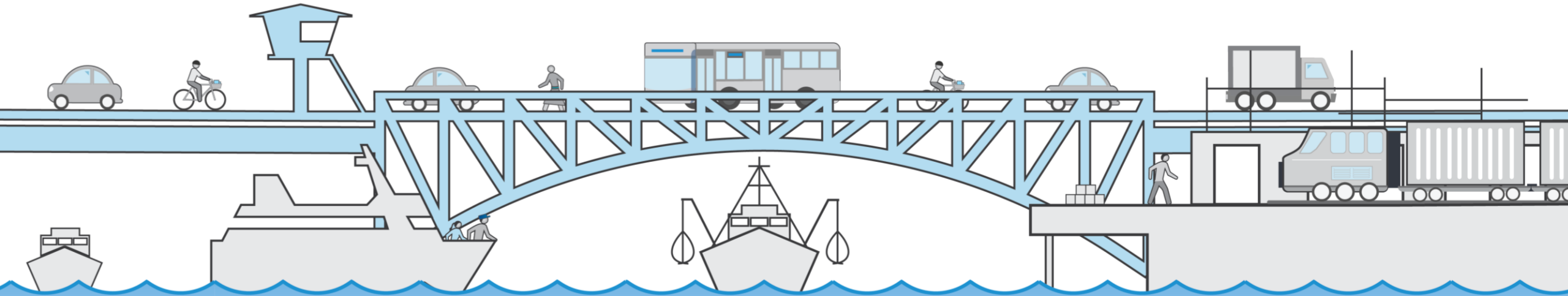
Ballard-Interbay Regional Transportation System Study

Seattle Freight Advisory Board Meeting



SDOT Policy & Planning
August 18, 2020

City of Seattle

Our agenda

- Project overview and recent work
  - Goals and multimodal needs
  - Preliminary projects by mode
  - Next Steps
- Questions & Answers

Reviewing the Charge & Work to Date

2019 Washington State legislative language

ESHB 1160 – Section 311(18)(b)

"Funding in this subsection is provided solely for the city of Seattle to develop a plan and report for the Ballard-Interbay Regional Transportation System project to **improve mobility for people and freight**. The plan must be developed in coordination and partnership with entities including but not limited to the city of Seattle, King county, the Port of Seattle, Sound Transit, the Washington state military department for the Seattle armory, and the Washington State Department of Transportation.

The plan must **examine replacement of the Ballard Bridge and the Magnolia Bridge**, which was damaged in the 2001 Nisqually earthquake. The city must provide a report on the plan that includes **recommendations to the Seattle city council, King county council, and the transportation committees of the legislature by November 1, 2020.** The report must include recommendations on how to **maintain the current and future capacities** of the Magnolia and Ballard bridges, an overview and analysis of all plans between 2010 and 2020 that examine how to replace the Magnolia bridge, and recommendations on a **timeline for constructing new Magnolia and Ballard bridges**."

Study area roadways and intersections

The study area for the BIRT system project is generally bound by:

- Market Street (north)
- Pier 91 and the Expedia campus (south)
- 10th Avenue West (east)
- 28th Avenue West (west)

BIRT looks out to 2042, assuming both the Ballard Bridge and Magnolia Bridge are replaced or rehabilitated.

Project elements

JANUARY - MARCH

Review Existing Plans & Previous Studies
- Summarize findings and document guiding assumptions

APRIL - JUNE

Forecast & Assess Multimodal Integration
- Forecast future conditions
- Assess traffic, freight, and multimodal strategies

JULY - AUGUST

Analyze Impacts & Benefits of Bridge & System
- Conduct social and economic cost/benefits analysis

SEPTEMBER

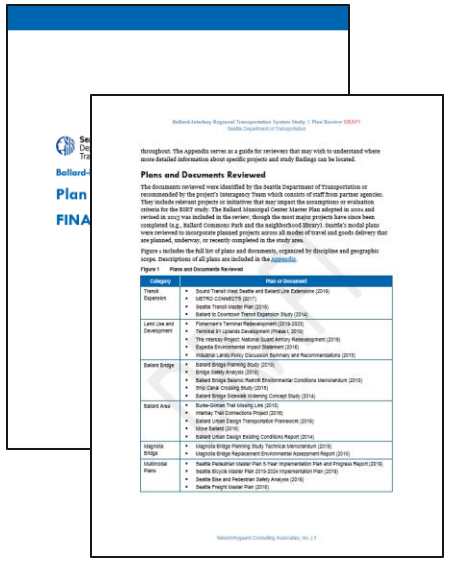
Bridge Replacement Timeline & Funding Strategy
- Develop timeline and funding approach for replacement of bridges

OCTOBER - NOVEMBER

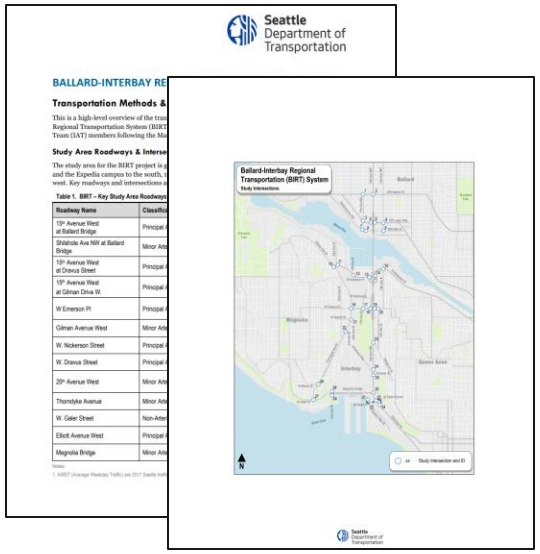
Report to WA Legislature
- Draft in October, submit November 1, 2020

