

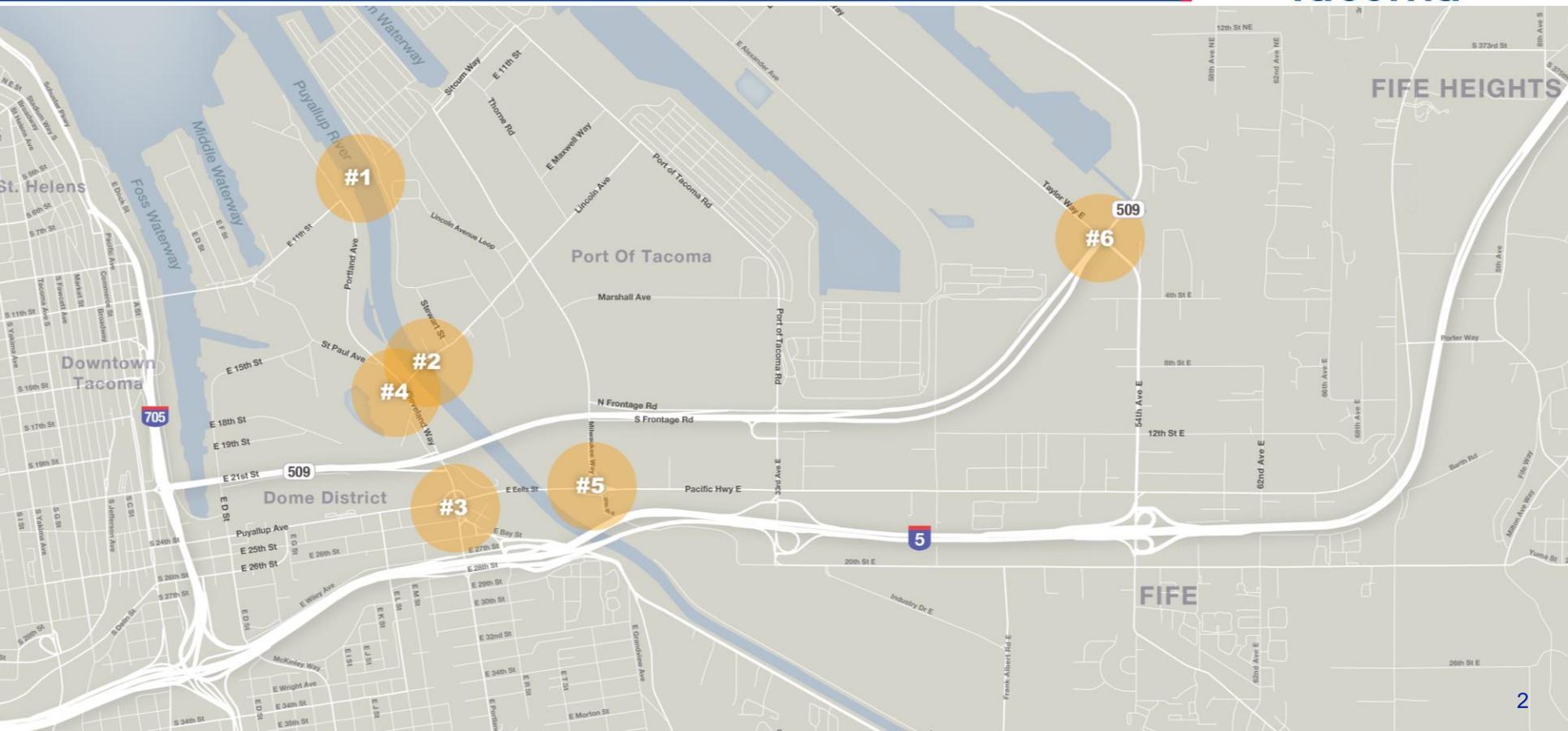
ISSUE BRIEFING: Tideflats Truck Freight Study, Part 2 September 15, 2022

Christine Wolf, Senior Planner



Study Focus

Tideflats Truck Freight Study – Part 2



Issue Briefing

Tideflats Truck Freight Study - Part 2



Today's Agenda:

- Summary of the projects evaluated
- Overview of the evaluation criteria and methodology
- Review the project evaluation results
- Share draft findings and next steps

Recap of the Study Components

PART 1: PRESENTED IN JULY

- Analysis of **demand** on the transportation system
- Changes to E 11th St and Lincoln Ave bridges

PART 2: TODAY

- Evaluation of a range of project improvements:
 - Decision criteria
 - Project benefits / scoring
 - Draft findings

