



I-405

Bus Rapid Transit Project

Phase 1 Project Refinements Executive Summary

Spring 2019

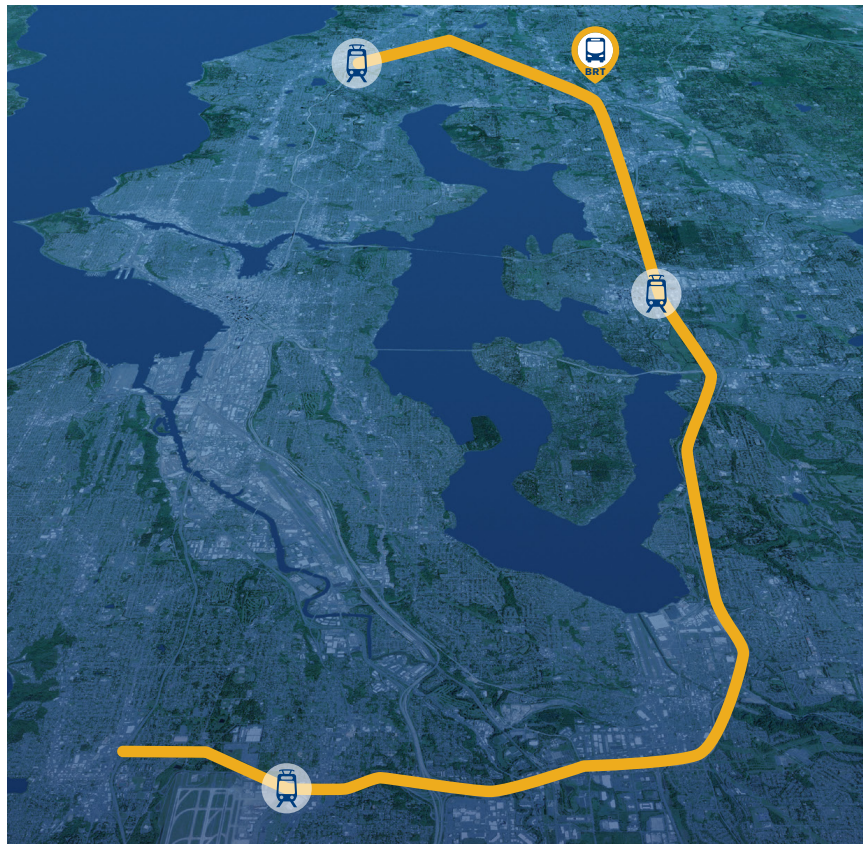
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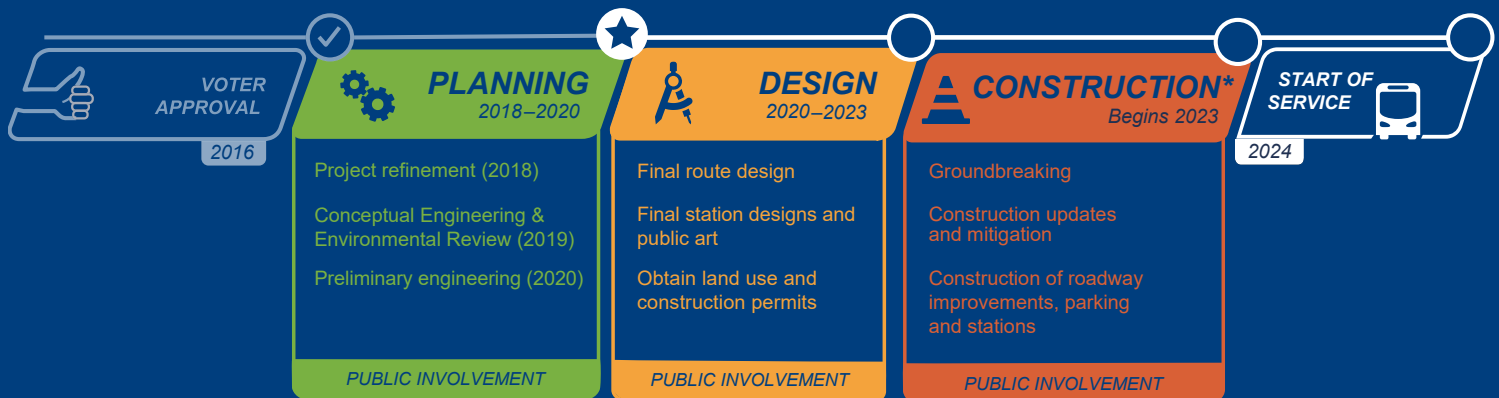
Background

This Executive Summary (Summary) augments the full I-405 Bus Rapid Transit Phase 1 Report.

The Summary provides an overview of the first phase of project development for the I-405 Bus Rapid Transit (BRT) project. Sound Transit began planning for the I-405 BRT project as part of Sound Transit 3 (ST3). During 2018, Sound Transit considered and evaluated community input and technical analyses to refine the ST3 representative project and develop a Proposed Refined Project. The Sound Transit Board's (the Board) System Expansion Committee will consider advancing the Proposed Refined Project into the next phase of project development, Conceptual Engineering and Environmental Review.