Completed deliverables available online

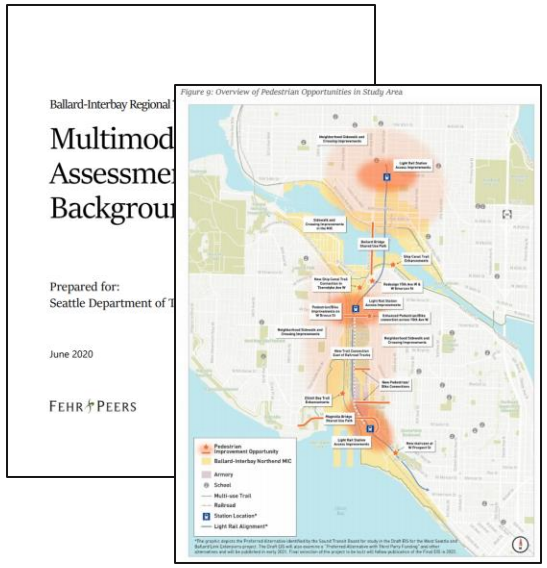
Document and Plan Review



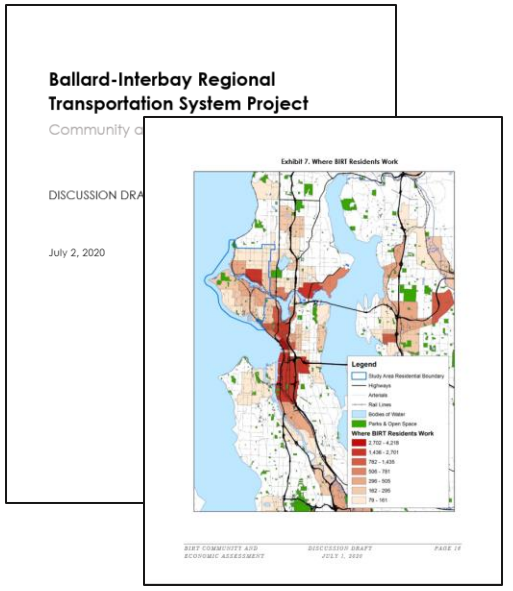
Methods and Assumptions Memorandum



Multimodal Needs Assessment



Coming soon! Social and Economic Baseline Analysis



http://www.seattle.gov/transportation/birt/

Stakeholder outreach and engagement

Completed and Ongoing

- ✓ Meetings with elected officials and community organizations
- ✓ City advisory board briefings
- ✓ BINMIC worker survey
- ✓ Business interviews and meetings
- ✓ WSBLE surveys
- ✓ Neighborhood Greenways interviews
- ✓ Coordination with Mayor's Maritime & Industrial Strategy

Stakeholder outreach and engagement

Now and Upcoming

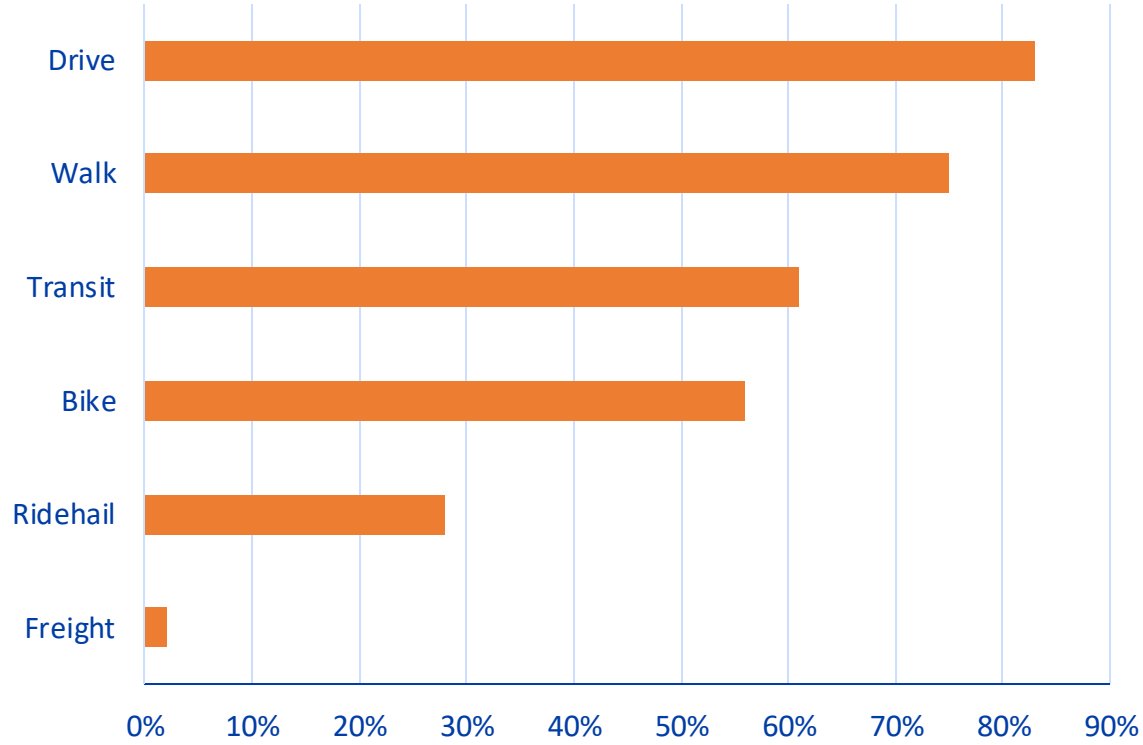
- Public meetings and online survey
  - (July and August)
- Interagency Team Meetings
  - (August and September)
- Public review of draft report
  - (October)

Public engagement in July and August

Over 500 Survey Respondents

- 74% residents
- 46% visitors for personal trips
- 11% employees
- 10% visitors for work trips
- 8% business owner

