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Title VI Service Equity Analysis
2025 Service Plan

Executive Summary

As part of the annual Service Plan, Sound Transit conducts a service equity analysis to ensure that changes to transit service are consistent with Title VI policies defined by the Federal Transit Administration (FTA) and the Sound Transit Board of Directors.

This draft equity analysis is being made available for public review and comment during the public engagement phase of the 2025 Service Plan. The draft will be finalized following public engagement and included as part of the final 2025 Service Plan scheduled to be proposed to the Sound Transit Board of Directors in October 2024.

The 2025 Service Plan service equity analysis evaluates the potential service changes to ST Express bus service planned in Pierce and south King Counties, and the 2 Line extension to Downtown Redmond. Consistent with Sound Transit's adopted *Disparate Impact and Disproportionate Burden* policy (Board Resolution No. R2022-19), a Title VI analysis was completed with two levels of analysis.

The first level is the individual route analysis, which evaluates each major service change on a route-by-route basis. The second is the systemwide analysis, which compares the benefits and impacts to Title VI protected and non-protected populations on all routes and services over multiple years.

The **individual route analysis** identified that the potential major change for Route 590 would have adverse effects and a finding of disproportionate burden, and thus require mitigations. These mitigations include schedule adjustments and prioritization of larger vehicles to better meet demand. Additional analysis and discussion of mitigation is included later in this document.

The systemwide analysis determined that protected populations that may benefit from service additions is greater than 80% of the non-protected population count. For service reductions, the analysis determined the protected population that may experience adverse impacts was less than 20% of the non-protected population count. **Therefore, the systemwide analysis did not identify disparate impacts or disproportionate burdens on protected populations from September 2022 through September 2025.**

Table 1 summarizes the results of the Title VI service equity analysis in the 2025 Service Plan. Additional details are included in the following document.

Table 1: Summary of 2025 Service Plan Title VI Service Equity Analysis

Route	Service Change	Title VI Protected Populations	Adverse effects	Disparate impact ¹	Disproportionate burden ²	Mitigations
2 Line	Extend line to Downtown Redmond, adding service at Marymoor Village and Downtown Redmond Stations.	<ul style="list-style-type: none"> Minority: District³ average: 40.5%; Existing 2 Line Service Area: 37.1%. New 2 Line Service Area: 45.3% Low Income: District average: 19.8%; Existing 2 Line Service Area: 18.8%. New 2 Line Service Area: 12% 	No	No	No	N/A
590	Eliminate stops in Downtown Tacoma, Eliminate 22 trips.	<ul style="list-style-type: none"> Minority: District average: 40.5%; 590 Service Area: 43.5% Low Income: District average: 19.8%; 590 Service Area: 28.2% 	Yes	No	Yes	<p>Rebalance schedules to prioritize trips at higher periods of demand.</p> <p>Coordinate with Route 595, and S Line departures</p> <p>Prioritize higher capacity vehicles on trips with highest demand.</p>
580	Eliminate Route	<ul style="list-style-type: none"> Minority: District average: 40.5%; Route 580 service area: 24.5% Low Income: District average: 19.8%; Route 580 service area: 18.7% 	Yes	No	No	N/A

¹ If the service area of a route would change with the proposed service change, the analysis compares the Sound Transit District average to the service area percentages before and after the change to determine if either service area would experience disparate impacts. All impact findings were the same for service areas before and after the service change.

² If the service area of a route would change with the proposed service change, the analysis compares the Sound Transit District average to the service area percentages before and after the change to determine if either service area would experience disproportionate burden. All burden findings were the same for service areas before and after the service change.

³ "District" refers to Sound Transit's District.

Policies and Definitions

The section below describes Sound Transit's approved policies for conducting and identifying major service changes, as well as for assessing their impacts on Title VI populations to ensure that changes to transit service are consistent with the Civil Rights Act of 1964, DOT Title VI regulations, FTA 4702.1B and policies defined by the Sound Transit Board.

The FTA is responsible for ensuring that federally-supported transit services and related benefits are distributed by recipients of FTA assistance in a manner consistent with Title VI, Section 601 of the Civil Rights Act of 1964, which states: No person in the United States shall, on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

Disparate impact: A facially neutral policy or practice that disproportionately affects members of a group identified by race, color, or national origin pursuant to FTA guidelines.

Disproportionate burden: A policy or practice that disproportionately affects low-income populations more than non-low-income populations pursuant to FTA guidelines.

Low-income population: A population whose household income is at or below the poverty guidelines set by the Department of Health and Human Services level utilized by the regional transit fare program to determine low-income reduced fare eligibility.

Minority population: A population who self-identifies as American Indian/Alaska Native, Asian, Black or African American, Hispanic or Latino, and/or Native Hawaiian/Pacific Islander.

Major Service Change

Any single change in service on an individual bus or rail route that would add or eliminate more than 25 percent of the route's weekly revenue service hours, permanently move the location of a bus stop by more than a quarter mile, or rail station by more than a half mile and/or close or eliminate a bus stop or rail station without a replacement of any kind within a quarter mile for bus stops or a half mile for rail stations. A major service change excludes:

- Replacement of an existing transit service by a different route, mode, or contractor providing a service with the same headways, fare, transfer options, span of service and stops, so long as an analysis is completed that provides evidence that the replacement level service is equal to or better than the existing Sound Transit service; or
- Changes to route numbers without any other changes to the route characteristics; or
- Changes to service or new services are considered to be temporary, where temporary is defined as less than 12 months in duration.

The agency conducts an equity analysis of all proposed major service changes to determine adverse effects and equitable distribution of benefits. For major service changes:

- **Adverse effects** are a geographical or time-based reduction in service, which includes, but is not limited to, the span of service changes, frequency of service changes, route segment elimination, and rerouting or route elimination.
- **Benefits** are a geographical or time-based addition of service, which includes, but is not limited to, an increase in span, frequency, and service coverage.

Changes to a Single Line or Route

When a proposed major service change to a single line or route creates an adverse effect, a disparate impact or disproportionate burden occurs when the percentage of the adversely affected minority or low-income population in the service area of the line or route exceeds the percentage of the minority or low-income population within the Sound Transit District by at least five percentage points (e.g., 15 percent of the population adversely affected is low-income compared to a District average low-income population of 10 percent).

Systemwide Service Reductions

When a systemwide adverse effect occurs due to major service changes on more than one line or route, the agency determines if the collective service reductions create a disparate impact or disproportionate burden by comparing the percentage of the service area's minority or low-income population adversely affected by the major service reductions to the percentage of the District's non-minority or non-low-income population adversely affected.

1. If the percentage of the minority or low-income population adversely affected is 20 percent or greater than the percentage of the non-minority or non-low-income population adversely affected (e.g., 12 percent or more of the minority population is adversely affected while 10 percent or less of the non-minority population is adversely affected), the reductions create a disparate impact or disproportionate burden.
2. Collective service reductions include both service reductions under consideration for the next year and implemented service reductions in the past two years, both major and minor service changes.

Systemwide Service Additions

When a systemwide adverse effect occurs due to major service changes on more than one line or route, the agency determines if the collective service additions create a disparate impact or disproportionate burden by comparing the percentage of the minority or low-income population who benefit from the major service additions to the percentage of the District's non-minority or non-low-income population who benefits from the service additions.

1. If the percentage of the minority or low-income population benefited is 80 percent or less than the percentage of the non-minority or non-low-income population benefited (e.g., eight percent or less of the minority population benefits while 10 percent or more of the non-minority population benefits), the changes create a disparate impact or disproportionate burden.
2. Collective service additions include both service additions under consideration for the next year and implemented service additions in the past two years, both major and minor service changes.

Public Involvement Policy

Sound Transit conducts public outreach regarding fare changes and major service changes as consistent with Sound Transit's newly adopted Public Comment on Fare Changes and Major Service Changes Policy (Board Resolution No. R2023-34).

Sound Transit implements permanent fare changes and major service changes only after providing the public with reasonable opportunity to provide formal comment. All public feedback gathered about a proposed fare change or major service change is shared with the Board before any final decisions or actions.

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Definitions and Data Analysis

The following sections describe the data definitions and methodologies used by Sound Transit to develop estimates for Title VI populations within the Sound Transit service area.

Demographic Analysis Methodology and Title VI Data Definitions

Sound Transit uses census demographic data to identify Title VI communities (minority, low-income, and limited-English proficiency (LEP)) for service equity analyses and calculates the systemwide or mode-specific average representation of these communities within the general population. Only minority or low-income status are used to determine if a disparate impact or disproportionate burden must be mitigated or analyzed. However, identifying LEP residents helps Sound Transit ensure that outreach efforts reach diverse customers. Sound Transit uses designated census tracts as the geographic basis for assessing the Title VI populations, and the most recent five-year demographic estimates available from American Community Survey (ACS). The following sections describe the methodology for identifying each of the Title VI populations for the annual service equity analysis.

Service Area Methodology

Most transit agencies in the United States define their service area as a buffered distance around each of their transit routes. Given the unique service characteristics of Sound Transit service – limited stops connecting regional urban and employment centers – the agency defines its service area based on a radial distance from each transit stop, rather than the transit route alignment. The radial distance varies depending on the type of stop (see Table 2).

Table 2: Service area definitions

Stop Type	Service Area in Miles
Bus stop without parking	0.5
Rail stop without parking	1.0
Bus facility with parking	2.5
Rail station with parking	5

Sound Transit Title VI Population Estimates

Using the demographic analysis and Title VI definitions previously outlined in this section, percentages for Title VI populations for the Sound Transit service area are identified by census tract and the Sound Transit District⁴ overall. Table 3 shows Title VI population averages for the Sound Transit District using the American Community Survey five-year estimates 2021 dataset. Minority and low-income averages serve as a comparison in the service change analysis to determine if a mitigation must be considered, while LEP averages help to advise the outreach strategy. The maps below show census tracts with minority and low-income populations above the Sound Transit District average and LEP.

