



Freight Investment Study

Final Report



prepared for

**The Washington State
Joint Transportation Committee**

prepared by

Cambridge Systematics, Inc.

with

**The Puget Sound Regional Council
Gil Hicks & Associates
Foster Pepper PLLC
BST Associates
Dr. Robert Leachman**



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Executive Summary

Several recent studies have noted the importance of goods movement to the Washington economy¹. These studies have also noted growing unfunded freight transportation capacity needs.

The Federal government recognizes the importance of the national freight transportation system, but has provided little dedicated funding, and most of these funds have gone to earmarked projects. Private industry has lobbied the State Legislature to direct more public funding towards projects with freight benefits, but has strongly resisted supporting new or increased freight-related fees or taxes.

Funding freight transportation infrastructure can be both easier and more complicated than transportation projects intended to benefit the general public exclusively:

- Easier because freight infrastructure improvements have greater access to private-sector funding than public projects. Private industry will benefit and may be assessed user fees corresponding to their benefit.
- More complicated because of the difficulty inherent in determining an appropriate private-sector freight project funding share. There are virtually no freight projects that solely benefit the private sector; most generate public benefits and/or require mitigation of impacts on the community.

In 2007, the Washington State Senate considered Senate Bill 5207 that would have created a freight congestion relief account for the purpose of improving freight rail systems and state highways used as freight corridors. The account would have been funded through a fee of \$50 for each container² entering Washington State's ports.

Strong opposition from private industry and the ports to this proposal led the Legislature to undertake a comprehensive look at funding freight investments before imposition of a new fee. Substitute Senate Bill 5207 removed the fee provision, and instead directed the Joint Transportation Committee (JTC) to study container fees, port-related user fees and other freight funding mechanisms.

This *Freight Investment Study* is the result of SSB 5207. Its purpose is to assess a range of freight funding sources, while taking into account the perspective of the

¹ Recent examples include the Freight Element of the Washington Transportation Plan, the Statewide Rail Capacity and Needs Study, and the Governor's Port Initiative

² The legislation defined a container as a twenty-foot equivalent (TEU).

state and industry stakeholders. The study process, contents, and findings are summarized below.

Study Process

The Freight Investment Study was initiated in August 2007 and finalized January 2009.

A stakeholder group and a legislative policy group were convened to provide feedback into study products and findings. The JTC policy group included 10 Legislators, a Transportation Commissioner, and a representative from the Governor's office. The Stakeholder Group included nearly 30 members representing industries listed in the box at right. SSB 5207 stipulated the composition of the stakeholder group³.

The stakeholder and policy groups each met five times throughout the course of the study.

Report Structure

The Freight Investment Study addressed a number of questions through technical reports and papers presented throughout the course of the study. Much of the content is presented in this final report, but some is included as appendices.

The report addresses the following questions:

- **Section 1.0 - How would imposition of a container fee impact Washington State's competitiveness?** As noted above, the Freight Investment Study was initiated by a bill that would have imposed a \$50 fee for shipping containers imported into Washington State. The original bill raised concerns that container fees might impact the

Industries represented in the Freight Investment Study Stakeholder Group:

- Ports of Vancouver, Tacoma, Seattle;
- Washington State Department of Transportation (WSDOT);
- Freight Mobility Strategic Investment Board;
- Washington Retail Association;
- Northwest Grocery Association;
- Wal-Mart Stores;
- Supervalu Tacoma Distribution Center;
- Association of Washington Business;
- Teamsters Union;
- International Longshoreman Workers Union;
- Ricci Endeavors, Inc.;
- Burlington Northern Santa Fe Railway;
- Union Pacific Railroad;
- Pacific Merchant Shipping Association;
- Pacific Northwest Shippers Association;
- Totem Ocean Trailer Express;
- Northwest Container Services, Inc.;
- Washington Trucking Associations;
- Alaska State Legislature;
- Association of Washington Cities;
- Carrix, Seattle Marine Terminal Operators;
- Marine Terminals Corporation, Tacoma;
- Platinum Group LLC;
- Wheat farmer; and
- Potato farmer.

³ SSB required that the stakeholder group include representatives of container ports, trucking, railroads, international and national shipping, organized labor, the import/export community, the Freight Mobility Strategic Investment Board, WSDOT, and others.

competitiveness of Washington’s ports. Therefore, one of the central tasks of the study was to investigate the impacts of container fees on Washington’s economy. This section summarizes the results of an analysis of container fees on imports into the Ports of Seattle and Tacoma, and summarizes stakeholders’ responses to the analysis.

- **Section 2.0 – What other freight user fee funding sources could be implemented in Washington State?** The Freight Investment Study does not focus exclusively on container fees. This section presents a broad range of user fee options that could be used to fund freight infrastructure and discusses their potential yield, degree of connection to freight projects, and any administrative or implementation issues.
- **Section 3.0 – How could the freight industry’s share of projects be determined?** If a new freight user fee were imposed to fund a program of freight projects, it would be necessary to determine how costs would be split between the freight industry and the public sector. According to the principle of “nexus,” freight stakeholders and government agencies would pay in proportion to the project benefits they receive. This section provides examples of how the freight share of project benefits can be calculated for certain types of projects – specifically, large highway projects or bundles of smaller road projects in the Puget Sound region. It also provides examples of a benefit-cost analysis and cost allocation methodology for two rail projects.
- **Section 4.0 – How would a new freight funding source be administered?** If a new freight funding source were instituted, an existing or new process would be necessary to administer it. This section describes a number of options to administer a project selection and grant administration process, and lists existing project selection processes in Washington State that could be modified to administer the new program.

Freight Finance Beyond Washington State

The stakeholders and legislators involved in the Freight Investment Study were interested in knowing how freight projects are financed outside Washington State.

To address these questions, the consultant team prepared a background paper (Appendix A) on freight finance. The paper:

- Examines existing and potential Federal, state, and local government freight-related project funding incentives;
- Analyzes current taxes and fees paid by the freight industry;
- Highlights freight funding examples from other states and nations; and
- Considers options for redirecting or leveraging existing taxes and fees in Washington State for freight-related transportation improvements.

The report showed that there are few national or international examples of dedicated streams of revenue for freight investment. Most transportation funding is used for a mix of projects that benefit the freight industry and the general public. A few examples of funding sources targeted specifically at freight are:

- Virginia’s Rail Enhancement Fund, which is funded through rental car tax revenues and provides grants to improve railroad infrastructure.
- Germany’s Toll Collect, a program that collects a mileage-based fee on trucks and distributes the revenue to variety of freight projects, including road, rail, and waterway improvements.
- Ports of Los Angeles/Long Beach Infrastructure Cargo Fee program, which will charge a container fee and use the revenue for port access improvements (to be implemented in 2009).

Study Findings

This Executive Summary distills all of the study information into 12 findings. Each finding is then supported with one or more consequences and one or more policy options that would address the consequences. The 12 findings have been divided into four groups: the first two findings fall under *Freight Benefits*, the third and fourth findings pertain to *Nexus*, the fifth through eighth findings relate to *Revenues*, and the last four are grouped under *Institutional Structure*.

Study Findings Related to Freight Benefits

One of the central objectives of this study involved developing a quantitative methodology to show the nexus between the benefits of a transportation project and proportionate responsibility for funding its cost. As a demonstration of this methodology, the consultant team worked with the Puget Sound Regional Council (PSRC) to analyze the benefits of three high-priority roadway projects with significant freight benefits. The results are presented in Section 3.0 of this report.

The three projects are the I-5/SR 509 extension, the SR 167 extension, and a package of 15 smaller roadway projects contained on the priority lists of the Freight Action Strategies Everett-Seattle-Tacoma (FAST) and the Freight Mobility Strategic Investment Board (FMSIB). Benefits were calculated for four categories of road user (passenger vehicles, light commercial vehicles, medium trucks, and heavy trucks). The benefits of two rail projects (the Lewis and Clark Rail line rehabilitation and the Lincoln County Industrial Park Rail Spur) were also presented.

Some caution should be used when interpreting the estimates of project benefits. The quantitative estimates of benefit presented in the finding below and throughout this report, however, are not precise. The dollar figures of benefits are generated with multiple analytic models which incorporate numerous assumptions and simplify the actual roadway networks and interactions that drive behavior. The results, therefore, are best used to provide an order of magnitude estimate of benefits received and to compare alternatives.

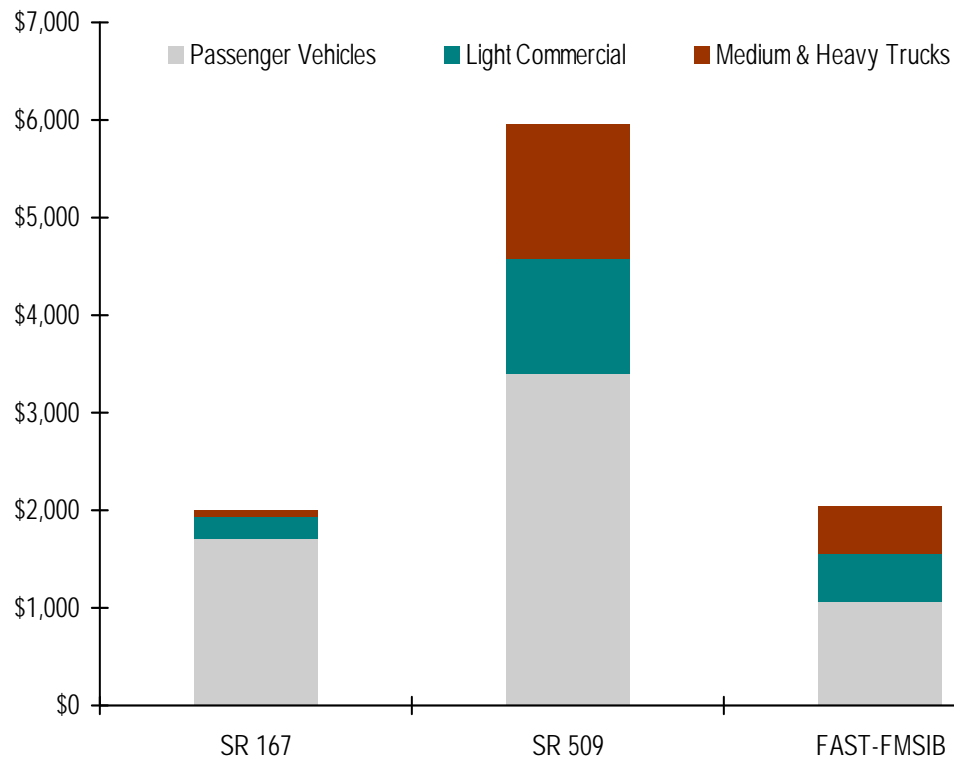
First Finding

A majority of the benefits from most roadway projects tend to accrue to passenger vehicles, while a smaller share accrues to commercial, light, and heavy trucks.

For all three projects analyzed, the majority of project benefits accrued to passenger vehicles. A minority of benefits accrued to light commercial vehicles, heavy truck, and medium trucks. In the consultant's experience, this finding is true of most roadway projects, since passenger vehicles nearly always represent the bulk of roadway users. Figure ES.1 below shows the amount of project benefits for the three road projects broken out into three categories: benefits accruing to

passenger vehicles, benefits accruing to light commercial vehicles, and benefits accruing to medium and heavy trucks.

Figure ES.1 Freight Benefits by User Types for Three Projects
Project Benefits (In Millions of Current Dollars, 2021 to 2050)



Of the three projects types analyzed, the smaller FAST-FMSIB projects had the greatest share (47 percent) of total truck benefits (including light commercial, medium, and heavy trucks). The larger highway projects, especially the SR 167 project, had a significantly smaller share of total truck benefits. These distributions are common because trucks (including light commercial vehicles) are simply outnumbered significantly by passenger vehicles on major local roadways and highways.

Second Finding

In general, the larger and longer the roadway facility, the lower the proportion of benefit accruing to commercial, light, and heavy trucks.

Although trucks may seem to dominate the traffic on roadway segments immediately adjacent to the two major ports (Seattle and Tacoma), their share is usually less than one-half and falls off at distances only a mile or more from the ports. Furthermore, most trucking tries to avoid the peak periods (morning and evening commutes), so their presence is concentrated during the midday.

A consequence of these two findings is that proportionate funding from trucks will not be sufficient to fund major highway projects. The benefit to trucking from major highway projects is too small to cover the majority of highway project costs, especially if only medium and heavy trucks are considered. Given that trucks represent a relatively small share of major highway project benefits, freight user fees and other sources of funding derived from trucking (e.g., MVET on trucks, weight-distance tax, diesel fuel tax, etc.) cannot be expected to provide the majority of funding on large highway projects, if a proportionate system of funding freight projects is used.

If the freight industry is asked to contribute partial funding through user fees, significant public funding will need to be committed as well. This may inadvertently force a reprioritization of projects based on availability of matching freight funds, and could delay or eliminate other projects being advanced by WSDOT, regional agencies, and local jurisdictions.

An alternative to the proportionate funding method is presented below (Finding 3), which may have a greater potential to cover a large share of freight project costs, but does not adhere as closely to the principle of nexus.

Study Findings Related to the Nexus Between Freight Benefits and Project Funding

The next two findings pertain to the *Nexus* between freight movement and the responsibility to fund a proportionate share of project costs.

Third Finding

Truck benefits may be understated.

The analysis of truck benefits discussed above and presented in Section 3.0 does not take into account that trucks are more limited in their route choices than passenger vehicles, since trucks movements are regulated by local, state, and Federal governments. Consequently, trucks benefit more from improvements in the limited routes available to them than do passenger vehicles.

If this is the case, then the share of trucking benefits discussed above may be understated, justifying an alternative approach to the apportionment of freight project funding responsibility. Instead of apportioning freight funding responsibility by the percentage of benefits received, the funding share may be defined by the monetary amount of the benefit generated for freight users. Freight user fees could be priced to generate revenues that match benefits to heavy trucks, which would be higher than a strict apportionment of unfunded project costs.

For the SR 509 project, for instance, this would result in the medium- and heavy-truck share of project costs being \$1,373 million (dollar equivalent to benefits received). If a proportional funding scheme is maintained, medium and heavy trucks would pay only 23 percent of project costs, or \$311 million.

Fourth Finding

Many FAST and FMSIB projects have significant freight benefits.

The package of FAST and FMSIB freight projects showed significant freight benefits (13 percent for heavy trucks, 11 percent for medium trucks, and 24 percent for light commercial vehicles).

This suggests that a subset of these projects provide opportunities to implement freight user fees to provide proportionate funding. One option would be to coordinate implementation of freight user fees with appropriate evaluation and screening of small projects.

Study Findings Related to Freight Funding

The next four findings relate to *Revenues*. Specifically, the findings conclude that most of the likely new user fees yield insufficient revenues or cause undesirable market distortions.

Fifth Finding

Most freight user fees would not raise revenues sufficient to fund major corridor projects.

Most of the user fees analyzed for this study, including container fees, bulk cargo fees, diesel fuel taxes, combined license fees, truck weight distance charges, and rail car fees, would raise funds ranging in the low tens of millions of dollars a year (assuming fee levels within the range of those in place in Washington State or elsewhere). These amounts would not be sufficient to fund major new highway projects, such as the SR 509 and 167 extensions, both of which have project costs of over a billion dollars.

One exception is the truck vehicle miles traveled (VMT) fee. A fee of about 15 cents per mile, a level in the range of what is currently applied in Germany, would generate hundreds of millions of dollars in revenue a year. Truck VMT fees may also be attractive in that they maintain a close nexus to truck impacts and do not have the diversionary effects associated with tolling at specific points along a roadway. This is discussed in more detail in Finding 7 below.

There are some implementation issues associated with VMT fees, such as the need to have a mechanism for recording mileage for every truck. Section 2.0 of this report provides more detail on implementation issues associated with VMT fees and other types of freight user fees.

Sixth Finding

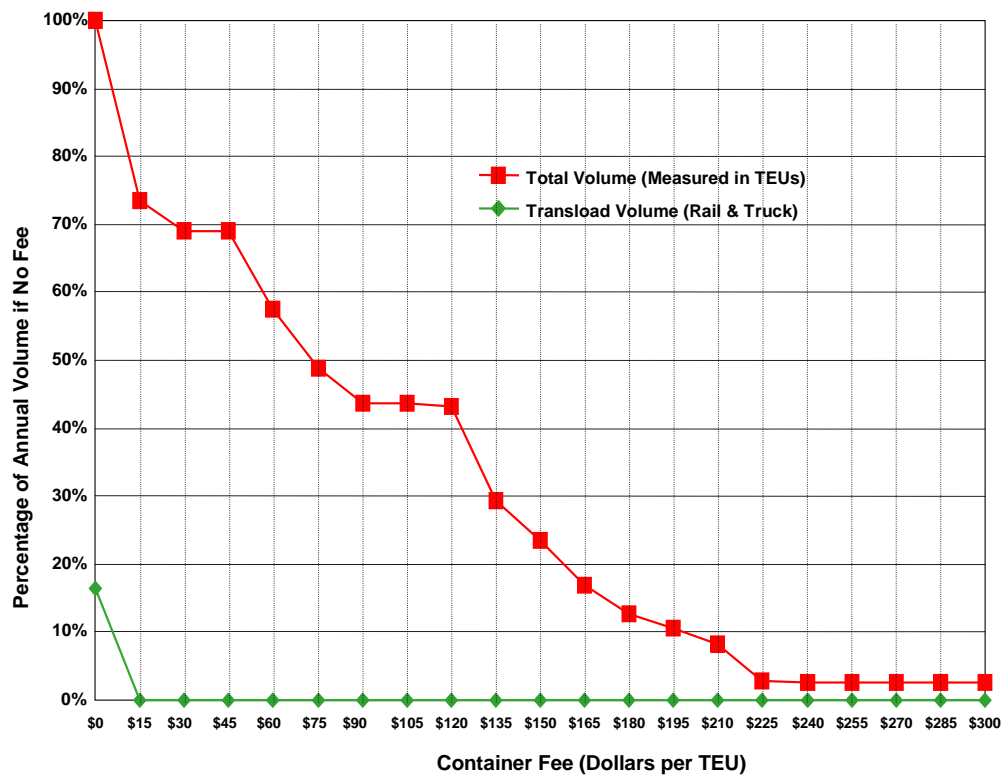
Effects of container fees above \$30 are significant, but the effect of fees lower than \$30 is unknown.

An analysis conducted as part of this study showed that imposition of container fees above \$30 for each imported Twenty Foot Equivalent (TEU) container [\$60

for each Forty Foot Equivalent (FEU) container, which is a 40-foot box or twice the size of a TEU] could cause significant diversion away from Puget Sound ports (see Figure ES.2 below). The analysis was not sufficiently sensitive to predict the effect of fees below \$30.

Dr. Robert Leachman of the University of California, Berkeley, conducted the diversion analysis (Appendix B); and BST Associates conducted an independent review of the results (Appendix C). In general, BST Associates concurred with Leachman’s results.

Figure ES.2 Predicted Response of Puget Sound Ports to Imposition of a Container Fee



Source: Dr. Robert Leachman, Leachman & Associates.

It is possible that a fee below \$30 per TEU would not cause significant diversion, especially if the fee level remains below levels proposed at competitor ports (e.g., Ports of LA/Long Beach).⁴ This could be tested through a trial container fee of

⁴ Appendix B (*Port and Modal Elasticity of Containerized Asian Imports via the Seattle-Tacoma Ports*) presents Dr. Leachman’s findings. His report expressed the results in 40-foot equivalent (FEU) rather than the 20-foot equivalent (TEU) containers, as shown in Figure ES.2. These results show about 30 percent diversion at a fee of \$30 per TEU or \$60 per FEU. Dr. Leachman’s model is not sufficiently accurate to show the effects of

Footnote continued

less than \$30. If significant diversion occurs, the fee could be lowered or removed. Since the fee would not be permanent, revenues could not be bonded, and could only be used on a pay-as-you-go basis.

If such a trial fee were implemented, one option would be to direct the revenues to smaller freight projects with significant secured funding sources rather than towards major corridor projects with very large unfunded costs. This would allow the smaller projects to move to completion rapidly.

Seventh Finding

Tolling can provide a direct proportionality to benefits; however, tolling feasibility is project specific.

Tolling may be an attractive means of freight finance for several reasons. Roadway users pay the toll in direct proportion to their usage of the corridor. It therefore becomes unnecessary to compute and apportion freight and nonfreight user benefits. Prior studies have shown that tolling can provide significant project funding. In addition, some of the stakeholder groups that participated in the Freight Investment Study expressed a preference for tolling over other types of user fees.

Nevertheless, project-specific tolling is not possible or appropriate for all projects due to diversion and other considerations. Projects should be analyzed on a case-by-case basis for the feasibility of tolling. Where tolling is feasible, trucks may be tolled at a different rate than autos.

A systems approach to tolling, such as the truck VMT fee, could provide the necessary direct nexus to freight movement on the transportation system and minimize diversionary consequences of project-specific tolling. A truck VMT fee could also serve as a precursor or pilot to the potential application of a system-wide VMT fee to potentially augment or replace the gas tax, which has mid- and long-term diminishing revenues due to fuel efficiency of vehicles and volatility of fuel prices.

Eighth Finding

Mid-term financing for facilities requires continued evaluation of existing tax/fee levels to account for inflation and facility needs.

Even if no new freight user fees are imposed as a result of the Freight Investment Study, the policy group may consider adjusting existing tax and fee levels to ensure that any currently planned projects with freight benefits can be com-

container fees at below \$30 per TEU. While the graph shows a data point at \$15 per TEU, this results was not deemed sufficiently accurate to draw conclusions from the model; thus, Dr. Leachman chose the \$30 per FEU level as a threshold of greater confidence.

pleted. Inflation, fuel use trends, and rising construction costs are eroding the buying power of existing revenue sources.

Study Findings Related to Alternative Institutional Structures

The last four findings, grouped under *Institutional Structure*, describe the results of stakeholder outreach with Washington's freight industry (including the port authorities) and national research of best practices. Section 4.0 of this report discusses institutional issues in greater depth.

Ninth Finding

Private industry stakeholders want a say in the selection of eligible projects, and in the ranking and phasing of selected projects.

Significant attention in this study has been directed at the desire of private industry to contribute financially to freight improvements in proportion to the benefit they receive. The nexus between funding and benefits may also be supported by involving paying stakeholders in the nomination, selection, and ranking of projects with freight benefits. The concerns of industry representatives may be difficult to address without including them on the project review and funding panel.

As a consequence of these industry concerns, in their current configuration, public agencies such as the WSDOT Freight Rail Assistance Program (FRAP) and the Transportation Improvement Board (TIB) do not provide the desired representation. As a policy option, the existing board membership could be altered or a new panel formed that would grant membership not only based on the amount of financial contributions from stakeholders, but also based on the diversity of potential projects (e.g., highway, rail, intermodal, port-related, warehousing access, etc.).

Most of the current programming of transportation projects must be initiated by the public agency that owns or operates the facility. This requirement, however, does not seem to constrain private industry from seeking a public sponsor, which is a common practice for FMSIB project nominations.

10th Finding

Private industry stakeholders want the composition of a panel to be appropriate to types of taxes and fees, and correspond the incidence of the tax and fee and the funding contributions.

The type of tax or fee implemented has an impact on the need for a project recommendation panel and the composition of the panel. For example, if roadway tolls are selected as the most appropriate funding source, a special project selection panel may not be necessary, because toll revenues are typically limited for use on the tolled facility. If container fees are implemented, it may be appropriate for stakeholders who bear the burden of paying these fees to have greater representation in how they are spent.

Membership on the panel could be restricted to those who pay for projects. This nexus between membership and contribution would have as a consequence the exclusion of communities and other stakeholders who are affected by the project, but are not helping to pay for it. So a policy option would be to expand membership to include those affected by the project, as well as those who are paying for it.

11th Finding

The public has two interests that should be safeguarded.

The first and second findings listed above concluded that a significant share of the benefits from freight projects accrue to the traveling public. Furthermore, such projects are often likely to have adverse impact on communities. As a consequence, the public will always have a vested interest in the selection (and prioritization of) projects that involve public funds and on mitigating the impacts of freight movement on communities. The administration of freight project funds should ensure safeguarding of these public interests. As a policy option, state and local governments could be represented in proportion to the use of public funds for transportation projects with freight benefits. As an alternative to proportional representation (or in addition to it), the State could retain a budgetary appropriations oversight on project selection to ensure that adequate mitigation is incorporated into the project.

12th Finding

Efficiencies can be gained by making use of existing institutions.

There are several existing bodies in Washington State that deal with the prioritization of transportation projects. In some cases, existing institutions could handle administration of a new tax or fee with minor modifications to the structure of the project recommendation panel. If new user fees were implemented, the State Legislature and Governor could modify the panel of an existing agency to conform with the findings of this study. Which – if any – of the existing panels would be the most appropriate depend on two considerations:

1. The degree to which the legislature desires to maintain the nexus between the source of the fee revenues and the projects that result.
2. The degree to which existing project planning and programming processes are deemed adequate for programming new revenues. This judgment, in turn, depends on what distinction is made between the existing sources of revenue used for transportation (fuel tax; Federal funds; license, permits, and fees) and direct user fees (container fees, truck MVET, roadway tolls, marine terminal gate charges, etc.).

1.0 Container Fee Impact Analysis

Fees on shipping containers and bulk cargo are being implemented at the Ports of Los Angeles and Long Beach in Southern California as a means to raise revenue for Port access improvements, and to reduce air quality impacts associated with freight movement.

As part of the Freight Investment Study, the Washington State Legislature wished to explore the possibility of implementing shipping container fees at the Puget Sound ports (Seattle and Tacoma). The Legislature wanted information on how the fee might impact the competitiveness of the Puget Sound ports vis a vis competitor ports (e.g., Los Angeles/Long Beach, Vancouver, Prince Rupert, others).

The Freight Investment Study investigated this question through a modeling exercise that simulated the effects of different container fee levels on imports into Puget Sound. The model was developed by Dr. Robert Leachman of the University of California at Berkeley. The modeling results and limitations are summarized below. The responses of BST Associates, which conducted an independent review of Leachman's results, and of the Freight Investment Study stakeholder group are also presented.

