



DRAFT

2024 Service Plan

Title VI Service Equity Analysis

July 2023

Table of Contents

- Introduction 4
 - 2024 Service Plan 4
 - Public Involvement 4
 - Title VI Analysis 4
- Title VI Analysis Executive Summary 5
- Service Equity Analysis 8
 - Introduction 8
- Policies and Definitions 9
 - Major Service Change 9
 - Changes to a Single Line or Route 10
 - Systemwide Service Reductions 10
 - Systemwide Service Additions 10
 - Public Involvement Policy 10
- Definitions and Data Analysis 10
 - Demographic Analysis Methodology and Title VI Data Definitions 10
 - Service Area Methodology 11
 - ST Title VI Population Estimates 11
 - Title VI Protected Populations by Route 15
- Individual Route Analysis of Major Service Changes 16
 - Overview 16
 - Methodology 18
 - Identifying Major Service Changes 18
 - 2 Line (South Bellevue to Redmond Technology Station) 19
 - East Link Extension Planning Context 19
 - Benefits of Opening the 2 Line and Proposed Service Details 20
 - No Bus Changes until Full 2 Line, Not Planned for 2 Line (South Bellevue to Redmond Technology Stations) 21
 - Service Change Proposal 21
 - 1 Line Lynnwood Link Extension 25
 - Lynnwood Link Extension Planning Context 25
 - Service Change Proposal 26
 - Bus Restructure Accompanying 1 Line Lynnwood Link Extension 29
 - Planning Context 29
 - Service Change Proposal - 510 - Everett-Seattle (Major Service Change) 31

DRAFT

- Service Change Proposal - 511 – Ash Way-Northgate (Major Service Change) 34
- Service Change Proposal - 512 – Everett-Lynnwood (Major Service Change)..... 38
- Service Change Proposal - 513 – Seaway-Lynnwood (Major Service Change) 42
- Service Change Proposal - 522 – Woodinville-Shoreline South/148th Station (Major Service Change) 45
- Conclusion of Individual Route Analysis 49
- Systemwide Service Analysis 50
 - Overview 50
 - Identifying Systemwide Service Additions & Reductions..... 50
 - Systemwide Service Reductions Analysis 52
 - Service Reductions Disparate Impact Test 53
 - Service Reductions Disproportionate Burden Test 53
 - Systemwide Service Additions 54
 - Service Additions Disparate Impact Test 55
 - Service Additions Disproportionate Burden Test 55
 - Systemwide Analysis Conclusion..... 55
- Appendix 56
 - ST Service Area Title VI Routes and Population 56
 - Route-Level Title VI Population Maps..... 57

DRAFT

This is an initial draft provided for public review and input as part of the public engagement process for the 2024 Service Plan. This analysis will be updated as part of the final draft Service Plan considered for adoption by the Sound Transit Board of Directors in October 2023.

Introduction

2024 Service Plan

At Sound Transit, we continuously evaluate our service and every year we propose changes to improve passenger experience and make the most of our available resources. The Service Plan typically outlines proposed changes to ST Express, Sounder and Link in response to changes in ridership, operating conditions, and new high-capacity transit project openings.

Sound Transit continues to prepare to deliver new transit service to the region in 2024, including extending the 1 Line to Lynnwood, a potential opening of 2 Line service between South Bellevue and Redmond Technology Stations, and adjusting ST Express service to provide connections to new Link stations. This year's Service Plan will propose to respond to ongoing operational constraints, including challenges in recruiting transit operators and maintenance staff.

Public Involvement

The proposed changes are outlined in our online open house, accessed through the [Annual Service Plan](#) webpage. The proposed changes are organized into three subareas, North, East and South. In the North subarea, we plan to extend the 1 Line to Lynnwood and restructure ST Express bus service to provide connections with Link. In the East subarea, we are evaluating options for opening a segment of the 2 Line between South Bellevue and Redmond Technology Stations. In the South subarea, we are considering minor adjustments to improve ST Express bus service within our current staffing and operational capacity.

The proposed changes are available for public comment from July 10 through August 6, 2023. Sound Transit will host two virtual information sessions on July 17 and July 26, 2023. An overview of the public's feedback will be shared after the public comment period has closed.

Title VI Analysis

This document includes the 2024 Service Plan Draft Title VI Service Equity Analysis, which evaluates the proposed changes in the 2024 Service Plan. The full draft 2024 Service Plan document will be released ahead of the Board of Directors' approval process in October 2023.

Title VI Analysis Executive Summary

The 2024 Service Plan and the corresponding equity analysis examine the impacts of the proposal to open the 2 Line between South Bellevue and Redmond Technology Stations as well as the opening of the 1 Line Lynnwood Link Extension and accompanying bus restructure. Consistent with ST’s newly adopted *Disparate Impact and Disproportionate Burden* policy (Board Resolution No. R2022-19) and FTA C 4702.1B, a Title VI service equity analysis was completed at two levels of analysis. The first individual route analysis evaluated each major service change individually. The second systemwide analysis compared benefits and impacts to Title VI protected & non-protected populations on all routes with changes over multiple years.

The **individual route analysis** found that none of the major changes requiring formalization had a disparate impact and/or disproportionate burden. The opening of the 1 Line extension to Lynnwood and the 2 Line opening result in benefits, such as increases in platform hours and increased service coverage, and no adverse effects. Proposed changes to parallel service do result in adverse effects in the form of passenger impacts from route eliminations and truncations. Mitigations are not required.

The results of the **systemwide analysis** did not identify any findings. The analysis results show that the distribution of benefits for service additions exceeds 80% for protected populations and the distribution of impacts of service reductions do not exceed 20% for protected populations. Therefore, the systemwide analysis does not identify any disparate impacts or disproportionate burdens based on the cumulative service changes implemented between September 2021 and September 2024.

As part of the annual Service Plan, ST (ST) 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 policies defined by the ST Board of Directors (Board). The FTA is responsible for ensuring that federally-supported transit services and related benefits are distributed by applicants and 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.

This section of the Service Plan provides an assessment of potential impacts on minority, low income and limited English-speaking communities associated with the proposed change.

Table 1 summarizes the results of the Title VI equity analysis in the 2024 Service Plan. Additional details are included in the following document.

DRAFT

Table 1: Summary of 2024 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 (South Bellevue Station to Redmond Technology Station)	<p>Open the 2 Line in spring 2024 between South Bellevue and Redmond Technology Link Stations before the opening of the full East Link Extension and the Downtown Redmond Link Extension.</p> <p>ST would open eight new stations: South Bellevue, East Main, Bellevue Downtown, Wilburton, Spring District/120th, Bel-Red/130th, Overlake Village and Redmond Technology.</p>	<ul style="list-style-type: none"> • Minority: ST District average: 42.7%; 2 Line service area: 46.9% • Low-Income: ST District average: 20.7%; 2 Line service area: 11.9% 	No	No	No	N/A
1 Line	<p>Extend 1 Line service to Lynnwood in late 2024.</p> <p>ST would open four new stations: Shoreline South/148th Station, Shoreline North/185th Station, Mountlake Terrace Station, and Lynnwood City Center Station.</p>	<ul style="list-style-type: none"> • Minority: ST District average: 42.7%; 1 Line service area: 46.9% before the change in routing, 43.4% after the change in routing. • Low-Income: ST District average: 20.7%; 1 Line service area: 22.7% before the change in routing, 21.2% after the change in routing. 	No	No	No	N/A
510	Eliminate and replace with 1 Line Link service.	<ul style="list-style-type: none"> • Minority: ST District average: 42.7%; Route 510 service area: 40.7%. • Low Income: ST District average: 20.7%; Route 510 service area: 23.2%. 	No	No	No	N/A
511	Eliminate and replace with 1 Line Link service.	<ul style="list-style-type: none"> • Minority: ST District average: 42.7%; Route 511 service area: 37.1%. 	No	No	No	N/A

¹ If the route's service area changes with the service change, the analysis compares the District average to the service area percentage before and after the change to see if there are findings of disparate impact. All the disparate impact findings were the same for service areas before and after the service change.

² If the route's service area changes with the service change, the analysis compares the District average to the service area percentage before and after the change to see if there are findings of disproportionate burden. All the disproportionate burden findings were the same for service areas before and after the service change.

DRAFT

		<ul style="list-style-type: none"> • Low Income: ST District average: 20.7%; Route 511 service area: 18.8%. 				
512	<p>Shorten to Lynnwood City Center Link Station. Eliminate early morning/late night stops north of Everett Station. The updated frequency will be:</p> <ul style="list-style-type: none"> • 8 minutes during peak • 10 minutes mid-day • 15 minutes evenings 	<ul style="list-style-type: none"> • Minority: ST District average: 42.7%; Route 512 service area: 37.7% before the change in routing, 41.9% after the change in routing. • Low Income: ST District average: 20.7%; Route 512 service area: 21.0% before the change in routing, 23.6% after the change in routing. 	No	No	No	N/A
513	<p>Shorten to Lynnwood City Center Link Station. The updated frequency will be:</p> <ul style="list-style-type: none"> • 15 minutes during peak • No service outside of peak <p>Route 513 will operate in both directions.</p>	<ul style="list-style-type: none"> • Minority: ST District average: 42.7%; Route 513 service area: 38.3% before the change in routing, 43.6% after the change in routing. • Low Income: ST District average: 20.7%; Route 513 service area: 20.5% before the change in routing, 23.2% after the change in routing. 	No	No	No	N/A
522	<p>Shorten to Shoreline South/148th Station.³</p>	<ul style="list-style-type: none"> • Minority: ST District average: 42.7%; Route 522 service area: 32.1% before the change in routing, 32.7% after the change in routing. • Low Income: ST District average: 20.7%; Route 522 service area: 13.7% before the change in routing, 13.7% after the change in routing. 	No	No	No	N/A

³ Occurs with the full opening of the 2 Line. This milestone is not planned to occur in 2024.

Service Equity Analysis

Introduction

ST conducts a Title VI service equity analysis to ensure that changes to transit service are consistent with Title VI policies defined by the FTA and by the ST Board. The FTA requires equity analyses of disparate impacts on minority populations and disproportionate burdens on low-income populations.

For the service equity analysis, ST conducts two levels of analysis, an individual route analysis and a systemwide analysis (see Table 2). First, ST determines whether a service change qualifies as a “Major” service change based on the established policy. For the individual route analysis, ST examines each service change on a route-by-route basis. If a route is undergoing a major service change, a disparate impact or disproportionate burden is present if the percentage of minority and low-income populations living within the route’s service area is five percentage points greater than the percentage of minority and low-income populations living within the ST District as a whole.

The systemwide analysis examines all service changes in the last two years and the proposed changes for the upcoming year. For this analysis, the time period evaluated from September 2021 to September 2024. The systemwide analysis also evaluates service reductions and service additions separately. It looks at the percentage of the population affected by the service changes split out between protected and non-protected populations. For there not to be any Title VI findings, the percentage of the protected population benefitting from the service changes has to be at least 80 percent of the percentage of the non-protected population benefitting from the service. The inverse is true for the impacts. The percentage of the protected population negatively affected by changes should not be greater than 20 percent of the percentage of the non-protected population negatively affected by the changes.

Table 2: Title VI service equity analyses overview

Title VI Service Equity Analysis	Time Period	Purpose
Individual route analysis	Existing service (service as of September 2023) and the proposed service change for each individual route (implemented in 2024)	Compares the percentage of low-income and minority populations in the route's service area to the ST District average. A finding of disparate impact or disproportionate burden is present if the percentages in the route's service area are more than five percentage points greater than the ST District average.
Systemwide analysis	Past two years and the upcoming year	Compares benefits and impacts of collective service reductions and additions under consideration for the next year and implemented in the past two years to Title VI protected & non-protected populations.

Policies and Definitions

The section below describes ST'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 ST 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 ST 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, 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.

DRAFT

Changes to a Single Line or Route

When a proposed major service change to a single line or route creates a potential 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 ST 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 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.

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

Systemwide Service Additions

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 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

ST conducts public outreach regarding major service changes, fare changes, and maintenance facility location selections, including the agency’s steps to avoid, reduce, or mitigate any adverse effects and modify proposals to determine if potential effects were removed or lessened.

Definitions and Data Analysis

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

Demographic Analysis Methodology and Title VI Data Definitions

ST uses census demographic data to identify Title VI communities (minority, low-income and limited-English proficiency (LEP)) for service equity analysis and calculates the systemwide or mode-

DRAFT

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 ST to ensure that outreach efforts reach diverse customers. ST uses the 2010 designated census tracts as the geographic basis for assessing the Title VI populations. However, Title VI population averages were calculated from the more recent American Community Survey five-year estimates 2021 dataset. ST uses 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 ST 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 3).

Table 3: Service area definitions

Stop Type	Service Area (miles)
Bus stop without parking	0.5
Rail stop without parking	1.0
Bus facility with parking	2.5
Rail station with parking	5

ST Title VI Population Estimates

Using the demographic analysis and Title VI definitions previously outlined in this section, percentages for Title VI populations for the ST service area are identified by census tract and the ST District⁴ overall. Table 4 shows Title VI population averages for the ST 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 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 ST District average and LEP.

Table 4: ST District population percentage of Title VI protected populations

Title VI Protected Populations	Percentage of District Populations
Minority	42.7%
Low Income	20.7%
Limited English Proficiency	10.4%

The maps below show the ST stops and census tracts in the ST District and ST service area that have above-average percentages of minority (Figure 1), low-income (Figure 2) and limited English proficiency (LEP) populations (Figure 3). The individual and systemwide service equity analyses use the **ST 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 ST service and stops are sometimes outside of the District area.

⁴ The ST District is the geographic area that contributes tax revenue to fund ST services while the ST service area is defined by set radial distances from ST 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.

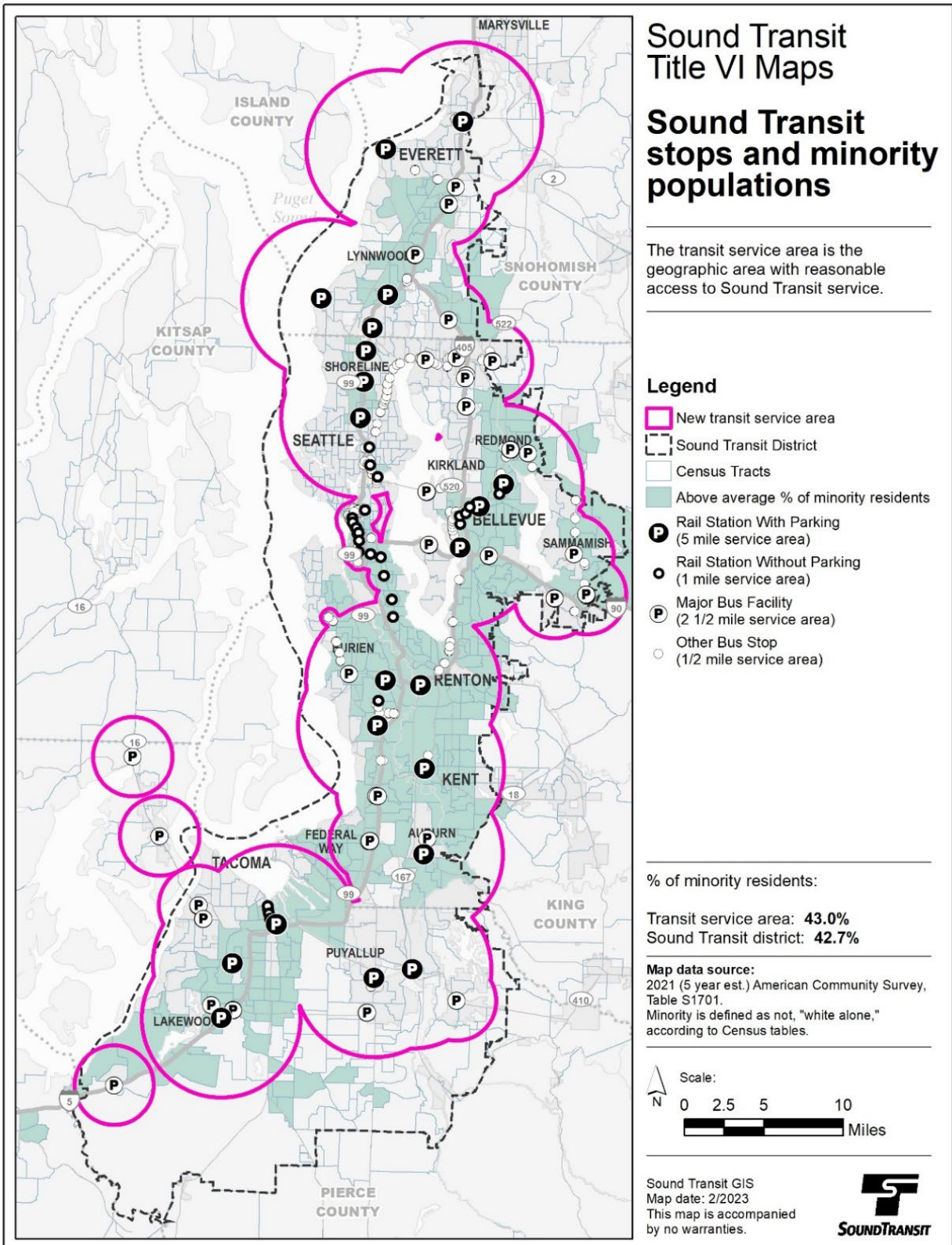


Figure 1: Map of Title VI minority Population for ST service area

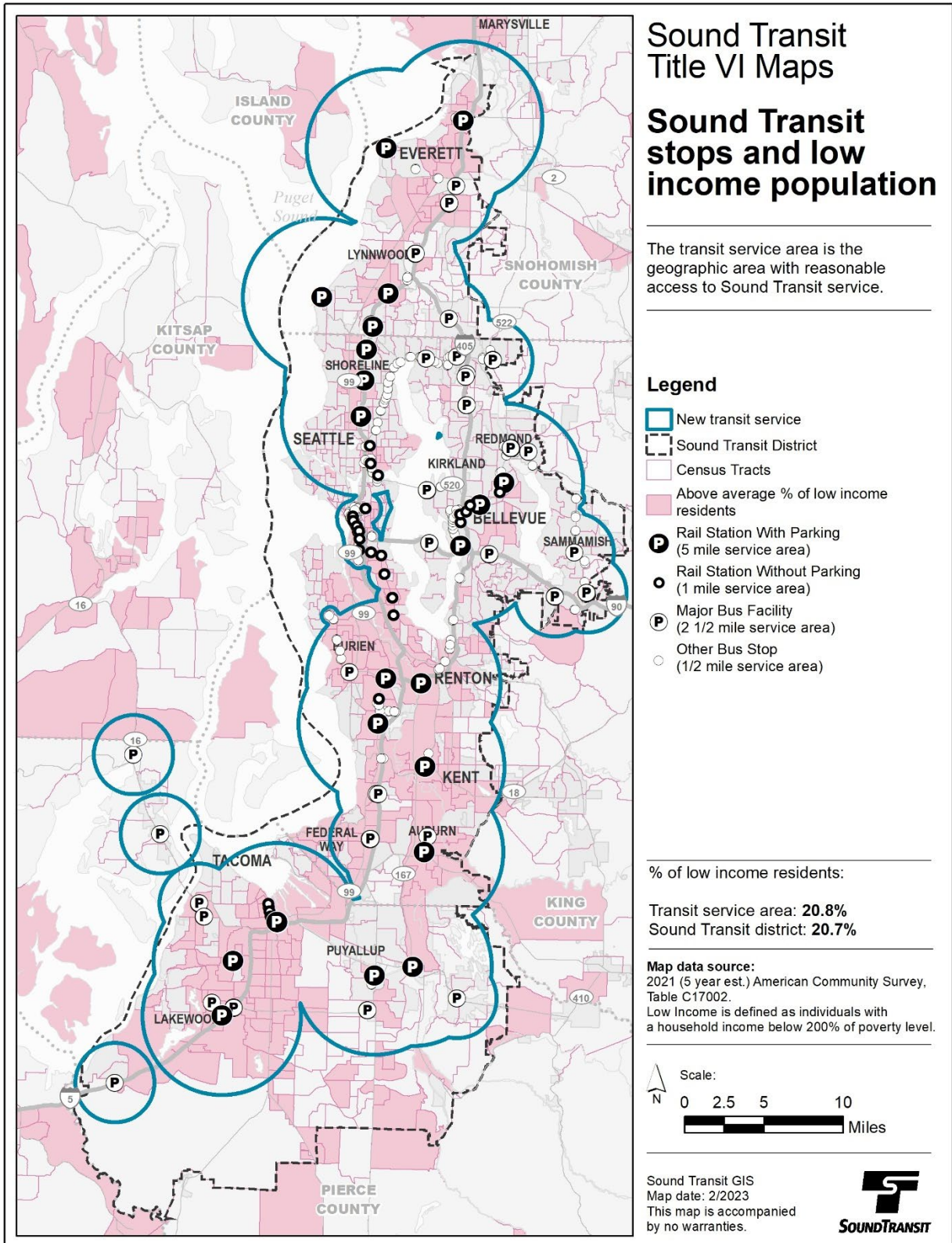


Figure 2: Map of Title VI low-income population for ST service area

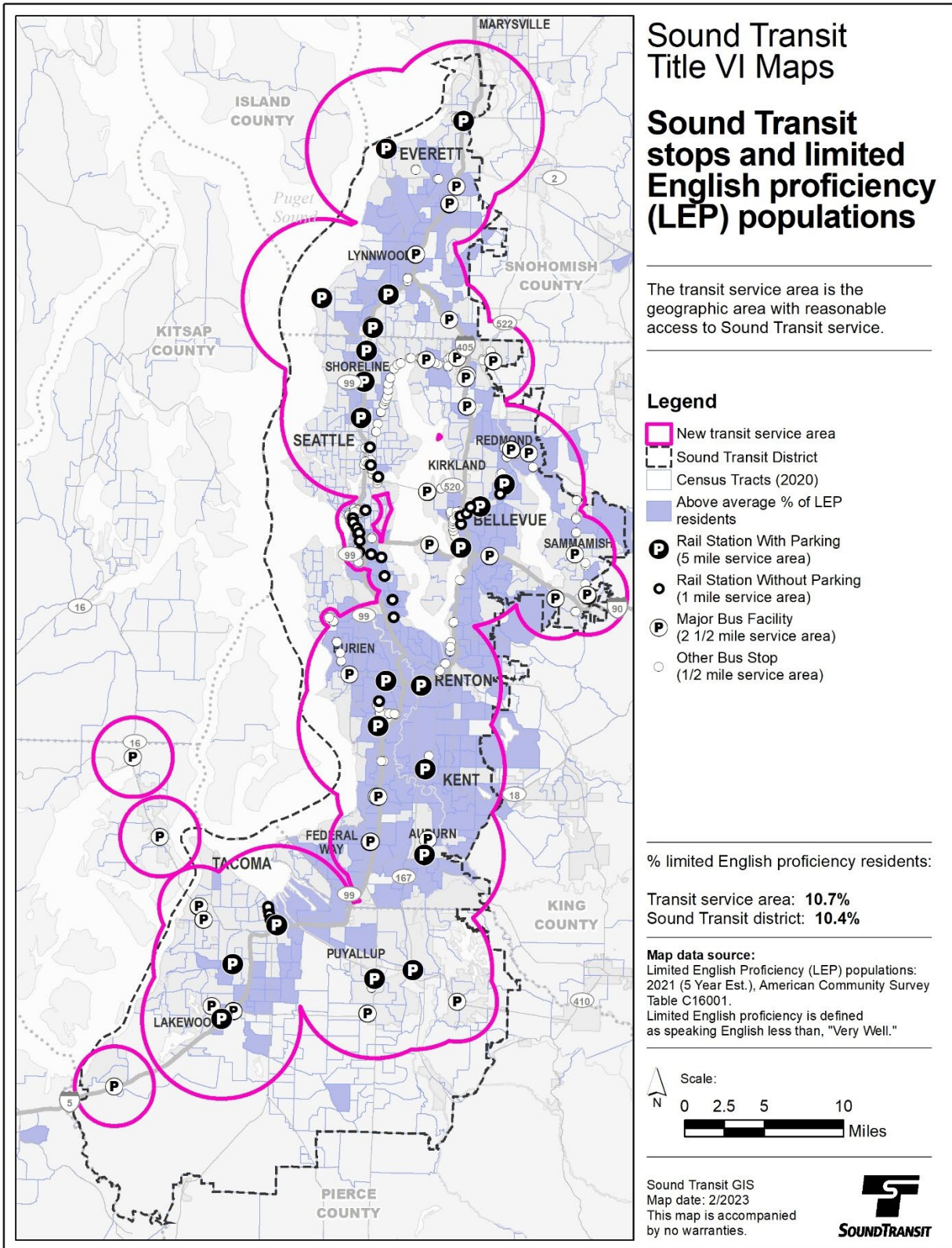


Figure 3: Map of Title VI Limited English Proficiency (LEP) population for ST service area

DRAFT

Title VI Protected Populations by Route

Table 5 displays the Title VI protected populations by route for each of ST’s service types. For example, on Route 510, 40.7% of the population living within a half mile of a stop without parking and within 2.5 miles of a stop with parking identifies as a minority. Title VI protected routes are highlighted when they are five percentage points greater than the District Title VI population average (42.7%). Additional population data is available in the Appendix.

Table 5: Title VI protected population by route⁵

Route	Minority Population	Low-Income Population ⁶	Limited English Proficiency (LEP)
Express Bus			
510	40.7%	23.2%	11.1%
511	37.1%	18.8%	10.2%
512	41.9%	23.6%	13.0%
513	43.6%	23.2%	14.2%
522	32.7%	13.7%	7.8%
532	42.3%	20.9%	12.5%
535	39.4%	15.9%	11.0%
542	44.6%	18.0%	10.8%
545	48.5%	14.5%	11.4%
550	47.3%	17.5%	10.2%
554	46.1%	15.4%	9.8%
556	43.1%	15.4%	9.4%
560	56.9%	24.0%	18.7%
566	56.3%	23.3%	16.5%
574	55.2%	33.4%	14.3%
577	53.0%	26.3%	13.2%
578	45.3%	24.6%	11.1%
580	27.0%	18.0%	5.0%
586	51.1%	33.6%	12.4%
590	46.0%	29.0%	8.3%
592	52.6%	31.7%	9.5%
594	50.2%	32.6%	9.3%
595	37.9%	24.4%	6.2%
596	21.5%	15.6%	3.1%
Commuter Rail			
N Line	37.5%	22.4%	10.4%
S Line	48.6%	26.3%	12.3%
Light Rail			
2 Line (South Bellevue to Redmond Technology Stations)	46.9%	11.9%	11.8%
1 Line	43.4%	21.2%	11.4%
Street Car			
T Line	44.0%	27.4%	8.6%
District Average	42.7%	20.7%	10.4%

⁵ Protected population statistics for Routes 512, 513, 522 and 1 Line are for the service area after the service change.

⁶ ST 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 (regional fare payment) uses to evaluate households that qualify for reduced fare payment.

DRAFT

Individual Route Analysis of Major Service Changes

Overview

The **individual route analysis** evaluates each major service change on a route-by-route basis, and it **found that some service change proposals have adverse effects**. These effects range from potentially decreased frequencies to coverage impacts from route truncations. The analysis examined whether each route subject to a proposed service change had adverse effects or benefits, as defined in the *Policies and Definitions* section. Some proposed changes, including the 1 Line extension to Lynnwood and the 2 Line opening between South Bellevue and Redmond Technology Station, only result in benefits, such as increased platform hours and service coverage, and no adverse effects. Coordinated changes, such as service changes to routes that serve an overlapping service area, were also included in the analysis.

To determine if protected populations will experience disparate impacts or disproportionate burdens, the individual route analysis also compares the ST District average percentages for minority populations and low-income populations to the route's service area percentages for these populations. 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**. **The individual route analysis found that none of the major service changes resulted in a disparate impact or a disproportionate burden**. Therefore, no mitigations are required.

The service change analysis is summarized in Table 6 below.

DRAFT

Table 6: Service change analysis summary

Major Service Change Analysis Summary						
Route	Proposed Change	Type of Change	Adverse Effects	Benefits	Disparate Impact ⁷	Disproportionate Burden ⁸
2 Line (South Bellevue to Redmond Technology Stations)	Open the 2 Line between South Bellevue and Redmond Technology Link Stations in spring 2024 before the opening of the full East Link Extension and the Downtown Redmond Link Extension. ST would open eight new stations: South Bellevue, East Main, Bellevue Downtown, Wilburton, Spring District/120 th , Bel-Red/130 th , Overlake Village and Redmond Technology.	Major	No	Yes	No	No
1 Line	Extend 1 Line service to Lynnwood in late 2024. ST would open four new stations: Shoreline South/148 th Station, Shoreline North/185 th Station, Mountlake Terrace Station, and Lynnwood City Center Station.	Major	No	Yes	No	No
510 - Everett - Seattle	Eliminate and replace with 1 Line Link service	Major	Yes	No ⁹	No	No
511 - Ash Way - Northgate	Eliminate and replace 1 Line Link service	Major	Yes	No ⁸	No	No
512 - Everett-Northgate	Shorten to Lynnwood City Center Link Station. Eliminate early morning/late night stops north of Everett Station. Increase the route's frequency.	Major	Yes	Yes	No	No
513 - Seaway-Northgate	Shorten to Lynnwood City Center Link Station. Increase the route's frequency.	Major	Yes	Yes	No	No
522 – Woodinville to Shoreline South/148 th Station	Shorten to Shoreline South/148 th Station. ¹⁰	Major	Yes	Yes	No	No

⁷ If the route's service area changes with the service change, the analysis compares the District average to the service area percentage before and after the change to see if there are findings of disparate impact. All the disparate impact findings were the same for service areas before and after the service change.

⁸ If the route's service area changes with the service change, the analysis compares the District average to the service area percentage before and after the change to see if there are findings of disproportionate burden. All the disproportionate burden findings were the same for service areas before and after the service change.

⁹ Since the route eliminated, there are no benefits. However, there are benefits from coordinated changes to other routes, such as improved service for Route 512.

¹⁰ Occurs with the full opening of the 2 Line. This milestone is not planned to occur in 2024.

DRAFT

Methodology

When a proposed major service change to a single line or route creates a potential 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 ST 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).

