 2020.

## 5. FINANCIAL METRICS

### 5.1. OPERATIONS & MAINTENANCE COSTS

In 2020, the COVID-19 pandemic significantly affected streetcar operations, resulting in suspension of SLU service from late March through mid-September and a reduction in FHS service. KCM operations staff were significantly impacted by the pandemic, with several staff utilizing available leave for extended periods due to health risks. Available staffing resources were consolidated to prioritize service on First Hill to support essential trips. Because employees were using eligible leave, there was not a significant reduction in labor costs in 2020, which is the largest expense in the streetcar program.

In 2020, there was an increase in frequency of vandalism against streetcar assets. While both the SLU and FHS lines experienced increased levels of vandalism, the FHS line experienced significantly higher levels. The most common form of vandalism came in the form of spray paint graffiti on streetcar shelters. Additionally, several of the electronic ticket vending machines, which are placed at each platform to dispense paper tickets, were damaged beyond usage. These units are maintained by the SDOT Parking Shop. Additionally, over 20 pieces of shelter glass were broken with several platforms experiencing repeat instances. Towards the end of 2020, the frequency of these acts began to decrease and an organized effort to repair glass and customer communications posted on the glass, is underway in 2021.



*Broadway & Pine Platform Vandalism (illustrative of systemwide vandalism in 2020)*



Systemwide, operations and maintenance costs for the Seattle Streetcar remained relatively flat compared to 2019 with a slight increase of 0.2%. O&M costs for the FHS line increased by 3% and decreased on SLU by 7%. A consolidation of staffing at FHS resulted in slightly higher direct costs, while lower than expected overtime at SLU contributed to slightly lower costs. During the time of the service suspension, Metro staff were able to complete 120,000-mile overhauls on the three vehicles originally purchased for the SLU line.

Additionally, in response to the pandemic and significant projected budget shortfalls, SDOT worked with Metro to reduce service on First Hill, cut significant portions of planned overtime, reduced planned purchases, and kept budgeted positions vacant when employees left during 2020. Metro also introduced planned 2021 service level reductions in September 2020, rather than returning to pre-pandemic 2020 service levels, to start to capture planned 2021 budget reductions earlier and create stability in the operating and staffing plan for streetcar.

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

## 5.2. REVENUE

ORCA revenue, the single largest source of fare revenue for the streetcar system, decreased systemwide in 2020, by 75% (approximately \$1,250,000). This decrease was driven by a suspension of fare collection that Metro implemented systemwide in March 2020. Metro eliminated fare collection on bus transit when it limited rider access on buses to the rear door, a safety measure to reduce COVID-19 exposure risk for bus operators. Because streetcar ORCA readers are tied into Metro's larger ORCA system, Metro was not able to isolate and turn on ORCA readers for streetcar stations separate from the larger system. Fare collection for both buses and streetcar resumed in October 2020 when operator partitions were installed on the bus fleet.

ORCA revenue per boarding in 2020 dropped considerably compared to 2019, averaging \$0.58. Fare collection restarted in October 2020 and preliminary figures indicate that riders are tapping ORCA cards at a lower rate than pre-pandemic.

Sponsorship on both lines also lagged in 2020 as a result of the COVID-19 pandemic. Sponsorship revenue comes from the sale of exterior streetcar vehicle wraps, interior signage, and station stop shelter wraps. Systemwide sponsorship revenue declined significantly, driven by a lack of sponsorship revenue on the FHS line, as well as a significant drop in anticipated sponsorship on SLU.

Metro and Sound Transit contributions to the SLU and FHS lines, respectively, continued to be the largest sources of streetcar revenue in 2020. The Sound Transit contribution to FHS of \$5 million annually concludes in 2023, while the Metro contribution to SLU of \$1.55 million annually, with slight increases through 2024, will continue under the Interlocal Agreement executed at the end of 2019. In 2024, SDOT anticipates renegotiating the operating ILA; if not, Metro's contribution drops to \$872,269 and provides a commitment of a Metro contribution through 2027.

