

Project Cost: \$48,000,000

Freight Need

- ✓ Heavy truck volumes
- ✓ Recurring peak period congestion
- ✓ History of truck-bike collisions

Description

This roadway provides access to Port of Seattle terminals, rail yards, and other industrial land uses in the Duwamish MIC. It is a critical last mile connector and a vital route for trucks carrying over-sized or flammable cargo. It serves as an important connection between the Duwamish MIC and BINMIC areas. The roadway experiences recurring congestion during peak travel times. This project rebuilds the roadway to Heavy Haul route standards, upgrades signal hardware, and adds CCTV cameras and dynamic message signs to improve truck travel conditions.

Toolbox Treatments

- Maintenance & Repair
- Capital Investment
- ITS Application

Project Elements

- ✓ Heavy Haul route rebuild
- ✓ Roadway upgrades
- ✓ Upgrade signal timing and hardware (ITS)

Project Benefits

- ✓ Reduced travel time and increased roadway resiliency
- ✓ Last mile connector and Heavy Haul route
- ✓ Improved freight mobility
- ✓ Improved safety

Current Status

- ✓ Timeframe: 2015-2020, Unfunded

Related Projects

- ✓ SDOT Multimodal Corridor Project
- ✓ E Marginal Way / S Hanford Street Intersection Improvements (#5B)
- ✓ Hanford & Main SIG Access Improvements (#15)

Freight Need

- ✓ Recurring peak period congestion
- ✓ Heavy daily truck volumes
- ✓ History of truck-bike collisions



Description

The E Marginal Way / S Hanford Street intersection is an important component of the proposed Heavy Haul network, the first and last mile connector system, and the city’s hazmat and overlegal vehicle routes. It serves heavy truck traffic throughout the day, including those heading to and from the Main SIG intermodal rail yard. This project would upgrade the signal, lengthen the northbound right-turn lane, improve the railroad crossing pavement, and evaluate the need for railroad crossing gates at the Whatcom track crossings. The project also includes rebuilding the intersection and its approaches to Heavy Haul route requirements. This project will also more clearly delineate parking on the southeast corner of the intersection.

Toolbox Treatments

- Intersection Operations
- Maintenance & Repair
- Capital Investment

Project Elements

- ✓ Heavy Haul route upgrades
- ✓ Upgraded signal timing and hardware
- ✓ Roadway preservation and rebuild
- ✓ Rail crossing improvements

Project Benefits

- ✓ Improved freight mobility
- ✓ Improved freight connectivity
- ✓ Improved safety

Current Status

- ✓ Timeframe: 2015-2020
- ✓ Unfunded

Related Projects

- ✓ SDOT Multimodal Corridor Project
- ✓ East Marginal Way South Rebuild (#5A)
- ✓ Hanford & Main SIG Access Improvements (#15)
- ✓ Hanford Street Greenway (Bicycle Master Plan)



Freight Need

- ✓ Recurring peak period congestion
- ✓ Constrained truck mobility and access
- ✓ Delays due to train crossings



Description

Eastbound access to the Main SIG Yard can be challenging for trucks due to a lack of breaks in the westbound traffic stream. As a result, trucks queue in both directions along E Marginal Way S and in the northbound truck-only lanes under SR 99.

This project improves access to the Main SIG Yard. Initially, it examines the feasibility of installing a traffic signal and other potential changes to facilitate traffic flow in the area. If or when warranted, a traffic signal at the Main SIG entrance could alleviate congestion and allow for improved truck access to the yard. This project also rebuilds the segment of Hanford Street between the E Marginal Way S and 1st Avenue S to Heavy Haul route standards, including new pavement at railroad crossings. It may include rail crossing gates or other devices, if needed.

Toolbox Treatments

Capital Investment

Intersection Operations

Project Elements

- ✓ Heavy Haul route upgrades
- ✓ Roadway rebuild and preservation
- ✓ New traffic signal and rail crossing improvement

Project Benefits

- ✓ Improved safety
- ✓ Improved freight access and mobility

Current Status

- ✓ Timeframe: 2021-2026
- ✓ Unfunded

Related Projects

- ✓ E Marginal Way S Rebuild (#5A)
- ✓ E Marginal Way / S Hanford Street Intersection Improvements (#5B)
- ✓ Hanford Street Greenway (Bicycle MasterPlan)



Freight Need

- ✓ Safety concerns due to track crossings
- ✓ Delays due to extended rail blockages
- ✓ Recurring peak period congestion



Description

South Lander Street is a route vital to east-west travel and connectivity for freight and general purpose traffic in mid-SODO. To reduce at-grade railroad crossing delays and improve safety for all modes using the corridor, this project constructs a grade separated bridge over the mainline BNSF railroad tracks between approximately 1st Avenue S and 4th Avenue S.