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 7 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 7: Major service change weekly revenue hours compared to baseline¹¹

Service Change	March 2023 Weekly Revenue Hours	September 2024 Weekly Revenue Hours	Percentage Change	Type of Change
2 Line (South Bellevue to Redmond Technology Stations)	0	638	N/A	Major (new route)
1 Line	2,190	2,469	13%	Major (new stop locations)
510 - Everett - Seattle	172	0	-100%	Major (route elimination)
511 - Ash Way - Northgate	0 ¹²	0	-100%	Major (route elimination)
512 - Everett-Northgate	921	1,185	29%	Major (stop elimination)
513 - Seaway-Northgate	96	210	119%	Major (stop elimination)
522 – Woodinville-Roosevelt Station	974	974 ¹³	0%	Major (stop elimination)

The following section evaluates each route-level major service change for adverse effects, disparate impacts, and disproportionate burdens.

¹¹ The Route 522 service change is not included in this table because the change is not planned to occur until 2025.
¹² Route 511 was suspended with the March 2023 service change.
¹³ The proposed service change, Route 522 truncating at Shoreline South Station, does not occur until the full 2 Line opens (anticipated in 2025). Weekly revenue hours are estimated to be 844 when the full 2 Line opens.

DRAFT

2 Line (South Bellevue to Redmond Technology Station)

East Link Extension Planning Context

Fourteen miles long, the East Link Extension (2 Line) includes 10 stations from Seattle's International District to Judkins Park, across I-90 to Mercer Island and South Bellevue, and through downtown Bellevue and the Bel-Red area to Redmond Technology Station (Figure 4). The extension was originally scheduled to open in mid-2023, with 2 Line service extending to Downtown Redmond (Downtown Redmond Link Extension) in 2024. Due to construction quality issues and necessary repair work on the I-90 portion of the project, ST delayed the schedule for both the East Link Extension and the Downtown Redmond Link Extension.



Figure 4: East Link Extension map

ST is reviewing the opportunity to open a 6.3-mile segment of the East Link Extension (2 Line) between South Bellevue Station and Redmond Technology Station before the opening of the full East Link Extension (Figure 5). This segment is scheduled to be completed in spring 2024 and would have direct access to Operations & Maintenance Facility (OMF) East, where staff can clean and maintain Link vehicles every night. When the full 2 Line opens, this new Eastside facility will supplement Sound Transit's existing Link OMF Central in Seattle's SODO neighborhood.

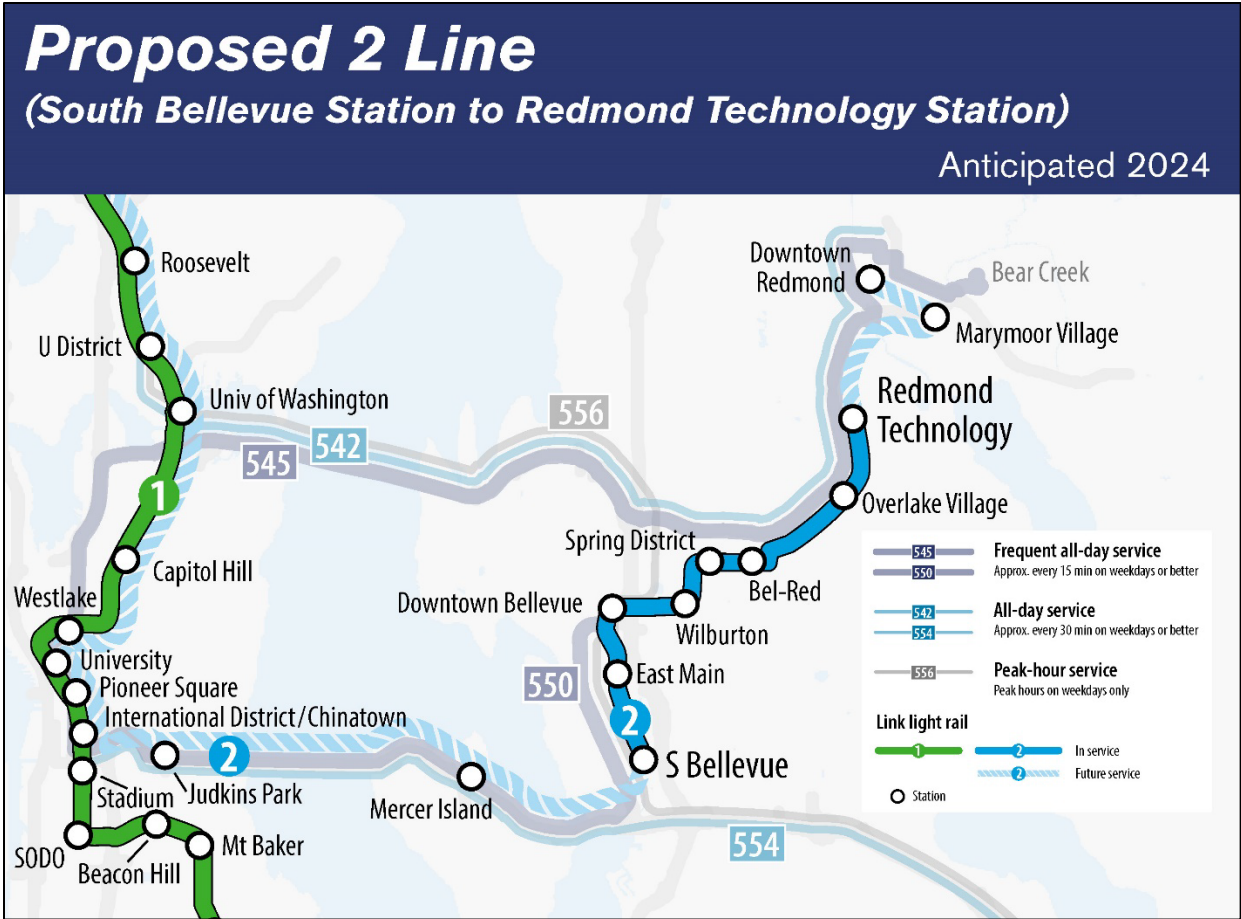


Figure 5: Proposed 2 Line (South Bellevue Station to Redmond Technology Stations)

In January 2023, ST presented the 2 Line (South Bellevue to Redmond Technology Stations) to the Board for their consideration and comment, and the Board instructed ST to move forward with the analysis. This action authorized up to six million dollars to complete activities, paid for by the ST East King subarea. In August 2023, the Board will review the proposal to open this segment of the 2 Line. In October 2023, following the completion of the analysis required for the 2024 Service Plan, including Title VI service equity analysis, the Board will consider action to authorize the opening of passenger service on the 2 Line.

Benefits of Opening the 2 Line and Proposed Service Details

ST’s expansion of the existing Link network will enhance transit access, speed, and reliability for the diverse neighborhoods along the new and existing corridor. The segment of the 2 Line between South Bellevue and Redmond Technology Stations will bring new service to South Bellevue, Downtown Bellevue, Bel-Red and Overlake. The 2 Line will operate within an area historically dense with transit service operated primarily by Metro. In addition, the Bellevue Downtown Station is adjacent to the current Bellevue Transit Center, which is served by both King County Metro and ST bus service. Service on the 6.3-mile line would likely run every 10 minutes, seven days a week. Given staffing constraints, service may operate for fewer hours a day than the current 1 Line.

DRAFT

No Bus Changes until Full 2 Line, Not Planned for 2 Line (South Bellevue to Redmond Technology Stations)

No bus restructures are planned with the proposed 2 Line (South Bellevue to Redmond Technology Stations). In anticipation of the opening of the East Link and Downtown Redmond Link Extensions, King County Metro and ST collaborated on the East Link Connections process to plan a coordinated structure on the Eastside. Since the East Link Extension's opening was delayed and many of the service changes depend on connections in Seattle, Bellevue, and Downtown Redmond, implementation of the bus restructure has also been delayed to when the full 2 Line opens. King County Metro and ST will work together to finalize these service changes closer to its opening. The partners will also develop a Service and Fare Equity Analysis (SAFE) to support this planning effort.

Service Change Proposal

The 2 Line would operate between South Bellevue and Redmond Technology Stations. If the 2 Line is approved by the ST Board, it could be ready to open in spring 2024. This segment of the 2 Line would include eight new Link light rail stations: South Bellevue, East Main, Downtown Bellevue, Wilburton, Spring District, Bel-Red, Overlake Village and Redmond Technology (Figure 6).

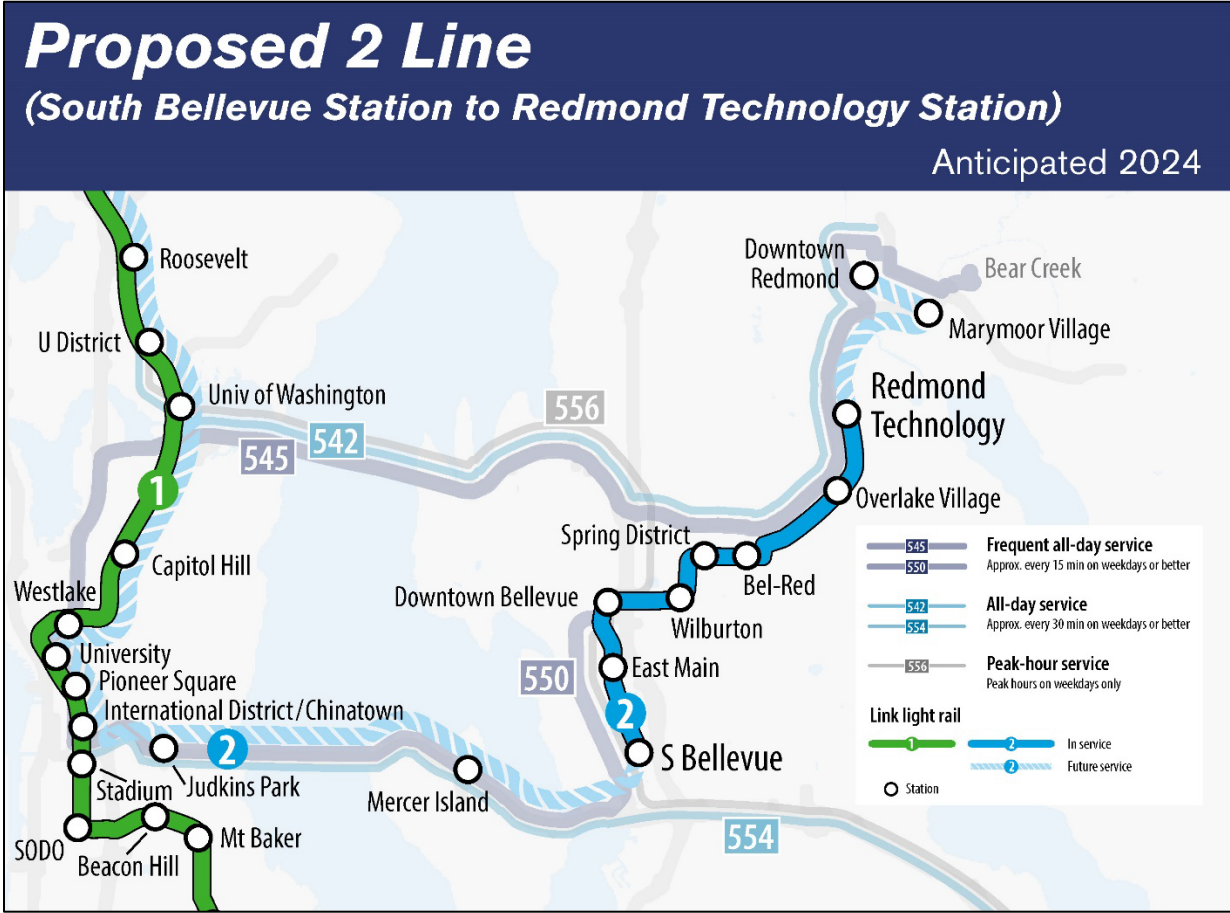


Figure 6: 2 Line, eight new stations and the ST Express Eastside network

DRAFT

The 2 Line service change adds service and opens regional access to high-capacity transit sooner than the opening of the East Link Extension. It expands travel options for existing and future passengers with a service area population of approximately 400,000 people. Riders would have increased access and potentially more efficient connections to local jobs, education, health care, food, shopping and recreation. Riders could conveniently travel between South Bellevue, Downtown Bellevue, Bel-Red, Overlake and the Redmond Technology Center. The 2 Line does not result in any local or regional service restructures. The planned East Link Connections bus restructure will occur when the full 2 Line opens.

The projected opening timeline for the remainder of the East Link Extension from South Bellevue to the International District/Chinatown is 2025. The full extension will provide a connection to the 1 Line. The opening of the 2 Line prior to the entire East Link Extension requires a SAFE analysis as it was funded using Capital Improvement Grant (CIG) funding from the FTA.

When the 6.3-mile 2 Line opens, it will operate 7 days a week, every 10 minutes for the entire service day (Table 8). ST continues to evaluate how many hours of service will be provided per day based on available staffing levels.

Table 8: Approximate 2 Line frequencies

Weekdays, Saturdays, Sundays	Proposed (2 Line) South Bellevue-Redmond Technology Station
Early AM	10 minutes
AM Peak	10 minutes
Midday	10 minutes
PM Peak	10 minutes
Evening	10 minutes

Note: Implementation of this proposal is subject to operational capacity at our partner agencies and may be partially implemented or deferred.

Table 9: Weekly revenue hours for 2 Line proposed service

	Current 2 Line Service	Proposed 2 Line service (South Bellevue to Redmond Technology Station)	Percent Change
Weekly Revenue Hours	0	638	N/A

The proposed 2 Line will have 638 weekly revenue hours (Table 9).

Adverse Effects

Table 10: Adverse effects evaluation for 2 Line (South Bellevue to Redmond Technology Station)

	Proposed Change	Coordinated Changes
Time-Based		
Span of Service		
Frequency of Service		
Geographical-Based		
Rerouting		No bus restructure until full 2 Line opens.
Route Segment Elimination		No bus restructure until full 2 Line opens.
Route Elimination		No bus restructure until full 2 Line opens.
Service Coverage		No bus restructure until full 2 Line opens.

This analysis determined no adverse effects (Table 10).

DRAFT

Benefits

The benefits include a new Link light rail line (2 Line) and increased service coverage in the South Bellevue and Overlake areas. (Table 11). The frequency will be every 10 minutes in the early morning, AM Peak, midday PM Peak, and evenings.

Table 11: Benefits evaluation for the 2 Line (South Bellevue to Redmond Technology Station)

	Proposed Change	Coordinated Changes
Time-Based		
Span of Service	New route with new span of service.	
Frequency of Service	New route with newly adopted frequency.	
Geographical-Based		
Rerouting		
Route Segment Elimination		
Route Elimination		
Service Coverage	Increased service coverage in South Bellevue and Overlake.	

Title VI Analysis

The minority population in the 2 Line (South Bellevue to Redmond Technology Stations) service area (46.9%) is less than five percentage points greater than in the ST District as a whole (42.7%) (Table 12). Therefore, the 2 Line service change does not have a disparate impact. The low-income population is smaller in the 2 Line service area (11.9%) than the ST District average (20.7%), so there is no disproportionate burden. The LEP population is slightly higher in the 2 Line service area (11.8%) than the ST District average (10.4%).

Table 12: Title VI Populations in the ST District and the 2 Line service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
ST District	42.7%	20.7%	10.4%
2 Line service area	46.9%	11.9%	11.8%
Difference	4.2%	-8.8%	1.4%
Exceeds percentage of the protected population within the District by at least five percentage points	No	No	No

The benefits would flow to a greater percentage of minority and LEP communities than what is reflected in the ST District average. Therefore, a relatively high proportion of minority and LEP communities would receive the benefits. However, since the low-income population is lower in the 2 Line service area than in the ST District, a relatively low proportion of low-income communities would accrue benefits. See Figures 15-17 for maps of protected populations in the 2 Line service area.

Mitigations

Mitigations are not necessary given no finding of a potential disparate impact or disproportionate burden.

DRAFT

Public Input

The 2 Line Proposal and Title VI Service & Fare Equity Analysis (SAFE) will be available for public comment during summer 2023 engagement.¹⁴ This section will be updated with a summary of public input.

Conclusion

The Title VI analysis found no adverse effects. There is also no determination of disparate impact or disproportionate burden. ST's 2024 Service Plan process serves as the public engagement element to inform the public and solicit input on proposed changes.

¹⁴ This schedule and scope for public comment are subject to change.

DRAFT

1 Line Lynnwood Link Extension

Lynnwood Link Extension Planning Context

As early as summer/fall 2024, Link light rail will extend from Northgate into Snohomish County, serving four new stations: Shoreline South/148th, Shoreline North/185th, Mountlake Terrace, and Lynnwood City Center. An additional infill station will open at NE 130th Street in 2026.

Service to Lynnwood was originally planned to open as an extension of both the 1 Line (Lynnwood–Angle Lake) and the 2 Line (Lynnwood–Redmond). However due to construction delays on the I-90 bridge delaying full 2 Line service into 2025, service to Lynnwood will initially operate as an extension of the 1 Line only, with trains up to every eight minutes during peak hours, every 10 minutes midday, evenings and weekends, and every 15 minutes early morning and late at night.

Until the I-90 segment of East Link Extension opens and trains can cross Lake Washington to access the Operations and Maintenance Facility (OMF) East in Bellevue, service to Lynnwood will be less frequent due to the limited storage capacity of the Central OMF in Seattle. This second OMF in Bellevue is needed for the additional storage and maintenance space for our expanding light rail network to ensure light rail cars are serviced and tested for frequent use. ST is continuing to explore creative solutions for train storage and OMF East access to run trains as frequently as possible on Lynnwood Link when it opens next year.

DRAFT

Service Change Proposal

Sound Transit proposes to extend 1 Line light rail service to Lynnwood (Figure 7). 2 Line light rail service will extend to Lynnwood with the completion of the full 2 Line, which is not part of this analysis. This proposal will add four new stations to the 1 Line with service connecting Lynnwood to Angle Lake. Trains will run up to every 8 minutes during rush hour and 10 minutes midday, evenings and weekends. The frequency will be every 15 minutes in the late evening.¹⁵

The span of service for 1 Line service will not change with this service change (Table 13). The frequency, however, may be subject to a possible decrease. The frequency of 1 Line service is constrained by vehicle availability and storage. Since the full 2 Line will not be open yet, 1 Line service does not have access to the OMF East. ST is currently developing a service plan for 1 Line service with the opening of the Lynnwood Link Extension.

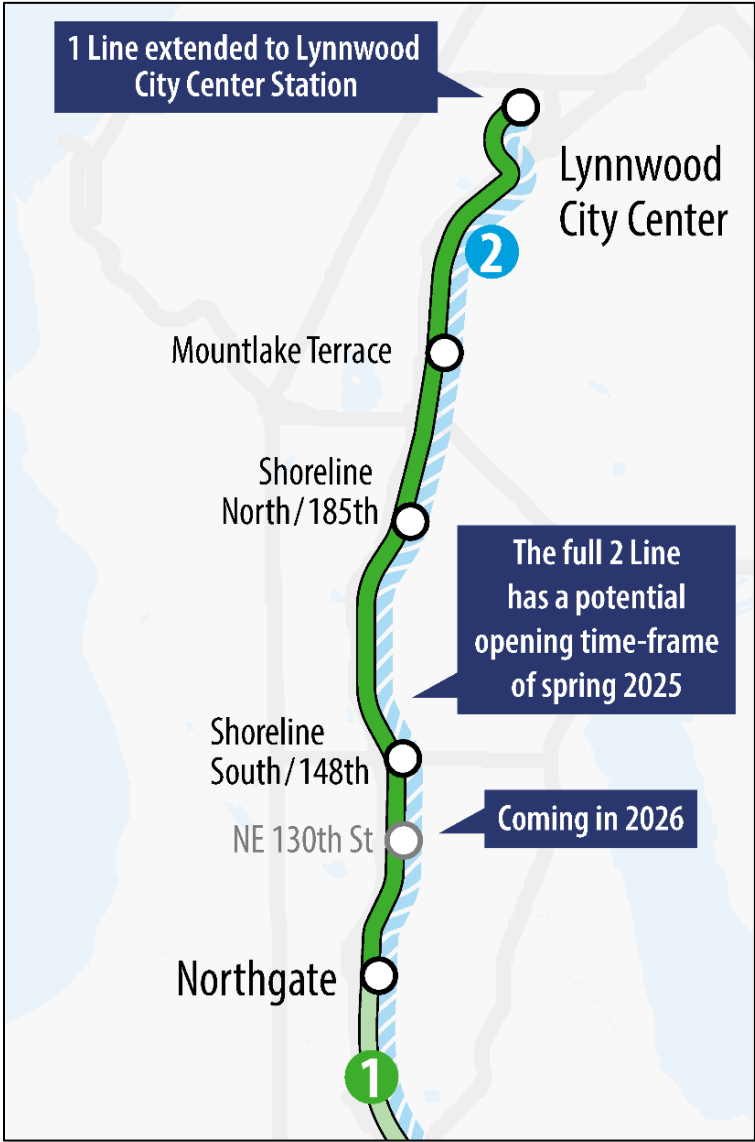


Figure 7: 1 Line extension to Lynnwood service change proposal

DRAFT

Table 13: Approximate span and frequencies of 1 Line current and proposed service¹⁶

	Current 1 Line	Proposed 1 Line
Weekdays	4:15 AM – 12:45 AM	4:15 AM – 12:45 AM
Early AM	8-15	8-15
AM Peak	8	8
Midday	10	10
PM Peak	8	8
Evening	10	10
Late Evening	15	15
Saturday	4:15 AM – 12:45 AM	4:15 AM – 12:45 AM
Day	10	10
Evening	10	10
Late Evening	15	15
Sunday	5:15 AM – 12:45 AM	5:15 AM – 12:45 AM
Day	10	10
Evening	10	10
Late Evening	15	15

Note: Implementation of this proposal is subject to operational capacity at our partner agencies and may be partially implemented or deferred.

Table 14: Weekly revenue hours for 1 Line current and proposed service

	Current 1 Line	Proposed 1 Line	Percent Change
Weekly revenue hours	2,190	2,469	13%

With the opening of the Lynnwood Link Extension (1 Line), 1 Line weekly revenue hours increase substantially, by 13% (Table 14).

Adverse Effects

Table 15: Adverse effects evaluation for the 1 Line

	Proposed Change	Coordinated Changes
Time-Based		
Span of Service	No change	
Frequency of Service	Possible decrease	
Geographical-Based		
Rerouting	No change	
Route Segment Elimination	No change	
Route Elimination	No change	
Service Coverage	No change	

No time-based or geographical based adverse effects were found for the 1 Line service change. The span of service and frequencies of the 1 Line are not subject to change (Table 15). The route is on a fixed guideway, so it is not being rerouted. Frequency of service may be subject to possible decrease depending on the 1 Line Lynnwood Link Extension service plan.

Benefits

Benefits of the 1 Line service change include increased route coverage from four additional stations north of Northgate Station (Table 16). This service change will also introduce a new route segment of the 1 Line between Northgate Station and Lynnwood City Center Station.

¹⁶ Frequencies of the proposed 1 Line are subject to change.

DRAFT

Table 16: Benefits evaluation for the 1 Line

	Proposed Change	Coordinated Changes
Time-Based		
Span of Service		
Frequency of Service		
Geographical-Based		
Rerouting		
New Route Segment	New route segment between Northgate Station and Lynnwood City Center Station.	
New Route		
Service Coverage	Route coverage increases with four additional stations.	

Title VI Analysis

The minority and low-income populations in the proposed 1 Line service area and the current 1 Line service area are less than five percentage points greater than in the ST District as a whole (Table 17). Therefore, the 1 Line service change does not have a disparate impact or disproportionate burden.

The minority population, low-income population, and Limited English Proficiency population percentages decrease with the new 1 Line service area.

Table 17: Title VI populations in the ST District and the 1 Line service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
ST District	42.7%	20.7%	10.4%
1 Line Service Area (Current)	45.1%	22.7%	11.6%
1 Line Service Area (Proposed)	43.4%	21.2%	11.4%
Difference (Current vs. ST District)	2.4%	2.0%	1.2%
Difference (Proposed vs. ST District)	0.7%	0.5%	1.0%
Differences exceed percentage of the protected population within the District by at least five percentage points	No	No	No

The benefits would flow to a relatively high proportion of minority, low-income, and LEP communities than what is reflected in the ST District average.

Mitigations

Mitigations are not necessary given no finding of a potential disparate impact or disproportionate burden.

Public Input

In July 2023, ST will conduct community engagement to inform the public about the proposed service changes in the 2024 Service Plan. This section will be updated with a summary of public input.

Conclusion

The Title VI analysis found no adverse effects. There is also no determination of disparate impact or disproportionate burden. ST’s 2024 Service Plan process serves as the public engagement element to inform the public and solicit input on proposed changes.

DRAFT

Bus Restructure Accompanying 1 Line Lynnwood Link Extension

Planning Context

Historically, ST has operated multiple express routes along the I-5 corridor connecting Snohomish County with downtown Seattle. The opening of Lynnwood Link will provide a fast and reliable alternative to the congested I-5 corridor between Northgate Station and Lynnwood. Therefore, both ST and Community Transit are proposing an extensive bus restructure by focusing on the new Lynnwood City Center station as the southern terminus of regional bus service in Snohomish County, eliminating parallel service along I-5. Efficiencies gained from reduced time on I-5 will be partially reinvested into more frequent service on the remaining portions of the routes. Please see Figure 8 for a map of the proposed restructure.

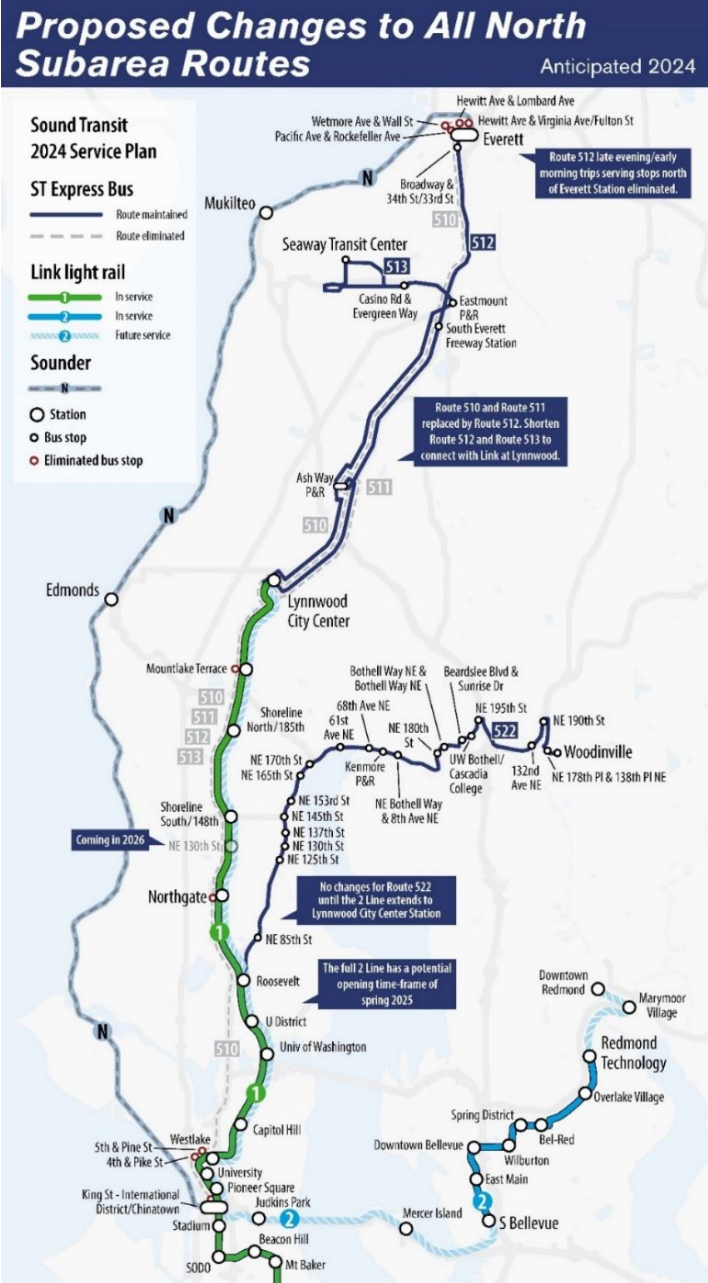


Figure 8: Lynnwood Link bus restructure before the full 2 Line opens

DRAFT

In March 2023, ST revised the operating profile of Route 512 in response to operator shortages. This revision included peak-direction service, transforming it into an all-day, all-direction route. In doing so, Route 511 (Ash Way – Northgate Station) was no longer needed and was suspended. At the same time, resource-intensive timed meets between bus and rail were eliminated, since frequent (15 mins or better) service meeting frequent service does not need to be timed. This simplified service profile will serve as a guide for the proposed Lynnwood Link Extension restructure.

There are no proposed changes to ST Express Route 522 in 2024. Service changes for Route 522 will wait until the full 2 Line opens in 2025. When the full 2 Line extends to Lynnwood, Route 522 will be shortened to connect to the 1 and 2 Lines at Shoreline South/148th Station. Moving the connection north to Shoreline South/148th Station is consistent with future Stride S3 Line service.

DRAFT

Service Change Proposal - 510 - Everett-Seattle (Major Service Change)

Route 510 is proposed to be eliminated and replaced with 1 Line (Link) and additional Route 512 service in order to improve reliability along the congested I-5 corridor and to provide all-day, all-week connections (Figure 9). Route 512 would also be shortened to run from Everett Station to Lynnwood City Center Station, operating all-day, two-way service seven days a week. Passengers continuing to Mountlake Terrace, Shoreline or Seattle would connect to 1 Line trains at Lynnwood City Center Station. The three early morning trips that serve stops north of Everett Station will not be replaced by Route 512 service. See the Route 512 section for more information on this change.