1.1 PORT AND MODAL ELASTICITY STUDY

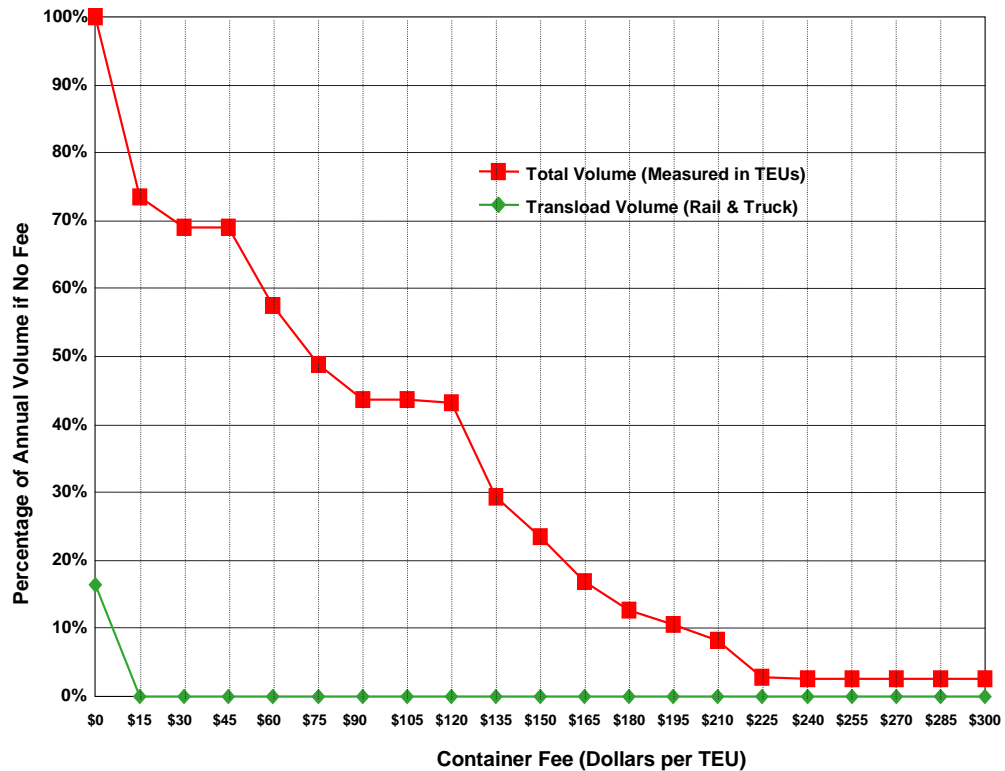
Dr. Leachman developed a long-run elasticity model to estimate the impacts of additional port user fees on imports into Puget Sound ports (the Ports of Seattle and Tacoma). The goal of the analysis was to determine what level of fee would induce traffic diversion to other ports, or induce shifts in modal share (truck vs. rail) at the Puget Sound ports.

Dr. Leachman found that Puget Sound import volumes are highly elastic with respect to potential container fees. If unmatched by fees at other ports throughout North America, even fees at the low end of the analyzed range would render supply-chain channels using other ports more economically attractive for imports to be consumed in most markets located east of the Rockies.

The following graphic illustrates the results of Leachman's analysis. It shows that a fee of \$60 per forty-foot equivalent unit (FEU) container (\$30 per TEU) could cause a 30-percent drop in total import volumes, and would nearly eliminate transload volumes.⁵

⁵ Transload cargo in this context involves unloading cargo from a marine container, and reloading a domestic container (that would be shipped by rail) or trailer for shipment by truck to a rail intermodal terminal or to a final destination or distribution center.

Figure 1.1 Predicted Response of Puget Sound Ports to Imposition of a Container Fee



Source: Dr. Robert Leachman, Leachman & Associates.

Note: Appendix B (*Port and Modal Elasticity of Containerized Asian Imports Via the Seattle-Tacoma Ports*) presents Dr. Leachman’s findings. His report expressed the results in 40-foot equivalent (FEU) rather than the 20-foot equivalent (TEU) containers as shown in Figure 1.1. These results show about 30 percent diversion at a fee of \$30 per TEU or \$60 per FEU. Dr. Leachman’s model is not sufficiently accurate to show the effects of container fees at below \$30 per TEU. While graph shows a data point at \$15 per TEU, this results was not deemed sufficiently accurate to draw conclusions from the model; thus, Dr. Leachman chose the \$30 per FEU level as a threshold of greater confidence.

The underlying reasons for Leachman’s findings are as follows:

- **Transportation costs are highly competitive between ports.** The costs of shipping goods to inland markets via California, Puget Sound, and Canadian ports are very competitive. The Puget Sound ports have a slim competitive advantage for only certain types of shipments. A container fee could reduce or wipe out this competitive advantage.
- **The Pacific Northwest regional market is relatively small.** Compared with the vast regional inland markets served by the Ports of Los Angeles and Long Beach, the Puget Sound ports serve a small local market. As a consequence, shippers have more flexibility when choosing whether to ship their goods through the Puget Sound ports, except if their goods are bound for the

Southern California regional market. This explains Dr. Leachman's finding from an earlier study, which showed that the Southern California ports could impose a large container fee without significant diversion.

- **Impact on transloaded cargo may be even greater than on direct Inland Point Intermodal (IPI).**⁶ From an economic development and public benefits perspective, this is a bigger problem for Washington State, since transloaded cargo generates more local employment and may involve value-added activities.
- **Not all types of cargo will be affected the same.** Even though the aggregate diversion is quite sensitive to cost, it is important to look at which cargoes are subject to fees at the Ports of Los Angeles and Long Beach and compare impacts on different cargo types at Puget Sound ports (e.g., clean air fees do not affect direct inland intermodal unless it is off-dock).

In addition to the results summarized above, Dr. Leachman provided the following three findings that were not requested in the Task 6 scope of work, but are relevant to this study.

- **Diversion may be more modest if fees do not exceed those being imposed at Ports of Los Angeles and Long Beach.** This approach would maintain the existing cost differences between the Los Angeles and Long Beach ports and the Puget Sound ports, but would increase costs for the Puget Sound ports relative to the Canadian ports. While Leachman expects that this increase in cost may divert some freight from Puget Sound ports to the Canadian ports, the diversion may be more modest than expected because transloaded cargo diverted to Canada would have to pay Canadian as well as U.S. duties. Furthermore, some of the time-sensitive IPI freight landed at the Puget Sound ports can travel via direct rail service to the eastern and southeastern parts of the U.S., but would not have such direct service if moved to the Canadian ports⁷.
- **Diversion may be reduced if fees were implemented everywhere in North America.** Dr. Leachman also raised the possibility that the threat of diversion would be lessened in the event that the fee were implemented throughout North America. This would require participation from the Federal government, which itself brings some bureaucratic and political risks. The Puget

⁶ Direct inland point intermodal is cargo in marine containers that lands at the Puget Sound ports, and then transits the State to other parts of the country with its only point of rest at the ports.

⁷ The relative directness of service to the southeast from Puget Sound and Canadian ports is a matter of some debate. There is currently a limited direct service from the Puget Sound Ports to Memphis. However, there also is service from the Prince Rupert and Vancouver ports in Canada to New Orleans via Chicago.

Sound ports would have to compete for funds with other ports and possibly interior locations (e.g., Chicago) for a share of the revenues.

- **Diversion may be reduced by infrastructure improvements.** This finding was not addressed in his report, but was discussed during the stakeholder meeting. Dr. Leachman's prior work in Southern California suggested that sensitivity (i.e., elasticities) with respect to congestion were greater than with respect to fees. This finding is based on an evaluation of specific infrastructure investments made in Southern California and their effect on throughput and transit time reliability. This analysis shows that improvements that could be fully funded with fees more than offset the negative effects of the fees. While this conjecture cannot be applied to Puget Sound without performing the same analysis, some stakeholders have contended that Puget Sound ports may lose some cargo to other ports if known capacity constraints are not addressed.

The results of Dr. Leachman's analysis must be considered in the context of some important limitations of his model, data, and the scope of work called for in this study. These include the following:

- **The model predicts only the long-term effects of a container fee.** In the short term, there are many factors inhibiting the shifting of imports to other ports or alternative channels, such as contracts, available vessel frequencies and capacities, available transit slots through the Panama Canal, and so forth. Consequently, long-term shifts in import traffic may require considerable resources to implement. However, short-term shifting may be relatively easy in some cases; there are examples of inland point intermodal cargo shifting rapidly in response to price changes.
- **The model only accounts for imports from Asia.** It ignores imports from other sources, as well as exports and empties. However, it is worth noting that the Port of Tacoma imports almost exclusively from Asia, and that the likely impact on exports would be greater given the lower margins associated with exports relative to imports.
- **The model ignores the benefits of diversification.** The model does not account for the fact that some shippers may wish to continue using the Puget Sound ports, even if they are more expensive, as a hedge against shipping through congested ports. The value of this risk mitigation could offset to some degree the costs of a container fee, but this effect cannot be quantified and would likely be modest.
- **The model uses static transit times.** Transit times and other measures of transportation service quality are supplied exogenously to the model. Therefore, the model is not sensitive to possible increases in congestion that could result at other ports if traffic from the Puget Sound ports were diverted. Neither does it account for the possibility that the Puget Sound ports or their competitors could implement improvements that would reduce transit times. Some competitor ports are investing in capacity improvements, such as the

Heartland Corridor project or Liberty Corridor. These improvements were not included in the model⁸.

- **The model does not predict the effects of container fees below \$30.** Leachman's model is not sensitive enough to predict the impact of container fees of under \$30. There are no models in existence at this time that are sensitive enough to measure the impact of fees of that level.

1.2 BST ASSOCIATES REVIEW OF DR. LEACHMAN'S ANALYSIS

BST Associates was asked to review and comment on Dr. Leachman's report. In general, BST agreed with its findings, pointing out that Puget Sound container traffic is indeed very elastic; and, in fact, Puget Sound ports have recently lost market share without imposition of any user fees. If anything, they expect that Dr. Leachman may be underestimating the impact of a container fee. Their reasons include the following:

- Dr. Leachman does not account for the impacts of the fee on exports and empties, which they expect to be more sensitive than imports to any change in transportation cost.
- Dr. Leachman's analysis estimates diversion under current conditions, including the existing capacities and performance of ports, railroads, roadways, canals, and other infrastructure and service providers comprising the goods movement network. In the future, these capacities and performance characteristics will change as new investments are made (e.g., new Canadian and Mexican ports, widening of the Panama Canal). BST believes most of these trends will put greater pressure on costs; and that in the long run, fees could have a greater impact at the margin than is suggested here.
- Short-, medium-, and long-term trends may undermine the Puget Sound ports' competitive advantage. Examples include expansions coming on-line at other ports and waterways, particularly the Canadian Port of Prince Rupert, and the development of two West Coast Mexican ports at Lazaro Cardenas and Punta Colonet.
- The widening of the Panama Canal provides an all-water route to the Gulf and East Coast ports. These developments could exacerbate the long-term

⁸ The Heartland Corridor is a series of freight capacity expansion projects between Chicago and the Port of Virginia. The Liberty Corridor is partnership of the New Jersey Department of Transportation and 20 public- and private-sector partners to implement multimodal transportation improvements and linkages in an area of seven northeastern counties and one western county in New Jersey.

impact of a container fee, but Dr. Leachman's model does not account for them.

1.3 STAKEHOLDER RESPONSE

The stakeholder group generally concurred with Leachman's findings and acknowledged some degree of comfort with his methods, compared to their initial skepticism voiced at the beginning of this study. Nevertheless, they volunteered several questions, comments, and concerns, which are listed below.

- **Stakeholders felt that Dr. Leachman's findings were borne out in their experience.** They pointed out that shippers are sensitive to very small changes in cost, because they make very thin profit margins and face fierce competition. Thus, they did not find it surprising that the low end of container fee levels analyzed by Dr. Leachman could cause a large diversion of import traffic.
- **Stakeholders questioned whether diversion resulting from a proposed container fee would be permanent.** Could a fee be retracted and container volumes return if it proved too detrimental to the regional economy? Dr. Leachman responded that shippers consistently try to reduce their costs, so they would eventually react to the lifting of a fee, just as they would react to the imposition of one. Nevertheless, shippers face constraints that make it difficult for them to change quickly.
- **Stakeholders voiced concern that a fee instituted at the Puget Sound ports could trigger shippers to make investments in other ports.** If this were to happen, attracting shippers back to the Puget Sound ports by reducing or removing a container fee would not necessarily be immediate, or completely reverse the initial diversion.
- **Stakeholders expressed their appreciation for Dr. Leachman's differentiation between the different routing of imported containers (i.e., import channels) in his analysis.** They agreed that a fee would impact the various channels differently.⁹ They also pointed out that decisions about where the fee is imposed in the supply chain and who collects the fee could greatly affect its impact.

Some stakeholders voiced concern that roadway tolls could have the same detrimental impact to the volume of trade (and thus State's economy) as a container fee, since they contribute to the total cost of transport just as a container fee

⁹ Landside channels considered include local dray and long-distance trucking of marine boxes, inland-point intermodal (IPI) rail movement of marine boxes, transloading from marine boxes to domestic truck trailers at a transloading facility in the hinterland of the port of entry, and transloading from marine boxes to domestic rail containers at a transloading facility.

would. Other stakeholders indicated their openness to the possibility of additional tolling, and would prefer it to a container fee. Among this latter group of stakeholders, the Port of Tacoma expressed its support as part of its 2008 legislative agenda for the expanded use of tolling to fund projects such as the SR 167 highway extension.

- Stakeholders discussed whether a fee would be less burdensome if it were tied to a set of specific projects that had a clear benefit to shippers. They pointed out that there are opportunities to produce benefits to certain distribution channels that would create benefits to the State, and noted that several competing ports are making such investments using direct government subsidy. Dr. Leachman's model does not account for how those improvements could impact import volumes because it uses static transit times.
- Stakeholders noted that the original impetus for the Freight Investment Study was to mitigate the negative impacts of import traffic, but the purpose seems to have shifted to preserving the competitive advantage of Washington State's ports. They were pleased that the discussion has shifted in that direction.
- Stakeholders pointed out that if the goal of the study is to improve freight mobility, there are many noninfrastructure projects that could serve such an end. These might include using financial incentives to divert use of infrastructure to off-peak periods; managing existing port space more effectively; and making sure existing infrastructure (e.g., pavements) is in good condition. Investigation of such strategies, however, are outside the scope of this study.
- Stakeholders pointed out that even if they were willing to pay for certain improvements based on benefit accrued to them, the amount would be small in most cases since freight is only 10 percent of volumes on most highways.
- Stakeholders commented that it is important to be aware of the imminent reauthorization of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which provides an opportunity to obtain Federal funds for certain projects. For a project to get Federal support, it will need to have a solid financing plan in place. This points to the need to identify a small number of projects, and develop a financing plan for them.

2.0 Analysis of Freight User Fee Funding Sources

2.1 INTRODUCTION

Hundreds of transportation projects of importance to the freight industry in Washington State are wholly or partially unfunded. Project lists are maintained by the Washington State Department of Transportation (DOT), the Freight Mobility Strategic Investment Board, the FAST Corridor coalition, the Bridging the Valley Coalition, the Washington State Legislature, and other groups. The cumulative size of the need dwarfs the funding capacity of traditional sources of transportation funds (e.g., motor fuel tax, license fees), especially given recent declines in motor fuel tax revenues¹⁰.

The project team began investigation of possible new sources of freight funding through the Tasks 1 to 4 report conducted for this study and contained in Appendix A.

This report section builds on the work presented in Appendix A. It investigates in greater detail a list of freight user fee funding sources that were identified by the Joint Transportation Committee Policy Group at their June 2008 meeting.

Note that this analysis is not intended to recommend any particular source of funding. Each source has advantages and disadvantages that must be evaluated in the context of the projects being funded, since some funding sources are more appropriate for certain projects than others. By “appropriate”, we mean that the funding source has sufficient yield and reliability and would be efficient and practical to implement and administrate. In addition, the source should provide for a nexus between project benefits and the user fee. Port-related user fees, for example, are more appropriate for projects that are both impacted by port operations and beneficial to port users, rail charges are more appropriate for rail projects, and so forth.

The Stakeholder Group has insisted that this nexus between funding sources and project benefits must be a priority in assembling the funding portfolio for any project. This nexus also sends a strong price signal to users that pay the fee thus promoting the efficient use of the infrastructure being improved. In addition to these criteria, both the Policy and Stakeholder groups have agreed to consider

¹⁰See a recent article in the Olympian: *Gasoline prices cost state tax revenue – motorists cut back to save money, and that means less for road projects* (<http://www.theolympian.com/112/story/507035.html>).

three other criteria for describing the advantages and disadvantages of each of these user fee sources:

- The potential yield of each source;
- Reliability, including suitability for bonding; and
- Implementation issues, including any administrative or legal barriers to implementing the funding source.

This section provides information for each of the criteria above. It provides background on the fee, including examples of where it is currently implemented, what is the fee level, and by whom it is paid. The fees are grouped into port-related fees, road user fees, and rail user fees.

What Is A User Fee?

Before proceeding, it is helpful to clarify the definition of user fees, since they are sometimes confused with other sources of public revenue. For each of the sources in this paper, an argument can be made that it meets the definition of a user fee. However, some fit the definition better than others, and not all would necessarily qualify as a user fee under Washington State law.

Hugh Spitzer of the law firm Foster Pepper PLLC has written a paper clarifying the definition of user fees and taxes as established under Washington State Law¹¹. According to the paper, taxes are general purpose sources of revenue that may be imposed anywhere and used for anything. User fees are intended to offset the cost of commodities, burdens, and regulation.

- **Commodity charges** are fees allocated directly to consumers of government products and services (public goods). Economists sometimes treat commodity charges as a means to account, allocate, and pay for positive externalities created by public goods. In the transportation context, roadway tolls qualify as a commodity charge, since they are fees paid to use a specific government service.
- **Burden offset charges** are fees intended to allocate and recover the cost of ongoing programs and to handle negative impacts from those who cause them. Economists view these charges as an efficient way of internalizing the cost of negative externalities. In the transportation context, the diesel fuel tax comes close to the definition of a burden offset charge, since the funds collected are proportional to the burden (i.e., roadway maintenance) imposed on the transportation system by diesel trucks.
- **Regulatory charges (inspection and processing fees)** are charges to individuals or entities whose actions give rise to special regulatory oversight. A

¹¹Spitzer, H., Taxes vs. Fees: A Curious Confusion, *Gonzaga Law Review*, Volume 38, 2002/2003.

transportation licensing fee meets this definition if the funds are used only to cover the cost of regulation. This is not the case for most licensing fees in Washington State.

Table 2.1 summarizes the differences between commodity charges, burden offset charges, and regulatory charges, as defined in Washington State. Note that state law requires user fees to be deposited into a special account dedicated to projects that benefit or offset the impact of those who pay the fee.

Table 2.1 General Classification of Taxes and User Fees

Classification	Examples	Basic Characteristics	Protections	Accounting
Taxes	Property taxes, excise taxes, income taxes, certain license fees	Imposed to raise money for any governmental purpose. No relationship between tax burden and benefits to an individual taxpayer.	Express statutory authority always required. Subject to limits, uniformity requirements, and other controls on tax levels and allocation of burden among taxpayers.	Maybe deposited in general fund or any other funds. Maybe used for any lawful governmental purpose.
User Fees				
Commodity Charges	Electrical rates, water rates, connection charges, irrigation assessments	Imposed to pay for the provision of commodities or services of direct benefits to consumer.	Commodity charges must be uniform within classes of customers and classes of service. May not exceed allocable share of cost.	Must be deposited in special fund. May not be transferred to general fund or other special funds for purposes of those funds.
Burden Offset Charges	Sewer rates, garbage rates, storm water utility charges, growth impact fee	Imposed to offset cost of handling burdens on others and on public resources (“externalities”) caused by payer’s activities.	May not exceed payer’s allocable share of cost of programs or improvements to handle burdens caused by payer’s activities. Must be uniform within classes of service and classes of users. Certain impact fees must be used within certain time periods for identified facilities.	Must be deposited in special fund. May not be transferred to general fund or other special funds. Must be used to pay for program facilities or activities.
Processing and Inspection Fees (True “Regulatory Fees”)	Building permit fees, housing inspection fees, professional licensing fees	Imposed to pay costs of government handling of payer’s applications or request, or to pay for inspection and control of payer’s activities.	May not exceed allocable share of cost of processing, licensing or inspection and enforcement programs.	Must be used to pay for processing or program activities.
Special Assessments	Road Improvement District Assessments	Imposed on property to offset costs of capital improvements that directly increase the value of that property.	May not exceed increase of value of property (“benefit”) from improvement. Must be fairly allocated among all benefited properties.	Must be deposited to special assessment fund or bond fund. May not be transferred to general fund or any other special funds. Must be used for specified improvements.

Source: Spitzer, H., Taxes vs. Fees: A Curious Confusion, Gonzaga Law Review, Volume 38, 2002/2003.

2.2 PORT USER FEES

Introduction

User fees are frequently collected at ports to pay for services or improvements within the port area. Some of the many user fees already paid by the maritime industry include berthage and moorage fees, on-dock rail fees, and others.

Some ports (specifically the Ports of Los Angeles and Long Beach) are instituting additional fees to cover infrastructure costs or freight-related environmental impacts beyond the port itself. Recent new charges include container fees, which are fees on the movements of marine boxes through the ports, and bulk cargo fees. This section discusses these types of fees and their potential applicability to the Puget Sound ports.

Container Fees

Collection Mechanism

There are several ways that fees on containers could be collected. Some mechanisms include the following:

- **Collection at the port gates.** Ports are generally bounded by gates controlled by the port authority, which are a convenient location for collecting fees. The Ports of Los Angeles and Long Beach currently collect fees on containers at the port gates (the PierPass Traffic Mitigation Fee), and will be expanding that collection mechanism for a new container fee (Infrastructure Fee) to be implemented in 2009. Trucks carrying loaded containers pass through the gates and are recognized by Radio Frequency Identification (RFID) tags on their side view mirrors. The RFID number is then connected to a database that links each truck to its customer [the cargo owner, or Beneficial Cargo Owner (BCO) as it is termed in the industry]. A nonprofit corporation responsible for administering the fee sends a bill to the cargo owner charging them for each container movement. Table 2.2 and Table 2.3 contain more detail on the collection mechanism for the Infrastructure Fee and the Traffic Mitigation Fee. Note that although these fees are charged to the BCOs at the Ports of Los Angeles and Long Beach, truckers could also be charged the fee directly.

Table 2.2 Infrastructure Cargo Fee, Ports of Los Angeles/Long Beach

	Infrastructure Cargo Fee
Where implemented	The Infrastructure Cargo Fee (ICF) will be implemented beginning January 1 st , 2009, at the Ports of Los Angeles/Long Beach.
Fee Amount	The ports are expected to charge a fee of \$15 on loaded TEU cargo containers entering or leaving any terminal at either port by truck or train. The fee amounts may need to be adjusted depending on which projects funded by the fee are ready to begin construction.
Who Pays	The ICF will be levied on the owners of the cargo carried in containers. Since an empty container has no owner, no fee is imposed on empty containers.
Payment Mechanism	<p>The fee will be collected in a similar manner to the existing PierPass Traffic Mitigation Fee; the main difference being that bulk cargo and on-dock rail also will be charged (PierPass only charges containers). Trucks entering or exiting the port gates with loaded containers will be identified by an RFID tag on the exterior of the truck. The truck will then be linked to a booking number (the identifier of the container and the BCO) through a database. Beneficial cargo owners are responsible for paying for each container before it reaches the gates.</p> <p>The mechanism for collecting the fee on bulk cargo has not yet been established – see Table 2.9.</p>
Fee Administration and Use	<p>A new nonprofit organization (NewCo) is being created to administer the fee and maintain the database of BCOs and booking numbers. The fee is expected to generate about \$1.4 billion for a series of highway and railroad projects to improve traffic flow and air quality in the harbor area.</p> <p>The fee amount was calibrated to finance a specific set of infrastructure projects identified by the port. The share of public and private funding dedicated to each project will be determined through the share of trucks (converted to passenger car equivalents) using the corridors designated for improvement. For example, trucks (converted to passenger car equivalents) represent 66 percent of the volume on the Gerald Desmond Bridge. Therefore, 66 percent of the non-Federal share of the project will be paid through the infrastructure fee, and 34 percent will be paid from public sources.</p>

Source: Gil Hicks and Associates.

Table 2.3 PierPass Traffic Mitigation Fee

	PierPass Traffic Mitigation Fee
Where Implemented	Ports of Los Angeles and Long Beach
Fee Amount	The TMF is \$100 per 40-foot container (FEU) and \$50 per TEU.
Who Pays	Any loaded ocean container picked up at or delivered to the Ports of Los Angeles or Long Beach by road during peak hours – 3:00 a.m. to 6:00 p.m. Monday through Friday – is subject to the PierPASS TMF.* Payment is the responsibility of the BCO (the importer or exporter); the trucking community and water carriers are not responsible for payment.
Payment Mechanism	Trucks entering or exiting the port gates with loaded containers are identified by an RFID tag on the exterior of the truck. The truck is linked to a booking number in a database, which identifies the load and the BCO. BCOs pay for each of their containers moving through the gates.
Fee Administration and Use	To administer the fee, the West Coast marine terminal operators created a new nonprofit entity called “PierPass.” The purpose of the fee is to incent greater use of the Port during uncongested off-peak hours; fee revenues are used to compensate the terminals for the extra cost associated with keeping the terminals open at night. The program is credited with diverting up to 30 percent of the truck traffic out of the peak period.

* The TMF does not apply to empty containers or to full intermodal containers departing or arriving via the Alameda Corridor for import or export and/or that pay the waterborne Alameda Corridor Transportation Authority (ACTA) fee.

- **Collection through tolls in the vicinity of the Port.** Ports are connected to the surrounding area by a limited number of access routes (either rail or road). A series of tolls imposed on one or more of these close-in access points would approximate a container fee, since it would largely impact container-carrying port traffic. The best example of such a toll is the Alameda Corridor in Southern California. Container fees are charged to rail intermodal moves along the corridor between the Ports and the rail hubs east of downtown, whether they are by truck or by rail. The fee is collected by the Alameda Corridor Joint Powers Authority (JPA), and is collected primarily through self-reporting by the railroads. Table 2.4 contains more detail on the collection and administration of the Alameda Corridor container fee. An alternative tolling mechanism would be for the local jurisdiction (e.g., the Cities of Seattle or Tacoma) to set up a series of toll gantries on the roads leading up to the port. Such a system may require legislative approval.