⁴ The Sound Transit District is the geographic area that contributes tax revenue to fund Sound Transit services while the Sound Transit service area is defined by set radial distances from Sound Transit stops. While these two geographies mostly overlap, there are parts of the service area that extend beyond the District boundaries and parts of the District that are not served by transit stops.

Table 3: Sound Transit District population percentage of Title VI protected populations

Title VI Protected Populations	Percentage of District Populations
Minority	40.5%
Low-Income	19.8%
Limited English Proficiency	10.3%

The maps below (Figures 1-3) show the Sound Transit stops and census tracts in the Sound Transit District and Sound Transit service area that have above-average percentages of minority, low-income and limited English proficiency (LEP) populations. The individual and systemwide service equity analyses use the **Sound Transit District averages for each protected population**, not the transit service areas, to compare the percentage of these populations in the individual route's service areas. The transit service area buffer illustrates how Sound Transit service and stops are sometimes outside of the District area.

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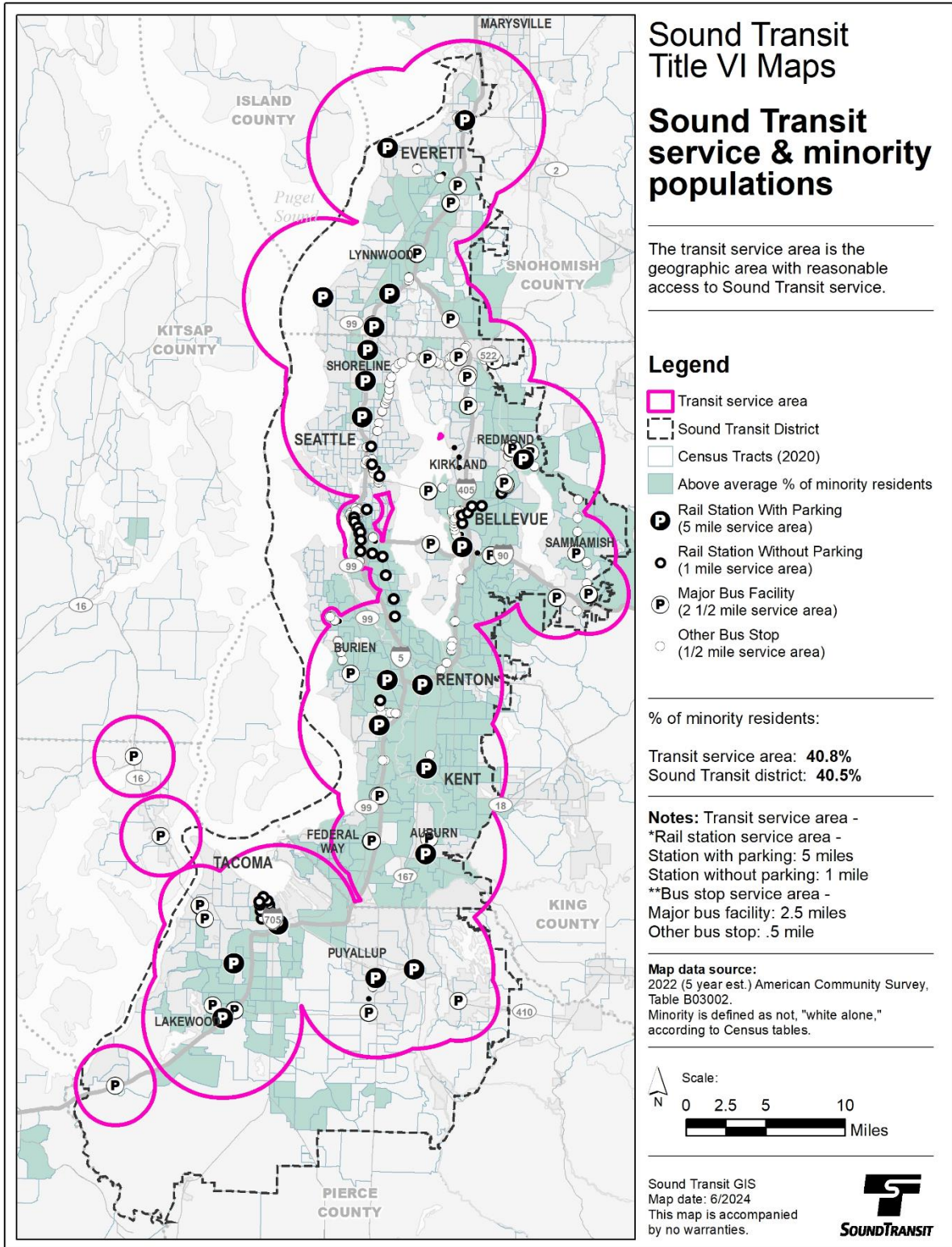