How respondents travel in Ballard-Interbay:



Public engagement results

Projects focused on bicycle and pedestrian connections received the most support:

- Bike/ped connections to fill network gaps (43%)
- Bike/ped connections over physical barriers (40%)
- Connections to future Link stations (40%)
- Magnolia Bridge replacement (40%)
- Ballard Bridge replacement (36%)
- Reduce delay for driving and freight (24%)
- Transit priority and speed and reliability improvements (24%)

Public engagement results

Most popular projects:

- In-Kind Replacement of the Magnolia Bridge
- Magnolia Trail
- 15th Ave/Elliott Ave PBL from W Emerson St to Broad St
- Ballard Locks Connection
- Interim Ballard Bridge Improvements
- 14th Ave Improvements

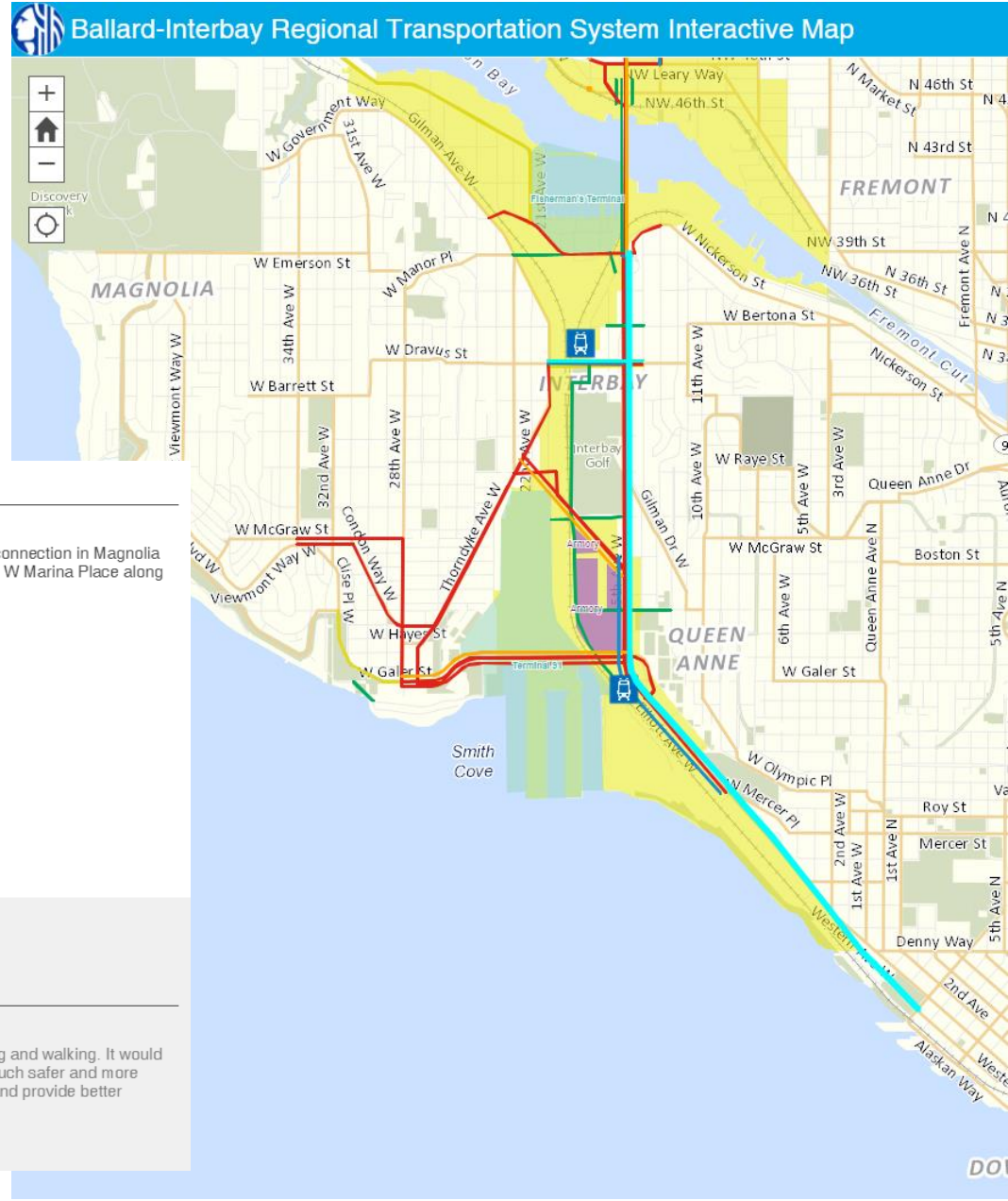
Magnolia Trail

Project Name	Magnolia Trail
Project Description	Build a bicycle and pedestrian connection in Magnolia that connects W Galer Street to W Marina Place along the waterfront.
Primary Mode	Bike/Pedestrian
Improvement Type	New Trail Connection
Roadway/Location	W Marina Place
Extent (from)	W Galer Street
Extent (to)	W Marina Place
Applicable Alternative	Both Alternatives

Comments

Comments: Andrew Abernathy

Name	Andrew Abernathy
Comment	I would *love* to have this, for both biking and walking. It would open up a great new route, allowing a much safer and more pleasant way to do a loop of Magnolia, and provide better access to the 32nd Ave street end park.
DateSub	8/11/2020, 4:53 PM



Setting Goals & Documenting Needs

Project goals

Goal 1. Improve mobility for people and freight
Increase people's ability to move efficiently in the study area and accommodate the movement of freight and goods.

Goal 2. Provide a system that safely accommodates all travelers
Protect the more vulnerable travelers who walk, bike, and use transit, as well as drivers of cars and freight.

Goal 3. Advance projects that meet the needs of communities of color and those of all incomes, abilities, and ages
Build a more racially equitable, and socially just, transportation system.

