

2024 Service Plan

Phase Two – ST Express Service Plan



2024 | For Board Consideration

DRAFT

Table of Contents

2024 Service Plan Overview	3
New ST Express Service Proposal for Fall 2024	6
Proposed Major Service Changes	8
Route 511	9
Route 512	13
Route 513	17
Route 515	21
Title VI Service Equity Analysis Summary	25
Public Engagement Summary	30
Appendix	33

2024 Service Plan

Introduction

The Service Plan is the annual planning process for managing our regional transit network that informs Sound Transit's operating budget. The Service Plan evaluates service and proposes changes to coordinate with high-capacity transit project openings, improves performance, responds to ridership trends, and focuses on optimizing our existing resources.

The Service Plan is also the vehicle for the Board of Directors (Board) to approve any major service changes to planned service levels or routing as defined by Sound Transit-adopted policy to meet FTA requirements and inform Sound Transit's operating budget.

2024 Service Plan adopted in two phases

This year's plan was developed in two phases beginning with rail service in the first phase followed by ST Express service in the second phase:

- **Phase One Rail Service Plan** approved by the Board in October 2023, with the adoption of Resolution R2023-31 authorizing changes to Link and Sounder rail service for implementation in March and August 2024.
- **Phase Two ST Express Service Plan** is now proposed to adopt major service changes to ST Express routes serving Snohomish County when the 1 Line service extends to Lynnwood in Fall 2024.

Development of Phase Two

Following the Board adoption of Phase One in October 2023, staff worked closely with partners at Community Transit and King County Metro to develop strategies to increase peak hour capacity on Link, provide alternative bus service between Snohomish County and Downtown Seattle, and provide ST Express connections coordinated with the extension of the 1 Line as part of Lynnwood Link.

Draft service changes were originally presented for public comment from July 10 through August 6, 2023. Revised draft service changes were presented for public comment from January 16 to January 31, 2024. The public outreach focused on informing the public about draft service changes anticipated in 2024.

The following document provides additional detail about planning and analysis of all proposed major service changes for ST Express, including results of public engagement and Title VI service equity analysis. Following Board adoption, a combined document of both Phase one and Phase two materials will be published.

Next Steps

Following the Board adoption of Phase Two, staff will work to finalize schedules with Sound Transit's operating partners. Later in 2024, pre-revenue and simulated service for the 1 Line extension to Lynnwood will occur, followed by close monitoring of revenue service and ST Express performance in the Fall.

Direction to mitigate 1 Line crowding **R2023-24** Adopted August 2023




In 2023, we identified how lower service levels caused by fleet storage limitation could affect the passenger experience.

In response, as part of authorization to the phased opening of the East Link Extension via the East Link Starter Line, the Board directed staff to mitigate 1 Line crowding using strategies for improving service when the 1 Line extends to Lynnwood:


- **Increase capacity on Link**, focusing on the peak hours when we anticipate the most riders using the 1 Line
- **Provide alternative bus service** between Snohomish County and Downtown Seattle and defer ST Express restructure proposal that terminated all I-5 North service at Lynnwood.
- **Develop communications plans** to provide passengers with actionable information about transit alternatives.

In response to R2023-24, the 2024 Service Plan was divided into two phases

Phase One (R2023-31): **Rail Service Plan** Adopted October 2023

-  **1 Line extends north to Lynnwood adding four new stations**
(Lynnwood City Center Station to Angle Lake)
-  **2 Line opens new service to eight stations**
(Redmond Technology Station to South Bellevue Station)
-  **Sounder N Line restores two weekday roundtrips** in 2024 to offer additional capacity

Temporary Service Reductions: **M2023-113** Adopted December 2023

-  **Temporary reductions on ST Express operated by Pierce Transit**
M2023-113 authorized temporary Major Service Changes and up to a 10% reduction in response to operator staffing levels.
 - **Route 580** (South Hill – Puyallup): suspend route.
 - **Route 590** (Tacoma – Seattle): suspend downtown Tacoma segment and suspend approximately half of weekday trips between Tacoma and Seattle.
 - Additional minor trip reductions on Routes 577, 578, 594.
 - Temporary until the Board adopts the 2025 Service Plan in Fall 2024.

Phase Two: **ST Express Service Plan** Proposed March 2024

-  **1 Line capacity improvements**
 - More light rail vehicle storage identified
 - 25% more capacity than earlier assumptions; more room on trains
 - Additional trains during busiest part of the peak for shorter waits and more capacity when and where it's needed most
 - Evening headway and service span changes required to meet peak demand.
 - Passengers may experience variability in train length, timeliness, and cleanliness
-  **New service proposal for I-5 north ST Express**
 - Provide direct service alternative to Downtown Seattle until full 2 Line is complete
 - Provide connections to Link by moving routes from Northgate to Lynnwood to improve reliability
-  **Steady service levels on remaining ST Express routes**
 - 2024 planned service levels for ST Express, operated by Community Transit and King Country Metro, will remain consistent with the target established in the 2023 Service Plan. Current service delivery remains stable, but below target service levels due to constrained staffing levels.

Phase One:
Rail Service Plan
Adopted October 2023

In October 2023, the Board adopted a significant expansion of our regional light rail network. This provides a summary of the major service change approved in the Rail Service Plan. Additional detail is available in the 2024 Service Plan Phase One document.

Spring 2024

- 2** 2 Line opens new service to eight stations
(Redmond Technology Station to South Bellevue Station)

Fall 2024

- 1** 1 Line extends north to Lynnwood adding four new stations
(Lynnwood City Center Station to Angle Lake)
- N** Sounder N Line restores two weekday roundtrips in 2024 to offer additional capacity



New ST Express service proposal for Fall 2024

In response to more information about service levels on the 1 Line and new direction from the Board, we're now sharing our revised proposal for how ST Express service will change when the 1 Line extends to Lynnwood. This route structure will be temporary until the full 2 Line opens and allows for more service between Lynnwood and Downtown Seattle while also providing frequent connections to Link.

Provide direct service alternatives until 2 Line is complete

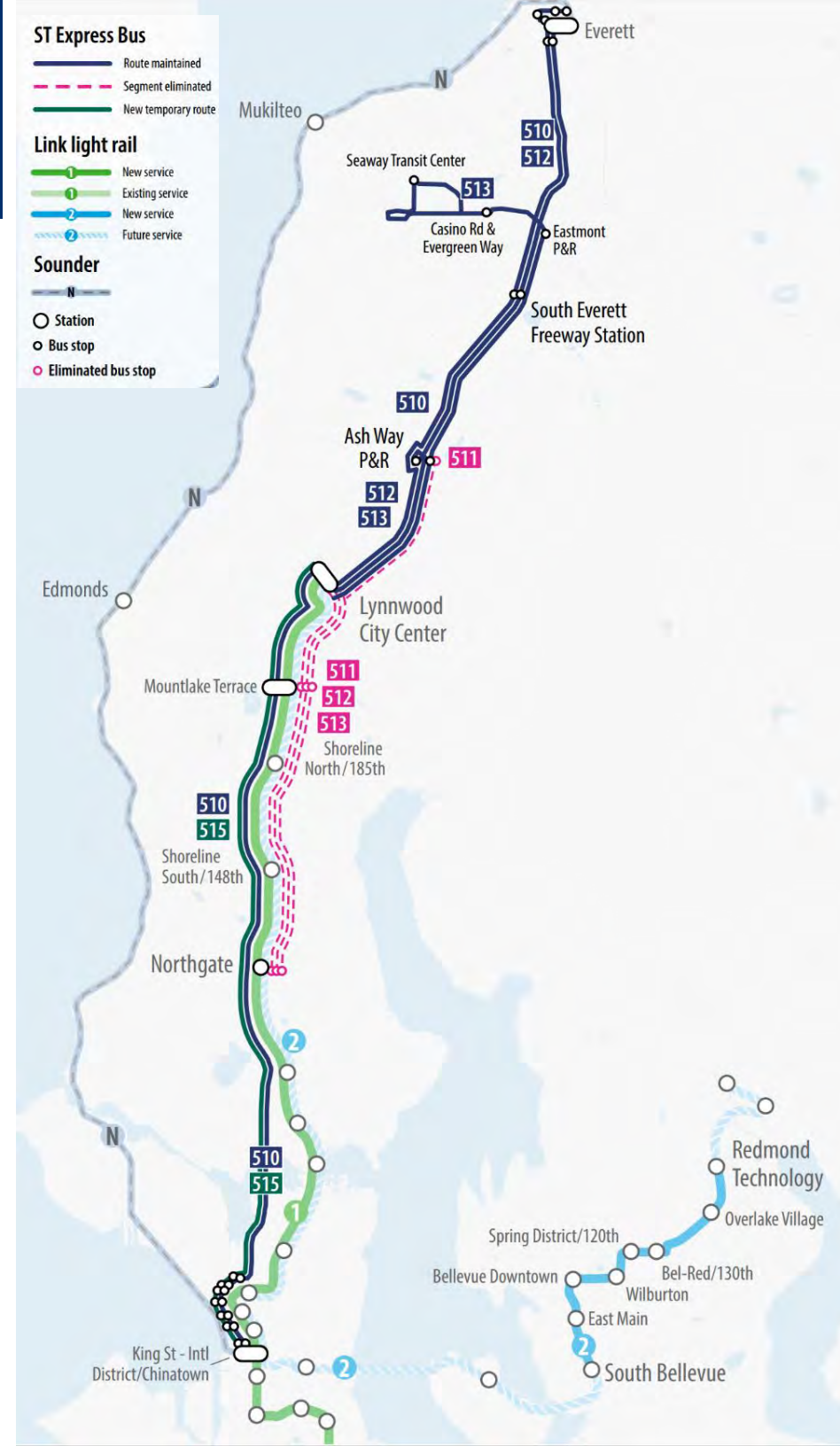
In response to Board direction, we're proposing to temporarily provide additional travel options directly to Downtown Seattle from Snohomish County to help riders avoid 1 Line crowding.

- Add new temporary peak-period Route 515 from Lynnwood, peak direction every 10 minutes.
- Temporarily keep Route 510 from Everett, going in peak direction every 15 minutes.

Provide connections to Link

For ST Express routes that currently connect to Link at Northgate Station, we're continuing to recommend the plans we shared with the public this summer - moving the routes that currently end at Northgate to Lynnwood to reduce the time riders spend in highway congestion.

- Shorten Routes 512 and 513 to connect with Link at Lynnwood.



Summary of new ST Express proposal

Provide direct service alternatives until 2 Line is complete

In response to Board direction to provide additional service and capacity to mitigate potential crowding, we're proposing to temporarily provide more service directly to Downtown Seattle in two ways.

First, we'll continue to operate Route 510 between Everett and Downtown Seattle. Our original Summer 2023 restructure proposal eliminated Route 510. Now that we understand more about potential crowding on the 1 Line, we'll keep Route 510 temporarily to offer more capacity and travel options between Snohomish County and Downtown Seattle.

Second, we'll add service on a new ST Express Route 515 between Lynnwood and Downtown Seattle during rush hour when we expect 1 Line trains to be the most crowded. This is a new idea responsive to Board direction and coordinated planning work with our partners at Community Transit. This route is temporary and will be eliminated when the full 2 Line service opens.

Provide connections to Link

For ST Express routes that currently connect to Link at Northgate Station, we're continuing to recommend the plans we shared with the public in Summer 2023. We still see value for passengers in moving the routes that currently end at Northgate to Lynnwood to reduce the time riders spend in highway congestion.

Routes 512 and 513 would now connect to the 1 Line at Lynnwood City Center Station, operating with similar service levels as today. At Lynnwood City Center Station during rush hour, riders could choose to transfer to 1 Line trains or the new temporary ST Express service between Lynnwood and Downtown Seattle.

What does this change mean for passengers?

Benefits

- **More service**, new 1 Line service provides frequent all-day service on weekdays and weekends.
- **More travel options** with ST Express Routes 512 and 513 connecting Snohomish County passengers to the benefits of the 1 Line and ST Express Routes 510 and 515 providing direct options to Downtown Seattle.
- **More reliable travel** with less time spent in I-5 traffic between Lynnwood and Northgate when passengers transfer to the 1 Line. We also anticipate fewer missed trips by scheduling bus service within anticipated staffing.
- **Access to new destinations**, including two new stations in Shoreline not served by current ST Express routes.

Differences and Trade-offs

- **Service levels on Routes 512 and 513 remain similar to existing levels**, rather than increasing as first proposed in Summer 2023. Resources will be used for more peak period capacity to Downtown Seattle on other routes until the full 2 Line opens.
- **New transfer locations** for existing Routes 512 and 513. Passengers will now transfer between bus and rail at Lynnwood City Center Station, rather than at Northgate.
- **No timed transfer** with Link in order to match scheduled service with available staffing.
- **Longer waits for some riders** at Ash Way Park and Ride compared to 2022.
- **More potential for travel time variability** on direct to Seattle Routes 510 and 515 due to I-5 traffic between Lynnwood and Downtown Seattle.

Proposed Major Service Changes

Board policy defines major service change process

In 2022, the Board adopted the Disparate Impact and Disproportionate Burden Policy (Resolution No. R2022-19), which defines when a service change requires Board approval and how we conduct a Title VI service equity analysis.

For the second phase of the 2024 Service Plan, four changes to ST Express bus service were identified as major service changes requiring a Title VI service equity analysis, public engagement, and Board adoption.

Draft service changes were originally presented for public comment from July 10 through August 6, 2023. Revised draft service changes were presented for public comment from January 16 to January 31, 2024.

What is a 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, and/or
- 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.

What we're recommending for Board approval

Effective Fall 2024 when the 1 Line extends to Lynnwood, we're recommending both temporary and long-term major service changes to ST Express in Snohomish County:

- **Route 511 (Ash Way Park and Ride-Northgate):** Formalize emergency service suspension currently in effect due to significant operator shortages by eliminating route. Route 512 and Route 513 provide alternative service at the same stops as the suspended Route 511.
- **Route 512 (Everett-Northgate):** Shorten Route 512 to operate between Everett and Lynnwood City Center Station (Lynnwood Transit Center) with a connection to the 1 Line. Service would operate as often as every 15 minutes throughout the day in both directions on weekdays and weekends.
- **Route 513 (Seaway Transit Center-Northgate):** Shorten Route 513 to operate between Seaway Transit Center and Lynnwood Transit Center. Continue to operate service every 30 minutes during peak periods, traveling southbound from Seaway Transit Center in the morning and northbound from Lynnwood in the afternoon.
- **New Route 515 (Lynnwood Transit Center-Downtown Seattle):** Add new temporary peak-period, peak-direction Route 515 to supplement Link capacity between Lynnwood and Downtown Seattle. Route 515 travels southbound from Lynnwood in the morning peak period and northbound from Seattle in the afternoon as frequently as every 10 minutes.

The following section will provide additional detail on the four proposed major service changes.

Route 511 formalize emergency suspension

Summary

Route 511 (Ash Way - Northgate) service was suspended in March 2023 due to significant operator shortages identified in 2022. This proposed major service change formalizes the emergency service suspension and eliminates the route with replacement service provided by Routes 512 and 513.

- **Reason for change:** Significant operator shortages.
- **Service Levels:** With the elimination of Route 511, replacement service is now provided by Routes 512 and 513 during rush hour about every 15 minutes. The service design maintains access for current riders, with slightly longer waits between buses.
- **Benefits:** more reliable service and more all-day service with the new 1 Line extension to Lynnwood.
- **Differences, and Trade-offs:** no timed transfer with Link, longer waits for some riders compared to 2022 service.
- **Title VI Analysis:** no disparate impact, no disproportionate burden.
- **Public input:** support for replacement of Route 511 with Route 512/Link.
- **Changes to proposal:** lower frequency on replacement routes to prioritize direct service to Downtown Seattle. Increased peak hour service on 1 Line.

More detail on the following pages



Proposed Service Changes

Why are we proposing this change?

Route 511 operated during peak periods, in the peak direction, connecting Ash Way, Lynnwood, Mountlake Terrace, and Northgate. Schedules were coordinated with Route 513. In 2022, schedules were designed to allow each Route 511/513 trip to connect with each 1 Line departure/arrival at Northgate, minimizing the wait times required when making bus-rail transfers. However, operating such frequent combined service in one direction required a relatively large number of bus operators.

Following widespread service delivery challenges and missed trips caused by significant staffing shortages throughout 2022, in March 2023, emergency service reductions were necessary to reduce the number of operators required to deliver service and support reliability. Suspending Route 511 and replacing it with Routes 512 and 513 right-sized scheduled service to the available workforce, improving service reliability and reducing missed-trips.

When the 1 Line reaches Lynnwood, most of the corridor once served by Route 511 will be covered by frequent all-day high-capacity light rail service in both directions. The connection between Lynnwood and Ash Way will continue to be covered by Routes 512 and 513.

Route 511 Service Levels and Span

With the elimination of Route 511, replacement service is now provided by Routes 512 and 513 during rush hour. The service design maintains access for current riders, with slightly longer waits between buses. The following table visualizes our proposed service levels throughout the day.

Approximate Frequencies		
	Before Suspension Route 511, Ash Way - Northgate	Proposed Formalization Eliminated & Replaced by Routes 512 & 513
Weekdays	4:15 AM – 7:00PM	No Route 511 service, see Routes 512 and 513 for replacement service levels
Early AM	30 min.	
AM Peak	8-16 min	
Midday	None	
PM Peak	8-16 min	
Evening	None.	
Late Evening	None	

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

Evaluation & Equity Analysis

What does this change mean for passengers?

Benefits

- **More reliable service** with fewer missed trips.
- **More service.** New 1 Line service provides frequent all-day service on weekdays and weekends to most of the previous Route 511 stops.

Differences and Trade-offs

- **No timed transfer** with Link.
- **Longer waits for some riders** at Ash Way Park and Ride compared to 2022.

Title VI Analysis Summary

The Title VI analysis evaluated adverse effects for the elimination of the route on Title VI-protected populations and made the following conclusions. Full analysis results are included in the appendix.

- **No disparate impact**
- **No disproportionate burden.**
- Therefore, **no mitigations are required.**

	Minority Population	Low-Income Population
Sound Transit District	42.7%	20.7%
Route 511 Service Area	37.1%	18.8%
Difference	-5.6%	-1.9%
Threshold	5.0%	5.0%
Conclusion	No disparate Impact	No disproportionate Burden

Public Input

What did we hear from the public?

In September 2022, facing severe operator staffing shortages and declining service reliability, Sound Transit staff surveyed riders at Northgate Station to determine whether they would prioritize timed connections with Link or longer waits with better service reliability. The results of the survey supported the redesign of the ST Express network at Northgate by eliminating the peak period/peak direction Route 511 and replacing it with new peak period/peak direction service on Route 512 as a strategy to reduce service to operate within the available workforce.

In July 2023, Sound Transit conducted community engagement to inform the public about the proposed service changes in the 2024 Service Plan, including formalizing the suspension of Route 511. Overall, a total of 12 comments and survey responses were received for the Route 511 proposal.

- 58% of survey participants supported this proposal compared to 17% of participants who opposed it.
- Of those that supported the proposal, most participants communicated that Route 511 was unnecessary because Route 512 served the same area. These participants also suggested that the new Lynnwood Link Extension stations, opening in 2024, would make Route 511 unnecessary.
- For those who opposed this proposal, little detail was provided. One respondent mentioned that Route 511 works “best” for their particular travel needs.

The Route 511 proposal was not included in the January 2024 engagement because the proposal has not changed from July 2023.

Full engagement report included in the appendix.

How has the plan changed since the initial proposal?

We shared draft plans for changes to ST Express service during the July 2023 public engagement process. Since then, we’ve postponed the Board adoption of the restructure in response to Board direction in R2023-24 and made the following adjustments to the initial proposal:

- Lower service frequency on replacement Routes 512 and 513 in order to prioritize additional capacity directly to Downtown Seattle until the full 2 Line opens.
- Increased peak period service on the 1 Line to provide more capacity south of Lynnwood.

Route 512 shorten to Lynnwood

Summary

When the 1 Line reaches Lynnwood, shorten Route 512 to operate between Everett and Lynnwood City Center Station with a connection to the 1 Line. Service would operate as often as every 15 minutes throughout the day in both directions on weekdays and weekends.

- **Reason for change:** Shorter route improves reliability with less I-5 congestion impacts; saves operating resources redeployed to provide more direct service to Downtown Seattle.
- **Service Levels:** The revised Route 512 proposal provides frequent service most of the day on weekdays and weekends.
- **Benefits:** more reliable travel and more service between Lynnwood and Northgate with a transfer to the 1 Line; access to new destinations.
- **Differences, and Trade-offs:** less service than the original proposed service restructure to prioritize more direct service to Downtown Seattle; new transfer location between bus and Link.
- **Title VI Analysis:** no disparate impact, no disproportionate burden.
- **Public input:** support for proposal for improved and simplified service; concern about crowding on 1 Line.
- **Changes to proposal:** lower frequency than originally proposed to prioritize direct service to Downtown Seattle. Increased peak hour service on 1 Line.

More detail on following pages.



Proposed Service Changes

Why are we proposing this change?

Route 512 currently connects to the 1 Line at Northgate Station. Shortening the route to connect to the 1 Line sooner at Lynnwood City Center Station will offer passengers improved reliability with less I-5 congestion impacts. Operating resources saved with the shorter route will allow for temporarily providing more capacity to Downtown Seattle until the full 2 Line opens. Operating a shorter Route 512 also aligns with Sound Transit's long-term strategy of upgrading ST Express with high-capacity transit as new projects open.

Route 512 Proposed Service Levels and Span

The revised Route 512 proposal provides frequent service most of the day on weekdays and weekends, although slightly less frequently than the original proposal in order to make operating resources available for temporary additional peak service to Downtown Seattle on Routes 510 and 515.

Approximate Frequencies		
	Current Route 512, Everett – Northgate	Proposed Route 512, Everett – Lynnwood
Weekdays	4:00 AM – 12:45 AM	4:00 AM – 1:30 AM
Early AM	30 min.	30 min.
AM Peak	15-30 min.	15 min.
Midday	15 min.	15 min.
PM Peak	15 min.	15 min.
Evening	15-30 min.	15 min.
Late Evening	30 min.	30 min.
Saturday	4:30 AM – 12:45 AM	4:15 AM – 1:45 AM
Day	10-20 min.	15 min.
Evening	10-20 min.	15 min.
Late Evening	15 min.	30 min.
Sunday	4:45 AM – 12:45 AM	4:15 AM – 1:45 AM
Day	10-20 min.	15 min.
Evening	10-20 min.	15 min.
Late Evening	15-30 min.	30 min.

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

Evaluation & Equity Analysis

What does this change mean for passengers?

Benefits

- **More service frequency and capacity between Lynnwood and Northgate** when riders transfer to 1 Line compared to current Route 512 service.
- Similar service levels as today between Everett and Lynnwood on Route 512.
- **More reliable travel** with less time spent in I-5 traffic between Lynnwood and Northgate.
- **Access to new destinations**, including two new stations in Shoreline not served by the current Route 512.

Differences and Trade-offs

- **Less service than the original proposed service restructure** on Route 512 in order to prioritize more peak period capacity to Downtown Seattle on Routes 510 and 515 until the full 2 Line opens.
- **New transfer location** for existing riders that ride Route 512 and transfer to Link at Northgate Station, the revised routing means they will make the transfer between bus and rail at Lynnwood City Center Station.
- **No timed transfer** with Link.

Title VI Analysis Summary

The Title VI analysis evaluated adverse effects for the elimination of a route segment and change in service coverage on Title VI-protected populations and made the following conclusions. Full analysis results included in the appendix.

- **No disparate impact**
- **No disproportionate burden.**
- Therefore, **no mitigations are required.**

	Minority Population	Low-Income Population
Sound Transit District	42.7%	20.7%
Route 512 Service Area (Before Service Change)	36.9%	20.9%
Route 512 Service Area (After Service Change)	41.9%	23.6%
Difference (current vs. District)	-5.8%	0.2%
Difference (proposed vs. District)	-0.8%	2.9%
Threshold	5.0%	5.0%
Conclusion	No disparate Impact	No disproportionate Burden

Public Input

What did we hear from the public?

In **July 2023**, Sound Transit conducted community engagement to inform the public about the proposed service changes in the 2024 Service Plan.

- A total of 45 comments and survey responses were received for the Route 512 proposal.
- Respondents were broadly supportive and excited for our planned improvements for Route 512, as well as the connection to the 1 Line. Many participants who supported the proposal shared that the changes would reduce their travel and wait times.
- 40% of survey participants supported this proposal compared to 4% of participants who opposed it.
- Of those who opposed this proposal, many shared that the proposal would lead to crowding. Others suggested that Sound Transit should direct their resources to other priorities.

During the **January 2024** supplementary engagement, four participants commented on the revised proposal. All four participants opposed the proposal.

- One comment praised the 512 offering options between Seattle, Lynnwood, and Northgate. Another comment suggested continuing Route 512 from Ash Way to Seattle even after the 1 Line Lynnwood Link Extension opening to handle passenger volume.
- One comment indicated support for the original 2024 Service Plan's proposal for simplified 512 service over the Phase Two's proposal to continue Route 510 and introduce the new temporary Route 515.

Full engagement report included in the appendix.

How has the plan changed since the initial proposal?

We shared draft plans for changes to ST Express service during the July 2023 public engagement process. Since then, we've postponed the Board adoption of the restructure in response to Board direction in R2023-24 and made the following adjustments to the initial proposal:

- Reduced proposed service frequency in order to maintain more capacity directly to Downtown Seattle until the full 2 Line opens. Compared to the 8-10 minute frequencies noted in Summer 2023, service levels have been revised to 15 minutes throughout the day.
- Increased peak period service on 1 Line to provide more capacity south of Lynnwood.

Route 513 shorten to Lynnwood

Summary

When 1 Line reaches Lynnwood, shorten Route 513 to operate between Seaway Transit Center and Lynnwood Transit Center. Continue to operate service every 30 minutes during peak periods, traveling southbound from Seaway Transit Center in the morning and northbound from Lynnwood in the afternoon.

- **Reason for change:** shorter route improves reliability with less I-5 congestion impacts; saved operating resources redeployed to provide more direct service to downtown Seattle.
- **Service Levels:** the revised Route 513 proposal provides similar service as the existing route.
- **Benefits:** more reliable travel and more service between Lynnwood and Northgate with a transfer to 1 Line; access to new destinations.
- **Differences, and Trade-offs:** less service than the original proposed service restructure to prioritize more direct service to downtown Seattle; new transfer location between bus and Link.
- **Title VI Analysis:** no disparate impact, no disproportionate burden.
- **Public input:** support for proposal for improved and two-way service; concern about crowding on 1 Line.
- **Changes to proposal:** lower frequency than originally proposed and no improvement to two-way service in order to prioritize direct service to Downtown Seattle. Increased peak hour service on 1 Line.

More detail on following pages

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Proposed Service Changes

Why are we proposing this change?

Route 513 currently connects to the 1 Line at Northgate Station. Shortening the route to connect to the 1 Line sooner at Lynnwood City Center Station will offer passengers improved reliability with less I-5 congestion impacts. Operating resources saved with the shorter route will allow for more capacity to Downtown Seattle until the full 2 Line opens. Operating a shorter Route 513 also aligns with Sound Transit's long-term strategy of upgrading ST Express with high-capacity transit as new projects open.

Route 513 Service Levels and Span

The revised Route 513 proposal provides similar service as current service with buses arriving every 30 minutes southbound in the morning and northbound in the afternoon.

Approximate Frequencies		
	Current Route 513, Seaway – Northgate	Proposed Route 513, Seaway – Lynnwood
Weekdays	4:45 AM – 7:00 PM	5:00 AM – 6:30 PM
Early AM	30 min.	30 min.
AM Peak	30 min	30 min.
Midday	None	None
PM Peak	30 min.	30 min.
Evening	None	None
Late Evening	None	None

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

Evaluation & Equity Analysis

What does this change mean for passengers?

Benefits

- **More service frequency and capacity between Lynnwood and Northgate** when riders transfer to the 1 Line compared to current Route 513 service.
- Similar service levels as today between Everett and Lynnwood on Route 513.
- **More reliable travel** with less time spent in I-5 traffic between Lynnwood and Northgate.
- **Access to new destinations**, including two new stations in Shoreline not served by current Route 513.

Differences and Trade-offs

- **Less service than the original proposed service restructure** on Route 513 in order to prioritize more peak period capacity to Downtown Seattle on Routes 510 and 515 until the full 2 Line opens.
- **New transfer location** for existing riders that ride Route 513 and transfer to Link at Northgate Station, the revised routing means they will make the transfer between bus and rail at Lynnwood City Center Station.
- **No timed transfer** with Link.