Figure 1: Map of Title VI minority Population for Sound Transit service area

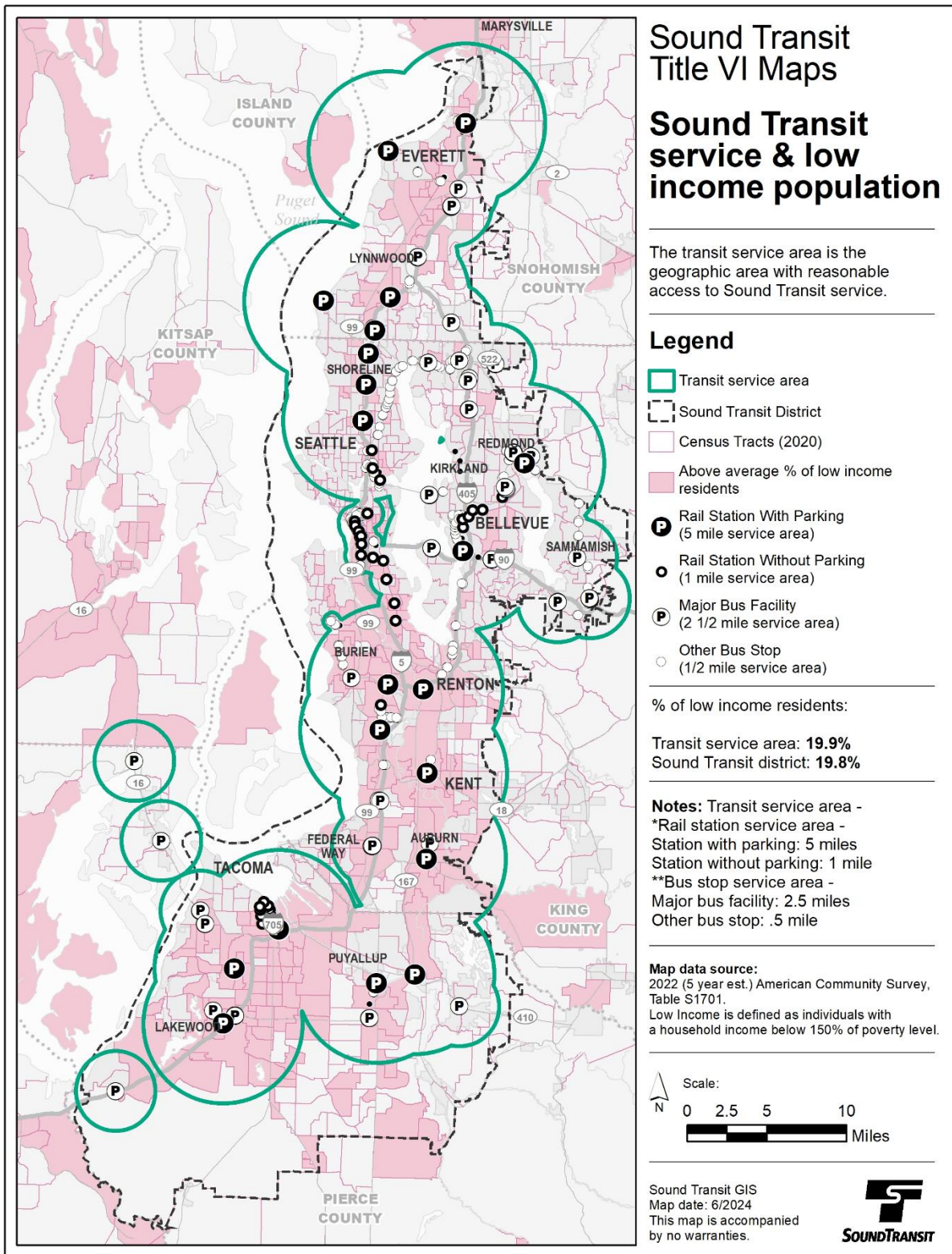


Figure 2: Map of Title VI low-income population for Sound Transit service area

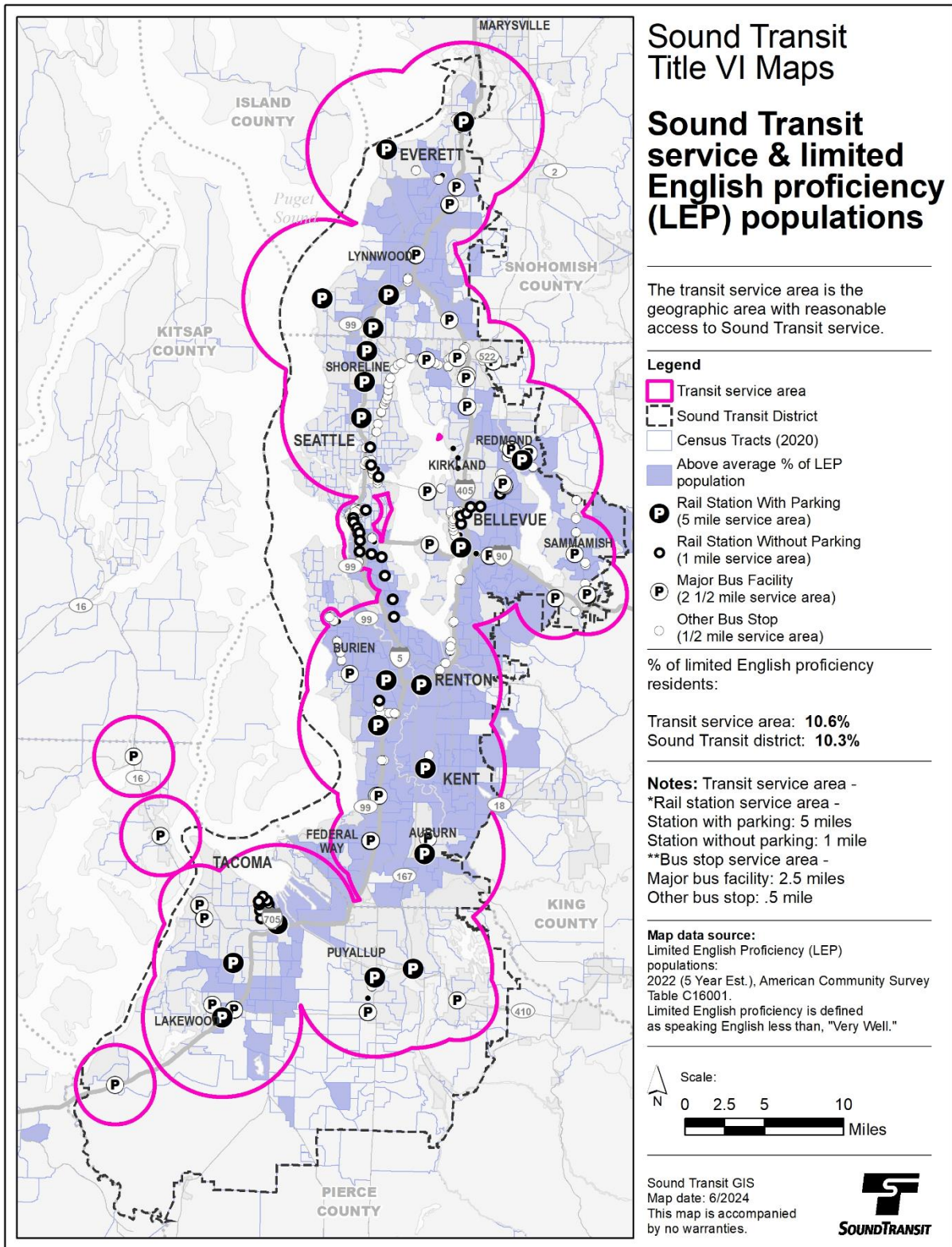


Figure 3: Map of Title VI Limited English Proficiency (LEP) population for Sound Transit service area

Title VI Protected Populations by Route

Table 4 (below) displays the Title VI protected populations by route for each of Sound Transit's service types. Title VI protected routes are highlighted when they are five percentage points greater than the District Title VI population average (entries in the last row of Table 4). Additional population data is available in the appendix.

Note about Low-Income Population Percentages: Sound Transit previously defined household income below 150 percent poverty level as low-income. In 2022, the agency updated the definition of low-income to a household income below 200 percent of the poverty level. The updated 200 percent is in line with the evaluation ORCA (region fare payment) uses to evaluate households that qualify for reduced fare payment.

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Table 4: Title VI protected population by route⁵

Route	Minority Population	Low-Income Population	Limited English Proficiency (LEP)
ST Express Bus			
510	38.5%	23.1%	11.2%
511	35.6%	18.2%	9.8%
512	35.9%	20.1%	10.5%
513	39.5%	13.8%	10.9%
515	40.6%	14.9%	9.9%
522	29.9%	14.3%	7.5%
532	40.7%	20.0%	12.9%
535	38.3%	15.3%	11.1%
542	47.5%	15.1%	12.3%
545	47.0%	15.2%	11.4%
550	48.6%	17.3%	12.0%
554	47.6%	15.4%	11.4%
556	45.7%	14.2%	11.3%
560	51.7%	22.9%	17.4%
566	57.9%	15.3%	16.4%
574	51.3%	32.0%	14.4%
577	51.3%	26.4%	13.7%
578	42.5%	24.4%	11.3%
580	24.5%	18.7%	4.9%
586	48.2%	32.2%	12.6%
590	43.4%	28.2%	8.1%
592	47.7%	31.0%	9.6%
594	46.3%	31.3%	9.5%
595	34.8%	22.9%	6.0%
596	18.8%	15.4%	3.4%
Commuter Rail			
N Line	34.9%	21.4%	10.6%
S Line	45.4%	25.2%	12.2%
Light Rail			
1 Line	41.7%	20.5%	11.1%
2 Line South Bellevue – Downtown Redmond	45.3%	12.0%	11.7%
Street Car			
T Line	40.2%	26.4%	8.4%
District Average	40.5%	19.8%	10.3%

⁵ Protected population statistics for routes that have service area changes (Route 512, Route 513, and Link 1 Line) reflect the service area after the change.

Individual Route Analysis of Major Service Changes

Overview

Ongoing, industry-wide workforce challenges stemming from the pandemic caused service reductions across all three of our ST Express operating partners: Pierce Transit, King County Metro, and Community Transit. These staffing shortages have continued, which has prompted these reductions to remain in place, and in some cases, have required further reductions. In 2023, the Sound Transit Board authorized M2023-113, which approved temporary service reductions on Pierce Transit-operated routes in Pierce County and South King due to a revised staffing outlook. The reductions included suspending the downtown Tacoma segment of Route 590 (Tacoma – Seattle) between 10th Ave & Commerce St and Tacoma Dome Station, Route 580 (South Hill – Puyallup) service, approximately half of weekday trips on Route 590, and select trips on Routes 577, 578, and 594.

Sound Transit continues to work closely with our operating partners to evaluate options to potentially restore service reductions authorized in M2023-113. Additional Board action formalizing the service reductions will be required in the 2025 Service Plan if no feasible option to restore these reductions is identified. The following individual route analysis evaluates the two major service changes to Route 590 and Route 580 temporarily authorized in M2023-113. The **individual route analysis** identified that the potential major change for Route 590 would have adverse effects and a finding of disproportionate burden, and thus require mitigations. These mitigations include schedule adjustments and prioritization of larger vehicles to better meet demand.

The service change analysis is summarized in Table 5 below, followed by a detailed evaluation of each change in the following section.

Table 5: Service change analysis summary

Major Service Change Analysis Summary					
Route	Proposed Change	Type of Change	Adverse Effects	Disparate Impact ⁶	Disproportionate Burden ⁷
2 Line	Begin revenue service to new Marymoor Village, and Downtown Redmond stations.	Major	No	No	No
590	Eliminate stops in Downtown Tacoma, eliminate 22 trips.	Major	Yes	No	Yes
580	Eliminate route	Major	Yes	No	No

⁶ If the service area of a route would change with the proposed service change, the analysis compares the Sound Transit District average to the service area percentages before and after the change to determine if either service area would experience disparate impacts. All impact findings were the same for service areas before and after the service change.

⁷ If the service area of a route would change with the proposed service change, the analysis compares the Sound Transit District average to the service area percentages before and after the change to determine if either service area would experience disproportionate burden. All burden findings were the same for service areas before and after the service change.

Methodology

When a proposed major service change to a single line or route creates an adverse effect, a disparate impact or disproportionate burden occurs when the percentage of the adversely affected minority or low-income population in the service area of the line or route exceeds the percentage of the minority or low-income population within the Sound Transit District by at least five percentage points (e.g., 15 percent of the population adversely affected is low-income compared to a District low-income population of 10 percent).

If a service area changes with the service change (stations or stops were added or removed, etc.), the analysis compares the District average to the protected populations' percentage for the service area before and after the service change.

Identifying Major Service Changes

A major service change is defined as: Any single change in service on an individual bus or rail route that would add or eliminate more than 25 percent of the route's weekly revenue service hours, permanently move the location of a bus stop by more than a quarter mile or rail station by more than a half mile, and/or close or eliminate a bus stop or rail station without a replacement of any kind within a quarter mile for bus stops or a half mile for rail stations.

Table 6 compares the weekly revenue hours of each route that is undergoing a service change compared to the baseline and determines whether the service change is major or minor.

Table 6: Major service change weekly revenue hours compared to baseline

Service Change	Fall 2023 Weekly Revenue Hours	Spring 2025 Weekly Revenue Hours	Percentage Change	Stop Removal	Type of Change
2 Line Extension to Downtown Redmond	0	942	N/A	No	Service Addition
Route 590 Trip & Stop Elimination	329	176	-47%	Yes*	Major Segment & Trip Elimination
Route 580 Elimination	13	0	-100%	Yes	Major (Route Elimination)

**While one early morning trip will continue to serve the eliminated stops, service on the segment is effectively eliminated from a passenger perspective.*

Begin 2 Line Service to Marymoor Village & Downtown Redmond

Description of Proposed Major Service Change

Extend the 2 Line from Redmond Technology station to Marymoor Village and Downtown Redmond stations. Service levels will remain constant, with trains operating as frequently as every 10 minutes all day, every day. (Table 7).

Table 7: Approximate span of service and headways of 2 Line current and proposed service

Approximate Frequencies		
	Current 2 Line South Bellevue – Redmond Tech	Proposed 2 Line South Bellevue – Downtown Redmond
Weekdays	5:31AM - 9:34PM	5:31AM - 9:34PM
Early AM	10 min.	10 min.
AM Peak	10 min.	10 min.
Midday	10 min.	10 min.
PM Peak	10 min.	10 min.
Evening	10 min.	10 min.
Late Evening	10 min.	10 min.
<i>Frequencies and proposed span are approximate and may vary by direction and may be revised as additional scheduling and operational planning occurs.</i>		

Table 8: Weekly revenue hours for 2 Line current and proposed service

	Current Service	Proposed Service	Percent change
Weekly revenue hours	817	942	+15%

The 2 Line would have 942 weekly revenue hours, an increase of 125 hours (Table 8).