Goal 4. Support timely and coordinated implementation
Maintain the current and future capacities of the Ballard and Magnolia Bridge replacement alternatives and improve other elements of a connected transportation system.

Documenting past and upcoming work

Previous Plans and Studies (2000-2020)

- Ballard Bridge Planning Study
- Magnolia Bridge Planning Study
- Bicycle, Pedestrian, Freight, and Transit Master Plans
- Trails Upgrade Plan
- Move Ballard
- Burke-Gilman Trail Missing Link

….and many others

New or Anticipated Developments

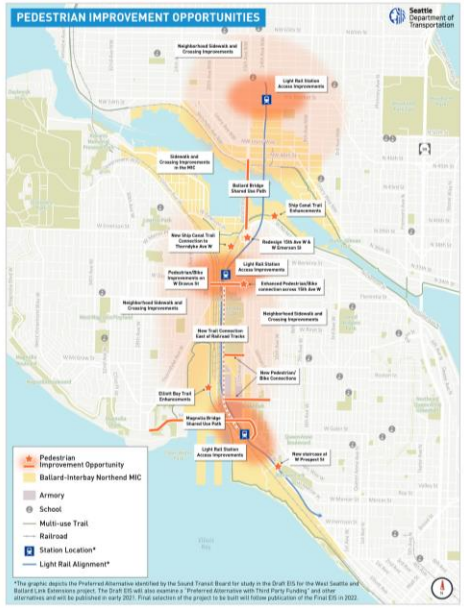
- The Armory Development
- Terminal 91
- Expedia Campus
- Fisherman's Terminal Redevelopment
- Sound Transit's West Seattle and Ballard Link Extension

Public and Stakeholder Input

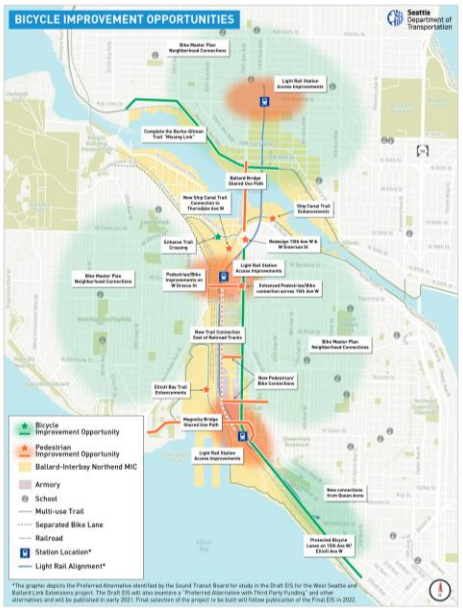
- Public comments and emails
- Public meetings (February)
- Interagency Team Meetings
- City of Seattle Freight and Bicycle Advisory Boards
- Manufacturing and maritime industry businesses
- Magnolia Community Council
- Seattle Neighborhood Greenways

Assessing multimodal network needs

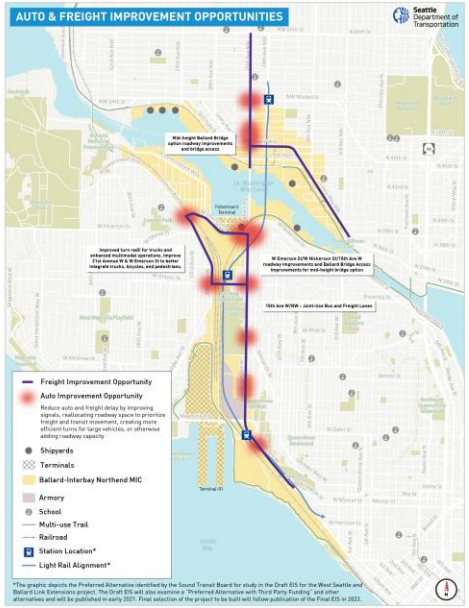
Pedestrian



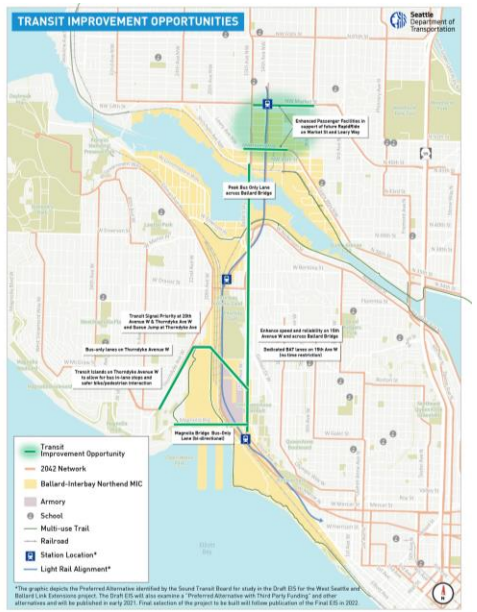
Bicycle



Driving & Freight



Transit



Identifying & Evaluating Projects

Visit www.tinyurl.com/BIRTsurvey to provide comment!