Below is the Project Schedule, leading to the Start of Service in 2024:



*Construction for most of the BRT projects is expected to begin by 2023 and be completed by 2024. Construction of some elements may begin before 2023, and others may occur after service starts in 2024.

Project history

Sound Transit plans, builds and operates regional transit systems and services to improve mobility in urban areas of King, Pierce and Snohomish counties. A bus rapid transit system is being planned as part of Sound Transit's ST3 system expansion program. BRT will provide fast, reliable bus service every 10 minutes in peak hours and 15 minutes off-peak along I-405, SR 518, SR 522 and NE 145th Street, connecting to light rail service in Bellevue, Tukwila, Shoreline and Lynnwood.



A map of Sound Transit's planned System Expansion.



BRT will be part of Sound Transit's high-capacity transit service and is being designed for fast and reliable service, including frequent arrivals and departures. BRT will include features such as:



Transit speed and reliability



Transit priority improvements, including business access and transit lanes, bus queue jumps, and transit signal priority



Entry and exit through multiple doors, level with the station platform



Off-board fare payment



Frequent, all-day service



Real-time rider information



Unique station design



Unique brand identity for buses and stations



Dedicated fleet of BRT buses

These features will help riders avoid traffic congestion and enjoy more frequent and reliable service.

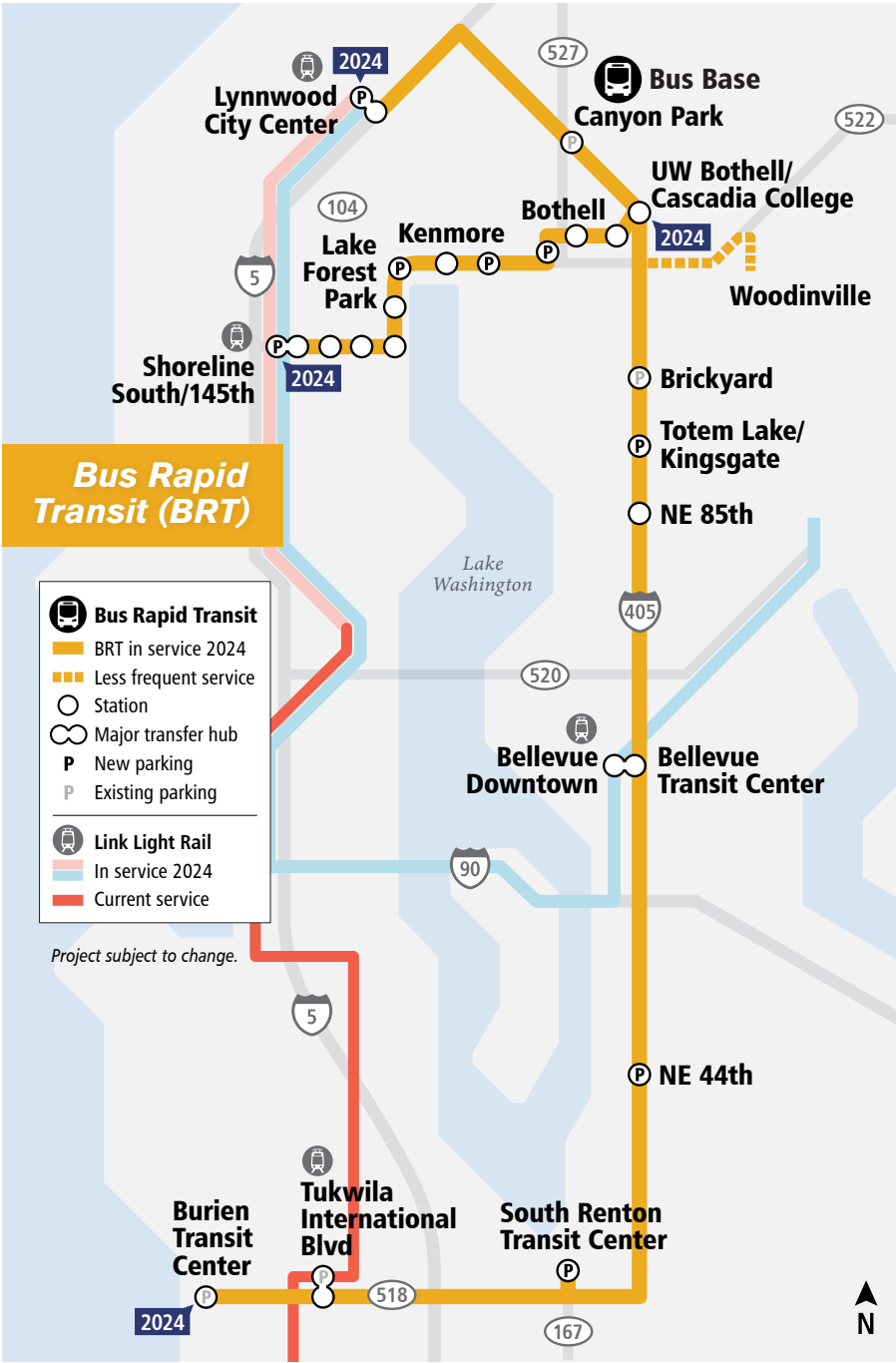
The ST3 Plan included two BRT projects, I-405 BRT and SR 522/NE 145th BRT. Both ST3 BRT projects were based on high-level project scopes, cost estimates and ridership forecasts. ST3 also established transit mode, general corridor, number of stations and representative station locations for both BRT projects.