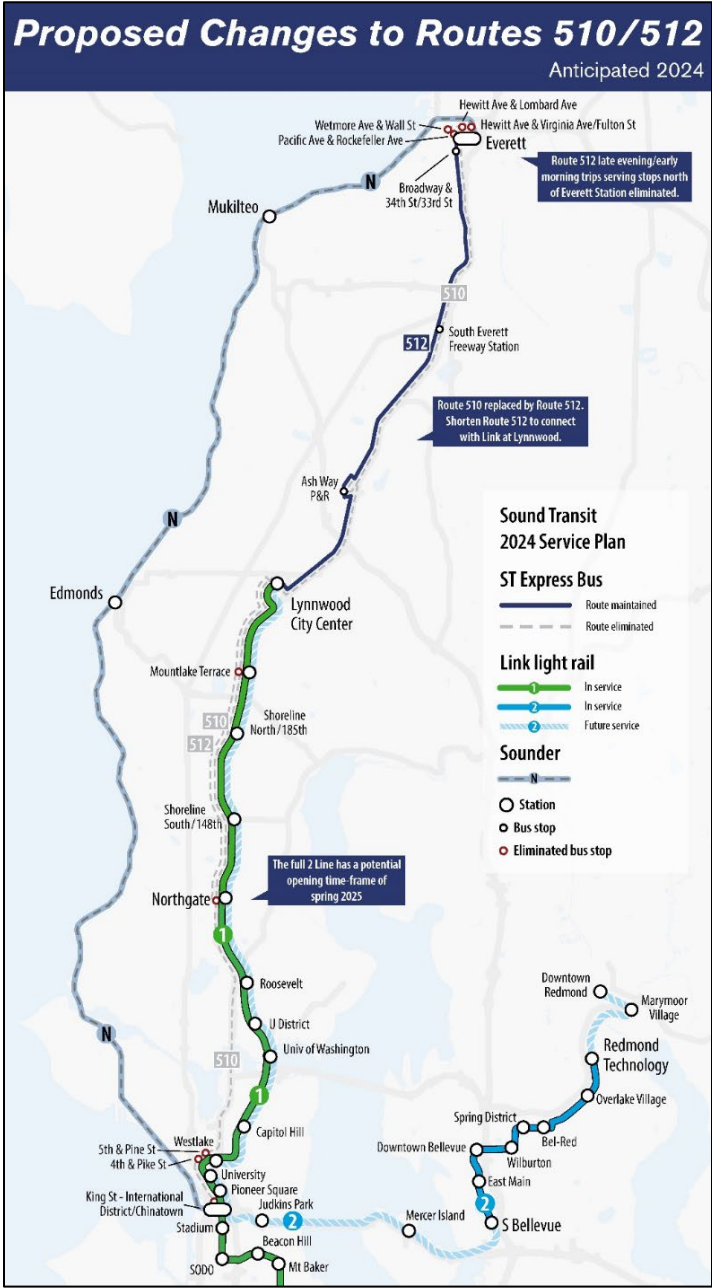


Figure 9: Route 510 service change proposal

DRAFT

Table 18: Approximate span of service and frequencies of Route 510 current and proposed service

	Current Route 510	Proposed Route 510	Proposed Route 512
Weekdays	4:07 AM – 6:53 PM		4:00 AM – 12:00 AM
Early AM	10-15	--	10
AM Peak	15-30	--	8
Midday	--		10
PM Peak	15	--	8
Evening	--		15
Saturday			4:30 AM – 12:00 AM
Day	--	--	10-20
Sunday			4:30 AM – 12:00 AM
Day	--	--	10-20

Note: Implementation of this proposal is subject to operational capacity at our partner agencies and may be partially implemented or deferred.

Route 510 will be replaced by enhanced Route 512 service (Table 18). For more information on Route 512, please review the section below.

Table 19: Weekly revenue hours for current and proposed Route 510 service

	Current Route 510	Proposed Route 510	Percent Change
Weekly Revenue Hours	172	0	-100%

Since the route will be eliminated, there will be no weekly revenue hours, a 100% reduction in service (Table 19). Resources can be distributed to remaining service in the corridor, including Route 512 and Route 513.

Adverse Effects

Table 20: Adverse effects evaluation for Route 510

	Proposed Change	Coordinated Changes
Time-Based		
Span of Service	Route eliminated	Route 512 has a longer span of service than Route 510.
Frequency of Service	Route eliminated	Route 512 will be more frequent than current Route 510 service.
Geographical-Based		
Rerouting		
Route Segment Elimination		
Route Elimination	Route eliminated	Peak direction service at Everett Station and South Everett Freeway Station will be served by an enhanced Route 512 with a connection to the 1 Line at Lynnwood City Center Station.
Service Coverage	Service coverage decreased. Some stops will no longer be served by ST routes.	Everett Station and South Everett Freeway Station will be served by an enhanced Route 512 with a connection to the 1 Line at Lynnwood City Center Station. Route 512 will not serve stops north of Everett Station currently served by a late evening/early morning variant of Route 510.

There are adverse effects because the route is eliminated (Table 20). However, Route 512 peak direction service and the Link 1 Line replace Route 510. The span of service for the proposed Route 512 service is longer than the current Route 510 service, spanning from the early morning to the late evening. Route 512 service is also more frequent at the peak and off peak and has weekend service.

DRAFT

Benefits

The benefits of replacing Route 510 service with Route 512 service include increased span of service and frequency (Table 21). Route 512 also has weekend service. Additional service areas and destinations, such as University of Washington, Capitol Hill, and destinations south of downtown Seattle, will also be served through 1 Line service.

Table 21: Benefits evaluation for Route 510

	Proposed Change	Coordinated Changes
Time-Based		
Span of Service		Increased span of service with replacement Route 512 service
Frequency of Service		Increased frequency with replacement Route 512 service
Geographical-Based		
Rerouting		
Route Segment Elimination		
Route Elimination		
Service Coverage		Additional service areas and destinations served through connecting 1 Line service.

Title VI Analysis

A route elimination qualifies as a major service change subject to Title VI analysis. In this case, there is an adverse effect because the service change reduces overall revenue hours. Service coverage will also decrease and some stops will no longer be served by ST routes. The minority and low-income populations in the Route 510 service area are less than five percentage points greater than in the ST District as a whole (Table 22). Therefore, the Route 510 service change does not have a disparate impact or disproportionate burden. The LEP population is slightly higher in the Route 510 service area than the ST District average.

Table 22: Title VI Populations in the ST District and the Route 510 service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
ST District	42.7%	20.7%	10.4%
Route 510 Service Area	40.7%	23.2%	11.1%
Difference	-2.0%	2.5%	0.7%
Exceeds percentage of the protected population within the District by at least five percentage points	No	No	No

Mitigations

Mitigations are not required since there is no finding of disparate impact or disproportionate burden. However, peak direction service at Everett Station and South Everett Freeway Station will be served by an enhanced Route 512 with a connection at Lynnwood City Center Station.

Public Input

In July 2023, ST will conduct community engagement to inform the public about the proposed service changes in the 2024 Service Plan. This section will be updated with a summary of public input.

DRAFT

Conclusion

The Route 510 service change results in adverse effects. However, there is also no determination of disparate impact or disproportionate burden. ST's 2024 Service Plan process serves as the public engagement element to inform the public and solicit input on proposed changes.

Service Change Proposal - 511 – Ash Way-Northgate (Major Service Change)

Permanently eliminate currently suspended Route 511 and replace it with 1 Line (Link) and Route 512. Peak direction service from Ash Way Park and Ride will be served by an enhanced Route 512 with a connection at Lynnwood City Center Station (see Figure 10).

In October 2022, approximately two-thirds of Route 511's boarding and alighting occurred at Lynnwood and Mountlake Terrace, two Stations that will be served by Link in 2024.

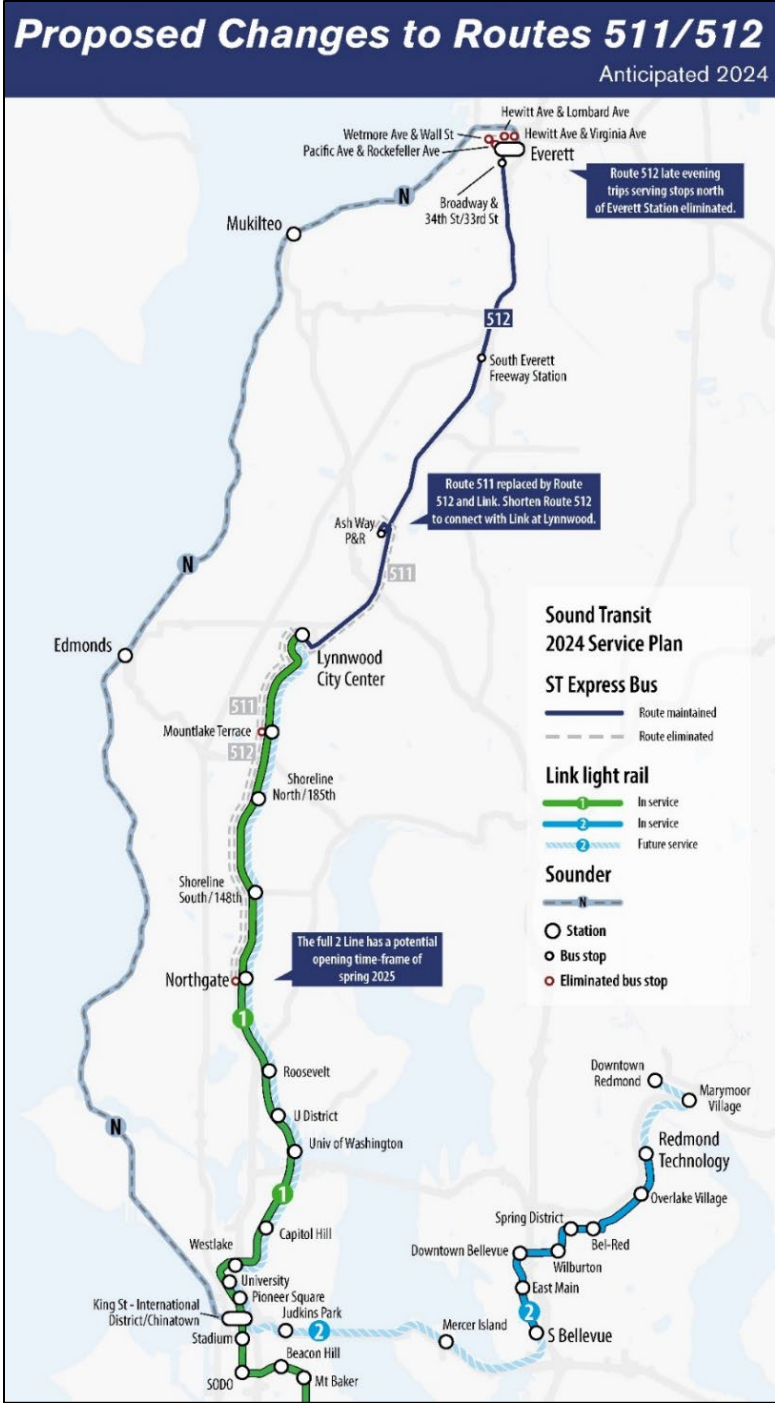


Figure 10: Route 511 service change proposal

Table 23: Approximate span of service and frequencies of Route 511 current and proposed service

	Current Route 511 ¹⁷	Proposed Route 511	Proposed Route 512
Weekdays			4:00 AM – 12:00 AM
Early AM	--	--	10
AM Peak	--	--	8

¹⁷ Route 511 is currently suspended.

DRAFT

Midday	--		10
PM Peak	--	--	8
Evening	--		15
Saturday			4:30 AM – 12:00 AM
Day	--	--	10-20
Sunday			4:30 AM – 12:00 AM
Day	--	--	10-20

Note: Implementation of this proposal is subject to operational capacity at our partner agencies and may be partially implemented or deferred.

Table 24: Weekly revenue hours for Route 511 current and proposed service

	Current Route 511	Proposed Route 511	Percent Change
Weekly Revenue Hours	0	0	-100%

Since the route will be eliminated, there will be no weekly revenue hours (Table 24). Resources can be distributed to remaining service in the corridor, including Route 512 and Route 513.

Adverse Effects

Table 25: Adverse effects evaluation for Route 511

	Proposed Change	Notes
Time-Based		
Span of Service	Route eliminated	Route 512 has a longer span of service than Route 511.
Frequency of Service	Route eliminated	Route 512 will be more frequent than current Route 511 service.
Geographical-Based		
Rerouting		
Route Segment Elimination		
Route Elimination	Route eliminated	Peak direction service at Ash Way Park and Ride will be served by an enhanced Route 512 with a connection at Lynnwood City Center Station.
Service Coverage	Service coverage decreased. Some stops will no longer be served by ST routes.	Ash Way Park and Ride will be served by an enhanced Route 512 with a connection at Lynnwood City Center Station.

There are adverse effects because the route is eliminated (Table 25). However, Route 512 peak direction service and the Link 1 Line replace Route 511. The span of service for the proposed Route 512 service is longer than the current Route 511 service, spanning from the early morning to the late evening. Route 512 service is also more frequent at the peak and off peak. Route 512 also has weekend service.

Benefits

The benefits of replacing Route 511 service with Link and Route 512 service include increased span of service and frequency (Table 26). Route 512 also has weekend service. Additional service areas and destinations, such as University of Washington, Capitol Hill, and destinations south of downtown Seattle, will also be served through 1 Line service.

Table 26: Benefits evaluation for Route 511

	Proposed Change	Notes
Time-Based		
Span of Service		Increased span of service with replacement Route 512 service
Frequency of Service		Increased frequency with replacement Route 512 service

DRAFT

Geographical-Based		
Rerouting		
Route Segment Elimination		
Route Elimination		
Service Coverage		Additional service areas and destinations served through connecting 1 Line service.

Title VI Analysis

A route elimination qualifies as a major service change subject to Title VI analysis. In this case, there is an adverse effect because the service change reduces overall revenue hours. Service coverage will also be decreased and some stops will no longer be served by ST routes. The minority and low-income populations in the Route 511 service area are less than five percentage points greater than in the ST District as a whole (Table 27). Therefore, the Route 511 service change does not have a disparate impact or disproportionate burden.

Table 27: Title VI Populations in the ST District and the Route 511 service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
ST District	42.7%	20.7%	10.4%
Route 511 Service Area	37.1%	18.8%	10.2%
Difference	-5.6%	-1.9%	-0.2%
Exceeds percentage of the protected population within the District by at least five percentage points	No	No	No

Mitigations

Mitigations are not required since there is no finding of disparate impact or disproportionate burden. However, peak direction service at Ash Way P&R will be served by an enhanced Route 512 with a connection at Lynnwood City Center Station.

Public Input

In July 2023, ST will conduct community engagement to inform the public about the proposed service changes in the 2024 Service Plan. This section will be updated with a summary of public input.

Conclusion

The Route 511 service change results in adverse effects. However, there is no determination of disparate impact or disproportionate burden. ST’s 2024 Service Plan process serves as the public engagement element to inform the public and solicit input on proposed changes.

DRAFT

Service Change Proposal - 512 – Everett-Lynnwood (Major Service Change)

Shorten Route 512 to run from Everett Station to Lynnwood City Center Station (formerly Lynnwood Transit Center), operating all-day, two-way service seven days a week. Maintain intermediate stops at South Everett Freeway Station and Ash Way Park and Ride (Figure 11). Passengers continuing to Mountlake Terrace, Shoreline or Seattle would connect to 1 Line trains at Lynnwood City Center Station. Moving the connection north to Lynnwood allows passengers to spend less time in traffic and provides the same access as today but is more reliable due to less time spent on I-5.

Double service during peak hours, with buses every eight minutes, and increase by 50% midday, with buses every 10 minutes:

- 8 mins during peak
- 10 mins mid-day
- 15 mins evenings

Eliminate early morning/late evening stops north of Everett Station due to very low ridership and to facilitate possible new early morning/late evening service continuing south of Everett Station at a future date. Eliminating these stops allows for more frequent Route 512 service between Everett Station and Lynnwood City Center. The proposed eliminated stops are:

- Pacific Avenue & Rockefeller Avenue
- Wetmore Avenue & Wall Street
- Hewitt Avenue & Lombard Avenue
- Hewitt Avenue & Virginia Avenue

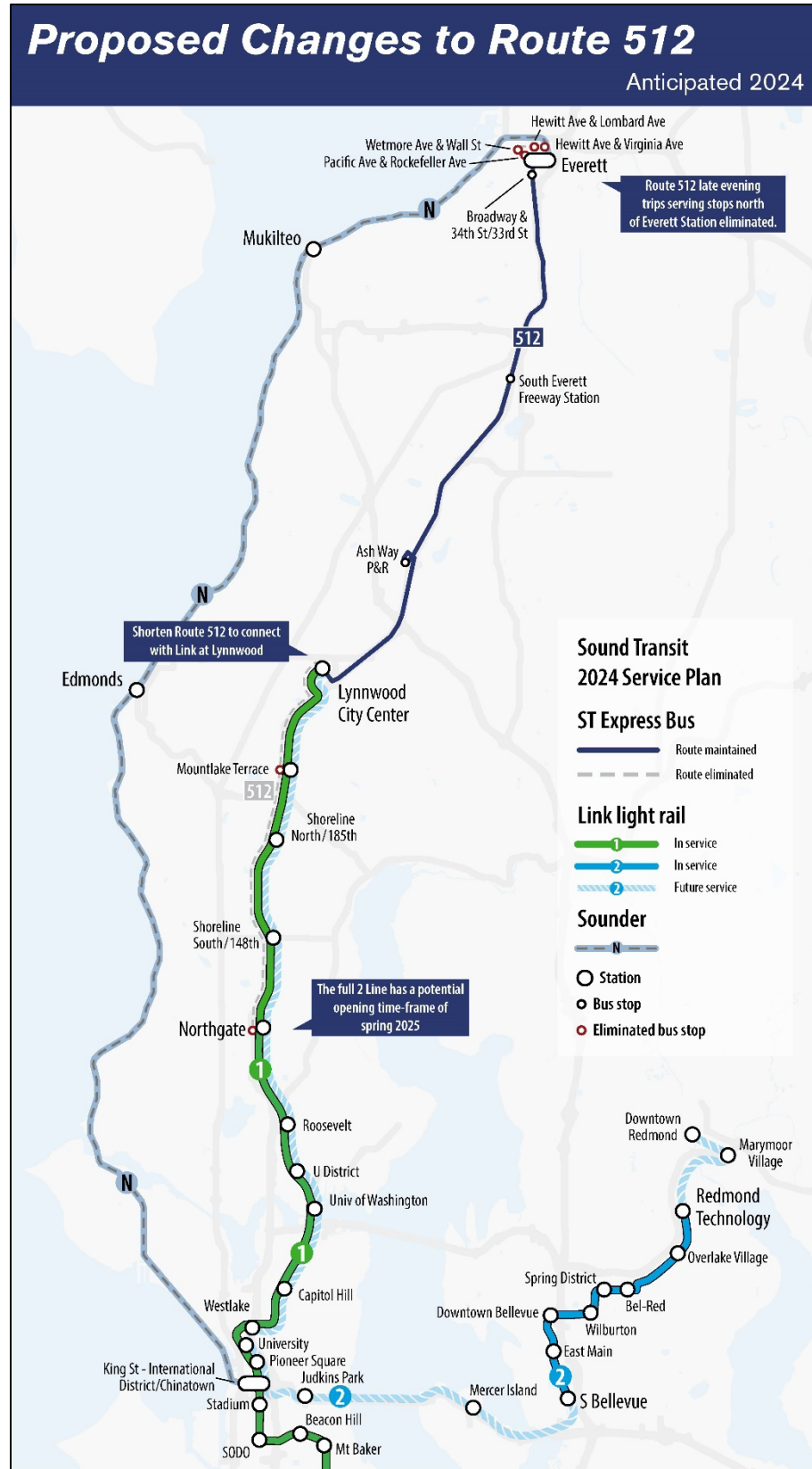


Figure 11: Route 512 service change proposal

DRAFT

Table 28: Approximate span of service and frequencies of current and proposed Route 512 service

	Current Route 512	Proposed Route 512
Weekdays	5:42 AM – 1:30 AM	4:00 AM – 12:00 AM
Early AM		10
AM Peak	15	8
Midday	15	10
PM Peak	15	8
Evening	15	15
Saturday	4:30 AM – 11:15 PM	4:30 AM – 12:00 AM
Day	10-20	10-20
Sunday	4:45 AM – 10:15 PM	4:30 AM – 12:00 AM
Day	10-20	10-20

Note: Implementation of this proposal is subject to operational capacity at our partner agencies and may be partially implemented or deferred.

Route 512’s approximate span of service on weekdays will be from 4:00 AM to 12:00 AM (Table 28). The route will have all-day frequent service. Route 512 weekend service will be expanded to 4:30 AM to 12:00 AM.

The proposed frequency of early AM and midday service for Route 512 is every 10 minutes. AM and PM peak service will be increased from 15 minutes to every 8 minutes. Evening service will be every 15 minutes. Weekend service will be every 10-20 minutes.

Table 29: Weekly revenue hours for Route 512 current and proposed service

	Current Route 512	Proposed Route 512	Percent Change
Weekly Revenue Hours	921	1,185	29%

With the truncation and enhanced service, weekly revenue hours will increase by 29% (Table 29). Resources from the truncation are transferred to the enhanced service profile.

Adverse Effects

Table 30: Adverse effects evaluation for Route 512

	Proposed Change	Notes
Time-Based		
Span of Service		
Frequency of Service		
Geographical-Based		
Rerouting		
Route Segment Elimination	Route 512 is truncated at Lynnwood City Center Station. Bus stops south of Lynnwood City Center will be eliminated. Passengers will need to transfer to get to stations between Lynnwood and Northgate. Currently, passengers going south of Northgate on the 1 Line already must transfer.	
Route Elimination		
Service Coverage	Service coverage decreased on Route 512 due to truncation and elimination of early morning/late evening stops north of Everett.	Passengers can transfer to the 1 Line to travel to destinations south of Lynnwood.

Adverse effects include the elimination of bus stops (Table 30). Passengers travelling south of Lynnwood will need to transfer to the 1 Line. Passengers who already transfer at Northgate Station will still be dealing with a transfer but at Lynnwood City Center Station instead. There will also be decreased service coverage for early morning/late evening stops north of Everett.

DRAFT

Benefits

The benefits include increased span of service and frequency (Table 31). Additional service areas and destinations, such as University of Washington, Capitol Hill, and destinations south of downtown Seattle, will also be served through 1 Line service.

Table 31: Benefits evaluation for Route 512

	Proposed Change	Notes
Time-Based		
Span of Service	Increased span of service.	
Frequency of Service	Increased frequency.	
Geographical-Based		
Rerouting		
Route Segment Elimination		
Route Elimination		
Service Coverage		Additional service areas and destinations served through connecting 1 Line service.

Title VI Analysis

Shortening Route 512 constitutes a major service change because it results in the elimination of bus stops without replacements within a quarter mile. Therefore, the service change is subject to Title VI analysis. In this case, there is an adverse effect because the service change results in decreased service coverage. Passengers will also need to transfer to get to stations between Lynnwood and Northgate Stations. Because the current and proposed Route 512 service areas' low-income and minority populations do not exceed the ST District population by more than five percentage points, there are no findings of disparate impact or disproportionate burden (Table 32).

Table 32: Title VI Populations in the ST District and the Route 512 service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
ST District	42.7%	20.7%	10.4%
Route 512 Service Area (Before Service Change)	37.7%	21.0%	10.7%
Route 512 Service Area (After Service Change)	41.9%	23.6%	13.0%
Difference (current vs. ST District)	-5.0%	0.3%	0.3%
Difference (proposed vs. ST District)	-0.8%	2.9%	2.6%
Differences exceed percentage of the protected population within the District by at least five percentage points	No	No	No

Mitigations

Mitigations are not required since there is no finding of disparate impact or disproportionate burden. However, Lynnwood Link will replace service between Lynnwood and Northgate.

Public Input

In July 2023, ST will conduct community engagement to inform the public about the proposed service changes in the 2024 Service Plan. This section will be updated with a summary of public input.

Conclusion

The Route 512 service change results in adverse effects. However, there is no determination of disparate impact or disproportionate burden. ST's 2024 Service Plan process serves as the public engagement element to inform the public and solicit input on proposed changes.

DRAFT

Service Change Proposal - 513 – Seaway-Lynnwood (Major Service Change)
 Shorten Route 513 to operate between Seaway Transit Center and Lynnwood City Center Station (formerly Lynnwood Transit Center) (Figure 12). Operate route in both peak direction and reverse-peak direction. Currently, the route only operates in the peak direction. Improve the frequency to every 15 minutes during the AM and PM peak on weekdays. There will still be no service outside of peak hours.

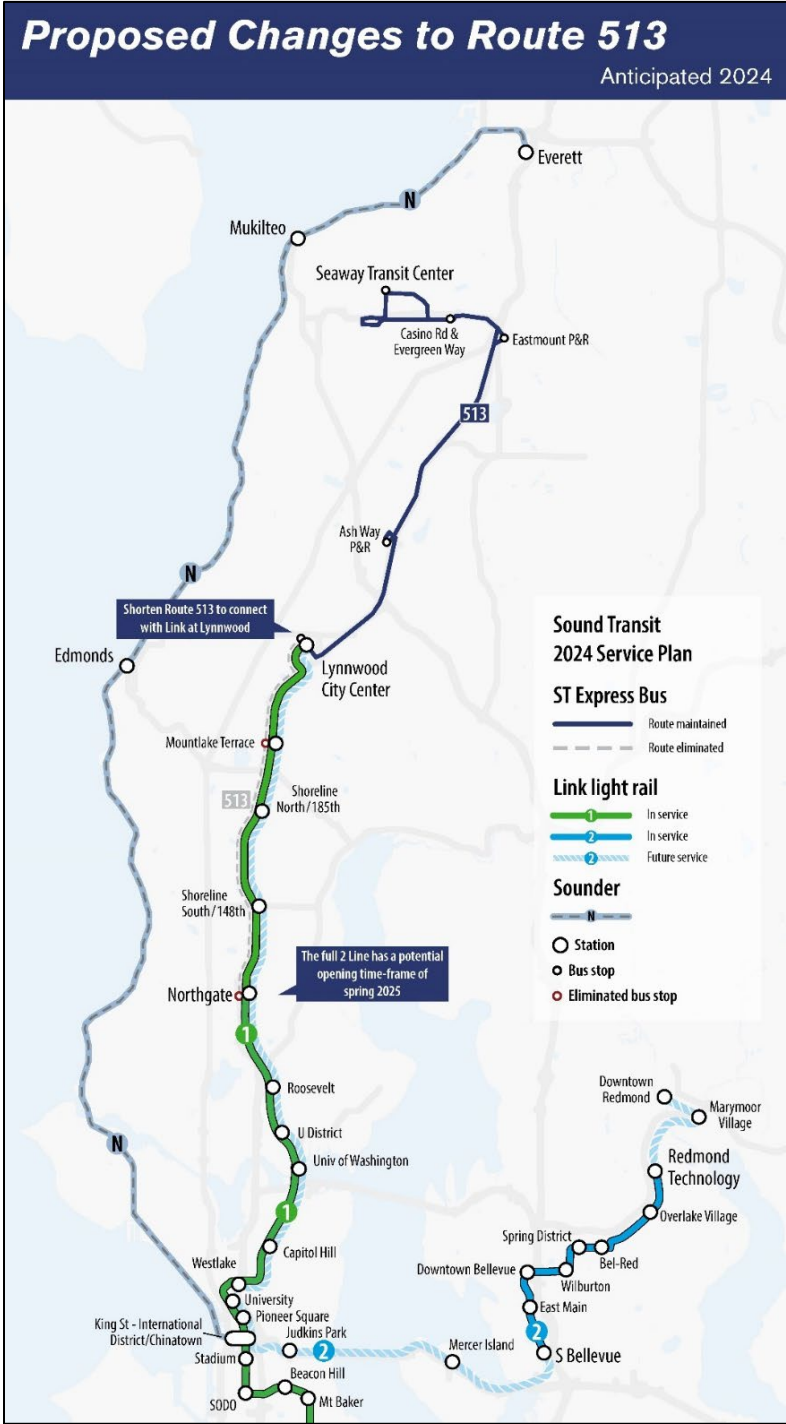


Figure 12: Route 513 service change proposal

DRAFT

Table 33: Approximate span of service and frequencies of current and proposed Route 513 service

	Current Route 513	Proposed Route 513
Weekdays	4:49 AM – 8:19 AM 3:00 PM – 7:00 PM	4:45 AM – 8:15 AM 3:06 PM – 7:05 PM
Early AM	--	--
AM Peak	24	15
Midday	--	--
PM Peak	24	15
Evening	--	--

Note: Implementation of this proposal is subject to operational capacity at our partner agencies and may be partially implemented or deferred.

The span of service for Route 513 will not change significantly (Table 33). Frequencies will be improved to every 15 minutes at the AM and PM peak.

Table 34: Weekly revenue hours for Route 513 current and proposed service

	Current Route 513	Proposed Route 513	Percent Change
Weekly Revenue Hours	96	210	119%

With the truncation and enhanced service, weekly revenue hours will increase by 119% (Table 34). Resources from the truncation are transferred to the enhanced service profile.

Adverse Effects

Table 35: Adverse effects evaluation for Route 513

	Proposed Change	Notes
Time-Based		
Span of Service		
Frequency of Service		
Geographical-Based		
Rerouting		
Route Segment Elimination	Route 513 is truncated at Lynnwood City Center Station. Bus stops are eliminated. Passengers will need to transfer to get to stations between Lynnwood and Northgate. Currently, passengers going south of Northgate on the 1 Line already must transfer.	Route 513 passengers utilizing Ash Way Park & Ride can use Route 512 at off-peak hours. Route 513 passengers can also use the 1 Line starting at Lynnwood City Center.
Route Elimination		
Service Coverage	Service coverage decreased on Route 513 due to truncation at Lynnwood City Center.	Passengers can transfer to the 1 Line to service areas south of Lynnwood.

Adverse effects include the elimination of bus stops (Table 35). Passengers travelling to Downtown Seattle will need to transfer to the 1 Line and decreased service coverage for early morning/late evening stops north of Everett.

Benefits

The benefits include increased frequency (Table 36). Additional service areas and destinations, such as University of Washington, Capitol Hill, and destinations south of downtown Seattle, will also be served through 1 Line service. Moving the connection north to Lynnwood also allows our riders to spend less time in traffic and provides the same access as today but is more reliable due to less time spent on I-5.

DRAFT

Table 36: Benefits evaluation for Route 513

	Proposed Change	Notes
Time-Based		
Span of Service	No change	
Frequency of Service	Increased frequency	
Geographical-Based		
Rerouting		
Route Segment Elimination		
Route Elimination		
Service Coverage		Additional service areas and destinations served through connecting 1 Line service.

Title VI Analysis

Shortening Route 513 constitutes a major service change because it results in the elimination of bus stops without replacements within a quarter mile. Therefore, the service change is subject to Title VI analysis. Because the current and proposed Route 513 service areas’ low-income and minority populations do not exceed the ST District population by more than five percentage points, there are no findings of disparate impact or disproportionate burden.