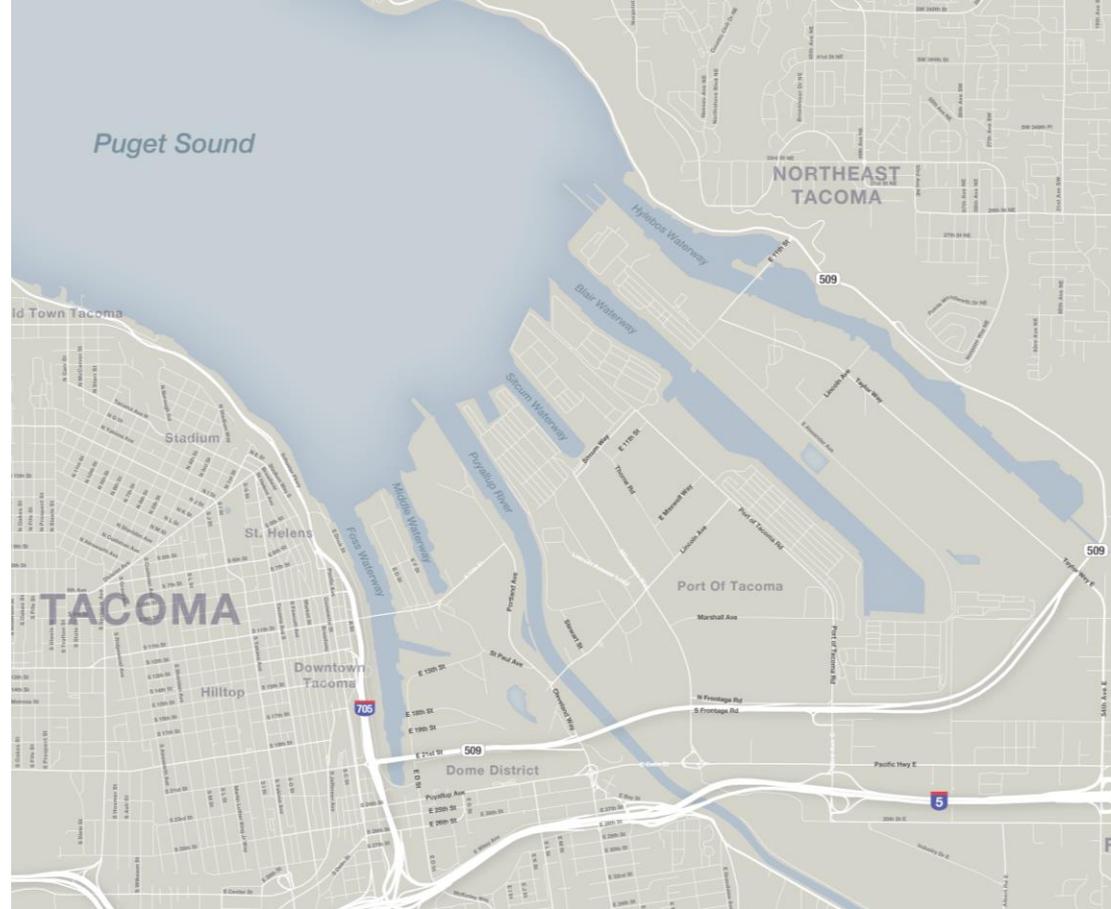
Issue Briefing

Tideflats Truck Freight Study - Part 2



Study Approach

- Projects to improve truck access and reliability within the Tideflats
- Assumed completion of:
 - Gateway Program Phases 1B and 2
 - Port of Tacoma Road I-5 Interchange Phase 2



With Baseline Projects:

- SR 167
- Port of Tacoma Road Interchange

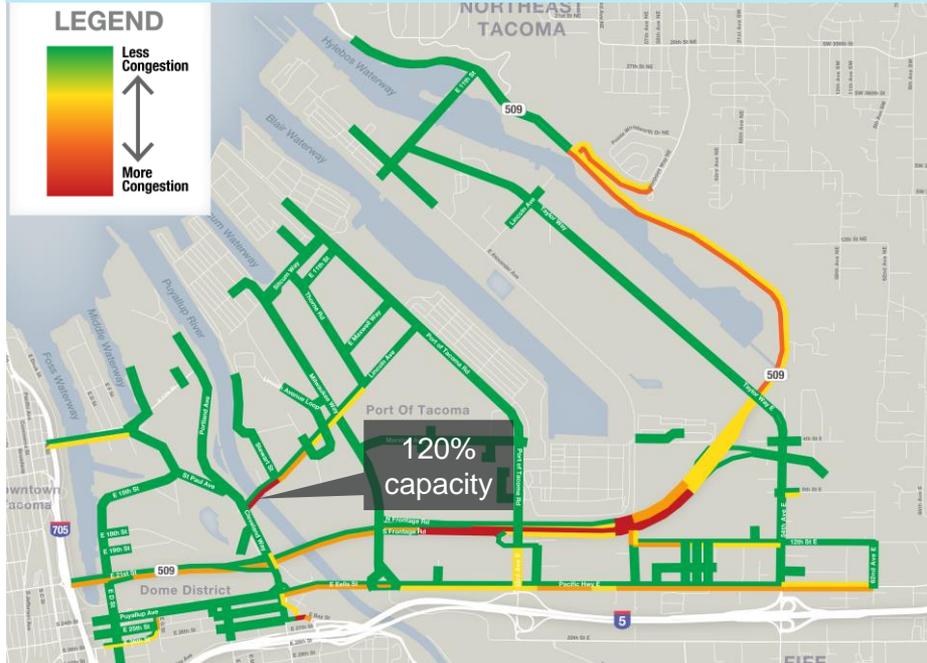
Congestion increases from 2018 to 2040

AM Congestion (6 to 9 AM) as Volume to Capacity Ratio

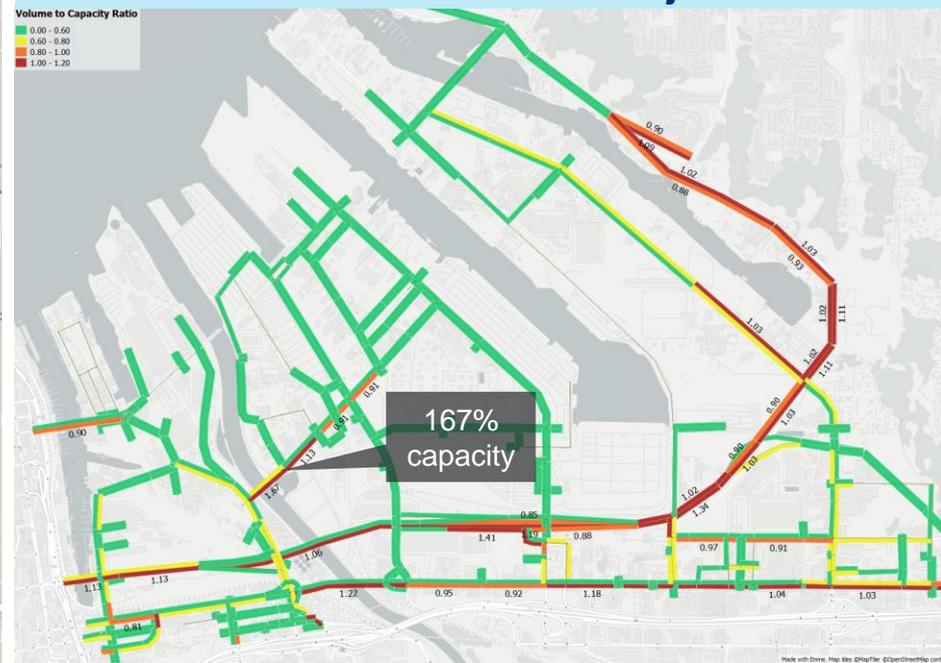
Tideflats Truck Freight Study - Part 2



Existing (2018)