In 2020, SDOT received an additional funding source from federal stimulus money provided to transit agencies as a result of the pandemic. Through the Puget Sound Regional Council (PSRC), transit agencies were allocated financial assistance via the Coronavirus Aid Relief and Economic Security Act (CARES). The City of Seattle was directly awarded \$688,201 from the CARES Act for streetcar operations, and a credit of \$1,155,000 on 2020 invoices from Metro, based on Metro's streetcar operations. The financial tables show the CARES funds of \$688,000 as revenue in 2021, as SDOT will draw against the grant funds in 2021. In 2021, SDOT also anticipates a direct award of \$785,000 of Coronavirus Response and Relief Supplemental Appropriations Act (CRRSAA) funds for streetcar and a credit towards 2021 invoices of \$1,280,000 from Metro.

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

### 5.3. INVESTMENT IN STREETCAR OPERATIONS

Nearly all public transit systems require some subsidy (in addition to fares and other operating revenue sources) to meet operating expenses. Like most transit systems, Seattle's streetcar revenues do not fully cover operating and maintenance costs. As such, the City invests other transportation revenues, 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 based on total line operations and per actual and projected rider, depending on the year. Tables 2 and 3 provide a more detailed financial summary for each line, including costs by agency, funding sources, and surplus/deficit, which when combined, matches the total additional investment shown in Table 1.

The tables below also show actual ridership for 2019 and 2020. In the past, SDOT has assumed a steady ridership increase of 3% per year in projections. In 2019, just before the pandemic, ridership on the streetcar system increased significantly due to growth on the FHS of 17% from 2018, an additional 190,000 annual riders from 2018, for a total of 1.35M annual riders. SLU saw ridership drop by 2% in 2019 from 2018, which coincided with a significant increase in bus service in South Lake Union.

Given the COVID-19 pandemic, SDOT revised 2021-2026 projections, using observed growth in ridership in the first months of 2021 to project through the end of 2021, assuming an additional 1% per month increase in Q3 and Q4. SDOT assumed a 2% per month increase in 2022 and a 5% per month increase in 2023. With these assumptions, FHS returns to 2019 ridership levels in mid-2023 and SLU returns to 2019 levels after 2026. 2024-2026 projections return to assuming a 3% annual growth over the previous year. SDOT assumed a multi-year return to pre-pandemic ridership based on continued uncertainty with recovery and the anticipated hybrid work arrangements in the longer term for office workers.

Fare evasion is the percentage of riders who do not purchase or possess the fare media required to travel. There is no active fare enforcement on the Seattle Streetcar system, deferring instead to a fare inspection program, previously carried out by Metro streetcar supervisors. In 2020, fare inspections were suspended in March and never resumed due to supervisor shortages. Based on the limited amount of data that was collected in January-March, the rate of non-payment for SLU in 2020 was 3%, down from 7% in 2019. The rate of non-payment for FHS was 23% in 2020, up slightly from 20% in 2019.

Farebox recovery is the percentage of operating costs covered by collected fares. In 2020, farebox recovery ratios for SLU and FHS were 5% and 3%, respectively again, driven by the reductions in ridership/fare collection. These figures compare to 20% and 12% respectively for 2019 and demonstrate the dramatic loss of farebox revenue. It should be noted that even during a "normal" year, operations require a subsidy. For comparison, King County Metro is obligated by policy to cover 25% of their bus operations via farebox collections.