Title VI Analysis Summary

The Title VI analysis evaluated adverse effects for the elimination of a route segment and change in service coverage on Title VI-protected populations and made the following conclusions. Full analysis results included in the appendix.

- **No disparate impact**
- **No disproportionate burden.**
- Therefore, **no mitigations are required.**

	Minority Population	Low-Income Population
Sound Transit District	42.7%	20.7%
Route 513 Service Area (Before Service Change)	38.3%	20.5%
Route 513 Service Area (After Service Change)	43.6%	23.2%
Difference (current vs. District)	-4.4%	-0.2%
Difference (proposed vs. District)	0.9%	2.5%
Threshold	5.0%	5.0%
Conclusion	No disparate Impact	No Disproportionate Burden

Public Input

What did we hear from the public?

In **July 2023**, Sound Transit conducted community engagement to inform the public about the proposed service changes in the 2024 Service Plan.

- A total of 11 comments and survey responses were received for the Route 513 proposal with 29% of survey participants supporting the proposal. No participants opposed it.
- Most respondents were supportive of our proposal for Route 513, citing improved access to employers in the reverse-peak direction, such as Boeing.

During the **January 2024** supplemental engagement, seven comments were received about the revised proposal.

- One of the seven participants who commented supported this proposal and three participants opposed it.
- Four of the seven comments mentioning Route 513 suggested two-way 513 peak service between Seaway Transit Center and Lynnwood Transit Center to provide Boeing employees coming from Seattle with a northbound AM option and a southbound PM option.
- One comment opposed the Route 513 proposal because of its better frequency and speed than the Community Transit 116. Another comment opposed the proposal because of the travel options provided by Route 513.

Full engagement report included in the appendix.

How has the plan changed since the initial proposal?

We shared draft plans for changes to ST Express service during the July 2023 public engagement process. Since then, we've postponed the Board adoption of the restructure in response to Board direction in R2023-24 and made the following adjustments to the initial proposal:

- We've removed the proposal to add two-way service and more frequency on Route 513 in order to make operating resources available for temporary additional peak service to Downtown Seattle on Routes 510 and 515 until the full 2 Line opens.

Add temporary new Route 515

Overview

Add new temporary peak-period Route 515 to supplement Link capacity between Lynnwood and Downtown Seattle, traveling southbound from Lynnwood in the morning and northbound from Seattle in the afternoon as frequently as every 10 minutes.

- **Reason for change:** in response to Board direction in R2023-24 to provide alternative bus service between Snohomish County and Downtown Seattle until the full 2 Line opens
- **Service Levels:** new route operating approximately every 10 minutes during peak hours in the peak direction of demand on weekdays only.
- **Benefits:** more travel options and capacity to Downtown Seattle; coordinated stops in Downtown Seattle with Route 510.
- **Differences, and Trade-offs:** less service on other routes compared to the original proposed service restructure in order to prioritize resources for Route 515; more potential for travel time variability.
- **Title VI Analysis:** no disparate impact, no disproportionate burden.
- **Public input:** support for proposal and increased travel options
- **Changes to proposal:** this is a new proposal added in response to Board direction.

More detail on following pages.





Proposed Service Changes

Why are we proposing this change?

In response to Board direction in R2023-24 to provide alternative bus service between Snohomish County and Downtown Seattle until the full 2 Line opens, we worked closely with our partners at Community Transit to design a new temporary peak-only Route 515 between Lynnwood and Downtown Seattle. This new temporary route will supplement 1 Line capacity until the full 2 Line open opens by offering riders the option to use 1 Line service or Route 515 during the busiest travel times in the morning and afternoon.

Ridership and performance of this temporary route will be monitored following implementation. The CEO may discontinue the route when the 2 Line is connected across Lake Washington to the 1 Line and may make administrative route adjustments if ridership or performance falls below the service standards.

Route 515 Service Levels and Span

Proposed service on the new temporary Route 515 would operate approximately every 10 minutes during peak hours in the peak direction of demand on weekdays only. Resources to operate this new route would come from delaying previously proposed service improvements on Routes 512 and 513.

Approximate Frequencies		
	No current service	New Route 515 Lynnwood – Seattle
Weekdays	-	5:00 AM – 7:00 PM
Early AM	-	30 min.
AM Peak	-	10 min.
Midday	-	None
PM Peak	-	10 min.
Evening	-	30 min.
Late Evening	-	None

Frequencies are approximate and may vary by direction and may be revised as additional scheduling and operational planning occurs. 30 minute Early AM and Evening service for hour preceding AM peak (5-6AM), and following PM peak (6-7PM)



Evaluation & Equity Analysis

What does this change mean for passengers?

Benefits

- **More service frequency and capacity between Lynnwood, Mountlake Terrace, and Downtown Seattle.** Riders traveling between Downtown Seattle and Snohomish County will have the option of riding Link and Route 515.
- **Coordinated stops** in Downtown Seattle with Route 510.

Differences and Trade-offs

- **Less service on Routes 512 and 513 compared to the original proposed service restructure** to prioritize more peak period capacity to Downtown Seattle on Routes 510 and 515 until the full 2 Line opens.
- **More potential for travel time variability** due to I-5 traffic between Lynnwood and Downtown Seattle.

Title VI Analysis Summary

The Title VI analysis evaluated adding a new route and additional travel option to Downtown Seattle on Title VI-protected populations and made the following conclusions. Full analysis results included in the appendix.

- **No disparate impact**
- **No disproportionate burden.**
- Therefore, **no mitigations are required.**

	Minority Population	Low-Income Population
Sound Transit District	42.7%	20.7%
Route 515 Service Area	41%	19.7%
Difference	-1.7%	-1%
Threshold	5.0%	5.0%
Conclusion	No disparate Impact	No disproportionate Burden



Public Input

What did we hear from the public?

In **July 2023**, Sound Transit conducted community engagement to inform the public about the proposed service changes in the 2024 Service Plan. At the time, the proposed changes did not include Route 515. However, comments received regarding Route 510, which operates a similar service profile direct to Downtown Seattle, were in favor of retaining and expanding supplemental capacity to downtown for a variety of reasons, such as span of service.

In **January 2024**, supplementary engagement was conducted to collect feedback on the revised 2024 Service Plan Phase Two proposed service changes. Six comments were received about Route 515.

- All participants who commented on Route 515 supported the proposal.
- Some respondents noted that Route 515 increases travel options.

Full engagement report included in the appendix.

How has the plan changed since the initial proposal?

We shared draft plans for changes to ST Express service during the July 2023 public engagement process. Since then, we've postponed the Board adoption of the restructure in response to Board direction in R2023-24 and made the following adjustments to the initial proposal:

- Added proposal for new temporary Route 515 in order to provide more capacity and more travel options to Downtown Seattle until the full 2 Line opens.

Title VI Service Equity Analysis

Summary

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

The FTA is responsible for ensuring that federally supported transit services and related benefits are distributed 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.*

Consistent with Sound Transit's newly adopted Disparate Impact and Disproportionate Burden policy (Board Resolution No. R2022-19), a Title VI analysis was completed at two levels of analysis for proposed major service changes to ST Express bus service proposed in coordination with the 1 Line extension to Lynnwood.

- **Individual route analysis:** evaluates each of the four proposed major service change individually.
- **Systemwide analysis:** evaluates the impacts of service reductions and benefits of service additions on all routes and lines occurring over multiple years.

Definitions

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.

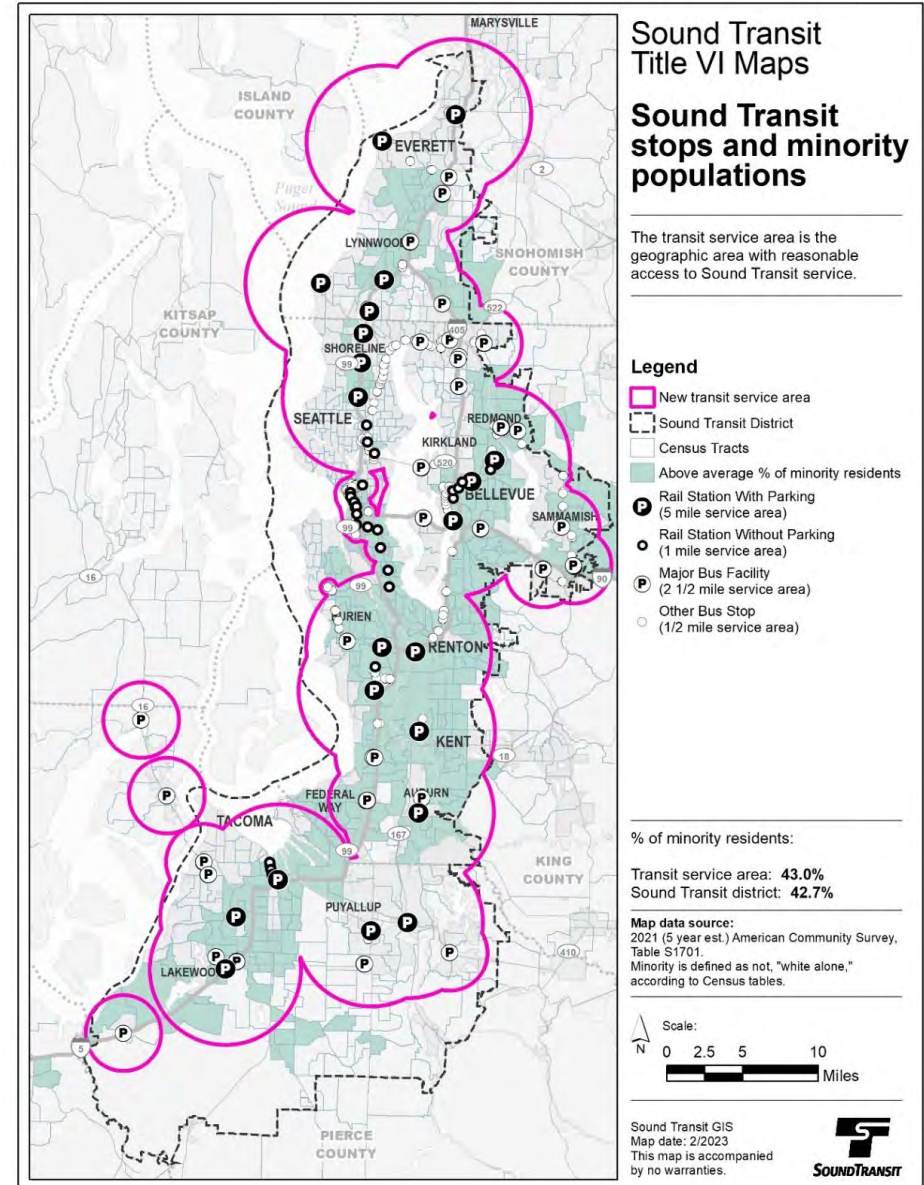
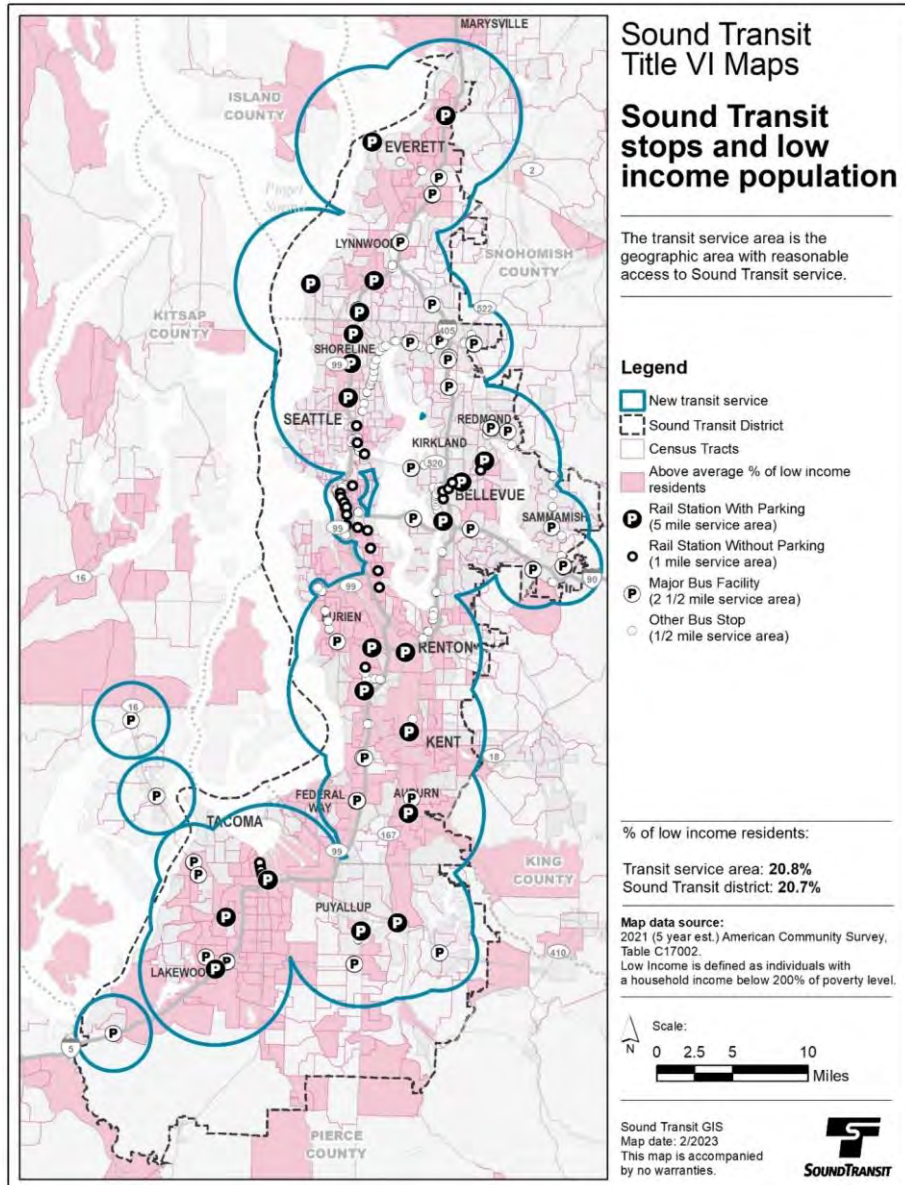
Minority population: A population who self-identifies as American Indian/Alaska Native, Asian, Black or African American, Hispanic or Latino, and/or Native Hawaiian/Pacific Islander.

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

Benefits are a geographical or time-based addition of service, which includes, but is not limited to, an increase in span, frequency, and service coverage.

Full documentation of the analysis, policies, and definitions are included in the appendix of this document.

Title VI Maps of Sound Transit District



Individual Major Service Change Analysis

Summary of Conclusions

The individual route analysis identified that some of the major changes would create adverse effects. However, the analysis found that major service changes with adverse effects did not result in a disparate impact or a disproportionate burden. Therefore, no mitigations are required.

Route 511 (Ash Way - Northgate): Formalize current emergency service suspension replace with Routes 512 and 513.

- Adverse Effects: Route elimination
- **No Disparate Impact**
- **No Disproportionate Burden**
- Mitigations: n/a

	Minority Population	Low-Income Population
Sound Transit District	42.7%	20.7%
Route 511 Service Area	37.1%	18.8%
Difference	-5.6%	-1.9%
Threshold	5.0%	5.0%
Conclusion	No disparate Impact	No disproportionate Burden

Route 512 (Everett-Northgate): Shorten to operate between Everett and Lynnwood City Center Station with a connection to the 1 Line.

- Adverse Effects: Route segment elimination, change in service coverage.
- **No Disparate Impact**
- **No Disproportionate Burden**
- Mitigations: n/a

	Minority Population	Low-Income Population
Sound Transit District	42.7%	20.7%
Route 512 Service Area (Before Service Change)	36.9%	20.9%
Route 512 Service Area (After Service Change)	41.9%	23.6%
Difference (current vs. District)	-5.8%	0.2%
Difference (proposed vs. District)	-0.8%	2.9%
Threshold	5.0%	5.0%
Conclusion	No disparate Impact	No disproportionate Burden

Individual Major Service Change Conclusions (continued)

Route 513 (Everett-Northgate): Shorten to operate between Seaway Transit Center and Lynnwood City Center Station.

- Adverse Effects: Route segment elimination, change in service coverage.
- **No Disparate Impact**
- **No Disproportionate Burden**
- Mitigations: n/a

	Minority Population	Low-Income Population
Sound Transit District	42.7%	20.7%
Route 513 Service Area (Before Service Change)	38.3%	20.5%
Route 513 Service Area (After Service Change)	43.6%	23.2%
Difference (current vs. District)	-4.4%	-0.2%
Difference (proposed vs. District)	0.9%	2.5%
Threshold	5.0%	5.0%
Conclusion	No disparate Impact	No Disproportionate Burden

Route 515 (Lynnwood-Seattle): Add a new temporary peak-only route to supplement Link capacity between Lynnwood and downtown Seattle.

- Adverse Effects: None, adds service
- **No Disparate Impact**
- **No Disproportionate Burden**
- Mitigations: n/a

	Minority Population	Low-Income Population
Sound Transit District	42.7%	20.7%
Route 515 Service Area	41%	19.7%
Difference	-1.7%	-1%
Threshold	5.0%	5.0%
Conclusion	No disparate Impact	No Disproportionate Burden

Systemwide Analysis

Systemwide Service Additions Conclusions

The systemwide analysis determined that the protected populations that may benefit from service additions is greater than 80% of the non-protected population count. Therefore, the systemwide analysis **did not identify disparate impacts or disproportionate burdens** on protected populations from the benefits of cumulative service additions between September 2021 and September 2024.

Disparate Impact

	Population Benefiting
Minority Population	63%
Non-Minority Population	61%
Ratio Comparison	$63\% \div 61\%$
Result of Ratio Comparison	103%
Threshold	80% or less
Conclusion	No disparate Impact

Disproportionate Burden

	Population Benefiting
Low-Income Population	65%
Non-Low-Income Population	61%
Ratio Comparison	$65\% \div 61\%$
Result of Ratio Comparison	106%
Threshold	80% or less
Conclusion	No disproportionate burden

Systemwide Service Reductions Conclusions

For service reductions, the analysis determined that the protected population that may experience adverse impacts was less than 20% of the non-protected population count. Therefore, the systemwide analysis **did not identify disparate impacts or disproportionate burdens** on protected populations from the impacts of cumulative service reduction between September 2021 and September 2024.

Disparate Impact

	Population Adversely Affected
Minority Population	37%
Non-Minority Population	39%
Ratio Comparison	$37\% \div 39\%$
Result of Ratio Comparison	- 4% ¹
Threshold	+20% or greater
Conclusion	No disparate Impact

Disproportionate Burden

	Population Adversely Affected
Low-Income Population	37%
Non-Low-Income Population	39%
Ratio Comparison	$35\% \div 39\%$
Result of Ratio Comparison	- 9% ¹
Threshold	+20% or greater
Conclusion	No disproportionate burden

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

Public Engagement

Two phases of engagement since Summer 2023

Two phases of public engagement occurred for the 2024 Service Plan since Summer 2023. In July 2023, we conducted in-person and virtual engagement on draft changes to ST Express, Sounder, and Link service in the North and East subareas. In January 2024, a second phase informed riders about revised ST Express proposed changes coordinated with the opening of the 1 Line to Lynnwood

Across the two phases, information and opportunities to comment about proposed changes were provided via an online open house, survey, two virtual information sessions, social media, and in-person outreach at transit hubs. Materials were provided in multiple languages.

As our service proposals responded to Board direction, we heard continued support from the community for transit alternatives including:

- Support for the 1 Line extension to Lynnwood and the new 2 Line service on the Eastside.
- Support for direct service to Downtown Seattle until the 2 Line can provide more capacity.
- Support for minimizing time on I-5 and connecting to Link at Lynnwood instead of Northgate.
- Some riders expressed a desire for higher service levels, particularly in off-peak directions.



3,475+ riders reached



274 survey responses

Read the full report for both engagement phases & all responses in the appendix of this document.

July 2023 Engagement Phase

Engagement activities

In Summer 2023, we conducted in-person and virtual engagement on draft changes to ST Express, Sounder, and Link service in the North and East subareas. We informed and invited the community to provide comments through a variety of engagement activities, including:

- An **online open house** divided into subarea pages with **surveys** that were open from July 10 to August 6, 2023
 - Project subareas included: North (North King and Snohomish County), East (East King County), and South (South King and Pierce County)
 - Surveys were translated into Spanish, Traditional Chinese, and Simplified Chinese
- Two **virtual information sessions**, hosted on Zoom, with no advance registration required and with interpretation provided in Spanish and Mandarin
 - July 26, 6-7 pm. 14 attendees.
 - July 27, 6-7 pm. 16 attendees.
- **In-person survey outreach/Ambassador shifts** to encourage the community to share feedback about the plan
 - Ambassadors were at seven locations including: Everett Station, South Everett Park and Ride, Ash Way Park and Ride, Lynnwood Transit Center, Northgate Station, Bellevue Transit Center, and two locations near the future Redmond Technology Stations

What we heard

Overall, the community supported the 2024 Service Plan draft changes. Some of the major takeaways include:

- Support for the 1 Line extension to Lynnwood; some concern about crowding and the draft ST Express restructure.
- Concerns about loss of one-seat rides to Downtown Seattle and early morning travel options.
- Support for restoring two roundtrip Sounder N Line trips.
- Support for the 2 Line proposal and anticipated a traffic reduction on SR-520.
- A strong majority indicated they would use 2 Line during the proposed span of service.

January 2024 Engagement Phase

Engagement activities

In January 2024, we conducted virtual engagement on the revised ST Express restructure proposed in coordination with the opening of the 1 Line to Lynnwood. In addition to informing the public about proposed changes, we invited the community to provide comments and feedback.

- An **updated website** to inform the public of the details of revisions to originally proposed changes to Routes 510, 512, 513, and 515 was available from January 16 to 31, 2024.
 - Project subareas included: North (North King and Snohomish County), East (East King County), and South (South King and Pierce County)
 - The website text was available in English, Spanish, Chinese (Traditional), and Chinese (Simplified).
- The project team promoted information about the service plan through paid, geographically targeted ads on social media beginning January 16, 2024. That same day, the team delivered a Passenger Notice SMS to all Sound Transit subscribers to routes with proposed changes.
- Sound Transit published a press release on January 16, 2024.
- The team delivered a Community Based Organization Toolkit to four major organizations serving riders along the affected routes.

What we heard

Overall, the community supported the 2024 Service Plan draft changes. Some of the major takeaways include:

- Support for continuing direct service to Seattle from Everett on Route 510.
- Preference for higher service levels originally proposed for Routes 512 and 513, including two-way service.
- Support for additional travel options provided by new temporary Route 515.
- Interest in ensuring 1 Line service and additional alternatives will provide capacity to meet demand.

Appendix

January 2024 Public Engagement Report

Title VI Service Equity Analysis for ST Express Major Service Changes

2024 Service Plan – Phase Two Engagement Summary Report



Contents

Executive Summary	3
Overview.....	3
Feedback and Recommended Strategies	3
2024 Service Plan Phase Two Engagement Summary	6
Background.....	6
Engagement Activities Overview	6
ST Express Changes	6
Comments	7
Qualitative Theme Insights	7
Route 510	7
Route 512	9
Route 513	10
Route 515	11
1 Line.....	12
SAFE Analysis	13
Appendix A: Route-Specific Comments and Themes	14
Appendix B: Email and Voicemail Comments.....	14
Appendix C: Social Media Comments	22
Appendix D: Comment Code Themes and Definitions.....	25
Appendix E: Engagement Tactics	27

Executive Summary

Overview

The 2024 Service Plan Phase Two engagement was an effort to inform and engage Sound Transit riders about proposed changes to ST Express and Link service scheduled for fall 2024. Sound Transit invited riders to give feedback from January 16 to 30 through email and voicemail. The proposal and corresponding feedback will be presented to the Board of Directors (Board) for implementation in 2024. The following proposals have been included in the 2024 Service Plan Phase Two.

Feedback and Recommended Strategies

Route 510

Proposal:

- Route [510](#) will temporarily continue to operate, traveling southbound from Everett in the morning peak period and northbound from Seattle in the afternoon as frequently as every 15 minutes.

Feedback:

- 100% of the twelve participants who commented on Route 510 supported this proposal.
- Most of the comments in support of Route 510 expressed that they enjoyed the speed, reliability, and convenience of the 510.
- Many comments mentioned support for continuing 510 service from Everett to Seattle until Link service reached Everett. Respondents often cited that eliminating Route 510 in the future would make their journey from Everett to Seattle more difficult and time-consuming.
- Two comments suggested minor revisions to Route 510's stops and alignment, including adding a stop to Lynnwood City Center and Stewart St. & John St, before the 9th St. stop in downtown Seattle.

Rider Communication Strategies:

- Communicate the temporary continuation of service on Route 510 to mitigate crowding on the 1 Line.

Route 512

Proposal:

- Route [512](#) will be shortened to Lynnwood City Center Station (Lynnwood Transit Center) and operate as often as every 15 minutes throughout the day in both directions on weekdays and weekends.

Feedback:

- All four participants who commented opposed this proposal.

- One comment praised the higher frequency and speed of the 512 compared to the Community Transit 116.
- One comment praised the 512 offering options between Seattle, Lynnwood, and Northgate. Another comment suggested continuing the 512 from Ash Way to Seattle even after the 1 Line extension opening to handle passenger volume.
- One comment indicated support for the original 2024 Service Plan's proposal for simplified 512 service over the Part Two's proposal to continue the 510 and introduce the 515.

Rider Communication Strategies:

- Provide outreach and communication specifically about the increase in frequency on Route 512. Articulate that the increase in frequency will mitigate vehicle crowding and seat-scarcity.

Route 513

Proposal:

- Route [513](#) will be shortened to Lynnwood City Center Station (Lynnwood Transit Center) and continue to operate every 30 minutes during peak periods, traveling southbound from Seaway Transit Center in the morning and northbound from Lynnwood in the afternoon.

Feedback:

- One of the seven participants who commented supported this proposal and three participants opposed it.
- Four of the seven comments mentioning Route 513 suggested two-way 513 peak service between Seaway Transit Center and Lynnwood Transit Center to provide Boeing employees coming from Seattle with a northbound AM option and a southbound PM option.
- One comment opposed the Route 513 proposal because of its better frequency and speed than the Community Transit 116. Another comment opposed the proposal because of the travel options provided by the 513.

Route 515

Proposal:

- A new temporary Route [515](#) will supplement Link capacity by connecting Lynnwood to downtown Seattle, traveling southbound from Lynnwood in the morning peak period and northbound from Seattle in the afternoon as frequently as every 10 minutes.

Feedback:

- All six participants who commented on Route 515 supported the proposal.
- Two comments supported the increased travel options that the 515 provides.

- Three comments suggested additional stops or minor revisions to the alignment. These included adding stops to South Lake Union, Queen Anne, First Hill, and downtown Seattle at 5th & Cherry, Stewart St., and James St.

Rider Communication Strategies:

- Communicate the introduction of Route 515 to mitigate crowding on the 1 Line.

1 Line

Proposal

- The Service Plan included information about four new stations at Shoreline South/148th, Shoreline North/185th, Mountlake Terrace, and Lynnwood City Center.
- An additional station will open at NE 130th Street in 2026.
- An update on light rail service frequency was also shared, specifically that trains could initially run up to every eight minutes during weekday peak hours, before approximately doubling when the full 2 Line opens in 2025.

General Feedback:

- Respondents who mentioned the 1 Line in feedback expressed concerns about capacity on the 1 Line when it opens to Lynnwood. They had requests to keep bus lines serving downtown Seattle running and support for returning Sounder N Line service to provide additional capacity.
- They also expressed support for being able to access light rail service in Shoreline, Mountlake Terrace, and Lynnwood.

Lynnwood Link Extension SAFE Analysis

General Feedback:

- No participants elected to provide feedback on the Lynnwood Link SAFE analysis.

Engagement Strategies

General Feedback:

- Email responses from the Spanish, Traditional Chinese, and Simplified Chinese websites and from historically excluded, low-income, and limited-English-proficiency community members were notably low. For future engagement efforts there are a variety of strategies that could be used to increase engagement from those community members, such as:
 - In-language digital and print advertising on ethnic community media platforms in additional languages.
 - Print ads in bus shelters located in demographically diverse communities.
 - Coordinating with community partner organizations to share relevant information, including in language, from trusted sources.

2024 Service Plan Phase Two Engagement Summary

Background

In fall 2024, the 1 Line will extend to four new stations: Lynnwood City Center, Mountlake Terrace, Shoreline North/185th, and Shoreline South/148th, with trains arriving as often as every 8-10 minutes. Anticipating rush-hour crowding between Northgate and downtown Seattle, the original ST Express bus restructure is postponed, and a temporary revision focuses on enhancing service between Snohomish County and downtown Seattle.