Table 2.4 Alameda Corridor Fee

	Alameda Corridor Fee
Where Implemented	Los Angeles, Alameda Corridor
Fee Amount	\$18.67/loaded TEU (\$15 in 2002); \$4.73/empty TEU (\$4.00 in 2002); \$9.45/other rail car (\$8.00 in 2002). Railroads also pay fees for containers trucked to off-dock rail yards (Hobart and East Los Angeles).
Who Pays	Payment must be made for any containers leaving the 11-county metropolitan area by rail, regardless of whether the container traveled on the Alameda corridor or was trucked around the corridor. Locally moving containers and those coming from or going to the inland via truck are not subject to the fees. Railroads are responsible for paying the fee and for obtaining reimbursement from BCO.
Payment Mechanism	Railroads pay the JPA. The amount due is calculated by the railroads based on their records of usage of the corridor. The JPA can check the veracity of the reports by comparing them to data collected by PierPass, since containers that have already paid the ACTA fee do not have to pay the PierPass fee. Thus, if a container is listed as exempt in the PierPass database based on having paid the ACTA fee, ACTA checks its records to ensure it has in fact been paid for that container.
Fee Administration and Use	The Alameda Corridor Fee is collected by the JPA with members from the Port of Long Beach, the Port of Los Angeles, the Los Angeles City Council, and the Metropolitan Transportation Authority. The fee is used to pay back revenue bonds used to construct the Alameda corridor.

- **Other mechanisms.** It is possible that the city or cities encompassing the port could charge a business and occupation (gross receipts) tax on either the container carriers or the cargo owners. This would not be so much a container fee as a fee on the economic activity involving containers. In Washington State, there is some precedent for using business and occupation taxes for transportation purposes (transit districts may use it to raise revenue, subject to voter approval). Nevertheless, more research would be needed to determine whether it could be legally extended as a means to pay for port infrastructure. If it could be implemented in Washington State, the funds would be controlled by the Cities of Seattle and Tacoma or by a special taxing district.

Yield and Reliability

The potential yield from a container fee will vary with the following:

- The fee level, which may be set based on a revenue goal or as a means of meeting a funding deficit on a set of projects;
- The application of the fee (e.g., whether it is applied to all containers, imported and exported, loaded and unloaded, or only to a subset of containers); and
- Container volumes into the ports.

Container volumes into the Puget Sound ports are shaped by a number of forces, including the health of the world economy, the shifting trade relationships with the United States and its neighbors, the size of the local consumer market in the Puget Sound Region, and the relative cost of using ports. The cost of using the ports includes both the time and direct monetary cost associated with moving goods through the ports to their final destination. As discussed in Section 1.0 of this report, imposition of fees at the Puget Sound ports could cause a decrease in their relative attractiveness vis-a-vis competitor ports. Dr. Leachman found that fees above \$30 per Twenty-Foot Equivalent container are likely to cause some cargo to begin shifting to competitor ports, but was unable to determine the effect of fees below \$30.

The amount of money that could be raised by a container fee depends on the fee level and on the type of container fees charged. The following scenario looks at estimating the range of annual revenue collected by charging a fee between \$1 and \$30 per Twenty-Foot Equivalent Units (TEU) on all imported, loaded containers. (Forty-foot equivalent containers would be charged double the fee or \$60).

Revenue estimates are based on 2007 container volumes published by the Ports of Seattle and Tacoma. Table 2.5 and Table 2.6 (below) show container volumes for the two ports.

Table 2.5 2007 Container Volumes
In TEUs

	International Loaded	International Empty	Domestic	Total	Total Excluding Empty
Port of Seattle	1,314,143	314,351	345,010	1,973,504	1,659,153
Port of Tacoma	1,139,903	262,979	522,052	1,924,934	1,661,955
Totals	2,454,046	577,330	867,062	3,898,438	3,321,108

Source: Port of Seattle 2007 Annual Statistics and Port of Tacoma 2007 Annual Statistics.

The following assumptions have been applied to the revenue forecast:

- **Fees are charged only on loaded containers.** This follows the practice adopted by Ports of Los Angeles and Long Beach, where an Infrastructure Cargo Fee (ICF) will be implemented beginning January 2009. The ICF will be levied on the owners of the cargo; and since an empty container has no cargo to own, no fee is imposed on empty containers.
- **No diversion of containers.** This assumption was made for the purposes of calculating the short-term, maximum yield from the imposition of a fee less or equal to \$30. In the short-term, demand tends to be less elastic than in the long term for multiple reasons (e.g., vessel schedules, lift and storage capacities, warehousing contracts, etc.); and since steamship lines are committed to

relatively long-term port contracts, shifts in supply chains and vessel service do not happen immediately and may take years to become apparent and significant. This lag may be caused by some combination of contract rigidities between shippers and steamship lines; alternative ports might face capacity constraints; and as other ports implement user fees, as is currently happening at Ports of Los Angeles and Long Beach, the incentives for relocating cargo diminish.

- **Existing deficiencies remain.** Existing impedances to container flows (due to congestion, delays, etc.) were assumed to remain. This assumption ignores the certainty that the fee revenues would be dedicated to improving container flow. In his analysis for the Southern California ports, Dr. Leachman showed that the removal of bottlenecks and subsequent improvements to container flow offset the diversionary effects of a fee. We do not assume that these results would occur for the Puget Sound ports. Unlike Southern California, the levels of congestion within and outside the Ports of Seattle and Tacoma are not as severe as Southern California, nor is the regional market (i.e., local consumption) for imported goods as significant as it is for imported cargo in Southern California.
- **Fees are charged only on imported containers.** There are several reasons to focus the container fee on imports and to avoid charging exports. First, although Dr. Leachman's diversion analysis only evaluated the effects of fees on imported cargo, he did comment orally during his presentation to the Stakeholder Group (January 23, 2008) that exports have much higher sensitivity to cost, thus he would advise not charging exports. Second, a significant share of exported cargo originates from Washington State, where its production, processing, and manufacture generate economic activity for the State. Third, agricultural products comprise the majority of exported cargo that originates from Washington State. Domestic agricultural industries, and especially growers, receive substantial government subsidies and assistance. These policies would conflict with a container fee charge on exports. It should be noted, however, that there may be Federal constitutional issues associated with charging fees only on import containers. Care would have to be taken to ensure the charge would not be characterized as an unconstitutional duty or impost. Table 2.6 below shows the relative flows of imported and exported containers by port.

Table 2.6 2007 Container Volumes by Port
In TEUs

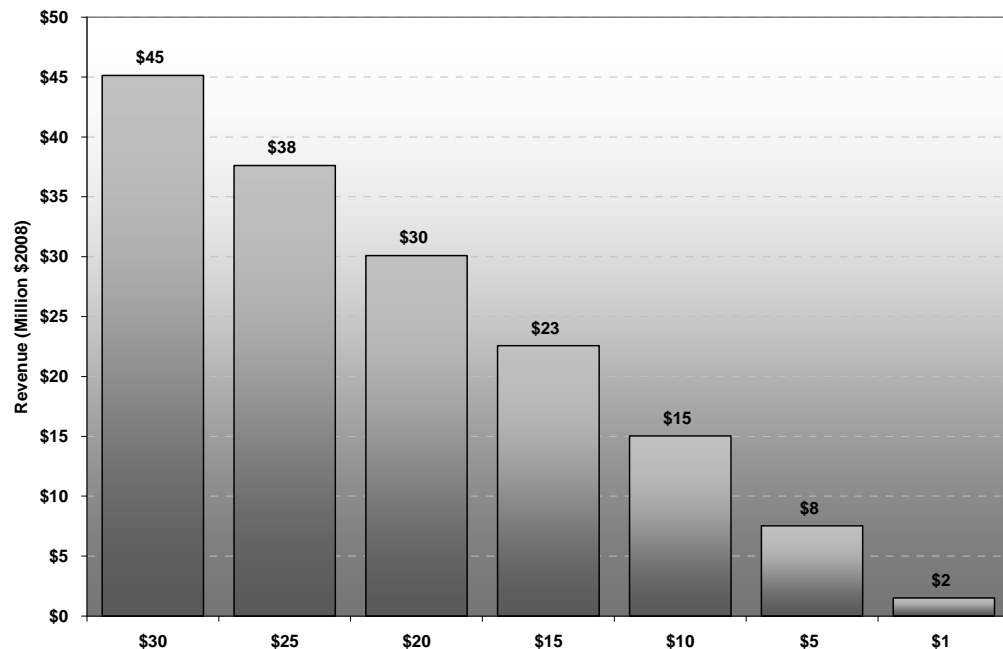
	Imported	Exported	Domestic	Empty	Total
Port of Seattle	810,453	503,690	345,010	314,351	1,973,504
Port of Tacoma	694,032	445,871	522,052	262,979	1,924,934
Total	1,504,485	949,561	867,062	577,330	3,898,438

Source: Port of Seattle 2007 Annual Statistics and Port of Tacoma 2007 Annual Statistics.

Given these assumptions and based on 2007 imported container volumes, fees ranging between \$1 and \$30 per loaded TEU would result in annual revenue ranging between \$1.5 million and \$45 million, respectively (Figure 2.1).

If the fee were charged on both imported and exported containers, annual revenues from a \$1 per TEU fee would generate \$2.5 million and a \$30 fee would generate \$74 million. This is roughly double what could be raised by applying the fee to imports only.

Figure 2.1 Range of Annual Revenue in Tacoma and Seattle Ports from Fees on Imported, Loaded Twenty Foot Containers
(In Millions of 2008 Dollars)



Source: Cambridge Systematics, Inc. Estimates based on volumes of loaded, imported containers into the Ports of Seattle and Tacoma in 2007. Estimates assume no diversion of containers due to the fee.

Reliability and Bonding Capacity

Bonding capacity depends on several variables, such as the term of the bond, the conditions of the financial markets that reflect the levels of the interest rates, the reliability of the revenue against which the bond will be issued, and the rating of the issuer. It is necessary to make assumptions for each of these variables in order to approximate the bonding capacity. The bonding capacity of a container fee revenue stream in a given year could be up to 10 times the amount of the stream if the following assumptions are made:

- Twenty-year bond maturity.
- Interest rate of 4.7 percent for AA rated bonds, based on 2008 data from FMS Bond Inc., a municipal bond specialist.
- A 1.3 required coverage factor. This is a typical value equivalent to setting aside 30 percent of revenues to cover the debt.

Table 2.7 shows the bonding capacity for the different container fees.

Table 2.7 Bonding Capacity from Different Fee Levels on Imported, Loaded Containers
In 2008 Dollars

Container Fee (In Dollars)	Annual Revenue (In Millions of Dollars)	Bonding Capacity (In Millions of Dollars)
\$30	\$45.1	\$444
\$25	\$37.6	\$370
\$20	\$30.1	\$296
\$15	\$22.6	\$222
\$10	\$15.0	\$148
\$5	\$7.5	\$74
\$1	\$1.5	\$15

Source: Cambridge Systematics, Inc.

Note that historical data show that containerized cargo is sensitive to economic cycles. For example, volumes of loaded containers at the Port of Seattle grew at an annual average rate of 4.5 percent between 1999 and 2007, but dropped 16.5 percent during the economic downfall of 2001 and achieved maximum growth at 30 percent in 2004¹².

¹²Source: <http://www.portseattle.org/seaport/statistics/pos10yearhistory.shtml>.

Administrative and Legal Issues

The administrative cost and legal defensibility of a container fee depends on many factors, such as the incidence of the fee (e.g., which types of containers, who pays the fee); the institution designated for fee collection; and the use of the fee revenues. Some considerations are listed below.

Need for Creation of New Institutions

Imposition of a container fee may require the creation of new institutions. Collection of container fees at the gates of the Los Angeles/Long Beach ports necessitated the creation of two new nonprofit organizations (PierPass, which collects the Traffic Mitigation Fee; and NewCo, which will collect the new infrastructure fee in 2009). The nonprofits were created primarily to ensure that fee revenues are used solely for the purposes for which they were intended.

In Washington State, an interlocal agreement among Puget Sound ports could create a similar entity to collect the fees. Such agreements are made possible through the Shipping Act of 1984, which gave antitrust immunity to ports and marine terminal operators to establish agreements, including, but not limited to labor practices, infrastructure development, tariffs, railroad practices and services, and environmental policy.

Information Technology Requirements. Imposition of container fees may require substantial information technology improvements. For example, collection of the Traffic Mitigation and Infrastructure Fees in Los Angeles/Long Beach required the creation of a comprehensive database linking cargo owners and the trucks that serve them, and also required the distribution of RFID tags to all trucks. To the consultant's knowledge, no such database exists in Puget Sound. If trucks were charged directly, however, this database would not be necessary.

A tolling approach to collection of a container fee may require investment in new toll infrastructure (gantries, distribution of transponders, back office support, etc.). The Alameda Corridor JPA avoided such costs by collecting the toll through self-reporting by the railroads. Self-reporting, however, is susceptible to fee evasion, and may require audits.

Legal Defensibility. The following legal issues should be considered in the design of a container fee charge:

- **Need for legal authority to collect the fee.** The institution collecting the fee must have the legal authority to do so. Under the Revised Code of Washington (RCW) 53.08.070, ports may institute wharfage, docking, warehousing, and port and terminal charges without right of appeal. A new container fee imposed by a port must be designed such that it qualifies as a "port and terminal charge."
- **Need for nexus study.** To the extent that the container fee is understood to be a user fee (not a tax), it must be supported by a study demonstrating the connection between the fee and the benefits (or mitigated impacts) made

possible by it. In other words, revenue generated from user fees must benefit the payees or mitigate their impact, and must be deposited into a special fund for those purposes alone (see Table 2.1 above for more detail). In the absence of a defensible nexus study (e.g., an engineering study showing the benefits of the new infrastructure to port users paying a container fee), the fee could be construed to be an unauthorized tax. Ports may not impose taxes unless authorized to do so by the legislature.

- **Interference with existing agreements.** There is a risk that a new container charge could be challenged on the grounds that it violates existing lease agreements between the port and its lessees, if such agreements set caps on the lease rate. The container fee could be construed as an additional charge above the cap on the lease. The nature of existing lease agreements in the Puget Sound ports would need to be scrutinized in order to address this potential issue.
- **Interference with international trade.** Any new container fee program should be structured so as to avoid being characterized as a duty on international trade. A container fee imposed only on imports could be challenged as a hidden import duty. Article I, Section 10 of the U.S. Constitution bars states from imposing “imposts or duties on imports or exports” without the consent of Congress. Container fees on exports might also contravene international trade agreements. Research regarding major agreements may be appropriate.

Bulk Cargo Fee

A bulk cargo fee is a levy on noncontainerized cargo (e.g., grains, scrap metal, molasses) moving through the ports. Such cargo represents 31 percent of the total tonnage handle at the Port of Seattle and 33 percent of the total tonnage at Port of Tacoma. To the consultant’s knowledge, this fee has not been imposed anywhere in the United States for infrastructure funding, but will be a component of the new infrastructure fee at the Ports of Los Angeles and Long Beach. More detail on the Los Angeles/Long Beach Bulk Cargo fee is listed in Table 2.9.

Collection Mechanism

The collection mechanism for bulk cargo fees has not yet been established at the Ports of Los Angeles and Long Beach. See administrative/implementation issues for more detail.

Yield and Reliability

Revenue estimates for noncontainerized cargo were assessed for fees ranging between \$0.20 and \$1.00 per metric ton. Tonnage corresponds to 2007 volumes published by the Ports of Seattle and Tacoma. Table 2.8 shows recent volumes for the two ports. As with the container fee, it was assumed that no cargo diversion to other ports would occur.

Table 2.8 Noncontainerized Cargo by Port
2007

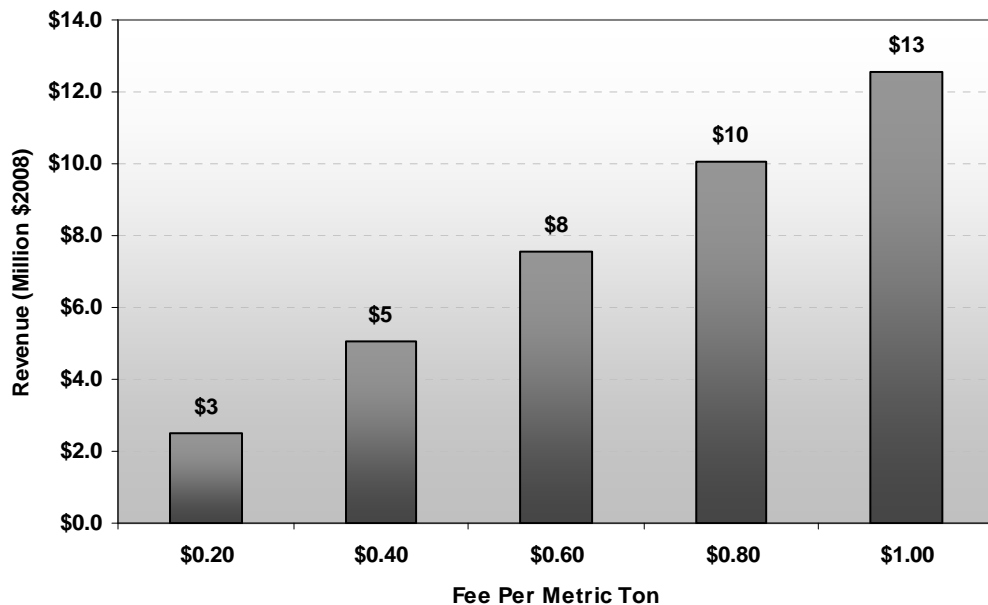
	Metric Tons in 2007
Port of Tacoma	6,009,490
Port of Seattle	6,560,981
Total	12,570,471

Source: Port of Seattle 2007 Annual Statistics and Port of Tacoma 2007 Annual Statistics.

Assuming no diversion of bulk cargo because of the fee and based on 2007 tonnage, fees ranging between \$0.20 and \$1.00 per ton would result in annual revenue ranging between \$3 million and \$13 million, respectively (Figure 2.2). These tonnage rates are similar to those being proposed at the Ports of Los Angeles and Long Beach.

Bulk cargo volumes appear to be highly sensitive to economic fluctuations. Bulk cargo at the Port of Seattle grew at an average annual rate of 12 percent between 1999 and 2007, but experienced a significant drop of 35 percent in 2002 and a major increase at 44 percent in 2003. This instability might reduce the bonding capacity of a bulk cargo fee.

Figure 2.2 Annual Revenue from Fees on Noncontainerized Cargo
(In Millions of 2008 Dollars)



Source: Cambridge Systematics, Inc.

Administrative and Implementation Issues

The collection of a bulk cargo fee may be difficult and/or expensive, depending on how the fee is assessed. In the Ports of Los Angeles and Long Beach, the yards that store bulk cargo are typically manned only by a security guard. Collection of a gate charge at the yards requires hiring of additional unionized labor, which would come with significant expense. Moreover, movements of bulk cargo are not tracked electronically, making collection a difficult and potentially expensive exercise. To avoid these expenses, the Ports are considering simply adding a line item to the wharfage fees already collected on bulk cargo.

Bulk cargo fees could be vulnerable to some of the same legal challenges as container fees (e.g., from existing lease agreements, U.S. Constitution, international trade agreements, etc.).

Table 2.9 Bulk Cargo Fee

	Bulk Cargo Fee
Where Implemented	This fee has not yet been implemented, but will be a component of the 2009 Infrastructure Cargo Fee (ICF) at the Ports of Los Angeles and Long Beach.
Fee Amount	The fee amount has not been set. A fee of about 35 cents per metric ton has been proposed, since that would roughly approximate the amount earned from a container full of bulk cargo.
Who Pays	Bulk cargo owners.
Payment Mechanism	The payment mechanism has not yet been established. Collecting the fee is more difficult than for container fees, since trucks carrying bulk cargo may not have RFID tags, and yards containing the cargo are not typically manned, except by a security guard. The Ports wish to avoid paying for clerks at yards containing bulk materials, and are investigating the possibility of simply adding a line item to wharfage fees already paid for bulk cargo.
Fee Administration and Use	The ICF will generate funds for a series of highway and railroad projects to improve traffic flow and air quality in the harbor area. The fee will be administered by NewCo, a new nonprofit organization created by the Ports.

Source: Gil Hicks and Associates.

2.3 ROAD USER FEES

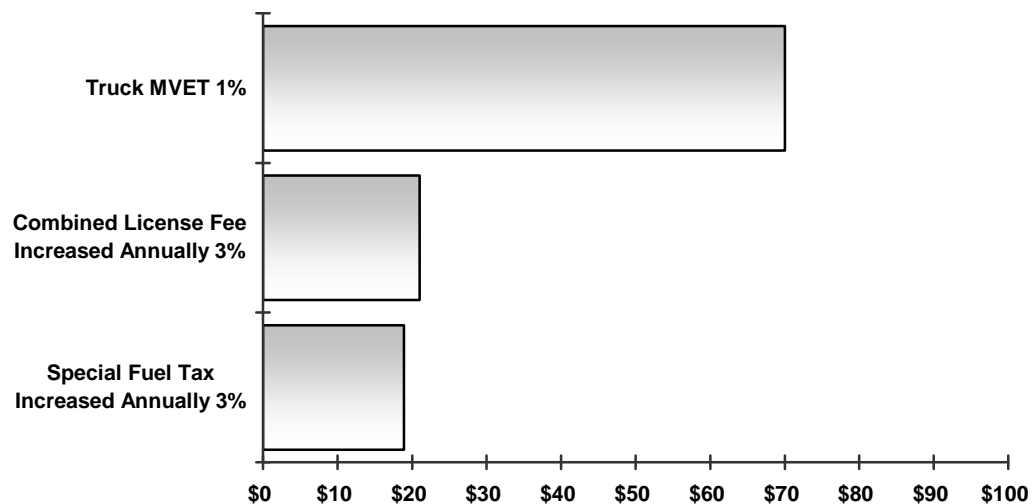
Existing Freight-Related Road User Fees

There are two major fees in Washington State that are already paid by freight users. These are the Combined License fee, which is a license and weight fee paid by trucking companies; and a tax on diesel fuel at the state rate of 37.5 cents per gallon, also paid by trucking companies. These sources flow into various transportation accounts and are used to fund a broad range of transportation

investments¹³. Another source, the Motor Vehicle Excise Tax, was repealed several years ago. This source could be reinstated, and the funds collected from trucks and passenger vehicles divided (this was not done in the past).

The approximate yield that could be derived from adding an increment to any one of these sources is shown in Figure 2.3. Of the taxes and fees shown, a Motor Vehicle Excise Tax (MVET) of one percent, applied only to trucks¹⁴ would generate the most revenue at about \$70 million¹⁵, while increasing the special fuel tax by three percent annually would generate the least revenue at \$19 million.

Figure 2.3 Revenue from Existing or Previous Freight-Related Charges
Revenues in a Biennium (In Millions of 2008 Dollars)



Note: Values are approximate. MVET revenue reflects what could be obtained from commercial trucks only. If personal trucks are included, revenues are substantially higher.

The advantage of these fees and taxes is the low administrative burden associated with implementing them, and the fact that they are suitable for bonding (the combined license fee and special fuel tax were bonded as part of the 2003 and 2005 transportation revenue packages). Only a portion of the fees and taxes are

¹³Detailed analysis of revenues from these and other fees paid by the freight industry is provided in the Task 1-4 Report of this project.

¹⁴Before it was repealed, the MVET was set at 2.2 percent of vehicle value. Revenues from trucks and nontrucks were not separated.

¹⁵Assumes fee is applied to commercial trucks. If the fee were applied to personal trucks as well, revenues would be significantly higher. Revenue estimated using data from WSDOT MVET study.

contributed to new port improvements as a stream of revenue; the amount dedicated is not directly related to the amount of use.

To make any of these revenue sources more like true user fees, Washington State could dedicate an increment on one or more of them (e.g., combined license fee, diesel fuel tax) to a special fund to be used only for projects that substantially benefit the freight industry or mitigate freight impact. Such a fund has in fact already been established in Washington State (the Freight Mobility Multimodal Account and the Freight Mobility Investment Account), but these receive only limited funds (\$3 million each, annually)¹⁶.

Tolls have been extensively studied by the Washington State Department of Transportation, the Washington State Transportation Commission, the Puget Sound Regional Council, and other entities within the State; and have generally been judged to be an attractive mechanism for raising new funds for roadway improvements. The primary disadvantage of tolls is that they can cause diversion off the tolled route when parallel routes exist. They are best suited for situations in which alternatives to the tolled route are distant or inconvenient. The diversionary effects of tolling can be reduced by tolling across the entire transportation system.

The Comprehensive Tolling Study, prepared for the Washington State Transportation Commission, provides several examples of tolling projects. Revenues from the projects ranged up to a billion dollars.

One important freight corridor included in the study was I-90 through Snoqualmie Pass. Toll revenues through the Pass were projected to exceed \$43 million in the first year of operation (2009). Trucks represent about 15 percent of vehicle volumes through the Pass, but would account for more than double that share of toll revenue, since the expected toll rate for large trucks was assumed to be more than twice that of passenger cars.

New Road User Fees

Washington State could also institute a new road user fee to support freight infrastructure. Two examples of freight road user fees that have been instituted elsewhere include the vehicle miles traveled (VMT) fee or its close cousin, the truck weight-distance charge.

Truck VMT Fee

A truck VMT fee is a per-mile fee on truck travel. VMT fees, like weight-mile charges, have the advantage of being invulnerable to improvements in fuel efficiency (unlike the motor fuel tax) and are a more direct form of road user fee.

¹⁶Source: Washington State Transportation Resource Manual.

Another advantage of Vehicle Miles Traveled fees is that they are collected across the entire transportation system so avoid some of the diversionary effects associated with point-based tolling.

Collection Mechanism

VMT fees may be collected a number of different ways, including the following examples:

- **Geographic Position Systems (GPS) technology.** In Germany, a truck VMT fee is collected through the use of GPS and mobile communications network (GMS) technologies, which have been installed in all trucks, foreign and domestic. The systems allow for determination of position, toll calculation, and transmission of toll amount to the collection center. See Table 2.10 below.

Table 2.10 Truck Vehicle Miles Traveled Fee

	Truck VMT Fee
Where Implemented	Germany
Fee Amount	Toll rates vary by numbers of axles and emission category from 10 to 15 Euro-cents per kilometer (about 24 to 36 U.S. cents per mile).
Who Pays	Trucking companies.
Payment Mechanism	To collect the tolls, a combination of satellite positioning systems (GPS) and mobile communications network (GMS) was placed in all trucks, whether foreign or domestic. The systems allow for determination of position, toll calculation, and transmission of toll amount to the collection center.
Fee Administration and Use	The toll collection system was developed and is operated by Toll Collect, a public-private partnership that includes the German Ministry of Transport, Deutsche Telecom, Daimler-Chrysler Financial Services, and Cofiroute.