City of Seattle

Types of projects

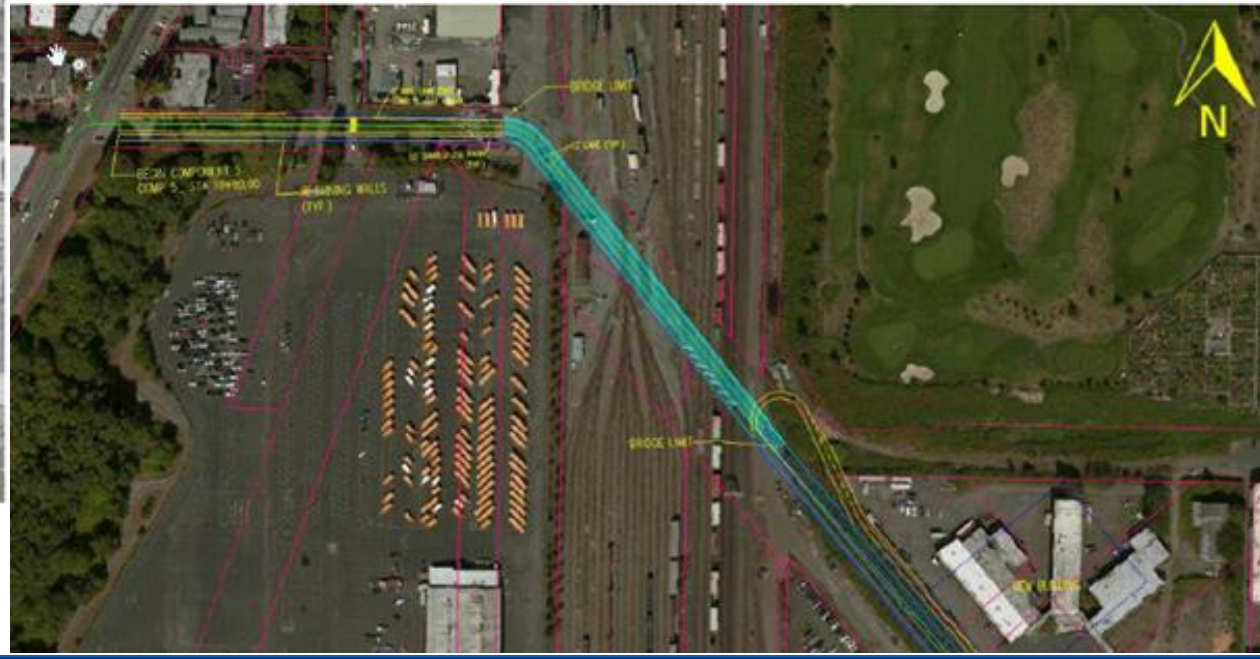
- Bicycle and pedestrian connections to fill network gaps and cross physical barriers
- Intersection safety for all modes
- Transit priority and speed and reliability improvements
- Amenities for transit passengers
- Connections to future Link stations
- Corridor improvements to reduce delay for driving and freight
- Roadway design for safe freight movements
- Ballard Bridge and Magnolia Bridge replacement

Bridge replacement alternatives

There have been no decisions made about which bridge alternatives will be selected.

Ballard Bridge: low- and mid-height

Magnolia Bridge: in-kind replacement and Armory Way



Potential projects

- Evaluated 80+ projects for ability to meet project goals
- More than 40 projects are provided for input
- Many potential projects are independent of bridge alternatives, including crossing enhancements and walking and biking improvements
- Bridge-dependent projects are more focused on freight and transit access

Pedestrian projects

- Sidewalks in Smith Cove, Interbay, and near future light rail stations
- Lighting and ADA curb ramps along major arterials and at key intersections, including 14th Ave NW
- New pedestrian bridges, such as at W Emerson
- Crossing improvements at signalized intersections

Example pedestrian project

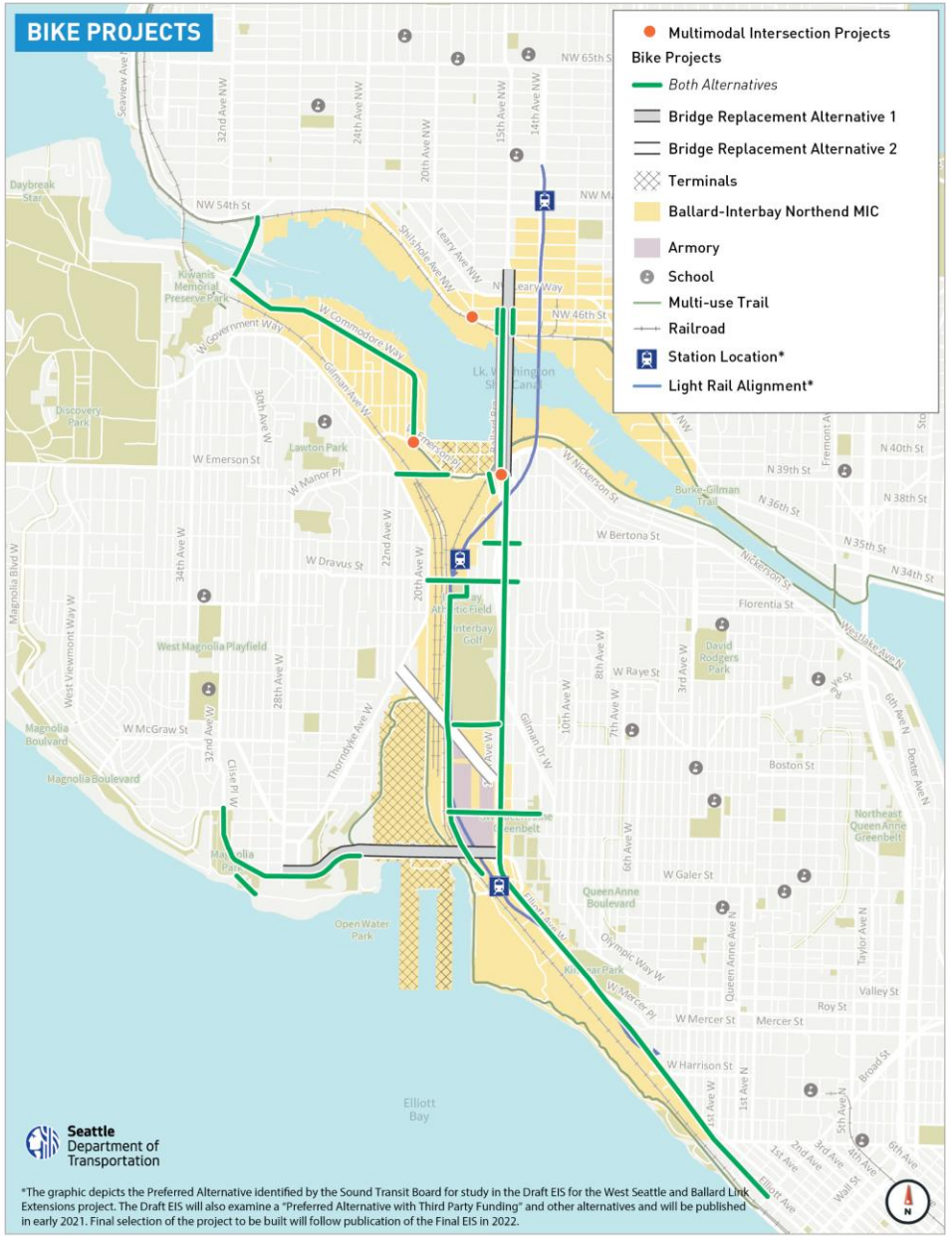
W Emerson Street Pedestrian Bridge and Overpass Stairs