Adverse Effects & Benefits

Addition of new stations qualifies as a major service change subject to Title VI Analysis. In this case, there are no adverse effects because service is improved. The service change improves access and revenue hours are increased to maintain current service levels while the length of the line increases.

Adverse Effects

The extension of the 2 Line does not result in any adverse effects because it adds service.

Benefits

The extension of the 2 Line benefits riders by increasing service coverage and introducing Link service to Redmond.

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Title VI Analysis

Adding new stations to a route qualifies as a major service change subject to Title VI analysis. In this case, there is no adverse effect because the added stations would improve service in the area by providing additional access for passengers travelling in and around the area.

- **No disparate impact:** The minority population of the 2 Line does not exceed the district average by at least five percentage points (Table 9).
- **No disproportionate burden** The low-income population of the 2 Line does not exceed the district average by at least five percentage points (Table 9).

Table 9: Title VI Populations in the Sound Transit District and the 2 Line service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
Sound Transit District	40.5%	19.8%	10.3%
Existing 2 Line Service Area	45.7%	12%	11.9%
New 2 Line Service Area	45.3%	12%	11.7%
Difference between new and previous Service Area	-0.4%	-	-0.2%
Difference between New Service Area and District	4.83%	-7.8%	1.35%
Exceeds percentage of the protected population within the District by at least five percentage points	No	No	No

Title VI Maps

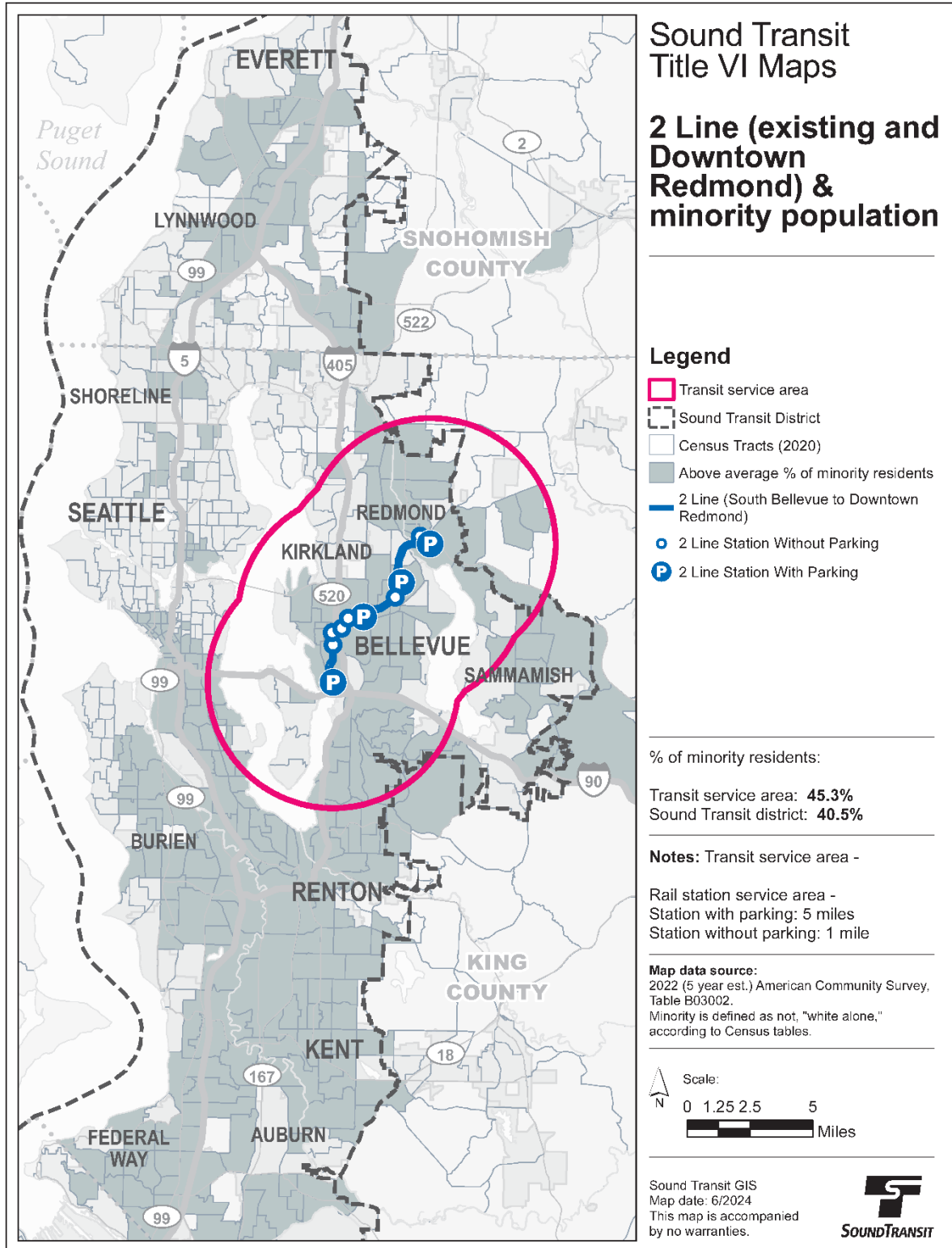


Figure 4: Map of Title VI Minority population for the 2 Line.

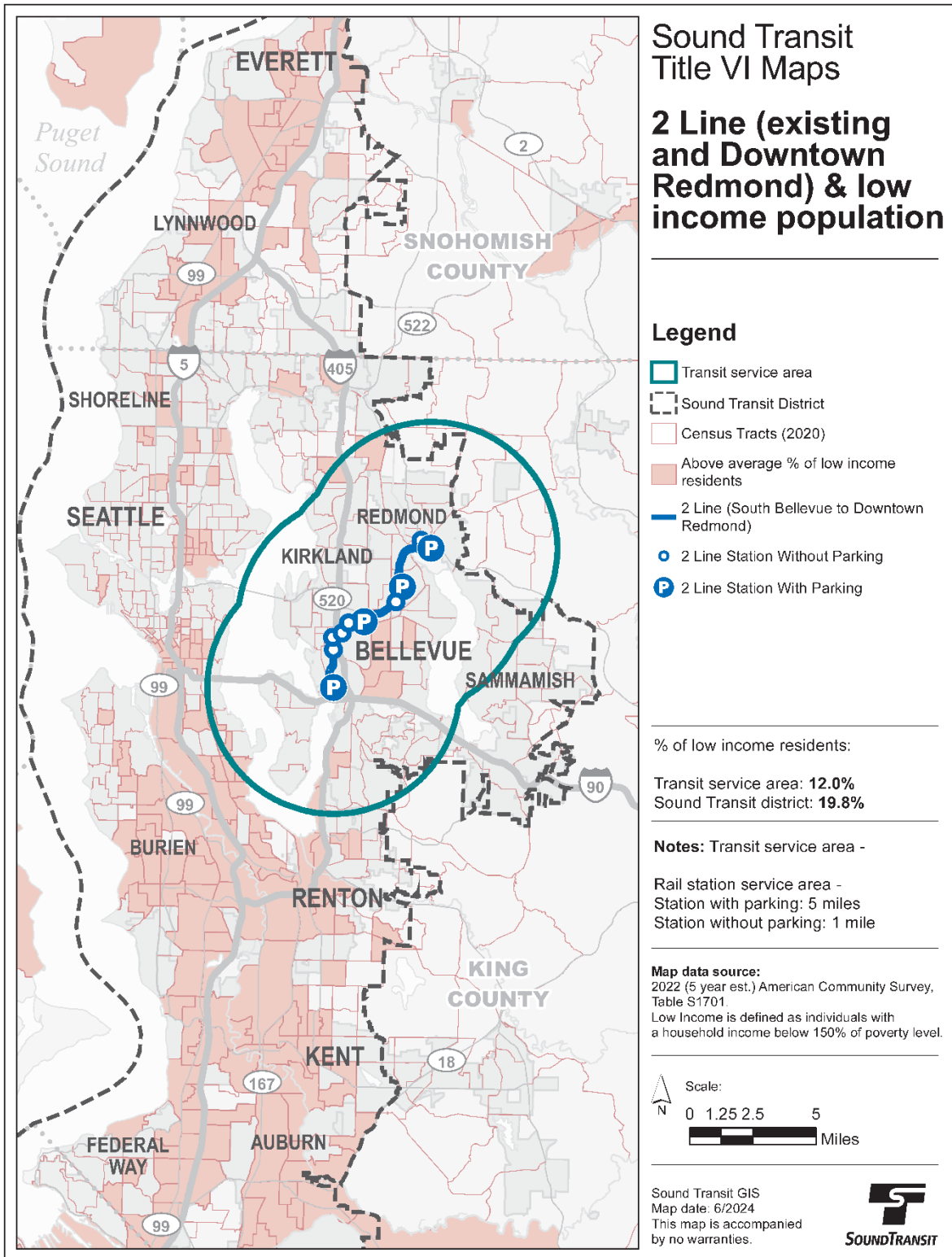


Figure 5: Map of Title VI Low Income population for the 2 Line.