Toolbox Treatment

Capital Investment

Project Elements

- ✓ Roadway grade-separation

Project Benefits

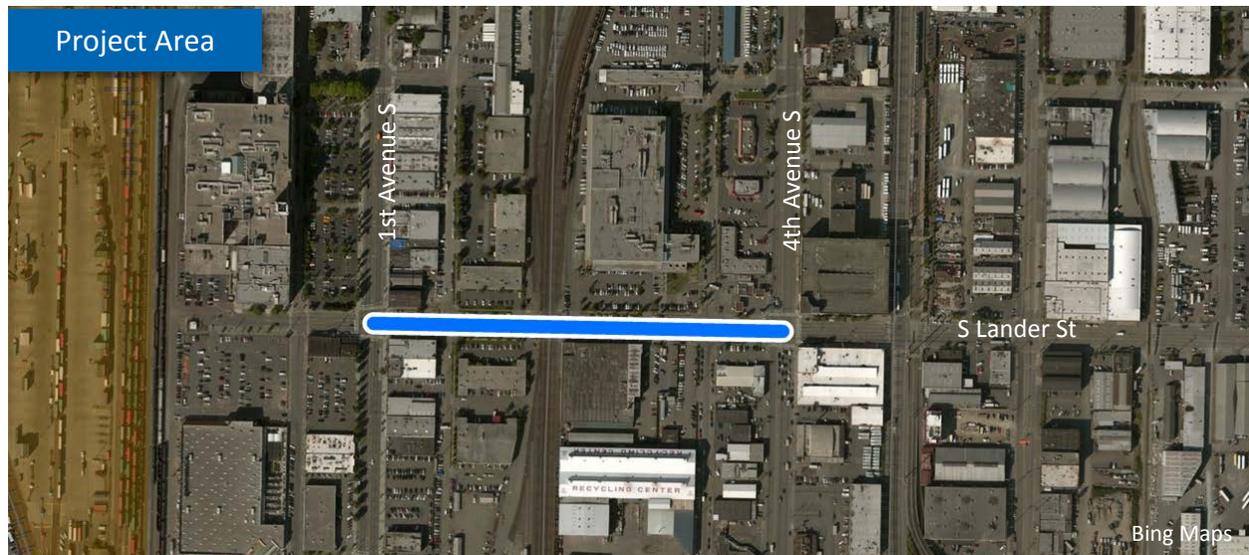
- ✓ Improved safety
- ✓ Improved freight mobility
- ✓ Improved connectivity and access

Current Status

- ✓ Timeframe: 2015-2020
- ✓ Unfunded
- ✓ In SDOT CIP and WSDOT Freight Plan

Related Projects

- ✓ Study and Implementation of Mainline Grade Separation (#17), which includes value engineering the most recent design of this project to explore cost-reduction opportunities.



Project Cost: \$150,000,000

*Cost reduction opportunities to be explored as part of Project #17



Project Cost:
 \$500,000 (study)
 TBD (construction)

Freight Need



- ✓ Lack of east-west roadway connectivity
- ✓ Delays due to extended rail blockages
- ✓ Recurring peak period congestion

Description

East-west connectivity is constrained by the multiple at-grade rail crossings in the SoDo area. This project will identify alternatives for an additional (to S Lander Street) grade separated crossing of the BNSF mainline railroad tracks between S Atlantic Street and S Spokane Street, and will include a value engineering evaluation of the South Lander Street Grade Separation (#16) to identify potential cost savings. This project could also identify other technology investments, including adaptive signal timing, to maintain reliable east/west street movement for motor vehicles, including trucks, and non-motorized traffic.