Source: Toll rates from the Toll Collect Web Site (<http://www.toll-collect.de>). Collection information from: *Scanning Tour Summary Report: Pricing Experience in Northern Europe: Lessons Learned and Applicability to Minnesota and the United States*, Scanning Tour Summary Report: Pricing Experience in Northern Europe: Lessons Learned and Applicability to Minnesota and the United States October 2006, pp. 11-16.

- **Embedding in fuel purchases.** A pilot test in the Portland, Oregon area showed that a VMT charge can be successfully collected by embedding the mileage fee in the fuel bill.
- **Self-reporting.** Trucks may self-report miles traveled. Distance-based weight mile charges are collected in this way in Oregon and other states (see weight-distance charges below for more detail).

Yield and Reliability

The amount that can be raised from a truck vehicle miles traveled fee depends on the type of trucks selected for the fee and the fee level. If the fee were imposed only on heavy trucks (those over 26,000 lbs), and the fee revenue were set at 15 cents per mile, revenues could reach \$200 million per biennium. The calculations assumed an annual inflation of 3 percent, a heavy-truck fleet size of 10,000 vehicles¹⁷ and annual average vehicle miles traveled per truck of around 64,000 based on historical data from the 2000 Federal Highway Statistics, the latest statistic available on vehicle miles traveled by truck weight. If the fee were applied to all commercial vehicles, a greater amount of revenue would be generated.

Revenues from a VMT fee are likely to be bondable, given that VMT fees have grown at a stable pace with minor fluctuations compared to other revenue sources (e.g., container fees).

Implementation Issues

Institution of a truck VMT fee in Washington State poses some technical challenges, as it would require either the installation of GPS in all trucks traveling through the State, or the embedding of the fee at all fuel stations throughout the State. Deployment of Germany's Toll Collect proved to be technically difficult and was delayed over a period of several years¹⁸.

The alternative is to ask trucks to report their mileage. This is a simpler mechanism, but more prone to evasion.

Weight Distance Charge

Weight distance charges are similar to VMT charges, except that they account for the weight of the truck in addition to the miles traveled. The tax rate increases with the weight of a truck and it is paid per mile of truck operation in the state. This charge is a pure user fee, as it links the cost that users impose on the roadway system to a fee, including both distance traveled and weight (heavier vehicles impose much higher wear and tear on roads than lighter vehicles). The charge is currently in place in four states (see Table 2.11 below).

¹⁷Heavy truck fleet size is based on 2007 data provided by the Washington State Department of Transportation. Heavy trucks were defined as trucks of 26,000 lbs and over.

¹⁸See *Germany's Toll-Collection Plan Stalls*, October 25, 2003, New York Times.

Table 2.11 Weight Distance Charge

	Weight-Distance Charge
Where Implemented	Kentucky, New Mexico, New York, and Oregon
Fee Amount	Varies – Oregon charges the highest rates among the four states, with rates ranging from 0.4 cents per mile traveled for trucks of 26,000 pounds to 14 cents per mile for trucks of 78,000 pounds or more.
Who Pays	Trucking companies.
Payment Mechanism	Annual or quarterly. Trucking companies are required to report their state road miles.
Fee Administration and Use	Varies by state. In Oregon, fees are used for general transportation purposes.

Source: Cambridge Systematics, phone calls and web site information.

Collection Mechanism

Trucking companies are required to report their state road miles and to transmit the calculated weight mile tax on those miles, either monthly or quarterly, to the DOT. Weights are recorded at weigh stations.

Yield and Reliability

Estimates suggest that the revenue collected by imposing a weight distance tax on heavy trucks could reach \$32 million per biennium. The calculations assumed New Mexico's weight distance fees¹⁹, an annual inflation of 3 percent, a heavy-truck fleet size of 10,000 vehicles²⁰ and annual average vehicle miles of around 64,000 based on historical data from the 2000 Federal Highway Statistics, the latest statistic available on vehicle miles traveled by truck weight.

Revenues from a VMT fee are likely to be bondable, given that vehicle fleet size and VMT fees have grown at a stable pace with minor fluctuations compared to other revenue sources.

Administrative/Implementation Issues

Fee evasion has been an issue for states with the weight-distance tax. Truckers are required to report their lane miles, and may not report accurately. This is

¹⁹New Mexico's weight distance fees are in the middle of the range of weight-distance fees collected in the U.S. Oregon has the highest per mile fees and Kentucky has the lowest fees.

²⁰Heavy truck fleet size is based on 2007 data provided by the WSDOT. Heavy trucks were defined as trucks of 26,000 lbs and over.

especially true in New Mexico where the state line weigh stations are open only during week days and court rulings have restricted enforcement methods for state police.

To address this problem, some states periodically audit the submitted paperwork and/or records kept at the company's place of business. In addition, states have installed weigh stations to screen the trucks at different points along the roadway system. Trucks carry transponders which contain a number that is used to identify the carrier and truck. A computer processes this information, verifies the truck size and weight, checks the carrier's registration and safety records, and sends a green light signal back to the transponder if the truck is "good to go" past the station. These enforcement measures are often expensive.

In addition, weight-distance taxes have met with many legal challenges. For example, the state of Idaho repealed its weight-distance tax after a successful suit brought by the American Trucking Association. The courts ruled that the tax discriminated against interstate trucking companies, in violation of the Interstate Commerce Clause of the U.S. Constitution, by having reduced weight-mile tax rates for natural resource commodities. The State of Oregon's weight-distance tax was also challenged by the American Trucking Association, but survived the challenge²¹.

2.4 RAIL USER FEES

A rail user fee is essentially a toll on a railroad facility. Some of the best known examples in the United States are the per-container rail charges on the Alameda Corridor rail line (discussed under port user fees above) and the rail car fee on the Shellpot Bridge, a tolled rail bridge in Delaware (discussed in Table 2.12 and at length in Appendix A).

Collection Mechanism

All rail cars in North America are marked with RFID tags. The tags can be automatically scanned using Automatic Equipment Identification (AEI) scanners, devices frequently used by railroads to monitor freight movements²². AEI scanners are used to monitor rail car movements over the Shellpot Bridge²³, and could be used for the same purpose in Washington State. A distance-based rail car fee would be possible if multiple AEI scanners set up along a rail line could be used to track the mileage traveled by each car along the line. To the

²¹Source: Oregon Weight-Mile Tax Issue Brief: <http://www.leg.state.or.us/comm/commsrvs/wtmile.pdf>.

²²Bourque, S., *Trends in AEI Technology and its Impact on Shippers and Carriers*, Presentation at the fall 2006 meeting of the National Industrial Transportation League.

²³Source: Interview, freight staff of Delaware DOT.

consultant's knowledge, no such distance-based fee is currently in place in the United States.

Yield and Reliability

Similar to roadway tolls, yield from a railway toll would vary based on rail volumes and the fee amount. The Washington State Rail Capacity and Needs Study²⁴ provides rail volumes (in average trains per day) on some of the main corridors throughout the State. As an example, one of the more congested corridors is the Everett-Spokane line, which passes through the Cascade Tunnel at Stevens Pass and is the Burlington Northern Santa Fe Railway's (BNSF) major transcontinental route for double-stack intermodal container trains. It is heavily used, operating at about 27 trains per day, which is about 123 percent of practical capacity. This amounts to about 3,000 rail cars per day²⁵. Under this scenario, a fee of \$1.00 per rail car would generate about \$1.1 million in annual revenue.

Table 2.12 Rail Car Fee

	Rail Car Fee
Where Implemented	Shellpot Bridge, Delaware
Fee Amount	Sliding scale based on volume of rail cars in that year. The cost is \$35 per car for the first 5,000 cars decreasing to \$5.00 per car when there are greater than 50,000 cars using the bridge.
Who Pays	Railroad (Norfolk Southern).
Payment Mechanism	Rail cars volumes are tracked electronically by AEI Scanners, which register the movement of each rail car based on its RFID tag. The railroad reports the volumes monthly to the Delaware DOT. The railroad pays Delaware DOT annually based on the number of cars to use the bridge in that year.
Fee Administration and Use	Fee revenues are used to pay back an \$8.9 million loan Delaware DOT gave to the railroad to reconstruct the bridge.

Source: Conversation with freight staff of the Delaware Department of Transportation and *Shellpot Bridge is Getting Back on Track*, Port Illustrated, July/August 2003.

Rail car volumes are expected to grow significantly in the next decades. The total freight tonnage moved over the Washington State rail system is expected to

²⁴The study is accessible at: <http://www.wstc.wa.gov/rail/default.htm>.

²⁵Assuming a train length of 8,000 feet on average and an average car length of 70 feet (including spacing). Typical rail car lengths run between 50 and 70 feet, depending on the type of car (see <http://www.railcarmover.com/appissue.asp>). The Washington State Rail Capacity and Needs Study assumes train lengths of 8,000 feet on average.

increase by about 60 percent between 2005 and 2025²⁶. If these expected increases bear out, a rail car fee would be a reliable means of generating revenues in the foreseeable future.

2.5 FEDERAL-LEVEL FEES

There are a number of fees being proposed on the Federal level that would provide additional funds for freight infrastructure. Two of those currently under consideration include a transfer of existing revenues from customs duties and a freight waybill fee.

These fees are most easily applied at the Federal level, rather than independently at the state level. Nevertheless, they are worthy of some discussion because, if implemented at the Federal level, they could provide opportunities to generate significant revenues to meet some of Washington's freight rail funding needs, either through Federal grants or through an additional charge at the state level, which could be added to the Federal fee and dedicated to state freight projects or used as matching funds to leverage Federal fees.

Freight Waybill Tax

Proposals for a tax on freight bills (also referred to as a freight waybill tax) are under discussion at the Federal level as a means of funding national freight infrastructure needs.

Freight waybills are customarily charged to the receiver of goods transported from one point to another. For example, if a container is sent from Curacao on a Dutch ship and is loaded onto a tractor trailer that drives the container for delivery to a Montana company, that Montana company will pay one or more freight bills, covering the cost of shipping from Curacao to Seattle on a ship, and from Seattle to Helena on a truck. Freight waybills are used primarily in association with these types of multileg intermodal container movements. Freight "bills of lading", by contrast, are bills associated with one segment of a truck trip.

Representative Adam Smith of Washington has recently proposed a Federal tax on freight bills. The act would institute a "Freight Mobility Infrastructure Fee" (e.g., freight bill tax) equal to one percent of the amount paid for the "taxable transportation of property." Funds would flow into a National Freight Mobility Infrastructure Fund, and would be available to states through a competitive grant application process.

Congressman Smith's proposal stipulates that the tax would apply only to for-hire transportation services, because companies that own their own trucks are not charged a bill for domestic transportation services. The implication is that

²⁶Source: Washington State Transportation Commission Rail Capacity and Needs Study.

private trucking, which represents a substantial minority of all freight, would not be subject to the tax. According to 2002 Bureau of Transportation Statistics Data, Private Trucking carries 30 percent of all U.S. freight by value (compared to 45 percent carried by for-hire truck), 36 percent of freight by ton (compared to 31 percent by for-hire truck), and 9 percent by ton-mile (compared to 31 percent by for-hire truck).²⁷

Another difficulty with the tax occurs in the situation when the bill is to be paid by a beneficial cargo owner (BCO) located outside the United States. In this situation, Smith proposes that the bill be collected by the entity furnishing the last domestic segment of the trip, and that the U.S.-based entity receiving the goods (not the international entity providing the goods) be responsible for payment. Returning to the previous example, the Montana company would pay tax only on the container's journey from Seattle to Helena.

These difficulties would be magnified if the tax were to be imposed at the state level, since the state could only tax the portion of the trip occurring within its boundaries. To accomplish this, trucks and railroads would have to track their mileage within the state and apportion their billings accordingly. Washington State would then have to devise a system for collecting the tax from beneficial cargo owners located outside the State. Finally, a state-level tax (and possibly a Federal-level tax) on freight bills could be challenged in court as an impost or duty on goods in international commerce moving through the State.

The revenue potential of a waybill fee would be a function of the total freight bill in the United States. According to an analysis of potential freight fees by the American Road and Transportation Builders Association (ARTBA), the U.S. total freight bill totals more than \$739 billion annually. A one-percent fee could yield significant revenues (about \$7.4 billion).

Transfer of Customs Duty Revenue

Another proposal being discussed at the Federal level is a possible transfer of revenues from customs duties. Current U.S. Customs duties go into the Federal general fund and other programs not related to transportation. It has been proposed to dedicate a portion of existing custom duties (e.g., 5 to 10 percent) for port and intermodal improvements. A politically difficult alternative option would be to raise the customs duties 5 to 10 percent with the increase going to transportation. If implemented, this source would not be a true freight user fee, since payment would be related to the value of goods imported rather than usage of the transportation system.

For the Federal Highway Administration (FHWA), Cambridge Systematics has estimated that setting aside 10 percent of customs duties would generate about \$3 billion for freight projects in 2010, increasing to about \$8 billion by 2030.

²⁷Source: http://www.bts.gov/press_releases/2005/bts003_05/html/bts003_05.html.

2.6 SUMMARY

This section has discussed a range of freight user fee sources selected by the Policy Group as being potentially feasible for consideration. Their selection was made from a longer list of both public and private revenue sources presented at their June 25, 2008 meeting.

Each fee type has advantages and disadvantages that can not be fully assessed without its direct application to specific freight projects. The type of projects being funded, their direct and indirect benefits to specific users and stakeholders, and their cumulative funding need should drive the selection of funding sources.

These benefits include improving the competitiveness of industries located in Washington State. All improvements to goods movements are not equal with regard to their contributions to job creation, personal income of state residents and increases to the gross state product. For example, some imported cargos move through Washington without significant value added activities, while other cargo undergo further processing or manufacturing which generates significant employment and income. The same is even more the case for goods grown or manufactured in Washington. These benefits are only estimated for specific projects and may be used to show how much the public at large should contribute to a project's funding through public sources, such as the fuel tax, license fees, and general fund revenues.

It is also important to consider the potential yield and reliability of each source, as well as administrative, technical, and legal issues associated with it. Table 2.13 and Table 2.14 below summarizes that information for each source and provide commentary on the degree to which the source may be defined as a freight user fee.

Table 2.13 Comparison of Port-Related and Rail User Fees

Source	Approximate Yield & Reliability (High, Medium, or Low)	Nexus to Freight Project Benefits	Administrative/Implementation Issues
Container Fee	Medium (tens of millions a year, assuming fees greater than \$10/TEU)	To meet the definition of a user fee, the container fee would need to be linked to a program of projects that directly benefit those involved in the transport of containers.	The collection mechanism would have to be established, but there are models for collecting this fee. The fee must be structured to avoid legal challenges relating to the U.S. Constitution, international trade agreements, and port leases.
Bulk Cargo Fee	Medium-low (tens of millions a year, assuming fees of greater than \$1/metric ton)	To meet the definition of a user fee, the bulk cargo fee would need to be linked to a program of projects that directly benefit those involved in the transport of bulk cargo.	The collection mechanism would have to be established, and there are currently no models for collecting this fee (though one is under development). Collection may be difficult or expensive. The fee must be structured to avoid legal challenges relating to the U.S. Constitution, international trade agreements, and port leases.
Rail Car Fee	Varies by location	To meet the definition of a user fee, the fee revenues would be invested in the rail corridor or corridors serving the railroad(s) that pay the fee.	The technical mechanism for collecting this fee exists and has been used successfully elsewhere.

Table 2.14 Comparison of Road User Fees

Source	Approximate Yield	Nexus to Freight Project Benefits	Administrative/Implementation Issues
Combined License Fee	Medium-low (a 3% increase yields about \$9 million a year)	In its current form, this is not a true user fee. The fee amount is unrelated to freight benefits received or impacts mitigated. Nevertheless, revenues from commercial licenses could be separated and spent only on freight projects.	This fee already exists; no administrative issues. Revenues may only be used for highway projects (restricted by 18 th amendment).
Diesel Fuel Tax	Medium-low (a 3% increase yields about \$9 million a year)	This tax more closely approximates a user fee, in that the amount paid by the freight industry is proportional to freight benefits received/impacts mitigated. However, revenues are not designated specifically for projects that benefit freight.	This tax already exists; no administrative issues. Revenues may only be used for highway projects (restricted by 18 th amendment).
MVET on Trucks	Medium-high (a 1% MVET would produce in the high tens of millions a year, assuming it is applied only to commercial trucks)	As it was previously implemented, the MVET was not a user fee (the tax amount was unrelated to freight benefits received or impacts mitigated). Nevertheless, revenues from commercial vehicles could be separated and spent on freight projects	The MVET has been repealed in the past, and may be particularly vulnerable to political opposition. MVET revenues generated by commercial vehicles were not separated in the past.
Weight-distance charge	Medium (fees similar to those in New Mexico would produce about \$16 million a year)	The amount paid by truckers is very closely related to their impact on the roadway system. Fee amounts could be varied by time of day and route depending on congestion, could improve the nexus between trucking on roadway use.	Implementation requires the installation of weigh stations and transponders on trucks. Evasion has been a significant issue in some states. Enforcement and auditing are expensive. Nevertheless, new technology may reduce costs and improve enforcement.
Truck VMT fee	High (a 15 cent per mile fee would produce hundreds of millions per year)	The amount paid by truckers is closely related to their impact on the roadway system.	Implementation requires installation of transponders on trucks or systematic integration of the fee into fuel purchases.
Tolls	Varies by location	The amount paid by truckers is proportional to the benefit they derive from usage of the corridor.	Tolls are most effective as a revenue generating mechanism when few alternative routes are available. Revenues are typically used only on the tolled corridor.

3.0 Benefit-Cost Analysis

3.1 INTRODUCTION

“Who should pay and how much?” is a frequent question in freight project finance. According to the principle of funding nexus (also known as the user pays principle), freight stakeholders and government agencies would pay in proportion to the project benefits they receive, such as travel time reductions and travel time reliability improvements.

In practice, current methodologies require sophisticated models and extensive data to determine who benefits from a project. One of the main obstacles to the quantification of freight project benefits is the lack of robust freight data and analysis tools²⁸. The available data can show the volume of freight flows by commodity type between counties, but it does not reliably show which roadway corridors are being used by which industries. There are reasonably reliable analytic tools capable of quantifying the benefits of specific projects, but they are primarily limited to the Puget Sound metropolitan area.

Furthermore, estimating the full extent of long-term benefits remains beyond the state-of-the-practice methods. For example, the removal of highway bottlenecks that cause severe, recurrent congestion for truckers accessing the Ports of Seattle or Tacoma will generate travel time savings in the short term that may be quantified and monetized with the existing analytic tools. But these first-order benefits may lead to firms streamlining their logistics and relocating more of their operations to the State. These medium-term adaptations can produce second-order benefits that may significantly exceed the first-order benefits.

Given these limitations, it is not surprising that there have been few attempts in Washington State or nationally to quantify freight project benefits and to apportion funding responsibility accordingly. Responsibility for funding projects is usually negotiated amongst the groups who believe they stand to benefit, but the negotiations are informed by largely qualitative information.

Nevertheless, the *Freight Investment Study* sought to demonstrate how the negotiation of funding responsibility can be made more objective for certain types of projects. For large highway projects or bundles of smaller road projects in the

²⁸The limitations of quantifying the benefits of specific projects outside the Puget Sound metropolitan area are well recognized and work is underway to overcome them. For example, the Freight Systems Division of the WSDOT continuously works to improve the quality of data and analysis tools. In addition to the Statewide Rail Benefit/Cost Methodology, the Statewide Freight Data Analytic Program is another analysis tool currently under development.

Puget Sound region, it is possible to use available analytic tools and data to estimate the share of first-order project benefits accruing to different vehicle types: passengers, light commercial vehicles, medium trucks, and heavy trucks. These vehicle types can be used as simple proxies for the public (which can be broken out by trip purpose) and a first cut at three categories within the freight sectors. Light-commercial vehicles, for example, include two axle trucks and taxicabs. The former include final delivery of small parcels (UPS, FedEx). While the heavy trucks category includes container movements, it comprises more than just port-related traffic. It would be possible to isolate a subset of the heavy truck activity related to trips that have the Ports as either an origin or destination.²⁹

The selection of projects for analysis in this study was constrained by the strength and availability of analysis tools and data. PSRC region possesses Washington State's most robust tools for analyzing transportation project benefits – its regional travel demand model and associated benefit-cost analysis tool. These tools can estimate and disaggregate the benefits of large highway projects or packages of smaller projects.

Although there are many worthy freight projects outside the PSRC region, the tools available for estimating their benefits are far more limited or nonexistent. Similarly, there are limited tools for analyzing the benefits of rail projects. Data on rail movements can only be obtained with the cooperation of railroads, which may not wish to release it. The simulation models used to estimate benefits for rail are expensive and require copious amounts of proprietary data.

For these reasons, this study focused primarily on demonstrating the methodology for estimating and disaggregating the benefits of freight improvements of three road projects (or groups of projects) in the PSRC region:

1. The I-5/SR 509 Corridor Completion Project, a highway extension and improvement in the Puget Sound region near the Seattle-Tacoma airport.
2. The SR 167 Extension Project, a highway extension and improvement project in the Puget Sound region.
3. A set of 15 smaller road projects, including widenings, interchange improvements, and grade separations. These projects are too small to be analyzed in isolation; the impacts of individual projects would not be detected by the PSRC travel demand model. Since they are similar in scope and scale, projects were grouped together for analysis.

²⁹This isolation of port-related heavy truck trips (i.e., select-link analysis) was not undertaken because the entire share of heavy-truck benefits was already small compared to the passenger benefits.

The roadway projects in the PSRC region were also selected for analysis, because they have been previously identified as being of importance for the freight industry³⁰ and are faced with significant funding shortfalls.

The benefit-cost analysis presented below for each road project shows benefits for medium and heavy trucks, which constitutes the freight sector; and benefits for passenger vehicles and light commercial, which comprises the public sector. These shares of project benefits are then used to demonstrate how funding responsibility may be allocated.

In addition to the roadway projects selected for quantitative analysis, the consultant team worked with the Freight Systems Division of the WSDOT to demonstrate the methodology on rail projects. The Freight Systems Division has developed an initial Rail Benefit-Cost Methodology that it is using to evaluate the cost effectiveness of freight rail projects across the State. This report also contains WSDOT's initial analysis of the benefits and costs of two rail projects: the Lewis and Clark Rail line rehabilitation and the Lincoln County industrial park rail siding improvement.

The benefit-cost analyses presented for the two rail projects show transportation benefits (such as road maintenance and shipper cost savings), economic impacts (such as retained jobs and industrial development taxes), and external impacts (such as safety improvements and environmental benefits). Shipper cost savings benefit the private sector, while all other quantified measures benefit the public.

3.2 METHODOLOGY

The road project benefits presented below were computed by staff of the Puget Sound Regional Council through its regional travel demand model and associated benefit-cost analysis tool. The methodology for quantifying the benefits of rail projects is discussed separately in the rail project section (Section 3.7 below).

Benefit-cost analysis is a form of social accounting that seeks to monetize all of the impacts associated with an investment so they can be compared to its costs. A full description of the theory of benefit cost analysis and the assumptions used is contained in Appendix D.

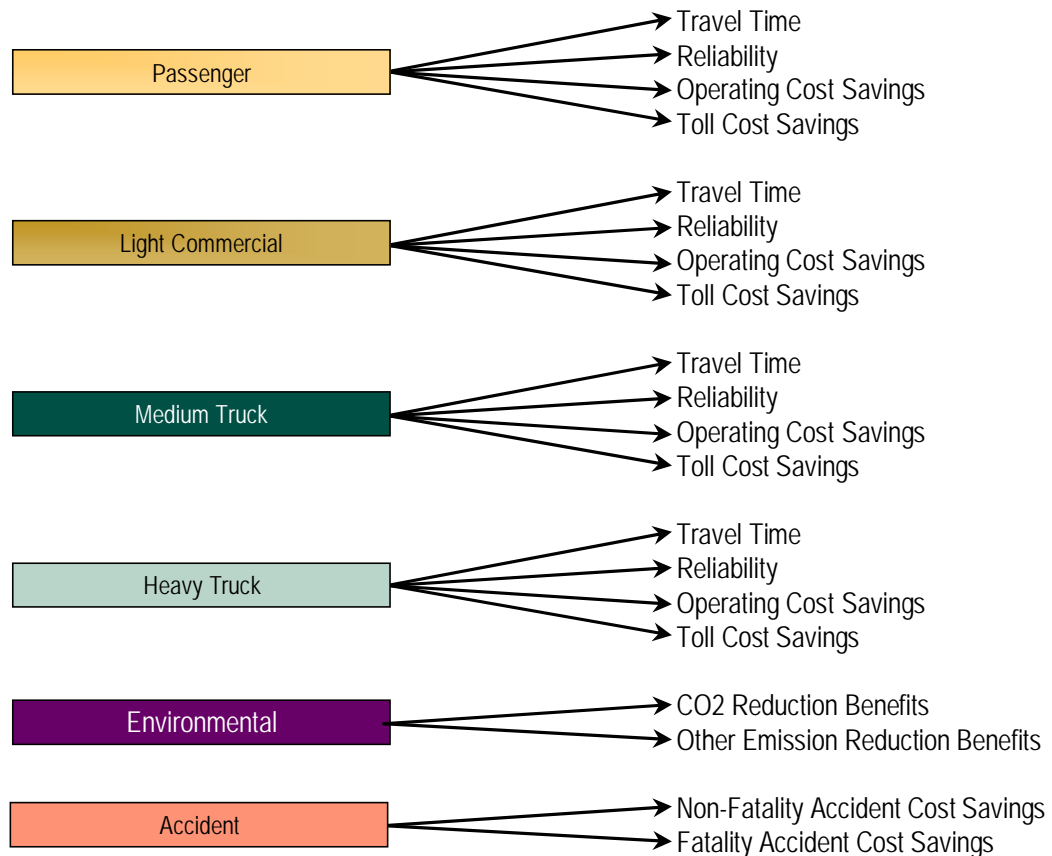
The starting point for any analysis of transportation investments must involve a systematic means of estimating the project's effects on traffic and travel demand. The PSRC Benefit-Cost Analysis Tool was designed to make use of comprehensive databanks produced by the PSRC regional travel demand forecasting models. A project is characterized in the travel models' transportation networks for

³⁰To identify projects of importance, the priority freight project lists of the Freight Mobility Strategic Investment Board, the Washington State legislature, the FAST corridor, and the Regional Blueprint for Progress document (only projects listed as having freight benefit) were compared.

one or more analysis years, the models are run for both a build case (a network where the project has been implemented) and a base case (a network where the project has not been implemented).