Engagement Activities Overview

Sound Transit planned for a variety of outreach, communications, and engagement tactics to inform their riders about the proposed changes to ST Express service. The project team launched an updated website to inform the public of the details of Phase Two of the 2024 Service Plan from January 16 to 31. We invited riders to provide comments and feedback via email, voicemail, or social. The website text was available in English, Spanish, Chinese (Traditional), and Chinese (Simplified).

To promote the 2024 Service Plan – Phase Two, the project team placed paid, geographically targeted ads on social media beginning January 16. That same day, the team delivered a Passenger Notice SMS to all ST subscribers to routes included in the Service Plan. An ST Passenger Information Officer published a press release on January 16, and local transit blogs The Urbanist and Seattle Transit Blog gave the plan coverage. Additionally, the team emailed a CBO Toolkit to four major organizations serving riders along the affected routes.

ST Express Changes

Anticipating rush-hour crowding between Northgate and downtown Seattle, the original ST Express bus restructure is postponed, and a temporary revision focuses on enhancing service between Snohomish County and downtown Seattle. The changes include:

- **Route 510** will temporarily continue to operate, traveling southbound from Everett in the morning peak period and northbound from Seattle in the afternoon as frequently as every 15 minutes.
- **Route 512** will be shortened to Lynnwood City Center Station (Lynnwood Transit Center) and operate as often as every 15 minutes throughout the day in both directions on weekdays and weekends.
- **Route 513** will be shortened to Lynnwood City Center Station (Lynnwood Transit Center) and continue to operate every 30 minutes during peak periods, traveling southbound from Seaway Transit Center in the morning and northbound from Lynnwood in the afternoon.
- **A new temporary Route 515** will supplement Link capacity by connecting Lynnwood to downtown Seattle, traveling southbound from Lynnwood in the morning peak period and northbound from Seattle in the afternoon as frequently as every 10 minutes.

Comments

The table on the next page provides a summary of the number of comments shared by the public for the North Subarea from January 16 – January 31. In total, 49 people commented on the Phase Two plan. Of these, 37 people shared their comments via email, 1 person left a voicemail comment, and 11 people commented on social media.

Table 1: North Subarea survey engagement across translated sites

	Total
All responses	49
Traditional Chinese	0
Spanish	0
Simplified Chinese	0

Qualitative Theme Insights

This section includes the full list of themes and the number of individual comments that have been coded for each theme by route. Individual comments are often coded with multiple themes. Ridership data is also provided to show the correlation between ridership and engagement on a particular route.

The insights that emerged from the comments are summarized and are supplemented by a few direct quotes from survey participants. Comment themes are indicated in **bold** text. A complete list of comments for the Phase Two proposal can be found in Appendix B.

Route 510

Table 2: Route 510 ridership data

Route 510 – Ridership and Engagement			
There were 49 total comments during the engagement period. Route 510 has moderate ridership in comparison to other routes but received a high level of engagement.			
Month	Schedule Type	Total Monthly Boardings	Average Daily Boardings
Dec 2023	Weekday	18,519	926

Table 3: Route 510 comment themes

Comment Code Themes	Count
Support	12
Opposition	-
Location	-
Home	3
Geographic equity	-
Work	1
Peak Commute	6

1 Line Crowding	-
Connection to other Routes	1
Time	2
Transit facilities/amenities	1
Equity	-
Regional impacts	-
Frequency	-
Accessibility/ADA	2
Alternate Routes	1
Add Service/Stop	2
Change Alignment	-

Comments discussing Route 510 frequently mentioned **support** for temporarily continuing operation (12 comments). Many commenters showed support for extending service until the opening of future Link extensions, highlighting the convenience, reliability, and speed of the bus. Several comments mentioned a preference for the route based on the **time**-saving fewer number of stops compared to the 1 Line. In particular, respondents voiced concerns that eliminating Route 510 would adversely affect their travel during the **peak commute hours** (6 comments).

*"I am glad that you are not discontinuing route 510 right now, but I am disappointed that you are planning to discontinue or shorten it before the 1 Line is extended to Everett. I rely on that bus to **commute** to work, and the proposed changes would significantly increase my **commuting** time." (Comment ID: 1)*

*"I for one am thrilled beyond words that you are going to keep the 510 to Seattle!! I live a mile from South Everett Freeway Station and it's so convenient since I use the bus to Seattle **Monday through Friday** I also feel that the buses are more reliable than the light rail" (Comment ID: 11)*

*"I hope you can keep your existing ST 510 Express commuter bus from Everett to Seattle even once Light Rail opens in Lynnwood this fall... I prefer riding the express bus, since it doesn't make so many stops like Light Rail does and each stop seems so exhausting to me when the **train must slow down**, open the doors for a bit, and then speed up again." (Comment ID: 21)*

Given the fact that many Route 510 riders use the bus to get to downtown Seattle during typical **peak commute** hours, there is an opportunity for Sound Transit to encourage riders to use the Sounder for the journey instead. There were

"ST is right to try to lean on the N Line for Everett-downtown Seattle rides. Please consider temporarily lowering the fare enough to fill all the seats on the N Line." (Comment ID: 27)

"Please explore restoring cut trips on Sounder North. It's the path of least resistance to the problem of reduced bus service. Thank you. (Comment ID: 38)

Route 512

Table 4: Route 512 ridership data

Route 512 – Ridership and Engagement			
There were 49 total comments during the engagement period. Route 512 has high ridership in comparison to other routes but received a low level of engagement.			
Month	Schedule Type	Total Monthly Boardings	Average Daily Boardings
Dec 2023	Weekday	66,440	2,239

Table 5: Route 512 comment themes

Comment Code Themes	Count
Support	-
Opposition	4
Location	-
Home	1
Geographic equity	-
Work	-
Peak Commute	-
1 Line Crowding	-
Connection to other Routes	1
Time	1
Transit facilities/amenities	-
Equity	-
Regional impacts	-
Frequency	1
Accessibility/ADA	-
Alternate Routes	-
Add Service/Stop	-
Change Alignment	-

Comments discussing Route 512 most often expressed opposition to the proposed changes. The comments reflect a desire for service in the off-peak direction which was proposed in the 2024 Service Plan. There may be a lack of understanding that the Route 512 and 513 will, together with Link, continue to service all the same stops currently served today, including Ash Way. Several comments mentioned a preference for the route based on the fewer number of stops compared to the 1 Line.

*“Please **do not change** the current routes of the 510, 512 and 513 buses. These routes offer options for the consumer/passenger when trying to get to Seattle or Lynnwood or the Northgate area and back to the transit area or stop without the use of a car.” (Comment ID: 31)*

*“Upon the release of the initial ST Express service plan for Snohomish County, I was excited to see that it would be a much simpler plan (ie. reducing to only the 512/513) and would greatly reduce headways on midday/weekend service. I hope to see those improvements to the 512 preserved in the current service plan... I would personally **rather see improved / simplified service** to the 512 rather than continuing service on the 510 + introducing the 515.” (Comment ID: 33)*

*“Please keep Route 512 from Ash Way to downtown Seattle once the Lynnwood light rail opens until the light rail is up to speed to **handle the volume**.” (Comment ID: 34)*

Route 513

Table 6: Route 513 ridership data

Route 513 – Ridership and Engagement			
There were 49 total comments during the engagement period. Route 513 has low ridership in comparison to other routes and received a low level of engagement.			
Month	Schedule Type	Total Monthly Boardings	Average Daily Boardings
Dec 2023	Weekday	5,648	282

Table 7: Route 513 comment themes

Comment Code Themes	Count
Support	1
Opposition	3
Location	-
Home	2
Geographic equity	-
Work	4
Peak Commute	3
1 Line Crowding	-
Connection to other Routes	1
Time	2
Transit facilities/amenities	-
Equity	-
Regional impacts	-
Frequency	3
Accessibility/ADA	-
Alternate Routes	-
Add Service/Stop	2
Change Alignment	1

Like Route 512, comments discussing Route 513 most often expressed opposition to the proposed changes (3 comments). The comments reflect a desire for service in the off-peak

direction which was proposed in the 2024 Service Plan. There may be a lack of understanding that the Route 512 and 513 will, together with Link, continue to service all the same stops currently served today, including Ash Way.

*“Right now, the 513’s **limited hours and one-way schedule** means I have to drive further to get to a 512 station... In addition, right now the 513 operates **'backwards' to Boeing's schedule**. Today, in the morning the 513 only operates on the southbound route. This serves to take people away from Boeing (Seaway Park and Ride) at the start of Boeing's 1'st shift when thousands of people are trying to get to the Boeing factory. Likewise, in the afternoon, the 513 only operates in the northbound routes--serving to bring people to Boeing when the bulk of the traffic is seeking to leave. It seems to me that aligning the Link and Express Bus services to better align with Boeing's schedule would be a great way to attract more riders into the system.”* (Comment ID: 9)

*“I **support** the 513 only going so far as Lynnwood TC, which would allow for the changes that I've suggested in points 3 and 4. I support the 513 to be a bi-directional route. If **Boeing/Everett** is deemed to be so desirable for light rail instead of BRT, then STEX buses should be serving it today, in both directions, as well as a handful of desirable stops for riders in-between.”* (Comment ID: 12)

*“I am extremely **supportive** of the proposed 513 bus changes, especially the **frequency** increase to every 15 minutes and the fact that it will run in both directions. I (and many others) **commute** daily from Seattle to **Seaway/Boeing**, and this route will make public transit a feasible option.”* (Comment ID: 13)

*“I was excited to see that the original plan involved running the 513 in both directions. Like many other people I know. I live in North Seattle and **work at Boeing** right next to the Seaway Transit center at the North end of the 513. It looked like there was finally going to be a viable option to take transit to work. Unfortunately I'm now very **disappointed**, it looks like that is no longer going to be an option with the 513 continuing to run the exact **opposite of my commute** and there being no transit option to get from the light rail to one of the largest and hardest to park at employers in Snohomish County. Has it been considered that the two-way 513 route might be used by Boeing commuters going North?”* (Comment ID: 24)

Route 515

Table 8: Route 515 ridership data

Route 515 – Ridership and Engagement			
There were 49 total comments during the engagement period. Route 515 is a proposed route in the 2024 Service Plan Phase Two.			
Month	Schedule Type	Total Monthly Boardings	Average Daily Boardings
n/a	n/a	n/a	n/a

Table 9: Route 515 comment themes

Comment Code Themes	Count
Support	6
Opposition	-

Location	-
Home	-
Geographic equity	-
Work	-
Peak Commute	-
1 Line Crowding	-
Connection to other Routes	-
Time	-
Transit facilities/amenities	-
Equity	-
Regional impacts	-
Frequency	-
Accessibility/ADA	-
Alternate Routes	-
Add Service/Stop	1
Change Alignment	4

Comments discussing Route 515 all indicated **support** for the new service (6 comments), noting the increased travel options it provides together with the 1 Line extension to Lynnwood. Four comments contained suggestions for **additional or revised service** in downtown Seattle.

*“I am writing in full **support** of what is proposed for the ST Express Bus service plan, specifically with regards to temporarily keeping ST Route 510 and temporarily adding ST Route 515, assuming both routes serve the Mountlake Terrace Freeway Station as currently depicted on the route maps. I currently take the bus during peak hours to/from Mountlake Terrace, and **appreciate the additional bus options that could be offered once Lynnwood Link opens up.**” (Comment ID: 19)*

*“Also, your proposed new ST 515 Express route to downtown would be great too, **gives option for riders to take bus or light rail.**” (Comment ID: 21)*

*“I strongly recommend **running the 515 service through the south end of downtown at James**, similar to the current 413 service. It experiences less bottlenecking and maintains current coverage rather than replicating the 510 coverage.” (Comment ID: 22)*

*“To make the proposed Route 515 more attractive, I would propose that it have a “tail” of **stops in the downtown area** that is an employment hub but the train does not directly serve. For example, SLU/Lower Queen Anne, or First Hill, to save the additional transfer in Downtown Seattle.” (Comment ID: 35)*

1 Line

Table 10: 1 Line comment themes

Comment Code Themes	Count
Support	1

Opposition	-
Location	-
Home	-
Geographic equity	-
Work	-
Peak Commute	-
1 Line Crowding	7
Connection to other Routes	-
Time	-
Transit facilities/amenities	-
Equity	-
Regional impacts	1
Frequency	1
Accessibility/ADA	-
Alternate Routes	-
Add Service/Stop	1
Change Alignment	-

The 1 Line received few comments, with only one comment stating support and none opposing. However, seven comments mentioned the anticipated crowding on 1 Line trains. These comments indicated support for other routes such as the 510 and 515 to alleviate the crowding.

*“I will leave the UW station in the late afternoon for Lynnwood, and am concerned the trains will be at or **above capacity** by the time they arrive from Capitol Hill. I think contingency planning is necessary.”*
(Comment ID: 3)

*“Thank you for the 2024 Service Plan! Both the Lynnwood Link and the East Starter Line will be **heavily used** and I look forward to the increased service. With commuters coming back post-Covid, **crowding** on the lines is inevitable as the study pointed out. It couldn't hurt to use some public message space to advise tips on handling crowding comfortably and safely.”* (Comment ID: 10)

*“While I would prefer the changes to the 513 in the original proposal, I realize reducing **crowding** on Link until the 2 line is fully complete should be a higher priority”* (Comment ID: 32)

SAFE Analysis

Zero participants (0) elected to provide feedback on the Lynnwood Link SAFE analysis.

Appendix A: Route-Specific Comments and Themes

Table 2: Comment themes by route

Comment Theme	Route 510	Route 512	Route 513	Route 515	1 Line	Lynnwood SAFE
Comment Theme Count by Route						
Support	12	-	1	6	1	-
Opposition	-	4	3	-	-	-
Location	-	-	-	-	-	-
Home	3	1	2	-	-	-
Geographic equity	-	-	-	-	-	-
Work	1	-	2	-	-	-
Peak Commute	6	-	3	-	-	-
1 Line Crowding	-	-	-	-	7	-
Connection to other Routes	1	1	1	-	-	-
Time	2	1	2	-	-	-
Transit facilities/amenities	1	-	-	-	-	-
Equity	-	-	-	-	-	-
Regional impacts	-	-	-	-	1	-
Frequency	-	1	3	-	1	-
Accessibility/ADA	2	-	-	-	-	-
Alternate Routes	1	-	-	-	-	-
Add Service/Stop	2	-	2	1	1	-
Change Alignment	-	-	1	4	-	-

Appendix B: Email and Voicemail Comments

Email and Voicemail Comments	
ID	Response
1	<p>Hi,</p> <p>I am glad that you are not discontinuing route 510 right now, but I am disappointed that you are planning to discontinue or shorten it before the 1 Line is extended to Everett. I rely on that bus to commute to work, and the proposed changes would significantly increase my commuting time.</p> <p>Right now, I can ride the 510 bus to Stewart & 9th (~50 minutes) and then walk 2/3rds of a mile to Mercer Street (~10 minutes). The total time for me is consistently 60-65 minutes, and it includes 50 minutes of uninterrupted time when I can, e.g. read a book, followed by a nice, brisk walk. This is probably the most enjoyable commute I have ever had.</p> <p>If route 510 only offers connection to the 1 Line, I will have to:</p> <ul style="list-style-type: none"> Take the bus to Lynnwood (estimated 25 minutes, based on current 512 schedule) Transfer to the 1 Line (8-10 minutes, including walking to and waiting at the platform)

	<ul style="list-style-type: none"> • Ride the 1 Line to Westlake Station (28 minutes, according to the project summary) • Transfer to e.g. the SLU Streetcar (5 minutes, including walking and waiting) • Ride the streetcar to Mercer Street (10 minutes) <p>There's 1-2 minutes of walking after that, but let's not worry about those. The total for this trip is 75-80 minutes, but with the potential to be 15 minutes longer if the transfers take closer to a worst case amount of time.</p> <p>I have a ADA recognized disability that does not affect my mobility, but it does affect my ability to get on and off the bus/train at the correct location. Express buses are ideal for me because they minimize the possibility of ending up in the wrong location. For riders who do have mobility problems, the overall time and effort for each transfer is significantly increased. It takes several minutes for a wheelchair user to get on/off a bus, and several more minutes to use the elevator at each light rail station. That could easily be a 10 minute penalty even without factoring in that a wheelchair user will likely move slower than a healthy, walking, 15-55 year old person. Someone like my grandfather, who uses a cane, walks even slower than most wheelchair users and could easily take 25 minutes from getting off the bus until he is able to board a 1 Line train.</p> <p>I drive from my house to Everett Station Park & Ride. If route 510 is shortened, I will probably end up driving to Lynnwood Transit Station in order to avoid one of the transfers.</p> <p>Please do not discontinue or modify the 510 until the 1 line is extended all the way to Everett.</p>
2	<p>Greetings,</p> <p>I use the 510 from Everett Station daily in my commute from Monroe, WA to downtown Seattle. I would like you to consider keeping the 510 scheduled as is until the light rail is available.</p> <p>Thanks.</p>
3	<p>I will leave the UW station in the late afternoon for Lynnwood, and am concerned the trains will be at or above capacity by the time they arrive from Capitol Hill. I think contingency planning is necessary. Maybe reinstate the previous CT 855 run.</p> <p>Thanks.</p>
4	<p>Your announcement today about the 2024 service plan says Lynnwood Link will have "8-10 minute frequency". Does that mean the train-storage problem that was going to lead to a reduction (10 minute peaks) has been solved? Or that you're leaving wiggle room for peak service to be 8 or 10 minutes? Or that the current frequency will continue (8 minutes peak, 10 minutes off-peak)? Is there a possibility of 8-minute midday service?</p>
5	<p>Please do not curtail bus service from Everett or north Lynnwood (ash way,.) to Seattle.</p> <p>Lynnwood transit center is over four miles from my house so if I have to drive that far to catch a train or bus I might as well just stay in my car. In addition, the time it takes to drive to lynnwood transit center or take a bus there also makes staying in my car that much more attractive.</p> <p>The light rail is great, I voted for it, but you should maintain alternative bus express routes to Seattle for those who are not in the immediate area of LTC.</p>
6	<p>I live In Mill Creek. I currently use the Light Rail to go into downtown Seattle and SeaTac Airport. I currently use Route 116 and transfer at Ash Way Park & Ride and take the 512 or occasionally the 513 to Northgate. I understand that the plan is to have the 512 and 513 end service at the Lynnwood Transit Station once it opens. What I don't understand is how I am going to get home from the Lynnwood Light Rail Station to Ash Way to get the 116 home and vise versa at the start of my trip. I understand that I could take the 116 all the way to the Lynnwood Transit Center but that it seems to me to be slower than transferring and taking the 512 or 513. In addition, the 512 runs about every 15 minutes. The 116 runs only every 40 minutes or so and hourly on weekends. How are you going to solve this issue? If not, then the opening of the Light Rail Line in Lynnwood will make my commute a lot longer. Please let me know how you are going to solve this problem. Thank you very much. Larry Miner, Mill Creek, WA</p>
7	<p>Hello -</p> <p>I read in the Herald today (1/17/24) that after light rail opens in Lynnwood, no Sound Transit buses will travel from Snohomish County to downtown Seattle (they will stop at either Northgate or Lynnwood instead). That short-sighted decision, in addition to Community Transit's similar decision to end all downtown buses, will create an enormous logjam at the Lynnwood Transit Center (with all commuter buses from Snohomish county stopping there), a parking nightmare for those who live in the surrounding area, long lines queuing up and ridiculously packed trains.</p> <p>Frankly, I will likely drive solo as opposed to dealing with that nonsense... and good luck convincing me to vote for future tax increases for either Sound Transit or Community Transit.</p>
8	<p>As Lynnwood Link opens later this year, ST Route 535 has long needed additional service on weekends, especially on Sundays, given that connects Lynnwood, Bothell, Kirkland and Bellevue... However, it still lacks Sunday service, and having only Saturday hourly service...</p>

	<p>While travel patterns have changed in Downtown Seattle and the cities around, connectivity around other cities are imperative as me and other riders take buses to Bellevue to explore, or UW Bothell for school or Lynnwood Mall for shopping.</p> <p>This Route needs a bare least of Sunday hourly service, maybe running from 8AM thru 8/9PM, in exchange of cutting service and hours on other routes as 510, 532 and other low performing trips, and cut service from every 10 minutes on peak, to every 12/15 minutes.</p> <p>Thanks for hearing and appreciate better service either March or by October 2024 at least every hour service on 535.</p>
9	<p>Hello and good morning,</p> <p>I am giving feedback on the plan posted here: https://www.soundtransit.org/system-expansion/planning-future-service/serviceplan</p> <p>I mostly like the plan. I would love to see the 513 operating plan to become more similar to the 512. I live in the Eastmount neighborhood, and want to be able to rely more on this route. Right now the 513's limited hours and one-way schedule means I have to drive further to get to a 512 station. With the future plan for the 512 and 513 to only go as far south as Lynnwood, I would think there would be an opportunity to balance the resources allocated to these lines and add more service to the 513.</p> <p>In addition, right now the 513 operates 'backwards' to Boeing's schedule. Today, in the morning the 513 only operates on the southbound route. This serves to take people away from Boeing (Seaway Park and Ride) at the start of Boeing's 1st shift, when <i>thousands</i> of people are trying to get to the Boeing factory. Likewise, in the afternoon, the 513 only operates in the northbound routes--serving to bring people to Boeing when the bulk of the traffic is seeking to leave. It seems to me that aligning the Link and Express Bus services to better align with Boeing's schedule would be a great way to attract more riders into the system.</p> <p>Bottom line, I would love to see service both directions, all day, and 7 days a week.</p> <p>Thank you for soliciting the public's feedback! I would appreciate follow up about how this feedback is ultimately and practically being incorporated into the operating plan!</p>
10	<p>Dear Sound Transit Team,</p> <p>Thank you for the 2024 Service Plan! Both the Lynnwood Link and the East Starter Line will be heavily used and I look forward to the increased service.</p> <p>With commuters coming back post-Covid, crowding on the lines is inevitable as the study pointed out. It couldn't hurt to use some public message space to advise tips on handling crowding comfortably and safely.</p> <p>Thank you for one of the nation's GREAT public transportation systems.</p> <p>Sincerely,</p>
11	<p>I for one am thrilled beyond words that you are going to keep the 510 to Seattle!! I live a mile from South Everett Freeway Station and it's so convenient since I use the bus to Seattle Monday through Friday I also feel that the buses are more reliable than the light rail</p> <p>Thank you</p>
12	<p>As a rider of transit service throughout the Puget Sound region for over 40 years: KC Metro Transit, Community Transit, Everett Transit, and Sound Transit, I have been appalled at the lack of fairness amongst the Sound Transit Sub-Areas. As a resident of Shoreline for ST's initial years, I paid taxes for bus service that only stopped at the 145th freeway station at the opposite end of the city and quite a wind-swept hike for the southbound buses. And, of course, we had no representation on the ST board. In 2015, I moved to the City of Everett, and from riding STEX to/from the Eastside during that time, I found the bus service also disproportionate, especially when riding ST buses from Bellevue, whose residents are much wealthier than here in Everett.</p> <p>I did a comparison of Sound Transit bus service in Bellevue vs. that in Everett. If I thought it would matter, I would spend time to find it again, but this was the gist:</p> <ol style="list-style-type: none"> 1. The Eastside has had all-day, bi-directional STEX bus service for decades, while Everett primarily has peak-only, limited-stop bus service. This means that, off-hours, an Everett rider has had to rely on multiple transfers just to reach a park and ride, probably with no transfer from there. 2. The Eastside has enjoyed bi-directional service to/from Sea-Tac for decades, while Everett has zero ST bus service to Sea-Tac and, more recently, zero to Paine Field, a regional destination, including no plans for a Link station at PAE, not even via the Operations & Maintenance facility, if it's located near there. 3. The City of Bellevue is populated with many bus stops for STEX, while the City of Everett has two: one near Everett Station and the other 12 miles south, at Evergreen and East Casino Road. This is despite STEX 513 buses passing by thousands of low-income Everett residents between Boeing/Seaway TC, a facility with no parking that is near no residents-only transfer activity, and the latter stop. Yet, for Link light rail, the politicians - and ST planners - have fallen in line, seeing

	<p>the benefits of saying they're "serving low-income residents" as a reason to consider stations at West Casino Road near WSPIC and near where the existing ST 513 bus stop is. In fairness to the taxpayers of Everett, ST buses - which start and end at Kasch Park - should use West Casino Road in their journeys (and they often do in their returns from downtown Seattle, as nobody is bound for Boeing in the afternoon), even with limited stops, e.g. 19th, Hall Park, and 4th and eliminate using 5th, Hardeson Road, and 75th SW where there are no stops anyway. In winter time, the buses would also avoid the steep hills.</p> <p>4. The 513 should also serve the South Everett P&R, which is the connection point for the 532 and other desirable buses and which has no single bus local service to/from Boeing. In the past, your planners said that this would take too much time, which was proved a specious assertion when then they had no problem adding Ash Way TC and Lynnwood TC to the 513's routing since that comment,</p> <p>5. I support the 513 only going so far as Lynnwood TC, which would allow for the changes that I've suggested in points 3 and 4. I support the 513 to be a bi-directional route. If Boeing/Everett is deemed to be so desirable for light rail instead of BRT, then STEX buses should be serving it today, in both directions, as well as a handful of desirable stops for riders in-between. We should not have to wait until 2037, if we're even alive then.</p> <p>As for the other routes, I applaud the idea of having STEX buses like the 515 being available. As Link is often single-tracking or interrupted, I'd suggest that ST run 512 buses after major events downtown. After waiting after an event for 1/2 hour at 11 p.m. for a Link train at the International District downtown, then rushing down the escalators at Northgate to find the 512 going northbound, having a 512 from 4th & Jackson would have been much preferred for myself and the many others who were on a similar journey as I was that day.</p> <p>Thank you for being open minded by giving any serious consideration of these suggestions.</p> <p>Sincerely,</p>
13	<p>Hello,</p> <p>I wanted to say I am extremely supportive of the proposed 513 bus changes, especially the frequency increase to every 15 minutes and the fact that it will run in both directions.</p> <p>I (and many others) commute daily from Seattle to Seaway/Boeing, and this route will make public transit a feasible option. Currently, I frequently see the empty 513 busses running north in the morning and south in the afternoon, while driving alongside in my car. Being able to commute on public transit from Seattle to Boeing will take cars off the road.</p> <p>Thank you,</p>
14	<p>Sound Transit,</p> <p>Thanks for the links to the 2024 plans. You invited comment. Please consider the following.</p> <p><u>Part one Link</u> Link 1 Line, pages 22-23. Evening and night headway Please consider providing shorter headway and waits; how about 10-minute headway? Why should night time riders have long waits? Train length Please consider using three-car trains and providing shorter headway and waits. <u>Link 2 Line interim</u> Please consider providing a five-minute headway with one-car trains.</p> <p><u>Part one bus section</u> "No changes to service are planned for the ST Express Routes that serve East King County (Routes 542, 545, 550, 554, and 556) until the full 2 Line opens and crosses Lake Washington. When the full 2 Line opens, Sound Transit will work closely with our partners at King County Metro to finalize the planned East Link Connections bus restructure which will eliminate the need for some ST Express routes. The two routes evaluated for potential service changes for the partial 2 Line opening were Routes 550 and 566. Route 550 provides service between Bellevue and Seattle, and Route 566 provides service between Auburn and Redmond. Both routes provide a service that overlaps the 2 Line. We evaluated shortening both routes, having them terminate at South Bellevue Station, and also evaluated shortening Route 566 at Bellevue Transit Center. Though shortening both routes would save resources, it was found that doing so would require most passengers on both routes to transfer to complete their trips, which would increase their overall travel times. Route 550 is expected to be discontinued once the full 2 Line opens, as the 2 Line will provide a more frequent and reliable connection between Downtown Seattle and Downtown Bellevue."</p> <p>The sentence in bold seems false. Most Route 566 riders from and to the south are oriented to BTC. They would not have to transfer. Those that would transfer could use Link. Link will provide more access, serving several stations rather than just RTS.</p> <p>It seems it was a mistake to exclude Route 566 from the East Link Connections process.</p>

