

**Southwest Washington Regional
Transportation Council**

**Clark County Freight
Mobility Study**

Technical Memorandum 4.B.

Recommended Regional Actions and Priority Freight Projects

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Prepared For:

RTC

November 19, 2010

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1. Purpose

The purpose of this technical memorandum is to present recommended policies, strategies, and projects to improve freight mobility in Clark County. The recommended policies and projects are of regional significance and are intended to support a freight element of the Regional Transportation Council's (RTC's) Metropolitan Transportation Plan (MTP). This technical memorandum includes the recommended strategies and policies including a map of recommended "Freight Corridors of Regional Significance" as well as a table of corridor investment priorities for freight that was developed from the adopted MTP projects. This technical memorandum presents a starting point for discussion and is based on the study findings previously prepared for the Clark County Freight Mobility Study.

2. Freight Mobility Strategies

This section presents ten freight mobility strategies that focus on the following major elements: economic development, freight corridors of regional significance, oversize freight routes, complete street design, port access, local truck access, rail improvements, roadway improvements, and funding. These strategies result from the analysis of existing and future freight movement; current economic conditions; freight and transportation policies; and discussions with agency and business-freight stakeholder groups. Appendix A, following the References, is a list of all of the technical memoranda prepared for this study that formed the basis for these recommended strategies.

Strategy 1. Invest in freight mobility to support industrial development goals and job creation

Transportation investment priorities that support industrial development goals and job creation should favor projects with a high return on investment, and in today's economy, induce near-term results. Clark County's Comprehensive Plan - Economic Development Element¹ included a Focused Public Investment Plan² to target investments that could induce job growth. The plan showed the magnitude of infrastructure investment (including the need for sewer, water, storm water, public services, and transportation) that would be needed to make various areas "shovel ready" to support new development. That investment was then compared to the potential for jobs. The resulting "costs per job" indicated the locations where public investments would be most efficient.

¹ Clark County Comprehensive Plan, 2004-2024, Chapter 9 Economic Development Element.

² Appendix B of the Economic Development Element.

Areas of Clark County with relatively large tracts of industrial-zoned land that stood out as having lower costs per job than other areas. These are:

- Fisher Swale – located east of 192nd Avenue SE with portions of the area within the Urban Growth Areas of both Camas and Vancouver. There many vacant parcels designated for industrial campus development, and the area already attracted several high tech companies.
- Port of Vancouver (and vicinity).
- Columbia Way vicinity industrial area parallel to SR 14.

An efficient transportation system leads to improvements in reliability, freight transit times, service levels, and reduced costs. This increases productivity, improves competitive position and ultimately leads to increased economic growth. With these considerations, the following actions are recommended.

- Prioritize freight infrastructure investments that maximize jobs, income and business activity.
- Monitor investments in industrial lands in Clark County, tracking the facility size, number jobs, and documenting the reasons the investment occurred at that location.
- Prepare informational materials to demonstrate the benefits of a robust and efficient freight transportation system in Clark County.
- Periodically review MTP freight-priority projects for ability to serve industrial lands most likely to develop.

Three of the other strategies listed below recommend improvements targeted to the industrial areas listed above. Three of these are focused on the Port of Vancouver area—Strategy 3 addressing oversized load routes, Strategy 5 for rail improvements and Strategy 9 addressing truck access. Strategy 4, which lists high priority freight improvement needs for I-205 and SR 14, east of I-205, would benefit the Fisher Swale area.

Strategy 2. Identify freight corridors of regional significance

The consultant has reviewed Clark County's freight system, and recommends designating Freight Corridors of Regional Significance based on the following criteria:

- Roadways with medium and heavy truck volumes greater than 600 trucks per day in both directions;
- Designated National Highway System (NHS) facilities;
- Washington State Highways of Statewide Significance;

- The Washington State Department of Transportation (WSDOT) Freight and Goods Transportation System (FGTS);
- A review of adopted truck routes of all jurisdictions and agencies in Clark County;
- Connectivity to state highways, arterials, and major generators of truck volume; and
- Active oversize load routes.

The recommended Freight Corridors of Regional Significance include all of the Washington State Highways of Statewide Significance (HSS), which were adopted by the Washington State Legislature. The HSS includes interstate highways and other principal arterials that are needed to connect major communities in the state. The designation assists with the allocation and direction of state funding. The HSS in Clark County include: I-5, I-205, and SR 501 from the Port of Vancouver to I-5 (Washington State Legislature, June 2006).