I-405 BRT will have two lines connecting communities along I-5, I-405 and SR 518 from Lynnwood to Bellevue and Bellevue to Burien with 11 BRT stations, a new transit center in South Renton, and a new bus base. Connections to Link light rail will be available at Lynnwood, Bellevue and Tukwila. Connections to the SR 522/145th BRT will be available in Bothell.



SR 522/NE 145th BRT will connect communities from Shoreline to Woodinville via NE 145th Street, SR 522 and the transit center at UW Bothell/Cascadia College. The route has nine BRT stations and an expanded transit center at UW Bothell/Cascadia College. It will connect to Link light rail at the Shoreline South/145th Station and to I-405 BRT in Bothell.



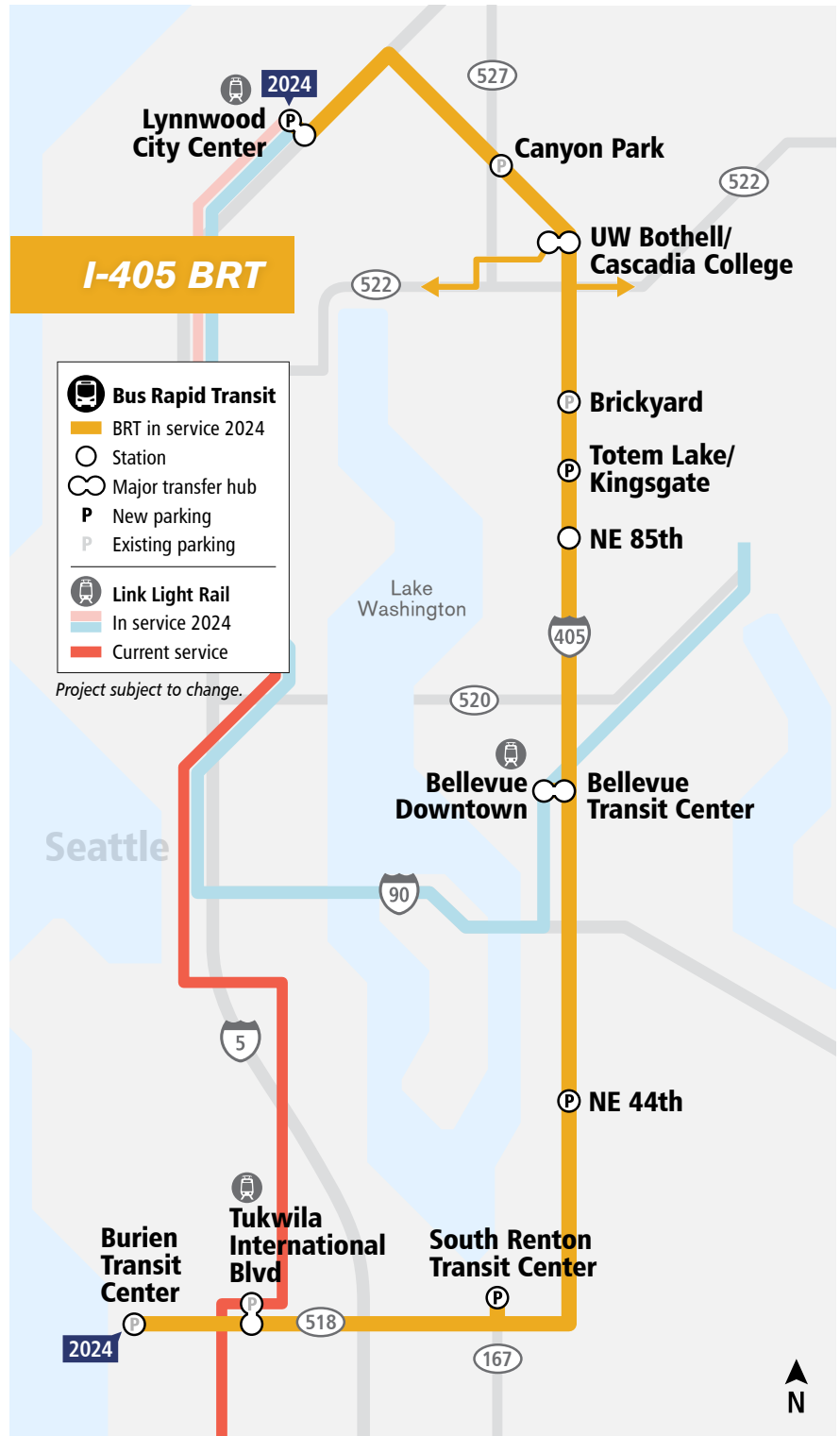
Map of the SR 522/ NE 145th and I-405 BRT representative projects.

I-405 BRT

I-405 BRT is a bus system that will run predominantly in managed lanes, such as high-occupancy vehicle (HOV) lanes, express toll lanes, and bus-on-shoulder lanes to improve transit speed and reliability. The project includes new direct-access ramps with freeway BRT stations, upgraded freeway ramp BRT stations, improvements to local roadways for transit, improvements to bicycle and pedestrian networks for access to BRT stations, and new or expanded park-and-ride lots.