Add stairs and elevators to connect the sidewalks on 15th Ave W to the overpasses

W Emerson and 15th Ave

Bicycle projects

- Protected bike lanes on Galer St and Magnolia Blvd, W Dravus St, and 15th/Elliott Ave
- Trail improvements to fill gaps, such as in the Ship Canal Trail
- Ballard Locks connection
- Interim improvements to Ballard Bridge
- Crossing improvements at signalized intersections



Example bicycle project

New Protected Bicycle Lanes on W Dravus Street

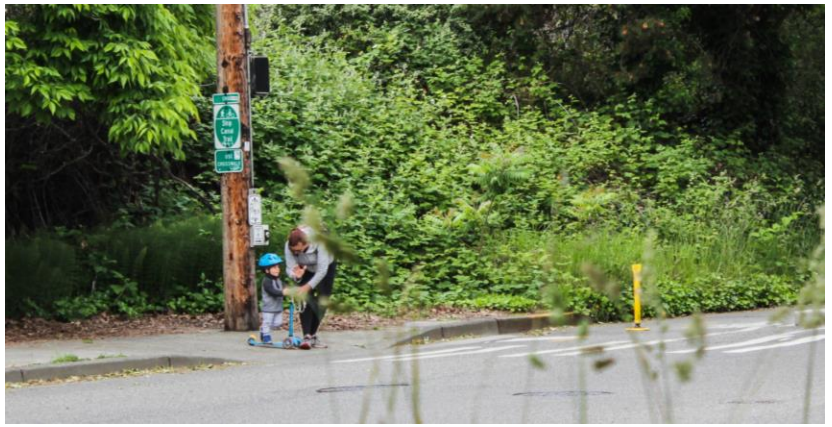
Between 20th Avenue W and 14th Avenue W

W Dravus St

Example of integrated multimodal project

21st Avenue and Emerson Place Intersection Improvements

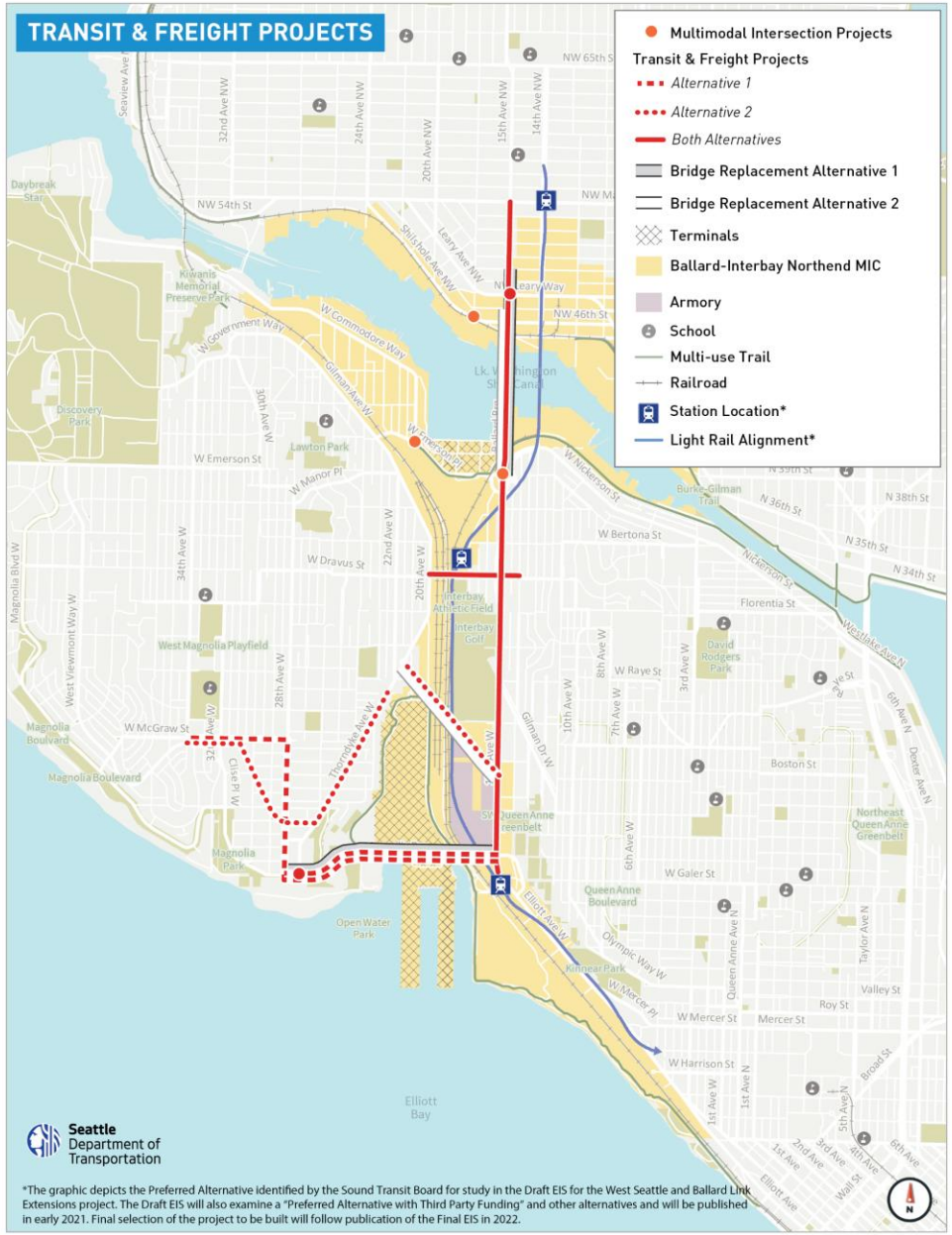
Reconstruct the intersection to improve safety for bicyclists and pedestrians while maintaining truck access (e.g., trail crossing)