TABLE 1 - PROJECTED STREETCAR BALANCES AND INVESTMENT PER RIDER

	Actual		Adopted	Revised	Projected					
	2019	2020	2021	2021	2022	2023	2024	2025	2026	
Projected Streetcar Balances										
SLU Surplus/Deficit	(789,082)	(399,888)	(1,456,758)	(616,683)	(1,614,022)	(1,940,112)	(2,092,585)	(3,470,988)	(3,706,364)	
FHS Surplus/Deficit	(2,765,547)	(2,341,905)	(3,126,545)	(2,956,046)	(3,101,108)	(4,393,960)	(9,873,138)	(10,375,696)	(10,903,615)	
Total Additional Investment Needed	(3,554,629)	(2,741,794)	(4,583,303)	(3,572,729)	(4,715,130)	(6,334,072)	(11,965,723)	(13,846,683)	(14,609,979)	
Projected Ridership										
SLU Projected Ridership	503,374	89,414	110,338	110,338	214,339	447,601	461,029	474,860	489,106	
FHS Projected Ridership	1,352,470	660,029	768,852	768,852	1,061,296	1,396,300	1,438,190	1,481,335	1,525,775	
Total Projected Ridership	1,855,844	749,443	879,190	879,190	1,275,635	1,843,901	1,899,218	1,956,195	2,014,881	
Operating Investment per rider										
SLU Projected Investment per rider	\$1.57	\$4.47	\$13.20	\$5.59	\$7.53	\$4.33	\$4.54	\$7.31	\$7.58	
FHS Projected Investment per rider	\$2.04	\$3.55	\$4.07	\$3.84	\$2.92	\$3.15	\$6.86	\$7.00	\$7.15	
Combined Operating Investment per rider	\$1.92	\$3.66	\$5.21	\$4.06	\$3.70	\$3.44	\$6.30	\$7.08	\$7.25	



TABLE 2 - FIRST HILL STREETCAR FINANCIALS

		Historical				Adopted		Actual	Adopted	Revised
		2016	2017	2018	2019	2020	2020	2020	2021	2021
1	<b>Costs</b>	<b>\$7,124,764</b>	<b>\$7,714,003</b>	<b>\$8,096,831</b>	<b>\$8,795,010</b>	<b>\$9,420,579</b>		<b>\$8,256,948</b>	<b>\$9,466,145</b>	<b>\$10,485,688</b>
2	Operating & Maintenance	\$7,124,764	\$7,714,003	\$8,096,831	\$8,795,010	\$9,420,579		\$7,999,103	\$9,466,145	\$9,466,145
3	Metro/KCM	\$6,094,519	\$6,567,926	\$7,337,722	\$7,794,924	\$8,122,748		\$6,879,229	\$8,129,052	\$8,129,052
4	City	\$1,030,245	\$1,146,077	\$759,109	\$1,000,086	\$1,297,831		\$1,119,874	\$1,337,093	\$1,337,093
5	Reconciliation							\$257,845		\$1,019,543
6	<b>Revenues</b>	<b>\$5,863,760</b>	<b>\$5,919,349</b>	<b>\$6,256,893</b>	<b>\$6,029,463</b>	<b>\$6,025,378</b>		<b>\$5,915,042</b>	<b>\$6,339,600</b>	<b>\$7,529,642</b>
7	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
8	Fares	\$736,406	\$769,349	\$846,077	\$1,029,463	\$925,378		\$264,633	\$627,600	\$278,600
9	ORCA	\$654,963	\$709,780	\$780,878	\$970,065	\$860,179		\$264,633	\$588,000	\$261,021
10	Pay Stations & Passes	\$81,443	\$59,569	\$65,199	\$59,398	\$65,199		\$-	\$39,600	\$17,579
11	FTA Funding	\$-	\$-	\$258,185	\$-	\$100,000		\$650,409	\$700,000	\$2,251,042
12	Grants – 5307/5309	\$-	\$-	\$258,185	\$-	\$100,000		\$-	\$700,000	\$700,000
13	CARES/CRRSAA Grants									\$830,021
14	CARES/CRRSAA Credits							\$650,409		\$721,020
15	Other	\$127,354	\$150,000	\$152,631	\$-	\$-		\$-	\$12,000	\$-
16	Sponsorship	\$127,354	\$150,000	\$152,631	\$-	\$-		\$-	\$12,000	
17	<b>Surplus/(Deficit)</b>	<b>\$(1,261,005)</b>	<b>\$(1,794,654)</b>	<b>\$(1,839,937)</b>	<b>\$(2,765,547)</b>	<b>\$(3,395,201)</b>		<b>\$(2,341,905)</b>	<b>\$(3,126,545)</b>	<b>\$(2,956,046)</b>

TABLE 2 - FIRST HILL STREETCAR FINANCIALS (CONTINUED)