Sound Transit is partnering with the Washington State Department of Transportation (WSDOT) to deliver the I-405 BRT project. I-405 BRT builds upon collaborative efforts between Sound Transit, WSDOT, and other local and regional partners, including:

- I-405 Master Plan (2002)
- I-405 Corridor Program
- I-405 Renton to Bellevue Widening and Express Toll Lanes Project
- NE 85th Street Interchange Improvements Project
- Sound Transit Regional Transit Long-Range Plan (2014)



Station design and branding

Part of creating a new line of service is developing a new brand to accompany it. Sound Transit calls our region's commuter rail system Sounder and light rail Link. Sound Transit is excited to welcome bus rapid transit to the family and announce its name – Stride.

Sound Transit interviewed stakeholders inside and outside the organization to help develop a BRT brand. Common themes heard included a desire for the name to be memorable, short, easy to pronounce, and integrate well with the overall Sound Transit brand.

The Stride name will be integrated with the design of the BRT system, including vehicles, stations, signage and marketing materials.

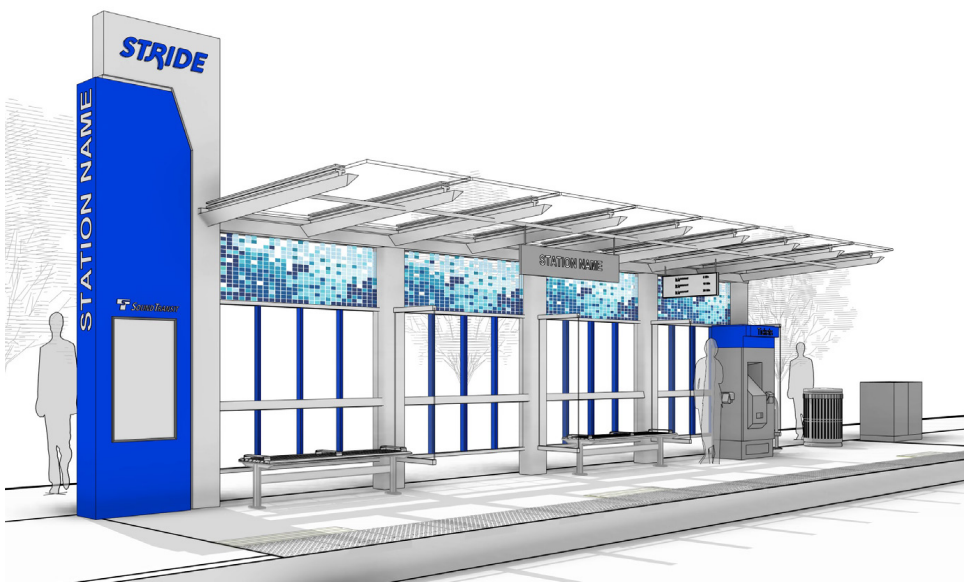
STRIDE

The BRT system will have a unique design that helps riders identify buses and stations. The Stride brand will:

- Differentiate BRT as premium transit service
- Help riders navigate the system by making BRT easily identifiable and distinguishing it from other services
- Allow Sound Transit to more effectively reach existing and new customers
- Create a sense of place at our transit facilities
- Generate excitement for public transportation and endure for generations

BRT station features

- All-door entry and exit
- Off-board fare payment
- Level boarding at the platforms
- Lighting and directional signage
- Real-time rider information
- Sheltered and comfortable stations
- Unique brand identity
- Artwork



BRT station design

Sound Transit will continue to develop the BRT station design during the next few years. The rendering, left, shows the general station design concept. While stations will have a consistent look and feel throughout the Sound Transit BRT system, station design at each station location will vary based on ridership and site conditions.

Project refinement process

During this Planning Phase 1 in 2018, the BRT Team used the following process to develop project refinements, review and evaluate those refinements, and share the refinements throughout the corridor:

1 Start with the ST3 representative project

The representative project identified the high-capacity transit mode (BRT), the 11 BRT station locations and the parking facilities that would be developed as part of the project.

2 Develop refinements to the representative project

Sound Transit developed refinements based on technical analysis and stakeholder input. Technical analysis included collecting information on existing conditions along the I-405 corridor, identifying potential non-motorized access barriers, and conducting operations analysis through coordination with WSDOT, cities, transit agencies and other local and regional partners.

3 Evaluate refinements

Sound Transit evaluated the project refinements using the objectives, evaluation criteria and technical analysis. Based on this evaluation, Sound Transit developed a Proposed Refined Project.

4 Share Proposed Refined Project

Sound Transit shared the Proposed Refined Project with our stakeholders. The project team will request the Sound Transit Board of Directors' approval to advance the project into Conceptual Engineering and more detailed evaluation (including environmental review) in 2019.

