

2023 Title VI Fare Equity Analysis of Link Fare Options

1. Introduction

This report summarizes the Fare Equity Analysis of options for changing Link fares conducted pursuant to FTA regulations and Sound Transit policies that require an assessment of the impacts of fare changes on minority and low-income riders. A separate report, titled “Link Light Rail 2023 Fare Change Public Engagement Report,” summarizes the public outreach process undertaken to enable riders and other members of Sound Transit’s community to provide input on these options.

2. Background

Sound Transit’s Fare Policy (Board Resolution No. R2014-27) establishes a policy principle that the purpose of fares is to generate revenue to cover a portion of Sound Transit’s operating expenses as part of the long-term financial plan and that fare levels are adjusted as needed to meet revenue requirements. The Fare Policy further establishes a minimum threshold farebox recovery ratio (fare revenue as a percentage of operating costs) for Link light rail of 40 percent. The Fare Policy further provides that the Sound Transit Board may consider a fare change proposal “when farebox recovery falls below these minimum levels.”

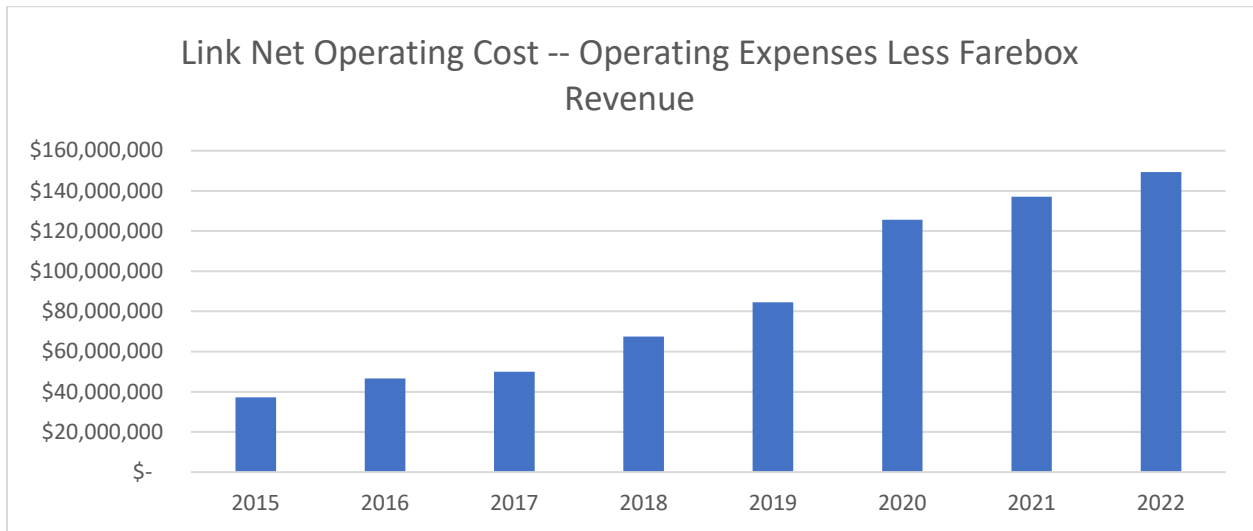
Link fares have not increased since 2015, while Link operating costs have risen. During this period, Link ridership and fare revenue declined dramatically as the result of the COVID 19 pandemic. However, even as Link ridership has recovered from the pandemic, farebox recovery remains far below the 40 percent threshold.