The Freight Corridors of Regional Significance also includes the top two tiers of highways and roadways that are listed in WSDOT's FGTS. The FGTS is used to establish funding eligibility for Freight Mobility Strategic Investment Board (FMSIB) grants. The FGTS classifies roadways using five freight tonnage classifications, T-1 through T-5. The highest class, T-1, includes routes that serve more than 10 million tons of freight per year. The T-2 class includes routes with 4 to 10 million tons of freight per year. These two classes were included.

Additional local routes with large and medium truck volumes greater than 600 trucks per day were included in the Freight Corridors of Regional Significance.

An adopted network of Freight Corridors of Regional Significance could benefit design and policy decisions along these key corridors, such as:

- Providing guidance to prioritize truck mobility improvement projects.
- Supporting freight funding applications.
- Identifying corridors where truck-related design features should be considered.
- Identifying additional design treatments to maintain an oversize freight route.
- Providing a basis for local jurisdictions to adopt truck routes, if desired.

A preliminary recommendation for the RTC's Freight Corridors of Regional Significance is presented in **Figure 1**.

Strategy 3. Manage oversize freight routes

Oversize loads occur on a daily basis in Clark County. Oversize loads are linked to important economic activities, such as heavy equipment transport of wind turbines from the Port of

Vancouver to eastern Oregon and Washington, manufacturing in the Columbia Industrial Park, and freight movements to Portland industrial areas. Like other truck traffic, oversized loads can have multiple origins or destinations.

In Clark County there are some unique and strategically important oversize load transport routes. Examples of unique origins of oversize loads include the Port of Vancouver and the Columbia Business Center. Due to the unique character of both those facilities, large loads such as wind turbine and custom steel fabrication materials often originate from those sites and use adjacent arterials to reach the highway system. In addition to those two sites, oversize routes are needed throughout the County in order to transport large equipment or components for construction projects.

On highway facilities or crossing highways, the primary limiting factor for oversize load route choice is vertical clearance. The WSDOT standard clearance for an arterial crossing is 16 feet (16.5 feet for a new bridge). The I-5 crossings within the CRC project area are being designed for 17 feet of clearance. Turning radii can also be a constraint where there is inadequate roadway width or parked vehicles that block large vehicles.

The following actions are recommended to protect the ability to transport oversize loads through Clark County.

- Identify an appropriate County-wide network of oversize routes. Primary consideration should be given along principal or minor arterials between the origin/destinations and the highway system, in combination with local industrial streets in proximity to access key areas of the County.
- Develop and adopt design guidelines for vertical and horizontal clearances along those major routes to meet at a minimum the WSDOT Design manual. These design standards should include a minimum vertical clearance of 16.5 feet; recommend treatments for off-set signal mast arms that allow loads to maneuver through them.
- Develop customized oversize route plans between major origin/destinations in consultation with local jurisdictions and implement a cooperative management plan to provide horizontal clearance with additional buffer space at corners and adjacent to parked vehicles, and require site-specific review of locations where oversize vehicles would turn to make sure the radius and lane widths are adequate.
- Prioritize oversize route projects, identify improvements needed to accommodate oversize loads along the desired routes, and add the improvements to appropriate Capital Improvement Plans.

Strategy 4. Support road improvements that benefit freight mobility

The Regional Transportation Council's (RTC) Metropolitan Improvement Plan (MTP) includes projects from all jurisdictions within Clark County. These projects were reviewed to identify those with freight mobility benefits. Further information about these projects and their potential freight

benefits are described in Section 3 later in this report. The following lists the three projects that should be the highest priority for freight:

- Columbia River Crossing (CRC) project, to add capacity across the river and address deficiencies at SR 14 and I-5.
- SR 14 improvements to reduce congestion on SR 14's ramps to southbound I-205 and on SR 14 eastbound between I-205 and SE 164th Avenue.
- I-205 Corridor Study to identify incremental projects that could be part of the planned phased corridor improvement program.

The RTC should also support improvements to bridges that have been weight restricted to the point of affecting County-wide freight movements. The highest priority bridge improvement project should be I-5 at mile post 18.21, over the East Fork Lewis River. Current weight restrictions on this bridge require that heavy trucks be detoured through the town of La Center. WSDOT has programmed this bridge for replacement.

Strategy 5. Support rail improvements

Existing data show that Clark County moves a higher percentage of its freight by rail than the Portland-Vancouver region as a whole. This is related to established rail facilities and supporting infrastructure (such as grain elevators) in Clark County that accommodate this mode. Currently, about 17% of Clark County's freight by both tonnage and value is moved by rail.