		Projections				
		2022	2023	2024	2025	2026
1	<b>Costs</b>	<b>\$9,666,145</b>	<b>\$10,821,000</b>	<b>\$11,333,690</b>	<b>\$11,871,164</b>	<b>\$12,434,635</b>
2	Operating & Maintenance	\$9,666,145	\$10,821,000	\$11,333,690	\$11,871,164	\$12,434,635
3	Metro/KCM	\$8,312,885	\$9,403,000	\$9,873,150	\$10,366,808	\$10,885,148
4	City	\$1,353,260	\$1,418,000	\$1,460,540	\$1,504,356	\$1,549,487
5	Reconciliation					
6	<b>Revenues</b>	<b>\$6,565,037</b>	<b>\$6,427,040</b>	<b>\$1,460,552</b>	<b>\$1,495,468</b>	<b>\$1,531,020</b>
7	Sound Transit Contribution	\$5,000,000	\$5,000,000	\$-	\$-	\$-
8	Fares	\$849,037	\$1,117,040	\$1,150,552	\$1,185,068	\$1,220,620
9	ORCA	\$798,095	\$1,050,018	\$1,081,519	\$1,113,964	\$1,147,383
10	Pay Stations & Passes	\$50,942	\$67,022	\$69,033	\$71,104	\$73,237
11	FTA Funding	\$700,000	\$290,000	\$290,000	\$290,000	\$290,000
12	Grants – 5307/5309	\$700,000	\$290,000	\$290,000	\$290,000	\$290,000
13	CARES/CRRSAA Grants					
14	CARES/CRRSAA Credits					
15	Other	\$16,000	\$20,000	\$20,000	\$20,400	\$20,400
16	Sponsorship	\$16,000	\$20,000	\$20,000	\$20,400	\$20,400
17	<b>Surplus/(Deficit)</b>	<b>\$(3,101,108)</b>	<b>\$(4,393,960)</b>	<b>\$19,873,138</b>	<b>\$10,375,696</b>	<b>\$(10,903,615)</b>

TABLE 3 - SOUTH LAKE UNION STREETCAR FINANCIALS

	Historical				Adopted	Actual	Adopted	Revised	
	2016	2017	2018	2019	2020	2020	2021	2021	
1	Costs	\$3,027,802	\$3,369,119	\$3,612,215	\$3,788,077	\$4,356,803	\$3,070,223	\$4,224,358	\$4,213,954
2	Operating & Maintenance	\$3,027,802	\$3,369,119	\$3,612,215	\$3,788,077	\$4,356,803	\$3,528,348	\$4,224,358	\$4,224,358
3	Metro/KCM	\$2,852,740	\$3,022,833	\$3,154,660	\$3,410,686	\$3,753,769	\$3,034,379	\$3,603,377	\$3,603,377
4	City	\$175,062	\$346,286	\$457,555	\$377,391	\$603,034	\$493,969	\$620,981	\$620,981
5	Reconciliation						\$(458,125)		\$(10,404)
6	Revenues	\$2,795,233	\$3,051,237	\$2,829,746	\$2,998,995	\$2,889,109	\$2,670,334	\$2,767,600	\$3,597,271
7	Metro/KCM Contribution	\$1,400,000	\$1,450,000	\$1,500,000	\$1,550,000	\$1,550,000	\$1,550,000	\$1,550,000	\$1,596,500
8	Fares	\$736,833	\$759,148	\$728,677	\$775,379	\$730,067	\$168,758	\$543,600	\$169,008
9	ORCA	\$595,117	\$658,355	\$624,312	\$688,146	\$625,702	\$152,442	\$483,600	\$150,354
10	Pay Stations & Passes	\$141,716	\$100,793	\$104,365	\$87,233	\$104,365	\$16,316	\$60,000	\$18,654
11	FTA Funding	\$54,442	\$194,057	\$52,249	\$97,573	\$172,042	\$504,237	\$300,000	\$1,502,463
12	Grants – 5307/5309	\$54,442	\$194,057	\$52,249	\$97,573	\$172,042	\$-	\$300,000	\$300,000
13	Capital Improvement	\$-	\$-	\$-		\$-	\$-	\$-	\$-
14	CARES/CRRSAA Grants								\$643,484
15	CARES/CRRSAA Credits						\$504,237		\$558,980
16	Other	\$603,958	\$648,032	\$548,820	\$576,043	\$437,000	\$447,339	\$374,000	\$329,300
17	Sponsorship	\$300,618	\$337,692	\$192,500	\$211,723	\$200,000	\$85,219	\$120,000	\$75,300
18	318 Fairview Lease	\$89,340	\$89,340	\$127,320	\$127,320	\$-	\$89,340	\$-	\$-
19	Amazon Contribution	\$214,000	\$221,000	\$229,000	\$237,000	\$237,000	\$245,000	\$254,000	\$254,000
20	Tech Adjustment						\$27,780		
21	Surplus/(Deficit)	\$(232,569)	\$(317,882)	\$(782,468)	\$(789,082)	\$(1,467,694)	\$(399,888)	\$(1,456,758)	\$(616,683)