The PSRC BCA tool generates estimates of user benefits (travel time savings, travel reliability benefits, vehicle operating cost savings, and accident risk reduction benefits, and vehicle emission reduction savings) directly from mathematical transformations (consumer surplus calculations) of the differences between the build and base cases. Specifically, the tool computes eight different types of transportation project benefits for each scenario, shown in Figure 3.1 below. Travel time, reliability, operating cost savings, and toll cost savings benefit are grouped by type of system user - passenger vehicle, light commercial, medium truck, and heavy truck.

Figure 3.1 Types of Benefits



Note that the “benefits” may be positive or negative, as would be the case if travel times were to increase as a result of some intended action. This is potentially confusing terminology, as a negative benefit seems like an oxymoron. By convention, the results of the investment are captured as benefits (whether good

or bad), while the costs of the investment are limited to the actual costs (capital, operating, etc.) associated with implementing the project or policy. Analysis of each of these benefit types is presented below for the SR 509, SR 167, and FAST-FMSIB projects.

3.3 I-5/SR 509 CORRIDOR COMPLETION PROJECT

Project Description³¹

The SR 509 corridor project would complete the missing link between I-5 and the Sea-Tac Airport, providing a critical north-south corridor alternative to I-5 through Seattle and South King County. (See Figure 3.2 below for a project map).

The project includes the following elements, as listed on the WSDOT web site:

- Three miles of new freeway;
- New 509 interchange access at S. 200th Street, the proposed Sea-Tac Airport South Access roadway, and SeaTac's new 24th/28th Avenue S. corridor; and
- New lanes on I-5 between S. 210th and S. 272nd Street vicinity, including new connections and interchange reconstruction at SR 516.

The SR 509 project has been listed as a priority freight project by the Washington State Legislature in its legislative budget, the Freight Mobility Strategic Investment Board, the Washington State Transportation Plan, and the Regional Blueprint Plan.³²

³¹Project description information taken from the WSDOT SR 509 Project web site: <http://www.wsdot.wa.gov/projects/i5/sr509freightcongestionrelief/>.

³²The Regional Blueprint document laid out a program of high priority transportation projects that would have been funded by a 1 cent sales tax and a 0.8 percent Motor Vehicle Excise tax in Pierce, King, and Snohomish Counties. The measure did not obtain voter approval. If it had passed, it would have provided \$798 million (2006 dollars) in funding for the 509 project.

Overall Project Benefits³³

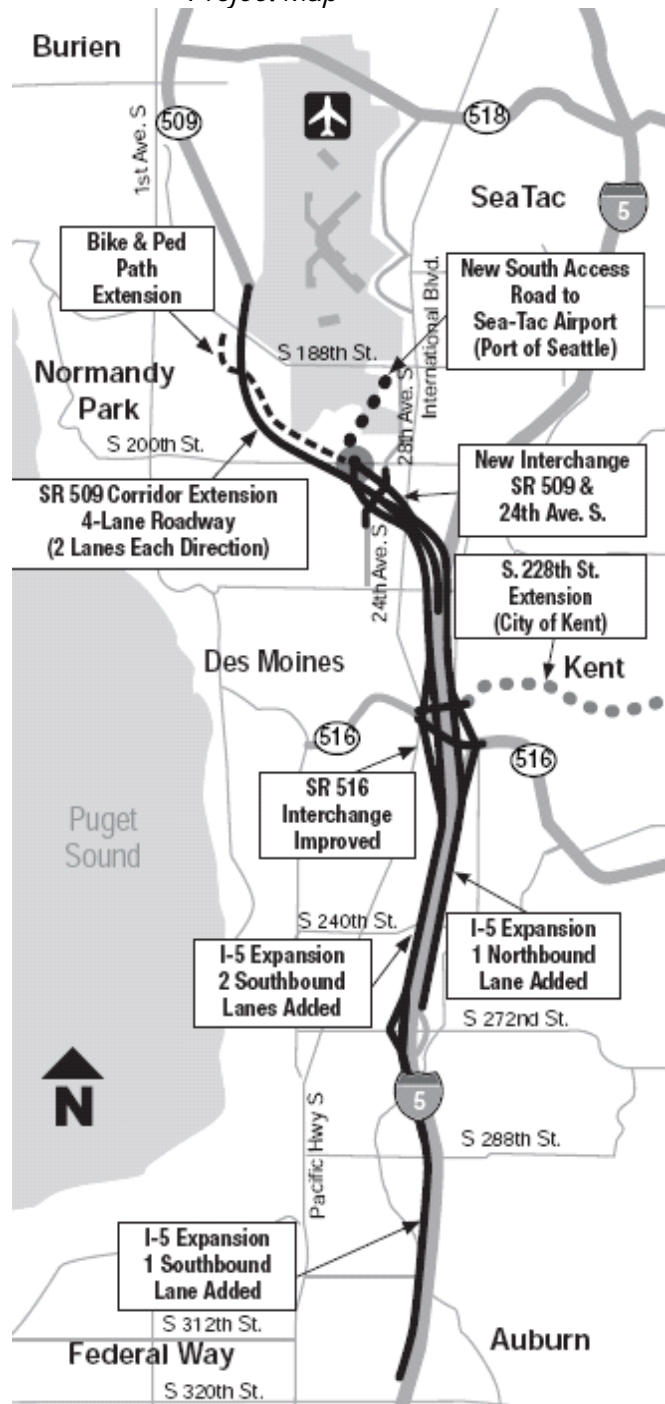
The SR 509 is expected to provide travel time reductions, improved travel time reliability, and improved accessibility benefits, including the following:

- Provide direct route for freight and general traffic movements:
 - To Puget Sound Ports; and
 - To industrial areas of Seattle and South King County.
- Allow up to 9,000 trucks per day to bypass I-5, SR 99, and local streets.
- Provide southern access to Sea-Tac International Airport.

Figure 3.3 below shows the overall percentage travel time reduction that is expected to occur as a result of the project.

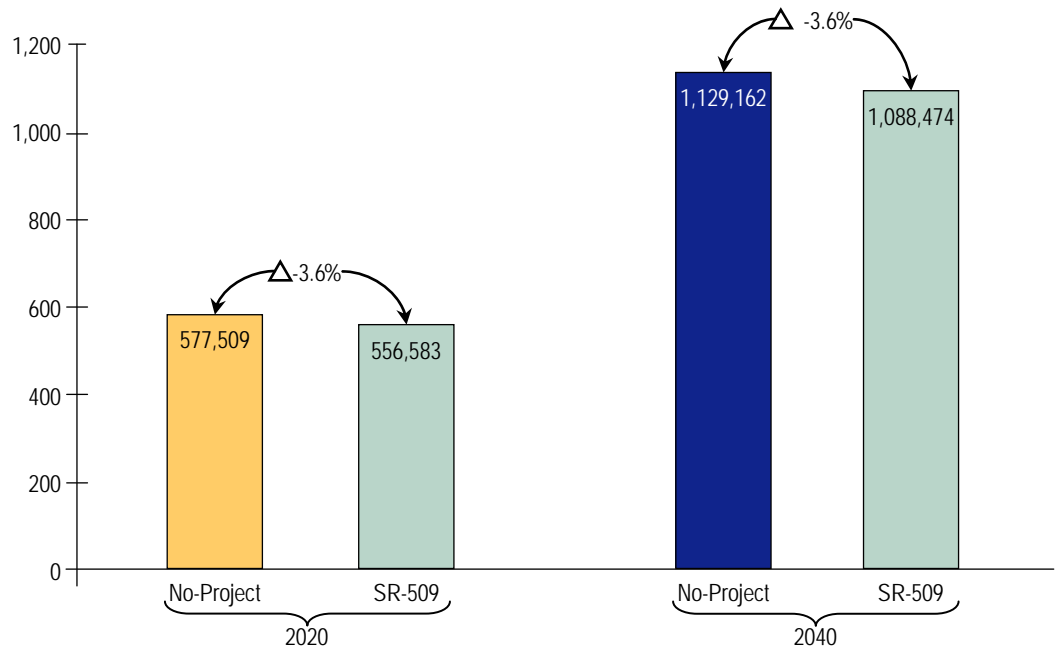
³³Source: WSDOT project web site: <http://www.wsdot.wa.gov/projects/i5/sr509freightcongestionrelief/>.

Figure 3.2 I-5/SR 509 Corridor Completion
Project Map



The modest travel time improvements of 3.6 percent shown in Figure 3.3 are calculated for the entire region and are not isolated to the SR 509 corridor. A change of that magnitude for the aggregate delay through the region is a significant improvement. The benefit calculations would not be changed had a more isolated measurement of benefits been available, and the considerable effort needed to isolate the corridor level measurement was not within the scope of this study.

Figure 3.3 Performance of SR 509 in 2020 and 2040
Average Daily Vehicle-Hours of Delay



Comparison of Truck and Passenger Vehicle Benefits

Four types of benefits (travel time; reliability; operating cost; and toll cost) were calculated and compared for passenger vehicles and for light, medium, and heavy trucks.

Overall, passenger vehicles received the majority (57 percent) of project benefits. Light commercial vehicles received the next greatest share (20 percent), followed by medium trucks (16 percent) and heavy trucks (7 percent). Figure 3.4 summarizes these percentages.

As shown in Figure 3.5, travel time reduction provided the greatest benefit, estimated at \$5.76 billion of current dollars. Of this, passenger vehicles received 59 percent, light commercial vehicles received 19 percent, medium trucks received 15 percent, and heavy trucks received 7 percent. Reliability improvements also provided significant benefits, estimated at \$532 million total. In this case, however, heavy trucks received the majority of the benefits (75 percent),

medium trucks received 15 percent, light commercial vehicles received 11 percent, and passenger vehicles did not receive any of the benefit.

Figure 3.4 I-5/SR 509 Corridor Completion
Project Benefits (In Millions of Current Dollars, 2021 to 2050)

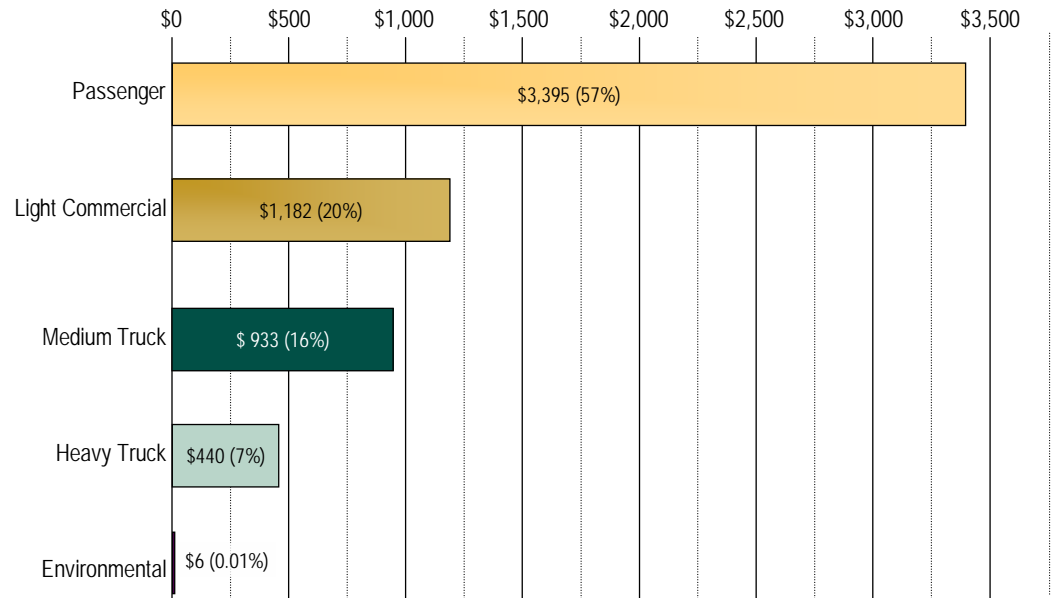


Figure 3.5 I-5/SR 509 Corridor Completion
Detailed Project Benefits (In Million of Current Dollars, 2021 to 2050)

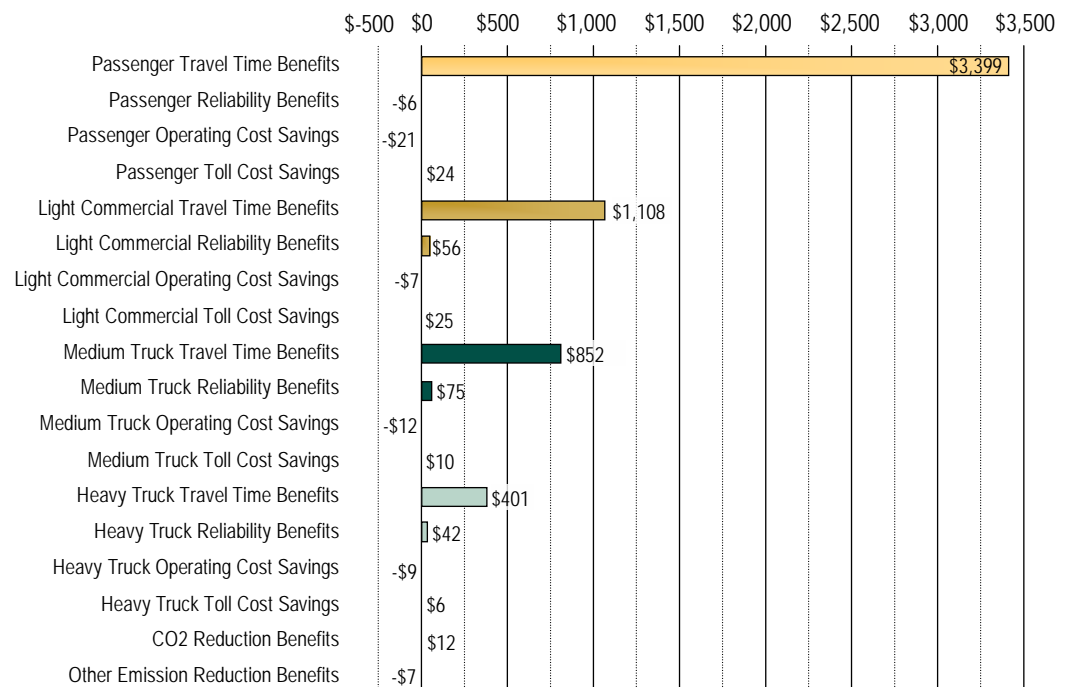
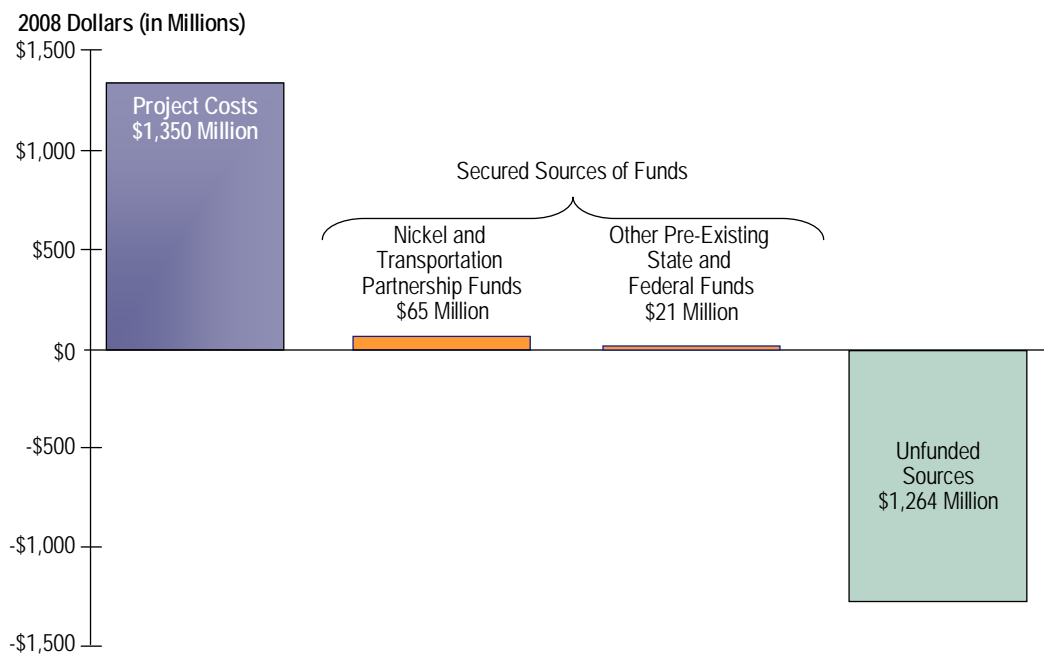


Figure 3.4 and Figure 3.5 below compare the amounts and types of benefits in greater detail.

Possible Funding Arrangement

The SR 509 project is estimated to cost \$1.35 billion. The project is largely unfunded at the current time. About \$86 million in state and Federal funding has been secured, but a funding shortfall of \$1.26 billion remains. Figure 3.6 shows the project finances as they currently stand.

Figure 3.6 I-5/SR 509 Corridor Completion
Project Financials (In Millions of 2008 Dollars)



Source: WSDOT.

If responsibility for paying project costs is to be strictly proportional to the share of benefits received, then:

- Passenger vehicles should pay 57 percent of the project costs, or \$770 million. An estimated \$48 million of this has already been dedicated to the project³⁴.

³⁴The amount of dedicated funding by user group is unknown, since funds come from a variety of sources. Dedicated funding by user group was estimated based on the proportion of benefits received.

- Commercial vehicles should pay 20 percent of the project costs, or \$270 million. An estimated \$17 million of this has already been dedicated to the project.
- Medium trucks should pay 16 percent of project costs, or \$216 million. An estimated \$14 million of this has already been dedicated to the project.
- Heavy trucks should pay 7 percent of project costs, or \$95 million. An estimated \$6 million of this has already been dedicated to the project.

Another possibility would be to determine the freight share based on the dollar value of benefits received. Under this method of proportioning funding responsibility, medium truck user groups would be responsible for \$833 million in funding, while heavy truck user groups would be responsible for \$440 million in funding.

Some justification for this alternative method lies in the notion that trucks are more limited in their route choices than passenger vehicles, since trucks movements are regulated by local, state, and Federal governments. Consequently, trucks benefit more from improvements in the limited routes available to them than do passenger vehicles. However, a dollar-for-dollar method of cost allocation does not adhere closely to the principle of nexus and may be objected to by freight industry members due to the imprecision inherent in calculating the dollar amount of project benefits.

Figure 3.7 graphically compares the two methods of apportioning funding responsibility.

The freight (medium and heavy truck) combined share of \$311 million (using the proportional method) could be raised through imposition of one or more user fees. Possible user fees might include the following:

- A Motor Vehicle Excise Tax (MVET) imposed on commercial trucks. For example, a one percent MVET on commercial trucks would raise approximately \$70 million in a biennium, or enough to nearly cover the freight share of project costs.
- Container and bulk cargo fees. For example, a \$30 per TEU container fee could raise about \$91 million a biennium, enough to cover the truck project share within about 14 years.
- A heavy truck VMT fee. For example, a VMT fee of 15 cents per mile would raise about \$200 a biennium, well over the freight share of project costs.

If these amounts were leveraged by selling bonds, about 10 times the annual revenue could be raised at one time.

Note that the funding levels listed above are for illustrative purposes only. The levels are within the range of existing or historical levies in Washington State or elsewhere.

Figure 3.7 I-5/SR 509 Corridor Completion
Possible Funding Scenarios

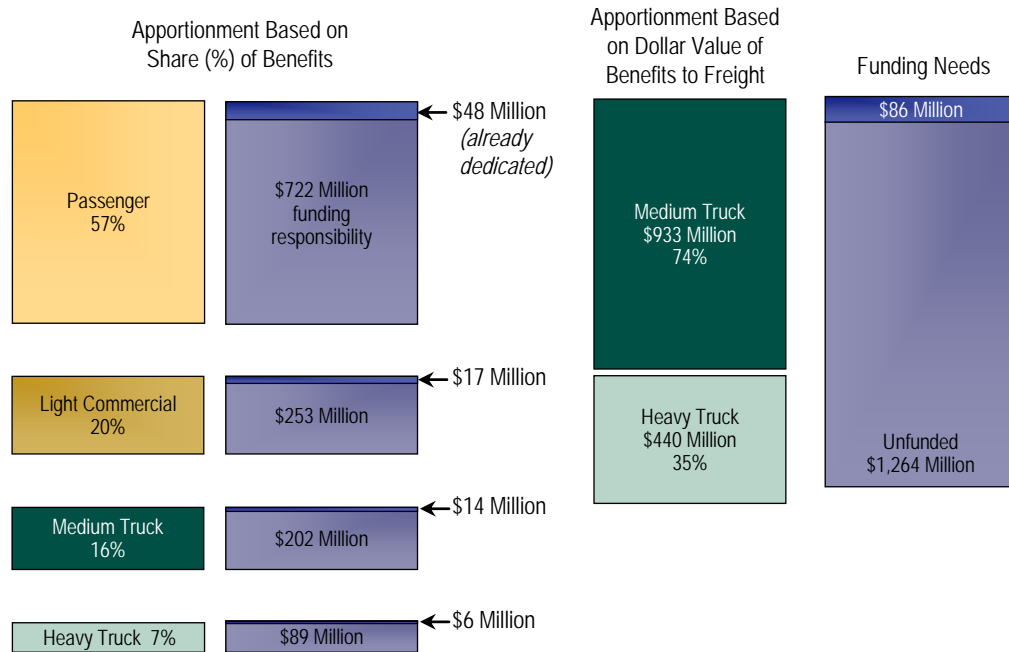
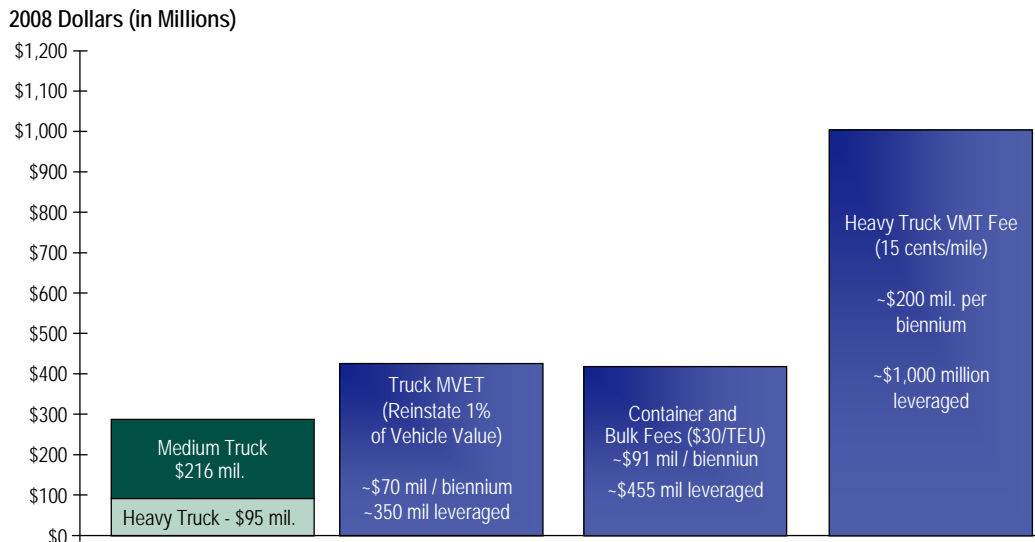


Figure 3.8 I-5/SR 509 Corridor Completion
Possible Funding Sources



Note: MVET estimate based on historical MVET revenues inflated 5 percent a year (slightly less than historic rate of MVET revenue increase) to the current biennium; includes all commercial trucks. Heavy truck VMT fee applies only to heavy trucks (weight > 26,000 lbs).

It is important to note that even if the freight funding share could be raised through imposition of a freight user fee, the majority (more than 50 percent) of project costs would remain unfunded. Those funds would need to be raised through imposition of a tax or fee on passenger or light commercial vehicles.

3.4 SR 167 EXTENSION PROJECT

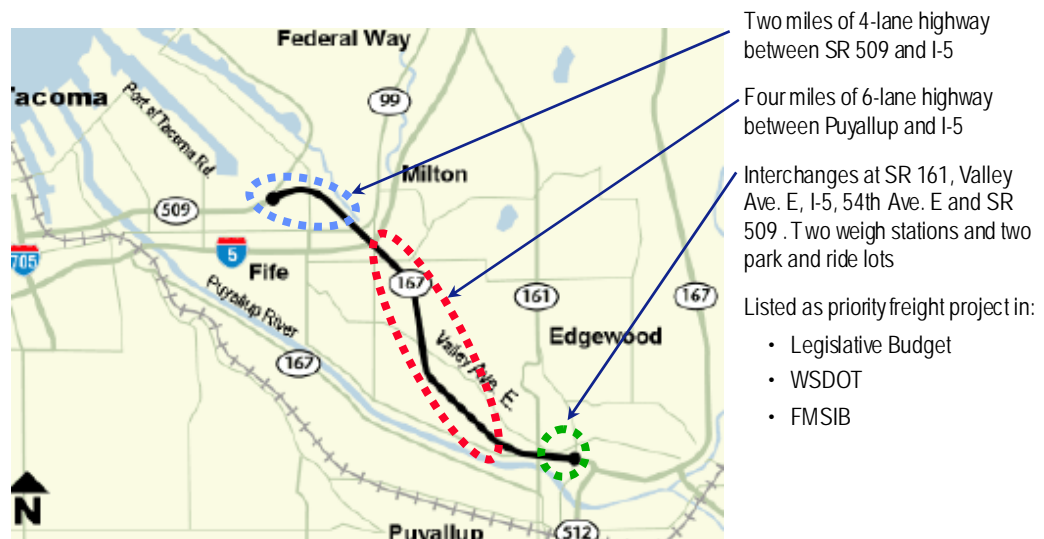
Project Description³⁵

The SR 167 Extension is a missing link in the State's highway network. Its completion is expected to improve safety and reduce congestion along local roads and freeways in the surrounding area. Project components include:

- Two miles of four-lane highway between SR 509 and I-5.
- Four miles of six-lane highway between Puyallup and I-5.
- Interchanges at SR 161, Valley Avenue E, I-5, 54th Avenue E, and SR 509. Two weigh stations and two park-and-ride lots.