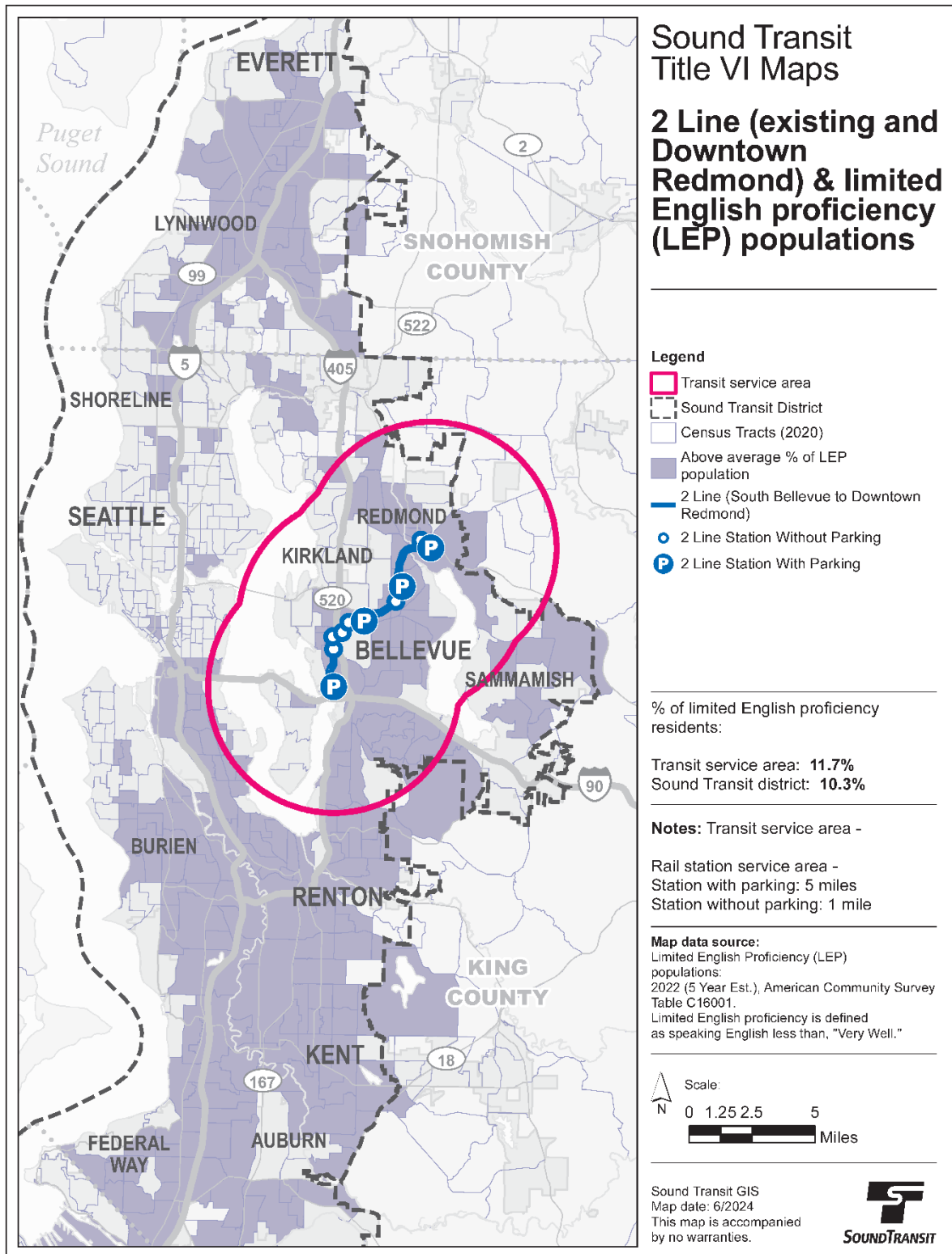


Figure 6: Map of Title VI Limited English Proficiency (LEP) population for the 2 Line.

Mitigations

Mitigations are not required since there is no finding of disparate impact or disproportionate burden.

Public Input

In August 2024, Sound Transit will conduct community engagement to inform the public about the proposed service changes in the 2025 Service Plan.

Conclusion

The extension of the 2 Line does not have adverse impacts, nor is there a determination of disparate impact or disproportionate burden.

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Route 590 (Tacoma – Seattle) Proposal: Eliminate Stops and Trips

Description of Proposed Major Service change

In response to the ongoing operator shortage, shorten Route 590 to operate between Tacoma Dome Station and Downtown Seattle. Except for one early morning trip, Route 590 trips, would no longer serve stops in Downtown Tacoma, other than Tacoma Dome, including:

- Pacific Ave & S 24th St
- Pacific Ave & S 19th St
- Pacific Ave & S 14th St
- 10th & Commerce St Transit Center

Route 590 riders can transfer to the T Line, which stops at Tacoma Dome, to connect to Downtown Tacoma. One early morning trip on Route 590 will be retained to provide coverage along Pacific Avenue, outside of the T Line service span.

The frequency of Route 590 will be impacted. Route 590 schedules will be adjusted and coordinated with Route 595 to preserve a combined 20-30 minute headway at the AM and PM peak. Additionally, the schedules will also be offset with the Sounder S Line to maximize departure opportunities from Tacoma Dome Station.

Additionally, in an effort to align with Route 590 demand, more trips in the AM than PM will be retained, and vehicles with higher capacity will be prioritized for trips with the highest ridership.

Table 10: Approximate span of service and frequencies of current and proposed Route 590 service

Approximate Frequencies		
	Current Route 590 Tacoma – Seattle	Proposed Route 590 Tacoma - Seattle
Weekdays	3:48AM – 6:24PM	3:46AM – 6:29PM
Early AM	20 Mins	30 Mins
AM Peak	10-20 Mins	15-30 Mins
Midday	10 Mins	20 Mins
PM Peak	10 Mins	20 Mins
Evening	-	-
Late Evening	-	-

Frequencies are approximate and may vary by direction and may be revised as additional scheduling and operational planning occurs.

Route 590 is a peak hour, peak direction service.

The span of service for Route 590 will not change significantly (Table 10). The headways for Route 590 will increase at some hours, but the combined headway for Route 590 and Route 595 will be 20-30 minutes.

Note: Proposed Service Levels have been in effect as of March 2024, authorized by Motion [M2023-113](#). This motion temporarily authorized service reductions beginning, responsive to staffing shortages which remain ongoing.

Table 11: Weekly revenue hours for Route 590 current and proposed service

	Current Route 590*	Proposed Route 590	Percent change
Weekly revenue hours	329	176	-47%

*Current Route 590 hours are dated from Fall 2023, prior to the implementation of temporary reductions, which remain in effect, in order to more accurately represent the reduction.

Weekly revenue hours will decrease by 153 hours (Table 11).

Adverse Effects & Benefits

Adjustment of a route’s service hours by greater than 25%, and the removal of stops without a replacement within a quarter mile constitutes a major service change, and has potential adverse effects.

Adverse Effects

Route Segment and Stop Elimination: Except for one early morning trip, Route 590 would be truncated at Tacoma Dome Station, with stops in downtown Tacoma eliminated. Passengers will need to use T Line to reach Tacoma Dome Station for service to Seattle, or make use of the parking garage at Tacoma Dome. This will reduce access to Route 590 services, because there are fewer stops for passengers to access service.

Trip Eliminations: 22 Trips would be eliminated, as part of ongoing operator shortages. The trip reductions will reduce access to Route 590, increase waiting times between trips, and may lead to, or increase, crowding as passengers will have fewer departures to choose from.

Benefits

There are no benefits resulting from this service reduction.

Title VI Analysis

Shortening Route 590 and eliminating stops constitutes a major service change, and has adverse effects because it results in the elimination of bus stops without replacements within a quarter mile. The service change also results in a greater than 25 percent reduction in weekly revenue hours. Therefore, the service change is subject to Title VI analysis.

- **No disparate impact:** The minority population of Route 590 does not exceed the district average by at least five percentage points (Table 12)
- **Disproportionate burden:** The low income population of Route 590 exceeds the district average by at least five percentage points (Table 12)

Table 12: Title VI Populations in the ST District and the Route 590 service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
Sound Transit District	40.5%	19.8%	10.3%
Route 590 Service Area (Before Truncation)	43.4%	28.2%	8.1%
Route 590 Service Area (After Truncation)	43.4%	28.2%	8.1%
Difference (current vs. ST District)	+2.9%	+8.4	-2.2%
Difference (proposed vs. ST District)	+2.9%	+8.4%	-2.2%
Differences exceed percentage of the protected population within the District by at least five percentage points	No	Yes	No

Despite stop eliminations, the service area of Route 590 remains unchanged, as the stops within downtown Tacoma are within 5 miles (rail station with parking) of Tacoma Dome station.

Mitigations

To mitigate the decreased frequency and stop eliminations, Route 590’s schedule will be coordinated with Route 595, which also serves Tacoma Dome Station and the same stops in Downtown Seattle. Route 590 trips will also be offset with the Sounder S Line schedule. Coordination of these schedules is intended to maximize departure opportunities for passengers and alleviate crowding. Additionally, there will be ongoing prioritization of higher capacity vehicles to better meet demand, and when feasible, additional dynamic service will be provided – which are further measures intended to alleviate crowding.

Public Input

In August 2024, Sound Transit will conduct community engagement to inform the public about the proposed service changes in the 2025 Service Plan.

Conclusion

The Route 590 service change results in adverse effects. The service change results in a disproportionate burden. The mitigations include offsetting the Route 590 schedule with Sounder S Line, coordinating the Route 590 and 595 schedule, scheduling trips according to demand when possible, and assigning higher capacity buses when possible. Sound Transit's 2025 Service Plan process serves as the public engagement opportunity to inform the public and solicit input on proposed changes.

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Route 580 (South Hill - Puyallup) Proposal: Route Elimination

Description of Proposed Major Service Change

In an effort to more efficiently allocate limited resources, Sound Transit is proposing to eliminate Route 580 in response to ongoing operator shortages. Weekday ridership on Route 580 has been low compared to other Pierce Transit-operated ST Express bus routes, with only three average riders per trip in September 2023.

Passengers seeking to travel between South Hill P&R and Puyallup Station may use Pierce Transit Route 400, serving the same stops; however, the schedule is not timed with Sounder S Line departures and may have to wait longer for their connections. Passengers may also make use of the new garage.

Table 13: Approximate span of service and headways of Route 580 current and proposed service

Approximate Frequencies		
	Current Service Route 580 South Hill - Puyallup	Proposed Service Route 580 South Hill - Puyallup
Weekdays	5:37AM - 6:30PM	No Service
NB Departures	5:37 AM & 6:57AM	-
SB Departures	5:00PM & 5:40PM 6:05PM & 6:30PM	- -
Saturday	No Service	No Service
Sunday	No Service	No Service

Frequencies are approximate and may vary by direction, refer to schedules for details.