Toolbox Treatment

- Capital Investment
- ITS Application

Project Elements

- ✓ Value engineering of S Lander St grade-separated railroad crossing project
- ✓ Evaluation of an additional (to S Lander Street) grade-separated roadway crossing of the railroad tracks
- ✓ South Lander Street value engineering study

Project Benefits

- ✓ Improved safety
- ✓ Improved freight mobility
- ✓ Improved connectivity and access

Current Status

- ✓ Timeframe: Study 2015-2020, Implementation TBD
- ✓ Unfunded
- ✓ In PSRC Transportation 2040

Related Projects

- ✓ South Lander Street Grade Separation (#16)

Freight Need

- ✓ Maintenance and service life span
- ✓ History of collisions at bridge approaches



Description

The project will replace the viaduct structure spanning the Union Pacific Railroad (UPRR) yard at the conclusion of its service life, which is expected to occur within the 20-year planning timeframe (by 2035). The new structure will increase vertical clearance above the railroad tracks to improve safety and rail operations. Columns and pier walls will be removed to increase and optimize rail yard functionality and operations.

Toolbox Treatments

Capital Investment

Maintenance & Repair

Project Elements

- ✓ New bridge built to current standards at time of construction

Project Benefits

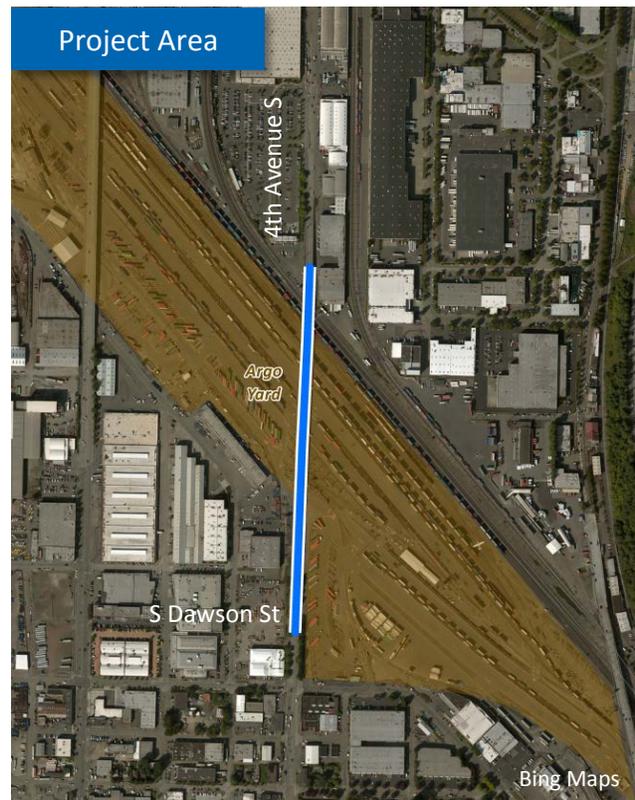
- ✓ Maintain connectivity
- ✓ Infrastructure renewal
- ✓ Improved safety
- ✓ Rail freight operational improvement

Current Status

- ✓ Timeframe: 2027-2035
- ✓ Unfunded

Related Projects

- ✓ 1st Avenue South Viaduct Replacement (#19)



Project Cost: \$94,500,000

Freight Need

- ✓ Geometric constraint for trucks at the ramp terminal and intersections on W Dravus Street



Description

Trucks of all sizes have difficulty turning from the 15th Avenue W northbound off-ramp to westbound W Dravus Street. This project addresses intersection turn radii issues for trucks turning to and from W Dravus Street as related to existing bridge infrastructure constraints. 15th Avenue W is also an overlegal route and large trucks are unable to pass underneath the bridge at W Dravus Street. The decision to replace or retrofit the bridge depends on an engineering evaluation, but the cost estimate assumes replacing the full structure to current standards at time of construction. Both 15th Avenue W and W Dravus Street are vital connections for freight traveling to and from the Ballard/Interbay Northend Manufacturing and Industrial Center (BINMIC).