Both the Burlington Northern Santa Fe (BNSF) Railway and Union Pacific (UP) Railroad operate through Clark County. BNSF owns the I-5 rail corridor between Vancouver and Tacoma, with the Union Pacific Railroad (UP) operating over the corridor via trackage rights. The BNSF's Vancouver-Pasco line, which follows the Columbia River along the north side, is used by double-stack intermodal container trains moving east, grain trains moving west to the Columbia River and Puget Sound ports, and carload trains moving both east and west to serve Washington State industrial and agricultural shippers. UP's east-west mainline is located on the south side of the Columbia River. North of Vancouver there are approximately 49 trains per day and east of Vancouver there are 35 to 40 trains per day. The line is operating today at about 70 percent of practical capacity (Cambridge Systematics, December 2006).

The shortline railroad in Clark County is operated by the Portland Vancouver Junction Railroad (PVJR), although the rail line itself is owned by Clark County. The PVJR began operating in 2004 with just 60 cars of freight handled on the line. Since that time, the traffic has increased to over 500 cars in 2008, with daily service offered. The PVJR corridor is relatively industrial, and there are over 1,000 acres within close proximity of the line that could accommodate expansion and development of heavy and light industrial, manufacturing, warehousing, research and business park uses (BST Associates, November 2009).

Rail improvement priorities were compiled from the Statewide Rail Capacity and System Needs Study, (Cambridge Systematics, 2006), business stakeholder meetings, and the BNSF list of rail

crossing improvements. There were two major chokepoints identified in the Statewide Study, and both have projects underway to solve them. The projects are:

- The WSDOT Vancouver Bypass Rail Project included many rail and rail safety improvements, including adding an additional passenger train line, along with construction of the West 39th Street overcrossing.
- The West Vancouver Freight Access project will create a state-of-the-art Unit Train facility at the Port of Vancouver and increase capacity for rail freight flowing through the port and along the BNSF Railway and Union Pacific mainlines. This improvement is necessary to remove the chokepoint at the Vancouver Wye and is necessary for the State's Bypass project to function. The port will provide infrastructure that BNSF Railway Company will use to break down and build unit trains within port facilities, and reduce the port's reliance on the BNSF Vancouver Yard near Fruit Valley for such operations. Groundbreaking occurred in 2007 and the entire program of projects is scheduled to be complete in 2017. This project is anticipated to reduce delays at the Vancouver Wye in 2025 by 40% compared to 2005 congestion.

The following actions are recommended to maintain and improve Clark County's rail system:

- Continue to support improvements to increase the velocity and capacity of the BNSF Mainline. Complete the West Vancouver Freight Access project.
- Protect the existing PVJR short-line railroad, and support the creation of future business opportunities along the line by retaining industrial zoned land along the corridor. Truck improvements to major parcels can also encourage dual mode freight service and/or facilitate transfers between modes.
- Improve mainline velocity and safety by grade-separating high-volume rail and street intersections. This includes grade-separating access to the Port of Ridgefield's Lake River property via the Pioneer Street rail overpass.
- Study potential additional sidings and track for long-term build out.

Strategy 6. Develop Model Design Guidelines for Complete Streets and Freight

Most of the design standards and guidelines used by Clark County jurisdictions are flexible, and provide for the basic needs of truck mobility. However, they provide no guidance to balance the needs among competing uses and/or modes. The "Complete Streets" approach to design is a mechanism to consider the needs of all users. Although many agencies have applied the complete streets process to advocate for non-motorized modes of transportation, the same process can be applied to all modes, including trucks.

The following are recommended actions to incorporate a complete streets design strategy for major freight corridors:

- Roadway projects on Freight Corridors of Regional Significance should be designed to accommodate medium and heavy trucks, and a complete streets design process should be incorporated into design process.
- Each jurisdiction could incorporate the concept of complete streets through a simple executive order, through a comprehensive ordinance, and/or through adoption of its own street design guidelines.
- Local jurisdictions should incorporate by reference a document such as The WSDOT Local Agency Guidelines (LAG Manual) so that a wider array of design standards is available to support roadway design decisions and requirements.
- Use the most current and most applicable annual, monthly, and day of week truck volume data to estimate average and peak truck volumes for design.
- Design the pavement to accommodate the forecast truck volumes on a corridor.