	<p><u>Part two bus outline</u> https://www.soundtransit.org/system-expansion/planning-future-service/serviceplan</p> <p>Please make wider changes. Consider the following concepts by route.</p> <p><u>Route 522</u> Provide 10-minute headway in all time periods. While still serving Roosevelt Link station, restore the inbound stop on NE 65th Street at NE Oswego Place for good transfers with routes 45 and 62. What is the rationale for NOT serving the South Shoreline station in fall 2024? It makes service integration more awkward. (Is ST considering turnback trips on Link? Is the Shoreline roundabout construction the issue? Is the Stride construction the issue? I expect the last factor is later).</p> <p><u>Routes 542 and 545 (Feed Link!)</u> Delete Route 545 and shift hours to Route 542 extended to Bear Creek with a very short headway and waits. Do this quickly. It has made sense since March 2016. Route 542 connects with both the UW Link station and the UWMC. Link takes about seven minutes between Westlake and UW Link. Route 545 is stuck on the congested I-5 general purpose lanes. SDOT has taken a lane from both 4th and 5th avenues and downtown is slower and less reliable. When the 2 Line reaches downtown Redmond, Route 542 should be truncated at RTS; headway could be even shorter. WSDOT may not provide the reversible ramp between SR-520 and Westlake. Route 544 might be deleted; it need not deviate to the South Kirkland P&R; Route 540 has been gone several years and Route 255 mitigates its deletion. Would you like to serve SLU as we wait for ST3 Ballard Link? Consider extending Route 542. Fold Route 544 hours into Route 542 extended to SLU. In the peak direction, it could use the I-5 reversible lanes between NE 42nd Street and Westlake; in the reverse peak direction, it could use Eastlake Avenue East. (See pattern of former 71 series before March 2016). In SLU, it could serve Fairview Avenue North. In downtown, it might serve the Stewart-Virginia couplet and a single near Westlake station. Serving SLU would be parallel to the former Route 555 serving Northgate while we waited for Link.</p> <p><u>Route 550</u> Before the 2 Line crosses the lake, improve Route 550 span and headway.</p> <p><u>Route 554</u> The reductions of 2010 were not restored. Why not? Is the ELC Route 554 optimal? In the first integration network, Route 554 was oriented to Mercer Island. Could another route serve the arterial segment of Route 550?</p> <p><u>Route 566 (Feed Link!)</u> Stride1 is delayed. Consider two truncations but reinvest the buses and hours in shorter headway. Truncate at the Tukwila Sounder station. Time trips with the peak direction Sounder trains. Truncate at BTC. Riders may use Link east and north of BTC. Consider the modest travel time difference between routes 560 and 566 between the Renton and Bellevue TC. Consider restoring Kennydale and Newport stops to the Route 566 pattern. Capital: add a stop pair to BTC on NE 6th Street at 112th Avenue NE to minimize the transfer walks between Link and the I-405 routes.</p> <p><u>Route 574</u> Delete Star Lake and Kent Des Moines from the stop pattern to improve speed and reliability. When PT has operators, use more ST and run it on a shorter headway. Why do routes 574 and 594 duplicate one another between Lakewood and TDS? Could Route 574 be truncated at TDS?</p> <p><u>Route 594</u> Add Federal Way TC to the stop pattern using the Sound Move South 317th Street center access ramps. Why do routes 594 and 590 serve the SODO stops? Could minutes be saved by using the pathway of routes 577-578?</p> <p>ST3 Stride3 Please reconsider its east terminal. Please extend to Woodinville, a real place with connecting local routes, multifamily housing, and commercial activity. The planned terminal can remain a transfer point with Stride2. It will be disappointing. Note it is difficult to get pedestrians to transit service in the middle of freeways. Freeways are to pedestrians as dams are to fish. The original ST3 plan to have half the Stride3 trips extend to Woodinville and half turn back was flawed. The better solution is to extend all the trips to/from Woodinville. Perhaps your bus order needs to be increased by one.</p> <p>Thank you for considering this note.</p>
15	<p>It's nice you have these grand visions of expansion service.</p> <p>But, why don't you fix what is broken in your house, first? Before expanding?</p> <p>Bellevue to Renton / Auburn ST566 It's wrong that you can depend on it NOT to show up in Bellevue in the afternoon, rather than count on it to get you home.</p>
16	<p>ST Board and Staff, First, THANK YOU for preserving the 510 service from Everett direct to Seattle for the time being. This will definitely help Everett area riders. Second, I encourage you to start considering a longer preservation of the 510 service.</p>

	<p>As you know. LINK to Everett isn't planned to be complete until 2041. While I appreciate the planned extension of 510 service into 2025, that still means Everett area riders would have sixteen years of a two seat ride (beyond getting to Everett Station or S. Everett P&R) - far longer I believe than any other rider group in the RTA.</p> <p>At the very least, ST should keep 510 running until LINK reaches Mariner (and a Mariner station with adequate parking to accomodate all 510 riders, as I think any of us would sense Everett area riders aren't likely to drive to Everett Station or S. Everett P&R to pick up a shuttle to Mariner (a shuttle that will have to access the Mariner P&R by crossing all lanes of I-5 to a congested 128th Street & I-5 intersection)).</p> <p>Third, I ask that ST gather:</p> <ul style="list-style-type: none"> -current ridership data on ST and all CT routes that go to King County -future data on ST and CT shuttle routes that go to Lynnwood LINK, 510 and 515 ridership data, as well as LINK ridership so that before ST commits to pulling the plug on a 510 and 515, the public can see before and after ridership data to see how riders are attracted (or not attracted) to the Lynnwood LINK option. <p>Thank you for considering my comments, but most of all want to reiterate a thank you for continuing the 510, adding a 515, and please keep the 510 until LINK reaches Everett.</p>
17	<p>Good morning,</p> <p>With new transit services coming soon , I wanted to write to state what would be a great option for me. I'm considering a job at UW. I live in Eastmont. I would love to catch a bus at the Eastmont park and ride that would take me to the Lynnwood Lightrail station. Ultimately the best option would be for a bus line that runs that route both directions all day, since my shifts may be variable. That would give Everett riders a much better option to use the transit system. Hopefully that will be considered.</p> <p>Sincerely,</p>
18	<p>Hello,</p> <p>I would just like to submit a request to <i>please</i> keep the 510 bus in operation after the light rail is extended. Better yet, have it operate all day like it used to. I frequently travel between Everett and Seattle and am often going the opposite way of the 510 while it's only traveling certain directions during peak hours. Having this express bus is so convenient and quick and I am often shocked how quick it takes to get downtown or the other way around when I get to use it. There is no way the light rail will make this trip as quick as the 510 with all the stops it has to make. It is still a viable option for Everett-Seattle commuters/visitors to have that don't need to use the stops in between (at all hours of the day). Thank you for your consideration!</p> <p>Sincerely,</p>
19	<p>Greetings,</p> <p>I am writing in full support of what is proposed for the ST Express Bus service plan, specifically with regards to temporarily keeping ST Route 510 and temporarily adding ST Route 515, assuming both routes serve the Mountlake Terrace Freeway Station as currently depicted on the route maps.</p> <p>I currently take the bus during peak hours to/from Mountlake Terrace, and appreciate the additional bus options that could be offered once Lynnwood Link opens up.</p> <p>Thank you,</p>
20	<p>Regarding the bus changes outlined here: https://www.soundtransit.org/system-expansion/planning-future-service/serviceplan, how do you rationalize cutting service to Tacoma on ST 594 and expanding it to these areas—parts north of Seattle—when Tacoma and Pierce County are places/areas impacted by legacies of racism and oppression, especially in terms of transit provision? The areas you are expanding into already count with higher levels of service, and ST seems intent of providing more of it, even if it means cutting service to parts of its service area that require it more as a matter of social and environmental justice. Many in Pierce County already think that we are not getting great value out of the bonds and levies that pay for ST and other public transit. I doubt this will do much to improve this sentiment.</p>
21	<p>Hi,</p> <p>I hope you can keep your existing ST 510 Express commuter bus from Everett to Seattle even once Light Rail opens in Lynnwood this fall...</p> <p>Also, your proposed new ST 515 Express route to downtown would be great too, gives option for riders to take bus or light rail.</p> <p>I prefer riding the express bus, since it does make so many stops like Light Rail does and each stop seems so exhausting to me when the train must slow down, open the doors for a bit, and then speed up again. If only it would make limited stops that would better (eg, an "express" light rail times during commute times, etc)... also, buses stops in downtown are at street-level, whereas with light rail, it stops underground, and it's a pain to make your way up to street-level (and vice-versa).</p>
22	<p>I'd like to submit a comment on the proposed route 515.</p>

	<p>This proposed route will enter downtown from the north at Stewart Street, which experiences frequent and extensive morning delays from the bottleneck at Denny Way. This routing at Stewart is also already provided from the south end of downtown by route 510, while routing entering the south end of downtown at James St (currently served by routes such as 413) is removed.</p> <p>I strongly recommend running the 515 service through the south end of downtown at James, similar to the current 413 service. It experiences less bottlenecks and maintains current coverage rather than replicating the 510 coverage.</p> <p>Thank you for your consideration,</p>
23	I Agree To The Service changes For The I-5 North Corridor
24	<p>Hi I've been tracking the updated service plans as they've been released. I was excited to see that the original plan involved running the 513 in both directions. Like many other people I know. I live in North Seattle and work at Boeing right next to the Seaway Transit center at the North end of the 513. It looked like there was finally going to be a viable option to take transit to work. Unfortunately I'm now very disappointed, it looks like that is no longer going to be an option with the 513 continuing to run the exact opposite of my commute and there being no transit option to get from the light rail to one of the largest and hardest to park at employers in Snohomish County. Has it been considered that the two-way 513 route might be used by Boeing commuters going North?</p> <p>Thanks,</p>
25	<p>Hello,</p> <p>I heard today that the route 545 will be suspended in 5 months? Is this news correct? This would have tremendous implications for me and a lot of commuters regardless of whether you start the Link rail. I will likely have to leave my current job in Seattle if this is true.</p> <p>Best,</p>
26	<p>Hello SoundTransit Buses Service Planning Team,</p> <p>This's Kam Chun CHENG, New E.M. Trainee of Rail Dept. of King County Metro, Happy to Start Learning how to Servicing the Sound Transit Light Rail Vehicles, Base in OMFC.</p> <p>About the 2024 ST Express Bus Service Plan, May I have a Suggestions Below:</p> <p>1. Buses Connect Between (Everett - Paine Field Airport - Lynnwood)</p> <p>OR</p> <p>2. Just Extend Rt. 535 to Paine Field Airport.</p> <p>As Paine Field Airport is Poor on Public Transportations, & More Flights will be added in coming Years.</p> <p>Welcome to let me know if you've any questions about my Suggestions.</p> <p>Thanks,</p>
27	<p>Thank you for the opportunity to comment on the proposed service changes with the opening of Lynnwood Link.</p> <p>The first strategy to deal with the new capacity limitations on the 1 Line would be to run just enough capacity south of SODO to barely handle the expected, and then real, ridership during the busiest period of the day. That would free up more capacity on the north end, where ridership could very well overwhelm train capacity without further tuning of the train service plan.</p> <p>The second strategy would then be to provide extra bus service for the largest groups of riders facing the largest impacts in terms of how long they will have to wait to find space on the train.</p> <p>The fatal flaw in the ST Express 515 plan is that it serves mostly the least impacted riders. Those traveling from Lynnwood will get dibs on the seats and standing space, so little incentive to take a bus instead for the same trip. Furthermore, the bus fare is higher. And the bus travel time is longer.</p> <p>Going north in the evening, nobody getting on downtown will have trouble finding space on the train. At worst, some riders will have to wait for the next train at the very peak of peak, but they will find space on it.</p> <p>Capitol Hill will have more trouble, with more riders having to wait for the next train.</p> <p>Then UW will likely have more riders having to wait than able to get on. That will mean waiting through multiple trains for the crowds further south to stop taking up nearly all the space.</p> <p>U-District faces a much more hopeless situation of having a prolonged period of the vast majority of riders unable to get on the train for most of the peak-of-peak.</p> <p>Stations further north will likely have more riders alighting than departing, but we won't know that for sure until it actually happens.</p>

	<p>The cheapest strategy for getting past the bottleneck is increased service on local routes, particularly King County Metro route 67, from UW to U-District to Roosevelt to Northgate.</p> <p>But the largest destination by far north of U-District will be Lynnwood. The third strategy could be a peak-only ST Express route 516, from UW Station or the inner campus loop to the U-District, and on up I-5 to Lynnwood.</p> <p>ST is right to try to lean on the N Line for Everett-downtown Seattle rides. Please consider temporarily lowering the fare enough to fill all the seats on the N Line.</p> <p>I hope this advice finds its way into the service plan. It looks like we will be packing our patience while ST live-tests its train plan and mitigation bus route(s).</p> <p>Thank you for this input opportunity.</p> <p>Best,</p>
28	<p>I'm reaching out because I'm trying to find out if there are plans to better connect the Boeing Everett plant to northbound transit when the Lynnwood LRT extension opens later this year? As it stands now there are no real good options offered from Sound Transit or Community Transit for Boeing employees who live in Seattle and work in the Everett plant that don't involve multiple transfers or a vanpool. I'm hoping there will be some sort of realignment of bus routes, whether it be Sound Transit, Community Transit, or Everett Transit that will reduce the number transfers that are currently required. Any information you could provide would be greatly appreciated.</p>
29	<p>Hello,</p> <p>I work at Fred Hutchinson Cancer Center in south lake union and the proposed new commute to discontinue community transit 415 will greatly affect my commute times. Currently I take CT 415 from ashway park&ride to Stewart & 9th and walk to FHCC. In the afternoons, I walk to bus stop 430 to catch the 415 back to ashway. With the 415 discontinued, I will have to take a bus from ashway to Lynnwood transit center, then link light rail to Westlake center and either take the trolley or metro to Fairview/fred hutch. This will greatly increase my commute time and transfers. I strongly urge you to reconsider discontinuing CT 415.</p> <p>Thank you,</p>
30	<p>Sound Transit should coordinate with Community Transit to use existing Swift stops to move riders to the Mountlake Terrace and Lynnwood light rail stations. This would allow the use of existing infrastructure along the Swift lines with dedicated service connecting bus rapid transit passengers to light rail.</p> <p>Sincerely</p>
31	<p>Sound Transit:</p> <p>Please do not change the current routes of the 510, 512 and 513 buses. These routes offer options for the consumer/passenger when trying to get to Seattle or Lynnwood or the Northgate area and back to the transit area or stop without the use of a car.</p> <p>Because they are established routes there is already some parking (not allot) available for passengers.</p> <p>With more scheduled availability of these routes and the current routes schedules, the more choices current passengers and future passengers will have and it's a better incentive to take public transportation and not drive in and out of Seattle.</p> <p>Keeping the 510 has a direct route to Seattle is great, please don't change this route.</p> <p>Thank You</p>
32	<p>Regarding the proposed bus service changes:</p> <p>while I would prefer the changes to the 513 in the original proposal, I realize reducing crowding on Link until the 2 line is fully complete should be a higher priority. I am mostly satisfied with the new proposal, except that I think the 510 should also stop at Lynnwood in case the 515 is too crowded, and to provide a way to get between Lynnwood and Everett without the time-consuming Ash Way stop.</p> <p>Bus assignments should reflect the expected ridership. You should work with Community Transit and Transdev to schedule single deckers on the trips with lowest demand, to ensure that double deckers are available for the more crowded trips where their additional capacity is needed.</p>
33	<p>Hi,</p> <p>Thanks for the opportunity to provide comments on this issue. Upon the release of the initial ST Express service plan for Snohomish County, I was excited to see that it would be a much simpler plan (ie. reducing to only the 512/513) and would greatly reduce headways on midday/weekend service. I hope to see those improvements to the 512 preserved in the current service plan.</p>

	<p>I would personally rather see improved / simplified service to the 512 rather than continuing service on the 510 + introducing the 515. From the information published in Sound Transit's presentations on Line 1 overcrowding, it seems that the majority of the overcrowding concern would be between Northgate and Downtown Seattle. Rather than running the 510/515 to downtown Seattle, would it be possible to short-turn some Southbound trains at Stadium (or another appropriate station)? This would provide enhanced service to the area most likely to be affected by overcrowding rather than just providing relief to commuters at Lynnwood Transit Center. Simplifying the Snohomish County ST Express bus routes will also make it easier for commuters - ie. we don't have to make a decision to take the bus or Link at Lynnwood Transit Center, while enhancing headways.</p>
34	<p>Hello,</p> <p>Please keep Route 512 from Ash Way to downtown Seattle once the Lynnwood light rail opens until the light rail is up to speed to handle the volume.</p> <p>Thank you</p>
35	<p>Hi,</p> <p>I was thinking about the proposed Route 515 to alleviate the expected crowding on Lynnwood Link.</p> <p>My thinking is, if the route just serves the same stops in Seattle as the light rail, most people will still opt for the light rail, because:</p> <ol style="list-style-type: none"> 1) The parking garage is closer to the light rail entrance! 2) Riders getting on at Lynnwood are likely to get a seat. 3) If you have to make the transfer at Lynnwood, you would probably rather use the train, all else equal. <p>To make the proposed Route 515 more attractive, I would propose that it have a "tail" of stops in the downtown area that is an employment hub but the train does not directly serve. For example, SLU/Lower Queen Anne, or First Hill, to save the additional transfer in Downtown Seattle.</p>
36	<p>Hello,</p> <p>There should be an additional stop added to the southbound 510 commuter route at Stewart and John St. This would allow customers the ability to exit the bus and walk and not have to sit in Downtown Seattle traffic for >15 minutes until the first stop at 9th st. The time between exiting the highway and the first stop at 9th and Stewart is almost as long as the drive from Everett to Downtown Seattle. I implore, please address this issue!</p> <p>Best,</p>
37	<p>Hi!</p> <p>I have recently read about the potential temporary route 515 to relieve pressure for Lynnwood Link. Is it possible for it to exit I-5 at 5th and cherry like some of the current Community Transit bus do? Then riders will have the choice between entering Seattle from south or north.</p>
38	<p>Voicemail: Please explore restoring cut trips on Sounder North. It's the path of least resistance to the problem of reduced bus service. Thank you.</p>

Appendix C: Social Media Comments





Michelle Perhatch Durant

Please don't add more Link stops in Seattle All of the stops have created so much more time on the Link as it is. You really should be utilizing the busses to bring people to the stations for Link instead of building more and more Link Stations. I currently take 402 at 5:15am and I am at my desk in downtown Seattle by 5:45am. The Link is going to add so much more time onto my day I might have to drive in. And that's when the Link is actually running. When a bus breaks down they can throw another one on the road. When Link breaks down frequently or there are other issues, no easy solutions, just get to be super late to work or late coming home. Busses take a lot of cars off the road. Leave some in place for the daily commuters. That way there is already a route in place WHEN, not if, the Link isn't working. Stop punishing the commuters for your bad decisions.

1w Like Reply Hide




Top fan

Jon Morgan

Why don't your link shuttle buses label the direction they're going in? You do understand that's a fundamental part of operating buses, right?

2w Like Reply Hide



↳  Sound Transit replied · 15 Replies



Author

Sound Transit ✓

Thank you for your feedback and we apologize for the inconvenience this caused. I will be forwarding your concern on to our Bus Operations and @kingcountymetro to ensure that we get this right moving forward though the disruption.

2w Like Reply

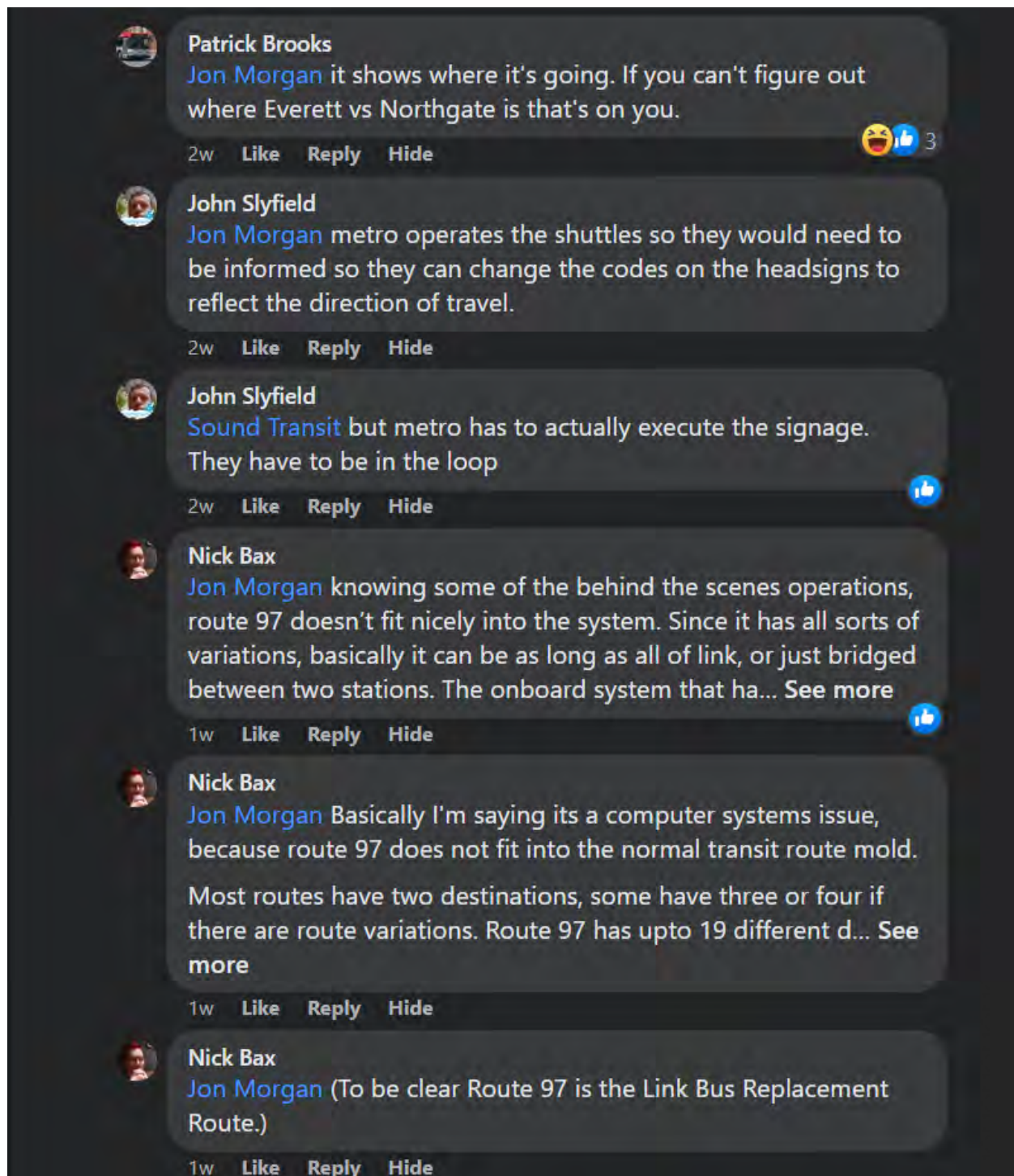


Top fan

Jon Morgan

[Sound Transit](#) Ah, of course! Blame Metro, as usual. ST can't be responsible for anything. 🙄





Appendix D: Comment Code Themes and Definitions

Table 3: Comment code themes and definitions

Code	Guidance
Home	Comments mentioning home as a destination, includes comments about distance to nearest transit stop.
Geographic Equity	Comments mentioning lack of connection to a specifically mention community. These comments could be positive or negative, comments about overserving or underserving a location.
Work	Comments mentioning lack of transit to respondents' place of employment, including constraints related to location, shift start and end time, frequency and reliability to get to work on time.
Peak Commute	AM or PM commute hours
Connection to other routes	Comments about transfers including transfer times, wait times, distance between transfers, or suggestions for route connections.
Time	Comments about general time of day, frequency, on time service, timing of connections, reliability, service delays, time spent in transit. Comments referring to perception of time as it relates to traffic, congestion along the route, cancellations, or distance.
Support	<p>Comments in support of the proposal. Include comments stating supportive preference for bus or rail, or comments stating support or approval for the transit investments.</p> <p>Examples: "I'm excited for these changes." "I prefer to ride the train." "I'm glad Sound transit is investing in better service."</p>
Opposition	<p>comments in opposition to the proposal. Include comments with stating a negative preference for transit, or comments stating disapproval for transit investments.</p> <p>Examples: "This plan is terrible.", "I hate taking transit." "What a waste of taxpayer dollars."</p>
Transit facilities/amenities	Comments about park and ride, transit centers, bike parking, bus stop amenities including a seat or shelter, access amenities such as stairs, elevators, and escalators.
Fares	Increasing/decreasing fares, peak and off-peak fares, fee for bags, etc.
Regional impacts	comments about population growth, development, economic factors, labor force, location of major employers. Could also include mention of other high profile infrastructure projects like the West Seattle High Bridge, other link extensions, etc.
1 Line Crowding	Comments mentioning the quantity or volume of riders on transit vehicle, at a transit stop, or at a time of day. Could include comments about too many riders, too few riders and/or crowded or empty vehicles, stops, platforms, etc.

Accessibility/ADA	Comments mentioning transit stop or vehicle access issues. Could include comments about difficulty accessing facilities or finding space on a vehicle.
Alternate Routes	Comments mentioning a preference or suggestion for a route other than the one proposed for a similar corridor or length of route.
Add Service/Stop	Comments suggesting additional transit stops or service to a particular area or neighborhood.
Change Alignment	Comments suggesting an extended or different route alignment from what is currently proposed.

Appendix E: Engagement Tactics

Social Media

The Social Media team placed geo-targeted advertisements in both the North project area. The ads were placed online on Facebook from January 16 to 25. The ads were placed in English, Spanish, and Chinese. Paid social media promo for the STX service changes trended positive with above average rankings in quality, engagement, and conversion rate. This shows that the content and audience targeting matched well and gives us good baseline data for future paid social media ads. Some of the comments were unrelated and focused on the 1 Line service disruption; however, the comments that were relevant to the specific ad set trended positive with STX service through the Downtown Seattle area.

The ads performed well compared to ads from similar projects. The ads were shown over 30,100 times, with 17,746 people seeing them. Of these, 806 people clicked on the ads to visit the 2024 Service Plan Phase Two project page. The average cost per click of all the ads was \$0.31. The standard to know if an English language ad is performing well is \$1 per click, so the fact that nearly all the translated ads averaged less than \$1 per click indicated a high level of engagement.

Passenger Notice

The Engagement team delivered a passenger notice SMS message to all subscribers to ST Express updates for Routes 510, 512, and 513.

Title VI Service Equity Analysis

2024 Service Plan Phase Two

Executive Summary

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

The 2024 Service Plan Phase Two Title VI service equity analysis evaluates the proposed service changes to ST Express bus service planned in coordination with the 1 Line extension to Lynnwood. Consistent with Sound Transit's newly adopted *Disparate Impact and Disproportionate Burden* policy (Board Resolution No. R2022-19), a Title VI analysis was completed at two levels of analysis.

The first is the individual route analysis evaluating each major service change on a route-by-route basis. The second is the systemwide analysis, which compares the benefits and impacts to Title VI protected and non-protected populations on all routes and lines over multiple years. A service equity analysis was completed for rail service changes planned for 2024 as part of the first phase of the 2024 Service Plan adopted by the Sound Transit Board of Directors in October 2023.

The **individual route analysis** identified that some of the major changes would create adverse effects. However, **the analysis found that major service changes with adverse effects did not result in a disparate impact or a disproportionate burden.** Therefore, no mitigations are required.

The systemwide analysis determined that protected populations that may benefit from service additions is greater than 80% of the non-protected population count. For service reductions, the analysis determined the protected population that may experience adverse impacts was less than 20% of the non-protected population count. **Therefore, the systemwide analysis did not identify disparate impacts or disproportionate burdens on protected populations from September 2021 through September 2024.**

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

Table 1: Summary of 2024 Service Plan Phase Two Title VI Service Equity Analysis

Route	Service Change	Title VI Protected Populations	Adverse effects	Disparate impact ¹	Disproportionate burden ²	Mitigations
511	Formalize emergency service suspension	<ul style="list-style-type: none"> Minority: District³ average: 42.7%; Route 511 service area: 37.1%. Low Income: District average: 20.7%; Route 511 service area: 18.8%. 	Yes	No	No	N/A
512	Shorten to operate between Everett and Lynnwood City Center Station (Lynnwood Transit Center) with a connection to the 1 Line. Service would operate as often as every 15 minutes throughout the day in both directions on weekdays and weekends.	<ul style="list-style-type: none"> Minority: District average: 42.7%; Route 512 service area: 37.7% before the change in routing, 41.9% after the change in routing. Low Income: District average: 20.7%; Route 512 service area: 21.0% before the change in routing, 23.6% after the change in routing. 	Yes	No	No	N/A
513	Shorten Route 513 to operate between Seaway Transit Center and Lynnwood Transit Center. Continue to operate service every 30 minutes during peak periods.	<ul style="list-style-type: none"> Minority: District average: 42.7%; Route 513 service area: 38.3% before the change in routing, 43.6% after the change in routing. Low Income: District average: 20.7%; Route 513 service area: 20.5% before the change in routing, 23.2% after the change in routing. 	Yes	No	No	N/A
515 (New Temporary Route)	Add a new temporary peak-only route to supplement Link capacity between Lynnwood and downtown Seattle. Route 515 travels southbound from Lynnwood in the morning peak period and northbound from Seattle in the afternoon as frequently as every 10 minutes.	<ul style="list-style-type: none"> Minority: District average: 42.7%; Route 515 service area: 41.0%. Low Income: District average: 20.7%; Route 515 service area: 19.7% 	No	No	No	N/A

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

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

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

Policies and Definitions

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

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

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

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

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

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

Major service change

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

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

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

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

Changes to a Single Line or Route

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

Systemwide Service Reductions

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

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

Systemwide Service Additions

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

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

Public Involvement Policy

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

Sound Transit implements permanent fare changes and major service changes only after providing the public with reasonable opportunity to provide formal comment. All public feedback gathered

about a proposed fare change or major service change is shared with the Board before any final decisions or actions.