Toolbox Treatments

Capital Investment

Project Elements

- ✓ Bridge structure retrofit or replacement
- ✓ Overlegal route upgrades

Project Benefits

- ✓ Geometric improvements
- ✓ Maintained connectivity

Current Status

- ✓ Timeframe: 2021-2026
- ✓ Unfunded

Related Projects

- ✓ BINMIC Truck Route Improvements (#52)
- ✓ 15th Avenue W / Emerson Street Intersection Improvements (#46)



Project Cost:
 \$27,100,000 (replacement)
 \$10,000,000 (retrofit)

Freight Need

- ✓ Road closures and delays due to mainline train crossings and maintenance yard track operations
- ✓ Recurring peak period congestion
- ✓ Poor pavement, channelization markings, and pedestrian facilities
- ✓ Safety concerns



Description

S Holgate Street is one of the few east-west arterials in the Duwamish MIC between 1st Avenue S and Airport Way, and providing viaduct access to Beacon Hill. Amtrak is anticipated to install new quad gates and improve pavement at the railroad crossings, while SDOT will be installing ITS equipment to inform the public about train crossing delays and provide dynamic signage to identify alternative routes. This project would rebuild the pavement to Heavy Haul route requirements, improve channelization and signage, add new curb/gutter, and provide sidewalks along the south side outside the immediate crossing areas.

Toolbox Treatment

Capital Investment

Project Elements

- ✓ Heavy Haul route upgrades
- ✓ New pavement, curb/gutter, signage, and striping
- ✓ New sidewalks

Project Benefits

- ✓ Improved safety
- ✓ Improved freight mobility

Current Status

- ✓ Timeframe: 2015-2020
- ✓ Unfunded

Related Projects

- ✓ Railroad Crossing Delay Warning System (#28)
- ✓ Amtrak Maintenance Yard Improvements (new gates, wayside horns, upgrades to pavement at crossings)



Freight Need

- ✓ Recurring peak period congestion
- ✓ Heavy daily truck volumes



Description

Lower Spokane Street is a primary freight route serving nearly 5,000 trucks daily and connecting the Port terminals and other land uses to the regional highway system. It currently experiences delays around the clock throughout the day caused by train crossings and intersection operations. This pilot project would design, implement, and evaluate freight-only lanes on the corridor. The first phase of the project would determine project limits; identify design options and new infrastructure needed to implement the pilot. The second phase would implement the modifications to roadway channelization for truck-only lanes, install signal and signage upgrades, and provide ITS equipment such as variable message signs and detection equipment. The project would evaluate time-of-day operations, while providing a contingency for allowing all traffic to use the lanes in the event of an incident on the upper bridge.

Toolbox Treatments

- Intersection Operations
- ITS Application

Project Elements

- ✓ Signal and signage improvements
- ✓ Roadway delineation and restriping
- ✓ Variable message signs and detection equipment

Project Benefits

- ✓ Improved freight mobility
- ✓ Improved freight connectivity

Current Status

- ✓ Timeframe: 2015-2020
- ✓ Unfunded

Related Projects

- ✓ S Spokane Surface Street ITS (#25)



Project Cost:
\$200,000 (Phase I)
\$4,000,000 (Phase II)

Freight Need

- ✓ Recurring peak period congestion
- ✓ Heavy daily truck volumes



Description

Lower S Spokane Street is a primary freight route serving nearly 5,000 trucks daily that provides access to the regional highway system. It currently experiences recurring delays throughout the day caused by train crossings, bridge openings, and intersection operations. This project would install ITS equipment along the corridor to collect and provide real-time travel time information for trucks and the general public. The specific equipment would include Bluetooth readers and dynamic message signs installed along the corridor to collect and disseminate travel time information between Airport Way and Chelan Avenue, including access to Port Terminal 5. An additional project component, which has not yet been evaluated for cost, may be to improve the signal system at the intersection of Chelan Avenue at the western terminus of the corridor.

Toolbox Treatments

ITS Application

Project Elements

- ✓ Bluetooth readers
- ✓ Dynamic message signs

Project Benefits

- ✓ Real-time travel information
- ✓ Improved freight mobility

Current Status

- ✓ Timeframe: 2015-2020
- ✓ Unfunded

Related Projects

- ✓ SDOT Next Generation ITS Plan
- ✓ Lower Spokane Street Freight Only Lanes Pilot Project (#24)

Project Area



Project Cost: \$1,500,000



Project Cost: \$500,000

Freight Need

- ✓ East-west roadway connectivity
- ✓ Delays due to extended train crossing blockages
- ✓ Recurring peak period congestion



Description

The at-grade railroad crossings in the Duwamish MIC block east-west roadways for significant portions of the day, causing unpredictable delays for both truck and passenger vehicles. This project installs ITS equipment to monitor and inform the public of road closures due to train activity, and provides alternative routing options via of dynamic message signs that display real-time information to drivers at key locations.