Table 37: Title VI Populations in the ST District and the Route 513 service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
ST District	42.7%	20.7%	10.4%
Route 513 Service Area (Before Service Change)	38.3%	20.5%	11.1%
Route 513 Service Area (After Service Change)	43.6%	23.2%	14.2%
Difference (Current vs. ST District)	-4.4%	-0.2%	0.7%
Difference (Proposed vs. ST District)	0.9%	2.5%	3.8%
Differences exceed percentage of the protected population within the District by at least five percentage points	No	No	No

Mitigations

Mitigations are not required since there is no finding of disparate impact or disproportionate burden. However, Lynnwood Link service will replace the segment between Lynnwood and Northgate.

Public Input

In July 2023, ST will conduct community engagement to inform the public about the proposed service changes in the 2024 Service Plan. This section will be updated with a summary of public input.

Conclusion

The Route 513 service change results in adverse effects. However, there is no determination of disparate impact or disproportionate burden. ST’s 2024 Service Plan process serves as the public engagement element to inform the public and solicit input on proposed changes.

DRAFT

Service Change Proposal - 522 – Woodinville-Shoreline South/148th Station (Major Service Change)

There are no proposed changes to ST Express Route 522 in 2024 (Figure 13). We are recommending that changes to Route 522 wait until the full 2 Line is open in 2025. When the full 2 Line extends to Lynnwood, Route 522 will be shortened to connect to the 1 and 2 Lines at Shoreline South/148th Station (Figure 14). Moving the connection north to Shoreline South/148th Station is consistent with future Stride S3 Line service.

ST will continue to work closely with King County Metro to plan local service for stops south of 145th Street through the Lynnwood Link Connections project.

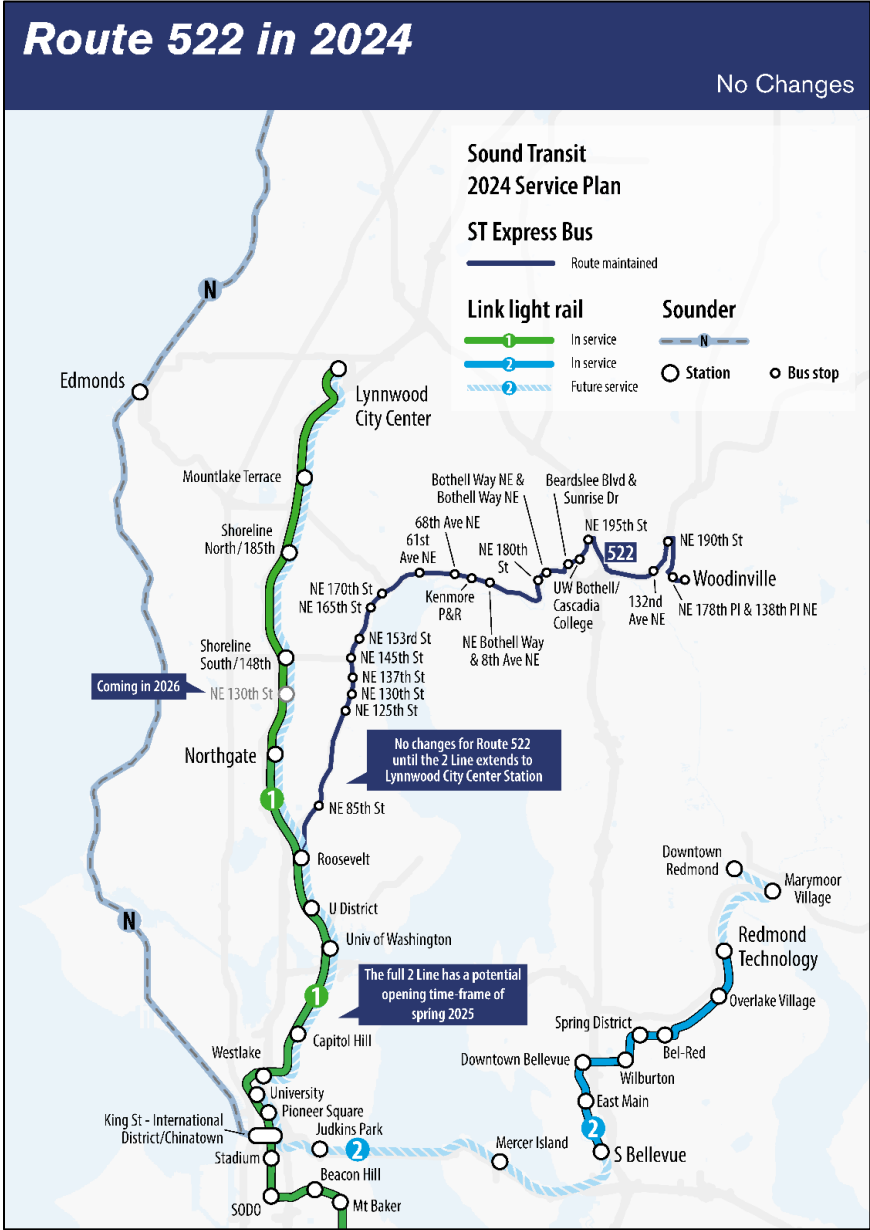


Figure 13: No changes for Route 522 until 2 Line extends to Lynnwood City Center Station

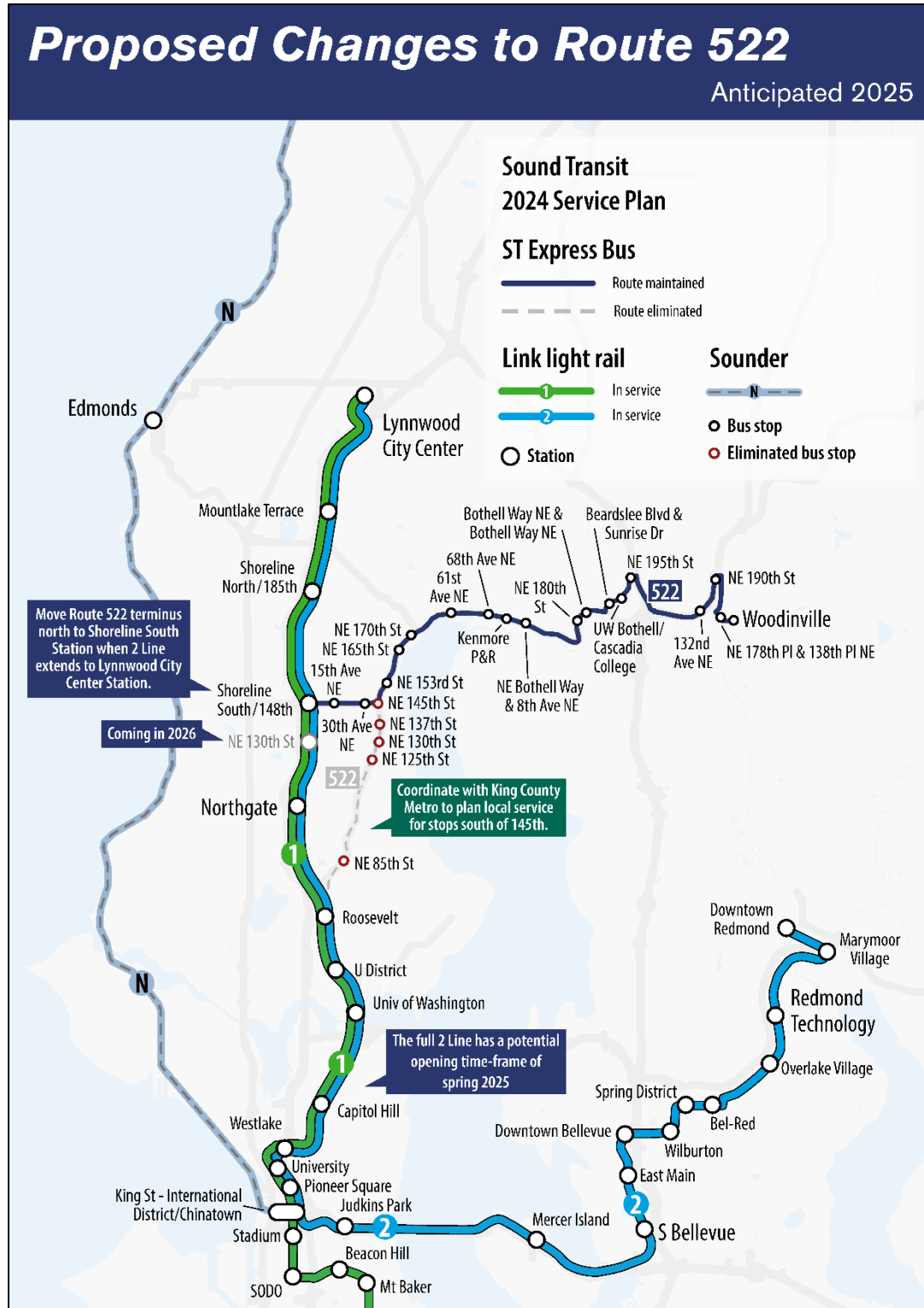


Figure 14: Route 522 shortened to Shoreline South/148th Station when 2 Line extends to Lynnwood City Center Station

DRAFT

Table 38: Approximate span of service and frequencies of current and proposed Route 522 service

	Current Route 522	Proposed Route 522
Weekdays	4:23 AM – 12:40 AM	4:23 AM – 12:40 AM
Early AM	15	15
AM Peak	16	16
Midday	10-20	10-20
PM Peak	16	16
Evening	15	15
Late evening	30	30
Saturday	4:12 AM – 12:40 AM	4:12 AM – 12:40 AM
Day	10-20 (avg 15)	10-20 (avg 15)
Late Evening	30	30
Sunday	4:43 AM – 11:33 PM	4:43 AM – 11:33 PM
Day	10-30 (avg 15)	10-30 (avg 15)
Late Evening	30	30

Note: Implementation of this proposal is subject to operational capacity at our partner agencies and may be partially implemented or deferred.

Route 522’s span of service and frequencies will not change with this service change (Table 38).

Table 39: Weekly revenue hours for Route 522 current and proposed service

	Current Route 522	Proposed Route 522	Percent Change
Weekly Revenue Hours	974	844	-13%

With the truncation, weekly revenue hours will decrease by 13% (Table 39). Resources from the truncation are transferred to the enhanced service profile.

Adverse Effects

Table 40: Adverse effects evaluation for Route 522

	Proposed Change	Notes
Time-Based		
Span of Service	No change	
Frequency of Service	No change	
Geographical-Based		
Rerouting		
Route Segment Elimination	Route 522 is truncated at Shoreline South Station. Passengers will need to transfer to get to stations between Shoreline and Northgate. Currently, passengers going south of Northgate on the 1 Line already must transfer.	
Route Elimination		
Service Coverage	Service coverage decreased on Route 522 due to truncation at Shoreline South Station.	Passengers can transfer to the 1 Line to service areas south of Lynnwood.

Adverse effects include passengers travelling to Downtown Seattle needing to transfer to the 1 Line and decreased service coverage for early morning/late evening stops north of Everett (Table 40).

Benefits

The benefits include increased frequency (Table 41). Additional service areas and destinations, such as University of Washington, Capitol Hill, and destinations south of downtown Seattle, will also be served through 1 and 2 Line service.

DRAFT

Table 41: Benefits evaluation for Route 522

	Proposed Change	Notes
Time-Based		
Span of Service	No change	
Frequency of Service	No change.	
Geographical-Based		
Rerouting		
Route Segment Elimination		
Route Elimination		
Service Coverage	Additional service areas and destinations will be served through service	

Title VI Analysis

Shortening Route 522 constitutes a major service change because it results in the elimination of bus stops without replacements within a quarter mile. Therefore, the service change is subject to Title VI equity analysis. In this case, there is an adverse effect because the service change is an overall reduction in revenue hours. Because the Route 522 service area low-income population and minority population do not exceed the ST District population by more than five percentage points, there are no findings of disparate impact or disproportionate burden (Table 42).

Table 42: Title VI Populations in the ST District and the Route 522 service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
ST District	42.7%	20.7%	10.4%
Route 522 Service Area (Before Service Change)	32.1%	13.7%	7.6%
Route 522 Service Area (After Service Change)	32.7%	13.7%	7.8%
Difference (Current vs. ST District)	-10.6%	-7.0%	-2.8%
Difference (Proposed vs. ST District)	-10.0%	-7.0%	-2.6%
Differences exceed percentage of the protected population within the District by at least five percentage points	No	No	No

Mitigations

Mitigations are not required since there is no finding of disparate impact or disproportionate burden. However, Lynnwood Link service will replace the segment between Shoreline South/148th Station and Northgate Station.

Public Input

In July 2023, ST will conduct community engagement to inform the public about the proposed service changes in the 2024 Service Plan. This section will be updated with a summary of public input.

Conclusion

The Title VI analysis found adverse effects, however, there is no determination of disparate impact or disproportionate burden. ST’s 2024 Service Plan process serves as the public engagement element to inform the public and solicit input on proposed changes.

DRAFT

Conclusion of Individual Route Analysis

The **individual route analysis** evaluates each major service change on a route-by-route basis, and it **found that some service change proposals have adverse effects**. The analysis examined whether each route subject to a proposed service change had adverse effects or benefits, as defined in the *Policies and Definitions* section. Some proposed changes, including the 1 Line extension to Lynnwood and the 2 Line opening between South Bellevue and Redmond Technology Station, only result in benefits, such as increased platform hours and service coverage, and no adverse effects. Coordinated changes, such as service changes to routes that serve an overlapping service area, were also included in the analysis. Some of these coordinated changes mitigated the adverse effects.

The individual route analysis found that none of the major service changes resulted in a disparate impact or a disproportionate burden. Therefore, no mitigations are required.

Systemwide Service Analysis

Overview

The systemwide analysis evaluates service reductions and service additions separately. While a systemwide analysis is not required per FTA Circular 4702.1B regarding new starts, small starts or capital programs, ST’s Title VI program requires the analysis when a systemwide potential adverse effect occurs due to major service changes on more than one line or route. 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 2021 to September 2024. The following sections step through the analysis process for each analysis.

Identifying Systemwide Service Additions & Reductions

The first step in the analysis identifies service reductions and additions by route. The following table shows the total change in scheduled weekly revenue hours between September 2021 and September 2024 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 policy defines the timeframe for the analysis to evaluate all changes implemented in the past two years and proposed changes for the next year. The baseline for this analysis is October 2021 (Fall 2021 service change), which was before ST implemented emergency reductions due to operator shortages. For reference, Table 43 shows revenue hours for each service change, including unscheduled emergency reduction, during the analysis timeframe.

Overall, the table shows a modest increase in service from October 2021 (reflects Fall/September 2021 service change) through September 2024. Some of the minor increases in weekly revenue hours are attributed to changes in runtimes, not the service changes evaluated in this document.

The weekly revenue hour recovery is interrupted by the ongoing operator shortages; however, we still see modest growth in revenue service hours. Reductions seen starting in the March 2022 service change are attributed to service cuts in responses to the staffing challenges.

Table 43: Scheduled weekly revenue hours by service change from September 2021 - September 2024¹⁸

¹⁸ Some of the minor increases in weekly revenue hours are attributed to changes in runtimes, not service changes. Some of the reductions in weekly revenue hours are attributed to service cuts in response to operator shortages after November 2021. These decreases are first seen in the March 2022 service change.

DRAFT

Route	Oct. 2021	March 2022 ¹⁹	Oct. 2022	March 2023	Sept. 2023	March 2024	Sept. 2024	Difference Sept. 2024 & Oct. 2021	Percent Difference Sept. 2024 & Oct. 2021	Benefit or Reduction
1 Line	1,985	2,130	2,128	2,190	2,190	2,190	2,469	484	24%	Benefit
2 Line	0	0	0	0	0	638	638	638	N/A	Benefit
510	193	183	171	172	172	172	0	-193	-100%	Reduction
511	142	113	95	0	0	0	0	-142	-100%	Reduction
512	1,035	951	898	922	922	922	1,185	150	15%	Benefit
513	118	123	116	96	96	96	210	92	78%	Benefit
522 ²⁰	1,019	1,003	978	974	974	974	974	-45	-4%	Reduction
532	135	133	129	125	125	125	150	15	11%	Benefit
535	420	412	406	398	398	398	435	15	4%	Benefit
542	416	417	415	427	427	427	427	11	3%	Benefit
545	1,204	1,084	1,080	1,077	1,077	1,077	1,077	-127	-11%	Reduction
550	997	896	885	883	883	883	883	-114	-11%	Reduction
554	712	666	664	664	664	664	664	-48	-7%	Reduction
556	102	103	108	108	108	108	108	6	6%	Benefit
560	665	656	697	673	673	673	673	8	1%	Benefit
566	334	209	194	196	196	196	196	-137	-41%	Reduction
574	763	768	772	772	772	772	772	9	1%	Benefit
577	315	271	287	274	274	274	274	-41	-13%	Reduction
578	714	687	706	708	708	708	708	-6	-1%	Reduction
580	42	13	13	13	13	13	13	-29	-69%	Reduction
586	116	127	120	126	126	126	126	10	8%	Benefit
590	430	323	329	329	329	329	329	-101	-24%	Reduction
592	241	177	171	171	171	171	171	-69	-29%	Reduction
594	856	842	862	861	861	861	861	4	1%	Benefit
595	55	54	61	61	61	61	61	6	10%	Benefit
596	44	46	42	42	42	42	42	-3	-6%	Reduction
N Line	26	26	26	26	26	26	26	0	0%	No Change
S Line	165	177	183	183	183	183	183	18	11%	Benefit
T Line	195	195	191	191	480	480	480	285	146% ²¹	Benefit
Bus	11,068	10,257	10,198	10,072	10,072	10,072	10,339	-729	7%	Reduction
Link	1,985	2,130	2,128	2,190	2,190	2,890	3,107	1122	1122	Benefit
Souder	192	204	209	209	209	209	209	18	18	Benefit
T Link	195	195	191	191	480	480	480	285	285	Benefit

¹⁹ Emergency reduction due to operator shortages. Some reductions were made in November 2021 and formalized in March 2022.

²⁰ The Route 522 routing change to S Shoreline Station (Woodinville to S Shoreline Station) will be implemented with the opening of the full 2 Line (East Link Extension and Downtown Redmond Link Extension), which will occur after September 2024. The change in hours are included in the systemwide analysis to provide a complete picture of the Lynnwood Link restructure service changes.

²¹ Tacoma Link (T Line) service additions are attributed to the opening of the Hilltop Tacoma Link Extension in 2023.

DRAFT

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 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.

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 44 shows the total change in weekly revenue hours between September 2021 and September 2024 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 44: Populations affected by service reduction September 2021 to September 2024

Route	Change in Weekly Revenue Hours	Total Population	Minority Population	Non-Minority Population	Low-Income Population	Non-Low-Income
510	-193	330,000	134,300	195,700	76,500	253,500
511	-142	409,600	151,900	257,700	76,900	332,700
545	-127	241,400	117,000	124,400	35,000	206,400
550	-114	110,000	52,000	58,000	19,200	90,800
554	-48	170,400	78,600	91,800	26,200	144,200
566	-137	323,800	182,200	141,600	75,400	248,400
577	-41	155,600	82,500	73,100	40,900	114,700
578	-6	273,600	123,800	149,800	67,300	206,300
580	-29	85,400	23,000	62,400	15,400	70,000
590	-101	153,200	70,500	82,700	44,400	108,800
592	-69	158,800	83,500	75,300	50,300	108,500
596	-3	65,500	14,100	51,400	10,200	55,300
Population Total		8,819,639	3,973,306	4,846,333	2,014,515	6,805,124
Population Affected by Service Reduction ²²		2,607,100	1,155,842	1,451,258	555,457	2,051,643
Population Percentage Affected by Reduction ²³		30%	29%	30%	28%	30%

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.

²² Population total is calculated by adding service area populations for each route. Note that some routes have overlapping service areas.

²³ Percentage affected by reduction is calculated by summing the populations served by each route with a reduction, then dividing by the sum of populations served by all routes to calculate a percentage. Note that some routes have overlapping service areas.

DRAFT

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: 29%
- Non-Minority population adversely affected: 30%
- Low-Income population adversely affected: 28%
- Non-Low-Income population adversely affected: 30%

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 45). **Because the result of 1 percent is not 20 percent or greater, no disparate impact was identified.**

Table 45: Service reduction disparate impact test

Minority Population Adversely Affected	Non-Minority Population Adversely Affected	Ratio Comparison	Threshold for Disparate Impact
29%	30%	$29\% \div 30\% = 3\%^1$	20% or greater

¹In 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 46). **Because the result of eight percent is not 20 percent or greater, no disproportionate burden was identified.**

Table 46: Service reduction disproportionate burden test

Low-Income Population Adversely Affected	Non- Low-Income Population Adversely Affected	Ratio Comparison	Threshold for Disproportionate Burden
28%	30%	$28\% \div 30\% = 9\%^1$	20% or greater

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

DRAFT

Systemwide Service Additions

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 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 47 shows the total change in weekly revenue hours between September 2021 and September 2024 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 47: Populations benefited by service additions, September 2021 to September 2024

Route	Change in Weekly Revenue Hours	Total Population	Minority Population	Non-Minority Population	Low-Income Population	Non-Low-Income
1 Line	484	1,276,600	553,672	722,928	270,067	1,006,533
2 Line (South Bellevue to Redmond Technology Stations)	638	393,539	184,688	208,851	46,634	346,905
512	150	322,700	135,087	187,613	76,129	246,571
513	92	270,000	117,817	152,183	62,528	207,472
532	15	351,700	148,800	202,900	73,500	278,200
535	15	242,600	95,600	147,000	38,500	204,100
542	11	88,600	39,600	49,000	15,900	72,700
556	6	134,000	57,700	76,300	20,600	113,400
560	8	189,200	107,600	81,600	45,400	143,800
574	9	340,700	188,200	152,500	113,600	227,100
586	10	189,200	96,700	92,500	63,500	125,700
594	4	238,500	119,800	118,700	77,800	160,700
595	6	262,700	99,600	163,100	64,200	198,500
S Line	18	1,221,400	593,900	627,500	321,000	900,400
T Line	285	302,800	133,100	169,700	82,900	219,900
Population Total ²⁴		8,819,639	3,973,306	4,846,333	2,014,515	6,805,124
Population Benefiting from Service Additions		5,824,239	2,671,864	3,152,375	1,372,259	4,451,980
Population Percentage Benefiting by Addition ²⁵		66%	67%	65%	68%	65%

²⁴ Population total is calculated by adding service area populations for each route. Note that some routes have overlapping service areas.

²⁵ Percentage benefiting from service addition calculated by summing the populations served by each route with a service addition, then divided by the sum of populations served by all routes to calculate a percentage. Note that some routes have overlapping service areas.

DRAFT

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: 67%
- Non-Minority population benefiting: 65%
- Low-Income population benefiting: 68%
- Non-Low-Income population benefiting: 65%

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 48). **Because the result of 103% percent is greater than the 80 percent or less threshold, no disparate impact/disparate impact was identified.**

Table 48: Service additions disparate impact test

Minority Population Benefiting	Non-Minority Population Benefiting	Ratio Comparison	Threshold for Disparate Impact	Result
67%	65%	$67\% \div 65\% = 103\%$	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 49). **Because the result of 104% percent is greater than the 80 percent or less threshold, no disproportionate burden was identified.**

Table 49: Service additions disproportionate burden test

Low-Income Population Benefiting	Non-Low-Income Population Benefiting	Ratio Comparison	Threshold for Disproportionate Burden	Result
69%	66%	$68\% \div 65\% = 104\%$	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 protected populations. For service reductions, the adverse impacts to protected populations do not exceed 20% for protected populations. **Therefore, the systemwide analysis did not identify any adverse effects on protected populations from September 2021 through September 2024.**

Appendix

ST Service Area Title VI Routes and Population

Table 50: Title VI routes and population statistics (2023)²⁶

Route	Total Population	Minority Population		Non-Minority Population	Limited English Proficiency (LEP) ²⁷		Low-Income Population ²⁸		Non-Low Income
1 Line	1,276,600	553,672	43.4%	722,928	145,964	11.4%	270,067	21.2%	1,006,533
2 Line	393,539	184,688	46.9%	208,851	41,900	10.2%	46,634	11.8%	346,905
510	330,000	134,300	40.7%	195,700	58,600	10.7%	76,500	23.2%	253,500
511	409,600	151,900	37.1%	257,700	55,100	11.1%	76,900	18.8%	332,700
512	322,700	135,087	41.9%	341,900	41,823	13.0%	76,129	23.6%	246,571
513	270,000	117,817	43.6%	152,183	38,288	14.2%	62,528	23.2%	394,700
522	129,800	42,442	32.7%	87,358	10,162	7.8%	17,757	13.7%	112,043
532	351,700	148,800	42.3%	202,900	9,600	10.8%	73,500	20.9%	278,200
535	242,600	95,600	39.4%	147,000	27,400	11.4%	38,500	15.9%	204,100
542	88,600	39,600	44.7%	49,000	11,200	10.2%	15,900	17.9%	72,700
545	241,400	117,000	48.5%	124,400	16,600	9.8%	35,000	14.5%	206,400
550	110,000	52,000	47.3%	58,000	12,600	9.4%	19,200	17.5%	90,800
554	170,400	78,600	46.1%	91,800	35,400	18.7%	26,200	15.4%	144,200
556	134,000	57,700	43.1%	76,300	53,600	16.5%	20,600	15.4%	113,400
560	189,200	107,600	56.9%	81,600	48,900	14.3%	45,400	24.0%	143,800
566	323,800	182,200	56.3%	141,600	20,500	13.2%	75,400	23.3%	248,400
574	340,700	188,200	55.2%	152,500	30,300	11.1%	113,600	33.3%	227,100
577	155,600	82,500	53.0%	73,100	4,300	5.0%	40,900	26.3%	114,700
578	273,600	123,800	45.2%	149,800	23,400	12.4%	67,300	24.6%	206,300
580	85,400	23,000	26.9%	62,400	12,700	8.3%	15,400	18.0%	70,000
586	189,200	96,700	51.1%	92,500	15,000	9.5%	63,500	33.6%	125,700
590	153,200	70,500	46.0%	82,700	22,300	9.3%	44,400	29.0%	108,800
592	158,800	83,500	52.6%	75,300	16,300	6.2%	50,300	31.7%	108,500
594	238,500	119,800	50.2%	118,700	2,000	3.1%	77,800	32.6%	160,700
595	262,700	99,600	37.9%	163,100	40,300	10.4%	64,200	24.4%	198,500
596	65,500	14,100	21.5%	51,400	150,800	12.3%	10,200	15.6%	55,300
N Line	388,300	145,600	37.5%	242,700	4,700	12.4%	86,800	22.4%	301,500
S Line	1,221,400	593,900	48.6%	627,500	186,500	11.9%	321,000	26.3%	900,400
T Line	302,800	133,100	44.0%	169,700	112,100	11.6%	82,900	27.4%	219,900
ST District Average	3,306,990 ²⁹	1,412,085	42.7%	1,894,905	343,927	10.4%	684,547	20.7%	2,622,443

²⁶ Statistics reflect service area after the service change.
²⁷ Limited English is defined as speaking English, "Less than very well."
²⁸ Low-Income is defined as a 200% poverty level and below.
²⁹ Published District total population estimate, 2022.