Note: Proposed Service Levels have been in effect as of March 2024, authorized by Motion [M2023-113](#). This motion temporarily authorized service reductions beginning, responsive to staffing shortages which remain ongoing.

Table 14: Weekly revenue hours for Route 580 current and proposed service

	Current Route 580	Proposed Route 580	Percent change
Weekly revenue hours	8	0	-100%

Since the route would be eliminated, there would be no weekly revenue hours (Table 14). Resource savings for this route will help mitigate the operator shortage.

Adverse Effects & Benefits

Adjustment of a Route’s service hours by greater than 25%, and the removal of stops without a replacement within a quarter mile constitutes a major service change, and has potential adverse effects.

Adverse Effects

Route Elimination: Route 580 would be eliminated. Passengers will need to use local Pierce Transit services, or the parking garage at Puyallup Station. This will reduce access to Route 580 services.

Benefits

There are no passenger benefits resulting from the elimination of Route 580.

Title VI Analysis

A route suspension qualifies as a major service change subject to Title VI analysis. In this case, there is an adverse effect because the route is eliminated. The service change reduces overall revenue hours.

- **No disparate impact:** The minority population of Route 580 does not exceed the district average by at least five percentage points (Table 15).
- **No disproportionate burden** The low-income population of Route 580 does not exceed the district average by at least five percentage points (Table 15)

Table 15: Title VI Populations in the ST District and the Route 580 service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
ST District	40.5%	19.8%	10.3%
Route 580 Service Area	24.5%	18.7%	4.9%
Difference	-16%	-1.1%	-5.4%
Exceeds percentage of the protected population within the District by at least five percentage points	No	No	No

Title VI Maps

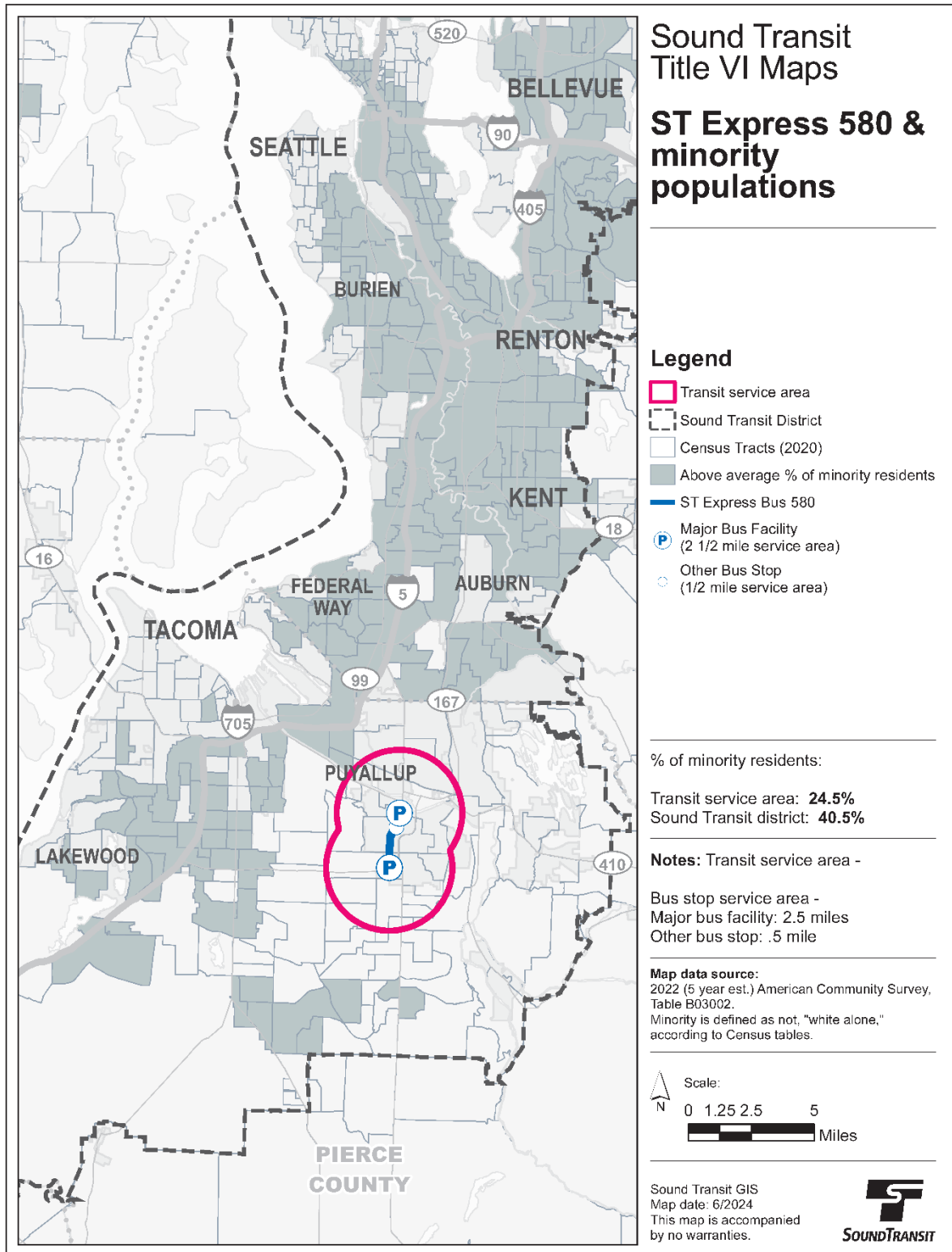


Figure 7: Map of Title VI Minority population for Route 580.