Toolbox Treatment

ITS Application

Project Elements

- ✓ Dynamic message signs and train detection equipment

Project Benefits

- ✓ Improved safety
- ✓ Improved connectivity
- ✓ Improved reliability

Current Status

- ✓ Timeframe: 2015-2020
- ✓ Partially funded ~\$110,000 (of \$500,000)

Related Projects

- ✓ S Holgate Street Improvements (#23)
- ✓ Amtrak Maintenance Yard Improvements (new gates, wayside horns, upgrades to pavement at crossings)
- ✓ South Lander Street Grade Separation (#16) and Study and Implementation of Mainline Grade Separation (#17)

Freight Need

- ✓ Geometric constraints
- ✓ Intersection operational delays
- ✓ Heavy daily truck volumes
- ✓ Event related impacts



Description

The 1st Avenue S / S Atlantic Street (SR519) intersection is a major chokepoint for both trucks and passenger vehicles traveling to and from I-5 and I-90. It currently experiences regular operational delays throughout the day, and especially during the peak periods and around large stadium events. This project would enhance signal operations and lighting at the intersection by installing new LED street lighting and right-turn overlap signal phases on the east and west approaches. The project would also improve the turn radius for trucks at the southeast corner of the intersection by widening the northbound right-turn lane. Pavement marking improvements are included to enhance the visibility and durability of the lane lines and crosswalks.

Toolbox Treatments

Geometric Improvement

Intersection Operations

Project Elements

- ✓ Geometric improvements
- ✓ Signal and lighting upgrades
- ✓ Pavement markings

Project Benefits

- ✓ Improved freight mobility
- ✓ Improved freight connectivity
- ✓ Improved safety

Current Status

- ✓ Timeframe: 2015-2020
- ✓ Unfunded

Related Projects

- ✓ WSDOT SR 99 Bored Tunnel
- ✓ S Atlantic Street Corridor Improvements (#37B)
- ✓ 1st Avenue South ITS



Freight Need

- ✓ Recurring peak period congestion
- ✓ Heavy daily truck volumes
- ✓ Event related impacts



Description

S Atlantic Street (SR 519) is a primary east-west freight route that provides direct access to I-5 and I-90. It currently experiences recurring congestion throughout the day primarily caused from operational delays at the 1st Avenue S intersection. Travel time reliability along the corridor is also impacted by stadium events. As the SR 99 bored tunnel is completed, SDOT will regularly monitor travel conditions to evaluate potential changes in corridor operations. This project would implement signal, channelization, and ITS improvements based on the results of the monitoring program.

Toolbox Treatment

ITS Application

Intersection Operations

Project Elements

- ✓ Signal and signage improvements
- ✓ Roadway restriping
- ✓ Variable message signs and detection equipment

Project Benefits

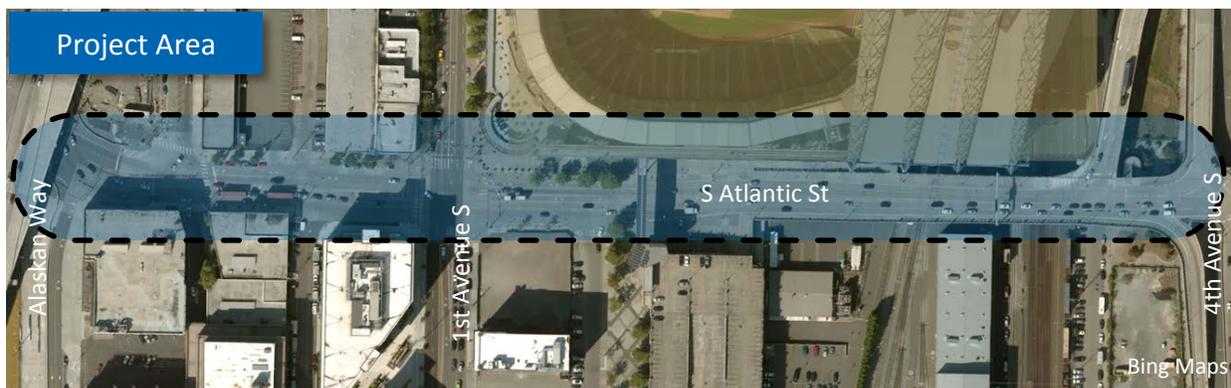
- ✓ Improved freight mobility
- ✓ Improved access to the regional highway system