W Emerson and 21st Ave

Transit and freight projects

- Roadway rechannelization, transit signal priority (TSP), and intersection operations
- Dravus St bridge replacement that provides more robust facilities for all modes, including freight
- New or “converted” joint-use freight and transit (FAT) lanes, including on 15th Ave W



Example transit and freight project

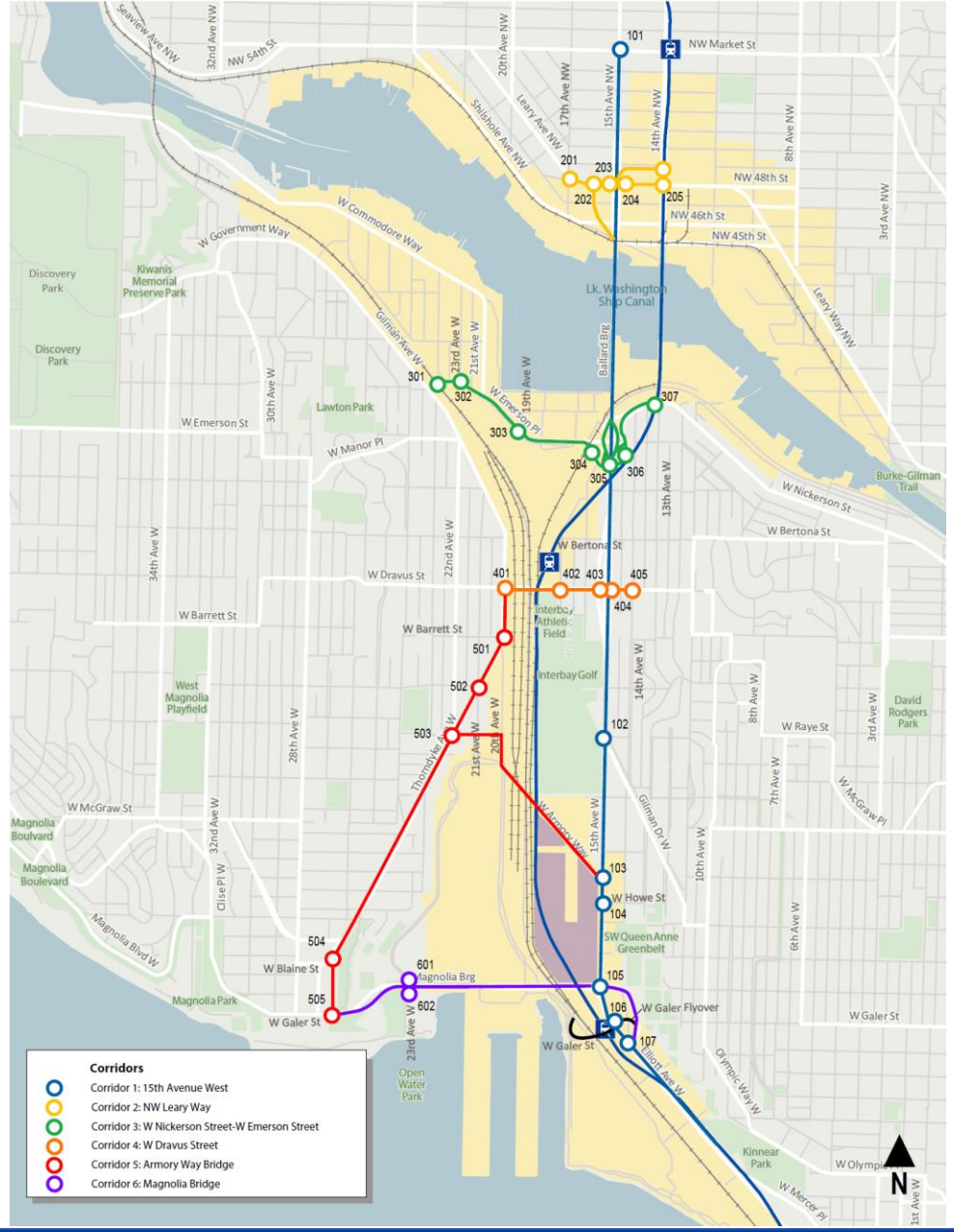
15th Avenue Freight and Transit (FAT) lanes between Denny Way and Market Street

Allow both transit and freight/ delivery vehicles to use bus-only lanes on 15th Avenue W during off-peak times to provide freight benefits from transit-priority treatments

15th Avenue W south of Ballard Bridge

Corridor-wide projects

- Improve traffic flow for vehicles, freight, and transit along key corridors
- Focused on roadway and operational improvements based on needs
  - 15th Ave W
  - NW Leary Way
  - W Nickerson Street-W Emerson Street
  - W Dravus Street
  - Armory Way Bridge
  - Magnolia Bridge