Project Objectives

- Improve speed, frequency and reliability in the corridor
- Increase regional mobility
- Deliver the project on-time and within budget
- Develop stations to support safe and convenient access for multiple modes
- Encourage equitable transit-oriented development
- Promote a healthy and sustainable environment

Evaluation Criteria

- BRT travel time
- Service reliability
- Non-motorized access
- Transit access
- Vehicular access

Agency coordination

I-405 BRT will build upon WSDOT's I-405 Master Plan with corridor improvements facilitating faster bus travel. WSDOT is currently improving I-405 as part of the I-405 Corridor Program. WSDOT projects include the I-405 Renton to Bellevue Widening and Express Toll Lanes Project with construction expected to begin in 2019 and design efforts under way in the north corridor between SR 522 and SR 527 (I-405 - SR 522 to SR 527 Capacity Improvements Project). These projects are designed to improve speeds and trip reliability for all travelers and support the future I-405 Bus Rapid Transit line.

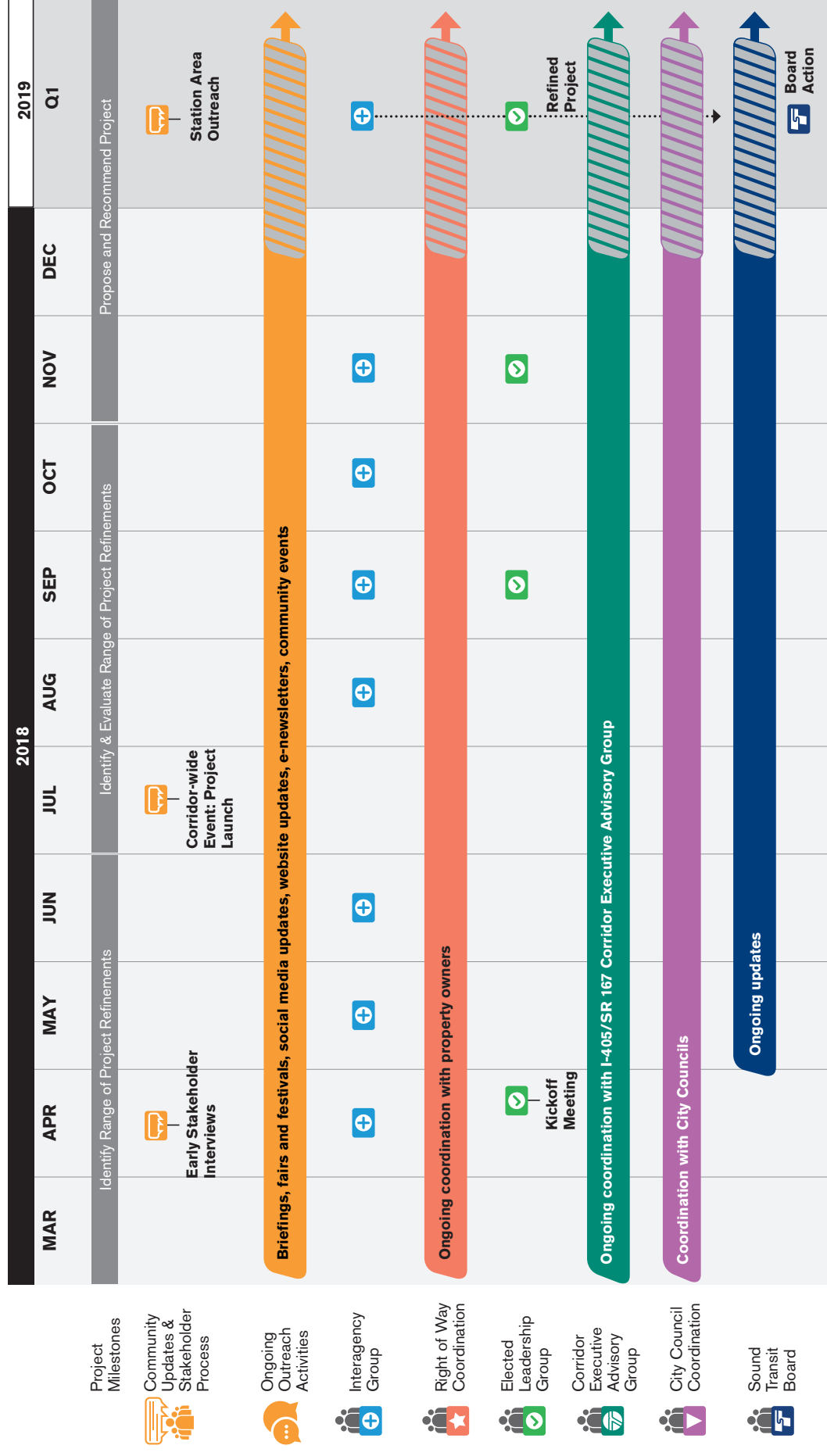
Sound Transit also works closely with King County Metro, Community Transit and other local and regional transportation agencies to determine routes, ensure fast and seamless transfers, and provide integrated transit services that best serve the needs of the community.

Sound Transit will continue to coordinate with our transit partners to integrate I-405 BRT with local and regional transit service.



Stakeholder involvement

The schedule below shows the stakeholder involvement timeline and activities for 2018 into early 2019. The Project engaged an Interagency Group, Elected Leadership Group, stakeholders, and the public to ensure diverse voices contributed to the first phase of project development.