Current Status

- ✓ Monitoring of conditions
- ✓ Timeframe: 2015-2020
- ✓ Unfunded

Related Projects

- ✓ WSDOT SR 99 Bored Tunnel
- ✓ 1st Avenue S / Atlantic Street Intersection Improvements (#37A)
- ✓ 1st Avenue South ITS



Project Cost: TBD
*monitoring to identify specific project needs

Freight Need

- ✓ Geometric constraints
- ✓ Maintenance and service life span



Description

The W Emerson Street ramp over 15th Avenue W serves trucks going to and from W Nickerson Street, a critical alternative truck route connecting the Ballard/Interbay Northend Manufacturing and Industrial Center (BINMIC) to Fremont and Westlake Avenue N. Trucks of all sizes have difficulty turning from the W Emerson Street ramp just west of 15th Avenue W. The westbound left-turn to access the ramp to W Nickerson Street and the eastbound right-turn from the ramp to head south on 15th Avenue W are particularly challenging for trucks.

A short section of bridge widening to the west of 15th Avenue W would be included as part of this project. Retrofitting the existing bridge depends on an engineering evaluation, and the cost estimate assumes adding a short section to the existing bridge deck to accommodate eastbound right-turn movements at the intersection. This project will also improve the curb radius at the southwest corner of the intersection with 15th Avenue W.

Toolbox Treatment

Geometric Improvement

Capital Investment

Project Benefits

- ✓ Improved freight mobility
- ✓ Maintained connectivity
- ✓ Infrastructure preservation

Project Elements

- ✓ Partial bridge structure expansion
- ✓ Curb radius improvement

Current Status

- ✓ Timeframe: 2028-2035
- ✓ Unfunded

Related Projects

- ✓ BINMIC Truck Route Improvements (#52)
- ✓ W Dravus Street / 15th Avenue W Intersection Improvements (#22)
- ✓ South End Ballard Bridge Bicycle Improvements



Project Cost: \$1,500,000

Freight Need

- ✓ Freight mobility and connectivity
- ✓ Safety concerns



Description

The Ballard/Interbay MIC is an important industrial and maritime area to the City and region, with a growing need to accommodate a variety of users within the limited amount of public right-of-way. The first phase of the project will be to evaluate truck freight movements to identify specific projects to address geometric and operating challenges for trucks. The projects will be focused on readily feasible improvements with primary consideration given to safety and freight connectivity. They may include signal timing adjustments, additional signage or wayfinding, larger intersection turn radii, lane width adjustments, and joint use of bus lanes.

- Phase I: Collect data on needs through a detailed assessment of truck volumes, truck sizes, and over-dimensional truck activity. Build from the forecasts developed in the FAP and work with stakeholders to identify and prioritize specific truck route projects.
- Phase II: Implement top priority projects given funding availability and opportunities. Develop long term budget and funding strategy to implement remaining projects.

Toolbox Treatments

Geometric Improvement

Intersection Operations

Project Benefits

- ✓ Improved freight mobility
- ✓ Improved access

Project Elements

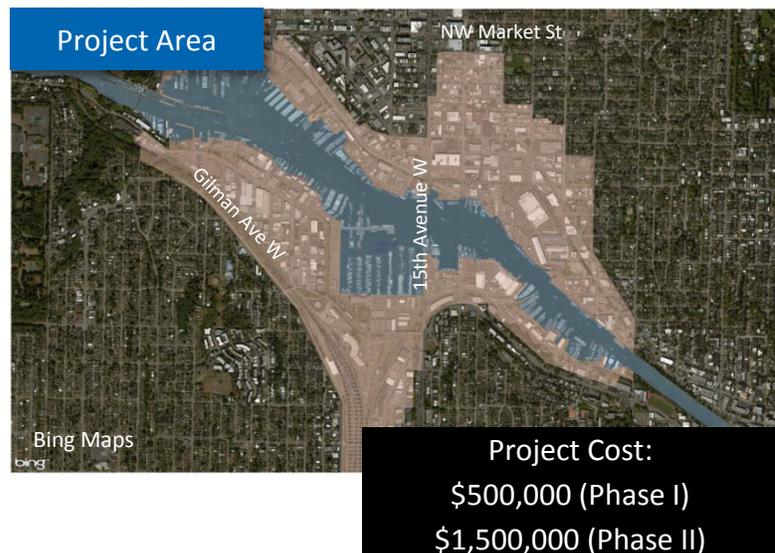
- ✓ Roadway delineation and restriping
- ✓ Signal and signage improvements
- ✓ Geometric improvements