Identified corridor needs

Corridor	Primary Needs
1. 15th Ave W	Southbound congestion in AM and northbound congestion in PM
2. NW Leary Way	Increase mobility of people and goods through closely spaced, signalized, high-access locations
3. W Emerson Pl / W Nickerson St	Maintain mobility of people and goods while balancing serving access points
4. W Dravus St	Trucks unable to make in-lane turning maneuvers at intersections with 15th Ave W ramps
5. Armory Way Bridge	Maintain mobility of people and goods while balancing serving access points
6. Magnolia Bridge	Maintain mobility of people and goods

Categories of corridor management strategies

Strategies are organized in the following categories:

- Signal operations
- Intelligent Transportation System (ITS) strategies
- Traffic control
- Channelization or striping
- Access management
- Capital improvements

Signal operations and access management needs at W Dravus St and 20th Ave W

Summary of operational performance benefits

- Some strategies expected to provide qualitative benefits were not included in analysis (e.g., adaptive traffic signals, access management, ITS for wayfinding)
- Other strategies evaluated with Synchro by mode, peak hour, direction
- Comparison is performance of base bridge scenarios to scenarios with corridor management strategies

UPS truck on 15th Ave

Summary of operational performance benefits

Corridor 1 – 15th Avenue W/NW

- FAT lanes improve freight travel time
- Slight increase in transit travel time
- Change to general purpose travel time negligible

Corridor 1: 15th Avenue W/NW								
Mode	Scenario 1				Scenario 2			
	AM		PM		AM		PM	
	NB	SB	NB	SB	NB	SB	NB	SB
General Purpose	-0.4	-2.2	-2.0	-0.1	-0.8	-4.2	-4.1	-0.4
Freight	-0.7	-7.9	-13.7	-0.3	-0.7	-14.4	-17.3	-0.4
Transit	-2.2	-1.5	-2.8	-0.3	-1.1	-1.1	-4.5	1.3

Corridor 2 – NW Leary Way

- Overall slight benefits to all modes
- Scenario 1 performs better than Scenario 2
- FAT lane impacts general purpose travel time

Corridor 1: NW Leary Way								
Mode	Scenario 1				Scenario 2			
	AM		PM		AM		PM	
	EB	WB	EB	WB	EB	WB	EB	WB
General Purpose	-0.1	-0.4	0.6	0.5	-0.5	0.2	-0.3	0.5
Freight	-0.1	-0.5	0.5	-0.5	-0.5	0.2	-0.3	0.5
Transit	-0.3	-0.7	0.4	-0.7	-0.5	0.2	-0.3	0.5

Corridor 3 – W Emerson Pl / W Nickerson St

- Performance tied to Gilman Ave intersection
- Non-quantifiable strategies will provide benefits

Corridor 3: W Emerson Pl / W Nickerson St								
Mode	Scenario 1				Scenario 2			
	AM		PM		AM		PM	
	EB	WB	EB	WB	EB	WB	EB	WB
General Purpose	0.0	1.2	0.1	-3.7	0.0	1.2	0.1	-3.7
Freight	0.0	1.2	0.1	-3.7	0.0	1.2	0.1	-3.7
Transit	0.0	1.2	0.1	-3.7	0.0	1.2	0.1	-3.7

Summary of operational performance benefits

Corridor 4 – W Dravus St

- Geometric, detection improvements not reflected
- Roundabout also considered at 17th Ave W
- Non-quantifiable strategies will provide benefits

Corridor 4: W Dravus St								
Mode	Scenario 1				Scenario 2			
	AM		PM		AM		PM	
	NB	SB	NB	SB	NB	SB	NB	SB
General Purpose	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.4
Freight	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.4
Transit	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.4

Corridor 5 – Armory Way Bridge

- Overlap with benefits of Corridor 1 on 15th Ave
- Point-to-point comparison with Magnolia Bridge
- FAT lanes on 15th, lane addition at Thorndyke

Corridor 5: Armory Way Bridge								
Mode	Scenario 1				Scenario 2			
	AM		PM		AM		PM	
	EB	WB	EB	WB	EB	WB	EB	WB
General Purpose	Not Applicable				-2.4	-3.1	-4.7	-0.5
Freight					-2.0	-6.0	-12.9	-0.4
Transit					-2.4	-0.9	-4.9	-0.4

Corridor 6 – Magnolia Bridge

- Added signal control at Thorndyke/Galer
- Change to timing at Galer Flyover/Elliott
- Non-quantifiable strategies will provide benefits

Corridor 6: Magnolia Bridge								
Mode	Scenario 1				Scenario 2			
	AM		PM		AM		PM	
	NB	SB	NB	SB	NB	SB	NB	SB
General Purpose	1.6	0.1	0.1	0.2	Not Applicable			
Freight	1.6	0.1	0.1	0.2				
Transit	1.6	0.1	0.1	0.2				

All projects

- Focus is creating an integrated system to support all types of trips by all modes
- Pedestrian, bicycle, transit, driving, and freight projects will improve system access, safety, and connectivity
- Projects range from interim to permanent and from lower cost to very high cost

Questions & Next Steps

Visit www.tinyurl.com/BIRTsurvey to provide comment!

City of Seattle

Questions to consider

- Which of these projects best support freight travel needs to and through the Ballard, Magnolia, and Interbay neighborhoods?
- Are there projects that should be paired as we move forward?
- What projects have we missed to help people and goods get to where they need to go?

Next steps –

- Complete social and economic impacts analysis
  - Travel time, operating and build costs, safety, housing and job accessibility, property values and market desirability
- Select recommended projects
- Create phased implementation plan per legislation

Stay informed and get involved!

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