Definitions and Data Analysis

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

Demographic Analysis Methodology and Title VI Data Definitions

Sound Transit uses census demographic data to identify Title VI communities (minority, low-income, and limited-English proficiency (LEP)) for service equity analyses and calculates the systemwide or mode-specific average representation of these communities within the general population. Only minority or low-income status are used to determine if a disparate impact or disproportionate burden must be mitigated or analyzed. However, identifying LEP residents helps Sound Transit ensure that outreach efforts reach diverse customers. Sound Transit uses the 2010 designated census tracts as the geographic basis for assessing the Title VI populations, and the most recent five-year demographic estimates available from American Community Survey (ACS). The following sections describe the methodology for identifying each of the Title VI populations for the annual service equity analysis.

Service Area Methodology

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

Table 2: Service area definitions

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

Sound Transit Title VI Population Estimates

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

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

below show census tracts with minority and low-income populations above the Sound Transit District average and LEP.

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

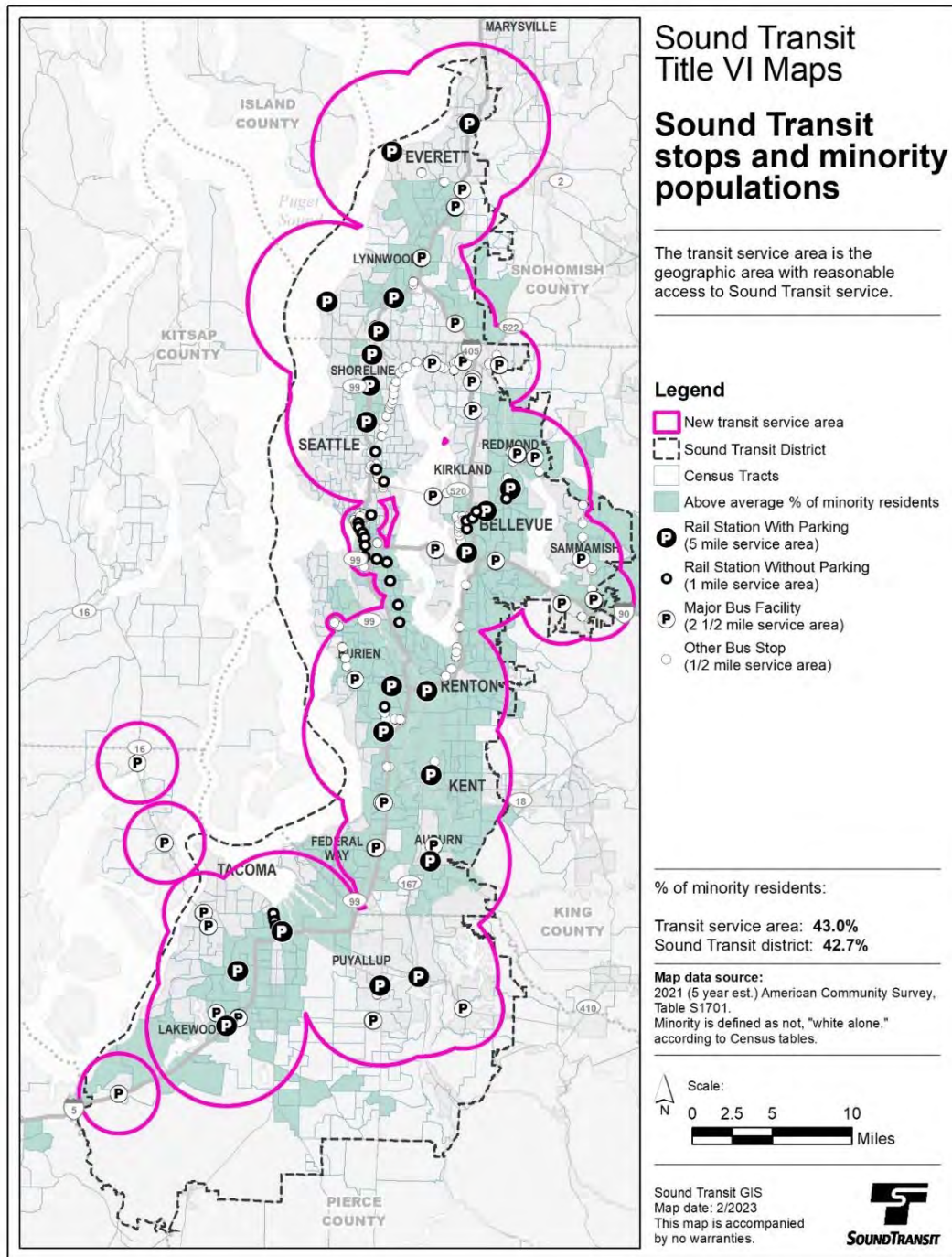


Figure 1: Map of Title VI minority Population for Sound Transit service area

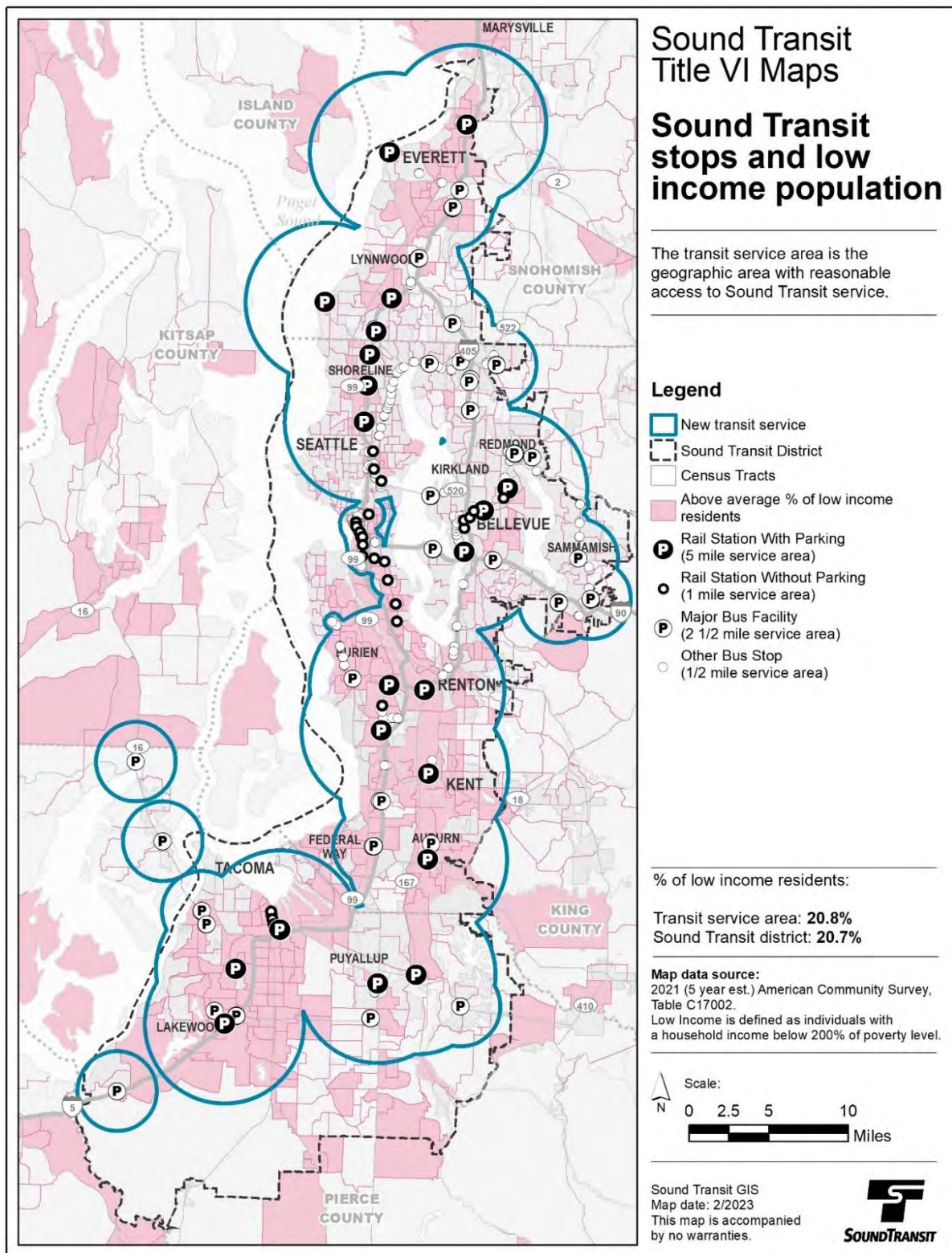


Figure 2: Map of Title VI low-income population for Sound Transit service area

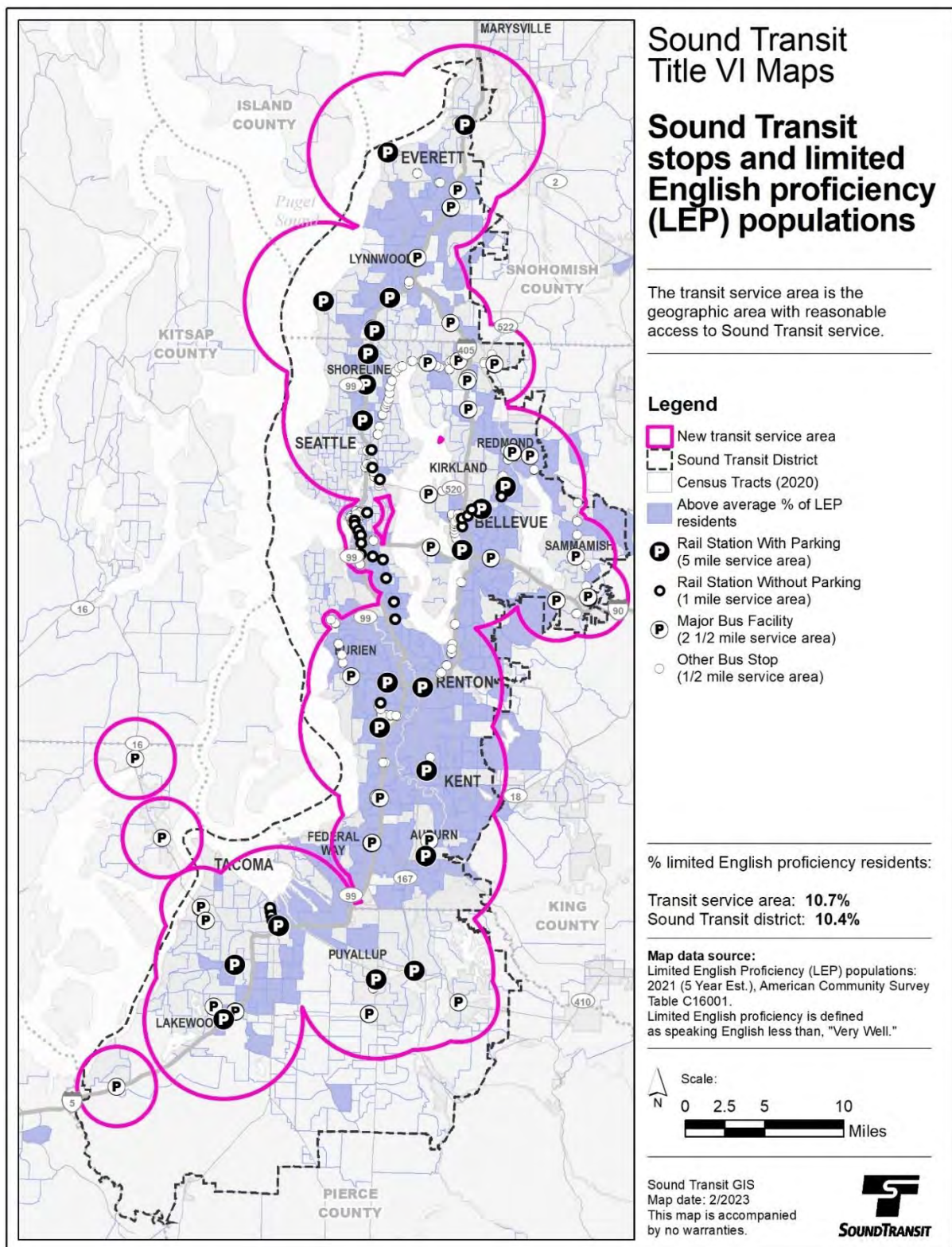


Figure 3: Map of Title VI Limited English Proficiency (LEP) population for Sound Transit service area

Title VI Protected Populations by Route

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

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

Table 4: Title VI protected population by route⁵

Route	Minority Population	Low-Income Population	Limited English Proficiency (LEP)
ST Express Bus			
510	41%	23%	11%
511	37%	19%	10%
512	42%	24%	13%
513	44%	23%	14%
515	41%	20%	11%
522	33%	14%	8%
532	42%	21%	12%
535	39%	16%	11%
542	45%	18%	11%
545	48%	14%	11%
550	47%	17%	10%
554	46%	15%	10%
556	43%	15%	9%
560	57%	24%	19%
566	56%	23%	17%
574	55%	33%	14%
577	53%	26%	13%
578	45%	25%	11%
580	27%	18%	5%
586	51%	34%	12%
590	46%	29%	8%
592	53%	32%	9%
594	50%	33%	9%
595	38%		6%
596	22%	16%	3%
Commuter Rail			
N Line	37%	22%	10%
S Line	49%	26%	12%
Light Rail			
1 Line	43%	21%	11%
2 Line (South Bellevue to Redmond Technology Stations)	47%	12%	12%
Street Car			
T Line	44%	27%	9%
District Average	43%	21%	10%

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

Individual Route Analysis of Major Service Changes

Overview

The **individual route analysis** evaluates each major service change on a route-by-route basis and **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 5 below, followed by a detail evaluation of each change in the following section.

Table 5: Service change analysis summary

Major Service Change Analysis Summary					
Route	Proposed Change	Type of Change	Adverse Effects	Disparate Impact ⁶	Disproportionate Burden ⁷
511	Formalize emergency service suspension.	Major	Yes	No	No
512	Shorten to operate between Everett and Lynnwood City Center Station (Lynnwood Transit Center) with a connection to the 1 Line. Service would operate as often as every 15 minutes throughout the day in both directions on weekdays and weekends.	Major	Yes	No	No
513	Shorten Route 513 to operate between Seaway Transit Center and Lynnwood Transit Center. Continue to operate service every 30 minutes during peak periods.	Major	Yes	No	No
515	Add a new temporary peak-only route to supplement Link capacity between Lynnwood and downtown Seattle. Route 515 travels southbound from Lynnwood in the morning peak period and northbound from Seattle in the afternoon as frequently as every 10 minutes.	Major	No	No	No

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

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

Methodology

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

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

Identifying Major Service Changes

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

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

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

Service Change	March 2023 Weekly Revenue Hours	September 2024 Weekly Revenue Hours	Percentage Change	Stop Removal	Type of Change
Route 511 – Ash Way-Northgate	113 ⁸	0	-100%	Yes	Major (route elimination)
Route 512 – Everett – Lynnwood	921	703	-24%	Yes	Major (stop eliminations)
Route 513 – Seaway – Lynnwood	96	65	-28%	Yes	Major (hours reduction & stop eliminations)
Route 515 – Lynnwood – Seattle	0	184	N/A	No	Major (new route)

⁸ Route 511 was temporarily suspended during the March 2023 service change due to operator shortages. The table displays Route 511 statistics from the Fall 2022 service change, the last service change when the Route 511 was operational.

Bus Restructure Coordinated with 1 Line Extension to Lynnwood

Planning Context

In August 2023, the Board approved Resolution No. R2023-24, which authorized the necessary expenditures to open passenger service on the East Link Starter Line in Spring 2024. In addition to approving the operations of 2 Line between South Bellevue and Redmond Technology stations, the resolution directed Sound Transit staff to prioritize (1) maximizing peak-hour 1 Line service, (2) to the greatest extent feasible, provide sufficient additional bus services to meet rider demand, and (3) utilize internal or contracted resources to provide sufficient in person customer support at stations and times when inadequate Link capacity may result in full trains, waits, overcrowding or confusion. For ST Express, Resolution No. R2023-24 also directed Sound Transit to defer the implementation of the ST Express bus restructure around the Lynnwood Link Extension. Instead of truncating ST Express service at Lynnwood Transit Center, the resolution directed staff to determine ways of continuing to serve downtown with ST Express Seattle to augment likely crowding challenges on the 1 Line.

In response, the 2024 Service Plan was developed in two phases beginning with rail service in the first phase followed by ST Express service in the second phase. In October 2023, the Board approved Resolution R2023-31 adopting changes to Link and Sounder rail service. The second phase of the Service Plan includes updated strategies to increase 1 Line peak hour capacity and proposes a new I-5 North ST Express bus restructure for consideration. For the ST Express Bus Service Plan, Sound Transit worked closely with Community Transit to develop a service plan to temporarily offer alternative service from Snohomish County and continue to provide connections to Link.

The draft plan was originally presented for public comment from July 10 through August 6, 2023. Revised draft service changes were presented for public comment from January 16 to January 31, 2024. The public outreach focused on informing the public about draft service changes anticipated in 2024.

The proposed major service changes evaluated in this service equity analysis are part of the 2024 Service Plan Phase Two (Bus Service Plan). Route 512 would be shortened to operate between Everett and Lynnwood City Center Station (Lynnwood Transit Center). Route 513 would also be shortened to operate between Seaway Transit Center and Lynnwood Transit Center. Sound Transit would formalize the emergency service suspension currently in effect by eliminating Route 511. A new temporary peak-only Route 515 would supplement Link capacity between Lynnwood and downtown Seattle. As part of the bus restructure, Route 510 would be maintained (not a major service change). Please see Figure 4 for a map of the proposed restructure.

Proposed Changes to North Subarea

Anticipated 2024

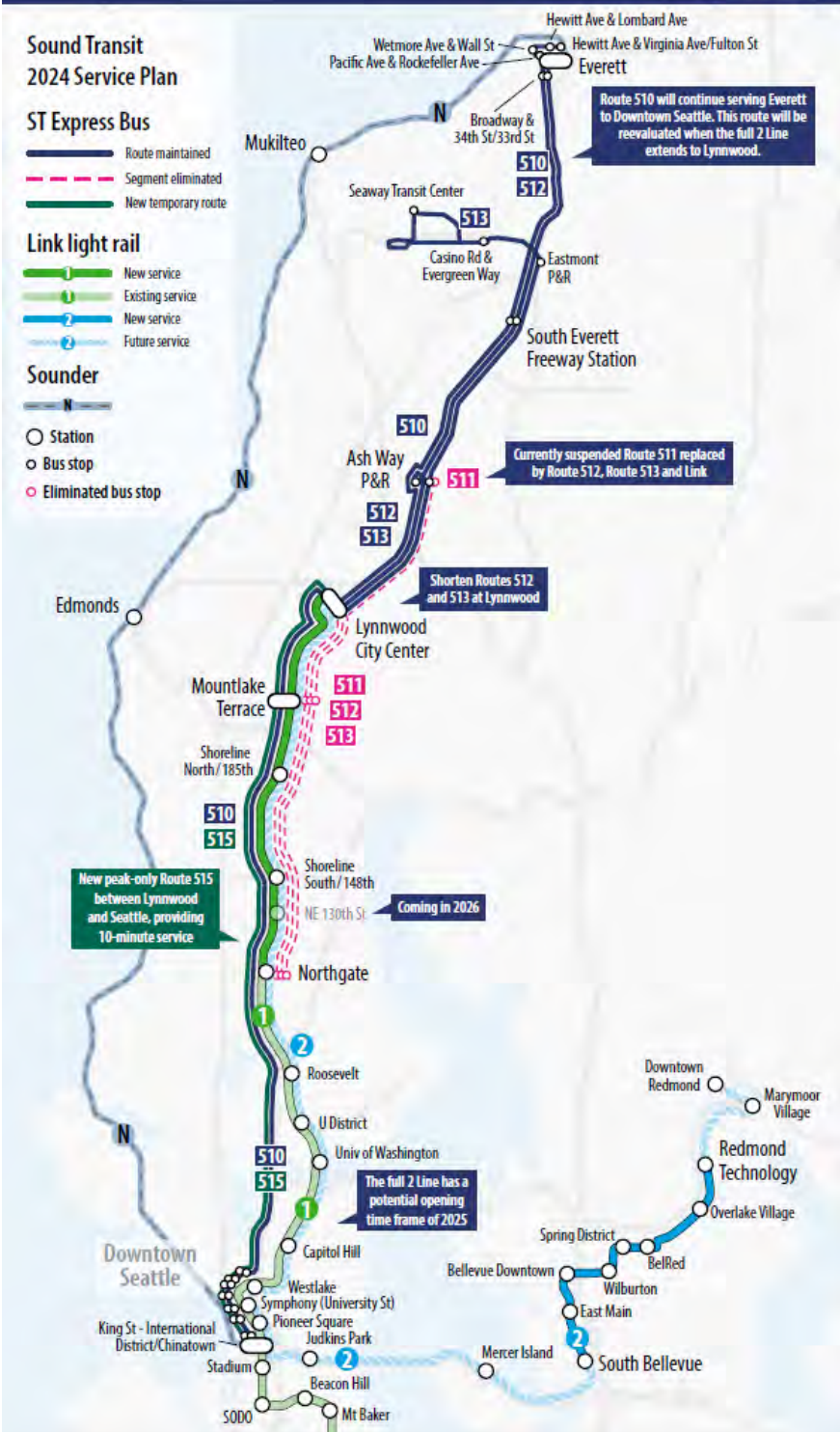


Figure 4: A map of proposed North Subarea Changes coordinated with the opening of Lynnwood Link

Add Temporary new Route 515 (Lynnwood – Seattle)

Proposed Service Change

Add a new temporary peak-only Route 515 to supplement Link capacity between Lynnwood and downtown Seattle. Route 515 travels southbound from Lynnwood in the morning peak period and northbound from Seattle in the afternoon as frequently as every 10 minutes (Table 7). Monitoring of ridership and performance of this temporary route would occur following implementation.



Figure 5: Route 515 proposed service map

Table 7: Approximate span of service and headways of Route 515 current and proposed service

Approximate Frequencies		
	No current service	New Route 515 Lynnwood – Seattle
Weekdays	-	5:00 AM – 7:00 PM
Early AM	-	30 min.
AM Peak	-	10 min.
Midday	-	None
PM Peak	-	10 min.
Evening	-	30 min.
Late Evening	-	None

Frequencies are approximate and may vary by direction and may be revised as additional scheduling and operational planning occurs. 30 minute Early AM and Evening service for hour preceding AM peak (5-6AM), and following PM peak (6-7PM)

Table 8: Weekly revenue hours for Route 515 current and proposed service

	No current service	Proposed Route 515	Percent change
Weekly revenue hours	-	184	N/A – New Service

Route 515 would have 184 weekly revenue hours (Table 8). Resources would be sourced by reallocating saved resources from shortening Routes 512 and 513 from Northgate to Lynnwood.

Adverse Effects

The new temporary Route 515 does not result in any adverse effects because it adds service. The route would provide an additional option for passengers traveling to downtown Seattle at the times when 1 Line service is anticipated to be most crowded.

Title VI Analysis

Adding a new route qualifies as a major service change subject to Title VI analysis. In this case, there is no adverse effect because the route would improve service in the area by providing an additional option for passengers traveling downtown.

- **No disparate impact:** The minority population of Route 515 does not exceed the district average by at least five percentage points (Table 9).
- **No disproportionate burden** The low-income of Route 515 does not exceed the district average by at least five percentage points (Table 9).

Table 9: Title VI Populations in the Sound Transit District and the Route 515 service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
Sound Transit District	42.7%	20.7%	10.4%
Route 515 Service Area	41%	19.7%	10.7%
Difference	-1.7%	-1%	+0.3%
Exceeds percentage of the protected population within the District by at least five percentage points	No	No	

Mitigations

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

Public Input

In July 2023, Sound Transit conducted community engagement to inform the public about the proposed service changes in the 2024 Service Plan. At the time, the proposed changes did not include Route 515, and as such no direct questions were asked. However, comments received regarding Route 510 which operates a similar service profile, were in favor of retaining and expanding supplemental capacity to downtown for a variety of reasons, such as span of service.

In January 2024, supplementary engagement was conducted to collect feedback on the revised 2024 Service Plan Phase Two proposed service changes (see “Planning Context” section for background on the updated proposals). All participants who commented on Route 515 supported the proposal. Some respondents noted that Route 515 increases travel options.

Conclusion

Route 515 does not have adverse impacts, nor is there a determination of disparate impact or disproportionate burden. Based on the supplemental 2024 Service Plan engagement, riders appear to be supportive of the proposal.

Proposed Major Service Change Route 511 – Ash Way-Northgate

Formalize emergency service suspension currently in effect due to significant operator shortages by eliminating route. Route 512 and Route 513 provide alternative service at the same stops as the suspended Route 511.



Figure 6: Route 511 service change proposal

Table 120: Approximate span of service and headways of Route 511 current and proposed service

Approximate Frequencies		
Eliminated & Route 511, Ash Way - Replaced by Routes Northgate 512 & 513		
Weekdays	4:15 AM – 7:00PM	
Early AM	30 min.	See Routes 512 and 513 for replacement service levels
AM Peak	8-16 min	
Midday	None	
PM Peak	8-16 min	
Evening	None.	
Late Evening	None	

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

Table 11: Weekly revenue hours for Route 511 current and proposed service

	Current Route 511	Proposed Route 511	Percent change
Weekly revenue hours	113	0	-100%

Since the route would be eliminated, there would be no weekly revenue hours (Table 11). The reduction in service allows remaining service in the corridor, including Route 512 and Route 513, to operate within available staffing levels and with more reliability.

Adverse Effects

- **Route Elimination:** Route 511 would be permanently eliminated. Peak direction service at Ash Way Park and Ride would continue to be provided by Route 512 with a connection at Lynnwood City Center Station to the 1 Line. Route 512 service is also more frequent at the off peak. Route 512 also has weekend 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 route is eliminated. The service change reduces overall revenue hours in the corridor.

- **No disparate impact:** The minority population of Route 511 does not exceed the district average by at least five percentage points (Table 12).
- **No disproportionate burden:** The low-income of Route 511 does not exceed the district average by at least five percentage points (Table 12).

Table 12: Title VI Populations in the Sound Transit District and the Route 511 service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
Sound Transit 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	

Mitigations

Mitigations are not required since there is no finding of disparate impact or disproportionate burden. Peak direction service at Ash Way Park & Ride will continue to be provided by Route 512 with a connection at Lynnwood City Center Station to the 1 Line.

Public Input

In September 2022, facing severe operator staffing shortages and declining service reliability, Sound Transit staff surveyed riders at Northgate Station to determine whether they would prioritize timed connections with Link or longer waits with better service reliability. The results of the survey supported the redesign of the ST Express network at Northgate by eliminating the peak period/peak direction Route 511 and replacing it with new peak period/peak direction service on Route 512 as a strategy to reduce service to operate within available workforce.

In July 2023, Sound Transit conducted community engagement to inform the public about the proposed service changes in the 2024 Service Plan, including formalizing the suspension of Route 511. Overall, a total of 12 comments and survey responses were received for the Route 511 proposal.

- One respondent expressed a desire for this route to be reinstated and extended, citing benefits to reverse-direction commuters. *(Note: Route 511 only operated in the peak-direction, Route 512 provided reverse-direction service)*
- Other comments requested that the route be removed with the resources reinvested into Route 512, due to all-day services being more useful to passengers than peak-only expresses.

The Route 511 proposal was not included in the January 2024 engagement because the proposal has not changed from July 2023.

Conclusion

The Route 511 service change results in adverse effects. However, there is no determination of disparate impact or disproportionate burden.