The SR 167 project has been listed as a priority freight project by the Washington State Legislature in its legislative budget, the Freight Mobility Strategic Investment Board, and in the Washington State Transportation Plan.

Figure 3.9 SR 167 Extension
Project Components



³⁵Source: WSDOT project web site:
<http://www.wsdot.wa.gov/projects/SR167/tacomatoedgewood/>.

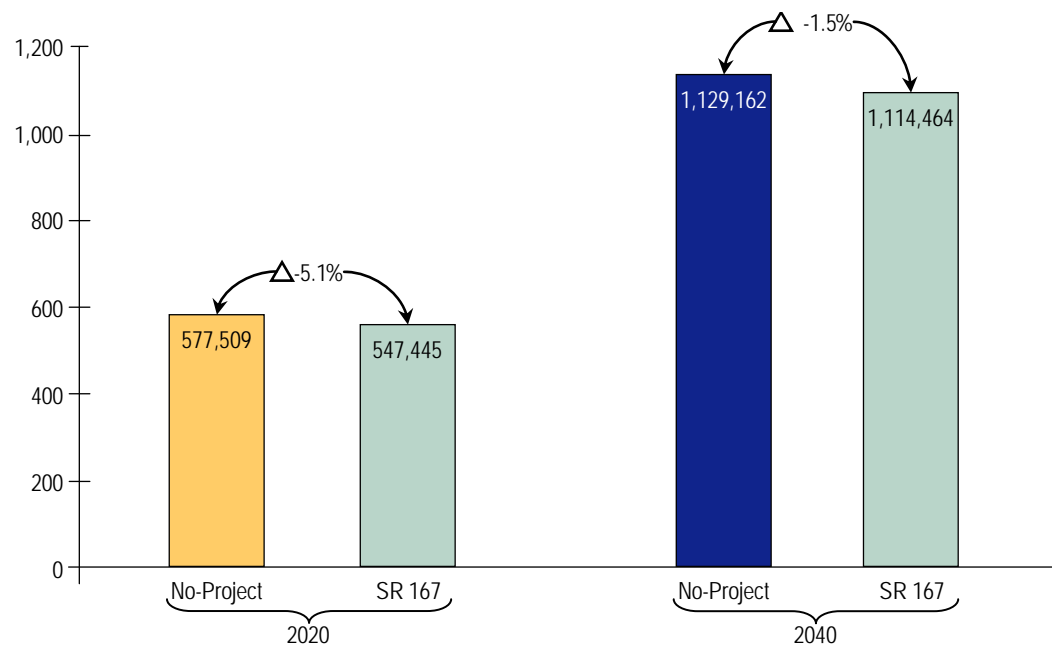
Overall Project Benefits³⁶

The SR 167 project would:

- Reduce travel delays of freight and passenger traffic (overall travel time reductions are shown in Figure 3.10 below);
- Improve safety for traffic, pedestrians, and bicyclists;
- Improve access between SR 167 and I-5; and
- Reduce flooded area along local creeks.

Figure 3.10 below shows the approximate overall improvements in travel time expected from the project. The modest improvement of 5.1 percent estimated for the project right after opening is calculated for the entire region and is not isolated to the SR 167 corridor. A change of that magnitude for the aggregate delay through the region is a very significant improvement. The more modest improvement of 1.5 percent 20 years after opening indicates that growth in traffic has led to more roadway users traveling in the improved corridor to use SR 167, thus overwhelming the additional capacity.

Figure 3.10 Performance of SR 167 in 2020 and 2040
Average Daily Vehicle-Hours of Delay



³⁶Source: WSDOT project web site: <http://www.wsdot.wa.gov/projects/SR167/tacomatoedgewood/>.

Comparison of Truck and Passenger Vehicle Benefits

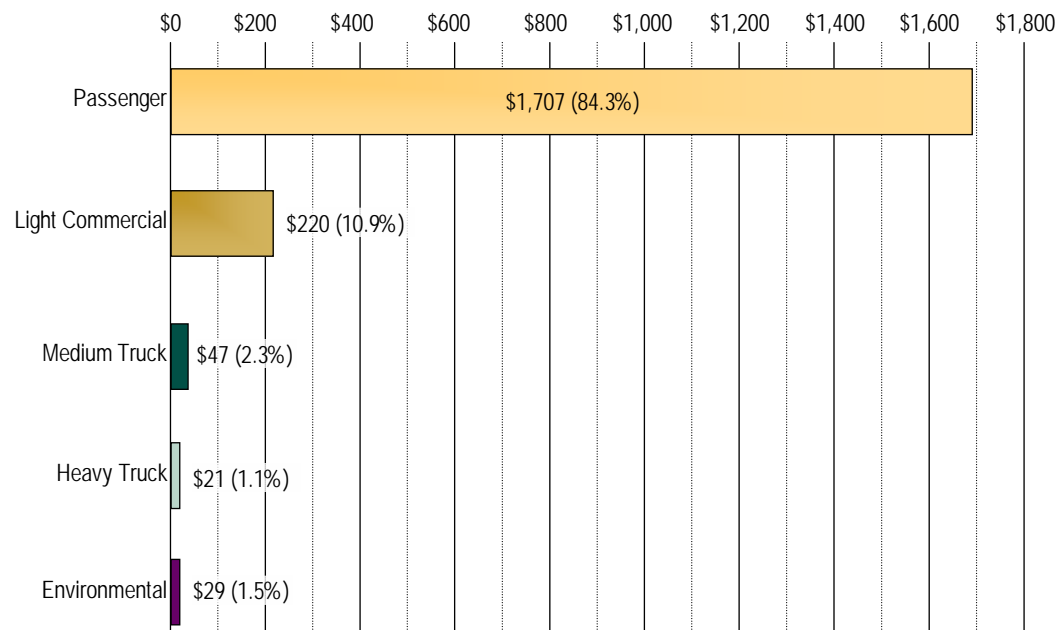
Four types of benefits (travel time, reliability, operating cost, and toll cost) were calculated and compared for passenger vehicles and for light, medium, and heavy trucks.

Overall, passenger vehicles received the majority (84.3 percent) of project benefits. Light commercial vehicles received the next greatest share (11 percent), followed by medium trucks (2.3 percent) and heavy trucks (1.1 percent).

Figure 3.11 compares the amount of benefit by user group.

Figure 3.11 SR 167 Extension

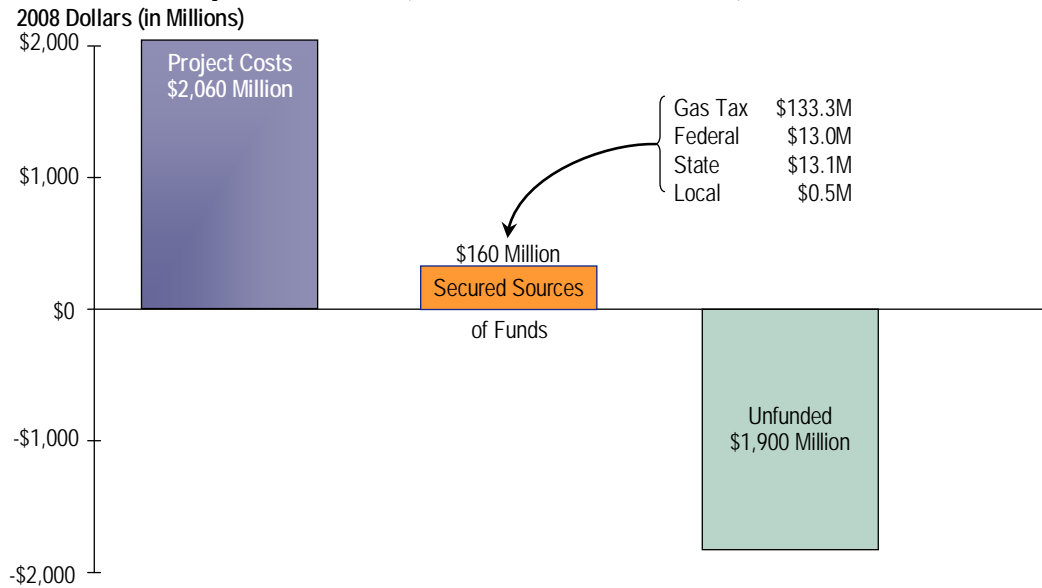
Project Benefits (In Millions of Current Dollars, 2021 to 2050)



Possible Funding Arrangement

The SR 167 project is estimated to cost \$2.06 billion. The project is almost entirely unfunded at the current time. About \$160 million in state and Federal funding have been secured, but a funding shortfall of \$1.9 billion remains. Figure 3.12 shows the project finances as they currently stand.

Figure 3.12 SR 167 Extension
Project Financials (In Millions of 2008 Dollars)



Source: WSDOT.

If responsibility for paying project costs is to be strictly proportional to benefits received, then:

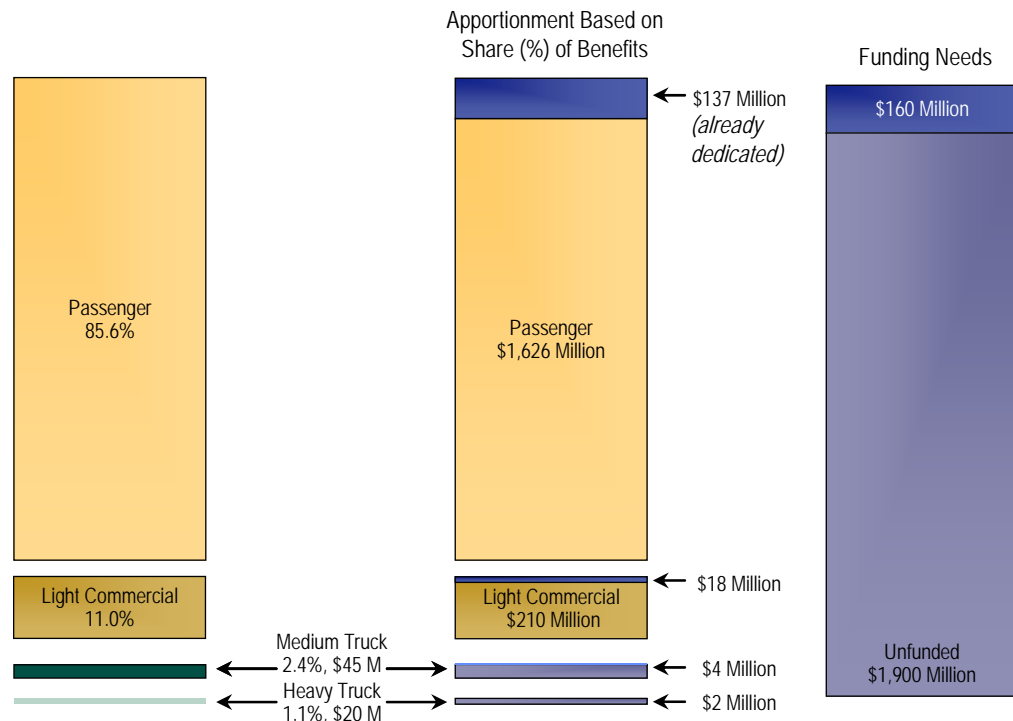
- Passenger vehicles should pay 84 percent of project costs, or \$1,763 million. An estimated \$137 million of this has already been dedicated³⁷.
- Light commercial vehicles should pay 11 percent of the project costs, or \$228 million. An estimated \$18 million of this has already been dedicated.
- Medium trucks should pay 2.4 percent of project costs, or \$45 million. An estimated \$4 million of this has already been dedicated.
- Heavy trucks should pay 1.1 percent of project costs, or \$20 million. An estimated \$2 million of this has already been dedicated.

A “benefit dollar for funding dollar” method of allocating funding responsibility (discussed in the SR 509 example above) is not shown because the outcome would be nearly identical to the proportional method, due to the fact that project benefits roughly equal costs.

Figure 3.13 graphically displays this breakdown of cost responsibility.

³⁷The amount of dedicated funding by user group is unknown, since funds come from a variety of sources. Dedicated funding by user group was estimated based on the proportion of benefits received.

Figure 3.13 SR 167 Extension
Possible Funding Scenarios



The freight (medium and heavy truck) combined share of \$59 million could be raised through imposition of one or more user fees.

Alternatively, since the amount to be raised is relatively small, freight stakeholders could dedicate one-time funding amounts to cover their share of project costs.

If the freight share of project costs could be raised through a user fee or one-time contribution, the great majority of project costs would remain unfunded. About \$1,836 million would need to be raised from passenger and light commercial vehicles.

3.5 FAST-FMSIB PROJECTS

There are a large number of small-scale freight projects in Washington State with funding needs. The Freight Mobility Strategic Investment Board (FMSIB) and the Freight Action Strategy Team (FAST) both maintain lists of such projects, which include grade separations, roadway widenings, and overcrossings.

The consultant team worked with representatives of FMSIB and FAST to identify a set of wholly or partially unfunded projects of importance to both groups and located in the Puget Sound region (the analysis area covered by the PSRC's travel demand model).

Fifteen of these projects, listed in the box at right, were then grouped together for analysis. Grouping was necessary because the impacts of individual projects cannot be detected by the PSRC travel demand model.

The projects are described in more detail in Appendix E.

Overall Project Benefits

The FAST-FMSIB package of projects would bring a variety of types of benefits. Benefits vary by project, but the types of benefits expected for typical overcrossing construction and grade separation projects include the following:

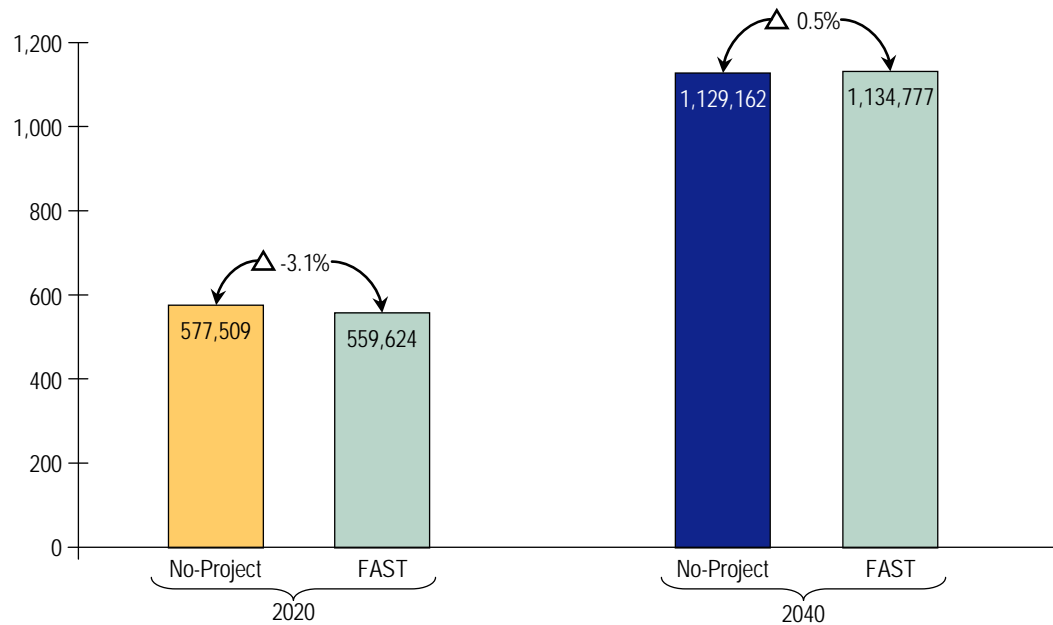
- Improve safety by eliminating rail/highway conflicts at existing at-grade crossings;
- Reduce vehicle delay and improve travel time reliability at railroad tracks through grade separation;
- Improve air quality by reducing delay-related idling of trucks and other vehicles as they wait for trains; and

The travel demand analysis of the project package showed some overall reduction in delay would occur in the short term (until 2020), but the benefit would disappear by 2040, as shown in Figure 3.14.

FAST-FMSIB Projects Selected for Analysis

1. North Canyon Rd Extension Grade Separation;
2. East Marginal Way Widening;
3. South Spokane Widening;
4. M St. SE Grade Separation;
5. 70th Avenue E and Valley Avenue Widening;
6. Lincoln Avenue Grade Separation;
7. Lander St. Overpass;
8. Willis St. Double Grade Separation;
9. S. 228th St. Double Grade Separation and Widening;
10. Strander Boulevard Grade Separation and Widening;
11. SR 202 Corridor-widening (FMSIB, not on FAST Corridor);
12. SR 18 Widening;
13. I-5 Port of Tacoma Road Overcrossing Widening;
14. S 212th St. Double Grade Separation; and
15. 8th St.-UP Grade Separation & Widening (Deferred)

Figure 3.14 Performance of FAST-FMSIB Projects
Average Daily Vehicle-Hours of Delay in 2020 and 2040



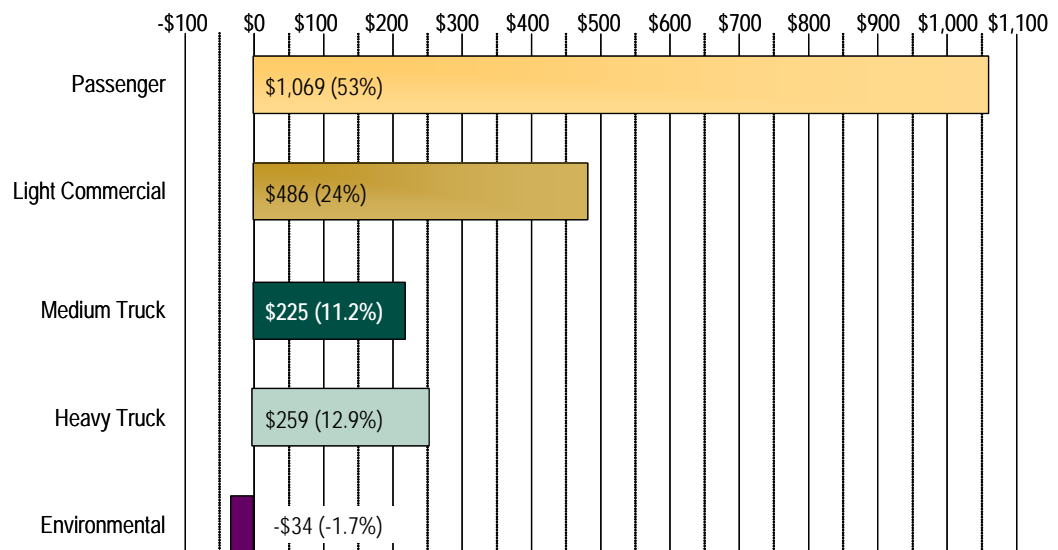
The modest improvement of 3.1 percent estimated for the project right after opening (shown in Figure 3.14) is calculated for the entire region and is not isolated to the areas immediately adjacent to the FAST-FMSIB projects. A change of that magnitude for the aggregate delay through the region is a very significant improvement. The more modest change of +0.5 percent 20 years after opening indicates that growth in traffic has overwhelmed the additional capacity.

Comparison of Truck and Passenger Vehicle Benefits

Four types of benefits (travel time, reliability, operating cost, and toll cost) were calculated and compared for passenger vehicles and for light, medium, and heavy trucks.

Overall, passenger vehicles received the majority (53 percent) of project benefits. Light commercial vehicles received the next greatest share (24 percent), followed by medium trucks (11 percent) and heavy trucks (13 percent). Figure 3.15 below compares the benefits by user group.

Figure 3.15 FAST-FMSIB Corridor Projects
Project Benefits (In Millions of Current Dollars, 2021 to 2050)



Possible Funding Arrangement

Total project costs for the FAST-FMSIB corridor projects are estimated at \$890 million. The projects are partially unfunded; it is estimated that approximately \$259 million has been secured, leaving \$631 million unfunded. Figure 3.16 shows the project finances as they currently stand.

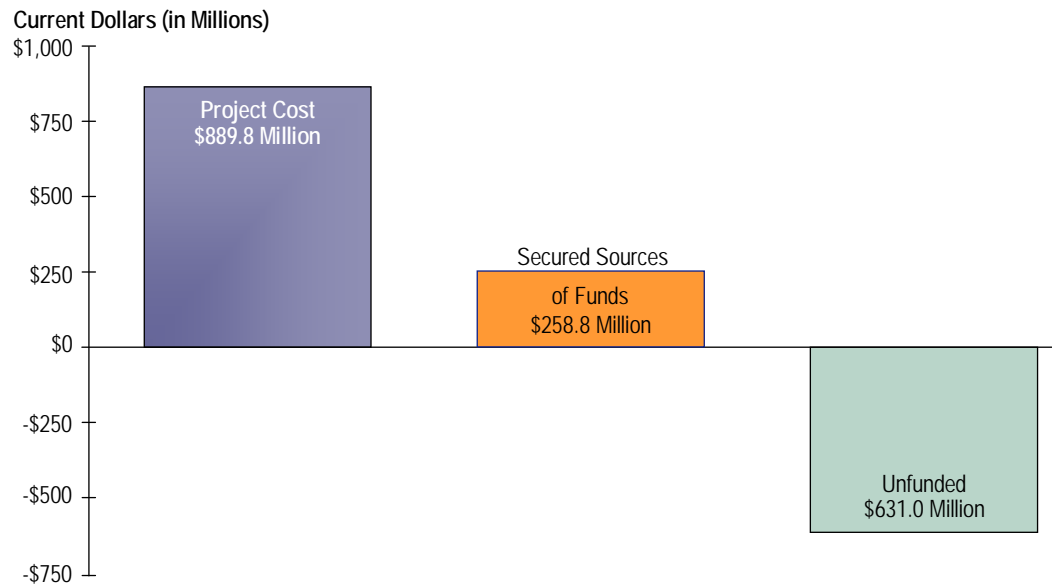
If responsibility for paying project costs is to be strictly proportional to benefits received, then:

- Passenger vehicles should pay 53 percent of project costs, or \$468 million. An estimated \$137 million of this has already been secured³⁸.
- Light commercial vehicles should pay 24 percent of the project costs, or \$212 million. An estimated \$62 million of this has already been secured.
- Medium trucks should pay 11 percent of project costs, or \$99 million. An estimated \$29 million of this has already been secured.
- Heavy trucks should pay 13 percent of project costs, or \$113 million. An estimated \$33 million of this has already been secured.

Figure 3.17 graphically displays this breakdown of cost responsibility using the proportionate and “dollar for dollar” allocation methods described previously.

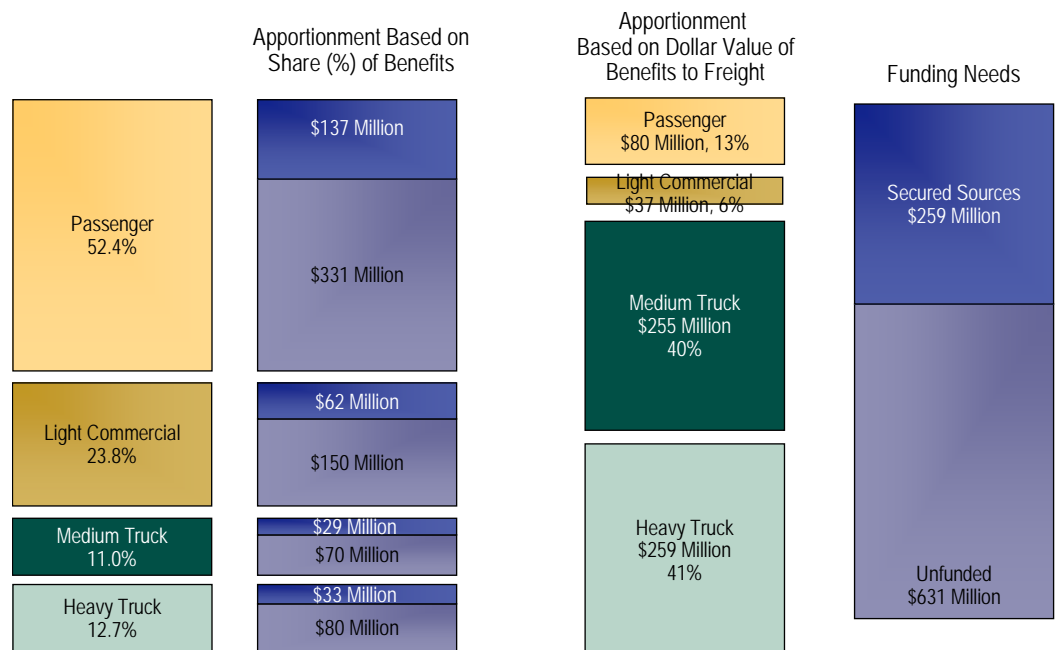
³⁸The amount of dedicated funding by user group is unknown, since funds come from a variety of sources. Dedicated funding by user group was estimated based on the proportion of benefits received.

Figure 3.16 Project Financials of FAST-FMSIB Corridor Projects
(In Millions of 2006 Dollars)



Source: FAST Brochure, August 2006. (Latest costs available).

Figure 3.17 FAST-FMSIB Corridor Projects
Possible Funding Scenarios

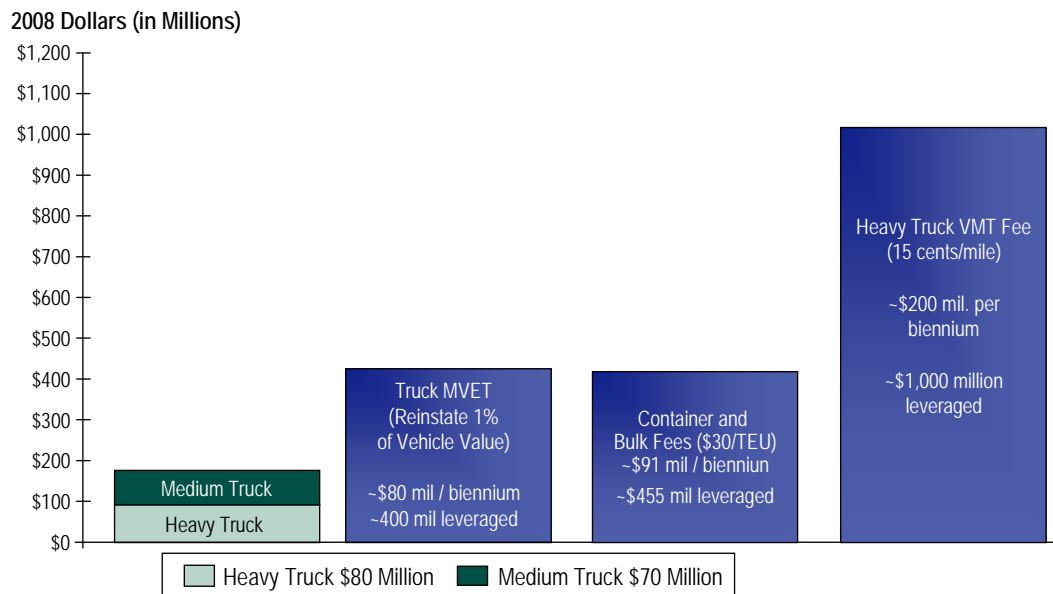


The freight (medium and heavy truck) combined unfunded share of \$62 million could be raised through imposition of one or more user fees. Figure 3.18 illustrates what could be raised from several types of user fees and compares the amounts to the unfunded project costs.