Year	Link Farebox Revenue (FR)	Link Operating Expenses (OE)	Link Farebox Recovery (FR/OE)	Net Operating Cost (OE less FR)	Notes
2015	\$ 18,211,874	\$ 55,477,317	33%	\$ 37,265,443	
2016	\$ 30,789,792	\$ 77,406,745	40%	\$ 46,616,953	*
2017	\$ 38,019,746	\$ 88,054,264	43%	\$ 50,034,518	
2018	\$ 41,637,005	\$ 109,125,540	38%	\$ 67,488,535	
2019	\$ 43,241,285	\$ 127,727,513	34%	\$ 84,486,228	
2020	\$ 11,330,360	\$ 136,977,450	8%	\$ 125,647,090	
2021	\$ 15,591,469	\$ 152,752,633	10%	\$ 137,161,164	**
2022	\$ 29,126,877	\$ 178,417,310	16%	\$ 149,290,433	

* Capitol Hill, UW opened in March 2016, Angle Lake opened in September 2016

** Northgate, Roosevelt and U-District opened in October 2021

As a result, Link’s Net Operating Cost, the operating expense less farebox revenue, has increased from \$37 million in 2015, to nearly \$150 million in 2022.



Another principle established by the Fare Policy is that fares “are simple for customers to understand and transit employees and fare enforcement personnel to apply.” In 2016, Sound Transit Board members and representatives of the six other ORCA agencies in the central Puget Sound region came together in a third Regional Fare Forum for the purpose of providing guidance on transit fare structures in the region. The 2016 Fare Forum recommended ORCA agencies take actions to simplify fares.

Staff assessed the five options for increasing Link fare revenue shown in the table below. All options would increase Link farebox recovery compared with current fares. Option 1 would maintain Link’s current distance-based fare structure for full-fare adult riders while adding \$0.25 to each fare level. Option 2 would maintain Link’s current distance-based fare structure for full-fare adult riders while adding \$0.50 to each fare level. Option 3 would establish a flat fare of \$3.00 for full-fare adult riders, Option 4 would establish a \$3.25 flat fare for full-fare adult riders and Option 5 would establish a \$3.50 flat fare for full-fare adult riders. Under the current, distance-based fare structure, riders need to tap off at the end of their trip in order to pay the correct fare. Options 3, 4 and 5 would simplify Link fares by eliminating the need for riders to tap off at the end of their trip to pay the correct fare.

Current Link Fares and Link Fare Options

Rider Group	Current Fares*	Option 1* Current Fares + \$0.25	Option 2* Current Fares + \$0.50	Option 3 \$3.00 Flat Fare	Option 4 \$3.25 Flat Fare	Option 5 \$3.50 Flat Fare
Adult	\$2.25- \$4.25	\$2.50- \$4.50	\$2.75- \$4.75	\$3.00	\$3.25	\$3.50
ORCA LIFT	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Youth	\$0	\$0	\$0	\$0	\$0	\$0
Senior & Disabled	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00

* fare depends on distance travelled, Link service footprint as of 2025

3. Regulatory Framework

Chapter IV of the Federal Transit Administration’s (FTA) Circular 4702.1B (“Circular”) describes the requirements that FTA recipients must follow to ensure their programs, policies and activities comply with U.S Department of Transportation Title VI regulations. The requirements set system-wide service standards and policies that apply to all fixed-route providers of public transportation service.

Title 49 CFR Section 21.5 (b)(2) specifies that a recipient shall not “utilize criteria or methods of administration which have the effect of subjecting persons to discrimination because of their race, color or national origin, or have the effect of defeating or substantially impairing accomplishment of the objectives of the program with respect to individuals of a particular race, color or national origin.” Section 21.5 (b)(2) requires recipients to “take affirmative action to assure that no person is excluded from participation in or denied the benefits of the program or activity on the grounds of race, color or national origin.”

Transit providers that operate 50 or more fixed-route vehicles in peak service and are in an urbanized area (UZA) of 200,000 or more in population are required to meet all requirements of Chapter IV including setting service standards and policies, collecting and reporting data, monitoring transit service, and evaluating fare and service changes.

4. Sound Transit Fare Equity Analysis Policy

In compliance with FTA regulations, the Sound Transit Board of Directors adopted Resolution No. R2013-19 establishing policies for conducting equity analyses of fare changes. This policy establishes that Sound Transit will conduct a fare equity analysis during the planning phase of a potential fare change to determine whether the proposed fare change would have a disparate impact on minority populations and/or a disproportionate burden on low-income populations.