Strategy 7. Plan and design for local truck access to Clark County business sectors

Truck access to Clark County businesses will often occur on streets that are not part of the Freight Corridors of Regional Significance. These streets are typically at the “last mile” or end of a travel route. Often these are industrial roadways servicing a major business center or also commercial businesses and retail centers. These streets must also be designed to accommodate trucks. In addition, routes through a site must also accommodate trucks, which for some shopping centers and retail stores, requires maneuvering through a customer parking lot. The following actions are recommended to ensure truck access to local businesses:

- Roadway improvement projects or new development projects with street modifications should undergo a design consultation process with the local jurisdiction’s Public Works Director and/or Traffic Engineer to determine how trucks would be accommodated. The consultation process should define:
 - Vehicle volumes by classification
 - Design vehicle for truck mobility
 - Intersection corners affected by heavy truck movements
 - Desired radii dimensions
 - Lateral clearance
 - Pavement type and depth designed for the forecast truck volume
 - Intersection operational analysis with current heavy vehicle volume data

- For each jurisdiction, it is recommended that the local jurisdiction's Public Works Director and/or Traffic Engineer require that truck turning templates be used to ensure access and circulation for large trucks where needed at the driveways to development sites and within development sites. This policy applies to commercial facilities as well, to ensure adequate access by trucks.
- Ensure truck mobility and access during construction of the Columbia River Crossing Project through participation of the RTC and member agencies in traffic management plans and operations.

Strategy 8, Land use and transportation coordination: protect viability of industrial land

To protect the viability of Clark County's industrial lands for jobs and its neighborhoods for livability, the comprehensive planning process should ensure, and decision-makers must recognize the fundamental necessity of coordinating land use and transportation planning. Coordination should endeavor to resolve potential impacts that different land and transportation uses can impose on each other. In a thriving economy, industrial lands may be in use during all hours and days. To maximize efficiency, industry needs to be able to function with minimal restrictions. In particular, loading and unloading goods may need to occur at any hour in order to keep a business viable in this era of "just-on-demand" delivery. Truck trips and loading activities may occur on local streets that are not identified as Corridors of Regional Significance (see Strategy 7). At the same time, in order to preserve the livability of Clark County's neighborhoods, local street design must incorporate a "complete streets" approach to accommodate walking, bicycling, and other modes (see Strategy 6) and land use ordinances must allow buffers between industrial land uses and residential areas. Industrial freight accessibility and neighborhood livability can be balanced by instituting the following actions:

- Local jurisdictions should ensure that representatives from RTC, Clark County's lead transportation planning body in the region, are included in major land use planning efforts, including comprehensive plan updates and subarea plans.
- RTC should work with local jurisdictions to identify and map areas where balance needs to be achieved between uses, and these areas should be identified in the local comprehensive plan and the MTP.
- It is recommended that each jurisdiction's comprehensive plan and land use ordinances are evaluated for inclusion of land use compatibility policies and standards, and amended, if necessary. Policies and standards could include:
 - Incorporating policies establishing balancing industrial freight accessibility and neighborhood livability into the local comprehensive plan;
 - Establishing buffer zones between industrial and residential uses, such as commercial uses;
 - Establishing larger setbacks on industrial parcels when adjacent to residential uses; and
 - Incorporating performance-based code standards such as noise and emissions generation.

Strategy 9. Manage access to the Port of Vancouver, West Vancouver, the Port of Ridgefield, Port of Camas-Washougal and other industrial area

The Ports of Vancouver, Ridgefield and Camas-Washougal, along with other industrial properties, are crucial economic assets in Clark County. Access to these lands must be actively managed in order to maintain and grow the jobs base in Clark County.

Existing data show that the Port of Vancouver, and industrial properties in West Vancouver and the Vancouver Lowlands, currently has one of the highest concentrations of industrial jobs in the County, as well as the highest potential for job growth. Information presented in the County's Focused Public Investment Plan (see Strategy 1 above) found that the Port of Vancouver area has the potential to generate jobs for a lower public investment cost than most other areas of the County.

Under the Growth Management Act, planning for access and land uses at the Port of Vancouver may be developed in conjunction with the guidance and criteria established by House Bill 1959.

Several routes access the Port and the Fruit Valley industrial development district, with the primary routes being: Mill Plain Boulevard, Fourth Plain Boulevard, and 78th Street/Fruit Valley Road. Recent City of Vancouver planning has developed a new western corridor alignment, referred to as NW 26th Avenue, which could serve as a bypass route to Fruit Valley Road if built in the future.