Alternatively, since the amount to be raised is relatively small, freight stakeholders could dedicate one-time funding amounts to cover their share of project costs.

If the freight share of project costs could be raised through a user fee or one-time contribution, the majority of project costs would remain unfunded. About \$481 million would need to be raised from passenger and light commercial vehicles.

Figure 3.18 FAST-FMSIB Corridor Projects
Possible Funding Sources



Note: MVET estimate based on historical MVET revenues inflated 5 percent a year (slightly less than historic rate of MVET revenue increase) to the current biennium; includes all commercial trucks. Commercial truck share of MVET revenues is estimated based on data in MVET study conducted by WSDOT. Heavy truck VMT fee applies only to heavy trucks (weight > 26,000 lbs). Container fee revenues based on 2007 import container volumes into Puget Sound ports.

3.6 SUMMARY OF ROAD PROJECT BENEFITS

The preceding project examples demonstrated a method whereby the benefits of certain types of freight projects can be disaggregated and assigned to categories of road users. Benefits accruing to passenger vehicles and light commercial vehicles are assumed to be “public sector” benefits, while benefits accruing to medium and heavy trucks are assumed to be “freight benefits.” While imperfect,

this method allows a more informed and objective discussion of the perennial question – “who should pay and how much.”

Of the projects analyzed, the SR 509 and FAST-FMSIB freight project groups hold significant benefits for freight user groups – about 23 percent of total project benefits. The share of freight benefits on the SR 167 project was much smaller – about 3 percent.

These percentages suggest that: 1) contributions from the freight industry made in proportion to project benefits could significantly offset total project needs for the SR 509 and FAST-FMSIB projects, but would leave the majority of the need uncovered, indicating that it would be necessary to raise substantial sums of money from the public sector in order to complete the projects; and 2) the contributions from the freight industry for the SR 167 Extension would not meaningfully offset project costs, the great majority of which would need to be covered through public sector contributions.

A secondary finding of the benefit-cost analysis is that two of the three projects appear to be cost-beneficial. For the FAST-FMSIB corridor projects, project benefits exceed the costs by a factor of more than 2. The benefits of the SR 509 project exceed the cost by a factor of more than 4. These ratios suggest an economic rationale for implementing both projects.

The cost benefit ratio of the SR 167 Extension is about 1, indicating the benefits roughly equal the costs. The economic rationale for the project is therefore less clear.

3.7 RAIL PROJECT BENEFIT COST ANALYSIS

As mentioned previously, the quantitative measurement of benefits of rail projects is difficult in the absence of rail simulation modeling tools and extensive data that must be obtained from the railroads. Nevertheless, WSDOT has developed an initial rail benefit-cost analysis tool that does not rely on simulation modeling, but provides quantitative estimates of benefits based on documented standards, research, and common practice.

This section presents the results of WSDOT’s benefit-cost analysis of two rail projects, the Chelatchie Prairie (Lewis and Clark) Railroad Improvements, and the Lincoln County Industrial Park Rail Spur project. The analysis illustrates how the results of WSDOT’s benefit cost analysis could be used as a basis for allocating project costs between private firms (e.g., shippers, railroads, receivers, etc.) and the public sector.

Benefit-cost (B-C) analysis is only one measure applied in a process that WSDOT uses to rank rail projects³⁹. The benefit-cost analysis is incorporated into the development of a “User Benefit Levels” matrix, in which project costs and benefits are qualitatively apportioned to project beneficiaries. This matrix could also be used to allocate project costs. However, in order to be consistent with the quantitative methods used for apportioning benefits of roadway projects, only the railroad benefit-cost analysis results are used to allocate project costs because they are more quantitative in nature.

Benefit-Cost Methodology

The Statewide Rail Benefit-Cost Methodology estimates the public benefits of rail investment to the citizens and businesses in Washington State.

The following three main types of benefits are included:

1. Transportation and economic benefits;
2. Economic impacts; and
3. External impacts.

Table 3.1 below describes the benefits in more detail.

Table 3.1 Benefit Categories Included in WSDOT’s Benefit-Cost Calculator

Transportation and Economic Benefits	
Reduced maintenance costs	If the project preserves rail service, the no-action alternative may put more freight traffic on highways. This may produce a net positive or negative benefit to be evaluated based on the type of road affected and the cost of maintaining the rail line.
Reduction in shipper costs (for shipments originating in State) – freight only	Benefits derived are from lower logistic costs to the shippers, which ultimately can lead to lower consumer prices. This can include the ability to use different modes that provide competitive alternatives for shippers.
Reduction in automobile delays at grade crossings	Benefits that would be realized by reducing automobile delays at grade crossings.

³⁹This process is documented in full in Appendix A, Exhibit 18 of the Freight Mobility Joint Report. The Freight Mobility Joint Report may be accessed at: <http://www.wsdot.wa.gov/Freight/FMSIBReport.htm>

Economic Impacts	
New or retained jobs	Jobs that a particular project/action may keep from moving out of the State (e.g., by construction of a rail spur serving a factory or warehouse, etc.), or new jobs that are created within the State. Also to be considered are changes in job quality and production.
Tax increases from industrial development	A rail action/project may foster industrial development that results ultimately in increased industrial property taxes to the State.
External Impacts	
Safety improvements	By diverting truck freight to rail, savings on highway safety improvements may occur, as well as adding fencing, removing a crossing, etc.
Environmental benefits	Railroads are on average three or more times more fuel efficient than trucks. The State can benefit from savings due to environmental improvements. This includes air and water quality, as well as reduction of the use of petroleum, consistent with the Governor's policies.
Yearly Maintenance Costs	
Track maintenance	Costs for maintaining a track or section of track that is part of a project.
Equipment maintenance	Equipment maintenance costs for equipment that is purchased as part of the project.

Source: Freight Mobility Joint Report, Appendix A, Exhibit 8.

The “shipper savings” are treated as pure private benefits that should be paid for by the private sector. All other benefit types (e.g., increases in employment, taxes, and output, reductions in freight impacts such as road maintenance costs) are treated as public-sector benefits that should be paid for by the public sector. Some private benefits, such as improved access and increased capacity, are not explicitly accounted for.

Given that shipper savings is the only private benefit included in the analysis, the value of this method of cost-allocation hinges in large part on the precision with which shipper savings can be calculated; and, as stated above, estimating shipper savings is very difficult in the absence of proprietary data and simulation tools. Moreover, it is uncertain whether the savings are realized by shippers, railroads, or both.

WSDOT's calculates shipper savings as a function of the relative cost of using truck or rail. The assumption is that shipping by rail is generally cheaper than shipping by truck; therefore, investments in rail result in cost savings to shippers by providing them with a cheaper form of transport.

Chelatchie Prairie (Lewis and Clark) Railroad Improvements

*Project Description*⁴⁰

This proposed project on the Chelatchie Prairie (Lewis and Clark) Railroad will continue rehabilitation of 14 miles of track between Rye Junction in Vancouver, Washington to Battle Ground, Washington (Figure 3.19). Specific rail improvements include the following:

- Replacing light weight rail track;
- Servicing rail joints;
- Upgrading ballast; and
- Adding more solid ties per rail section.

Per Federal Railroad Administration (FRA) classifications, the existing Chelatchie Prairie Railroad is an excepted class line, meaning the maximum allowable operating speed for freight trains is 10 miles per hour.⁴¹ The track improvements included in this project will upgrade the track to Class I status. The rail line's long-term goal is to reach Class II status, allowing a maximum operating speed of 25 miles per hour.

*Overall Project Benefits*⁴²

The Chelatchie Prairie rail rehabilitation will lead to the following overall benefits:

- Improved freight mobility;
- Reduced shipping costs by rail as compared to truck shipping (\$0.031 per ton-mile for rail versus \$0.10 per ton-mile for trucks);
- Reduced pavement deterioration on public roadways (the current cost for truck pavement wear is \$0.20 per truck-mile);
- Job retention in the area as shippers relocate their businesses to use the rail line; and
- Potential for economic industrial development adjacent to the rail line.

⁴⁰Project description information provided by the WSDOT State Rail and Marine Office.

⁴¹"Track Safety Standards," Title 49 Code of Federal Regulations, Pt. 213.9, 2007 ed.

⁴²Benefit information provided by the WSDOT State Rail and Marine Office.

Figure 3.19 Chelatchie Prairie (Lewis and Clark) Railroad Improvements
Project Map



Source: WSDOT Lewis and Clark Railroad Project web site, <http://www.wsdot.wa.gov/Projects/Rail/LewisClark/>.

Comparison of Rail Project Benefits and Costs⁴³

Six types of benefits, including reduced road maintenance costs, shipper savings, new or retained jobs, industrial development taxes, safety improvements, and environmental benefits were monetized over a 15-year period (Figure 3.20) to calculate the cost-effectiveness of the rail project. In current (2008) dollars, the total 15-year benefits amount to \$92.4 million compared to a project cost of \$1.66 million.⁴⁴ This results in a benefit-cost ratio of 55.8, indicating that the rail rehabilitation is a cost-effective project.

The economic benefit from new or retained jobs, estimated at \$76.6 million (current 2008 dollars), represents 82.9 percent of the project's total benefit. Two local companies are relocating their businesses to use the rail line, thereby retaining approximately 70 full-time jobs. Similarly, as these companies purchase land adjacent to the rail line, taxes from the new industrial development are estimated to generate \$13.1 million (in current 2008 dollars) over the next 15 years. These

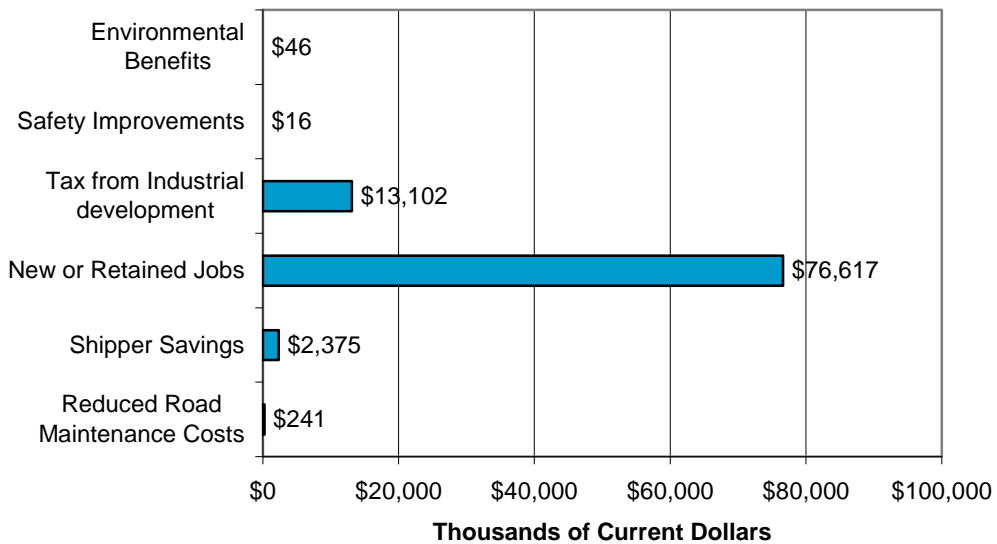
⁴³Benefit-cost information provided by the WSDOT State Rail and Marine Office.

⁴⁴This cost may include WSDOT's administrative costs and other adjustments, which may not be included in other published cost estimates for this project.

industrial development taxes represent 14.2 percent of the project’s total benefit. The additional benefits from reduced road maintenance costs, safety improvements, and environmental benefits sum to an estimated \$303,000 over the 15-year period.

Shippers are expected to save \$2.4 million over 15 years due to lower shipping costs per ton-mile by rail as compared to truck, or about 3 percent of total benefits.

Figure 3.20 Chelatchie Prairie (Lewis and Clark) Railroad Improvements
Project Benefits (In Thousands of Current Dollars, 2010 to 2024)



Source: WSDOT, 2008.

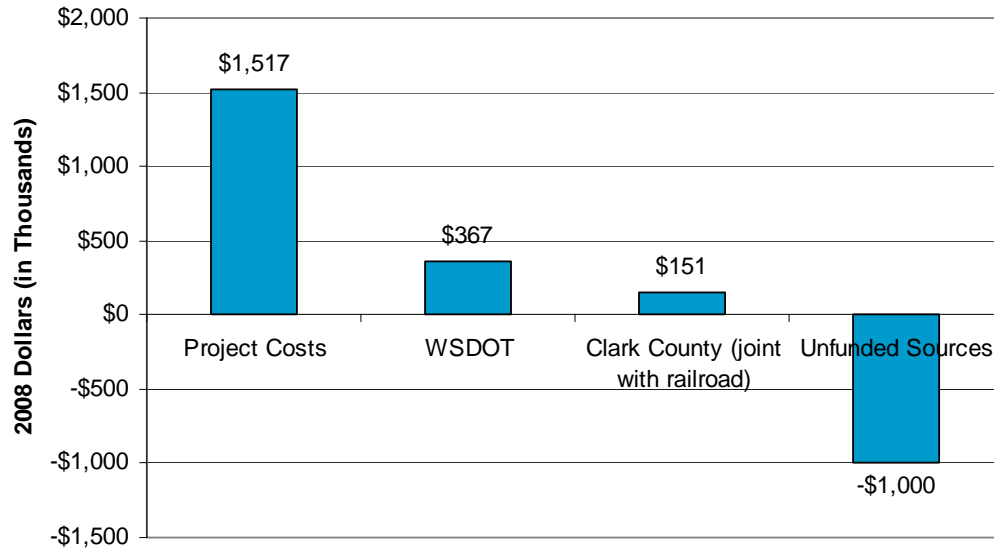
Possible Funding Arrangement⁴⁵

The total cost of the 14-mile Chelatchie Prairie Railroad improvements amounts to \$1.52 million⁴⁶. Approximately 24 percent of the project will be funded by WSDOT. Local in-kind funding contributed jointly by Clark County and the private railroad accounts for 10 percent of the project cost. Approximately \$1.0 million, or 66 percent of the total funding request, remains unfunded. Figure 3.21 shows the project finances as they currently stand.

⁴⁵Funding information provided by the WSDOT State Rail and Marine Office.

⁴⁶This value is different from the costs used by WSDOT in benefit-cost analysis, likely because of administrative costs not being included in the total.

Figure 3.21 Chelatchie Prairie (Lewis and Clark) Railroad Improvements
Project Financials (In Thousands of Current Dollars)



Source: Funding information from WSDOT Lewis and Clark Railroad Project web site, Project costs from WSDOT Rail Project Benefit-Cost Ratio spreadsheet (September 2008).

As calculated for the highway projects described above, if responsibility for paying project costs is to be strictly proportional to the share of benefits received, then public funding sources should pay approximately 97.4 percent of the project costs, or \$1.47 million. The public realizes nearly all of the project's benefits, with the exception of shipper cost savings.

Lincoln County Industrial Park Rail Spur

*Project Description*⁴⁷

This proposed rail project, located in Lincoln County, would provide a new rail spur to serve a publicly-owned industrial park directly west of Creston, Washington. The project includes installation of a single switch spur.

Overall Project Benefits

The new rail spur will enhance the opportunities of an existing biodiesel production plant located in the Creston industrial park.⁴⁸ It may also attract new

⁴⁷Project information provided by the WSDOT State Rail and Marine Office.

⁴⁸Vestal, Shawn, "Biodiesel will drive Eastern Washington train during summerlong test," The Seattle Times, June 22, 2008, http://seattletimes.nwsourc.com/html/localnews/2008011135_biodiesel22.html.

business (for example, one company is strongly considering locating there if rail access is provided) and aid the sustainability of the PCC Railroad, state owned since 2007.⁴⁹

Comparison of Rail Project Benefits and Costs⁵⁰

The Lincoln County rail spur project was evaluated against the same six benefit categories as the Chelatchie Prairie Railroad rehabilitation project described above: reduced road maintenance costs, shipper savings, new or retained jobs, industrial development taxes, safety improvements, and environmental benefits. Over a 15-year period, the net present value of these benefits is \$4.65 million. Total project costs are estimated at \$429,391⁵¹. The resulting cost benefit ratio is 10.82.

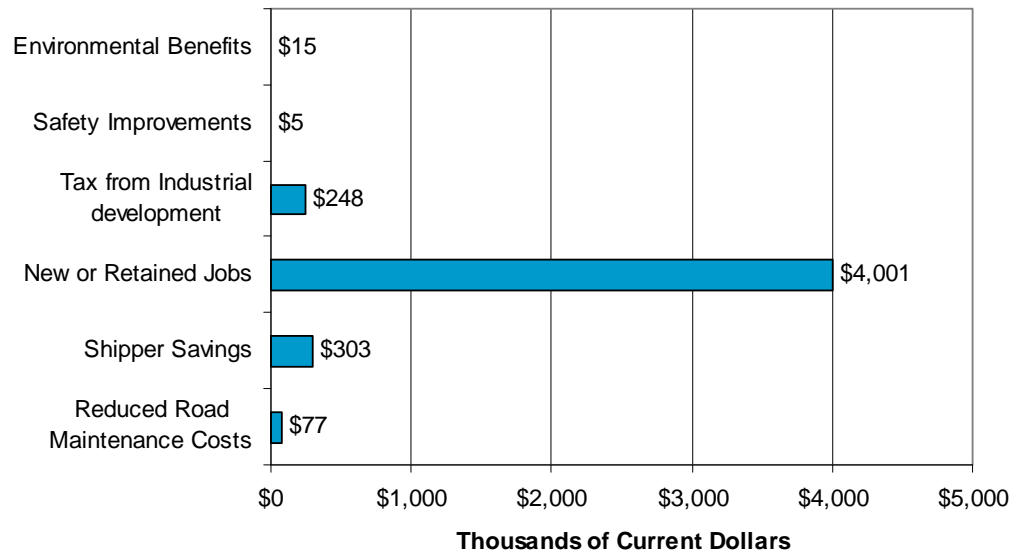
Figure 3.22 details the project benefits. The economic benefit from new or retained jobs, estimated at \$4.0 million (current 2008 dollars), represents 86 percent of the project's total benefit. One new company is strongly considering locating in the industrial park if rail access is provided, thereby creating new jobs. The existing biodiesel plant will also add three to five new jobs, once rail access is established. The second largest benefit of the project is \$303,000 of shipper savings over 15 years, representing 6.5 percent of the project's total benefit. Similarly, taxes from new development at the industrial park are estimated to generate \$248,000 (in current 2008 dollars) over the next 15 years. The additional benefits from reduced road maintenance costs, safety improvements, and environmental benefits sum to an estimated \$97,000 over the analysis period.

⁴⁹WSDOT project web site, http://www.wsdot.wa.gov/Projects/Rail/PCC_Acquisition.

⁵⁰Benefit-cost information provided by the WSDOT State Rail and Marine Office.

⁵¹This figure does not include a five-percent administrative cost surcharge levied by WSDOT. The additional administrative costs were not included in the cost-benefit analysis.

Figure 3.22 Lincoln County Industrial Park Rail Spur
Project Benefits (In Thousands of Current Dollars, 2010 to 2024)



Source: WSDOT, 2008.

Possible Funding Arrangement⁵²

Figure 3.23 identifies the funding sources that have been secured for the Lincoln Country industrial park rail spur. At present, public sources (including local, state, and Federal) comprise 100 percent of the project funding of \$445,485⁵³.

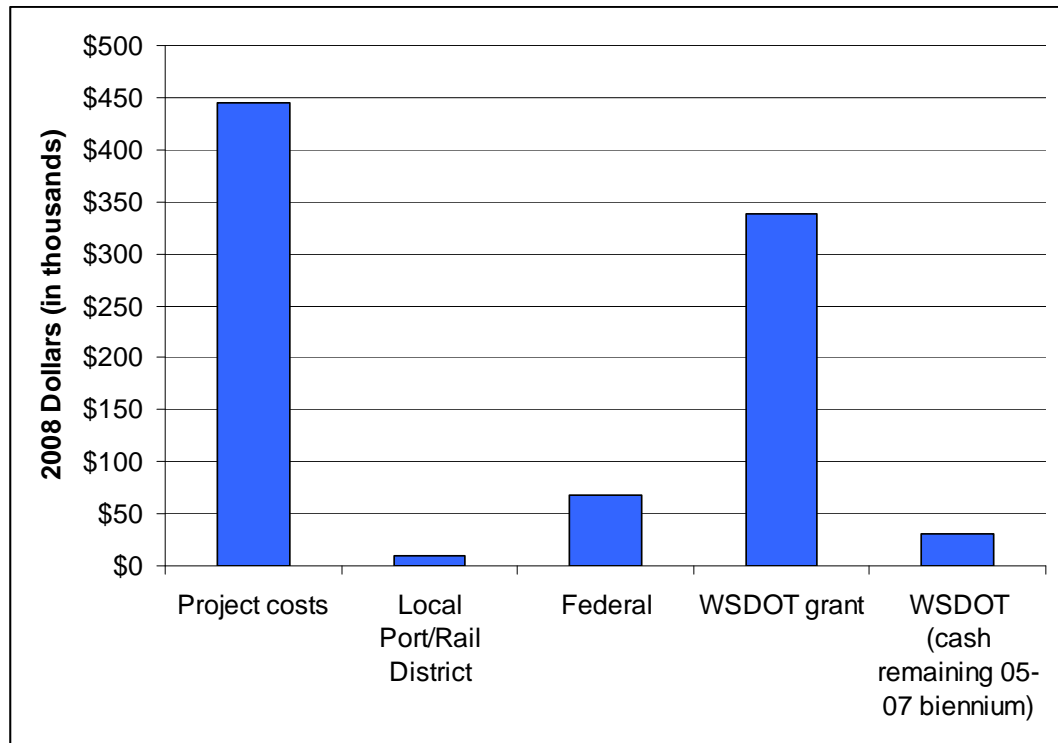
WSDOT will contribute a total of 83 percent of the project's costs. Federal contributions account for 15 percent of the project funding. The local rail district will contribute \$10,000, representing two percent of the project's cost. The railroad will not contribute any funding, as the PCC line is state-owned.

If responsibility for the project and maintenance costs is to be proportional to the share of benefits received, then public funding sources should contribute approximately 93.5 percent of the project and yearly maintenance costs. Based on the percentage of public benefits from reduced road maintenance costs, new or retained jobs, industrial development taxes, safety improvements, and environmental benefits, public funding should provide approximately \$426,000. The private sector, representing the shippers that will realize cost savings when transporting goods by rail instead of truck, should be responsible for the remaining 6.5 percent (\$30,000) of the project costs and maintenance.

⁵²Funding information provided by the WSDOT State Rail and Marine Office.

⁵³The actual project costs are five percent higher than the value used in benefit-cost analysis due to WSDOT administrative costs being included in the total.

Figure 3.23 Lincoln County Industrial Park Rail Siding
Project Financials (In Thousands of Current Dollars)



Source: WSDOT State Rail and Marine Office.

Summary

Both of these railroad projects show a minority of the benefits accruing to the private sector. While this would be a typical outcome of most roadway projects where the majority of roadway traffic is composed of passenger vehicles compared to trucks, it is not a typical of many rail projects. Rail projects as a general rule confer the majority of their benefits on the railroads and their customers, because these projects typically improve capacity and speed.

The fact that the two projects analyzed show dominant public benefits may have several causes. First, both projects were chosen from a list of applicants to WSDOT's Freight Rail Assistance Program. Applicants to the program understand that WSDOT is seeking projects with significant public benefits, so submit projects with benefits more heavily weighted towards the public sector. It is also possible that private benefits are underestimated. As noted above, WSDOT estimates shipper savings based solely on the differences in shipping cost between road and rail. While this is a useful metric in the absence of rail simulation modeling tools, it may not fully account for shipper savings.

4.0 Freight Funding Administration Alternatives

4.1 INTRODUCTION

One purpose of the Freight Investment Study is to investigate possible new sources of funds to support freight investment in Washington State, especially freight user fees. The study scope also calls for investigation of how a new source of freight funding would be administered, whether through a special project recommendation panel, the State Legislature, an existing agency, or some other entity.

Before presenting the results of this investigation, readers may better understand the alternatives if provided with a brief history of the legislative actions leading up to this study. The following are key milestones in the Legislature's effort to oversee investments in the State's freight infrastructure:

- **1998** - The State Freight Mobility Strategic Investment Board (FMSIB), was created to advocate for freight mobility needs for all modes and without regard to jurisdiction or ownership.
- **2003** - PSRC initiated the Regional Freight Mobility Roundtable, bringing together Federal, state, and local agencies and the private sector to address improvement of regional freight movement.
- **2005** - Two accounts, each funded at slightly over \$3 million per year, were established to help finance road and multimodal projects related to freight mobility.
- **2006** - The Joint Transportation Committee (JTC) Long-Term Transportation Financing Study identified alternative, medium-term financing options, including container charges, to address transportation funding needs.
- **2006** - The Washington State Transportation Commission (WSTC) Comprehensive Tolling Study investigated the policy and technical issues surrounding roadway tolling in Washington State.
- **2007** - Senate Bill 5207, as introduced, imposed a fee on freight containers passing through a port to help finance freight corridor improvements. The bill evolved through the legislative process to ultimately:
 - Require this study of alternatives for financing freight improvements,
 - Involve the participation of a group of stakeholders, and
 - Require an evaluation of the structure and responsibility for a future project recommendation body.