Future (2040) Baseline with Funded Projects



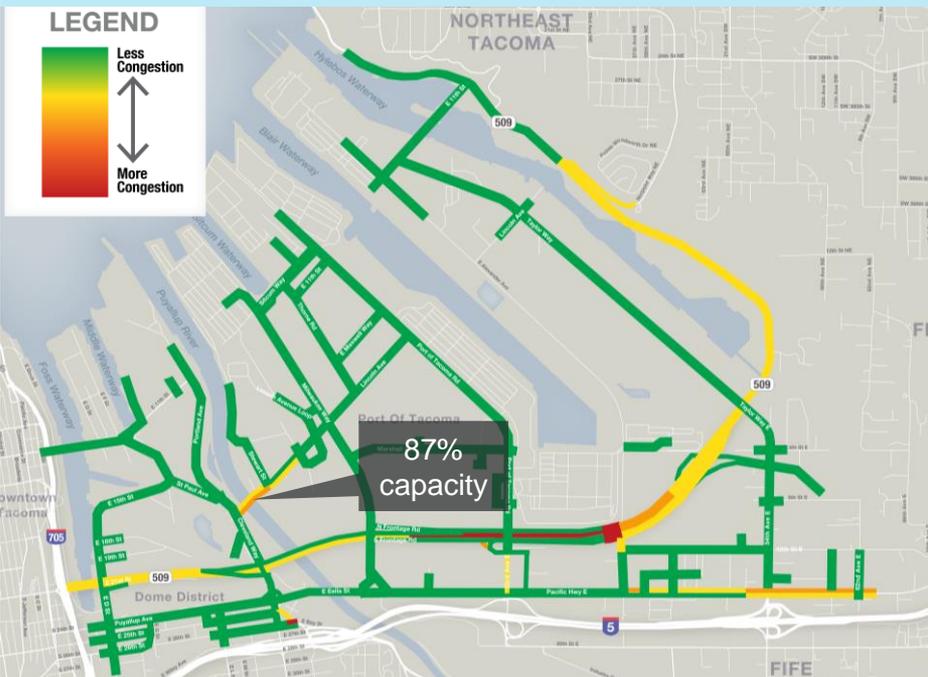
Comparison of AM Congestion between Existing (2018) and Future (2040)

Mid-day Congestion (9 AM to 3 PM) as Volume to Capacity Ratio

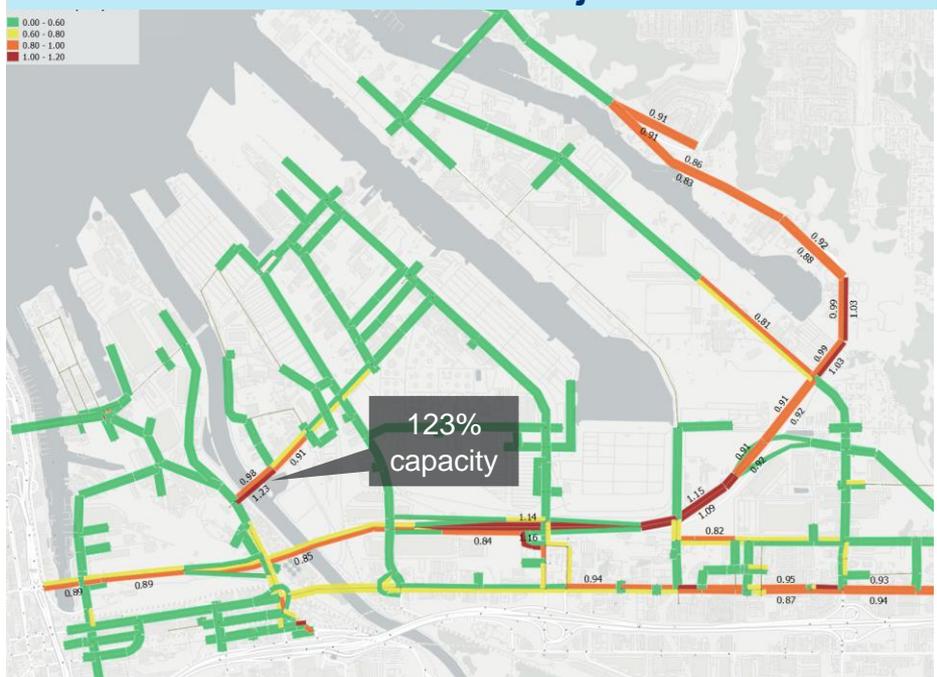
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Existing (2018)



Future (2040) with Funded Projects



Comparison of Mid-day Congestion between Existing (2018) and Future (2040)

Projects Evaluated

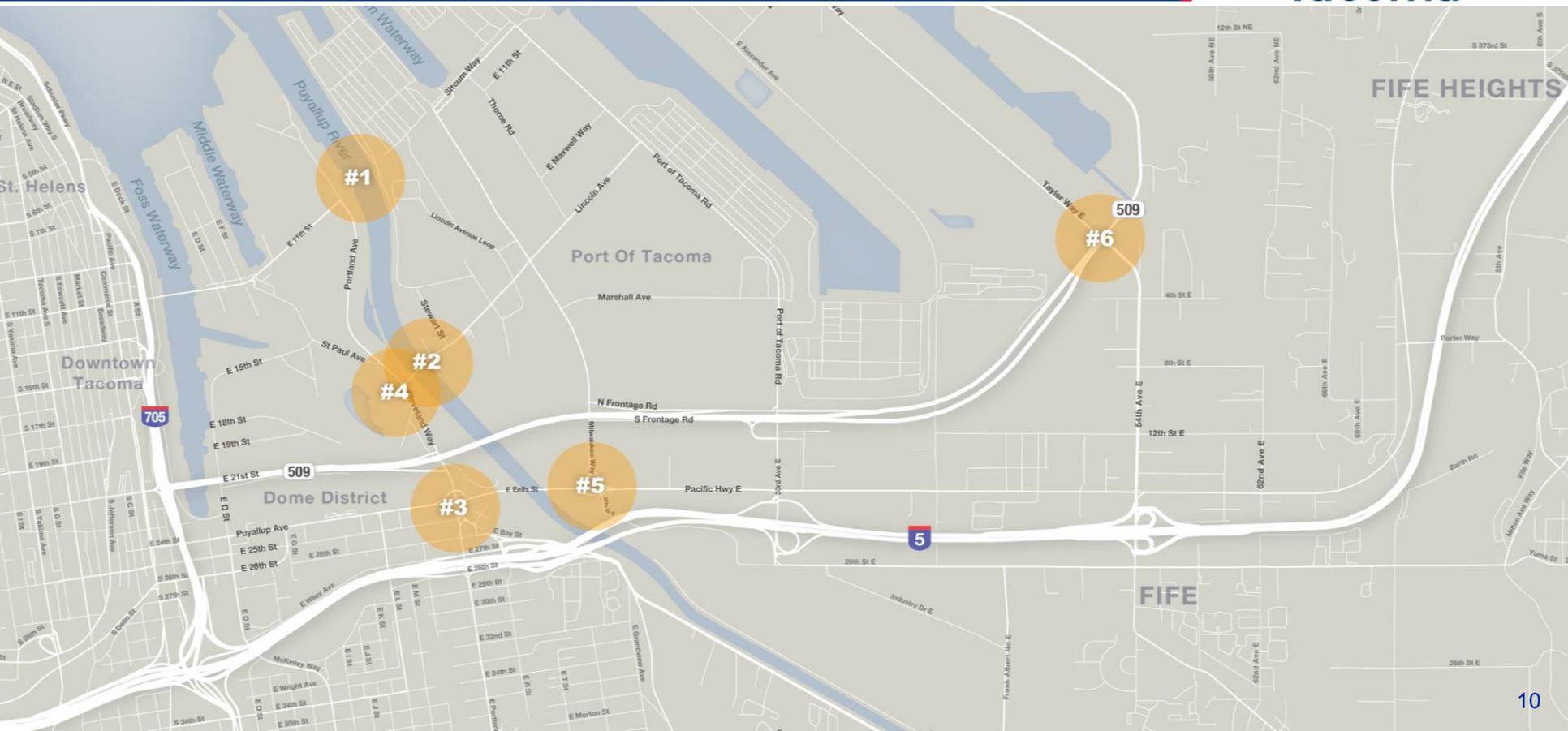
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1. Replace East 11th Street Bridge
2. Widen Lincoln Avenue Bridge
3. Make Portland Avenue Freight and Access Improvements
4. Improve Lincoln Avenue / Portland Avenue Intersection
5. Improve Pacific Hwy / Milwaukee Way / 20th St Intersection and Fishing Wars Memorial Bridge
6. Improve 54th Avenue (Taylor Way) / SR 509 Intersection