In 2022, the Sound Transit Board of Directors adopted Resolution No. R2022-19, establishing an updated Disparate Impact and Disproportionate Burden Policy, which was subsequently submitted to the FTA in Sound Transit’s 2022 Title VI Program Update. The updated policy for fares is shown below:

3.3 Fare changes

3.3.1 The agency conducts an equity analysis of all proposed fare changes, as identified in section 2.3, to determine any potential disparate impact or disproportionate burden.

3.3.2 Fare increases. When considering a fare increase, if the agency's analysis indicates that the average percentage fare increase experienced by minority or low-income riders is 20 percent or greater than the average percentage fare increase experienced by non-minority or non-low-income riders, the change creates a disparate impact or disproportionate burden.

3.3.3 Fare decreases. When considering a fare decrease, if the agency's analysis indicates the average percentage fare decrease experienced by non-minority or non-low-income riders is 20 percent or greater than the average percentage fare decrease experienced by minority or low-income riders, the change creates a disparate impact or disproportionate burden.

3.3.4 Change in payment type or fare media. When considering a change in payment type or fare media, if the agency's analysis indicates that the impact on minority or low-income riders is 20 percent or greater than the impact on non-minority or non-low-income riders, the change creates a disparate impact or disproportionate burden. To the extent a change to fare media has any impact on the cost to ride transit, the incremental costs associated with the change are considered as part of a fare increase or decrease analysis.

Finally, this new policy establishes the following.

3.5 Findings of disparate impact or disproportionate burden

3.5.1 If the agency's analyses find that a major service change or fare change results in a potential disparate impact or disproportionate burden or a maintenance facility location results in a disparate impact, then the agency must consider steps to avoid, reduce and/or mitigate the potential adverse effects and reanalyze the modified proposal to determine if potential effects were removed or lessened.

3.5.2 The agency conducts public outreach regarding major service changes, fare changes and maintenance facility location selections, including the agency's steps to avoid, reduce and/or mitigate any adverse effects and the modified proposal to determine if potential effects were removed or lessened.

3.5.3 If the equity analysis reveals a major service change or fare change creates a disparate impact or disproportionate burden or a facility location creates a disparate impact, the agency may only proceed if it has a substantial legitimate justification for implementing the proposal and the selected proposal is the least discriminatory under consideration.

5. Definitions & Data Sources

This analysis used two approaches to assess the impacts of these fare options. Consistent with the policy cited above, impacts are measured as the average percentage fare change expected to result from each option for each subgroup of riders. As noted below, both approaches have limitations, so staff decided to use both approaches in this analysis.

Approach #1: 2018 On-Board Survey -- The first approach used data from an origin-destination (O-D) survey conducted onboard Sound Transit Link service (Sound Transit Central Link Origin Destination Study) during the fall of 2018. The survey was conducted during weekdays for all time periods using paper questionnaires offered to every rider for sampled trips. (In addition to English, the survey was translated into Traditional Chinese, Spanish, Tagalog, Korean and Vietnamese.)

Overall, the survey included responses from about 10,700 Link riders (representing 15% of average weekday boardings, with a 43% response rate). Responses were weighted to represent ridership data by: Time of day, direction, and origin and destination.

For this analysis, low-income is defined as household income at or below 200% of the Federal poverty level. This is the same threshold used to qualify customers for the ORCA LIFT program that Sound Transit and other ORCA agencies use to provide discounted fares for low-income passengers.

The fare change options examined do not vary by fare payment method. Therefore, this analysis does not separately examine respondents by fare payment method. The fare change options apply only to full fare adult riders, so the data include those riders, and survey respondents who indicated they were Youth, or used ORCA LIFT cards or Regional Reduced Fare Permits for seniors and riders with disabilities were not included in this analysis.

Limitations of this approach -- Since this analysis is based on the 2018 on-board survey of Link light rail riders, it does not include demographics for riders new to Link as the result of the 2021 opening of the Northgate Link extension.