Shorten Route 512 to Lynnwood (Everett-Lynnwood)

Proposed Major Service Change

Shorten Route 512 to operate between Everett and Lynnwood City Center Station (Lynnwood Transit Center) with a connection to the 1 Line. Service would operate as often as every 15 minutes throughout the day in both directions on weekdays and weekends.



Figure 7: Route 512 service change proposal

Table 13: Approximate span of service and frequencies of current and proposed Route 512 service

Approximate Frequencies		
	Current Route 512, Everett – Northgate	Proposed Route 512, Everett – Lynnwood
Weekdays	4:00 AM – 12:45 AM	4:00 AM – 1:30 AM
Early AM	30 min.	30 min.
AM Peak	15-30 min.	15 min.
Midday	15 min.	15 min.
PM Peak	15 min.	15 min.
Evening	15-30 min.	15 min.
Late Evening	30 min.	30 min.
Saturday	4:30 AM – 12:45 AM	4:15 AM – 1:45 AM
Day	10-20 min.	15 min.
Evening	10-20 min.	15 min.
Late Evening	15 min.	30 min.
Sunday	4:45 AM – 12:45 AM	4:15 AM – 1:45 AM
Day	10-20 min.	15 min.
Evening	10-20 min.	15 min.
Late Evening	15-30 min.	30 min.

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

Table 14: Weekly revenue hours for Route 512 current and proposed service

	Current Route 512	Proposed Route 512	Percent change
Weekly revenue hours	922	703	-24%

While weekly revenue hours would decrease by 24% (Table 14) after the truncation at Lynnwood, the distance traveled by each bus would also be decreasing, allowing service levels to remain the same or improve between the current and proposed. Currently, it takes about 40-60 minutes to travel from Everett to Northgate, with approximately 20 minutes of that time comprising travel between Lynnwood and Northgate (Figure 8)⁹. As a result, even though revenue hours are decreasing by about 25%, overall service levels would remain unchanged. Resources saved by the truncation are transferred to the new temporary Route 515 and to continue operating Route 510 (Everett-Seattle) to provide additional capacity at the time the 1 Line is anticipated to be the most crowded.

⁹ Data sourced from travel times projected by Remix. Travel times vary throughout the day based off traffic patterns, congestion, and relative speed of commuter lanes.

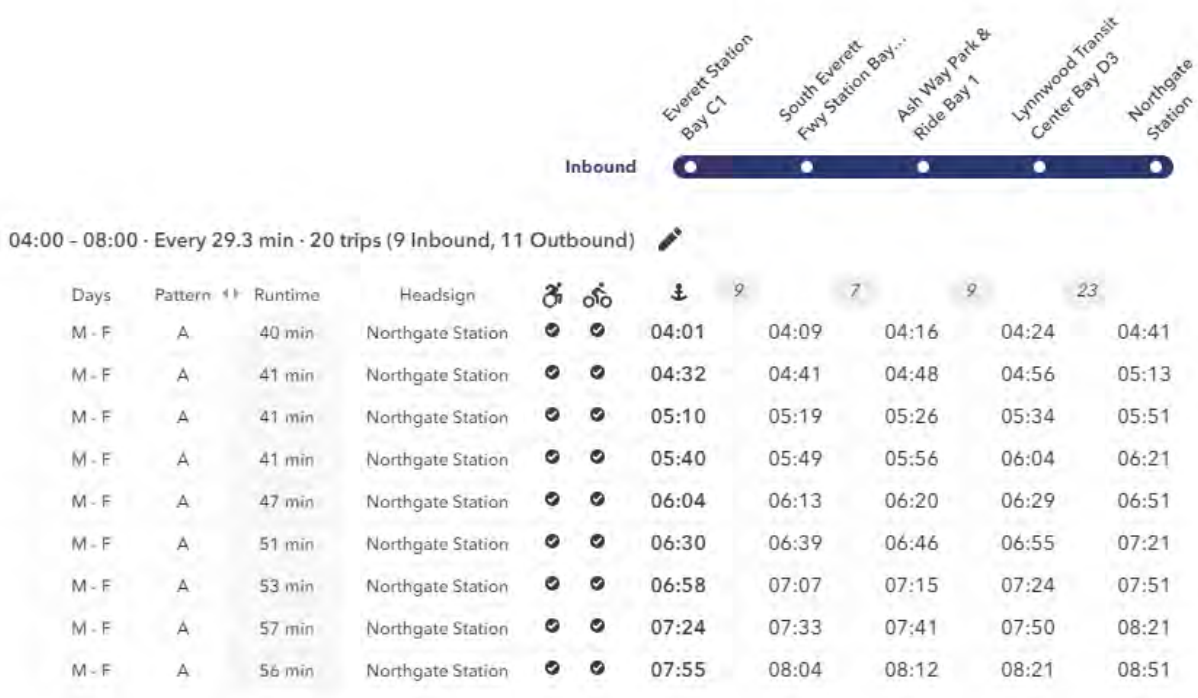


Figure 8 - Remix Travel Times, September 2023 schedule.

Adverse Effects

- Route Segment Elimination:** Route 512 would be truncated at Lynnwood City Center Station (Lynnwood Transit Center). Bus stops south of Lynnwood City Center would be eliminated. Passengers would need to transfer to the 1 Line to get to stations between Lynnwood and Northgate. Currently, passengers going south of Northgate on the 1 Line already must transfer. Connecting to Link earlier at Lynnwood provides riders the opportunity to spend less time in traffic congestion on I-5, increasing the reliability of travel.
- Service Coverage:** Service coverage would decrease on Route 512 due to the truncation. Passengers could transfer to the 1 Line to travel to the same destinations south of Lynnwood. The 1 Line will operate more frequently and offer more travel time reliability than current Route 512. 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.

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 would be able to transfer to the 1 Line access to stations between Lynnwood and Northgate Stations.

- **No disparate impact:** The minority population of Route 512 both before and after the service change does not exceed the district average by at least five percentage points (Table 15).
- **No disproportionate burden** The low-income of Route 512 before and after the service change does not exceed the district average by at least five percentage points (Table 15).

Table 15: Title VI Populations in the Sound Transit District and the Route 512 service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
Sound Transit District	42.7%	20.7%	10.4%
Route 512 Service Area (Before Service Change)	36.9%	20.9%	10.8%
Route 512 Service Area (After Service Change)	41.9%	23.6%	13.0%
Difference (current vs. District)	-5.8%	0.2%	0.4%
Difference (proposed vs. 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	

Mitigations

Mitigations are not required since there is no finding of disparate impact or disproportionate burden. Lynnwood Link would replace current Route 512 service between Lynnwood and Northgate offering more reliable service with more frequency throughout the day.

Public Input

In July 2023, Sound Transit conducted community engagement to inform the public about the proposed service changes in the 2024 Service Plan.

A total of 45 comments and survey responses were received for the Route 512 proposal.

- Respondents were broadly supportive and excited for our planned improvements for Route 512, as well as the connection to the 1 Line.
- One rider indicated they will begin riding Route 512 to transfer to the 1 Line instead of Route 510.

During the January 2024 supplementary engagement, only four participants commented on the revised proposal. All four participants opposed the proposal.

- One comment praised the 512 offering options between Seattle, Lynnwood, and Northgate. Another comment suggested continuing Route 512 from Ash Way to Seattle even after the 1 Line Lynnwood Link Extension opening to handle passenger volume.
- One comment indicated support for the original 2024 Service Plan's proposal for simplified 512 service over the January proposal to continue Route 510 and introduce the new temporary Route 515.

Conclusion

The Route 512 service change results in adverse effects. However, there is no determination of a disparate impact or disproportionate burden. Through 2024 Service Plan engagement, Sound Transit collected input about the proposed change. Looking at responses from both the July 2023 and January 2024 engagement periods, respondents were supportive overall.

Shorten Route 513 to Lynnwood (Seaway-Lynnwood)

Proposed Service Change

Shorten Route 513 to operate between Seaway Transit Center and Lynnwood Transit Center. Continue to operate service every 30 minutes during peak periods, traveling southbound from Seaway Transit Center in the morning and northbound from Lynnwood in the afternoon.



Figure 9: Route 513 service change proposal

Table 16: Approximate span of service and frequencies of current and proposed Route 513 service. Based on approximate trip start times.

Approximate Frequencies		
	Current Route 513, Seaway – Northgate	Proposed Route 513, Seaway – Lynnwood
Weekdays	4:45 AM – 7:00 PM	5:00 AM – 6:30 PM
Early AM	30 min.	30 min.
AM Peak	30 min	30 min.
Midday	None	None
PM Peak	30 min.	30 min.
Evening	None	None
Late Evening	None	None

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

The span of service for Route 513 would not change significantly (Table 16). Frequencies would remain the same.

Table 17: Weekly revenue hours for Route 513 current and proposed service

	Current Route 513	Proposed Route 513	Percent change
Weekly revenue hours	90	65	-28%

While weekly revenue hours would decrease by 28% as a result of a shorter route (Table 17), overall service levels would be maintained. Resources saved by shortening the route allow for operation of new Route 515 and continuing Route 510 to Seattle to provide additional capacity when the 1 Line is expected to be the most crowded.

Adverse Effects

- **Route Segment Elimination:** Route 513 would be truncated at Lynnwood City Center Station (Lynnwood Transit Center). Bus stops would be eliminated. Passengers would 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 could use Route 512 at off-peak hours. Route 513 passengers could also use the 1 Line starting at Lynnwood City Center.
- **Service Coverage:** Service coverage would decrease on Route 513 due to truncation at Lynnwood City Center. Passengers could transfer to the 1 Line to access areas south of Lynnwood. The 1 Line will operate more frequently and offer more travel time reliability than current Route 513.

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.

- **No disparate impact:** The minority population of Route 513 both before and after the service change does not exceed the district average by at least five percentage points (Table 15).
- **No disproportionate burden:** The low-income of Route 513 before and after the service change does not exceed the district average by at least five percentage points (Table 15).

Table 18: Title VI Populations in the Sound Transit District and the Route 513 service area

	Minority Population	Low-Income Population	Limited English Proficiency (LEP) Population
Sound Transit 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. District)	-4.4%	-0.2%	0.7%
Difference (proposed vs. 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	

Mitigations

Mitigations are not required since there is no finding of disparate impact or disproportionate burden. 1 Link service would replace the segment between Lynnwood and Northgate.

Public Input

In July 2023, Sound Transit conducted community engagement to inform the public about the proposed service changes in the 2024 Service Plan.

A total of 11 comments and survey responses were received for the Route 513 proposal.

- Most respondents were supportive of our proposal for Route 513, citing improved access to employers in the reverse-peak direction, such as Boeing.

During the January 2024 supplemental engagement, four out of the seven participants who commented on the proposal supported it. One comment opposed the Route 513 proposal because of its frequency and speed compared to King County Metro Route 116. Another comment opposed the proposal because of the travel options provided by Route 513.

Conclusion

The Route 513 service change results in adverse effects. However, there is no determination of disparate impact or disproportionate burden. Through 2024 Service Plan engagement, Sound Transit collected input about the proposed change. Most respondents were supportive of the proposal.

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 create 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 compares benefits and impacts to Title VI protected & non-protected populations on all routes with changes over multiple years. This marks the first time Sound Transit completed a systemwide analysis based on the new Title VI policy, adopted by the Board of Directors in August 2022. **The results of the systemwide analysis did not identify any findings.**

The systemwide analysis evaluates service reductions and service additions separately. The analysis shows that the distribution of benefits to protected populations exceeds 80% for protected populations and the reduction of service to protected populations does not exceed 20% of the distribution. Therefore, the systemwide analysis did not identify any adverse effects on protected populations from September 2021 to September 2024. The following sections step through the process for each analysis.

Methodology

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

Identifying Systemwide Service Additions & Reductions

The first step in the analysis identifies service reductions and additions by route. Table 19 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.

Changes in revenue hours reflect the opening of new Link service, the coordinated restructure of ST Express routes in response, and the on-going impact of staffing shortages which limit the amount of service delivered. Some routes operated by Pierce Transit, denoted with grey shading, are currently operating fewer hours than are reflected in this table as a result of temporary emergency reductions approved by the Sound Transit Board of Directors in Motion M2023-113.

Route	Sept. 2021	March 2022	Sept. 2022	March 2023	Sept. 2023	March 2024	Sept. 2024	Difference Sept. 2024 and Sept. 2021	Percent Difference Sept. 2024 and Sept. 2021	Addition or Reduction
1 Line	1,985	2,130	2,128	2,190	2,190	2,190	2,469	484	24%	Addition
2 Line	0	0	0	0	0	638	638	638	N/A	Addition
510	193	183	171	172	172	172	210	17	9%	Addition
511	142	113	95	0	0	0	0	-142	-100%	Reduction
512	1,035	951	898	922	922	922	703	-332	-32%	Reduction
513	118	123	116	96	96	96	65	-53	-45%	Reduction
515	0	0	0	0	0	0	184	184	N/A	Addition
522	1,019	1,003	978	975	975	975	975	-44	-4%	Reduction
532	135	133	129	125	125	125	126	-9	-7%	Reduction
535	420	412	406	398	398	398	411	-9	-2%	Reduction
542	416	417	415	427	427	427	427	11	3%	Addition
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%	Addition
560	665	656	697	673	673	673	673	8	1%	Addition
566	334	209	194	196	196	196	196	-138	-41%	Reduction
574	763	768	772	772	772	772	772	9	1%	Addition
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	9%	Addition
590	430	323	329	329	329	329	329	-101	-23%	Reduction
592	241	177	171	171	171	171	171	-70	-29%	Reduction
594	856	842	862	861	861	861	861	5	1%	Addition
595	55	54	61	61	61	61	61	6	11%	Addition
596	44	46	42	42	42	42	42	-2	-5%	Reduction
N Line	26	26	26	26	26	26	53	27	104%	Addition
S Line	165	177	183	183	183	183	183	18	11%	Addition
T Line	195	195	191	191	480	480	480	285	146%	Addition

Table 19: Scheduled weekly revenue hours by service change from September 2021 - September 2024

Systemwide Service Reductions Analysis

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

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

Table 20 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 20: 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
511	-142	409,600	151,900	257,700	76,900	332,700
512	-332	322,700	135,100	187,600	76,100	246,600
513	-53	270,000	117,800	152,200	62,500	207,500
522	-44	129,800	42,400	87,400	17,800	112,000
532	-9	351,700	148,800	202,900	73,500	278,200
535	-9	242,600	95,600	147,000	38,500	204,100
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	-138	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	-70	158,800	83,500	75,300	50,300	108,500
596	-2	65,500	14,100	51,400	10,200	55,300
Population Percentage Affected by Reduction ¹⁰		38%	37%	39%	35%	39%

¹⁰Percentage affected by reduction calculated by summing the populations served by each route with a reduction, then divided by the sum of populations served by all routes to calculate a percentage. Note that some routes have overlapping service areas.

Analysis

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

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

- Minority population adversely affected: 37%
- Non-Minority population adversely affected: 39%
- Low-Income population adversely affected: 35%
- Non-Low-Income population adversely affected: 39%

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 21). **Because the result of negative four percent is not 20 percent or greater, no disparate impact was identified.**

Table 21: Service reduction disparate impact test

Minority Population Adversely Affected	Non-Minority Population Adversely Affected	Ratio Comparison	Threshold for Disparate Impact	Result
37%	39%	$37\% \div 39\% = -4\%$ ¹	20% or greater	No disparate impact
¹ In order to compare with the policy threshold the ratio calculation is shown as the difference from 100%.				

Service Reductions Disproportionate Burden Test

To evaluate for a potential disproportionate burden, the percentage of the low-income population adversely affected is compared to the percentage of the non-low-income population adversely affected using a ratio (Table 22). **Because the result of negative nine percent is not 20 percent or greater, no disproportionate burden was identified.**

Table 22: Service reduction disproportionate burden test

Low-Income Population Adversely Affected	Non- Low-Income Population Adversely Affected	Ratio Comparison	Threshold for Disproportionate Burden	Result
35%	39%	$35\% \div 39\% = -9\%$ ¹	20% or greater	No disproportionate burden
¹ In order to compare with the policy threshold the ratio calculation is shown as the difference from 100%.				

Systemwide Service Additions Analysis

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

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

Table 23 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 23: 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	553,700	722,900	270,100	1,006,500
2 Line (South Bellevue to Redmond Technology Stations)	638	393,539	184,600	208,939	46,800	346,739
510	17	330,000	134,300	195,700	76,500	253,500
515	184	235,900	96,700	139,200	46,500	189,400
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	5	238,500	119,800	118,700	77,800	160,700
595	6	262,700	99,600	163,100	64,200	198,500
N Line	27	388,300	145,600	242,700	86,800	301,500
S Line	18	1,221,400	593,900	627,500	321,200	900,200
T Line	285	302,800	133,100	169,700	82,900	219,900
Population Percentage Benefiting by Addition ¹¹		62%	63%	61%	65%	61%

¹¹ 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.

Analysis

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

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

- Minority population benefiting: 63%
- Non-Minority population benefiting: 61%
- Low-Income population benefiting: 65%
- Non-Low-Income population benefiting: 61%

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 24).

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

Table 24: Service additions disparate impact test

Minority Population Benefiting	Non-Minority Population Benefiting	Ratio Comparison	Threshold for Disparate Impact	Result
63%	61%	$63\% \div 61\% = 103\%$	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 25). **Because the result of 106% percent is greater than the 80 percent or less threshold, no disproportionate burden was identified.**

Table 25: Service additions disproportionate burden test

Low-Income Population Benefiting	Non- Low-Income Population Benefiting	Ratio Comparison	Threshold for Disproportionate Burden	Result
65%	61%	$65\% \div 61\% = 106\%$	80% or less	No disproportionate burden

Systemwide Analysis Conclusion

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

Therefore, the systemwide analysis did not identify any disparate impacts or disproportionate burdens on protected populations from September 2021 through September 2024.

Sound Transit Service Area Title VI Routes and Population

Table 26: Title VI routes and population statistics (2023)¹²

Route	Total Population	Minority Population		Non-Minority Population	Limited English Proficiency (LEP) ¹³		Low-Income Population ¹⁴		Non-Low Income
1 Line	1,276,600	553,700	43.4%	722,900	146,000	11.4%	270,100	21.2%	1,006,500
2 Line	393,539	184,600	46.9%	208,939	46,200	12%	46,800	11.9%	346,739
510	330,000	134,300	40.7%	195,700	36,700	11.1%	76,500	23.2%	253,500
511	409,600	151,900	37.1%	257,700	41,900	10.2%	76,900	18.8%	332,700
512	322,700	135,100	41.9%	187,600	41,800	13.0%	76,100	23.6%	246,600
513	270,000	117,800	43.6%	152,200	38,300	14.2%	62,500	23.2%	207,500
515	235,900	96,700	41.0%	139,200	25,200	10.7%	46,500	19.7%	189,400
522	129,800	42,400	32.7%	87,400	10,200	7.8%	17,800	13.7%	112,000
532	351,700	148,800	42.3%	202,900	43,900	12.5%	73,500	20.9%	278,200
535	242,600	95,600	39.4%	147,000	26,700	11.0%	38,500	15.9%	204,100
542	88,600	39,600	44.6%	49,000	9,600	10.8%	15,900	18.0%	72,700
545	241,400	117,000	48.5%	124,400	27,400	11.4%	35,000	14.5%	206,400
550	110,000	52,000	47.3%	58,000	11,200	10.2%	19,200	17.5%	90,800
554	170,400	78,600	46.1%	91,800	16,600	9.8%	26,200	15.4%	144,200
556	134,000	57,700	43.1%	76,300	12,600	9.4%	20,600	15.4%	113,400
560	189,200	107,600	56.9%	81,600	35,400	18.7%	45,400	24.0%	143,800
566	323,800	182,200	56.3%	141,600	53,600	16.5%	75,400	23.3%	248,400
574	340,700	188,200	55.2%	152,500	48,900	14.3%	113,600	33.4%	227,100
577	155,600	82,500	53.0%	73,100	20,500	13.2%	40,900	26.3%	114,700
578	273,600	123,800	45.3%	149,800	30,300	11.1%	67,300	24.6%	206,300
580	85,400	23,000	27.0%	62,400	4,300	5.0%	15,400	18.0%	70,000
586	189,200	96,700	51.1%	92,500	23,400	12.4%	63,500	33.6%	125,700
590	153,200	70,500	46.0%	82,700	12,700	8.3%	44,400	29.0%	108,800
592	158,800	83,500	52.6%	75,300	15,000	9.5%	50,300	31.7%	108,500
594	238,500	119,800	50.2%	118,700	22,300	9.3%	77,800	32.6%	160,700
595	262,700	99,600	37.9%	163,100	16,300	6.2%	64,200	24.4%	198,500
596	65,500	14,100	21.5%	51,400	2,000	3.1%	10,200	15.6%	55,300
N Line	388,300	145,600	37.5%	242,700	40,300	10.4%	86,800	22.4%	301,500
S Line	1,221,400	593,900	48.6%	627,500	150,800	12.3%	321,200	26.3%	900,200
T Line	302,800	133,100	44.0%	169,700	26,000	8.6%	82,900	27.4%	219,900
Sound Transit District Average	3,306,990	1,412,085	42.7%	1,894,905	343,927	10.4%	684,547	20.7%	2,622,443

¹² Statistics reflect service area after the service change.

¹³ Limited English is defined as speaking English, "Less than very well."

¹⁴ Low-Income is defined as a 200% poverty level and below.