Locations of Projects Evaluated

Tideflats Truck Freight Study – Part 2





PROJECT #1

Replace East 11th Street Bridge

Project #1 - Replace East 11th Street Bridge

Tideflats Truck Freight Study - Part 2

Description

Rebuild bridge that has been closed since 2014 due to safety concerns

Intended Result

Provide another viable truck route across the Puyallup River, reducing truck volumes on adjoining facilities, providing system resiliency, and improved emergency response



Project #1:

**Baseline projects plus Replace East 11th Street
Bridge**

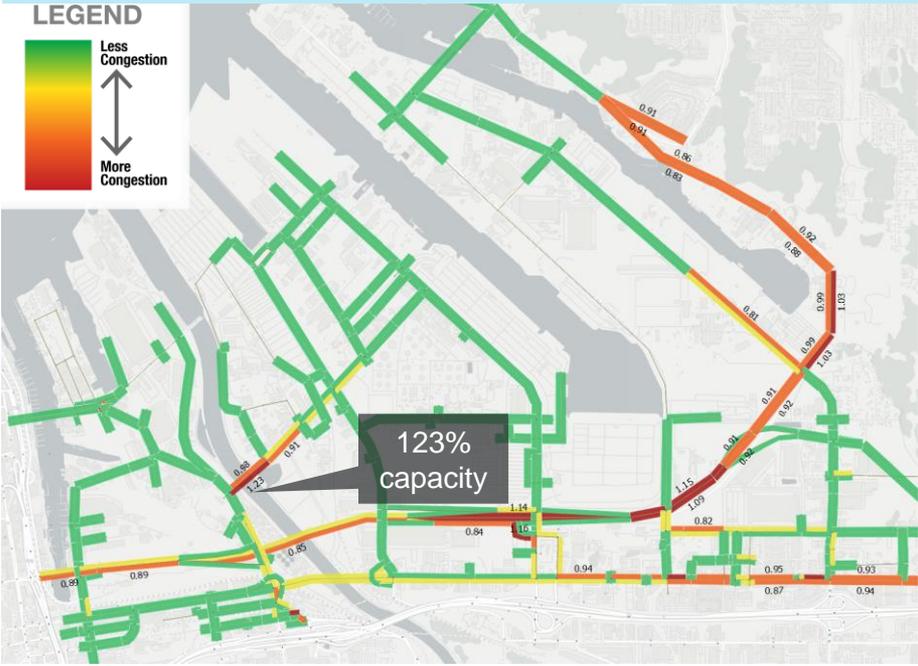
Comparison 2018 to 2040

Project 1 – Replace East 11th Street Bridge

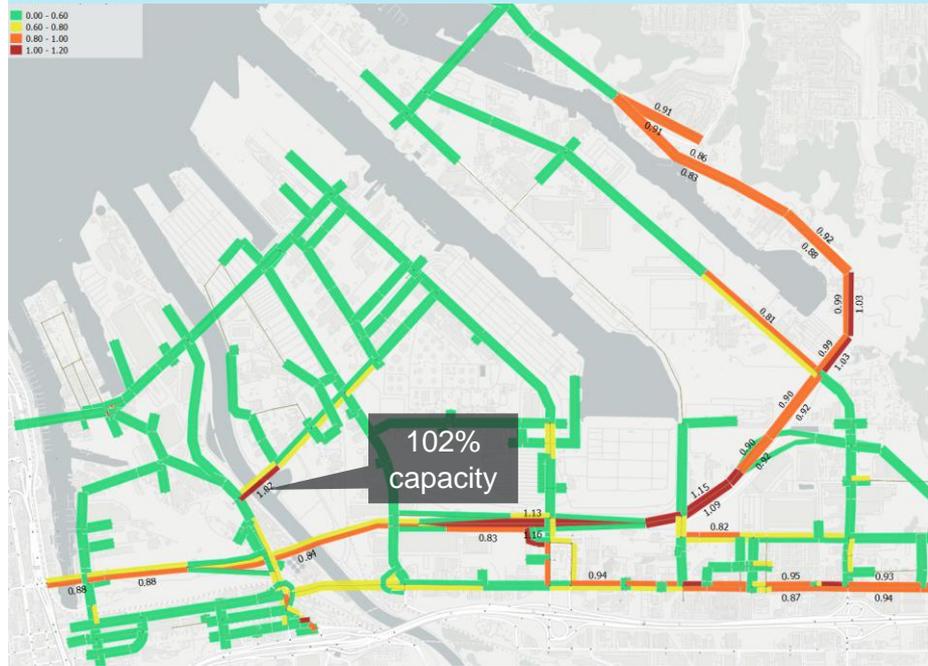
Mid-day Congestion Comparison



2040 Baseline with Funded Projects



2040 Baseline plus East 11th Street Bridge



Comparison of Mid-day Congestion with Bridge Replacement Based on Volume to Capacity Ratio



PROJECT #2

Widen Lincoln Avenue Bridge

Project #2 – Widen Lincoln Avenue Bridge Tideflats Truck Freight Study - Part 2

Description

Excessive queuing along the corridor at times, due to capacity constraints of Lincoln Ave bridge and the intersection at Portland Ave.