Current Status

- ✓ Timeframe: Phase I 2015-2020, Phase II 2021-2027
- ✓ Unfunded

Related Projects

- ✓ W Dravus Street / 15th Avenue W Intersection Improvements (#22)
- ✓ 15th Avenue NW / NW Market Street Intersection Improvements (#45)
- ✓ W Emerson Street Improvements (#46)
- ✓ Citywide Freight Spot Improvement Program Expansion



Freight Need

- ✓ Mobility constraints
- ✓ Barriers to freight connectivity
- ✓ Wayfinding
- ✓ Safety concerns



Description

There are a range of physical constraints on roadways heavily traveled by trucks that impact the reliability and speed of goods deliveries. This program, originated in response to input from the freight community, provides SDOT with the ability to make inexpensive improvements at locations where mobility barriers present barriers to truck mobility. The existing program has implemented valuable small-scale geometric, channelization, signal, wayfinding and other operational improvement projects.

The recommendation is for this program to be enhanced to enable SDOT to increase the number of low-cost improvements implemented annually, and to better respond to emerging issues and challenges. To achieve the latter goal, a second, new key component of the Freight Spot Improvement Program would be a project development function for projects with estimated capital costs in excess of \$50,000, but below a threshold of \$500,000. This function would involve taking planning-level truck-freight improvement concepts to between 5% and 10% design, including a cost estimate. Achieving this level of design would support grant applications and funding partnerships, allow for smaller-scale projects to be constructed by SDOT crews and migrate larger-scale projects to SDOT’s Capital Program for final design and construction.

Toolbox Treatments

- Geometric Improvement
- Maintenance & Repair
- Intersection Operations

Project Elements

- ✓ Intersection and other geometric design improvements
- ✓ Traffic signal improvements
- ✓ Wayfinding signs and markings
- ✓ Trimming of trees and bushes in the rights-of-way

Project Benefits

- ✓ Improved freight mobility
- ✓ Improved connectivity
- ✓ Improved safety

Current Status

- ✓ Timeframe: Ongoing
- ✓ Partially funded (\$450,000/year)

Example Projects

- ✓ NW Leary Way at 46th Street or 45th Street (#36)
- ✓ Airport Way S / Edmunds Street (#38)
- ✓ S Bailey Street Channelization and Operational Improvements (#42)
- ✓ E Marginal Way S / Corson Street Improvements (#47)
- ✓ E Marginal Way S railroad track removal (#48)

Program Cost: \$1,500,000/year



Freight Need

- ✓ Truck freight data to support decision making
- ✓ Improved real-time information for the trucking community
- ✓ Inter-departmental and jurisdictional coordination on freight issues

Description

SDOT is currently in the process of updating its Traffic Management Center. It is also deploying new technology to pro-actively manage critical corridors, collect data, and provide real-time information. This program builds on these existing efforts to improve the monitoring, collection, and analysis of truck volume, truck classification and travel-time data within the city, with a focus on MICs and connecting corridors. The freight-focused ITS program would facilitate data sharing, assist in data transmission, and coordinate data collection efforts specific to freight in order to improve SDOT’s—and WSDOT’s—capacity to recognize, and respond to, immediate and longer-range freight challenges.

Reliable data analytics are important to determine the volumes of freight moving on Seattle’s portion of our state’s Freight and Good Transportation System (FGTS). Data submitted every two years ensures that Seattle’s major freight routes are eligible for state and federal funding. A third element of the Freight ITS Program builds on the above elements and SDOT’s existing efforts to communicate construction impacts, congestion, and incidents to the travelling public. The ability of truck drivers to avoid congested corridors, or restricted right-of-way, is even more limited than that of other drivers. The program would explore cost-effective options for improving conditions and disseminating information to truck drivers.

Toolbox Treatments

- ITS Application
- Intersection Operations

Project Elements

- ✓ Data collection / sharing
- ✓ Communication protocols
- ✓ Signal timing adjustments

Project Benefits

- ✓ Improved information and data regarding changes to truck mobility and reliability

Current Status

- ✓ Timeframe: Ongoing
- ✓ Unfunded

Related Projects

- ✓ N/A



Program Cost:
\$150,000/year