Management of the transportation corridors to ensure accessibility to the industrial development lands is an important economic goal. The management process should be comprehensive with incremental steps implemented as thresholds are met or as needs arise, and must be coordinated with integrated residential facilities. Steps in management could include:

- Support a freight stakeholder committee to act as a forum for discussion of freight planning needs.
- Initiate planning under the Growth Management Act (referred to as House Bill 1959) during the City of Vancouver's next Comprehensive Plan update, with the purpose of addressing the land use and transportation planning requirements for designated ports.
- Initiate a comprehensive traffic study (in conjunction with or preceding the Comprehensive Plan update) to assess circulation, accessibility conditions and future access needs in the West Vancouver industrial vicinity. Factors to be considered in this study could include:
 - Assessment of comprehensive growth plans and master planning initiatives that influence circulation needs over a long term horizon.
 - Assessment of design deficiencies related to turning movements, travel lanes and a review of complete street needs
 - Assessment of circulation deficiencies and level of service policies and identify possible mitigations

- Recommend phased implementation of design modifications or best management practices to support the Comprehensive Plan and Port circulation needs.
- Ensure access to Port of Camas-Washougal is coordinated with SR-14 planning and local city planning. Rail track improvements within the Port's property are also proposed to enhance access to the Port's industrial sites.
- Ensure access to Port of Ridgefield property is coordinated with WSDOT I-5 corridor plans and project, local city planning and BNSF rail grade separation for access to the Lake River property.

Strategy 10. Position for funding

The high priority projects that would improve freight mobility in Clark County are candidates for federal, state, and local funding. The project scoring criteria of the Washington State Freight Mobility Strategic Investment Program (FMSIB) heavily weight travel delay reductions to improve mobility for regional, state, and national freight movements. The criteria provide a good basis for freight project planning and prioritization. The FMSIB project prioritization criteria are presented in Appendix B. In addition, the next federal transportation funding authorization may have a freight component; therefore, identifying the County's priority freight projects may improve access to federal funds.

Clark County's Focused Public Investment Plan establishes the basis for concentrating public infrastructure investments to support economic development. As a funding strategy, these investment areas are structured to provide the matching funds of any state or federal grant program, including the FMSIB. The Focused Public Investment plan (FPIA) allows the county to target infrastructure improvements in areas that require the least cost to provide fully served land that is ready for industrial development by businesses providing family-wage jobs (Clark County, January 2009).

Additional actions to support project funding include:

- Develop an annual program to collect vehicle classification data. Collect vehicle classification data where needed on Freight Corridors of Regional Significance, roadway projects that are high priority truck mobility projects, the WSDOT Freight and Goods Transportation System, and candidate freight corridors for each of the above.
- Regularly update state elected officials and funding agencies about Clark County's highest priority freight mobility needs and projects.
- Include freight in the regional prioritization process, recognizing the value of freight projects as an investment in the regional economy.

3. Priority Projects Benefiting Freight Mobility

All projects in the Regional Transportation Council's Metropolitan Transportation Plan (MTP) were reviewed to identify those with freight mobility benefits. Table 1 in Appendix C presents those projects as high, medium, and low priorities with regard to truck-freight mobility. The project highlights are summarized below. New project initiatives, such as mobility improvements to oversize load routes and maintaining port access are addressed in Section 2, Freight Mobility Strategies.

3.1 Truck Improvements in the MTP - High Priorities

The Columbia River Crossing (CRC) project, specifically, a new Columbia River Bridge, is the most important freight mobility project in Clark County. About half of the truck volume on I-5 through Vancouver is generated by Clark County businesses, which represents about 7,000 medium or heavy trucks per day. About two-thirds of these are two and from the south, and would benefit greatly by increased capacity across the Columbia River. Trucking companies participating in the CRC Freight Working Group have indicated that a toll on a new bridge may be worth the ability to complete just one more round trip per day across the bridge. The Columbia River Crossing Freight Working Group (FWG) endorsed the draft plan and design refinements as stated in a memorandum dated November 30, 2009.

SR 14 Improvements. Bottlenecks currently exist on SR 14's ramps to southbound I-205 and on SR 14 eastbound between I-205 and SE 164th Avenue. These are important routes for trucks. Spot improvements such as extending the eastbound merge lane from I-205 to the SE 164th Street interchange would benefit freight by reducing congestion.

I-205 Corridor Study. The February 2002 I-205 Access Point Decision Report is the approved strategic plan for investment along the I-205 corridor. Since adoption of the APDR, several improvement projects have been funded through a series of state legislative funding packages. Two improvements have since been completed (Mill Plain offramp widening, and NE 112th Avenue Connector) and another remains in the construction pipeline (NE 18th Street half interchange). Those combined projects have and will contribute significantly to improving freight access to the key east Vancouver employment corridors. Given the long term and phased approach to implementing the APDR, interim operational enhancements and transit improvements may be prudent. An assessment of the APDR and shorter term operational enhancements should be completed.