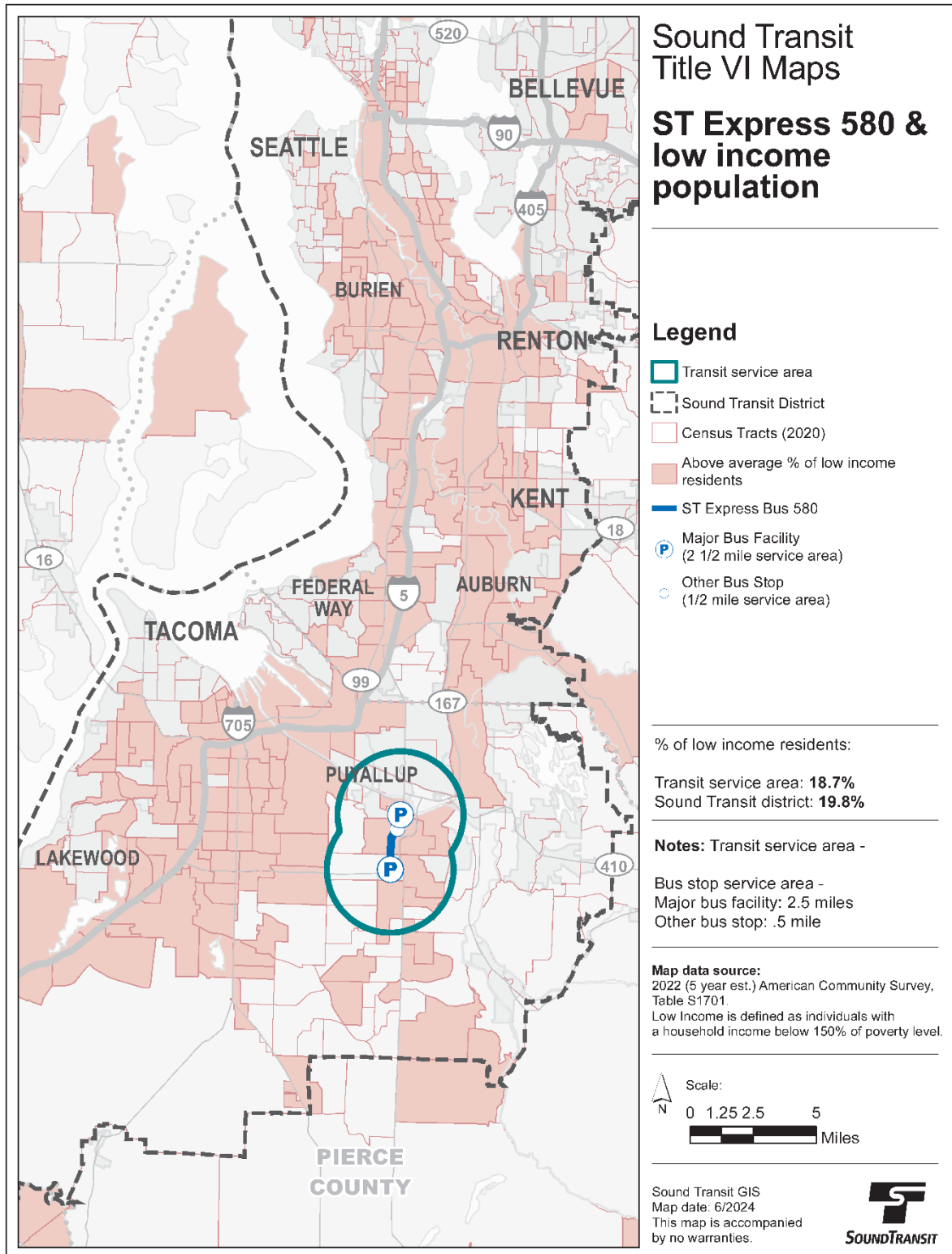


Figure 8: Map of Title VI Low Income population for Route 580

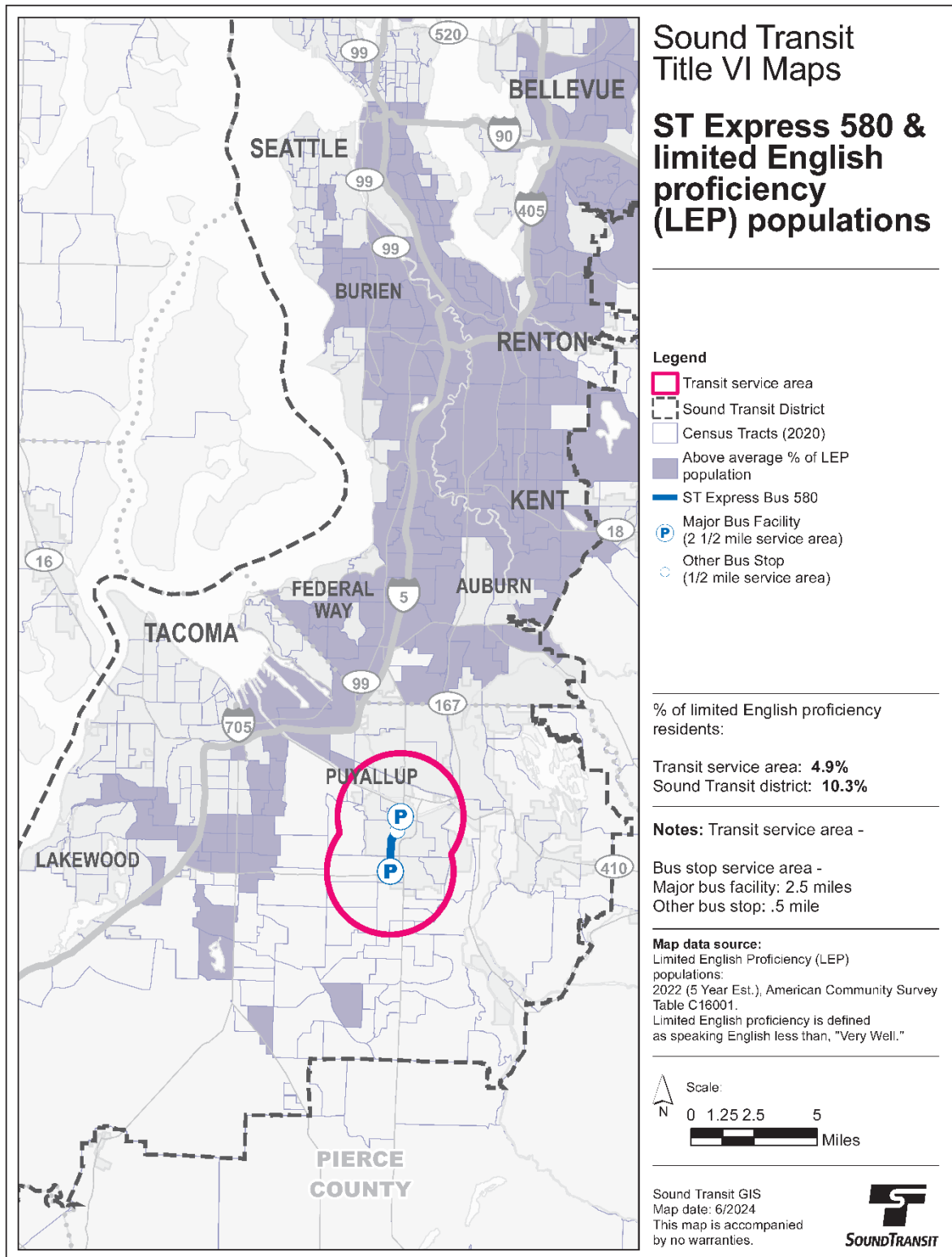


Figure 9: Map of Title VI Minority population for Route 580

Mitigations

Mitigations are not required since there is no finding of disparate impact or disproportionate burden. Passengers will still have access to South Hill P&R, the Red Lot, and the Puyallup Station by using Pierce Transit local Route 400. The route operates 30-minute headways and is not a timed connection with Sounder trains at Puyallup, meaning passengers may need to plan additional time to make the connection compared to Route 580.

Public Input

In Summer 2024, Sound Transit will conduct community engagement to inform the public about the proposed service changes in the 2025 Service Plan.

Conclusion

The Route 580 service change results in adverse effects. However, there is no determination of disparate impact or disproportionate burden. Sound Transit's 2025 Service Plan process serves as the public engagement opportunity to inform the public and solicit input on proposed changes.

Conclusion of Individual Route Analysis

The **individual route analysis** evaluates each major service change on a route-by-route basis, and it found that both service change proposals create adverse effects. **The individual route analysis found that the major service change for Route 590 resulted in a finding of disproportionate burden.** Therefore, mitigations are required.

Mitigations that are currently being implemented include:

- Coordinate the schedule of Route 590 with Route 595, and the Sounder S Line to maximize departure opportunities between Tacoma Dome and Downtown Seattle.
- Adjustment of the schedule of Route 590 to concentrate trips at times with the greatest demand, and prioritization of higher capacity vehicles to those times and trips.
- Continue to work with our operating partners to evaluate potential options to restore service if possible.

Systemwide Service Analysis

Overview

The systemwide analysis compares benefits and impacts to Title VI protected & non-protected populations on all routes with changes over multiple years. The systemwide analysis follows the agency's Title VI policy, adopted by the Board of Directors in August 2022. **The results of the systemwide analysis did not identify any findings.**

The systemwide analysis evaluates service reductions and service additions separately. The analysis shows that the distribution of benefits to protected populations exceeds 80% for protected populations and the reduction of service to protected populations does not exceed 20% of the distribution. Therefore, the systemwide analysis did not identify any adverse effects on protected populations from September 2022 to September 2025. The following sections step through the process for each analysis.

Methodology

In order to conduct the system wide analysis, the percentage of low-income and non-low-income populations impacted by the change are compared to the overall district using a ratio. The analysis begins by identifying the populations affected by service changes and summarizing into totals for people experiencing increased service and people experiencing reduced service. Then the total affected populations are compared to the total population to calculate a percentage. Next, the threshold test evaluates the population comparison percentage to test for equity impacts.

Identifying Systemwide Service Additions & Reductions

The first step in the analysis identifies service reductions and additions by route. Table 16 shows the total change in scheduled weekly revenue hours between September 2022 and September 2025 for each route. When weekly revenue hours increased, this change is identified as an addition. When weekly revenue hours decrease, this change is identified as a reduction. In the following analysis steps, the totals for the routes in each group will be used to evaluate systemwide reductions and additions.

The changes in revenue hours reflect the on-going impact of staffing shortages which limit the amount of service that can be delivered..

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Route	Sept. 2022	Mar. 2023	Sept. 2023	Mar. 2024	Sept. 2024	Mar. 2025	Sept. 2025	Difference between Sept. 2022 & Sept. 2025	Percent Difference between Sept. 2022 & Sept. 2025	Addition or Reduction
1 Line	2,128	2,190	2,190	2,224	2,915	2,915	2,915	787	73%	Addition
2 Line	0	0	0	817	817	942	2,818	2,818	N/A	New Service
510	171	172	172	198	175	175	175	4	2%	Addition
511	95	0	0	0	0	0	0	-95	-100%	Reduction
512	898	922	922	939	733	733	733	-165	-18%	Reduction
513	116	96	96	104	80	80	80	-36	-31%	Reduction
515	0	0	0	0	210	210	210	210	N/A	New Service
522	978	974	975	1,019	1,019	1,019	1,019	41	4%	Addition
532	129	125	125	142	142	142	142	13	10%	Addition
535	406	398	398	431	431	431	431	25	6%	Addition
542	415	427	427	427	427	427	427	12	3%	Addition
545	1,080	1,077	1,077	1,071	1,071	1,071	1,071	-9	-1%	Reduction
550	885	883	883	903	903	903	903	18	2%	Addition
554	664	664	664	663	663	663	663	-1	0%	Reduction
556	108	108	108	105	105	105	105	-3	-3%	Reduction
560	697	673	673	623	623	623	623	-74	-11%	Reduction
566	194	196	196	200	200	200	200	6	3%	Addition
574	772	772	772	813	813	813	813	41	5%	Addition
577	287	274	274	209	209	209	209	-78	-27%	Reduction
578	706	708	708	704	704	704	704	-2	0%	Reduction
580	13	13	13	0	0	0	0	-13	-100%	Reduction
586	120	126	126	111	111	111	111	-9	-7%	Reduction
590	329	329	329	176	176	176	176	-153	-47%	Reduction
592	171	171	171	179	179	179	179	8	4%	Addition
594	862	861	861	781	781	781	781	-81	-9%	Reduction
595	61	61	61	67	67	67	67	6	10%	Addition
596	42	42	42	36	36	36	36	-6	-14%	Reduction
N Line	26	26	26	26	53	53	53	27	104%	Addition
S Line	183	183	183	183	183	183	183	0	0%	No Change
T Line	191	191	480	480	480	480	480	289	151%	Addition

Table 16: Scheduled weekly revenue hours by service change from September 2022 - September 2025

Systemwide Service Reductions Analysis

When a systemwide potential adverse effect occurs due to major service changes on more than one line or route, the agency determines if the collective service reductions create a disparate impact or disproportionate burden by comparing the percentage of the service area’s minority or low-income population adversely affected by the major service reductions to the percentage of the district’s non-minority or non-low-income population adversely affected.

Collective service reductions include both service reductions under consideration for the next year and implemented service reductions in the past two years, both major and minor service changes.

Table 17 shows the total change in weekly revenue hours between September 2022 and September 2025 for each route with a service reduction. The population columns then identify the total Title VI-protected and non-Title VI-protected populations affected by the service reduction for each route.