Elected Leadership Group

The I-405 BRT Elected Leadership Group (ELG) is made up of elected officials who represent the cities along the project corridor, the Sound Transit Board and WSDOT. The ELG met four times during Phase 1 and includes representatives from the following agencies and jurisdictions:

- City of Bellevue
- City of Bothell
- City of Burien
- City of Kirkland
- City of Lynnwood
- City of Renton
- City of Tukwila
- Washington State Department of Transportation
- Sound Transit Board of Directors



Executive Advisory Group

The I-405/SR 167 Corridor Executive Advisory Group (EAG), made up of state and local elected officials, and representatives from federal and regional transit agencies, has been advising WSDOT on I-405 corridor improvements since 1999. Sound Transit regularly updated the EAG about the I-405 BRT project in 2018.



Interagency Group

The I-405 BRT Interagency Group is made up of city and partner transit agency staff to provide technical expertise and input on the project refinements. The IAG met eight times during Phase 1 and includes representatives from the following agencies and jurisdictions:

- City of Bellevue
- City of Bothell
- City of Burien
- City of Kirkland
- City of Lynnwood
- City of Renton
- City of SeaTac
- City of Tukwila
- Community Transit
- King County Metro
- Port of Seattle
- Washington State Department of Transportation



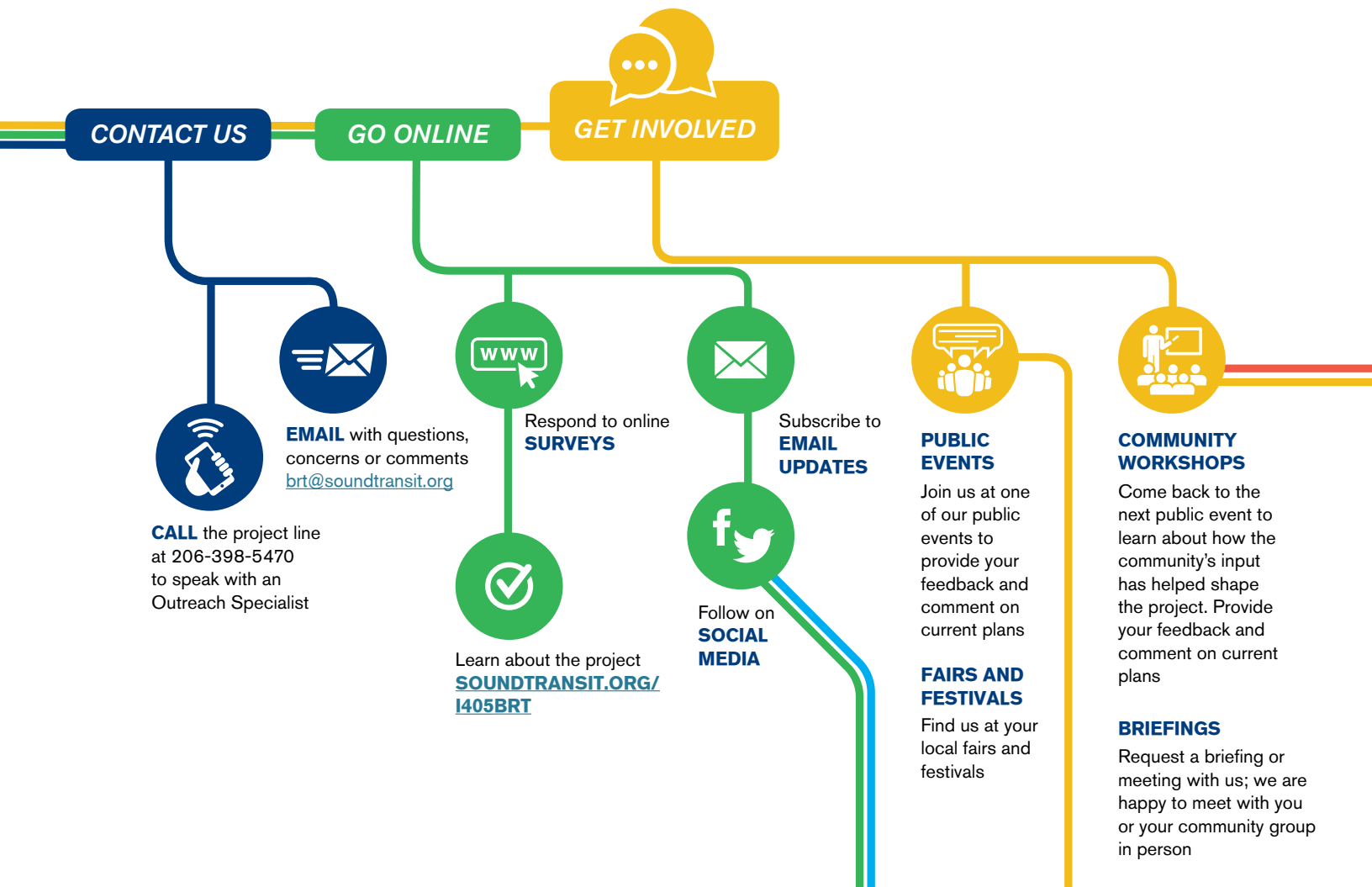
The public

Sound Transit engages the public to gather input on corridor-wide and local issues to ensure the priorities of local communities are being heard and considered along the corridor. During Phase 1, the project team conducted the following outreach activities:

- 2 in-person open houses
- 2 online open houses
- 13 community briefings
- 6 fairs and festivals
- 2 project mailings

Stay engaged

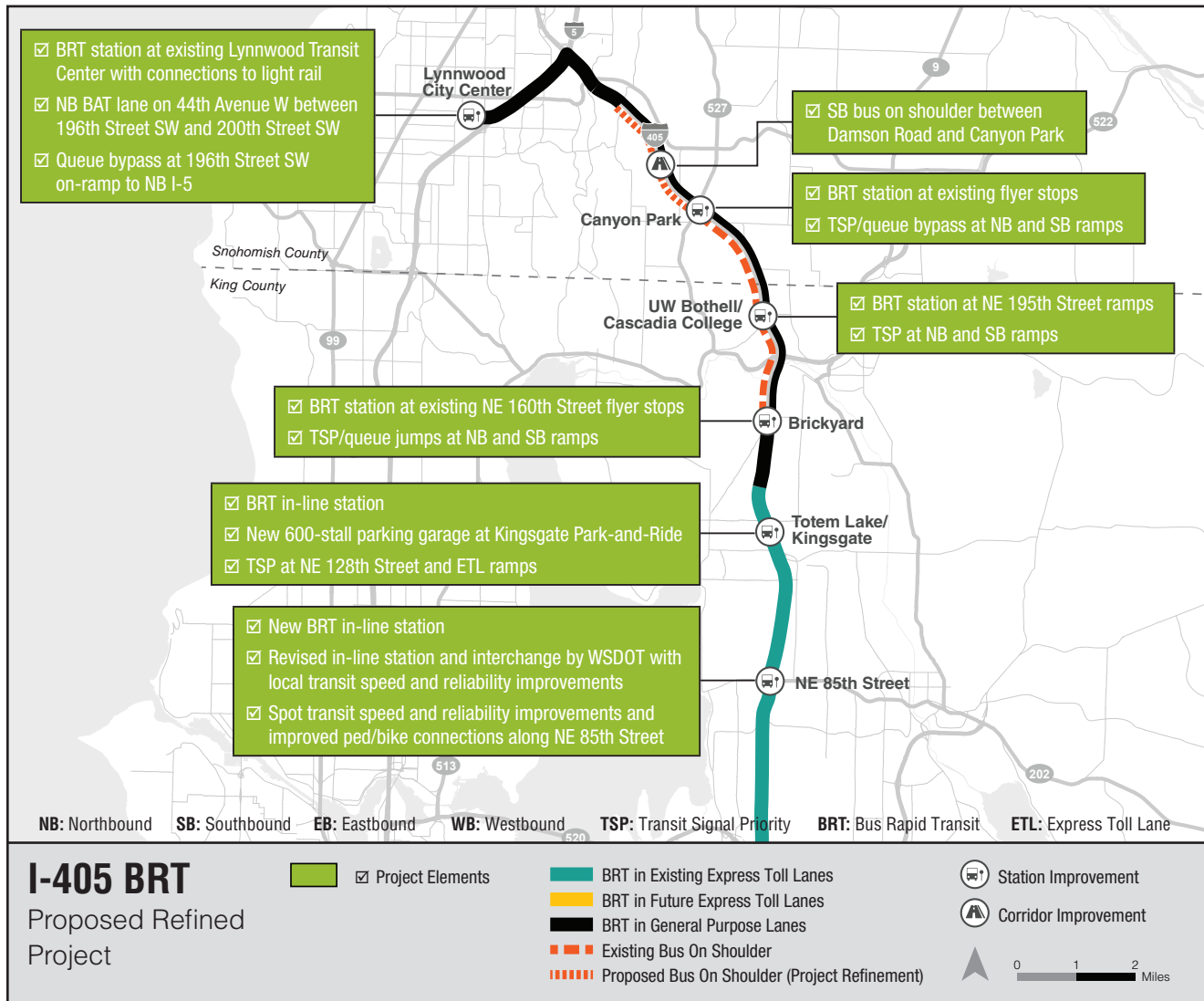
Sound Transit will continue to provide opportunities to participate throughout the development of the I-405 BRT project.



Proposed Refined Project

Sound Transit has developed a Proposed Refined Project based on the analyses and the feedback obtained to date. The map identifies the Project Elements that make up the Proposed Refined Project. BRT station concepts and proposed roadway improvements will continue to be refined during Conceptual Engineering and Environmental Review following additional technical analysis and ongoing stakeholder involvement.

North end refinements



South end refinements



Stations

The information below describes each of the 11 BRT stations. Agencies and jurisdictions partnering to refine these stations are listed in the parentheses.