Intended Result

Widen corridor from Portland Ave to Lincoln Ave Loop to 4 lanes to reduce queuing.



Project #2:

**Baseline projects plus Widen Lincoln Avenue
Bridge**

Comparison 2018 to 2040



PROJECT #3
Portland Avenue Freight and Access Improvements

Tideflats Truck Freight Study - Part 2

Tideflats Truck Model



Project #3:

**Improved safety with Portland Avenue Freight
and Access Improvements**

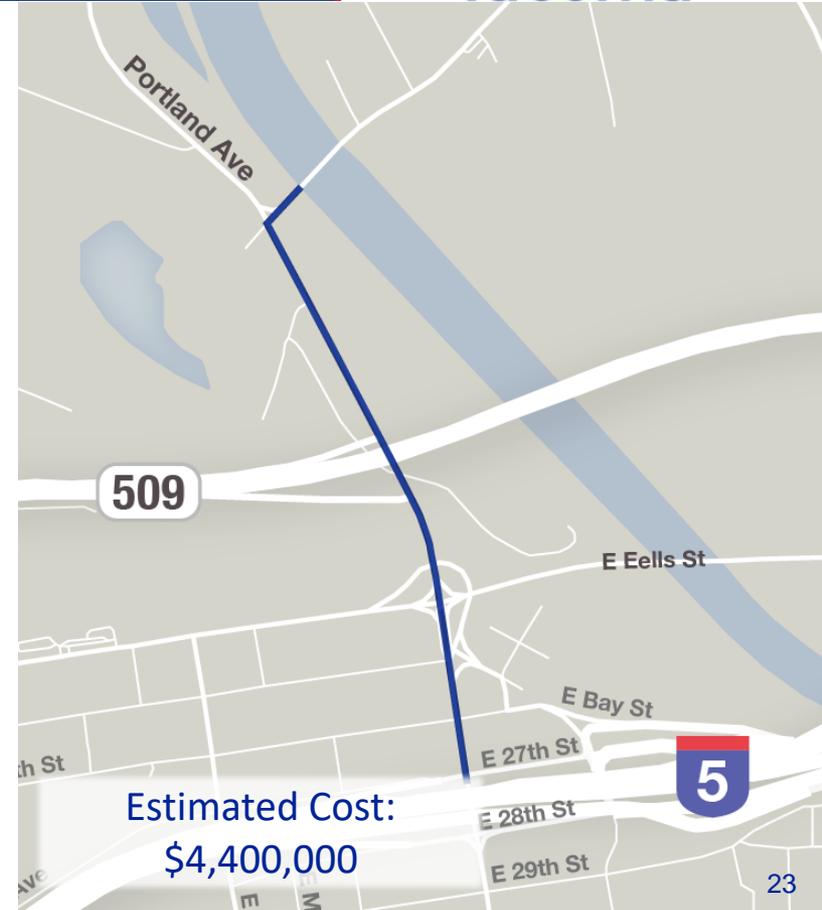
Project #3 - Portland Avenue Freight and Access Improvements

Description

Make pavement, signal and fiber improvements, carry out needed bridge repairs between Lincoln Ave and 27th.

Intended Result

Build road to heavy haul standard, reduce intersection delays, and prevent further bridge damage.



Estimated Cost:
\$4,400,000

Project Benefits

- Concrete roadway will provide a long-lasting, smoother, safer driving surface
- New signal at the SR-509 east-bound off-ramp improves safety
- All four signals along the corridor will be connected to each other and the city's traffic control center, helping optimize traffic flow based on real time conditions
- New signal preemption at Lincoln will decrease emergency response times
- Signal optimization will manage speeds and reduce idling, fuel consumption and emissions



PROJECT #4

Lincoln Avenue / Portland Avenue Intersection Improvements

Project #4 - Portland Avenue / Lincoln Avenue Intersection Improvements

Description

Address traffic operations and truck turning maneuvers at the intersection. Investigate a roundabout option.

Intended Result

Reduce intersection delays and provide improved truck maneuverability for less cost than widening bridge.



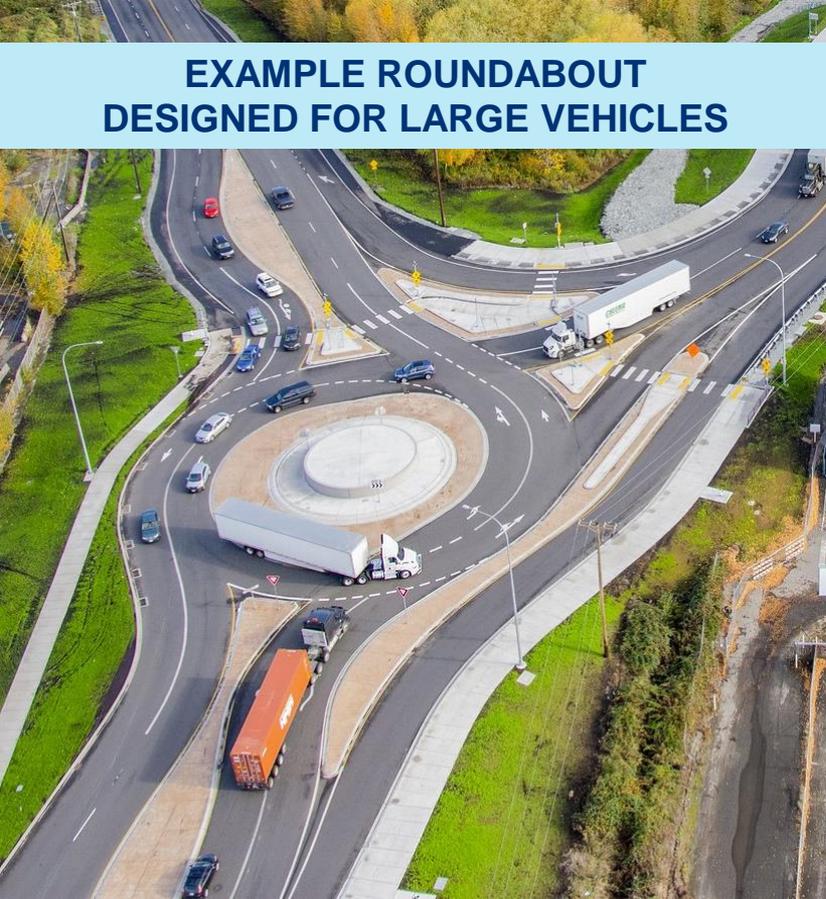
Project #4:

**Improved Level of Service in 2040 with Portland
Avenue / Lincoln Avenue Intersection
Improvements**

Project #4 – Portland Avenue / Lincoln Avenue Intersection Improvements



EXAMPLE ROUNDABOUT DESIGNED FOR LARGE VEHICLES



Operational Evaluation

Future (2040) – Existing 2-Lane Bridge

Intersection Type	Peak Period					
	AM			MD		
	LOS	Delay	V/C	LOS	Delay	V/C
Signalized	E	57	-	E	73	-
Roundabout	B	14	0.77	C	24	0.88

- Improves long-term operations and capacity



PROJECT #5
Improve Pacific Hwy / Milwaukee Way / 20th St Intersection
and Fishing Wars Memorial Bridge

Project # 5 - Pacific Hwy/Milwaukee Way/ 20th St Tideflats Truck Freight Study - Part 2



Description

Poor truck turning radius from Milwaukee Way to westbound Pacific Highway, 20-ton restriction on Fishing Wars Memorial Bridge.

Intended Result

Improved mobility, resiliency and truck access across the Puyallup River, providing access to south-bound I-5.



Project #5:

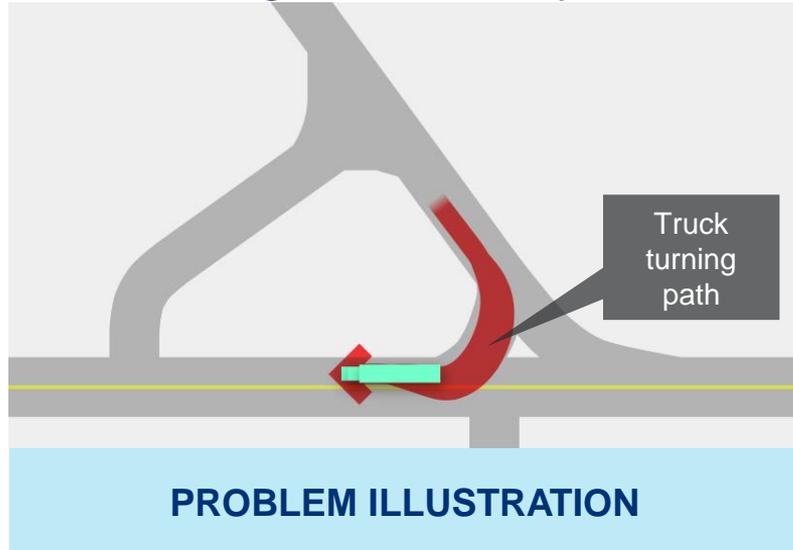
**Increased truck traffic with Pacific Hwy /
Milwaukee Way / 20th St Access Improvements**

Project #5 – Pacific Hwy / Milwaukee Way / 20th St Access Improvements



What is the problem?

The tight turn radius requires trucks to turn into the oncoming eastbound lanes, which is a significant safety issue



Is this an important truck connection?

- Data shows demand for westbound truck movements; and
- Pacific Highway is underutilized due in part to this problem and the bridge weight restriction

Bridge Location	All Truck Traffic		Remarks
	← Westbound	→ Eastbound	
Lincoln Street	249	342	
SR 509	287	496	
Pacific Ave.	112	293	Blocked for heavy trucks



PROJECT #6
Improve 54th Avenue (Taylor Way) / SR 509 Intersection

Project #6 – 54th Ave (Taylor Way) / SR 509 Intersection Improvements



Description

Improve northbound left-turn operations, particularly in the morning.

Intended Result

Improved intersection LOS. Fife is evaluating a project right now.



Project #6:

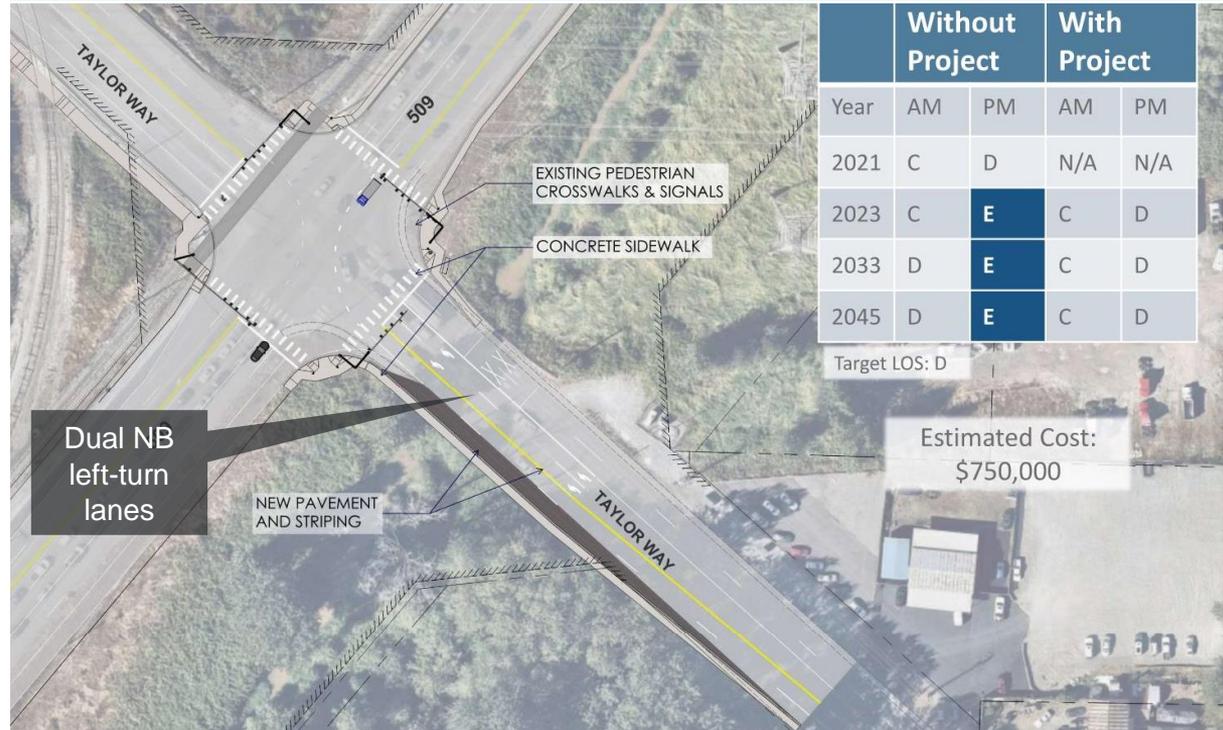
**Improved Level of Service in 2045 with 54th Ave
(Taylor Way) / SR 509 Intersection
Improvements**

Project #6 – 54th Ave (Taylor Way)/SR 509 Intersection Improvements



Adding another northbound turn lane improves operations and queuing

Operational Evaluation



Transportation Advocacy

Promote road, rail and navigation infrastructure and technology improvements to strengthen the regional maritime industry and economy.