Table 17: Populations affected by service reduction September 2022 to September 2025

Route	Change in Weekly Revenue Hours	Total Population	Minority Population	Non-Minority Population	Low-Income Population	Non-Low-Income
511	-95	418,642	148,928	269,714	76,009	342,633
512	-165	559,253	200,511	358,742	112,500	446,753
513	-36	503,500	198,883	304,617	69,483	434,017
545	-9	261,666	123,056	138,610	39,672	221,994
554	-1	233,043	110,829	122,214	36,005	197,038
556	-3	224,636	102,657	121,979	31,840	192,796
560	-74	117,314	60,625	56,689	26,888	90,426
577	-78	162,255	83,177	79,078	42,892	119,363
578	-2	278,113	118,311	159,802	67,934	210,179
580	-13	85,599	20,955	64,644	15,989	69,610
586	-9	191,826	92,423	99,403	61,712	130,114
590	-153	157,493	68,427	89,066	44,355	113,138
594	-81	241,498	111,865	129,633	75,550	165,948
596	-6	66,014	12,402	53,612	10,140	55,874

Analysis

If the percentage of the minority or low-income population adversely affected is more than 20 percent greater than the percentage of the non-minority or non-low-income population adversely affected (e.g., 12 percent or more of the minority population is adversely affected while 10 percent or less of the non-minority population is adversely affected), the reductions create a disparate impact or disproportionate burden.

Using the data collected in the above table the following percentages were calculated for populations adversely affected by service reductions compared with the total population in the service area of all routes:

- Minority population adversely affected: 34.3%
- Non-Minority population adversely affected: 35.6%
- Low-Income population adversely affected: 34.2%
- Non-Low-Income population adversely affected: 35.2%

Service Reductions Disparate Impact Test

To evaluate for a potential disparate impact, the percentage of the minority population adversely affected is compared to the percentage of the non-minority population adversely affected using a ratio (Table 18). **Because the result of -3.8% is not 20 percent or greater, no disparate impact was identified.**

Table 18: Service reduction disparate impact test

Minority Population Adversely Affected	Non-Minority Population Adversely Affected	Ratio Comparison	Threshold for Disparate Impact	Result
34.3%	35.6%	$34.3\% \div 35.6\% = -3.8\%$ ¹	20% or greater	No disparate impact
¹ In order to compare with the policy threshold the ratio calculation is shown as the difference from 100%.				

Service Reductions Disproportionate Burden Test

To evaluate for a potential disproportionate burden, the percentage of the low-income population adversely affected is compared to the percentage of the non-low-income population adversely affected using a ratio (Table 19). **Because the result of -2.8% is not 20 percent or greater, no disproportionate burden was identified.**

Table 19: Service reduction disproportionate burden test

Low-Income Population Adversely Affected	Non- Low-Income Population Adversely Affected	Ratio Comparison	Threshold for Disproportionate Burden	Result
34.2%	35.2%	$34.2\% \div 35.2\% = -2.8\%^1$	20% or greater	No disproportionate burden

¹In order to compare with the policy threshold the ratio calculation is shown as the difference from 100%.

Systemwide Service Additions Analysis

When a systemwide adverse effect occurs due to major service changes on more than one line or route, the agency determines if the collective service additions create a disparate impact or disproportionate burden by comparing the percentage of the service area’s minority or low-income population benefiting from the major service additions to the percentage of the District’s non-minority or non-low-income population benefiting.

Collective service additions include both service additions under consideration for the next year and implemented service additions in the past two years, both major and minor service changes.

Table 20 shows the total change in weekly revenue hours between September 2022 and September 2025 for each route with a service addition. The population columns then identify the total Title VI-protected and non-Title VI-protected populations benefiting from the service addition for each route.

Table 20: Populations benefited by service additions, September 2022 to September 2025

Route	Change in Weekly Revenue Hours	Total Population	Minority Population	Non-Minority Population	Low-Income Population	Non-Low-Income
1 Line	787	1,298,120	541,936	756,184	265,916	1,032,204
2 Line	2,818	433,574	196,498	237,076	52,064	381,510
510	4	336,164	129,388	206,776	77,697	258,467
515	210	333,580	135,433	198,147	49,703	283,877
522	41	156,884	46,929	109,955	22,469	134,415
532	13	357,364	145,457	211,907	71,346	286,018
535	25	248,157	95,048	153,109	37,907	210,250
542	12	199,881	94,935	104,946	30,246	169,635
550	18	138,249	67,206	71,043	23,856	114,393
566	6	327,710	189,744	137,966	50,140	277,570
574	41	311,248	159,568	151,680	99,582	211,666
N Line	27	396,128	138,230	257,898	84,872	311,256
T Line	289	267,573	107,591	159,982	70,561	197,012

Analysis

If the percentage of the minority or low-income population benefited is 80 percent or less than the percentage of the non-minority or non-low-income population benefited (e.g., eight percent or less of the minority population benefits while 10 percent or more of the non-minority population benefits), the changes create a disparate impact or disproportionate burden.

Using the data collected in the above table the following percentages were calculated for populations benefiting from service additions compared with the total population in the service area of all routes:

- Minority population benefiting: 52.6%
- Non-Minority population benefiting: 52.7%
- Low-Income population benefiting: 50.9%
- Non-Low-Income population benefiting: 53.1%

Service Additions Disparate Impact Test

To evaluate for a potential disparate impact, the percentage of the minority population benefiting is compared to the percentage of the non-minority population benefiting using a ratio (Table 21).

Because the result of 99.8% percent is greater than the 80 percent or less threshold, no disparate impact/disparate impact was identified.

Table 21: Service additions disparate impact test

Minority Population Benefiting	Non-Minority Population Benefiting	Ratio Comparison	Threshold for Disparate Impact	Result
52.6%	52.7%	$52.6\% \div 52.7\% = 99.8\%$	80% or less	No disparate impact

Service Additions Disproportionate Burden Test

To evaluate for a potentially disproportionate burden, the percentage of the low-income population benefiting is compared to the percentage of the non-low-income population benefiting using a ratio (Table 22). **Because the result of 95.7% percent is greater than the 80 percent or less threshold, no disproportionate burden was identified.**

Table 22: Service additions disproportionate burden test

Low-Income Population Benefiting	Non- Low-Income Population Benefiting	Ratio Comparison	Threshold for Disproportionate Burden	Result
50.9%	53.1%	$50.9\% \div 53.1\% = 95.7\%$	80% or less	No disproportionate burden

Systemwide Analysis Conclusion

The systemwide analysis evaluates service reductions and service additions separately. For service additions, the analysis shows that the distribution of benefits to protected populations exceeds 80%. For service reductions, the adverse impacts to protected populations do not exceed 20%.

Therefore, the systemwide analysis did not identify any disparate impacts or disproportionate burdens on protected populations from September 2022 through September 2025.

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Sound Transit Service Area Title VI Routes and Population

Table 23: Title VI routes and population statistics (2023)⁸

Route	Total Population	Minority Population	Non-Minority Population	Limited English Proficiency (LEP) ⁹	Low-Income Population ¹⁰	Non-Low Income			
1 Line	1,298,120	541,936	41.7%	756,184	144,139	11.1%	265,916	20.5%	1,032,204
2 Line	433,574	196,498	45.3%	237,075	50,635	11.7%	52,064	12.0%	381,509
510	336,164	129,388	38.5%	206,776	37,694	11.2%	77,697	23.1%	258,467
511	418,642	148,928	35.6%	269,714	41,006	9.8%	76,009	18.2%	342,633
512	559,253	200,511	35.9%	358,742	58,906	10.5%	112,500	20.1%	446,753
513	503,500	198,883	39.5%	304,617	54,882	10.9%	69,483	13.8%	434,017
515	333,580	135,433	40.6%	198,147	33,024	9.9%	49,703	14.9%	283,877
522	156,884	46,929	29.9%	109,955	11,710	7.5%	22,469	14.3%	134,415
532	357,364	145,457	40.7%	211,907	46,024	12.9%	71,346	20.0%	286,018
535	248,157	95,048	38.3%	153,109	27,589	11.1%	37,907	15.3%	210,250
542	199,881	94,935	47.5%	104,946	24,568	12.3%	30,246	15.1%	169,635
545	261,666	123,056	47.0%	138,610	29,893	11.4%	39,672	15.2%	221,994
550	138,249	67,206	48.6%	71,043	16,538	12.0%	23,856	17.3%	114,393
554	233,043	110,829	47.6%	122,214	26,680	11.4%	36,005	15.4%	197,038
556	224,636	102,657	45.7%	121,979	25,303	11.3%	31,840	14.2%	192,796
560	117,314	60,624	51.7%	56,689	20,446	17.4%	26,888	22.9%	90,425
566	327,710	189,744	57.9%	137,966	53,744	16.4%	50,140	15.3%	277,570
574	311,248	159,568	51.3%	151,680	44,813	14.4%	99,582	32.0%	211,666
577	162,255	83,177	51.3%	79,078	22,252	13.7%	42,892	26.4%	119,363
578	278,113	118,311	42.5%	159,802	31,541	11.3%	67,934	24.4%	210,179
580	85,599	20,955	24.5%	64,643	4,157	4.9%	15,989	18.7%	69,609
586	191,826	92,423	48.2%	99,403	24,217	12.6%	61,712	32.2%	130,114
590	157,493	68,427	43.4%	89,065	12,802	8.1%	44,354	28.2%	113,138
592	179,701	85,665	47.7%	94,036	17,192	9.6%	55,644	31.0%	124,057
594	241,498	111,865	46.3%	129,633	23,029	9.5%	75,550	31.3%	165,948
595	278,780	96,889	34.8%	181,891	16,725	6.0%	63,738	22.9%	215,042
596	66,014	12,402	18.8%	53,612	2,272	3.4%	10,140	15.4%	55,874
N Line	396,128	138,230	34.9%	257,898	42,183	10.6%	84,872	21.4%	311,256
S Line	1,228,331	557,262	45.4%	671,069	150,153	12.2%	309,216	25.2%	919,115
T Line	267,573	107,591	40.2%	159,982	22,524	8.4%	70,561	26.4%	197,012
District Average			40.5%			10.3%		19.8%	

⁸ Statistics reflect service area after the service change.

⁹ Limited English is defined as speaking English, "Less than very well."

¹⁰ Low-Income is defined as a 200% poverty level and below.