Lynnwood City Center (City of Lynnwood)

- BRT station at existing Lynnwood Transit Center adjacent to the future Link light rail station which is also planned to begin service in 2024
- I-405 BRT riders will be able to connect to local and express buses, Swift (Community Transit BRT), and Link light rail at the future Lynnwood City Center Station
- Transit speed and reliability improvements between the Lynnwood Transit Center and I-405

Canyon Park (City of Bothell)

- Located at the existing northbound and southbound bus stops on the SR 527 bus-only ramps near the existing Canyon Park Park-and-Ride
- I-405 BRT riders will be able to connect to Swift and other local bus routes
- Ramp modifications and transit speed and reliability improvements
- Sound Transit is working with its partners to coordinate with WSDOT's I-405 – SR 522 to SR 527 Capacity Improvement Project

UW Bothell/Cascadia College (City of Bothell, UW Bothell, WSDOT)

- Sound Transit is working with its partners to determine the location of the UW Bothell/Cascadia College station, the I-405 BRT connection to SR 522/NE 145th BRT, and coordination with WSDOT's I-405 – SR 522 to SR 527 Capacity Improvements Project

Brickyard (City of Bothell)

- Located on the northbound and southbound ramps
- Serves the existing Brickyard Park-and-Ride located on the west side of I-405 south of Juanita Woodinville Way/NE 160th Street
- Transit speed and reliability improvements
- Sound Transit is working with its partners to coordinate with WSDOT's I-405 – SR 522 to SR 527 Capacity Improvement Project

Totem Lake/Kingsgate (City of Kirkland)

- BRT station at the existing Totem Lake freeway station
- 600-stall parking garage (for a net gain of 400 stalls) at the adjacent Kingsgate Park-and-Ride

NE 85th Street (City of Kirkland, WSDOT)

- Project partnership with WSDOT
- New three-tiered interchange with inline BRT station and I-405 express toll lanes (ETL) access
- Local bus connections at same level as BRT stations serving downtown Kirkland and Redmond
- Sound Transit is working with partners to address connections along the NE 85th Street corridor

Bellevue Transit Center (City of Bellevue)

- BRT station at the existing Bellevue Transit Center
- I-405 BRT riders will be able to connect to local and express buses, RapidRide, and Link light rail at the future Bellevue Downtown Station
- East Link Extension service anticipated to begin in 2023

NE 44th Street (City of Renton, WSDOT)

- Project partnership with WSDOT
- WSDOT I-405 Renton to Bellevue Widening and Express Toll Lanes Project
 - I-405/NE 44th Street interchange improvements with new direct access ramps
 - NE 44th Street BRT station (inline freeway station)
- Local bus connections on NE 44th Street
- 200-stall park-and-ride

South Renton Transit Center (City of Renton)

- New transit center at Rainier Ave S/SW Grady Way
- 700-stall parking garage
- BRT station
- Integrating transit services with the existing South Renton Park-and-Ride which will provide connections to local buses and RapidRide
- Evaluating transit speed and reliability improvements to/from South Renton Transit Center

Tukwila International Boulevard (City of Tukwila, City of SeaTac, Port of Seattle)

- Tukwila International Boulevard BRT station on SR 518 (new freeway station)
- Connects to light rail station with new pedestrian bridge
- Provides connections to local bus service and Link light rail at the existing Tukwila International Boulevard Station
- Coordinating with SR 518 Feasibility Study (WSDOT/Port of Seattle)

Burien Transit Center (City of Burien)

- BRT station at existing Burien Transit Center
- Connections to local buses and RapidRide
- Evaluating transit speed and reliability improvements to/from Burien Transit Center

Speed and reliability improvements

Transit priority improvements help buses move through traffic more efficiently and can include bus lanes and transit priority signals. Sound Transit will continue to coordinate with our partners to evaluate opportunities to improve travel times along the route during Phase 2.

To maintain travel times, I-405 BRT will operate as two service lines. The north line will run from Lynnwood to Bellevue. The south line will run from Bellevue to Burien. Riders traveling between the north and south lines will transfer in Bellevue.



I-405 BRT performance

The Proposed Refined Project has higher ridership projections (year 2042) compared to the ST3 Representative Project. The changes in ridership reflect the anticipated growth in the region as well as the refined station concepts and resulting faster travel times.

	ST3 Representative Project		Proposed Refined Project		% change
	Low	High	Low	High	
North corridor boardings	8,600	11,600	9,600	13,000	+12%
South corridor boardings	7,800	10,600	9,600	12,800	+22%
Total boardings	16,400	22,200	19,200	25,800	+17%

The "low" forecasts assume less development, while the "high" forecast assumes more development as well as a per-mile fee for vehicles, which leads to more transit use. All projections are for 2042.

AM peak hour travel times to Bellevue

North Line – Lynnwood to Bellevue



ST Express (existing)	57 MIN
ST3 representative project*	50-55 MIN
I-405 BRT proposed refined project*	46-51 MIN

South Line – Burien to Bellevue



ST Express (existing)	55 MIN
ST3 representative project*	45-49 MIN
I-405 BRT proposed refined project*	38-42 MIN

*Preliminary travel time estimates for planning purposes, subject to change. Existing travel times are average times. Year 2025 estimates assume new express toll lanes are open between Renton to Bellevue. Updated information will be provided prior to beginning service.

Next steps

Sound Transit will continue its work on all Proposed Refined Project elements with communities and stakeholders along the corridor, transit partners, the IAG and the ELG in Phase 2 - Conceptual Engineering and Environmental Review during 2019 and into early 2020. The following next steps will also be part of the Phase 2 process:

- Fieldwork and technical studies
- Stakeholder involvement
- Partner agreements
- BRT vehicle fleet analysis
- Conceptual design for a new bus base, Bus Base North
- Station design development