DRAFT

Route-Level Title VI Population Maps

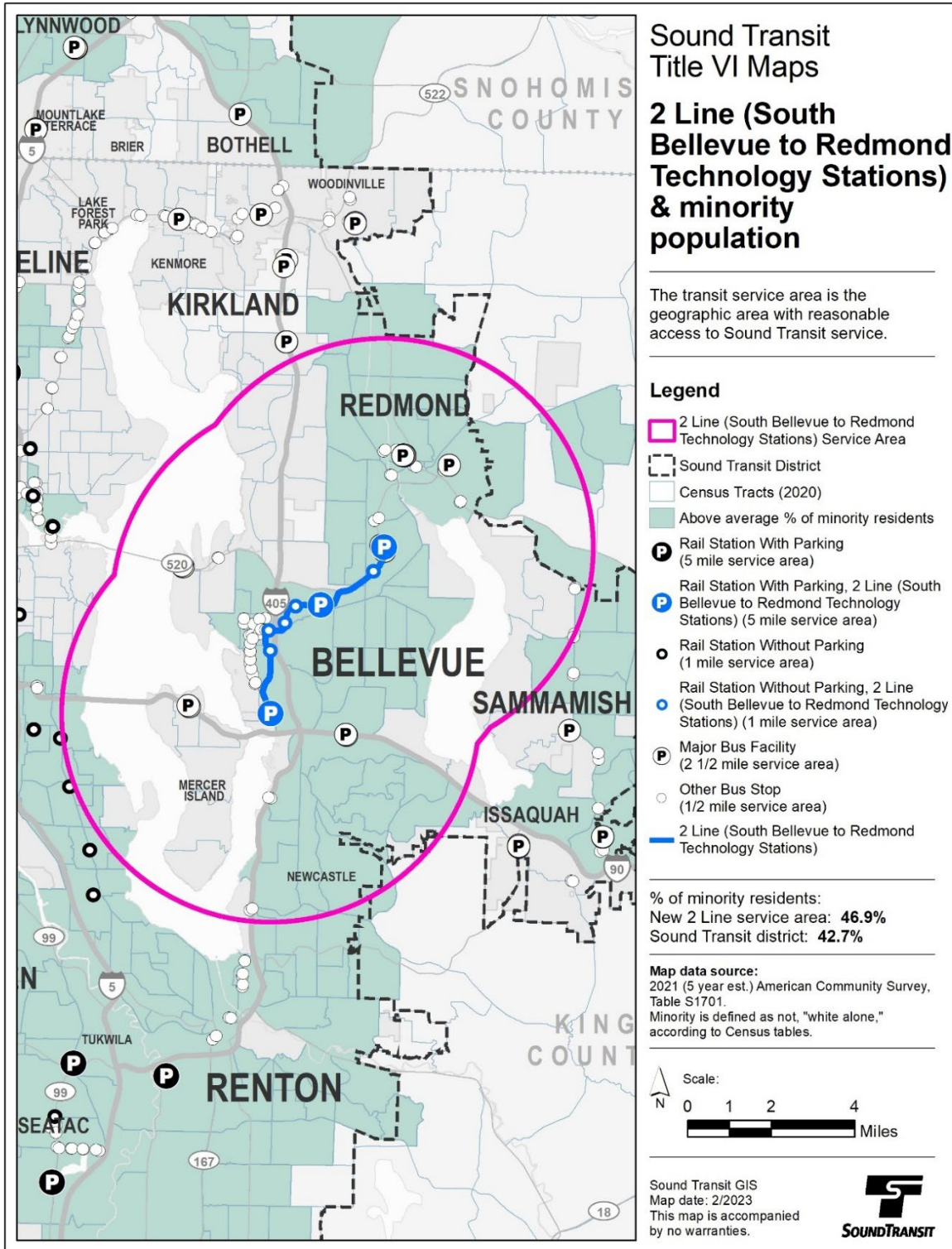


Figure 15: 2 Line stations and minority populations

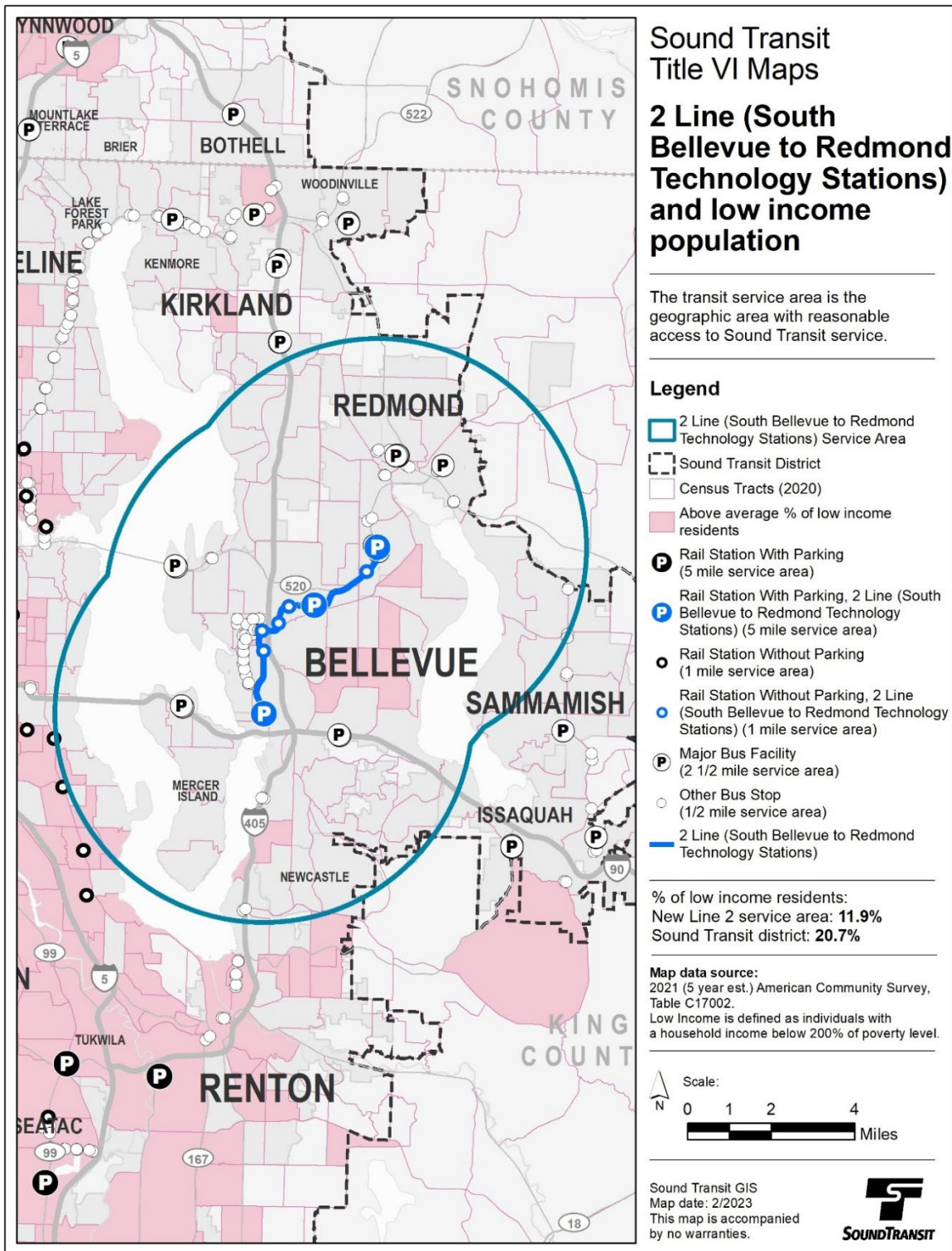


Figure 16: 2 Line stations and low-income populations

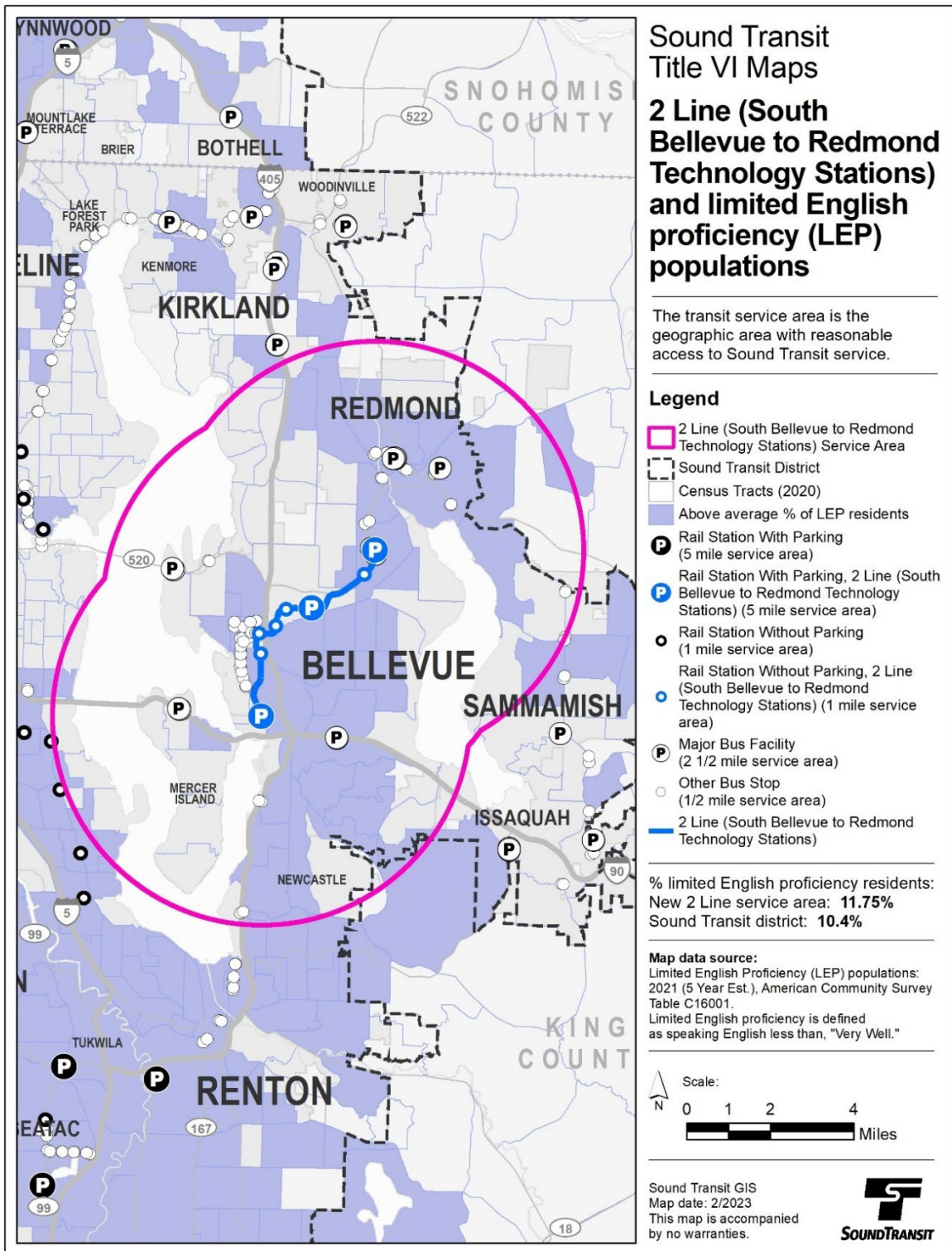


Figure 17: 2 Line stations and Limited English Proficiency (LEP) populations

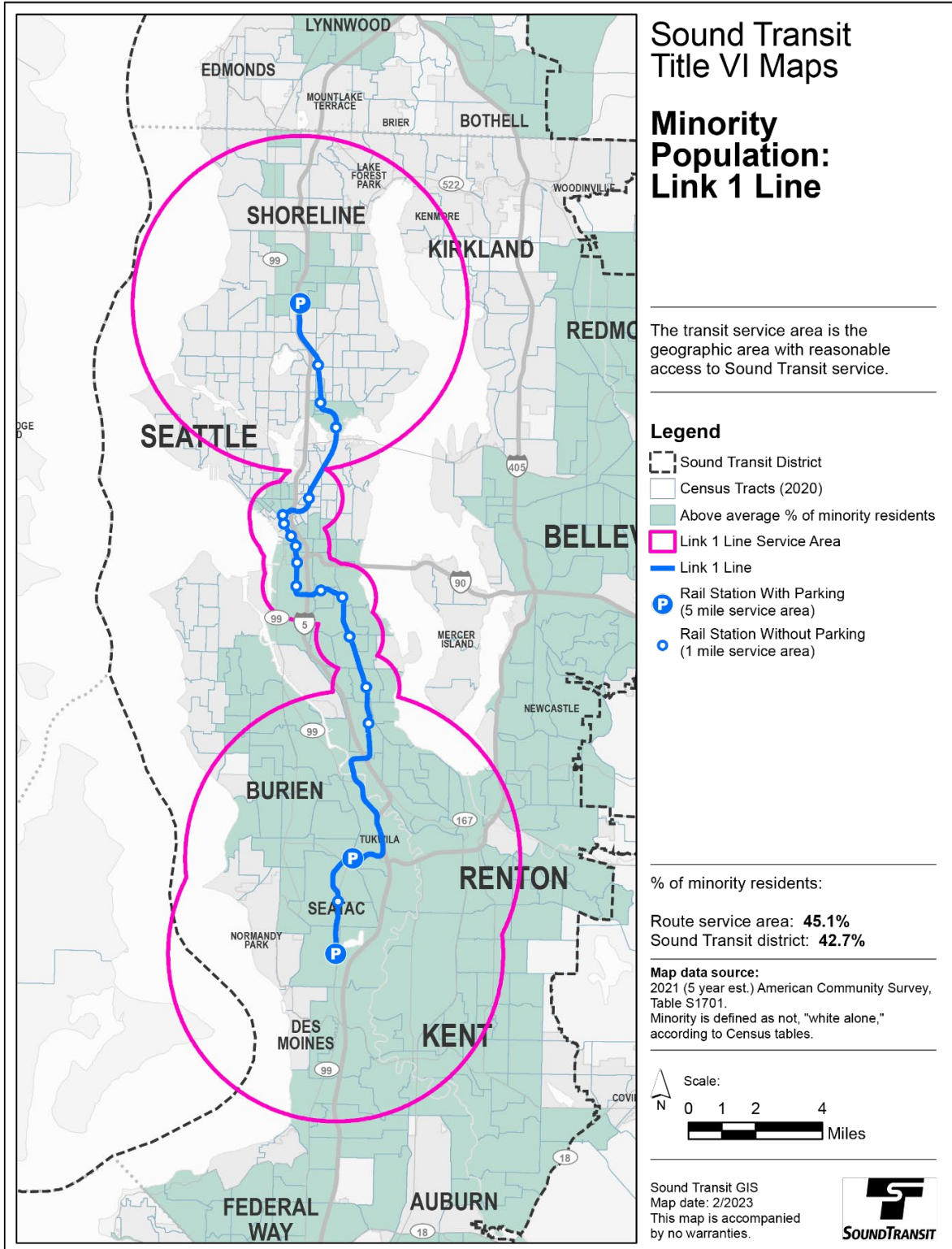


Figure 18: 1 Line stations and Link 1 Line minority populations before Lynnwood Link Extension opens

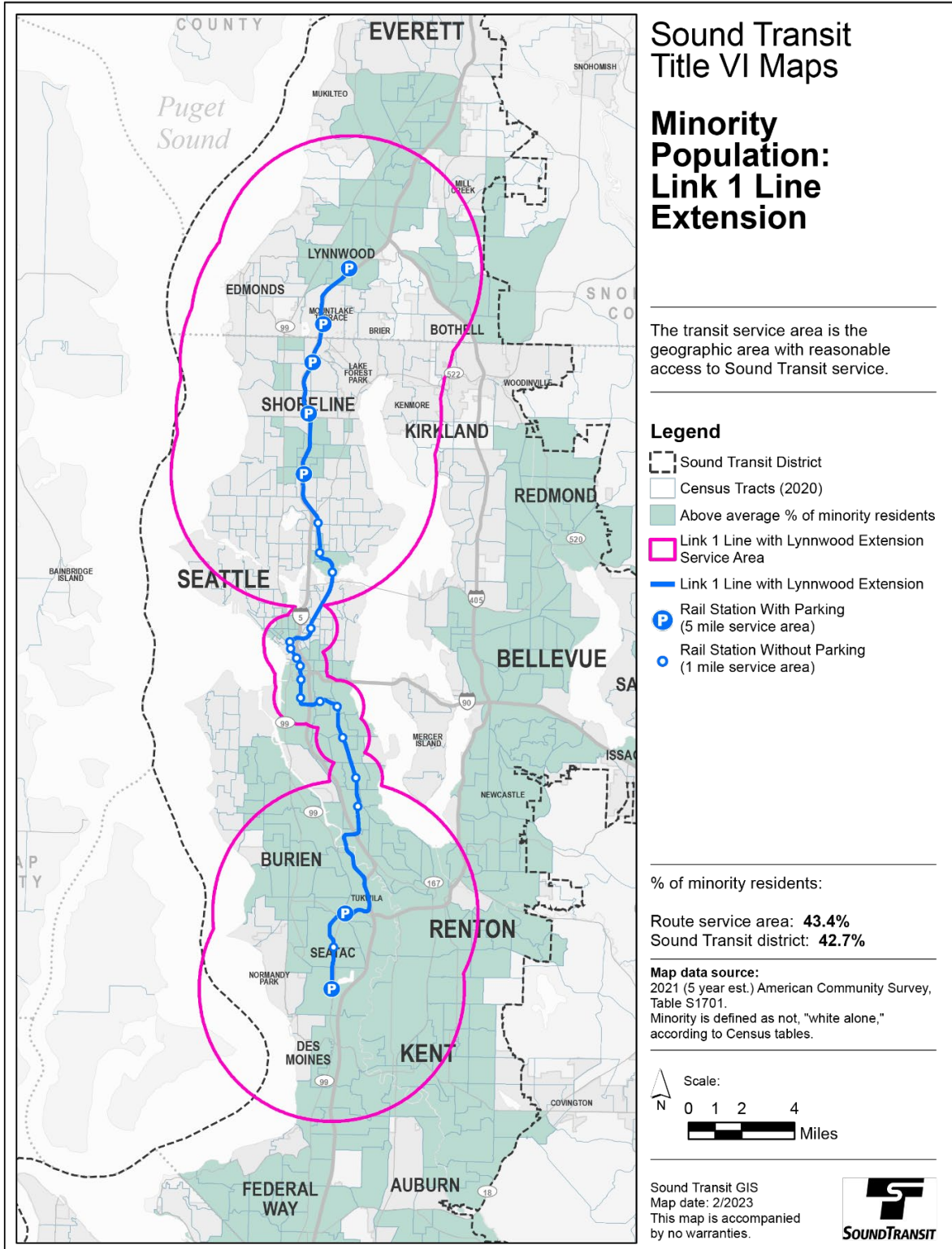


Figure 19: 1 Line stations and Link 1 Line minority populations after Lynnwood Link Extension opens

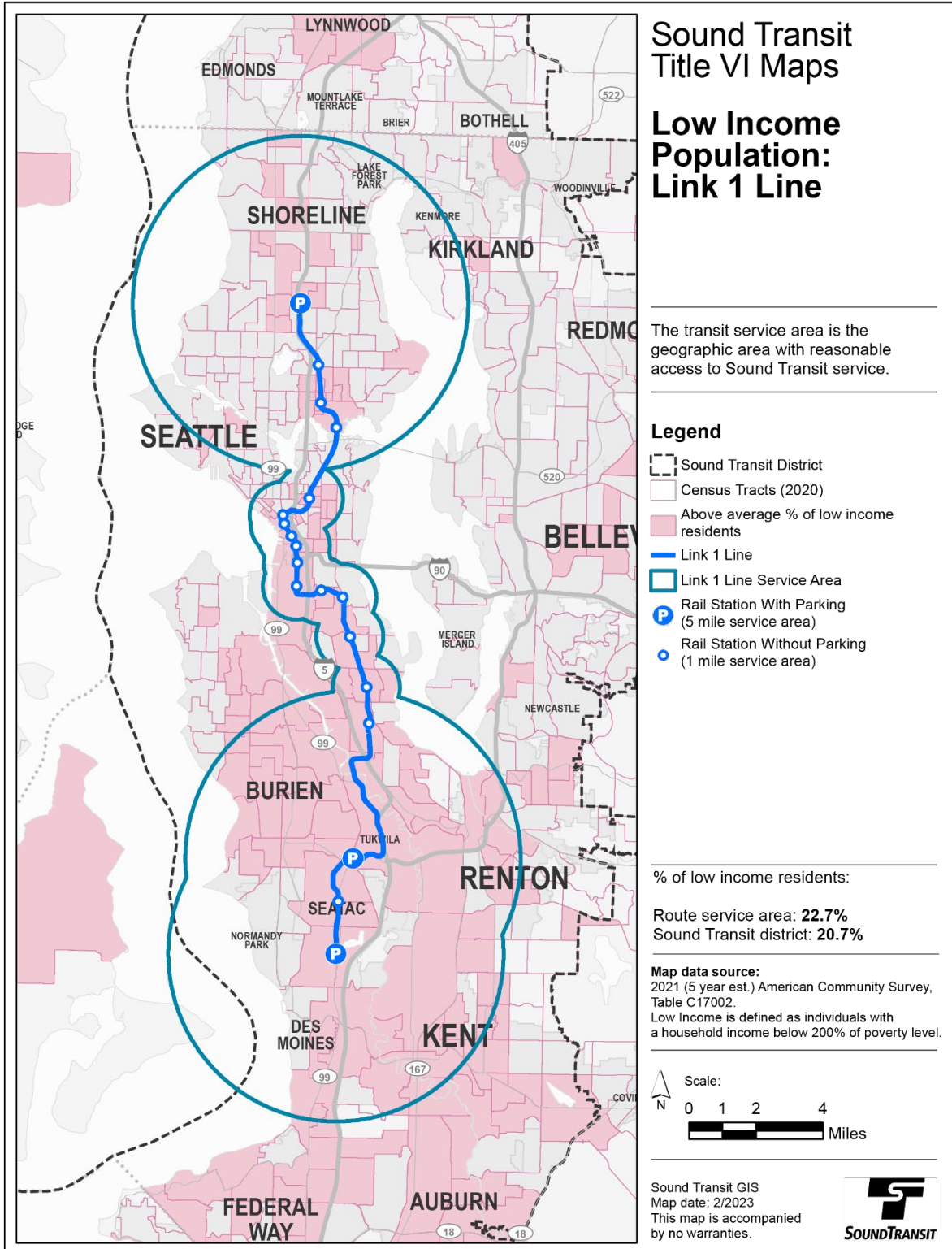


Figure 20: 1 Line stations and Link 1 Line low-income populations before Lynnwood Link Extension opens

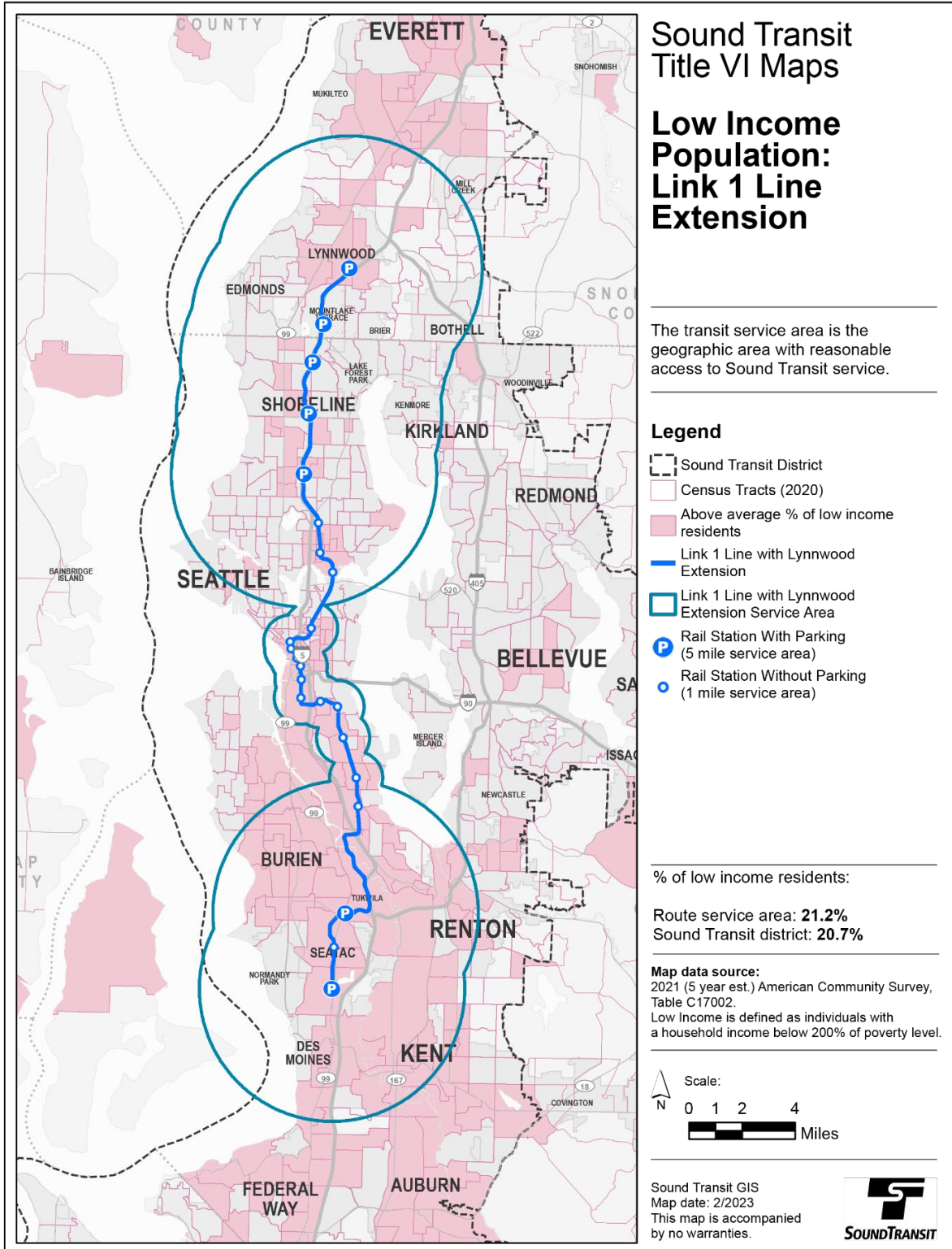


Figure 21: 1 Line stations and Link 1 Line low-income populations after Lynnwood Link Extension opens

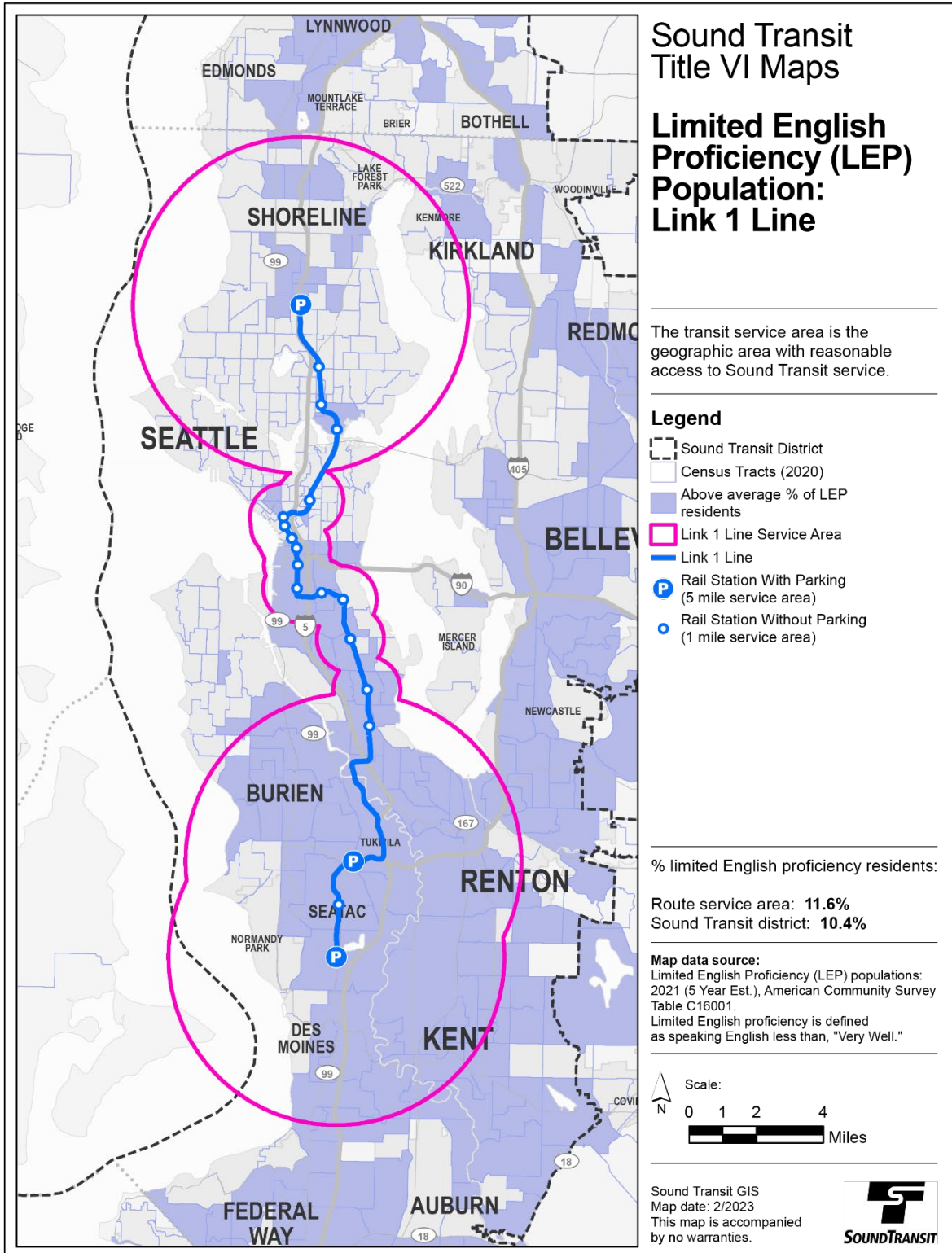


Figure 22: 1 Line stations and Link 1 Line Limited English Proficiency (LEP) population before Lynnwood Link Extension opens

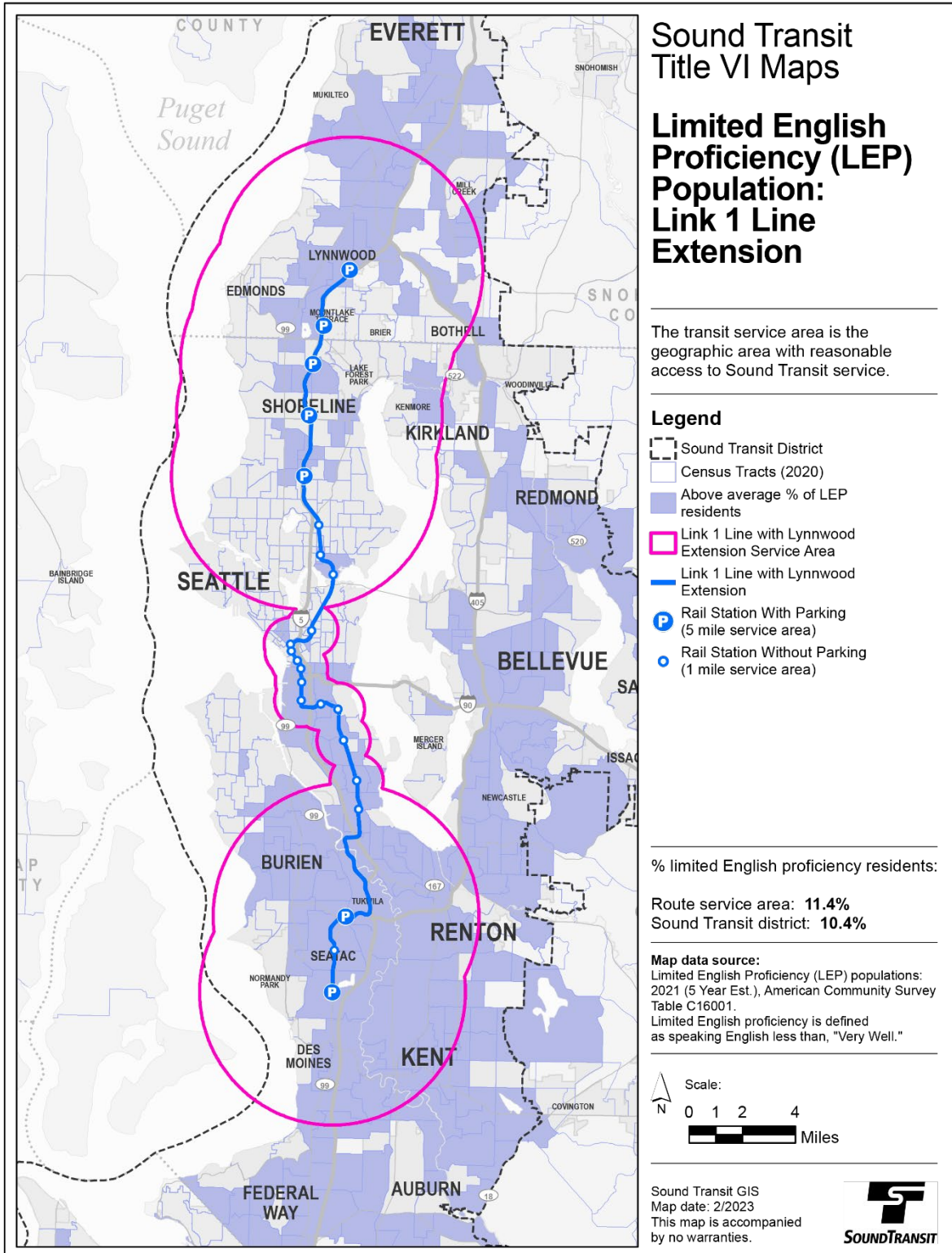


Figure 23: 1 Line stations and Link 1 Line Limited English Proficiency (LEP) population after Lynnwood Link Extension opens