Deficient Bridges

The WSDOT maintains a list of structurally deficient bridges. Structurally deficient means that a bridge requires repair or replacement of a certain component, such as cracked or spalled concrete or the entire bridge itself. Structurally deficient does not imply that the bridge is in danger of collapse or unsafe to the traveling public, but that some level of bridge repair is needed. Deficient bridges can constrain freight movements, particularly for large and heavy trucks. Weight restrictions can require a truck to redistribute its load to reduce the per-axle weight; more severe restrictions can require a detour around the deficient bridge. WSDOT's list of deficient bridges in

Clark County and planned actions for each are summarized below (WSDOT, 2008). WSDOT maintains a current list of weight-restricted bridges on its internet site at <http://www.wsdot.wa.gov/commercialVehicle/Restrictions/bridgelist.aspx>

- I-5 at mile post 18.21, over the East Fork Lewis River – programmed for bridge replacement.
- SR 14 at mile post 4.34, SE Lieser Road overcrossing – monitor through inspection and program future repairs.
- SR 14 at mile post 5.57, SE Ellsworth Road overcrossing - monitor through inspection and program future repairs.
- SR 502 at mile post 5.95, Mill Creek Number 2, monitor through inspection and program future repairs.

All of these bridges are located on major freight corridors. Replacing the bridge on I-5 would be the highest priority. Current weight restrictions on this bridge require that heavy trucks be detoured through the town of La Center.

Clark County's bridge restrictions were also reviewed. Only one bridge restriction is located along the recommended Freight Corridors of Regional Significance:

- NW Lakeshore Avenue over BNSF Railroad tracks – safety and geometric improvements.

Clark County maintains a list of current weight and height restricted bridges on its website at <http://www.clark.wa.gov/commdev/documents/permit-services/county-bridge-limits.pdf>. Highway 99 parallels I-5 but the height restriction at the bridge carrying the Clark County Railroad over Highway 99 just north of Ross Street precludes the use of Highway 99 for some trucks.

4. Next Steps

The preliminary recommendations presented in this technical memorandum are a starting point for discussion. The proposed Freight Corridors of Regional Significance, policies, and recommended projects that improve freight mobility will be reviewed and discussed with RTC staff, the consultant team, the business freight group, and agency and community stakeholders. A Clark County Freight Mobility Study Final Summary Report will be prepared following RTC Board input.

5. References:

- Cambridge Systematics, *Statewide Rail Capacity and System Needs Study*, Final Report, December 2006.
- Clark County Bridge Limitations, April 2006,
<http://www.clark.wa.gov/commdev/documents/permit-services/county-bridge-limits.pdf>
- Clark County Comprehensive Plan*, Chapter 9 Economic Development Element, 2004-2024, January 2009
- Clark County, *Focused Public Investment Plan, Infrastructure Cost Report*, Appendix B – Maps, April 2003
- Washington State Department of Transportation (WSDOT) Washington State Freight and Goods Transportation System (FGTS) 2007 Update, February 2008.
- Washington State Legislature, Transportation Commission Proposed List of Highways of Statewide Significance, Adopted June 7, 2006.
- WSDOT Structurally Deficient Bridges, June 2008,
<http://www.wsdot.wa.gov/NR/rdonlyres/B78C9E1A-DD7E-4187-8038-3A9E5D5E7B1B/0/2008StateSDbycounty.pdf>
- WSDOT Structurally Deficient Bridges, current information,
<http://www.wsdot.wa.gov/commercialVehicle/Restrictions/bridgelist.aspx>

APPENDIX A:

Clark County Freight Mobility Study Technical Memoranda

BST Associates, *Current and Expected Economic Conditions*, Clark County Freight Mobility Study, November 2009.

Starboard Alliance Company, LLC, *Outreach to Shippers and Documentation of Representative Supply Chains: Interviews Summary*, Clark County Freight Mobility Study, September 2009.

Heffron Transportation, Inc. *Vehicle Classification Counts – Best Practices*, Clark County Freight Study, September, 2009

Heffron Transportation, *Summary of Existing Design Guidelines Relating to Truck Mobility*, Clark County Freight Study, October 2009

Heffron Transportation, *Basic Principals of Truck Mobility*, Clark County Freight Mobility Study, September 2009.