STRATEGIES

TA-1

Support infrastructure projects that increase Port freight mobility, prioritizing the SR 167 Gateway Project, and the Port of Tacoma Road/I-5 interchange.

TA-3

Develop criteria and policies to guide decision-making for Port transportation advocacy efforts and to prioritize infrastructure investments.

TA-2

Advocate for the transportation infrastructure and system management needs of Port-related businesses in the Tideflats and Pierce County.

TA-4

Develop and maintain an understanding of regional transportation projects that support Port-related mobility.

Evaluation Criteria – Used for Scoring Projects

Tideflats Truck Freight Study - Part 2



Criterion		Measurement	Rating Methodology
	Mobility, Access & Reliability	How does the project improve freight mobility and access to the Tideflats?	Decrease Travel Time (Some; Little; None)
		Does it improve reliability?	Increases options for routing to/from major POT/NWSA destinations (Yes; No)
	Safety & Resiliency	Does it improve a potential safety issue?	Eliminate; Reduce; Neutral
		Does it improve resiliency of the system?	High; Medium; Low
	State of Good Repair	Does the project repair/rehabilitate a road or bridge in way that makes it last?	Yes; No
	Sustainability	Will the project reduce greenhouse gas emissions or support Zero Emissions infrastructure?	Average potential; Low potential; Not likely

Evaluation Criteria – Used for Scoring Projects

Tideflats Truck Freight Study - Part 2



Criterion		Measurement	Rating Methodology
	Implementation Timeframe	What is the timeframe for implementation?	< 3 years; 3 to 6 years; 6+ years
	Cost Analysis	What is its relative cost?	General Magnitude (High, Med, Low)
		How many truck trips does it carry?	Number of Port Trucks (High, Med, Low)
		What is the opportunity cost? What other project(s) could be funded instead?	Degree of Impact on Other Projects (High, Med, Low)
	Partnership Opportunities	How important is the project to our partners?	Directly benefits partners; Does not directly benefit partners

Evaluation Results

Tideflats Truck Freight Study - Part 2



PROJECT									TOTAL
1	11th St Bridge Replacement								
2	Lincoln Avenue Corridor								
3	Portland Avenue Freight Access								
4	Lincoln Ave/Portland Ave Intersection								
5	Milwaukee Way/Pacific Hwy & Fishing Wars Memorial Bridge								
6	54th Ave/SR 509 Intersection								



High



Average



Low

Key Findings

Tideflats Truck Freight Study - Part 2



- **INTERSECTION PROJECTS:** Lincoln/Portland and Milwaukee/Pac Highway - provide highest benefits at lowest cost.
- **LOCAL PROJECTS:** Portland Ave, 54th Ave - already underway deserve support.
- Funded mega projects, such as the Gateway Program and Interstate 5 / Port of Tacoma Road will do their job.
- Analysis shows worsening congestion along Marine View Drive / Taylor Way / 509—these should be further evaluated.

Next Steps—Commission

Tideflats Truck Freight Study - Part 2



Advocacy for:

- Partner agency projects:
 - Portland Avenue Freight and Access Improvements (Project #3)
 - Improve 54th Avenue (Taylor Way) / SR 509 Intersection Improvements (Project #6)
- More robust analysis of freight movement related to our facilities at the local, regional and state level
- Future efforts related to large partner agency projects outside the Tideflats

Next Steps—Staff

Tideflats Truck Freight Study - Part 2



- 1) Finalize operational analysis of:
 - Lincoln Avenue / Portland Avenue Intersection Improvements (Project #4)
 - Improve Pacific Hwy / Milwaukee Way / 20th St Intersection Improvements and Fishing Wars Memorial Bridge (Project #5)
- 2) Share results with Tideflats Subarea Plan partner agency staff
- 3) Share models and results with partner agencies—with reciprocity
- 4) Respond to comments and requests received today
- 5) Develop a work plan for next year and share efforts with the Commission on a regular basis – semi-annually

Thank you.

Questions?



Tideflats Truck Freight Study - Part 2

Strategic Emergency Response / ITS Improvements



Interconnected ITS system across the Tideflats

- Enhanced emergency response, evacuation access
- Freight mobility improvements
- Safety enhancements