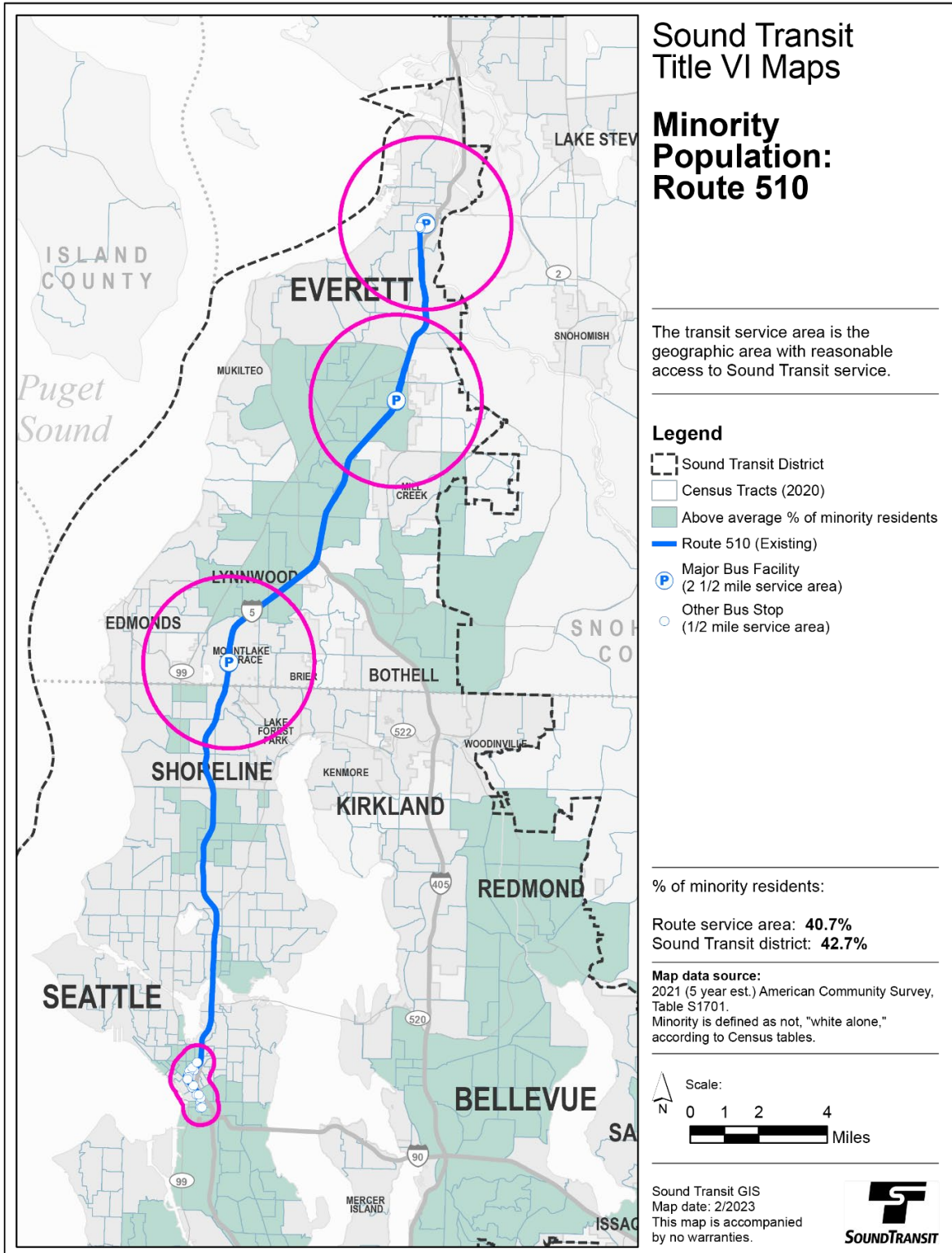


Figure 24: Route 510 stops and minority population

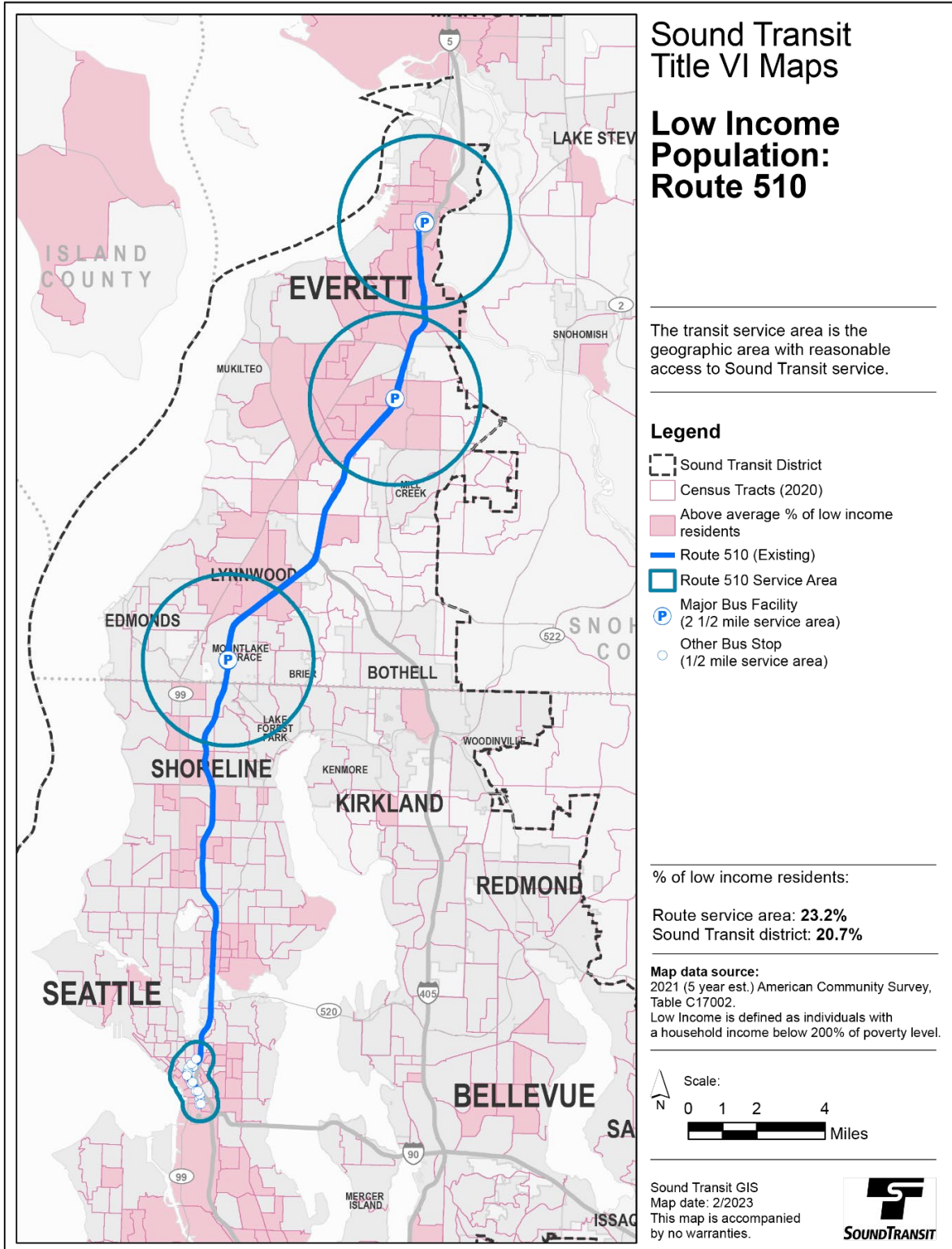


Figure 25: Route 510 stops and low-income population

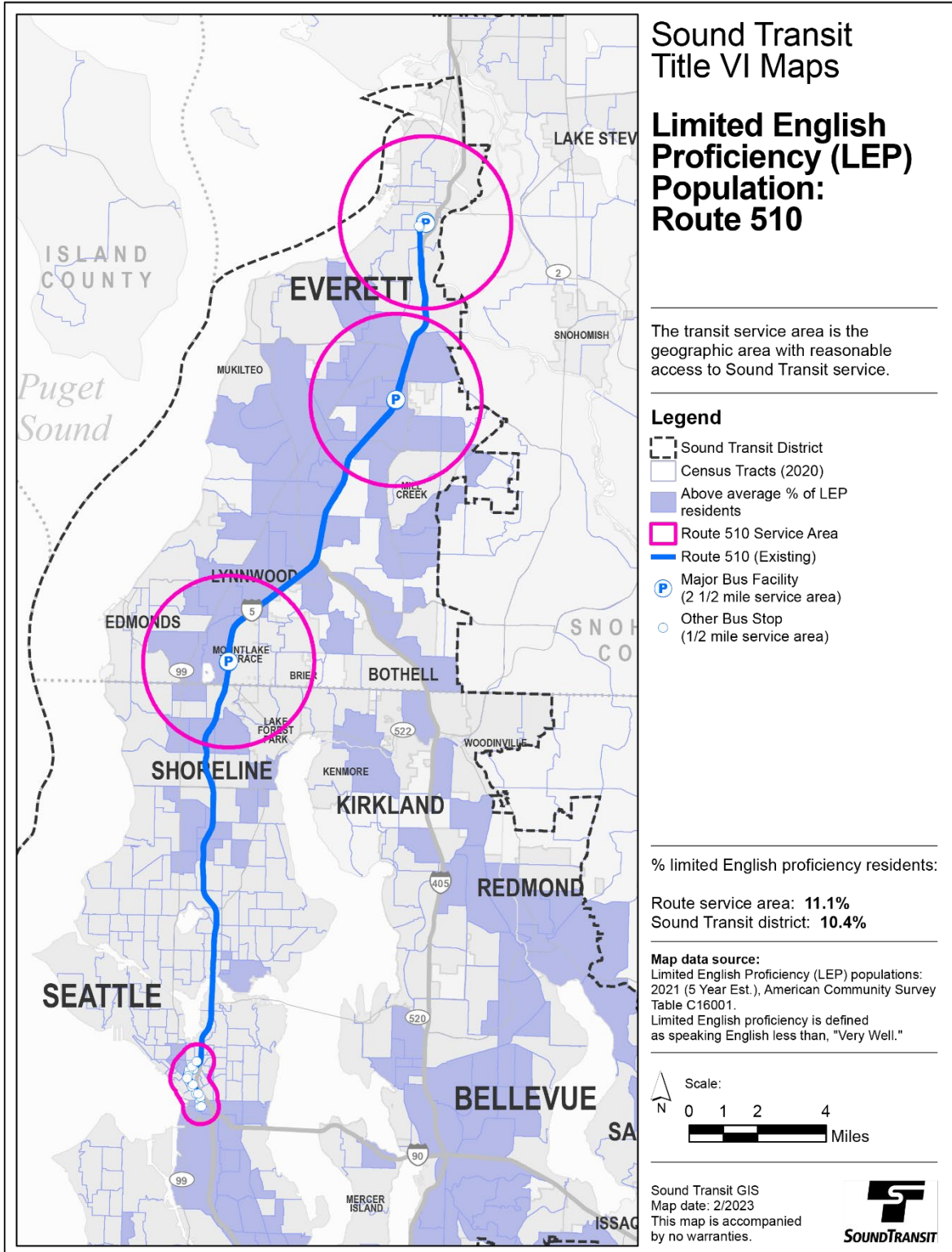


Figure 26: Route 510 stops and Limited English Proficiency (LEP) population

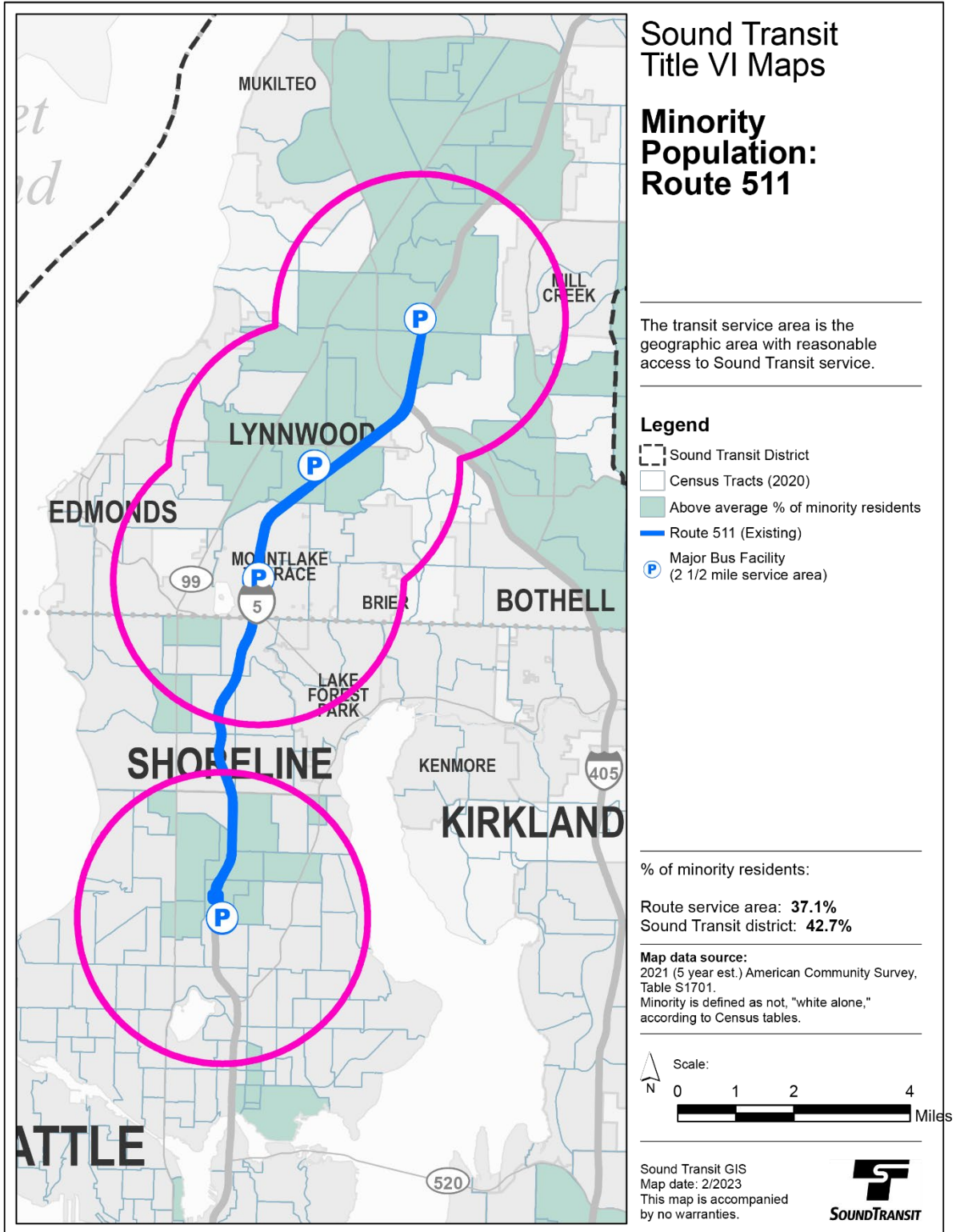


Figure 27: Route 511 stops and minority population

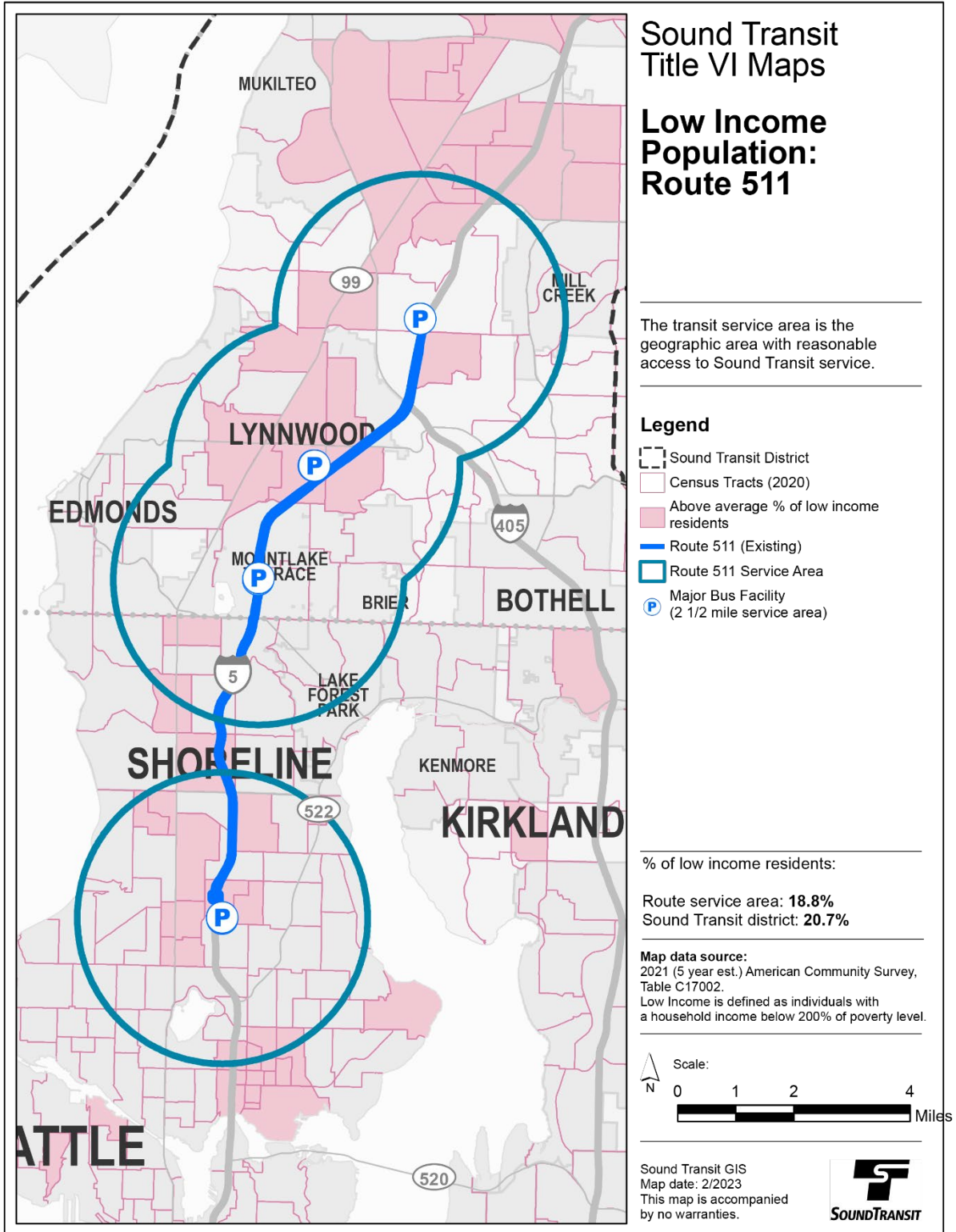


Figure 28: Route 511 stops and low-income population

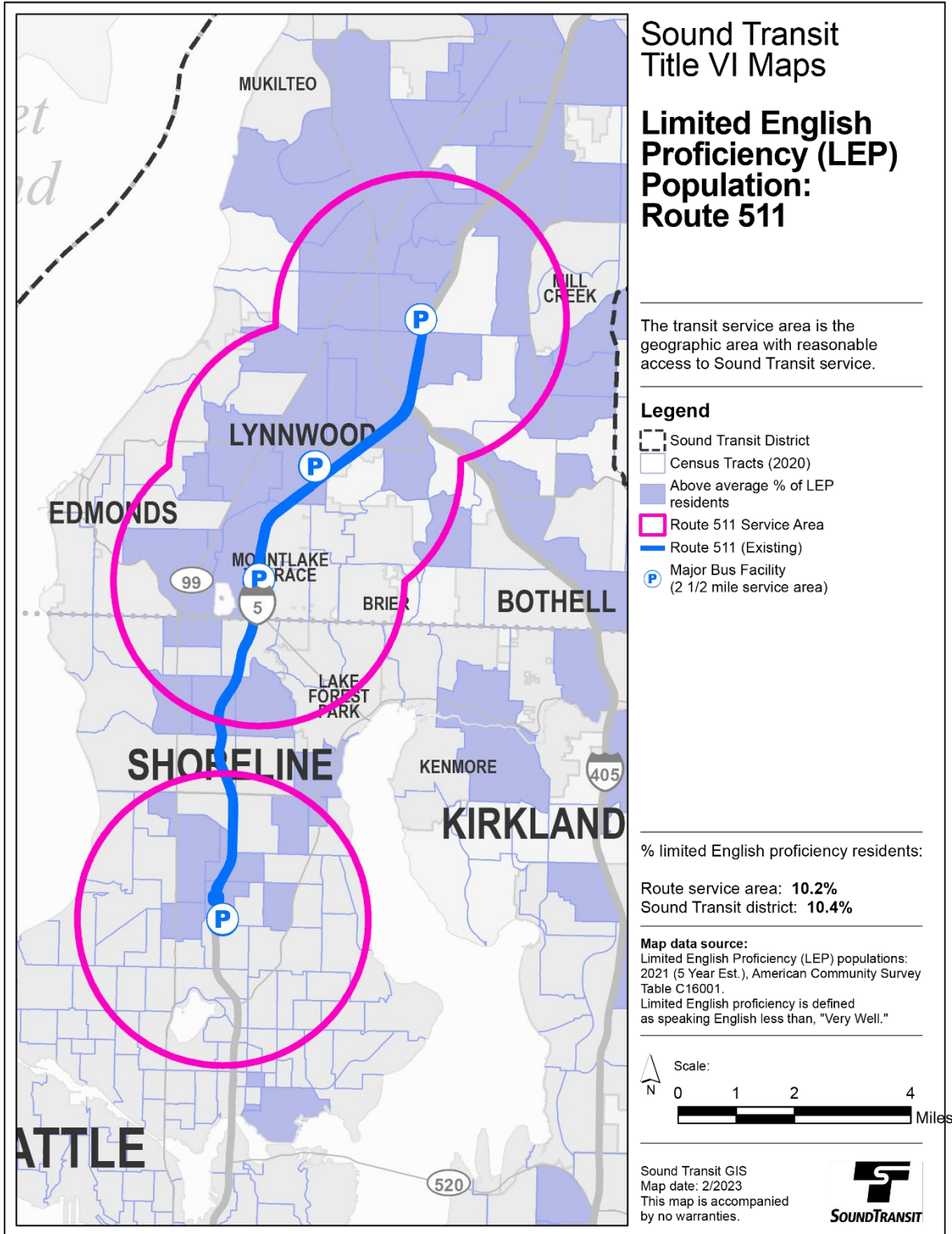


Figure 29: Route 511 stops and Limited English Proficiency (LEP) population

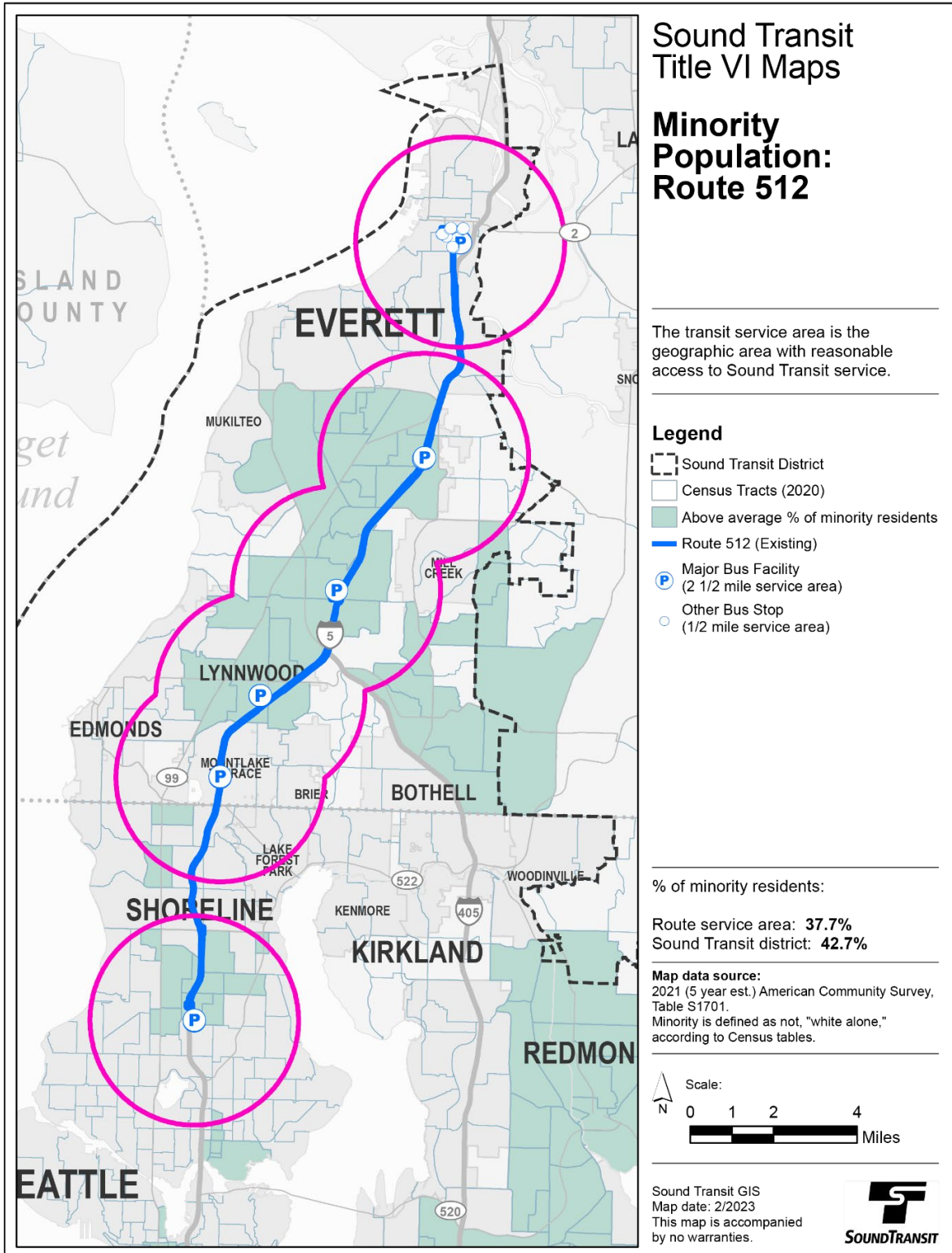


Figure 30: Route 512 stops and minority population before service change

Note: The primary variant of Route 512 is displayed on this map. There is a late Sunday variable that serves Stadium Station, Downtown Seattle and NE 45th St.