Route-Level Title VI Population Maps

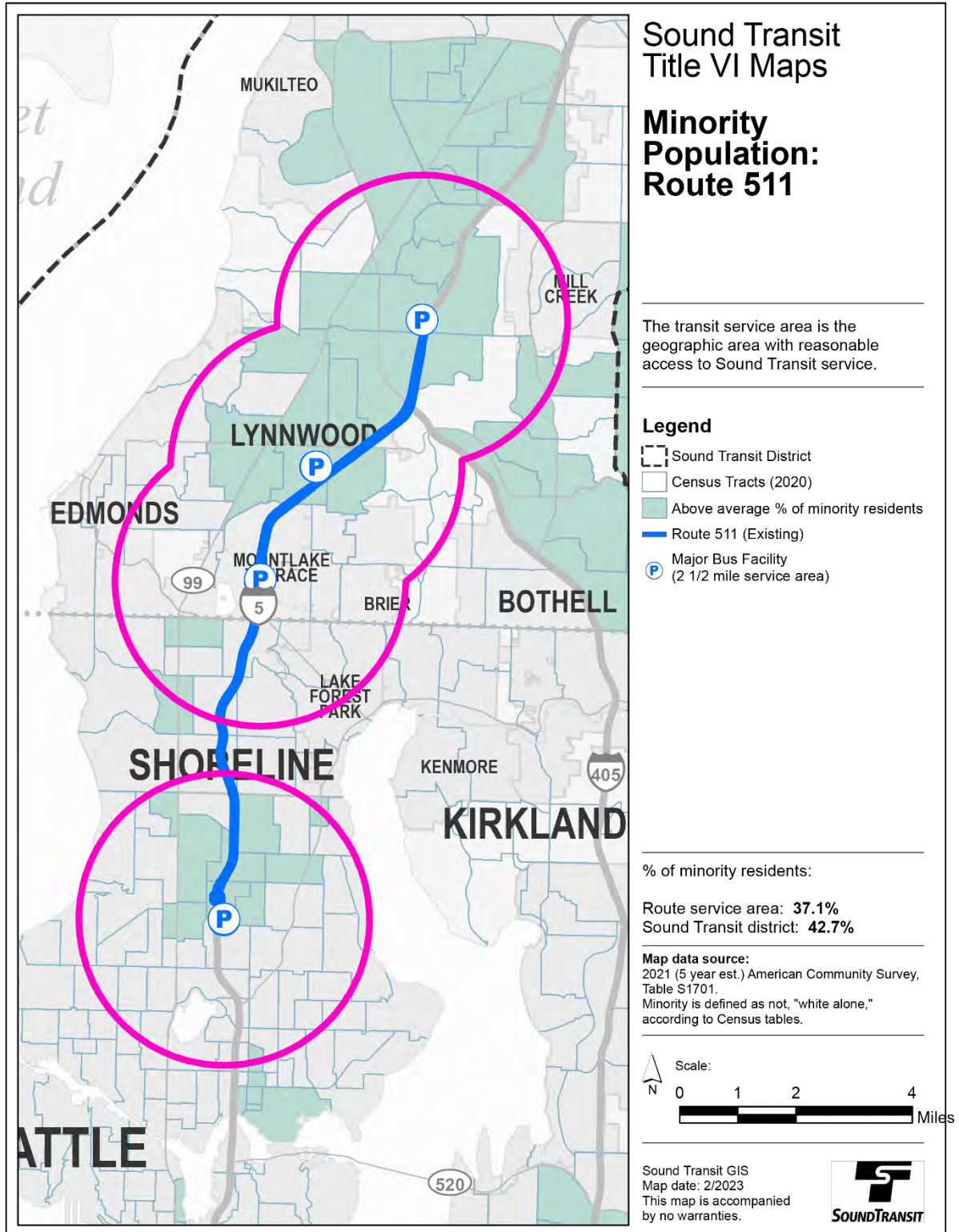


Figure 10: Route 511 stops and minority population

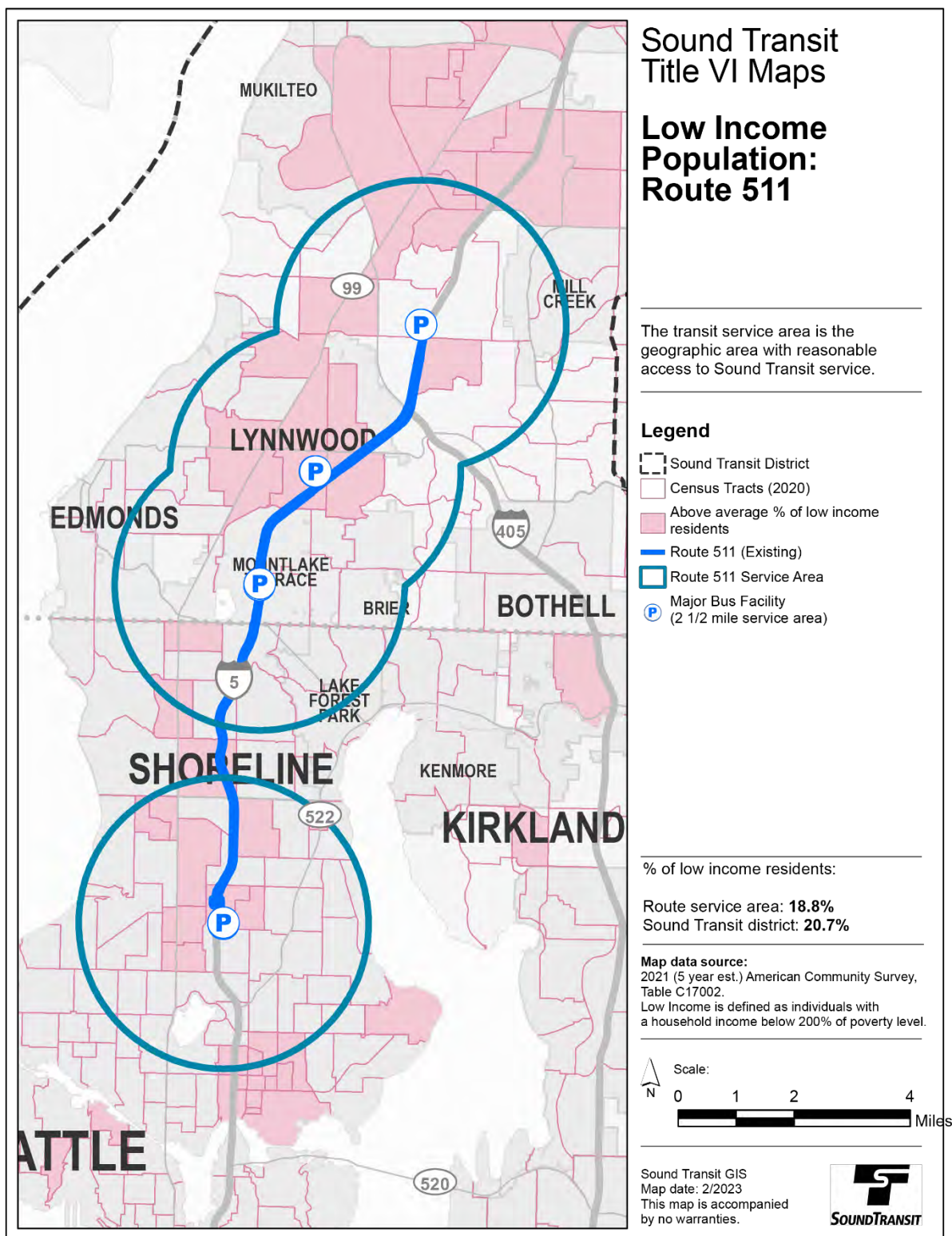


Figure 11: Route 511 stops and low-income population

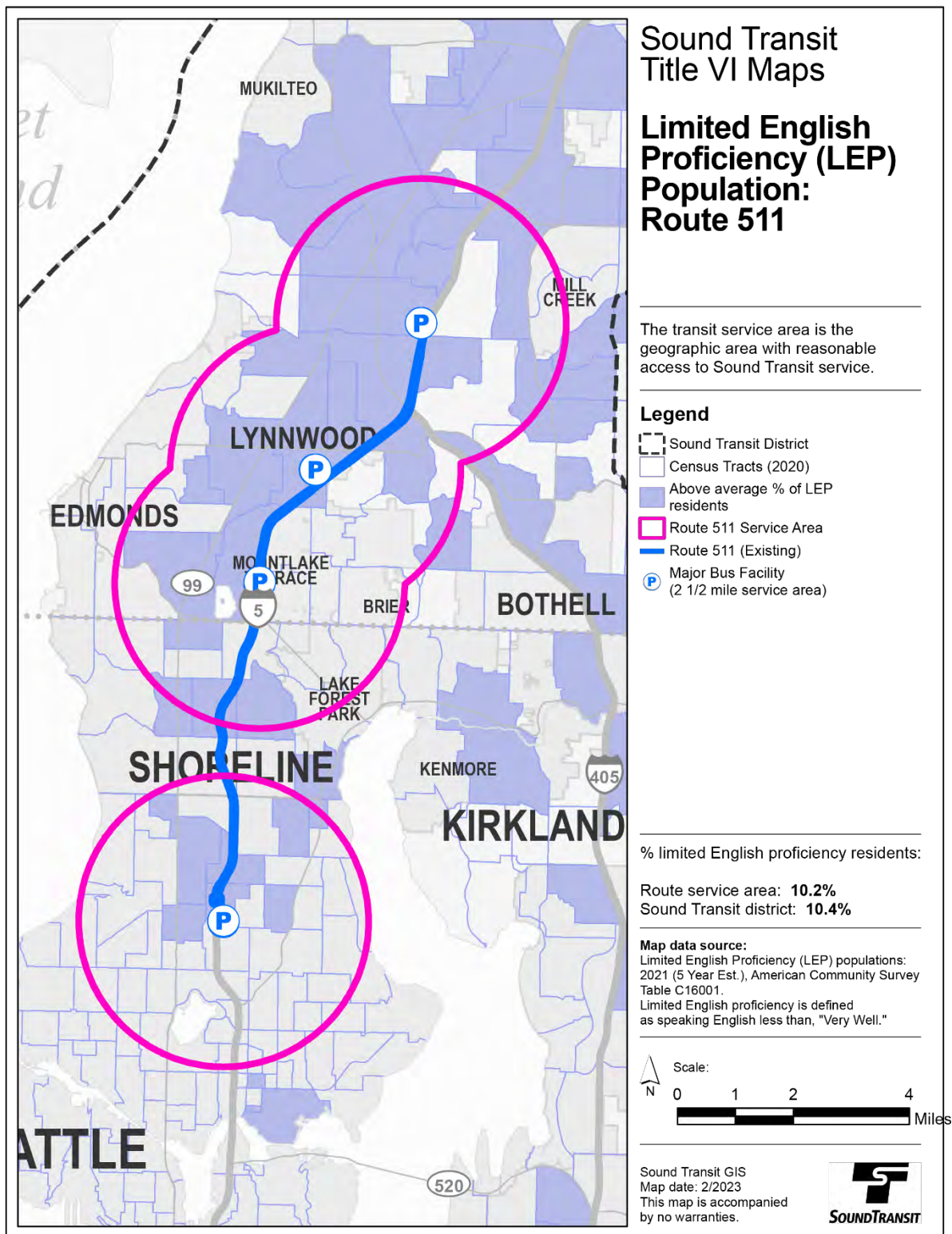


Figure 12: Route 511 stops and Limited English Proficiency (LEP) population

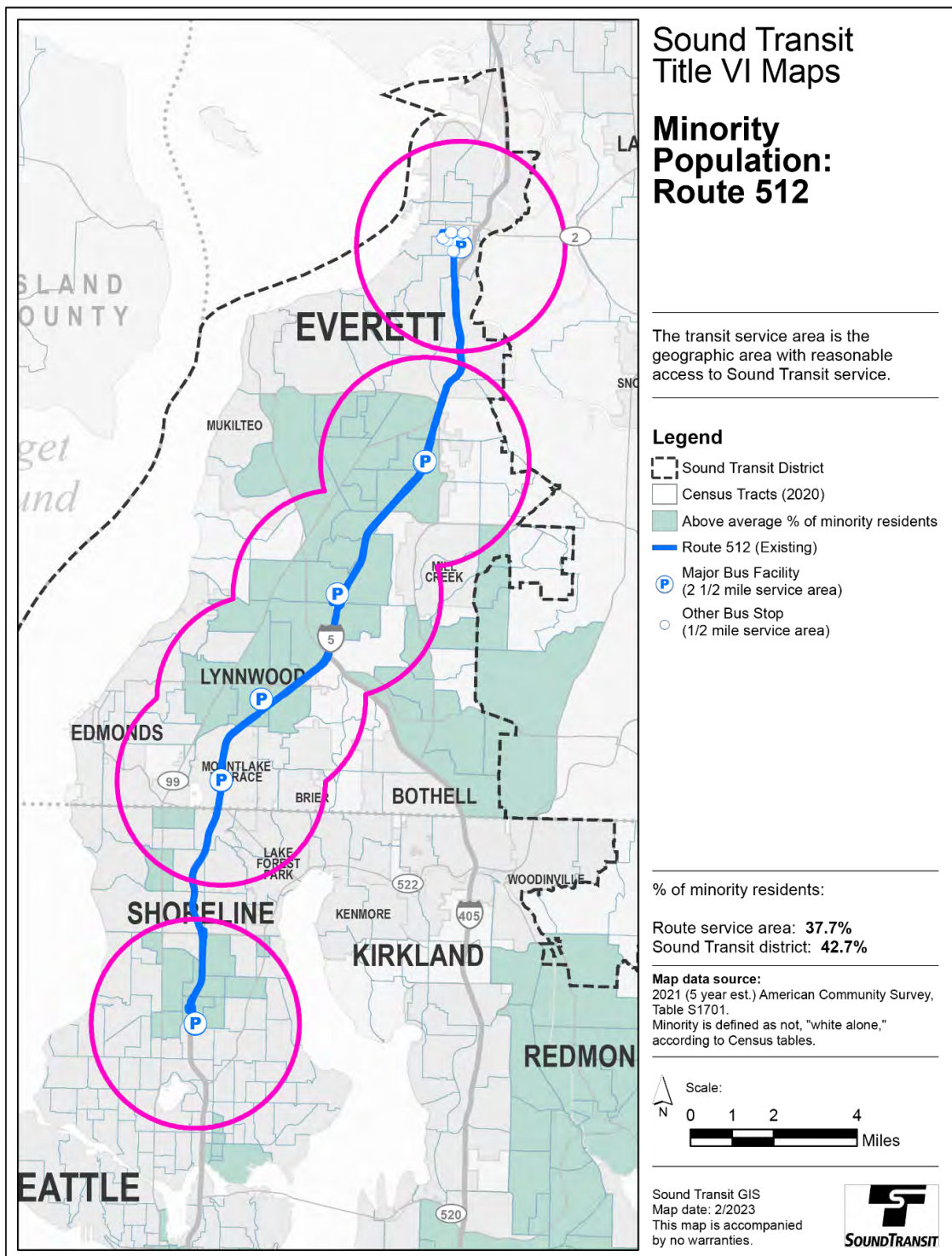


Figure 13: Route 512 stops and minority population before service change.

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.

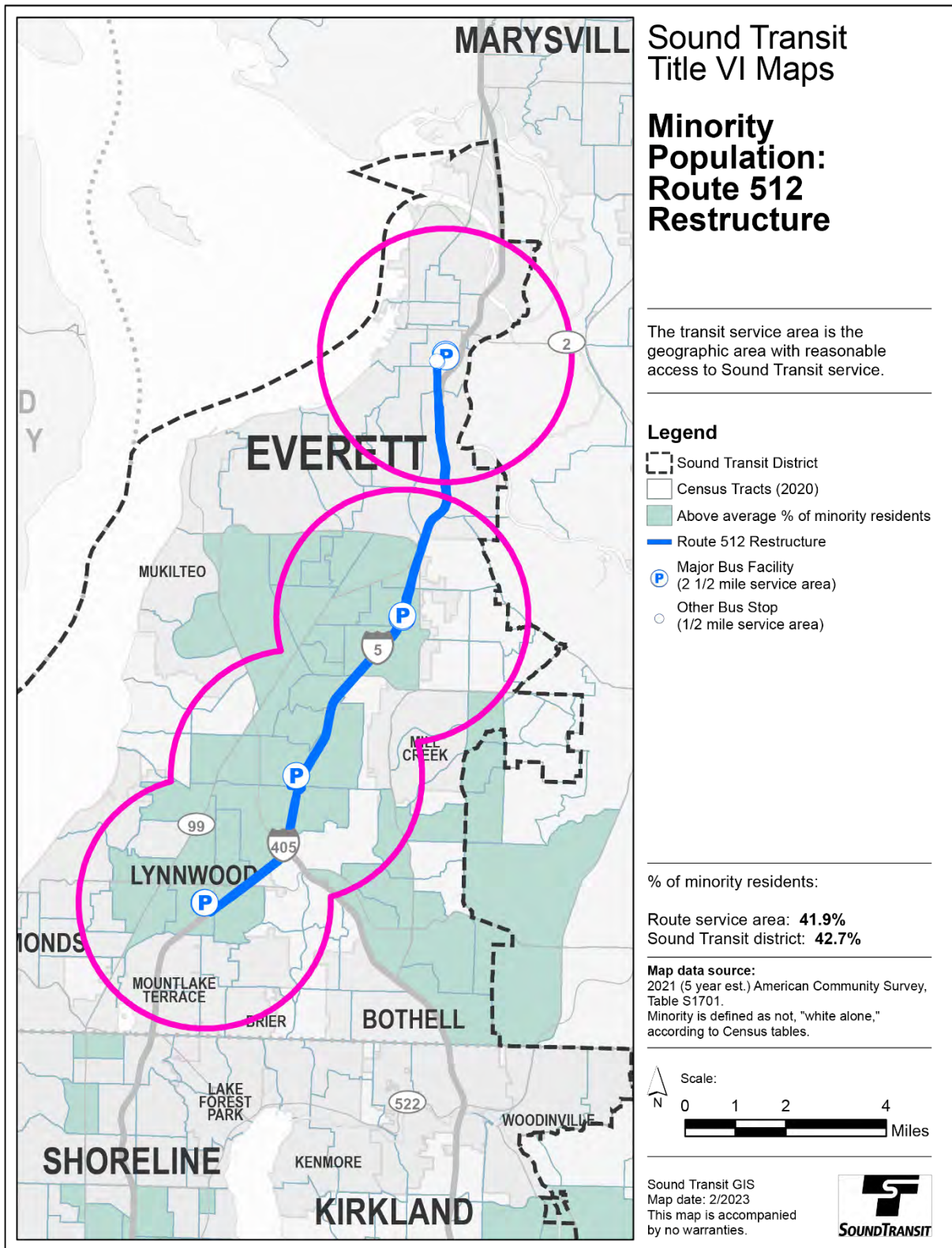


Figure 14: Route 512 stops and minority population after service change.

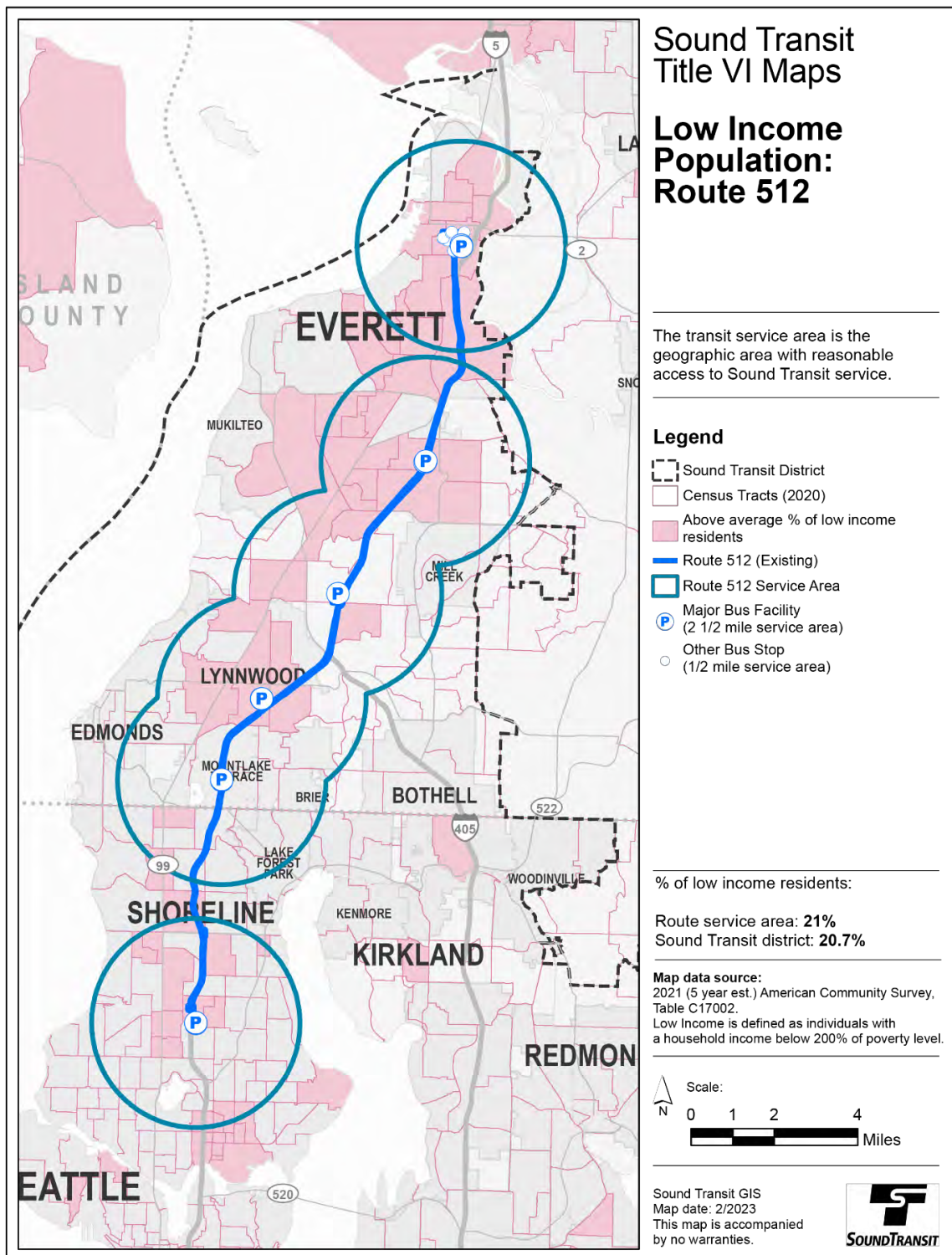


Figure 15: Route 512 stops and low-income population before service change. Note: The primary variant of Route 512 is displayed on this map. There is a late Sunday variable that serves Stadium Station, Downtown Seattle and NE 45th St.

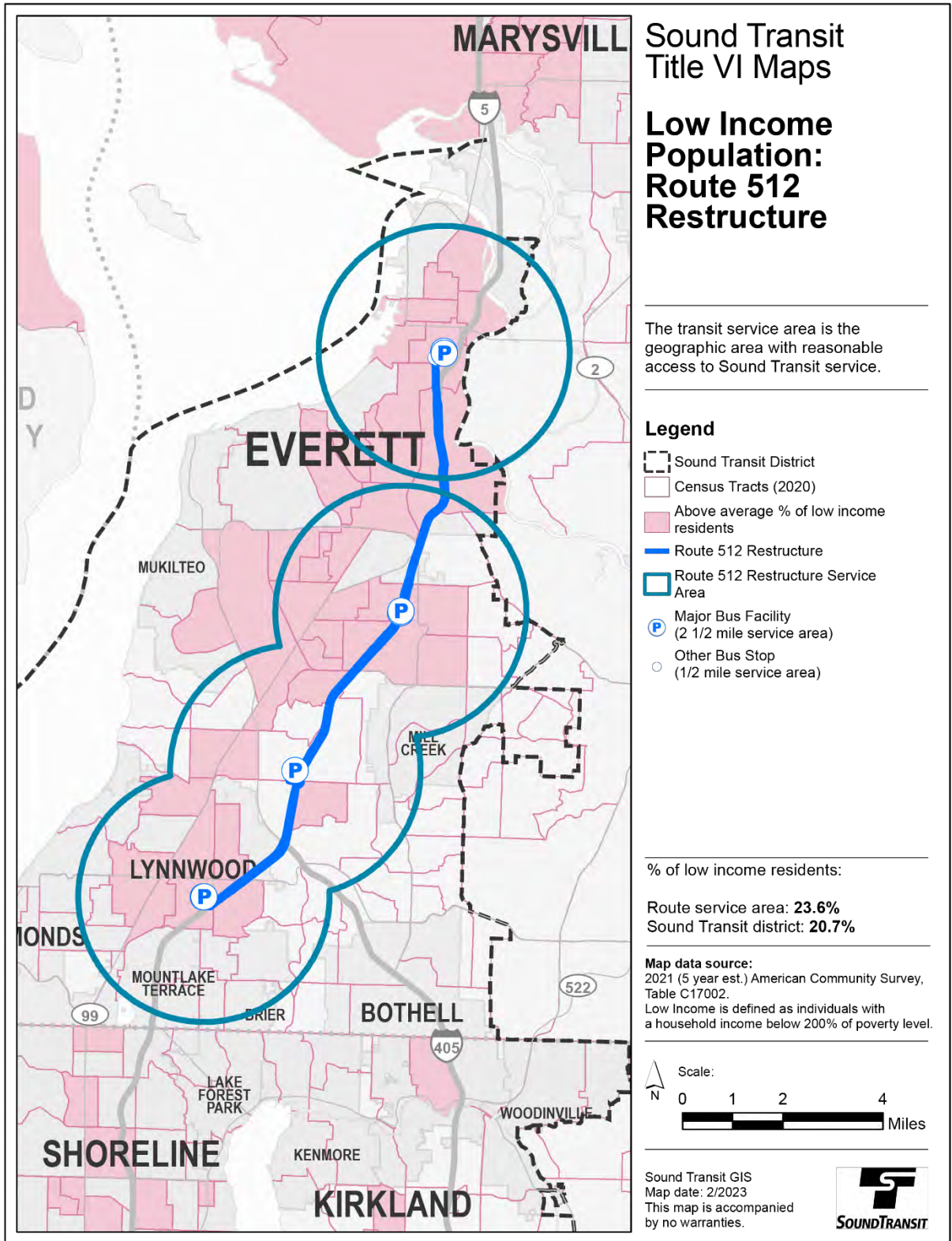


Figure 16: Route 512 stops and low-income population after service change

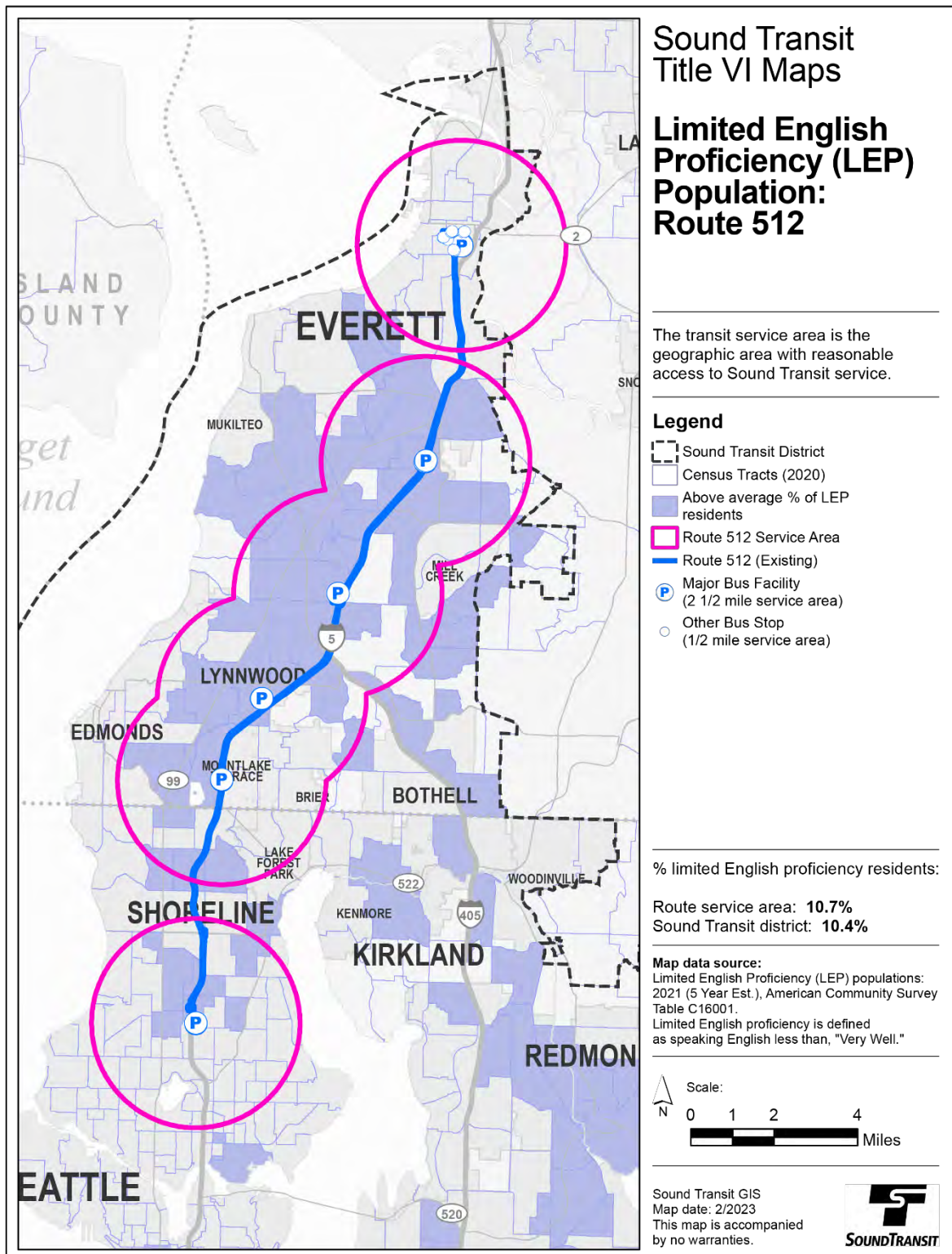


Figure 17: Route 512 stops and Limited English Proficiency (LEP) population before service change. Note: The primary variant of Route 512 is displayed on this map. There is a late Sunday variant that serves Stadium Station, Downtown Seattle and NE 45th St.

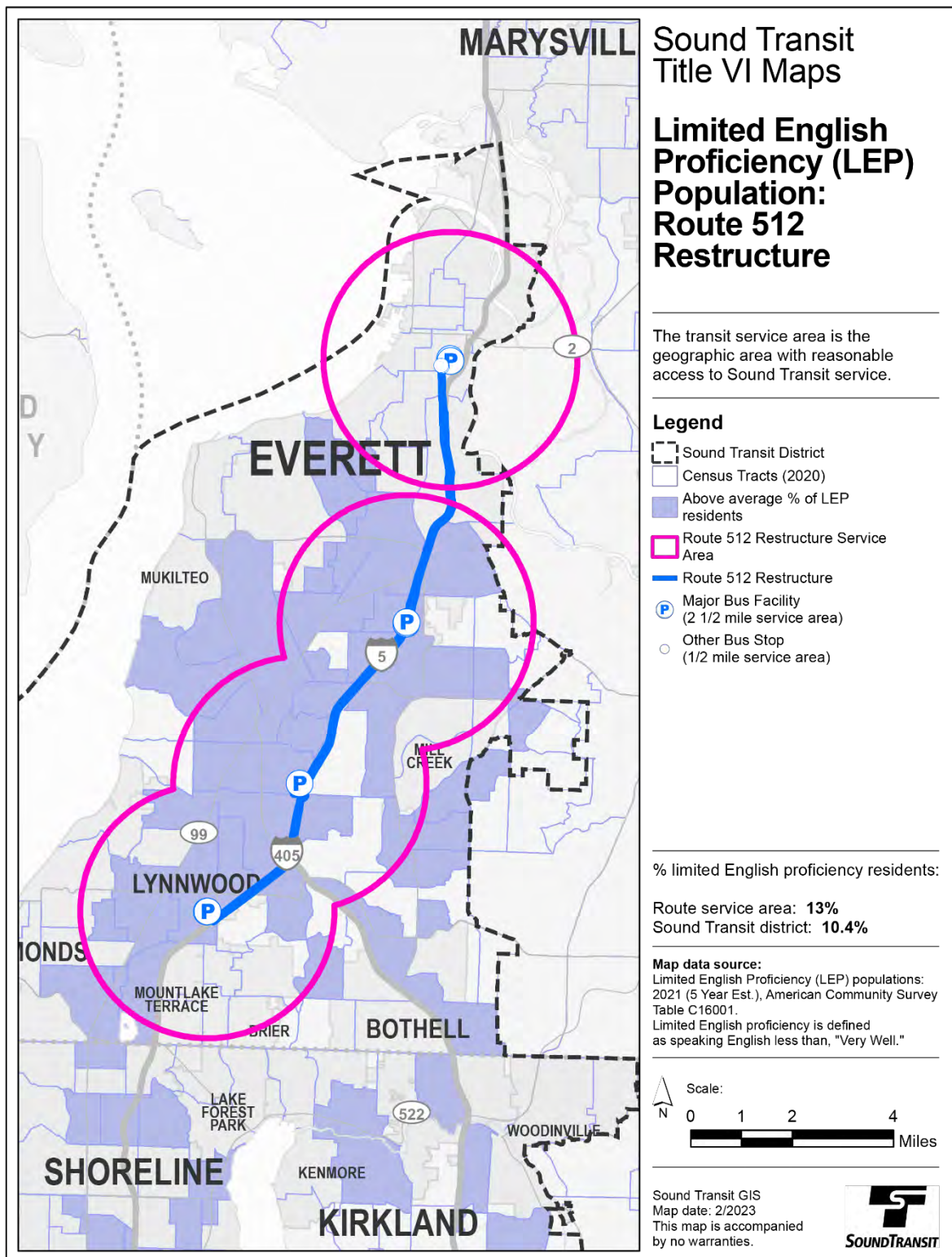


Figure 18: Route 512 stops and Limited English Proficiency (LEP) population after service change