Tideflats Truck Freight Study - Part 2

Canyon Road Project

Canyon Road Improvements

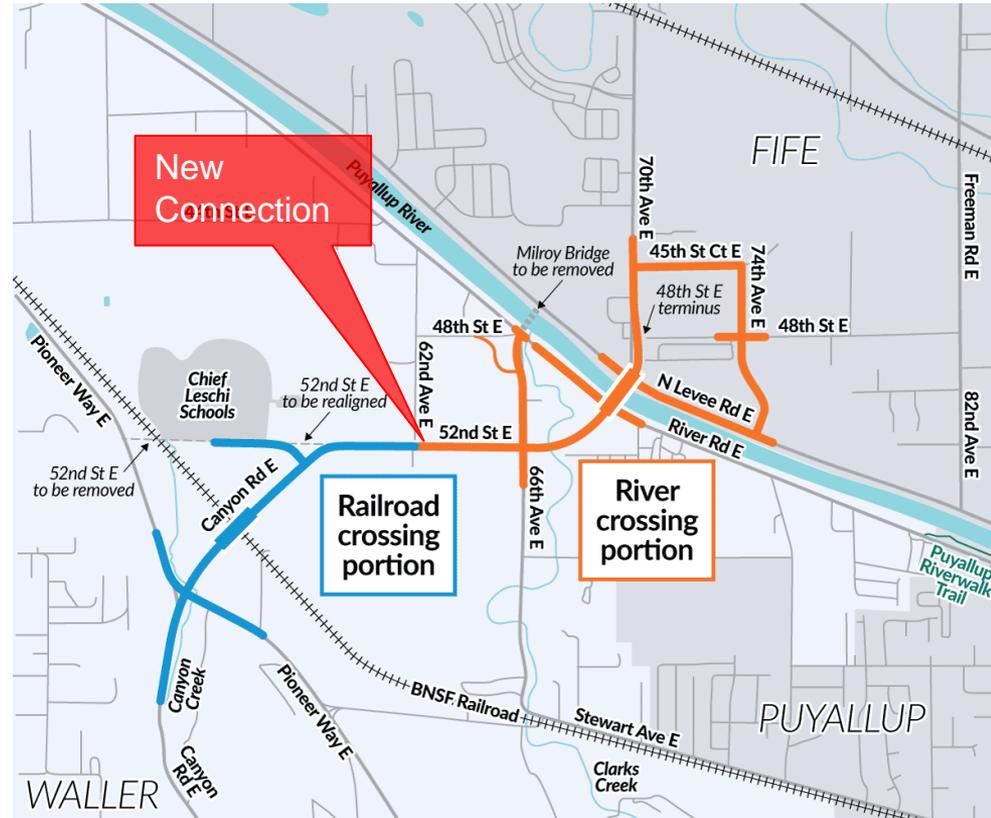
Description

Complete the Canyon Road Regional Connection from Pioneer Way to 70th Ave.

Intended Result

Improve north-south connectivity across the Puyallup River and BNSF Railway.

[Home - Canyon Road Regional Connection Project \(canyonroadconnection.org\)](http://canyonroadconnection.org)



Tideflats Truck Freight Study - Part 2

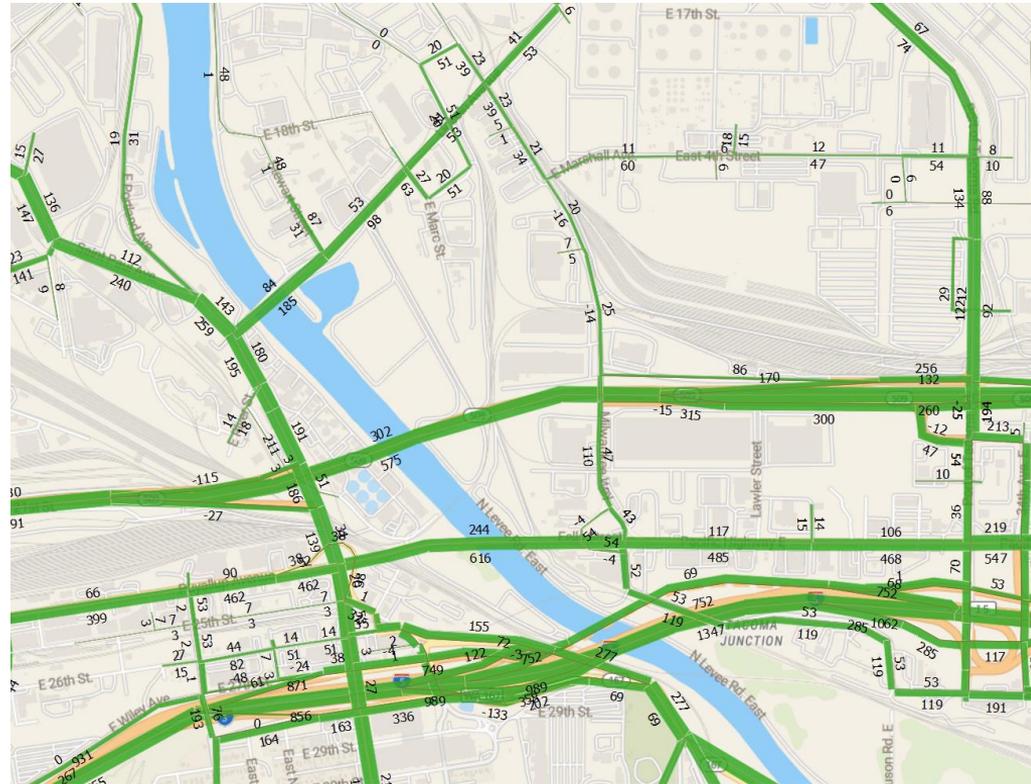
Future Local Truck Routing



Canyon Road Improvements

Increase in Volume:

Lincoln:	185
SR 509:	575
Pacific Ave:	616
I-5:	1347



Pierce County	Target Completion	Cost Estimated
Interstate 5 Nisqually Delta Crossing	TBD	TBD
East 11th Street Viaduct and Bridge	Bridge - TBD	\$200M
Fishing Wars Memorial Bridge	2027	\$180M
Canyon Road East Regional Connection	2026	\$213M
70th Avenue East UP Railroad Crossing	2025	\$26.2M
Sound Transit Tacoma Link Extension	2032	\$3.3B
Blair Channel Deepening	2029	\$109M

Notes:

- 54th Avenue East UP Railroad Undercrossing (2027) \$52M
- Rail information from: WASHINGTON STATE RAIL PLAN 2019-2040 | APPENDIX A

Tools Utilized

Tideflats Simulation Model

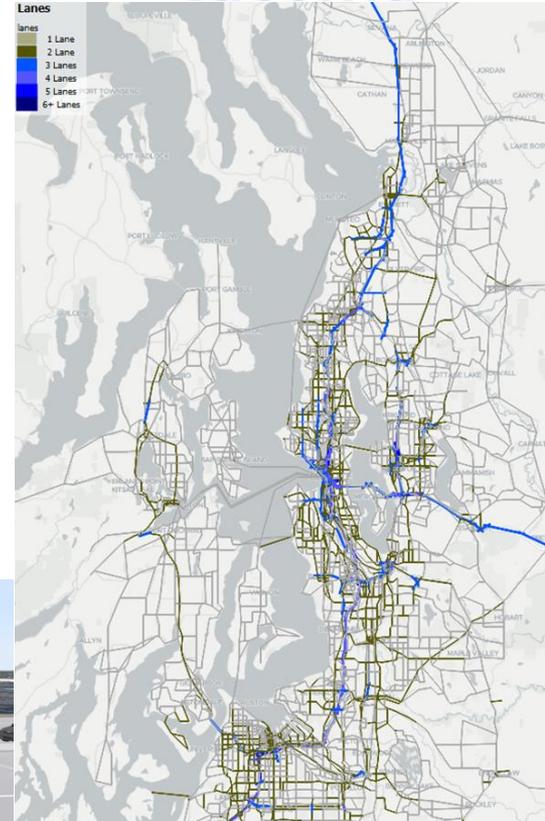
- Reflects detailed operational details of the transportation system (signals, ramp meters, railroad crossings, etc.)

Tacoma Truck Model

- Accounts for local and regional land uses and resulting vehicle trips
- Incorporates local and regional freight movements



Tideflats Simulation Model



Tacoma Truck Model