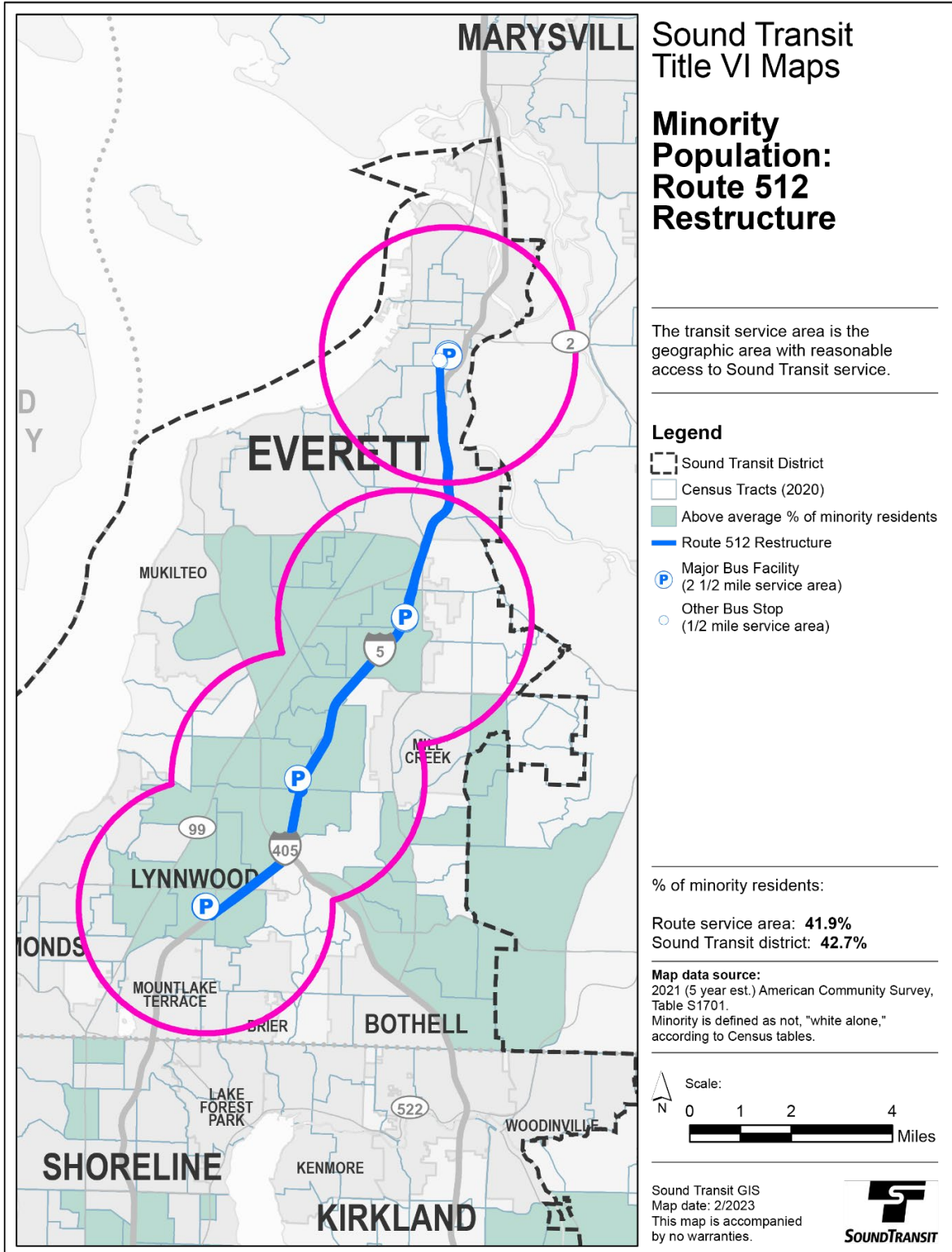


Figure 31: Route 512 stops and minority population after service change

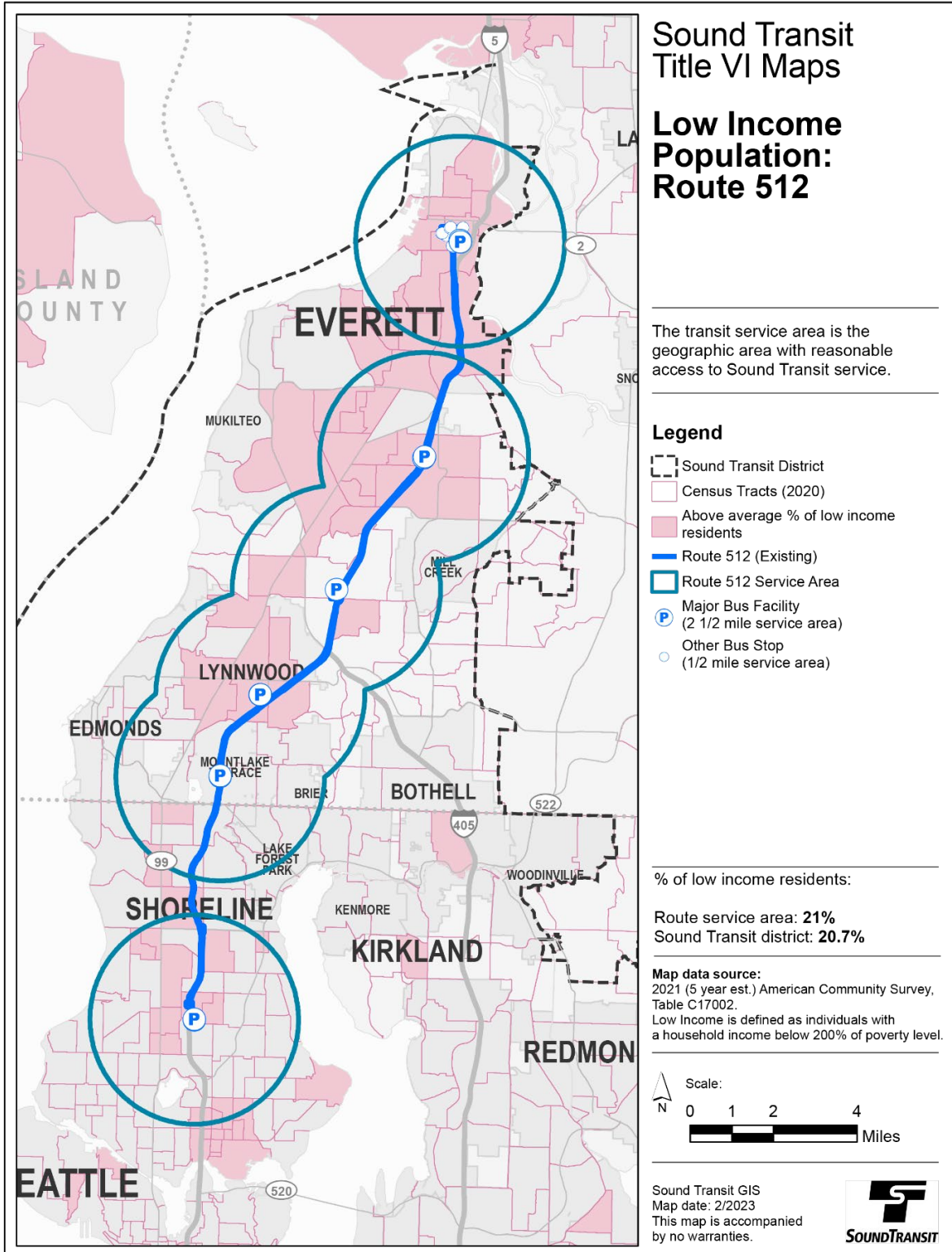


Figure 32: Route 512 stops and low-income population before service change

Note: The primary variant of Route 512 is displayed on this map. There is a late Sunday variable that serves Stadium Station, Downtown Seattle and NE 45th St.

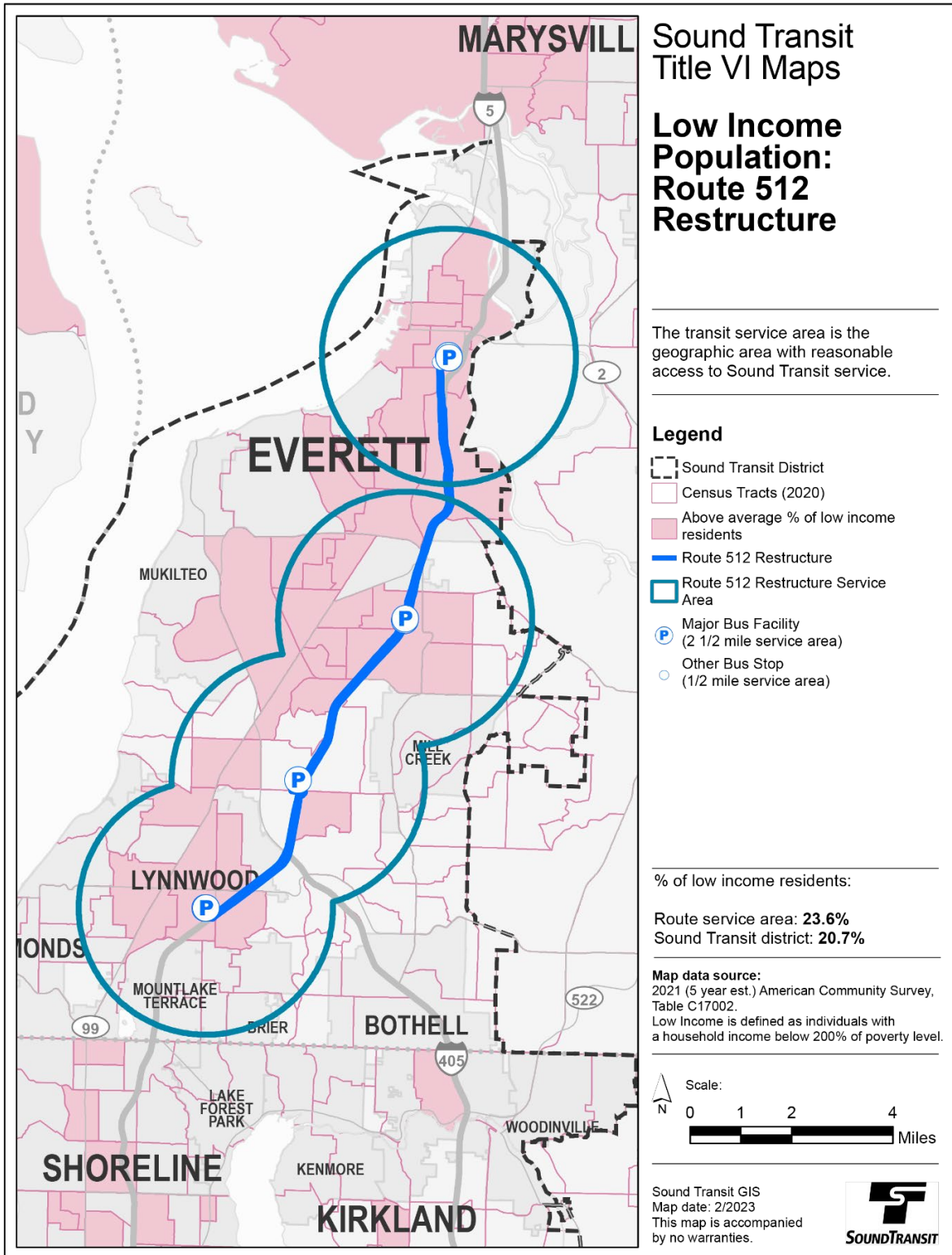


Figure 33: Route 512 stops and low-income population after service change

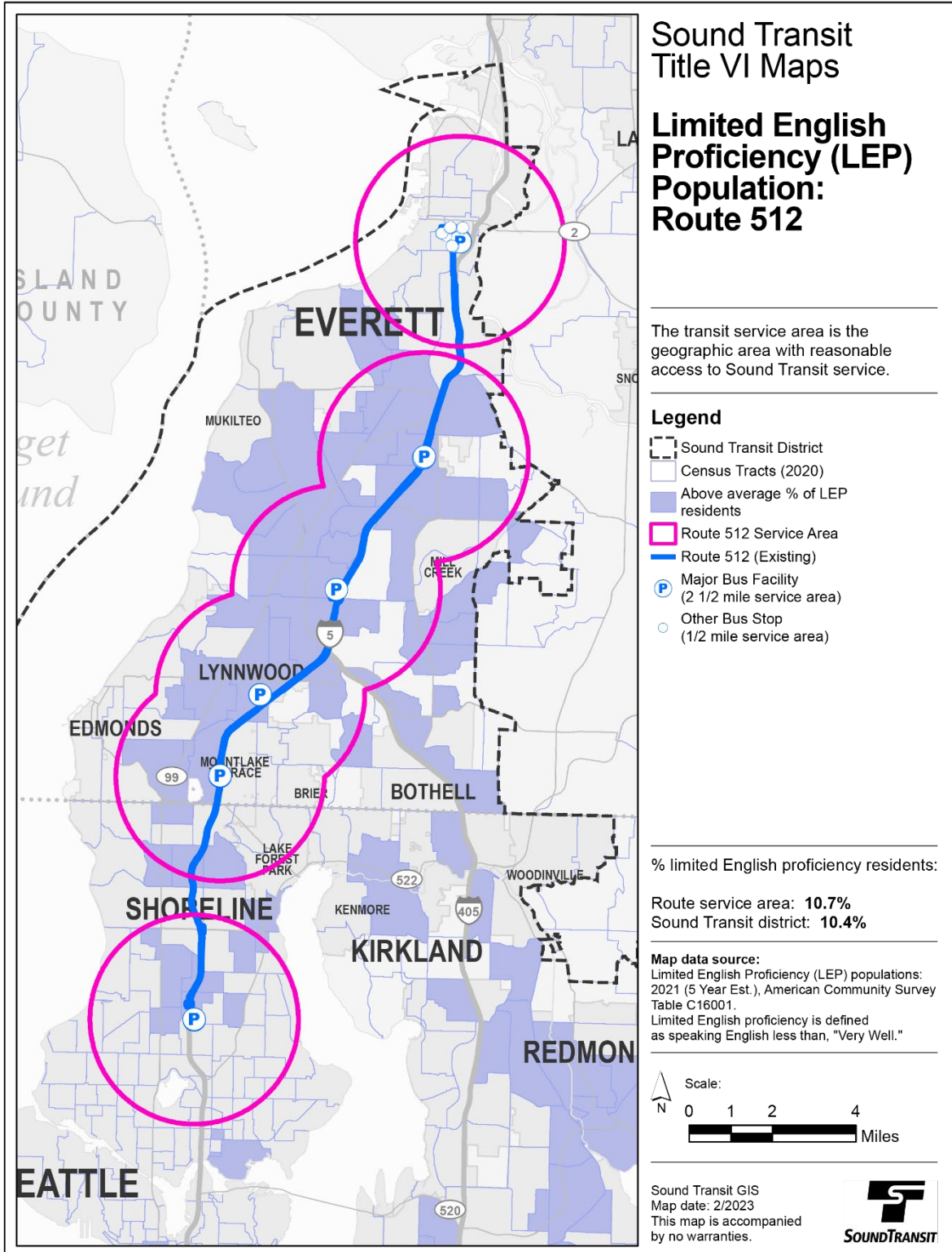


Figure 34: Route 512 stops and Limited English Proficiency (LEP) population before service change

Note: The primary variant of Route 512 is displayed on this map. There is a late Sunday variant that serves Stadium Station, Downtown Seattle and NE 45th St.

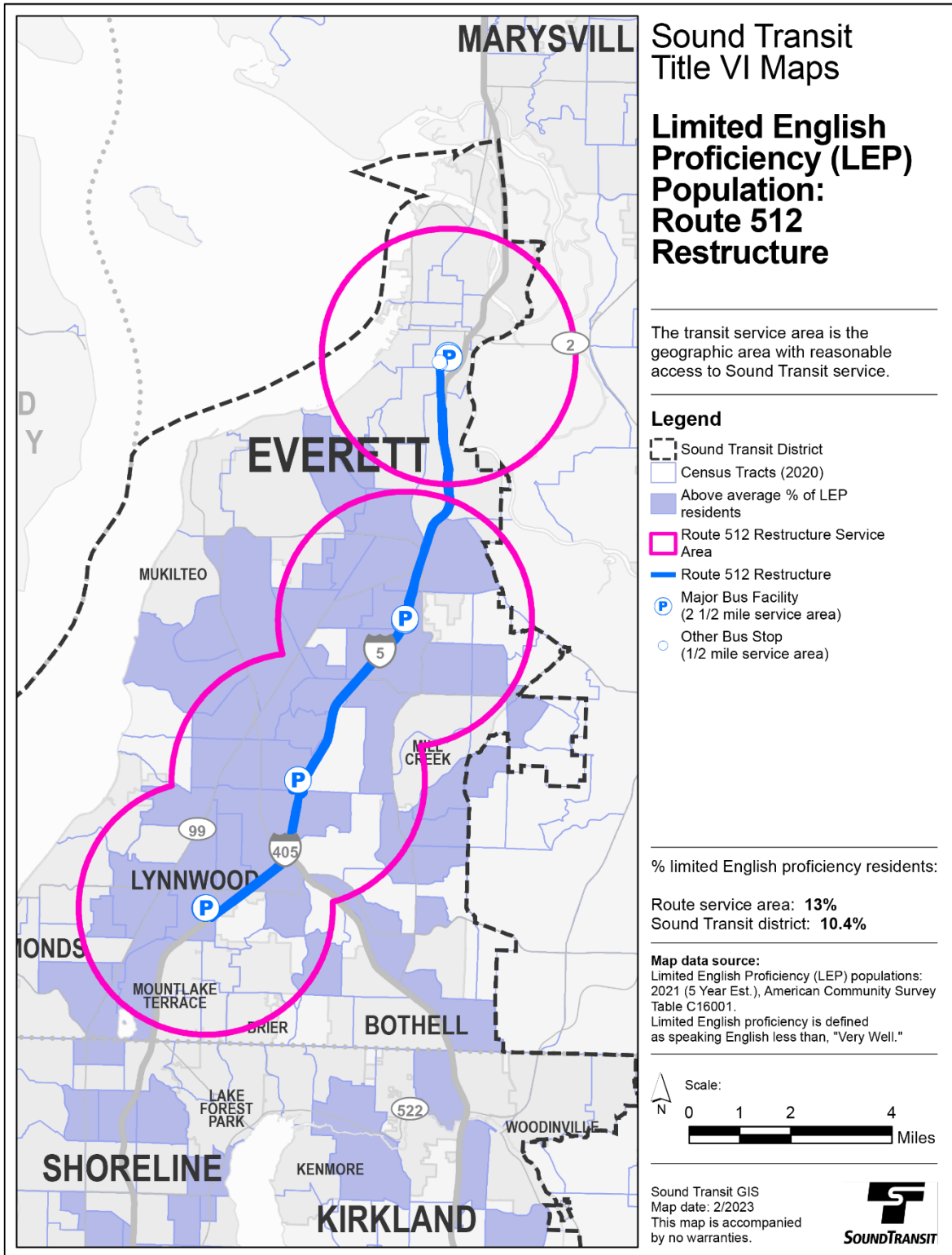


Figure 35: Route 512 stops and Limited English Proficiency (LEP) population after service change

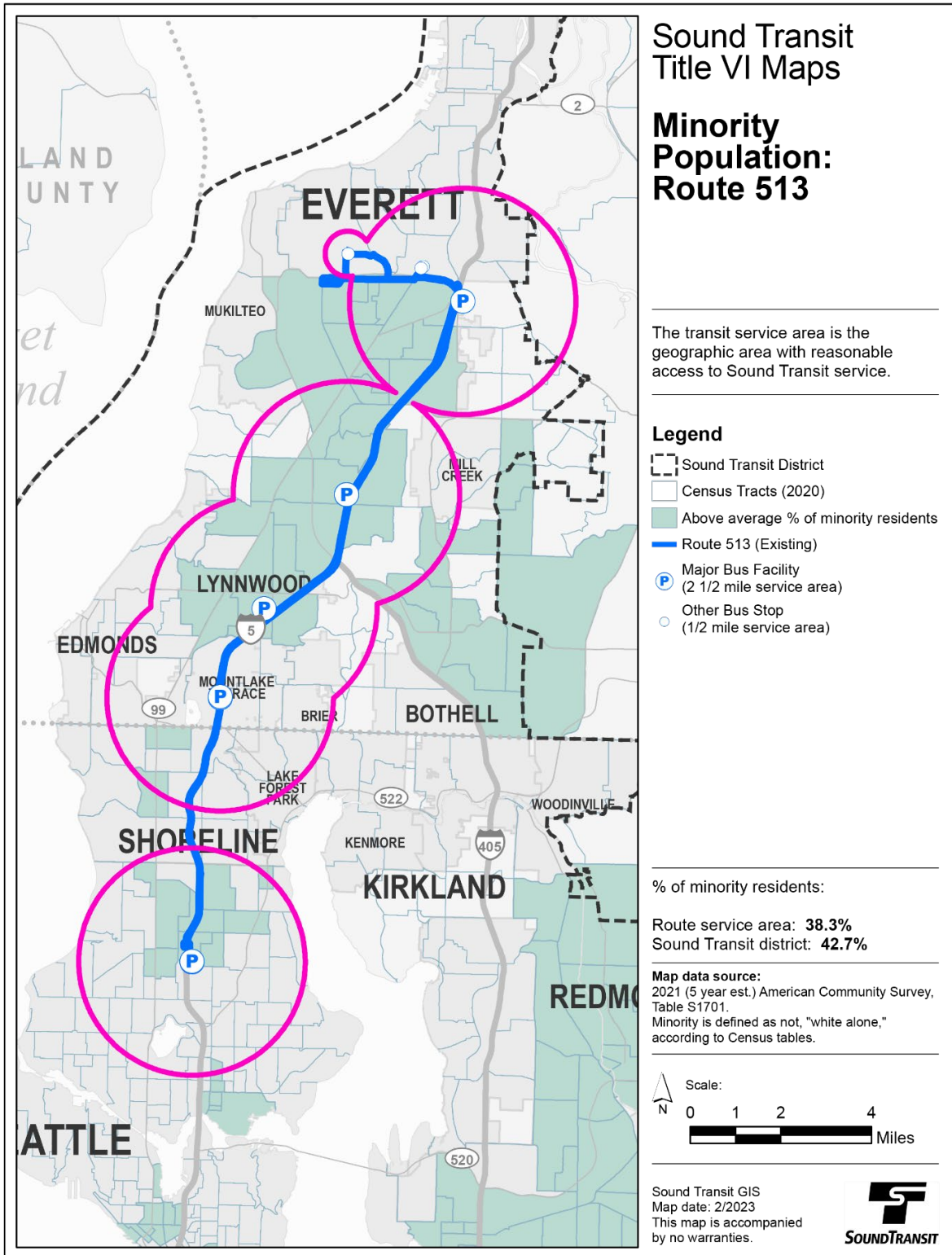


Figure 36: Route 513 stops and minority population before service change

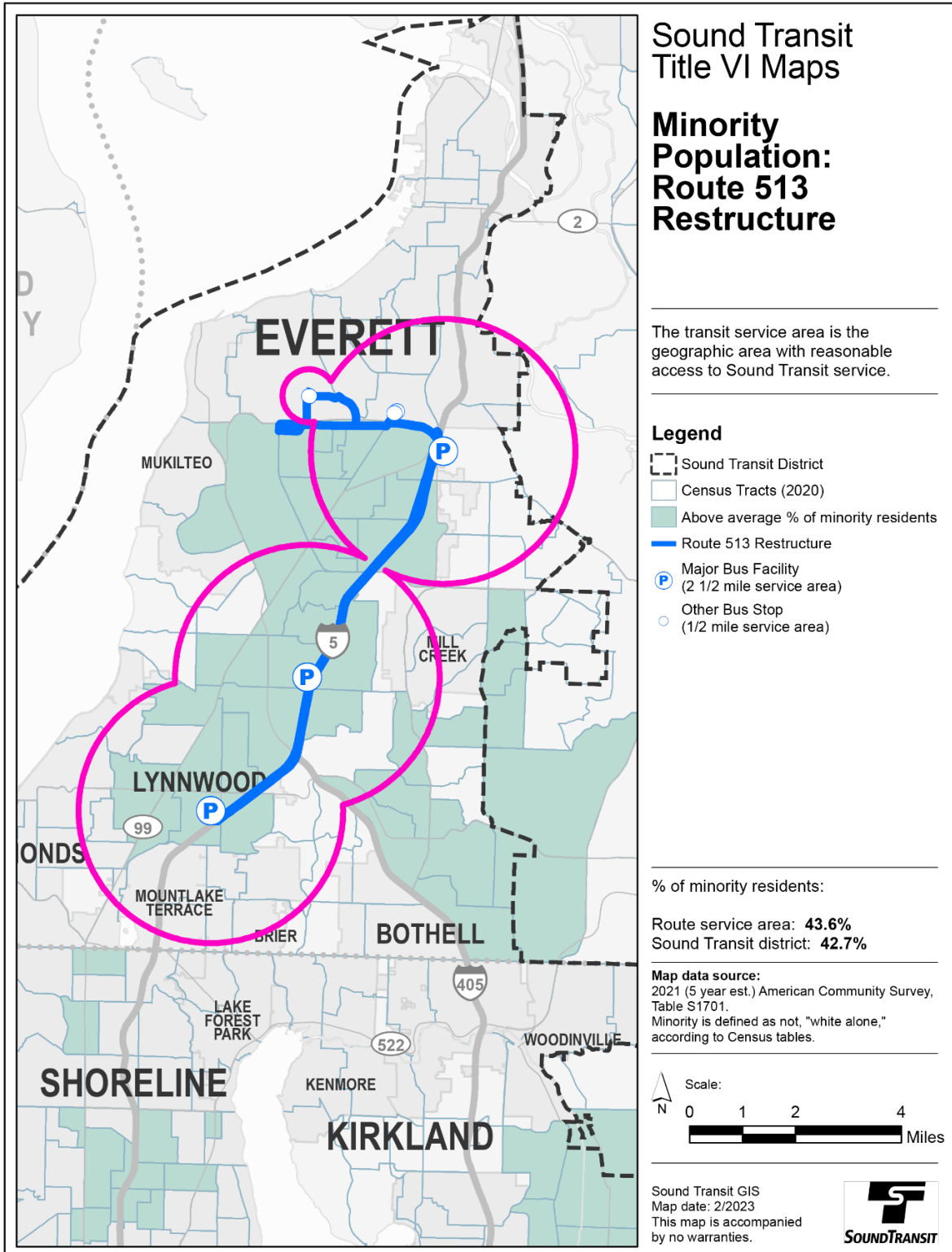


Figure 37: Route 513 stops and minority population after service change

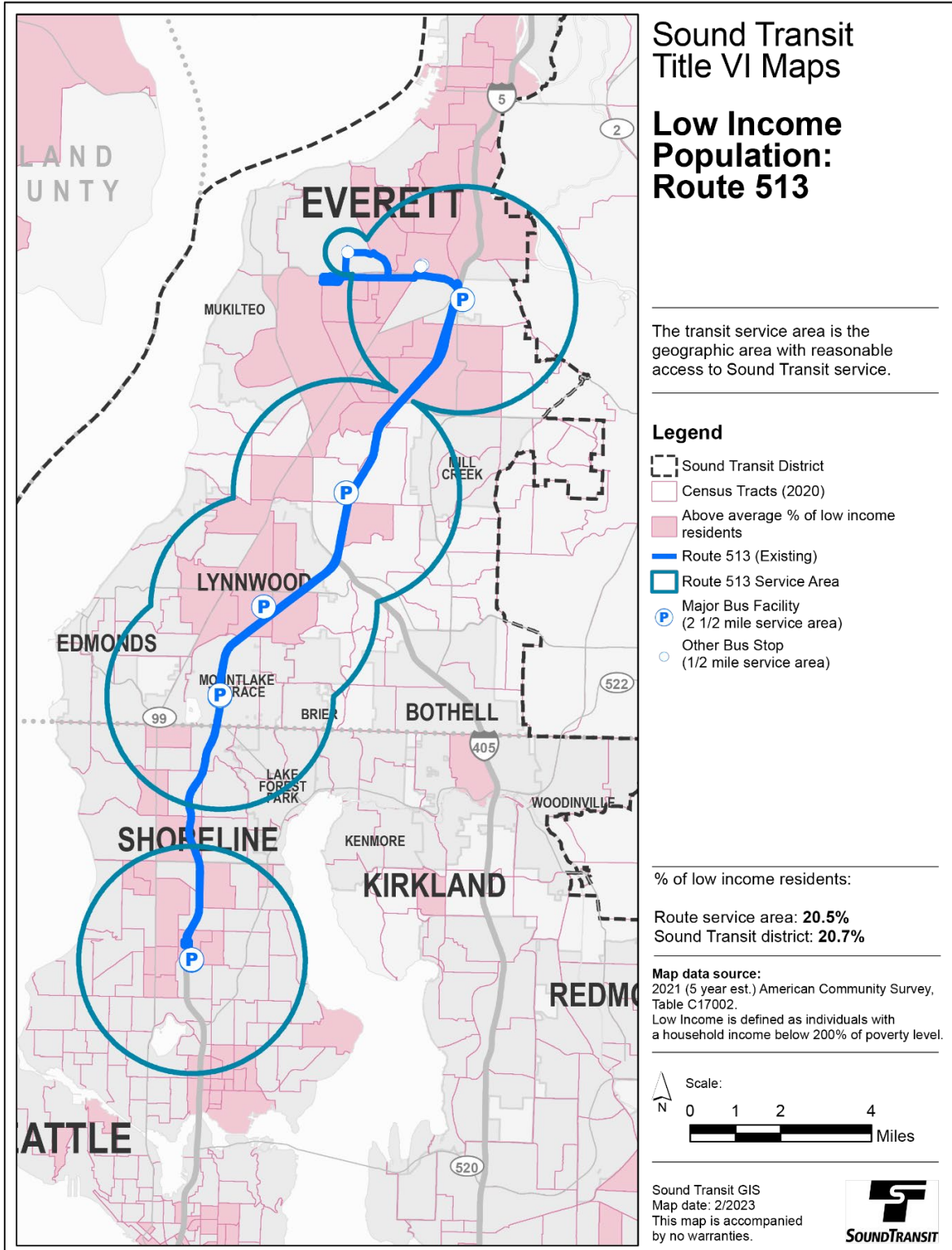


Figure 38: Route 513 stops and low-income population before service change

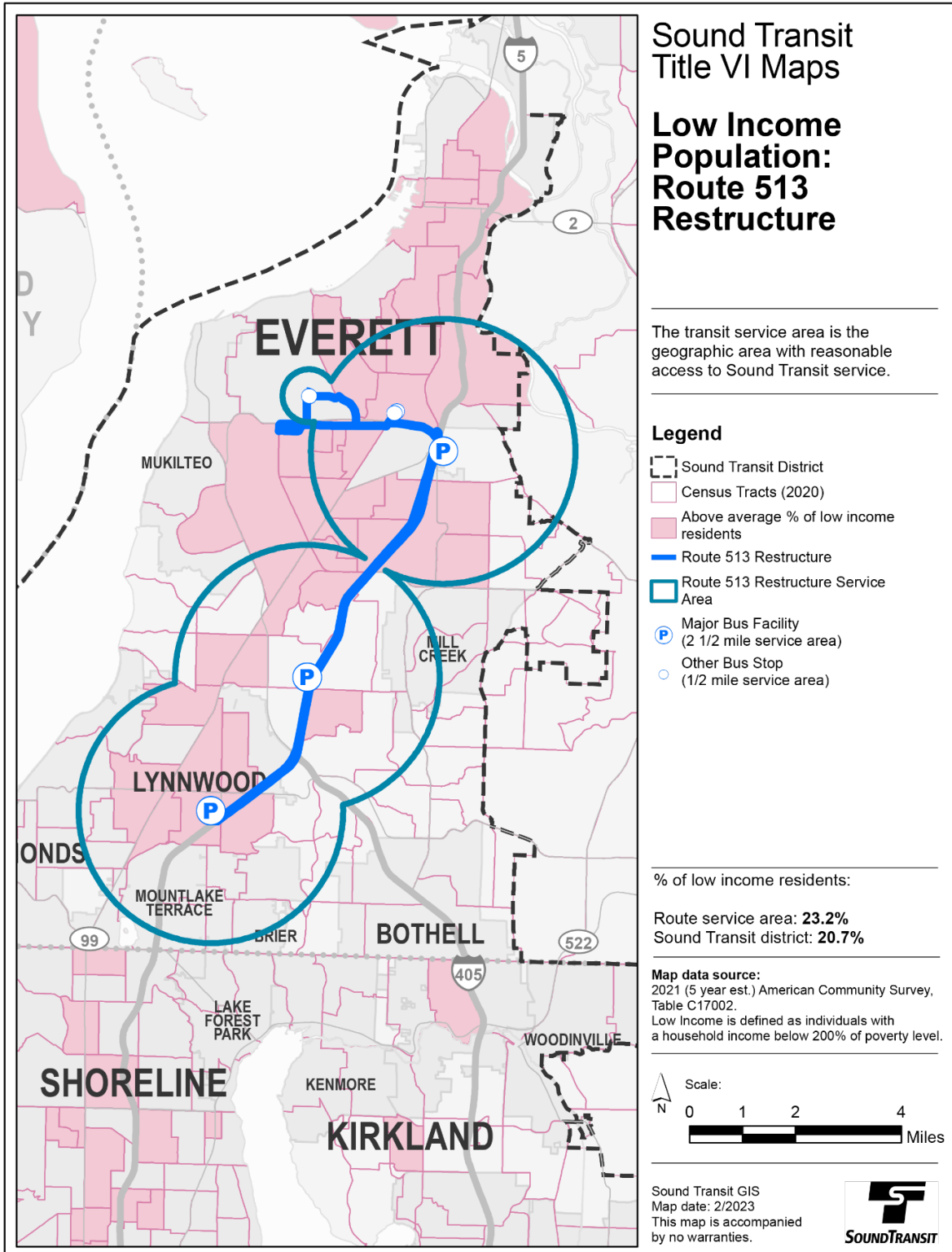


Figure 39: Route 513 stops and low-income population after service change

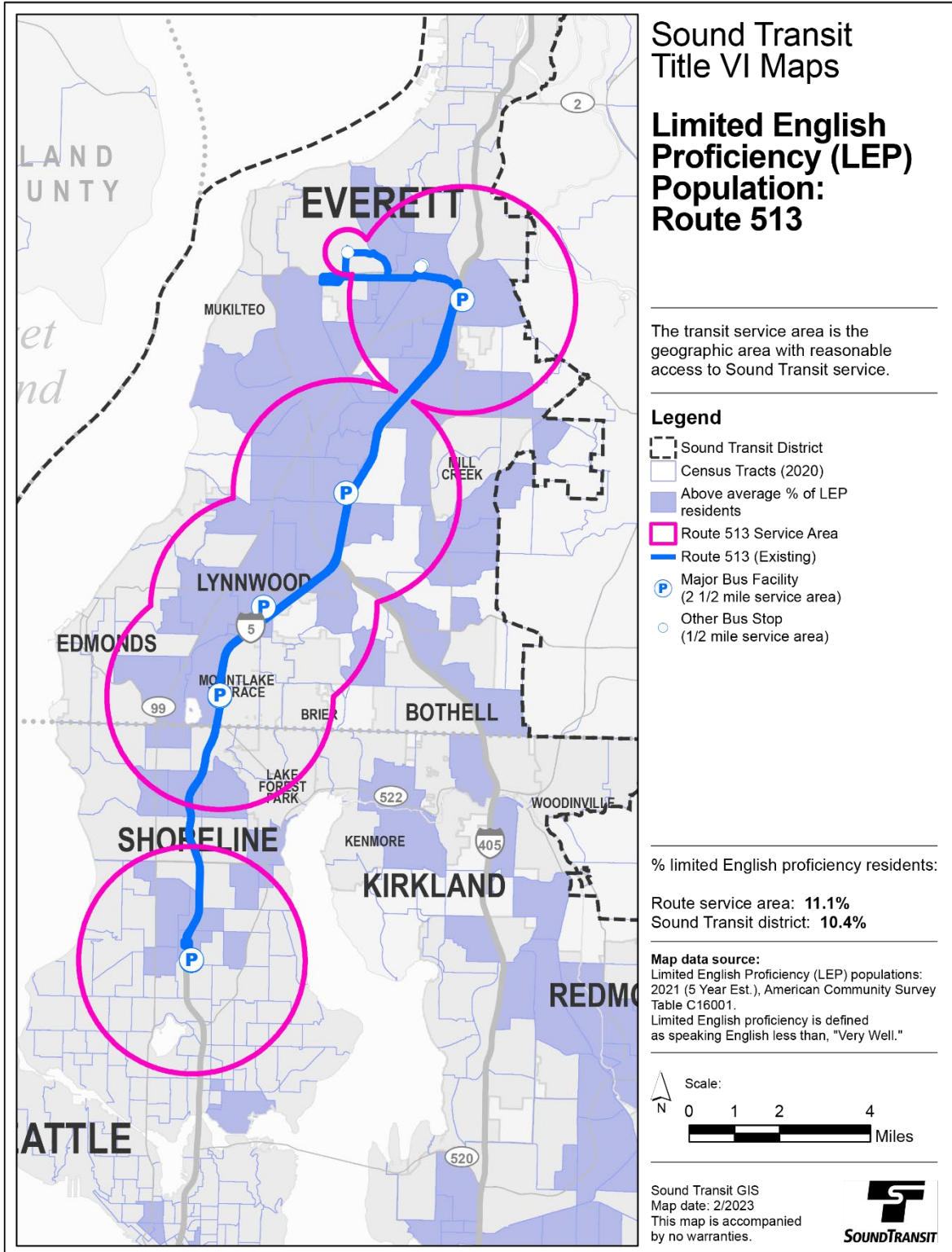


Figure 40: Route 513 stops and Limited English Proficiency (LEP) population before service change