Approach #2: Link Station Area Demographic and ORCA Data – The second approach used American Community Survey data to estimate the number of minority/non-minority and low-income/non-low-income residents in each of the Link station service areas, including the new Link stations opened since the 2018 on-board survey with the 2021 extension of Link service to Northgate. This data was then combined with ORCA data showing trip distances and fare paid for full-fare adult riders at each Link station to estimate the fare impacts of the fare options.

Limitations of this approach – This approach assumes that the data on full fare adult ORCA use at each station applies equally to all demographic groups in the station service area.

6. Analysis of Disparate Impact/Disproportionate Burden

Pursuant to section 3.3.2 of Sound Transit’s Fare Equity Analysis Policy, the impact of each fare option is measured as the estimated average percentage fare change. These estimated fare changes for Minority compared with Non-minority and Low-income compared with Non-low-income riders are compared to determine whether a given fare option results in a disparate impact or a disproportionate burden.

Approach #1: 2018 On-Board Survey

Table 1: Estimated Average Percent Fare Change of Link Fare Options on Full-Fare Adult Riders

Fare Option	Impact by Race			Impact by Income		
	Average % Fare Change			Average % Fare Change		
	All	Non-Hispanic White	Minority	All	Non-Low-Income	Low-Income
1. Current Fares + \$0.25	10%	10%	10%	10%	10%	10%
2. Current Fares + \$0.50	21%	21%	20%	21%	21%	20%
3. \$3.00 flat fare	19%	19%	18%	19%	20%	17%
4. \$3.25 flat fare	29%	29%	28%	29%	30%	27%
5. \$3.50 flat fare	39%	39%	38%	39%	40%	37%

Table 2: Disparate Impact/Disproportionate Burden

Fare Option	Impact by Race		Impact by Income	
	Average % Fare Change		Average % Fare Change	
	% Difference between Minority and Non-Hispanic White		% Difference between Low-Income and Non-Low-Income	
1. Current Fares + \$0.25	-1%		-2%	
2. Current Fares + \$0.50	-1%		-2%	
3. \$3.00 flat fare	-7%		-12%	
4. \$3.25 flat fare	-5%		-9%	
5. \$3.50 flat fare	-4%		-7%	

The analysis conducted using Approach #1 indicates that neither of the options would result in a Disparate Impact on minority riders. The flat fare options would result in slightly lower average percentage fare increases for minority riders than for non-minority riders.

Similarly, the analysis indicates that none of the options would result in a Disproportionate Burden on low-income riders. Again, the flat fare options would result in lower average percentage fare increases for low-income riders than for non-low-income riders.

Approach #2: Link Station Area Demographic and ORCA Data

Table 3: Estimated Average Percentage Fare Change of Link Fare Options on Full-Fare Adult Riders

Fare Option	Impact by Race			Impact by Income		
	Average % Fare Change			Average % Fare Change		
	All	Non-Hispanic White	Minority	All	Non-Low-Income	Low-Income
1. Current Fares + \$0.25	9.3%	9.3%	9.2%	9.3%	9.3%	9.3%
2. Current Fares + \$0.50	18.5%	18.6%	18.5%	18.5%	18.6%	18.5%
3. \$3.00 flat fare	11.3%	11.6%	10.9%	11.3%	11.3%	11.1%
4. \$3.25 flat fare	20.6%	20.9%	20.2%	20.6%	20.6%	20.4%
5. \$3.50 flat fare	29.8%	30.2%	29.4%	29.8%	29.9%	29.6%

The average percentage fare changes shown in Table 3 for each option are lower for this approach than those shown in Table 1 for the first approach, because this approach includes longer trips with higher fares on Link taken after the opening of the Northgate extension.