Heffron Transportation, Inc. *Characteristics of Truck Movements*, Clark County Freight Study, November 2009

Heffron Transportation, Inc. *Current Land-Side Freight Movements*, Clark County Freight Study, November 2009

Heffron Transportation, Inc., *Existing & Future Truck Movements*, Clark County Freight Study, December 2009

Heffron Transportation, Inc., *Existing & Future Rail Movements*, Clark County Freight Study, December 2009

APPENDIX B:

Freight Strategic Investment Board (FMSIB)

The Washington State [Freight Mobility Strategic Investment Board](#) is held accountable to create a comprehensive and coordinated state program to facilitate freight movement between and among local, national and international markets which enhances trade opportunities. The Board is also charged with finding solutions that lessen the impact of the movement of freight on local communities.

Washington's economy is very dependent upon trade and reliant on our ability to compete in a global economy. To remain competitive we need to move our products and goods efficiently. Freight mobility depends, to a great extent, on the efficiency of the State's multi-modal transportation network to maintain our competitive position.

The Board proposes policies, projects, corridors and funding to the legislature to promote strategic investments in a statewide freight mobility transportation system. They also propose projects that soften the impact of freight movement on local communities (RCW 47.06A).

The board of public members:

- Advocates for strategic freight transportation projects that bring economic development and a return to the state;
- Focuses on timely construction and operation of projects that support jobs;
- Leverages funding from public and private stakeholders
- Crosses modal and jurisdictional lines to create funding partnerships
- Serves as the de facto freight project screening agency for state and federal policy makers.

Freight mobility program intent

It is the policy of the state of Washington that limited public transportation funding and competition between freight and general mobility improvements for the same fund sources require strategic, prioritized freight investments that reduce barriers to freight movement, maximize cost-effectiveness, yield a return on the state's investment, require complementary investments by public and private interests, and solve regional freight mobility problems. State financial assistance for freight mobility projects must leverage other funds from all potential partners and sources, including federal, county, city, port district, and private capital.

APPENDIX C:

Clark County Freight Priority Projects

Table 1. RTC Metropolitan Transportation Plan (MTP) Highway Projects that Benefit Freight

Freight Priority	Project	Project Description	Project's Freight Benefits^a	MTP 2007 Estimated Completion (Year or Range)
I-5 Corridor				
High	Columbia River Crossing (CRC). SR 500 in Vancouver, Washington to Columbia Boulevard in Portland, Oregon	Replace I-5 river crossing and reconstruct interchanges. Light Rail Transit with terminus in Clark College vicinity.	67% of daily traffic of daily truck traffic from the downtown Vancouver industrial areas travel to and from the south on I-5.	2017
Medium	The Salmon Creek Interchange Project (SCIP) at 134th/139th Street – Phase I	Construct NE 139th St. from NE 20th Ave. to NE 10th Ave. Reconstruct interchange with new ramps at 139th St. Improve NE 10th Ave. from 134th to NE 149th Street with turn lanes	Improves access to interstate from NE 119 th Street and SR 99	2010-2013
Low	Salmon Creek Interchange Phase II	Improve access to I-205 with flyover from 134th St to I-205 southbound	Improves access to I-5 from SR 99	2013-2020
TBD depending on land use needs	I-205 to 179th Street	Add auxiliary lane in each direction, for three lanes.	Serves Discovery Corridor, Port of Ridgefield. Freight benefit is dependent on future land use, which is to be determined.	2012-2013
TBD depending on land use needs	179th Street to SR 502	Add auxiliary lane in each direction, for three lanes.	Serves Discovery Corridor, Port of Ridgefield. Freight benefit is dependent on future land use, which is to be determined.	2016-2025
I-205 Corridor				
High	I-205 Corridor Study, Columbia River to I-5	Define current operational issues, access needs, future interchange configurations and new interchange locations.	This study would prioritize the list of I-205 projects below.	2010 - 2011
TBD with study	Mill Plain to NE 18th St - Stage I	Ramps/Frontage Road between Mill Plain and 18th Streets	No interchange at 18th	2011

Table 1 (continued). RTC Metropolitan Transportation Plan (MTP) Projects that Benefit Freight