TABLE 3 - SOUTH LAKE UNION STREETCAR FINANCIALS (CONTINUED)

		Projections				
		2022	2023	2024	2025	2026
1	Costs	\$4,324,359	\$4,962,000	\$5,196,770	\$5,443,033	\$5,701,202
2	Operating & Maintenance	\$4,324,359	\$4,962,000	\$5,196,770	\$5,443,033	\$5,701,202
3	Metro/KCM	\$3,718,949	\$4,303,000	\$4,518,000	\$4,743,900	\$4,981,095
4	City	\$605,410	\$659,000	\$678,770	\$699,133	\$720,107
5	Reconciliation					
6	Revenues	\$2,710,337	\$3,021,888	\$3,104,185	\$1,972,045	\$1,994,838
7	Metro/KCM Contribution	\$1,644,395	\$1,693,727	\$1,744,539	\$872,269	\$872,269
8	Fares	\$342,942	\$716,162	\$737,646	\$759,776	\$782,569
9	ORCA	\$308,648	\$644,545	\$663,882	\$683,798	\$704,312
10	Pay Stations & Passes	\$34,294	\$71,616	\$73,765	\$75,978	\$78,257
11	FTA Funding	\$300,000	\$140,000	\$140,000	\$140,000	\$140,000
12	Grants – 5307/5309	\$300,000	\$140,000	\$140,000	\$140,000	\$140,000
13	Capital Improvement	\$-	\$-	\$-	\$-	\$-
14	CARES/CRRSAA Grants					
15	CARES/CRRSAA Credits					
16	Other	\$423,000	\$472,000	\$482,000	\$200,000	\$200,000
17	Sponsorship	\$160,000	\$200,000	\$200,000	\$200,000	\$200,000
18	318 Fairview Lease	\$-	\$-	\$-	\$-	\$-
19	Amazon Contribution	\$263,000	\$272,000	\$282,000	\$-	\$-
20	Tech Adjustment					
21	Surplus/(Deficit)	\$ (1,614,022)	\$ (1,940,112)	\$ (2,092,585)	\$ (3,470,988)	\$ (3,706,364)

TABLE 4 - FIRST HILL STREETCAR PERFORMANCE

	Historical					Estimated						
	2016	2017	2018	2019	2020	2021 Adopted	2021 Revised	2022	2023	2024	2025	2026
Ridership	840,049	882,219	1,159,904	1,352,470	660,029	768,852	768,852	1,061,296	1,396,300	1,438,190	1,481,335	1,525,775
Farebox Recovery Ratio	10%	10%	10%	12%	3%	7%	3%	9%	10%	10%	10%	10%
Productivity (Riders/Revenue Hour)	32	34	41	49	31	28	28	38	50	52	53	55
"Fare Evasion"	7.5%	13.5%	20.5%	20.2%	23.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Reliability (On-Time Performance)	84%	85%	88%	87%	63%	87%	87%	87%	87%	87%	87%	87%

2019 ridership used as baseline for 2021-26 projections:

- Observed growth in ridership in early 2021 used to project balance of 2021
- Growth of 1% per month assumed in Q3 & Q4 2021
- Growth of 2% per month assumed in 2022
- Growth of 5% per month assumed in 2023 for SLU
- FHS reaches 2019 baseline in mid-2023; SLU reaches 2019 baseline after 2026
- 2024-2026 assumes 3% annual growth over previous year

TABLE 5 - SOUTH LAKE UNION STREETCAR PERFORMANCE

	Historical						Estimated *						
	2015	2016	2017	2018	2019	2020	2021 Adopted	2021 Revised	2022	2023	2024	2025	2026
Ridership	622,219	518,249	535,288	513,523	503,374	89,414	110,338	110,338	214,339	447,601	461,029	474,860	489,106
Farebox Recovery Ratio	18%	24%	23%	20%	20%	5%	13%	4%	8%	14%	14%	14%	14%
Productivity (Riders/Revenue Hour)	51	40	38	36	43	11	8	8	15	31	32	33	34
"Fare Evasion"	4.9%	4.4%	4.8%	8.5%	7.1%	3%	8%	8%	8%	8%	8%	8%	8%
Reliability (On-Time Performance)	77%	58%	46%	39%	32%	46%	80%	80%	80%	80%	80%	80%	80%

2019 ridership used as baseline for 2021-26 projections:

- Observed growth in ridership in early 2021 used to project balance of 2021
- Growth of 1% per month assumed in Q3 & Q4 2021
- Growth of 2% per month assumed in 2022
- Growth of 5% per month assumed in 2023 for SLU
- FHS reaches 2019 baseline in mid-2023; SLU reaches 2019 baseline after 2026
- 24-26 assumes 3% annual growth over previous year

**TABLE 6 – PLANNED OR COMPLETED OPERATIONS IMPROVEMENTS**

Line	Location	Proposed Improvement	Streetcar Benefit	Status
FHS	Yesler Way (between 14th Avenue and 12th Avenue)	Relocate bus zone and install protected bike lane	Separate bicyclists and Streetcar	Completed in 2020
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	Completed in 2020
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	Completed in 2020
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	Completed in 2020
SLU	Terry Avenue (between Mercer Street and Thomas Street)	Northbound transit-only lane. Restrict eastbound left turns from Thomas Street to Terry Avenue	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 2021
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
SLU	Valley Street	Tactile warning strip next to streetcar tracks	Improved bicycle and streetcar interaction	Completed in 2020



## 6. CONCLUSION

2020 was a challenging year for transit, and SDOT spent the bulk of the year managing issues related to the COVID-19 pandemic. Operationally, SDOT staff worked closely with King County Metro to safeguard employees and the public while maintaining essential service. While expenses remained flat, revenue was far below budgeted estimates primarily due to fare collection and sponsorship losses. The federal government's intervention via stimulus funding provided a safety net against some revenue losses, but depending on how long the pandemic affects transit, federal relief may not backfill all lost revenues.

SDOT made significant progress in complying with new federal safety regulations, which required SDOT to focus significant resources on new activities to meet the requirements of the law. New organizational processes were implemented, as well as increased oversight of Metro's safety activities. Safety will feature more prominently with a dedicated Streetcar Safety Officer and a new Streetcar Program Manager, putting the program in a better position to manage the ongoing response to the COVID-19 pandemic as well as meeting safety oversight obligations.

Looking ahead, uncertainty remains in what "return to normal" looks like for ridership, fare collection, and other revenues. Continued increases in COVID-19 cases may lead to longer than expected timelines for employees to return to offices, along with an anticipated increase in teleworking, which will further extend the uncertainty around ridership.

In addition to the uncertainty for operations, ridership and revenue brought on by the COVID-19 pandemic, the streetcar program is actively addressing a range of program issues, including:

- continuing to come into compliance with federal safety regulations;
- undertaking financial planning for changes and opportunities related to revenues, grants, and expenses, such as upcoming major vehicle maintenance;
- working with Sound Transit on planning and design of the West Seattle-Ballard Link Extension, the construction of which poses significant impacts to the operations of both SLU and FHS lines; and
- supporting decision-making about the C3 project, which results in financial and operational impacts for the current streetcar lines in either a build or no-build scenario.

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