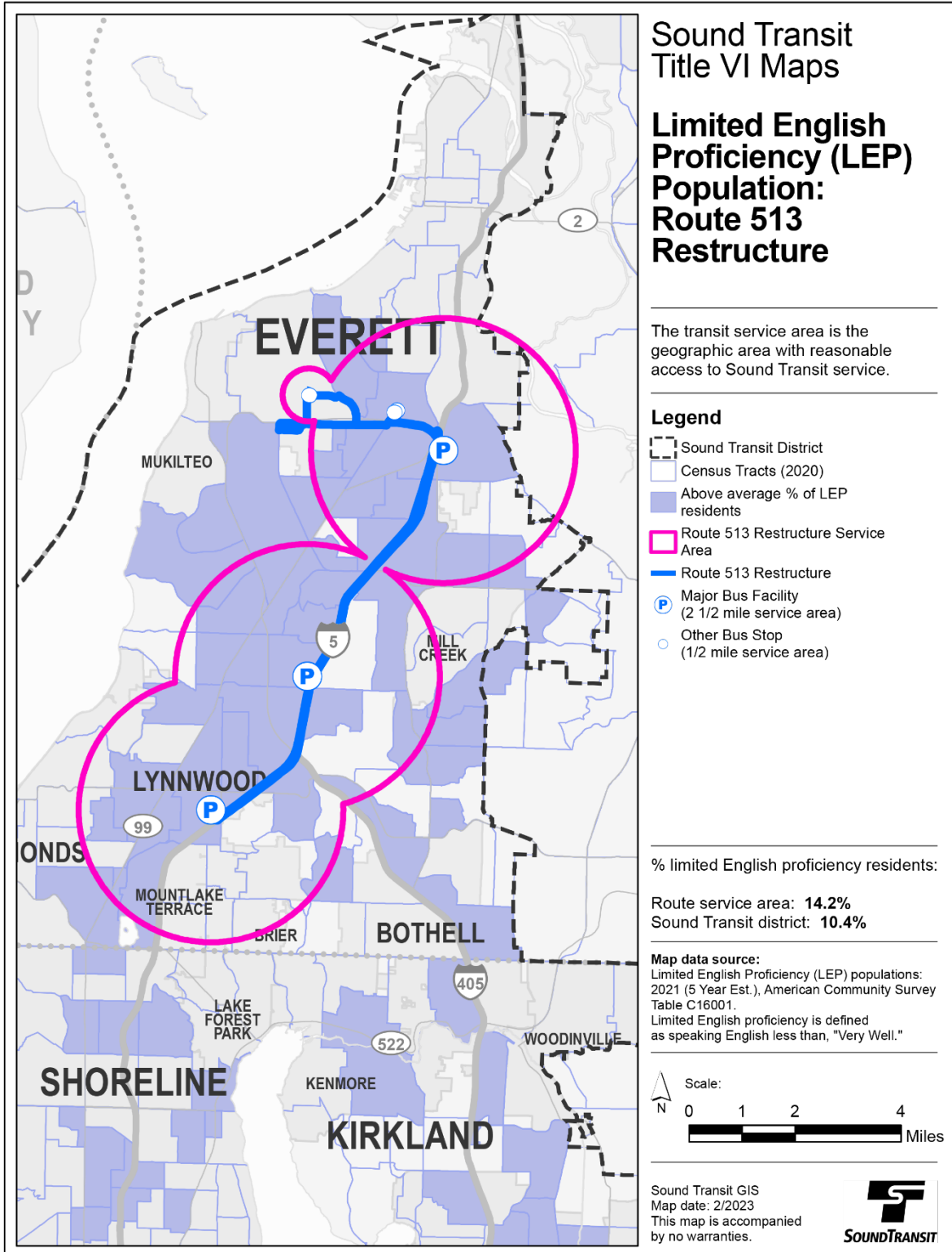


Figure 41: Route 513 stops and Limited English Proficiency (LEP) population after service change

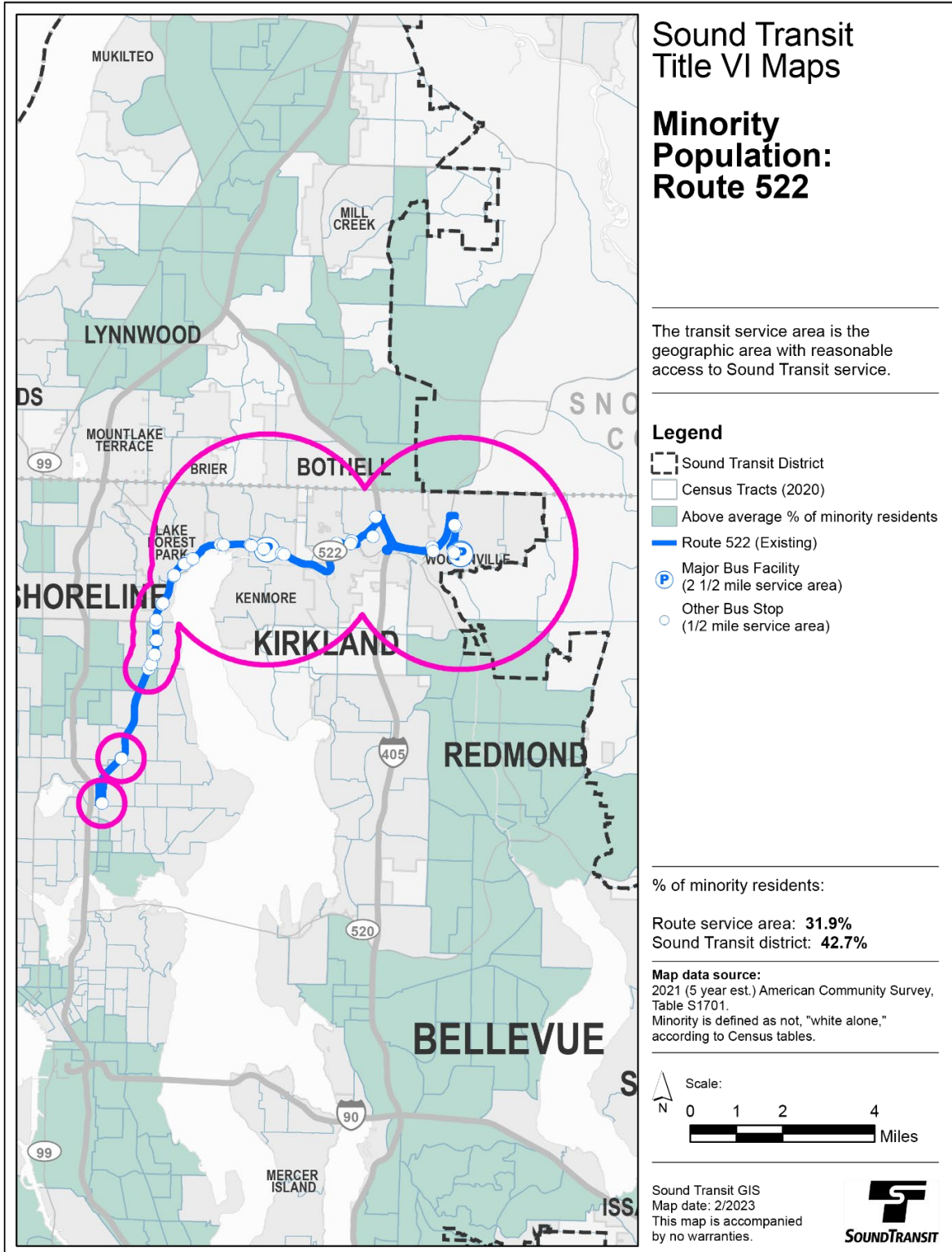


Figure 42: Route 522 stops and minority population before service change

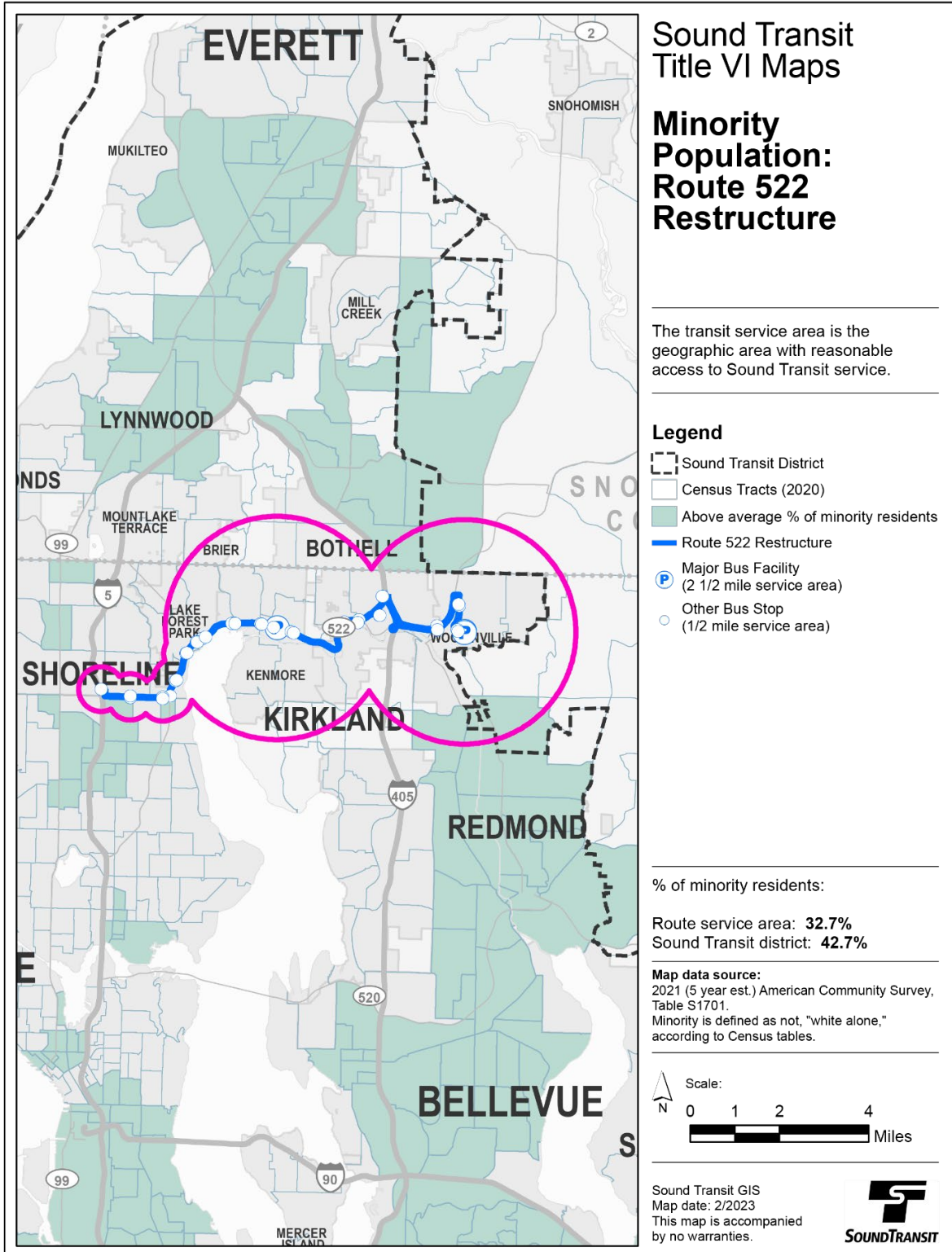


Figure 43: Route 522 stops and minority population after service change

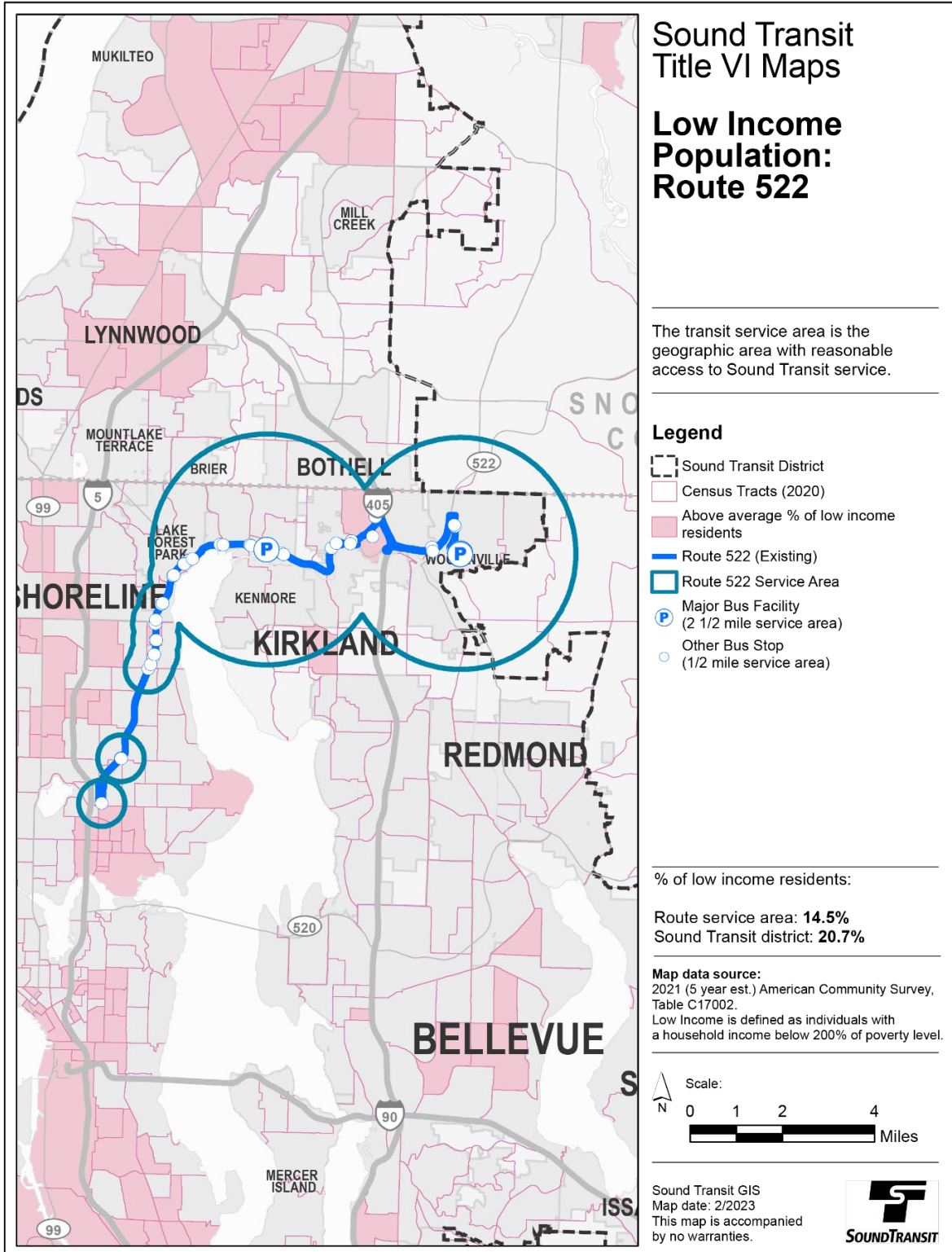


Figure 44: Route 522 stops and low-income population before service change

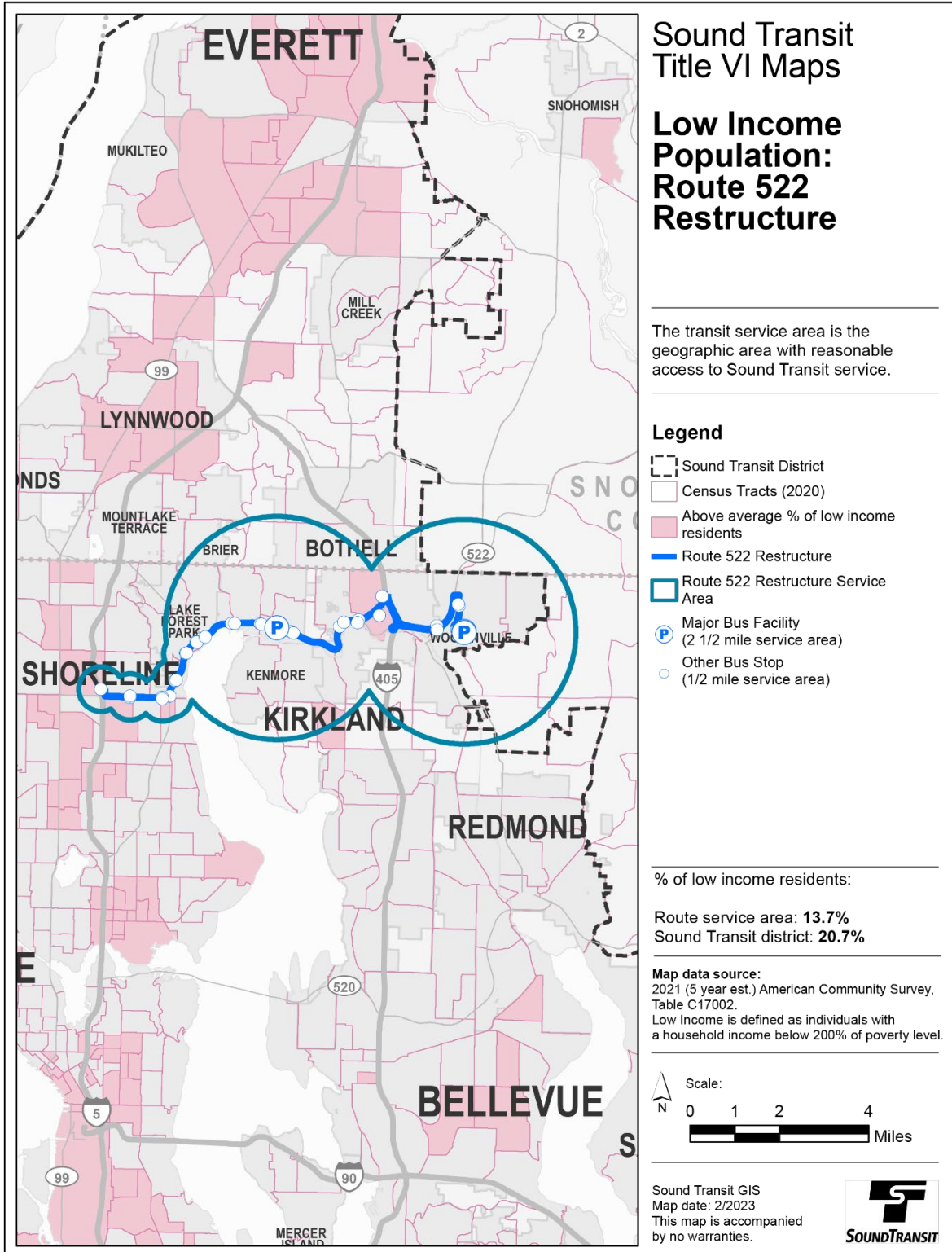


Figure 45: Route 522 stops and low-income population after service change

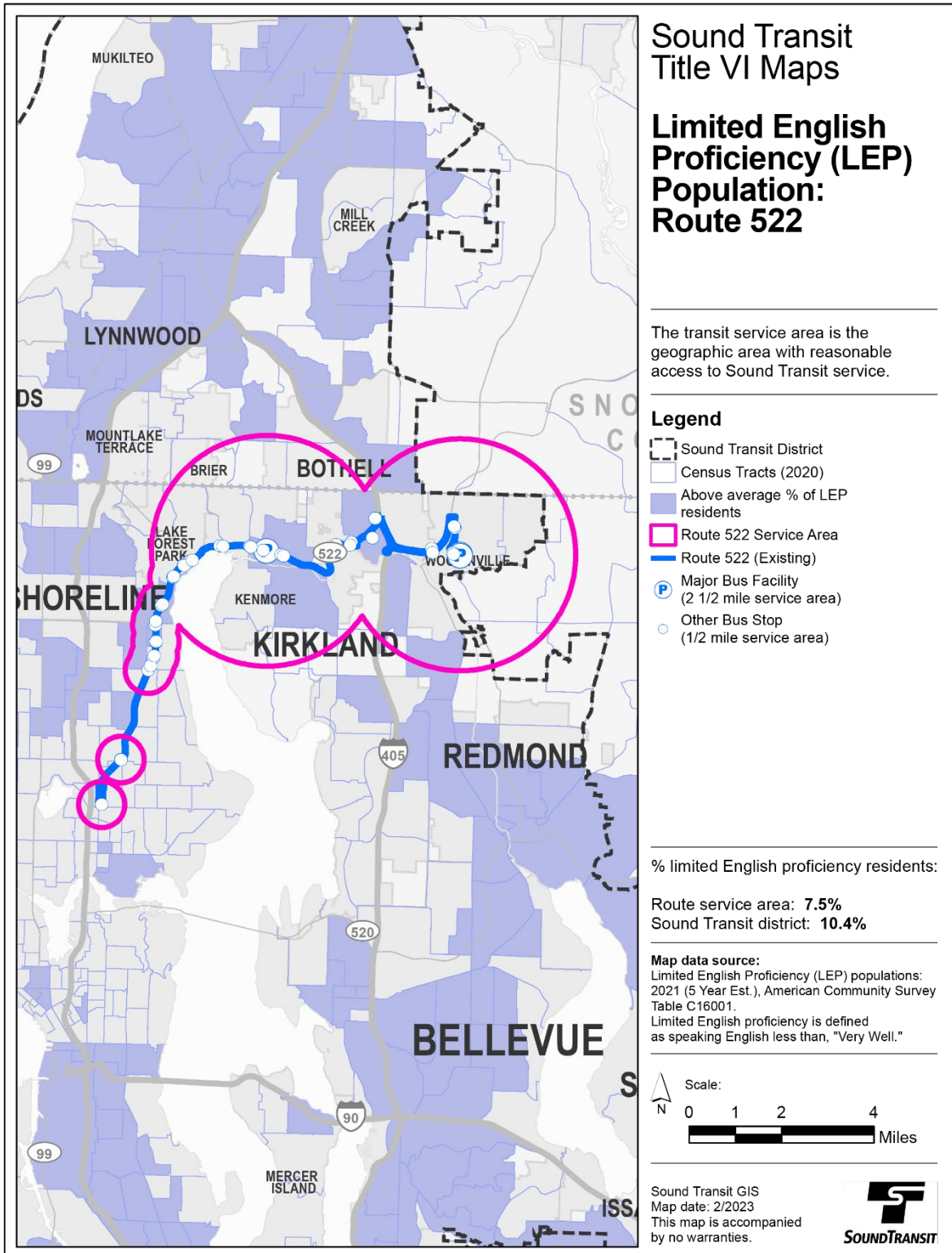


Figure 46: Route 522 stops and Limited English Proficiency (LEP) population before service change

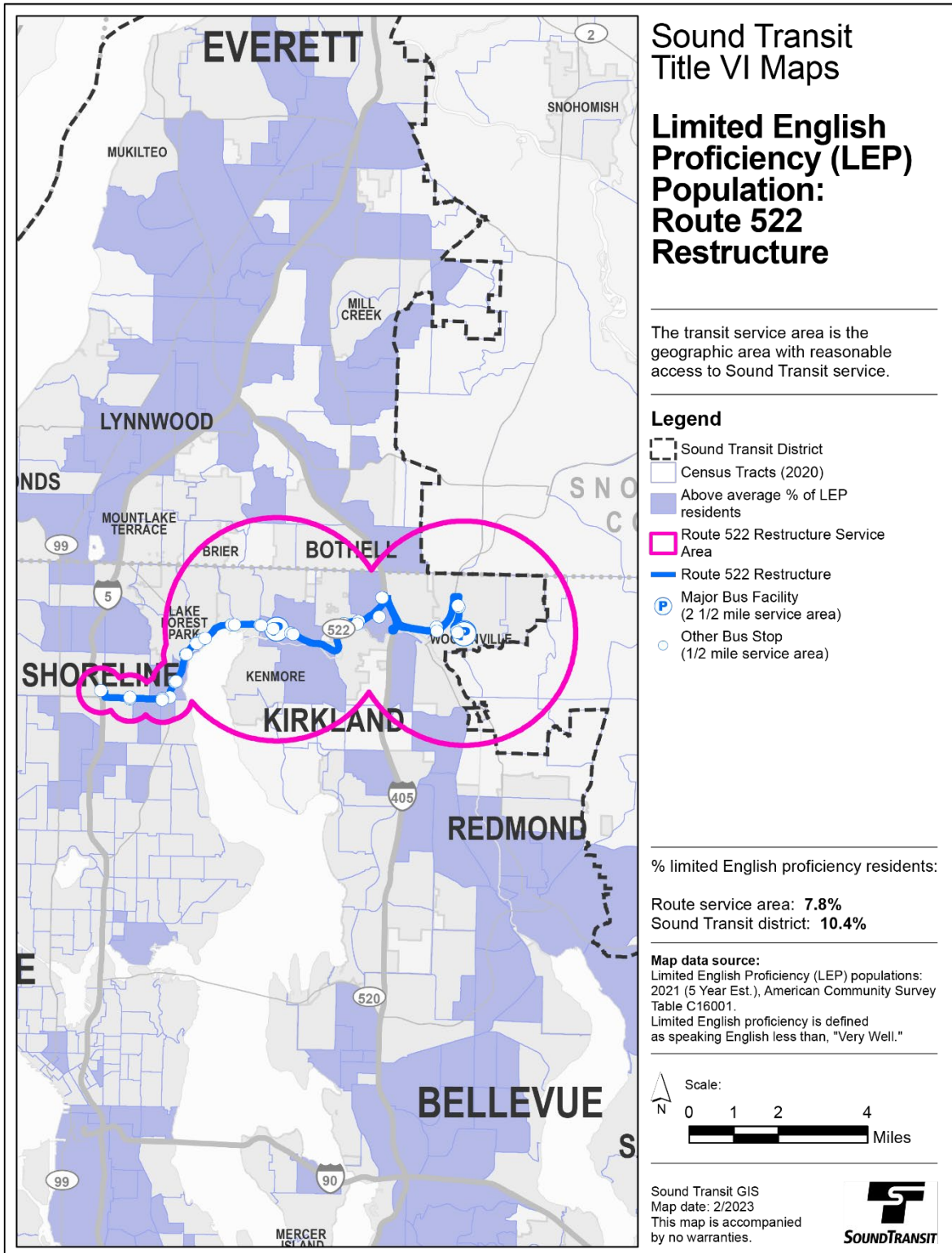


Figure 47: Route 522 stops and Limited English Proficiency (LEP) population after service change