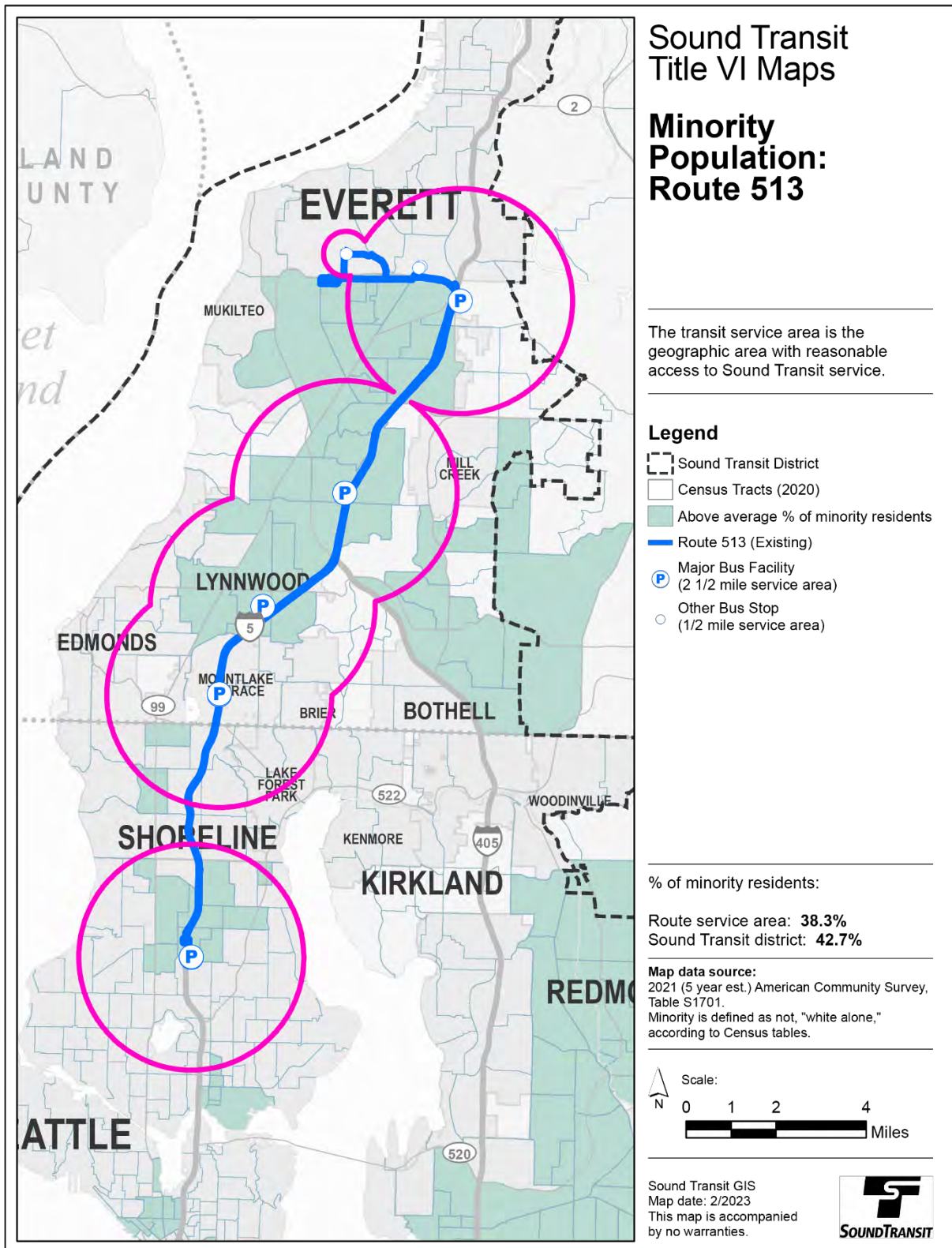


Figure 19: Route 513 stops and minority population before service change

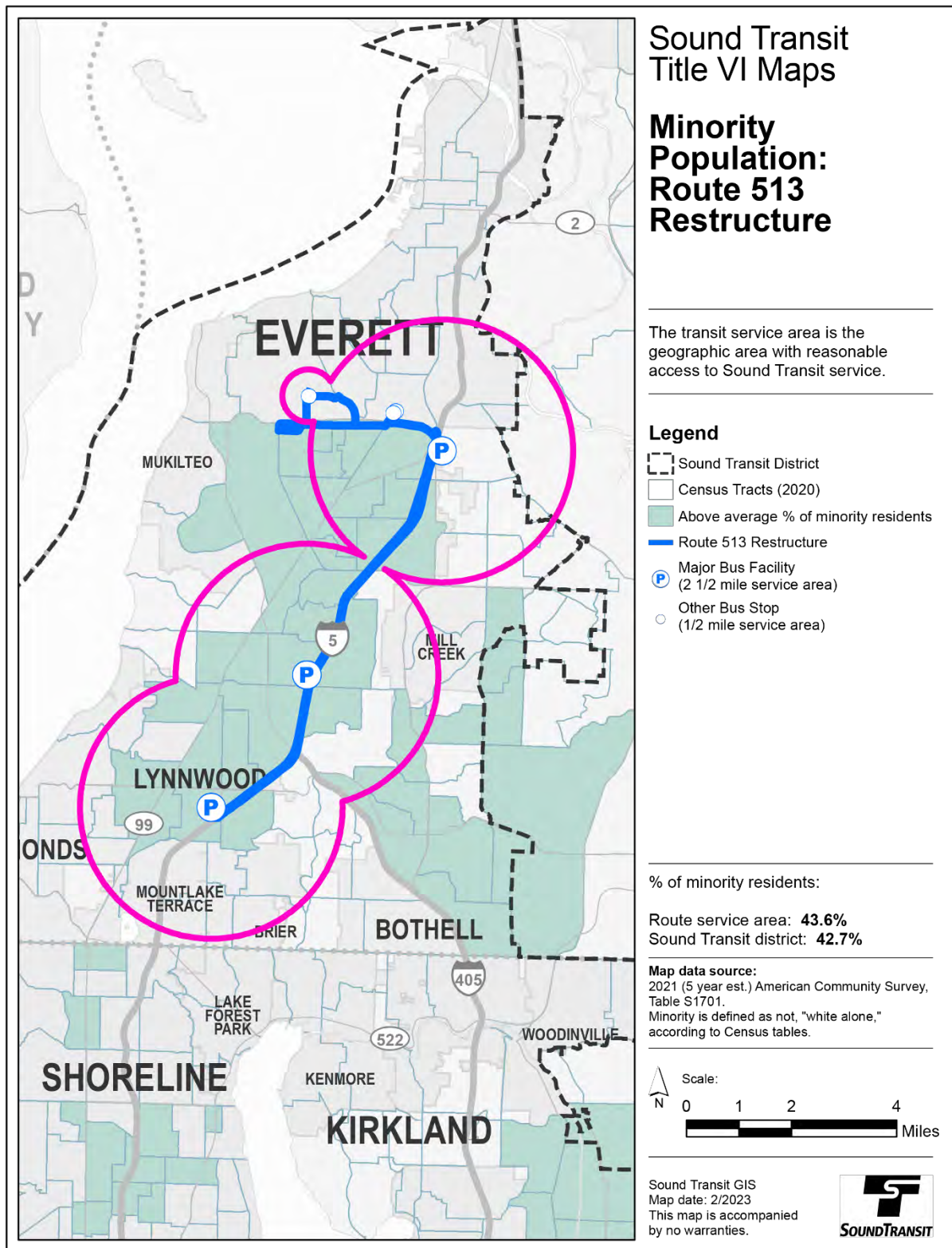


Figure 20: Route 513 stops and minority population after service change

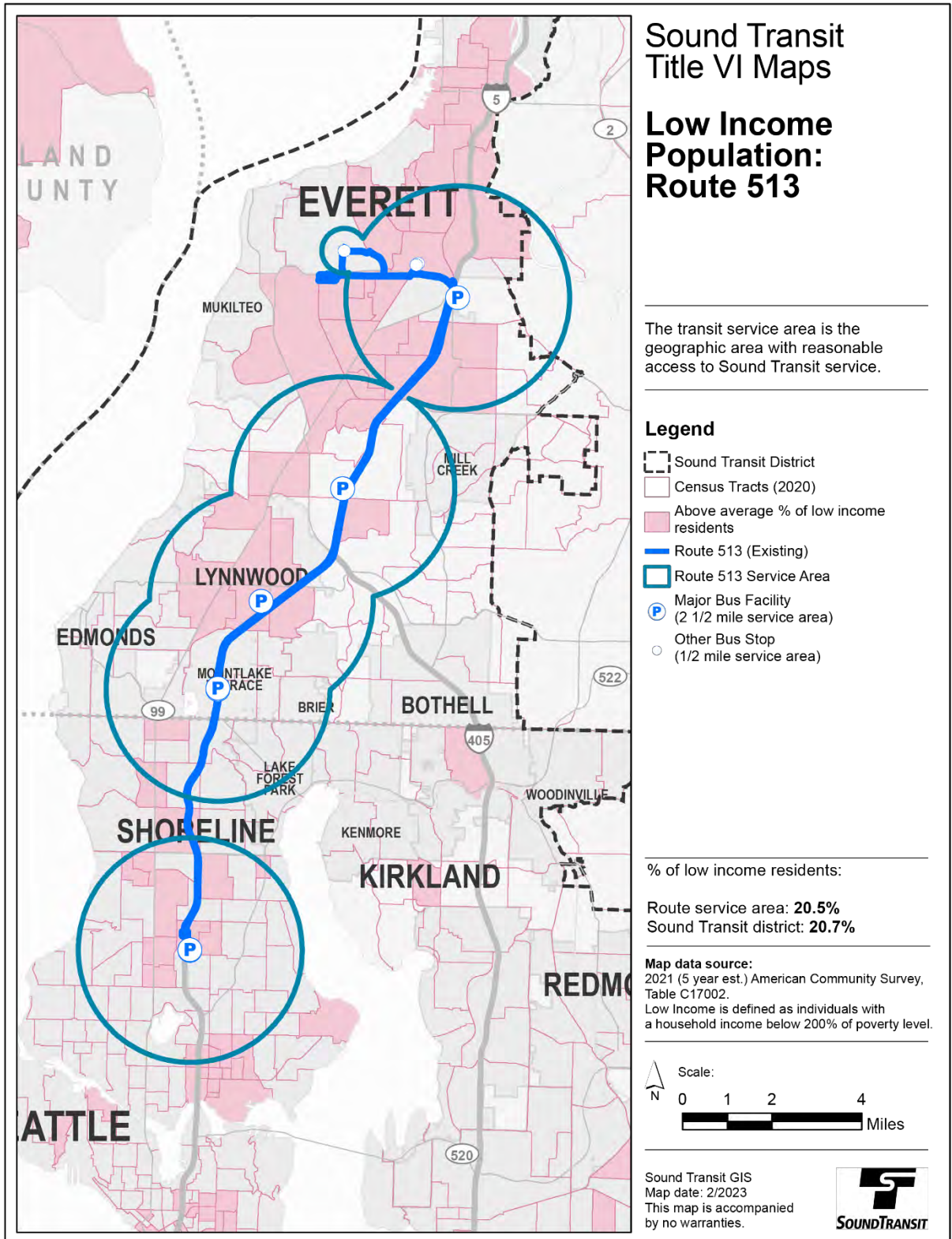


Figure 21: Route 513 stops and low-income population before service change

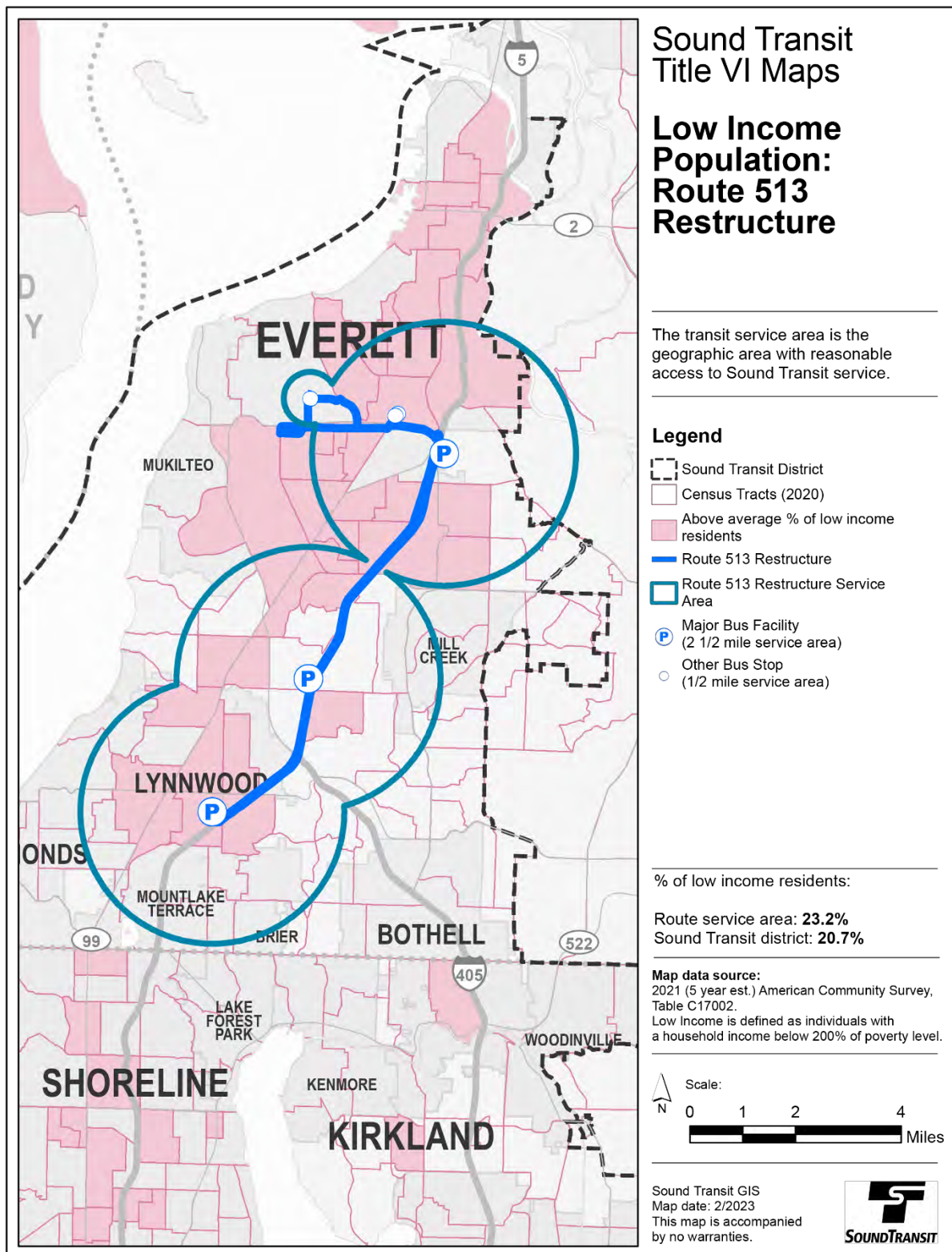
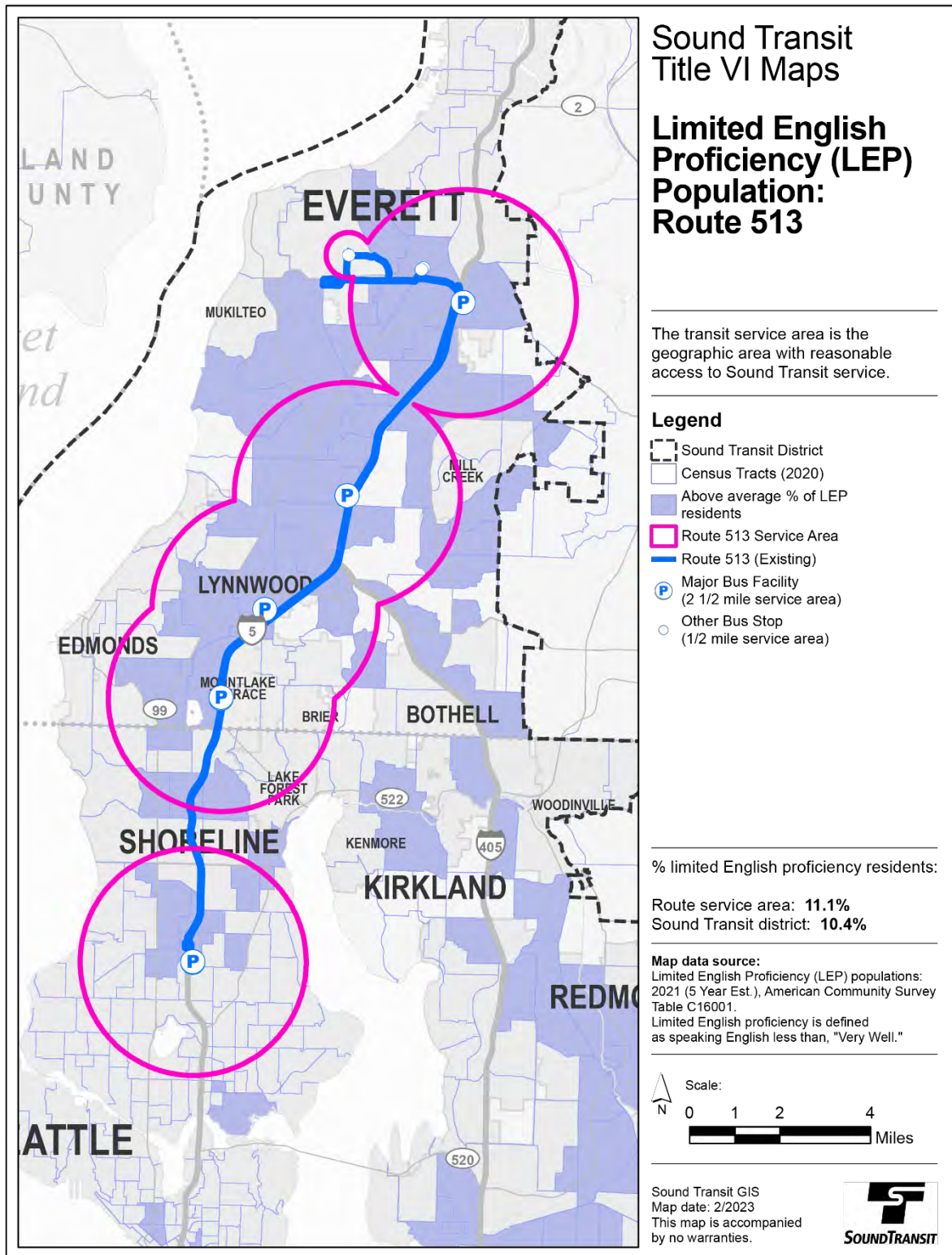
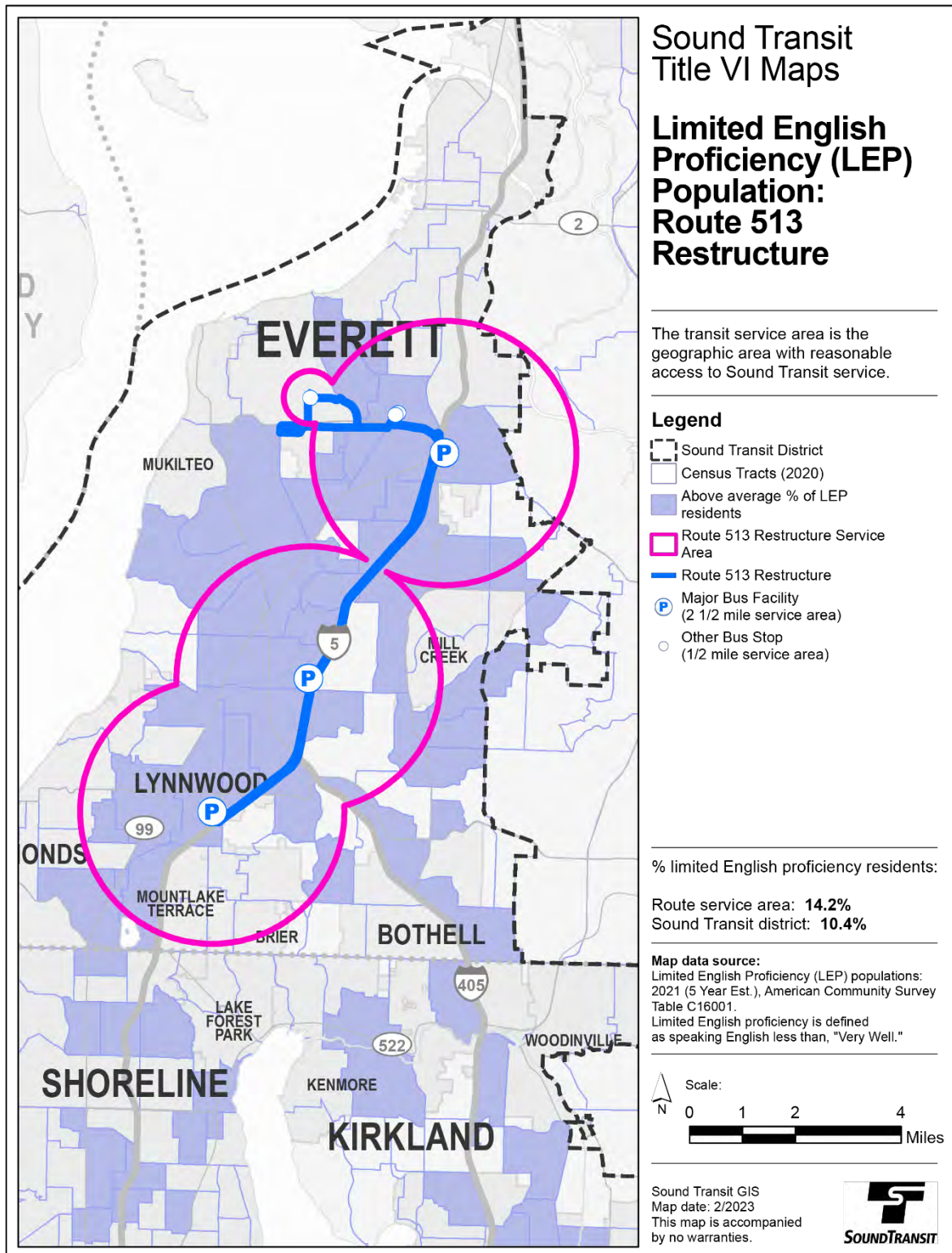


Figure 225: Route 513 stops and low-income population after service change





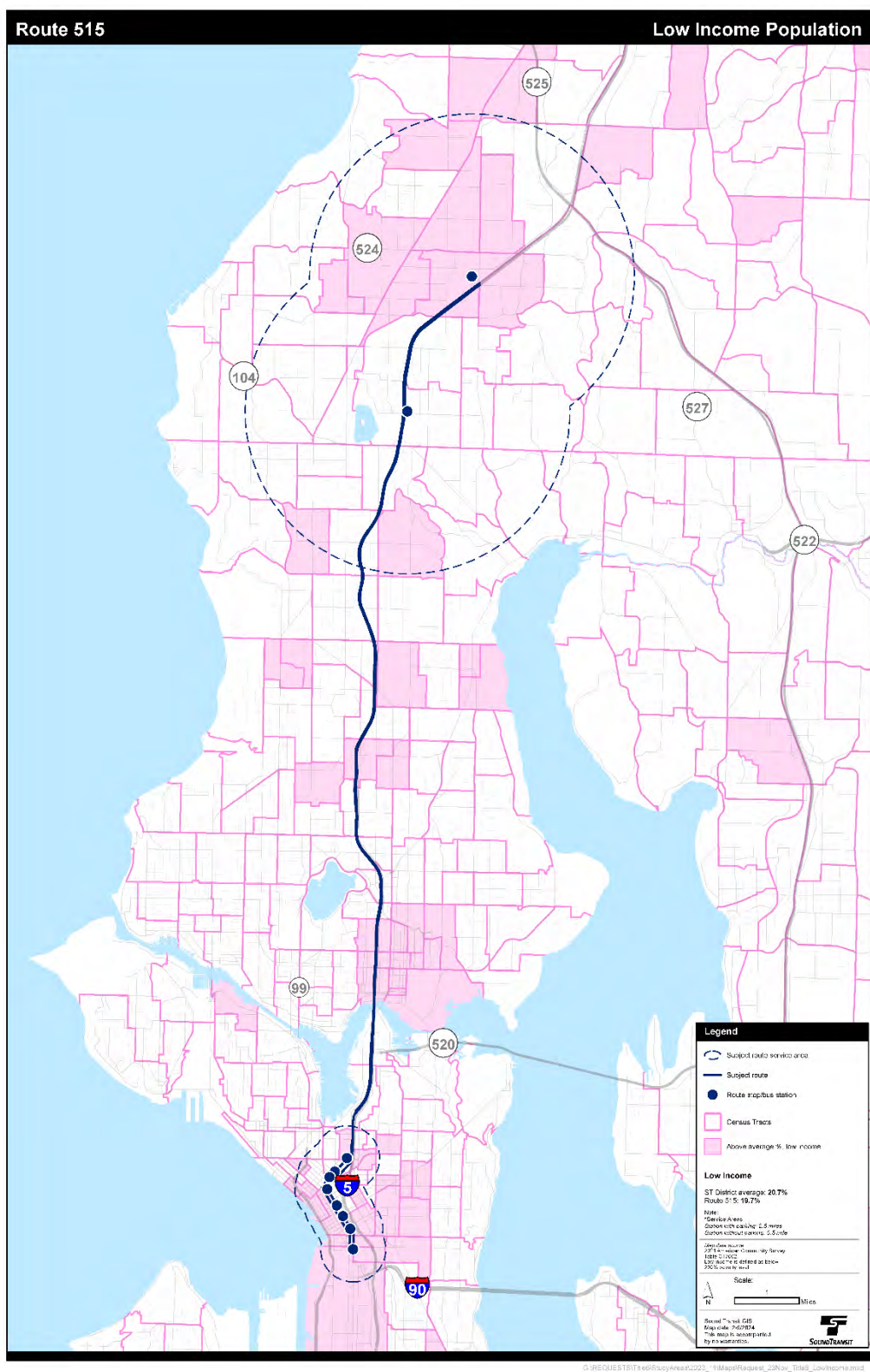


Figure 26: Route 515 stops and low-income population

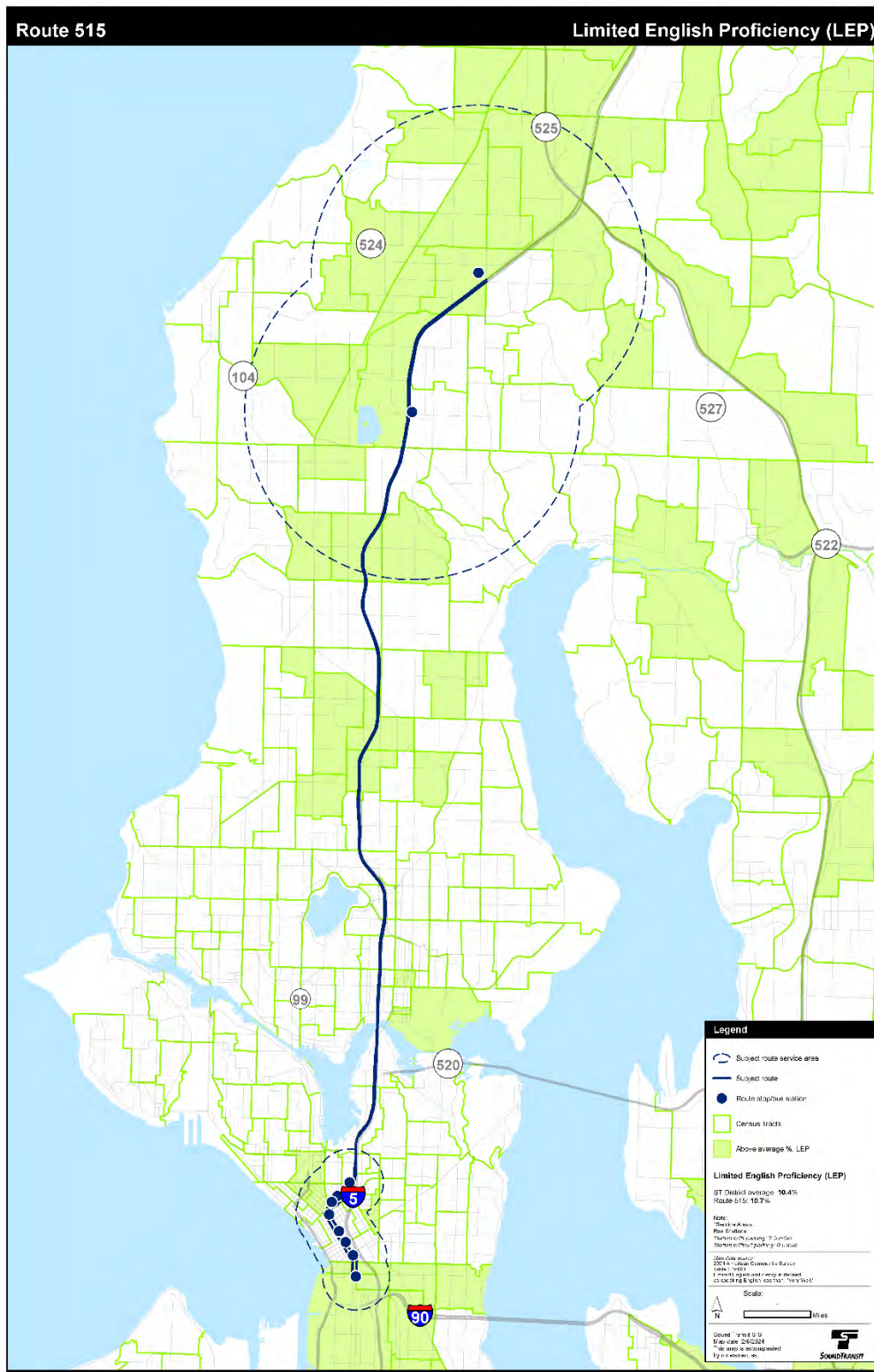


Figure 27: Route 515 stops and Limited English Proficiency (LEP) population