Table 4: Disparate Impact/Disproportionate Burden

Fare Option	Impact by Race	Impact by Income
	Average % Fare Change	Average % Fare Change
	% Difference between Minority and Non-Hispanic White	% Difference between Low-Income and Non-Low-Income
1. Current Fares + \$0.25	-1%	0%
2. Current Fares + \$0.50	-1%	0%
3. \$3.00 flat fare	-6%	-2%
4. \$3.25 flat fare	-3%	-1%
5. \$3.50 flat fare	-3%	-1%

The analysis conducted using Approach #2 also indicates that neither of the options would result in a Disparate Impact on minority riders. The flat fare options would result in average percentage fare increases for minority riders that would be somewhat lower than those for non-minority riders.

Similarly, the analysis with Approach #2 indicates that none of the options would result in a Disproportionate Burden on low-income riders. Again, the flat fare options would result in average percentage fare increases for low-income riders that would be somewhat lower than those for non-low-income riders.

Summary

The results from both approaches used here to conduct a fare equity analysis are very similar. Both approaches indicate that none of the fare options will result in Disparate Impacts or Disproportionate Burdens. Both approaches also indicate that the flat fare options will result in a lower average percentage fare increase for low-income and minority riders compared to the average percentage fare increase for non-low-income and non-minority riders.

7. Mitigation

Even though this action will result in no Disparate Impacts or Disproportionate Burdens, Sound Transit will work to mitigate any adverse effects on low-income riders by continuing its efforts to provide discounted fares to those least able to pay, and to ensure all riders who qualify for discounted fares are able to take advantage of them.

Since beginning service in 1999, Sound Transit has provided reduced fares for Seniors and Disabled riders that comply with FTA requirements for these rider groups and provided free fares for children and a reduced fare for youth riders. In 2015, Sound Transit implemented the ORCA LIFT program providing reduced fares for low-income riders on Link light rail, in coordination with regional transit partner King County Metro's rollout of the ORCA LIFT program. In 2016, Sound Transit implemented reduced ORCA LIFT fares on ST Express bus and Sounder commuter rail service. That year Sound Transit also entered into an agreement with King County to provide funding to support ORCA LIFT outreach and enrollment efforts. That agreement has been updated over the years to provide increased funding with a focus on outreach and enrollment activities in Pierce and Snohomish Counties.

In 2020, Sound Transit simplified and reduced the discounted fares for Youth, Senior, Disabled and ORCA LIFT riders on Sounder commuter rail, implementing a flat fare for each group aligned with the fares for these groups on ST Express bus and Link light rail.

Also in 2020, Sound Transit agreed to participate in Metro's Subsidized Annual Pass program, providing free annual passes to very low-income riders on a pilot program basis through 2024.

In 2022, Sound Transit reduced the ORCA LIFT fare from \$1.50 to \$1.00 on all modes and established a \$0 fare for Youth riders to align with \$0 youth fares being implemented by transit partners in the region.

Efforts by Sound Transit, King County Metro, Seattle/King County Public Health, and other ORCA transit agencies have supported the growth of active ORCA LIFT cardholders in the region from 41.7 thousand in June of 2022, to 56.3 thousand in October of 2023. This is an increase of 35 percent in a little over a year.

Sound Transit will work to mitigate the impacts of a fare change on Link light rail by focusing reduced fare outreach efforts at Link stations and working with human service agencies in the Link corridor to identify eligible riders for the ORCA LIFT program and for discounted fares for Senior and Disabled riders.

In addition to the lower fare that ORCA LIFT will provide low-income riders on Sound Transit and other regional transit services, Sound Transit will provide new ORCA LIFT enrollees with a financial incentive on their ORCA LIFT card that can be redeemed for transit fare payment on any transit agency participating in the ORCA fare payment system.

Sound Transit will also work to mitigate potential adverse impacts on other riders by providing free ORCA cards to new and existing cash riders to enable them to use ORCA cards to pay their fares and take advantage of the inter-agency transfer benefits provided by ORCA fare payment. Sound Transit will distribute these cards through outreach events in the Link service area and through street teams before and after the fare change.