Freight Priority	Project	Project Description	Project's Freight Benefits^a	MTP 2007 Estimated Completion (Year or Range)
TBD with study	Mill Plain to NE 18th St - Stage II	Ramps/Frontage Road between Mill Plain and 18th Streets	No interchange at 18th/28th	2016
TBD with study	Mill Plain to 28th Street	Ramps/frontage road between Mill Plain and 28th Streets	Overpass/underpass	2020-2030
TBD with study	NE Andresen Road	New interchange	Evaluate mobility needs with I-205 Corridor Study	2013-2030
High	I-205/SR14 Interchange	Rebuild Interchange	I-205 and SR 14 are freight corridors of regional significance.	2020-2030
High	SR 14 to Mill Plain	Ramp Separation	I-205 and SR 14 are freight corridors of regional significance.	2016-2025
High	28th St to SR 500	North ramps	I-205 and SR500 are freight corridors of regional significance. East of I-205, SR 500 carries 1,295 trucks per day.	2016-2025
High	at SR 503/ Fourth Plain	Construct turn lanes	Congestion is severe at this location.	2011-2016
High	SR 500	WB SR 500 to SB I-205 Flyover	I-205 and SR500 are freight corridors of regional significance. East of I-205, SR 500 carries 1,295 trucks per day	2016-2025
Medium	NE Padden Parkway Interchange	Rebuild interchange, providing two lanes in each direction on NE Padden Parkway		2016-2025
TBD with study	SR 500 to NE Padden Parkway	3 general purpose and 1 auxiliary lanes each direction		2016-2025
TBD with study	NE Padden Parkway to 134th Street	3 lanes each direction		2016-2025
SR 14				
Medium	I-205 to 164th Avenue	3 lanes each direction	SR 14 is a freight corridor of regional significance, serving Camas, Washougal, and eastern Washington and Oregon. Truck volumes east of I-205 are 1,980 per day.	2016-2025

Table 1 (continued). RTC Metropolitan Transportation Plan (MTP) Projects that Benefit Freight

Freight Priority	Project	Project Description	Project's Freight Benefits^a	MTP 2007 Estimated Completion (Year or Range)
High (funded)	NW 6th Avenue to SR 500/SE Union Street	2 lanes each direction with interchange This project is funded.	SR 14 is a freight corridor of regional significance.	2012
Low	SE Union Street to 32nd Street	Add lanes and construct interchanges (for safety and capacity)	1 lane each direction with intersections (roundabout under consideration)	2016-2025
Medium	SE Columbia Shores Boulevard, clearance improvements	Widening and clearance improvements on under the BNSF line.	Improves truck mobility and access between the Columbia Industrial Park/Business Center and SR 14. Proposed oversized load route in the Clark County Freight Study.	To be included in next update of MTP
SR 500				
Medium	SR 500 at I-205	Extend westbound auxiliary lane	Increases capacity on a freight corridor of regional significance	2009
High (funded)	St. Johns Interchange	New interchange. This project is funded.	This interchange will provide for free-flow freight movement to and from industries north of SR 500 on NE St. John's Road, including the PFJR, to industrial areas west of I-5.	2011
Medium	I-5	SR 500 ramps to/from I-5 north of SR 500	These ramps have been removed from the CRC project. These ramps provide access to and from the north on I-5 from SR 500, which do not exist today.	Consider in next update of MTP
Low	NE 54th Avenue	Interchange with collector-distributor connecting to Andresen	Serves freight needs of commercial activities	2016-2025
High	SR 500 at SR 503/ Fourth Plain	Construct turn lanes	Intersection. The mobility needs at this location is included with the I-205 Corridor Study. Congestion is severe at this location.	2011-2016

Table 1 (continued). RTC Metropolitan Transportation Plan (MTP) Projects that Benefit Freight

Freight Priority	Project	Project Description	Project's Freight Benefits^a	MTP 2007 Estimated Completion (Year or Range)
SR 501, 502, and 503				
High	NW Pioneer Street (SR 501) to Port of Ridgefield.	Grade separated crossing of mainline railway. Feasibility study and environmental impacts review. Extend NW Pioneer Street to Port of Ridgefield.	Freight benefit dependent on future land use at Port of Ridgefield. Prepare needs study concurrent with proposed developments.	2010-2013
Medium (funded)	SR 502 from NE 10th Avenue to Battle Ground	Add 1 new lane in each direction, for two lanes each direction	Adds capacity for freight movement.	2013
Low	SR 503 at SR 502	At grade intersection improvements in downtown Battle Ground	Reducing delay through intersection, improves freight mobility. However, downtown locations must balance the needs of freight and all other modes.	2011-2016
Medium	SR 503 at NE Padden Parkway	New interchange	Facilitates the movement of freight from SR 503 to I-205 and NE 78 th Street to I-5.	2016-2025

Source: Regional Transportation Council, Table A-1, Metropolitan Transportation Plan (MTP) Update (2007), Amended 2008, planned projects through 2030.

a. Each project's freight benefit was derived based on information in the Clark County Freight Study. They represent Heffron Transportation's opinion of the benefit.