- **2007** – Substitute Senate Bill 5207 created the Freight Congestion Relief Account in the Washington State Treasury; however, no revenue sources were identified to fund that account.
- **2007** – The State Transportation Commission completed a Statewide Rail Capacity and System Needs Study that recommended additional freight rail capacity, as well as State administration of freight programs.
- **2007** – The Transportation Budget, ESHB 1094, appropriated funds to the JTC to administer the Freight Investment Study. The legislation specifically directed the JTC to involve a panel of stakeholders and to require the evaluation of the structure and responsibility for a future project recommendation body. The stakeholder panel included members of all existing agencies and administrative bodies with some responsibility for freight investment. In addition, the Stakeholder Group included private industry representatives who advocated that their members have seats at the table.

Given this context, this section (which addresses Task 9 of the study scope of work) presents issues relating to the administration of freight fee revenues, and recommends some alternative administrative characteristics, such as who should be responsible for project selection, their responsibilities, and ground rules for project selection to assure a viable nexus to the tax/fee.

This section also discusses how the structure of the administrative process might be impacted by different sources of revenue. Administration of a new container fee, for example, might look different from a process designed to administer funds from an increase in statewide truck weight fees.

The section includes the following subsections:

- General considerations in the administration of freight fee revenues;
- Presentation of existing bodies with some responsibility for administering freight funds, including the makeup and role of the panel, process for selecting projects, degree to which freight stakeholders are represented, and the amount of funding administered; and
- Consideration of how existing bodies could be modified, or new bodies created, in the event that new funds become available.

4.2 GENERAL CONSIDERATIONS IN THE ADMINISTRATION OF FREIGHT USER FEE REVENUES

Guiding Principles

After conducting a number of dialogues with members of the Policy and Stakeholder Groups, the consultant team has distilled their concerns and

expectations into several guiding principles that most stakeholders seem to advocate should be followed to protect state and private interests and to ensure equity and efficiency:

- **Public interest must be safeguarded** – This will require the panel to include sufficient and appropriate public-sector membership to ensure safeguarding of the public interest. Some freight projects, for example, are intended to mitigate the impact of goods movement on neighborhoods. State and regional governments should be represented if the purpose of the panel is to develop freight projects of regional or statewide significance.
- **Composition of panel should be appropriate to tax and fee type** – The type of tax or fee implemented has an impact on the need for a project recommendation panel and the composition of the panel. For example, if roadway tolls are selected as the most appropriate funding source, a special project selection panel may not be necessary, because tolls revenues are typically invested in the tolled facility. If new container fees are implemented, the stakeholders who bear the burden of paying these fees will likely request greater representation in how they are spent. This linkage between the fee type and the project recommendation panel is explored in more detail in subsequent sections.
- **Composition of panel should reflect the incidence of the fee⁵⁴** – The incidence of the fee is a more nuanced version of the first principle (above). Stakeholders who bear the ultimate burden of the fee will likely be the first to request a voice in how the funds are spent. Table 4.1 shows the major types of fees recommended for consideration by the Policy Group, where the fee would likely be collected and who would ultimately be likely to pay it.

⁵⁴*Tax incidence* is an economic term for the division of a tax burden between buyers and sellers. Tax incidence is related to the price elasticity of supply and demand. When supply is more elastic than demand, the tax burden falls on the buyers. If demand is more elastic than supply, producers will bear the cost of the tax. Container fees, for example, may be collected in such a way that the beneficial cargo owners (BCOs), such as Wal-Mart or Target, pay the tax. But they may be able to pass on some or all of the cost of the tax to consumers by raising retail prices.

Table 4.1 Impacts of Fee Types

Fee Type	Fee Payees	Mechanism of collection	Likely location of Collection
Vehicle or fuel related fees (e.g., combined licensing fee, special fuels tax)	Trucking companies	There is a state level process in place for collecting vehicle and fuel related fees.	Statewide
Port related charges (e.g., container fee; bulk cargo fee)	Trucking companies or Beneficial Cargo Owners (as in LA/Long Beach)	No process in place; Port would likely collect the fee at the Port gates from trucking companies or would develop a means to charge cargo owners directly.	At the Port
Rail car fees	Railroads	No process in place; the railroad and the state would need to develop a mechanism of collection.	On specific facilities
Road tolls	Trucking companies	State process in place for collecting toll revenues.	On specific facilities

- **Composition of panel should reflect funding contributions** - To maintain fairness, membership on the panel should be weighted to reflect approximate funding shares or contributions by each party, recognizing that funding shares may vary by project. This linkage between membership and contribution may be called *nexus*.
- **Efficiencies can be gained by making use of existing institutions** - There are several existing bodies in Washington State that deal with the prioritization of transportation projects. In some cases, existing institutions could handle administration of a new tax or fee with minor modifications.

Membership of a Freight Project Recommendation Panel

Membership in a freight project recommendation panel would vary based upon the type of tax or fee being administered. Nevertheless, there are categories of groups that would likely need to be considered for membership due to their responsibility to pay or collect the tax or fee; their potential to benefit from the transportation improvements; or their responsibility to safeguard the public interest. Table 4.2 below lists these groups, possible roles, and the mechanisms through which they would benefit from association with the panel.

If a large number of groups are interested in membership, it may be desirable to create a large advisory panel to accommodate them. The advisory panel would then inform the decisions of a smaller executive board.

Table 4.2 Types of Groups To Be Considered for Membership in a Freight Project Recommendation Panel

	Examples	Reasons for membership
Freight transportation industry representatives	Trucking companies, shipping companies, railroads	<ul style="list-style-type: none"> • Responsible for paying user fees (directly or indirectly) • Unique knowledge of freight industry transportation needs
Freight cargo owners	Target, Wal-Mart, Home Depot	<ul style="list-style-type: none"> • Responsible for paying user fees (directly or indirectly) • Unique knowledge of freight industry transportation needs
Ports	Port of Seattle, Port of Tacoma, Port Terminal Operators	<ul style="list-style-type: none"> • May be responsible for collecting user fees (if fees are port related) • Unique ability to identify Port access improvement needs
Local	Public works staff at cities or counties, local elected officials	<ul style="list-style-type: none"> • May help collect user fees (if collected at the local level) • Responsible for contributing public funds to projects • Responsible for protect the public interest in areas where improvements are to be made • May be involved in project implementation • Assure consideration of freight impact mitigation projects
State government	WSDOT, Washington State Legislature	<ul style="list-style-type: none"> • May help collect user fees (if collected at the state level) • Responsible for contributing public funds to projects • Responsible for protecting the public interest in areas where improvements are to be made • May be involved in project implementation for projects on state highways

The next section describes existing freight-related transportation project recommendation bodies or institutions in Washington State. The subsequent section discusses how existing bodies could be modified to handle administration of a new funding source.

4.3 EXISTING PROJECT RECOMMENDATION BODIES

Understanding the current role of existing project recommendation bodies is a necessary first step in determining if they could be modified to handle administration of a revenue stream dedicated to freight investments, or whether a new panel would need to be created for that purpose. Existing bodies include the following:

- Freight Mobility Strategic Investment Board.
- WSDOT and the Washington State Legislature. WSDOT regions recommend transportation projects to be funded by the legislature. Many of these projects have freight benefits though they may not be referred to as freight projects.

- WSDOT Freight Rail Assistance Program.
- Transportation Investment Board Urban Corridors Program.
- The Freight Action Strategy for Everett-Seattle-Tacoma (*FAST* partnership).

Note that all of these bodies, except WSDOT, are focused primarily on implementing small, locally based projects.

Freight Mobility Strategic Investment Board

The Freight Mobility Strategic Investment Board (FMSIB) is an independent Washington State agency that allocates state funding to freight improvement projects.

- **Amount and type of funding** – FMSIB receives about \$6 million a year in state transportation funds. One-half of the funding comes from fuel taxes (a statutory transfer from the Transportation Partnership Account); and one-half comes from vehicle weight fees (statutory transfer from the Multimodal Account)⁵⁵.
- **Size and scale of projects** – The majority of FMSIB grants are for projects implemented at the local level (the sponsor is either a city, county, port, or WSDOT); and are relatively small in scale (total project needs in the tens of millions). The average grant amount provided by FMSIB in the past has been about \$2.5 million⁵⁶. However, FMSIB occasionally contributes larger amounts to high-cost projects of regional and statewide significance. For example, FMSIB is planning to contribute \$50 million to the SR 509 improvement project, which has a total cost of over \$1 billion.⁵⁷
- **Makeup of project selection panel** – The FMSIB Board is comprised of twelve representatives appointed by the Governor. The Board includes representatives from WSDOT, four representatives from local governments (currently the Cities of Yakima and Pasco and Pierce and Snohomish Counties), representatives of the Ports of Seattle and Pasco, one representative from the Governor’s office, and four freight industry representatives (currently Hogland Transfer Company, Puget Sound Steamship Operators Association, and two from the Burlington Santa Fe (BNSF) Railway).
- **Project selection process** – FMSIB scores candidate projects according to several criteria. FMSIB criteria take into account the perceived degree of freight versus public benefit in determining the level of funding it will provide to a

⁵⁵Source: Washington State Transportation Resource Manual, 2007.

⁵⁶Based on all FMSIB projects completed prior to August 2008.

⁵⁷Source: FMSIB unfunded or partially funded project lists, as shown in the WSDOT Freight Mobility Joint Report on Washington State Freight Highway and Rail Projects, September 2008.

project. Local project sponsors are then provided with the grant money to implement the project. FMSIB allocates 55 percent of its funds to the highest priority projects, but must equally distribute the remaining 45 percent of the funds among projects in the Puget Sound, western Washington, and eastern Washington regions, as defined in RCW 47.06 A.050.

WSDOT/State Legislature

WSDOT has a broad mandate to maintain and improve the state highway system. That role includes identifying projects with freight benefit and recommending them to the legislature for funding.

The projects selected by the legislature are not always singled out as freight projects, since they have public benefits as well; however, WSDOT has always considered benefits to freight as a factor in project selection. In a recent analysis of currently programmed highway projects, it determined that more than 300 of the projects in the “Nickel” Transportation Funding Package and 35 of those in the Transportation Partnership Package have medium or high freight benefits⁵⁸.

- **Amount and type of funding** – Once projects are selected by the legislature, they receive funding from one of the State’s general highway accounts⁵⁹. The accounts are funded primarily through the state fuel tax and motor vehicle-related licenses, permits, and fees. Some of the fees that feed these accounts are freight related (e.g., the combined licensing and weight fee paid by truck owners), but they are co-mingled with other funding sources.
- **Size and scale of projects being funded** – Of the programmed Nickel and Transportation Partnership projects identified by WSDOT as having medium or high freight benefits, state funding amounts ranged from a few million to hundreds of millions of dollars.
- **Makeup of project selection panel** – The final project selection panel for freight-related (and all other) highway projects is the state legislature and the Governor. WSDOT informs the decisions of the legislature by identifying and prioritizing freight projects. Members of the freight industry are not directly represented in the decisions of the legislature, but have significant influence through a collection of lobbyist interests, and have indirect input into WSDOT’s project identification and prioritization process. For instance, WSDOT recently conducted interviews with freight shippers and carriers to determine their most pressing transportation needs. Interview results are

⁵⁸Source: WSDOT Freight Mobility Joint Report on Washington State Freight Highway and Rail Projects, September 2008.

⁵⁹Although most funding for freight projects has come from general sources, some revenues have been dedicated to freight improvement in the past – for example, the I-3 fund for Economic Initiatives focused on improving freight mobility.

being incorporated into the State's Highway System Plan⁶⁰, which will ultimately inform the legislative project selection process.

- **Project selection process** – WSDOT freight project proposals fit into the process used for all projects in the Department's overall project prioritization and construction program. The steps include identifying needs and deficiencies, exploration of solutions, and comparison of the costs and benefits of possible solutions to determine their priority. There is no differentiation between the freight and nonfreight share of project costs.

WSDOT Freight Rail Assistance Program

WSDOT Freight Rail Assistance Program (FRAP) provides grants to support rail projects where the rail location or the project concerned is of strategic importance to the State, as well as the local community. WSDOT also runs a Rail Infrastructure Bank that provides loans to improve rail lines. The loan program is not discussed in detail here.

- **Amount and type of funding** – The FRAP provides about \$2.5 million in loans and grants per biennium⁶¹.
- **Size and scale of projects being funded** – FRAP funds are directed toward rail projects for which it is difficult to gain a contribution and where the rail location or the project concerned is of strategic importance to the State, as well as the local community. Although the FRAP funds are intended to be used on larger rail projects, the FRAP funding share tends to be relatively small (in the hundreds of thousands of dollars).
- **Makeup of project selection panel** – Projects are selected by the WSDOT Freight office and then sent to the Governor and legislature for approval.
- **Project selection process** – Projects are prioritized according to several criteria, including the financial viability of the proposal, cost/benefit analysis of project benefits, economic development benefits, safety improvements, rail corridor preservation, reduction of delay on the statewide railroad system, geographic balance, reduction of impacts to roads, environmental benefits, and other factors. WSDOT prioritizes the applications using criteria developed by the Department, and sends a prioritized list of projects to the Governor's office for determination about which projects to submit to the legislature. The legislature will consider the project recommendations and

⁶⁰Development of the Highway System Plan (HSP) is one of the first steps in WSDOT's prioritization process. It involves canvassing all of the highway deficiencies and suggesting solutions to the deficiencies. The most important projects in the HSP ultimately reach the legislature for review and selection.

⁶¹ Source: WSDOT Freight Office web site: <http://www.wsdot.wa.gov/Freight/Rail/GrantandLoanPrograms.htm>.

decide which projects to fund in the upcoming budget. The State's funding share is determined through the project selection process and is constrained by available funds. There is not a project-by-project negotiation of funding shares.

Transportation Improvement Board Urban Corridors Program

The Washington State Legislature created the Transportation Improvement Board (TIB) to foster state investment in quality local transportation projects. TIB is an independent state agency that distributes street construction and maintenance grants to 320 cities and urban counties throughout Washington State. Grant funding comes from revenue generated by 3 cents of the statewide gas tax.

TIB administers several funding programs with an annual \$112 million budget. The program most focused on freight mobility is its Urban Corridor Program (UCP). The purpose of the program is to improve the mobility of people and goods in Washington State by supporting economic development and environmentally responsive solutions to statewide transportation needs. The UCP is not dedicated exclusively to "freight" projects; rather, freight mobility is one of several considerations in the project scoring process.

- **Amount and type of funding** - In 2009, the UCP provided a total of \$25.9 million to city and county sponsors throughout the State of Washington. Funds come from a 3-cent set aside of the state fuel tax.
- **Size and scale of projects being funded** - In 2008, the average grant amount was \$3 million⁶². Although projects are funded throughout the State, over one-half the funding in 2009 was concentrated in the Puget Sound region.
- **Makeup of project selection panel** - The Board is composed of six city members, six county members, two WSDOT officials, two transit representatives, a private-sector representative (not currently from the freight industry), a member representing the ports (currently from the Port of Vancouver), a Governor appointee, a member representing nonmotorized transportation, and a member representing special needs transportation.
- **Project selection process** - Projects are selected based on a 100-point scoring system and five major types of criteria: safety, sustainability, local support, economic development, and mobility. Some of the "mobility" criteria are directly freight related (e.g., 0 to 3 points are received if the project is on a designated truck route; 0 to 5 points are awarded if the project creates or improves freight facility access), and others are indirectly related (improvement of roadway level of service earns up to 10 points). TIB projects often receive funds from several sources beyond the TIB. TIB funds projects based on their rank and available funding.

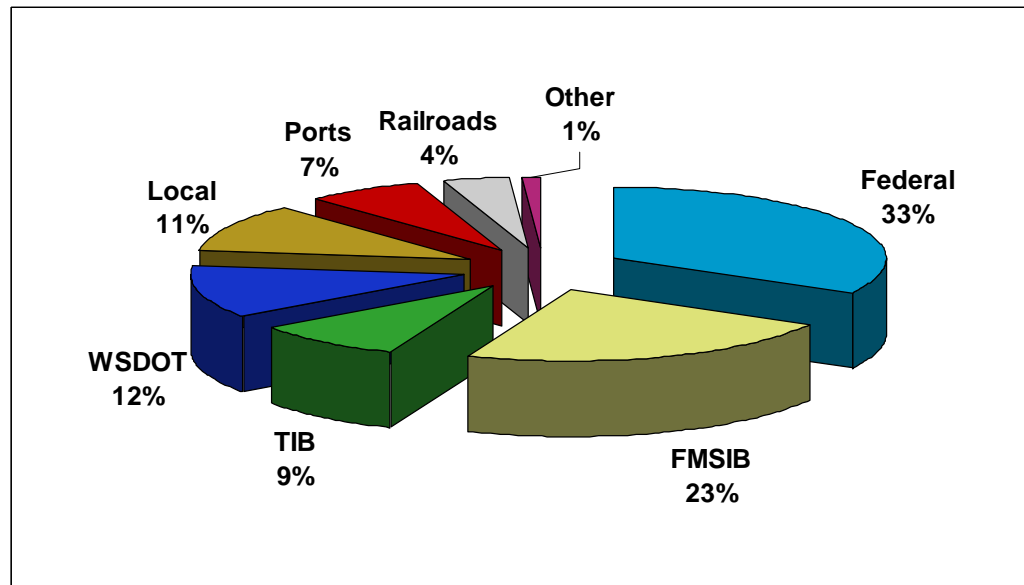
⁶²In 2008, the nine projects totaling \$27.3 million were selected for funding through the UCP.

Freight Action Strategy for Everett-Seattle-Tacoma (FAST Corridor)

The Freight Action Strategy for Everett-Seattle-Tacoma (FAST Corridor) is not an organization, but rather a partnership interested in improving freight movement in the Everett-Seattle-Tacoma Corridor. The partnership originated as a method to increase funding participation by the Federal government in local freight improvement projects, and has become a national model for organizing and promoting local freight improvement projects. FAST was originally administered by the Washington State Department of Transportation but is now administered by the Puget Sound Regional Council through funding provided by percentile contributions of FAST Federal funding.

- **Amount and type of funding** - FAST collectively seeks Federal funding for projects based on its prioritized list and consensus of the members. There is no dedicated funding stream that supports FAST; it serves as a “pass through” for Federal project earmarks. Figure 4.1 below shows the proportion of FAST funding by source.

Figure 4.1 FAST Funding by Source



Source: PSRC – Innovative Finance, a Project Selection Case Study, Panel Remarks, June 2006.

- **Size and scale of projects being funded** - FAST projects are primarily locally based projects with total costs of \$30 million to \$40 million⁶³. The average

⁶³Source: WSDOT. Average total project size for FAST Phase I projects was \$39 million (2007 data); average size of Phase II projects was \$35 million (2007 data). Average project award (from Federal earmarks) 1999 to 2008 was \$3.7 million.

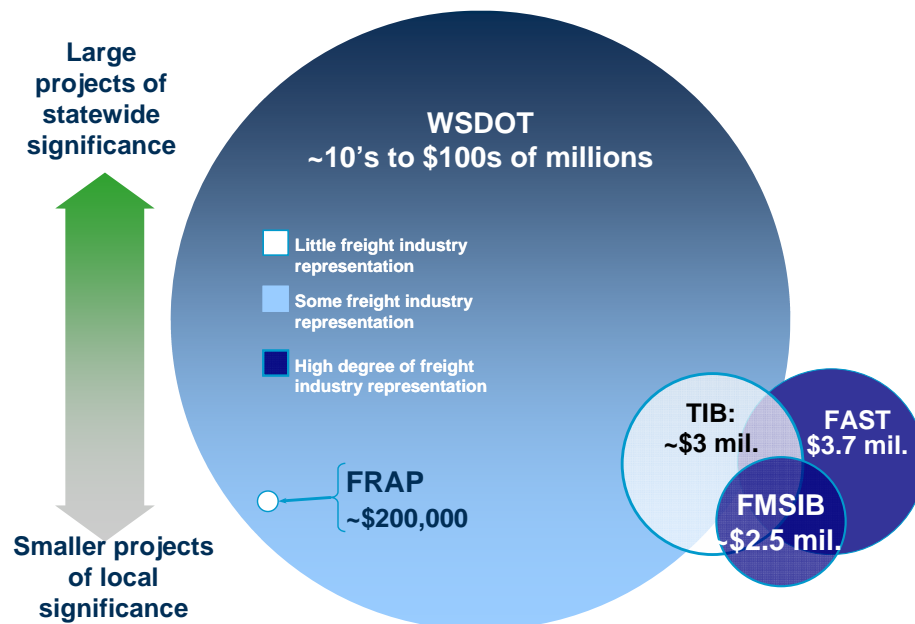
amount of Federal funds (earmarks) allocated per project is \$3.7 million (1998 to 2008).

- **Makeup of project selection panel** – The FAST partnership is made up of 26 members, including representatives of local cities, counties, ports, Federal, state, and regional transportation agencies, railroads and trucking interests.
- **Project selection process** – The FAST partnership identified specific project selection and prioritization processes for each of the two phases. The first phase concentrated on rail-related projects and the second focused on truck related projects. Member organizations work together to identify strategic priorities and help get them funded.

Summary and Comparison

The project recommendation bodies mentioned above each play a particular role and have an area of focus. Figure 4.2 below graphically compares FMSIB, TIB, WSDOT, FRAP, and FAST in terms of the average funding amounts they provide; the scope and scale of projects; and the degree to which they incorporate freight industry representatives into the project prioritization process.

Figure 4.2 WSDOT, FMSIB, TIB, FAST and FRAP
Comparison of Average Grant Amounts, Types of Projects, and Degree of Freight Representation



Notes: Figure shows average grant amounts provided per project by WSDOT (for currently programmed projects with medium and high freight benefits); TIB (for November 2008 projects in the Urban Corridors Program); and by FMSIB (completed projects). The FAST Corridor coalition does not provide grants, but does allocate Federal earmarks among projects; the average Federal earmark amount per project (1998 to 2008) was \$3.7 million. FMSIB's board includes four private-sector freight industry representatives and two ports; WSDOT includes freight industry input in its project

prioritization process; TIB's board does not include freight industry representation other than from the Port of Vancouver. FAST includes representation from railroads, trucking companies, and ports.

Implications of Fee Type for Structure of Recommendation Panel

The type of user fee selected to fund freight improvement directly impacts the structure of the project recommendation panel. This section reviews the user fees identified in Section 2.0 of this report, and discusses how their selection would impact the structure of the project recommendation panel. It also discusses how, in some cases, existing bodies could be altered to allow administration of the new funds. The alteration might involve changing the composition of the panel to better represent key freight or public sector stakeholders; or changing the project selection process to allow more rigorous analysis of the costs and benefits of major projects.

The types of user fees discussed in Task 8 include the following:

- Rail or roadway tolls;
- Port-related charges (e.g., container fee or bulk cargo fee); and
- Existing or new truck freight-related fees (combined licensing fee, special fuels tax, motor vehicle excise tax, truck vehicle miles traveled (VMT) fee, and truck weight-distance charge).

Roadway Tolls

In Washington State, toll revenues have historically been limited to use on the tolled facility alone. Therefore, no project recommendation panel would be necessary to determine how to spend toll revenues.

Freight stakeholders could instead play a role in the identification of facility improvements that could be funded with tolls and that would benefit the freight industry. This already takes place to some extent. WSDOT, for example, conducted extensive interviews with freight stakeholders to identify projects for its Highway System Plan.⁶⁴

Railway Tolls

Tolls on railroads are rare in the United States due to the fact that freight railroads usually own their track and have no reason to toll themselves.

A rationale for tolling may arise in cases where multiple railroads share a rail corridor (similar to the Alameda Corridor in Los Angeles described in Section 2.0), or where a railroad borrows public capital to repair a facility and

⁶⁴Source: WSDOT Freight Mobility Joint Report on Washington State Freight Highway and Rail Projects, September 2008.

repays the public sector gradually by tolling itself (similar to the case of the Shellpot Bridge described in Section 2.0).

These examples illustrate that if rail tolling occurs, it would likely be for the purpose of improving a specific facility, not to generate an ongoing revenue stream for use on multiple projects. Railroads are private companies that compete with one another; they would have limited reason to provide ongoing revenues to support projects that might benefit their competitors. Therefore a project recommendation panel would not likely be necessary in the case of rail tolling. It would be more appropriate for the state or another entity to work with railroads to identify opportunities for improving shared infrastructure, and to obtain funding commitments from the railroads on a project-by-project basis.

Port Charges

Through the OffPeak program in the Ports Los Angeles and Long Beach, the Ports (working through a nonprofit entity), collect and administer container fee revenues.⁶⁵ Washington State's ports might also play a key role in the collection of any new port user charges, and could also have the responsibility for forming and leading the project recommendation panel charged with administering the funds.

It would be appropriate for a new project recommendation panel formed by the ports to contain adequate representation from the port user groups responsible for paying the fee (e.g., trucking, shipping, and rail companies) and the public agencies that would help implement projects and provide the public sector's share of project costs. All these groups would share in the identification of transportation improvement needs.

For example, if a container fee were collected at the Ports of Seattle and Tacoma for the purpose of funding local and regional port access improvements, the project recommendation panel might include the following:

- The Ports of Seattle and Tacoma;
- Shipping, rail, and trucking companies that serve the Ports;
- Major importers (and exporters, if they also pay the fee) (e.g., Target);

⁶⁵The members of the West Coast Marine Terminal Operator Agreement (WCMTOA) have contracted by the Port of Los Angeles and Port of Long Beach to collect the Clean Truck Fee (CTF) required by the ports as part of their Clean Trucks Program. To comply with the requirement to collect the CTF, the terminal operators have established a new company called PortCheck Inc. PortCheck will operate similarly to PierPASS Inc., which was established by WCMTOA in 2005 to create and operate the OffPeak program at the Los Angeles and Long Beach ports. PierPASS collects the Traffic Mitigation Fee that funds the five weekly OffPeak shifts on nights and Saturdays.

- The port cities of Seattle and Tacoma, represented by staff of city transportation/public works departments or by liaison to local freight committees (the City of Seattle has a Freight Advisory Committee);
- Local cities impacted by freight movements; and
- WSDOT.

The relative representation of these groups would vary depending on their expected average share of project costs and the incidence of the fee (see general principles above).

An alternative to forming a new project recommendation panel would be to modify one of the existing bodies described previously. Table 4.3 below lists some of the modifications that would help ensure adequate representation of parties.

Table 4.3 Existing Project Recommendation Bodies
Suggestions for Modification If Charged With Administering Port User Fee Revenues

	Suggested Changes to Allow Administration of Port User Fee Revenues
Freight Mobility Strategic Investment Board	<ul style="list-style-type: none"> • Designate members representing ports (Port of Seattle is already represented). • Designate one or more members representing major importers or BCOs (e.g., Costco, Target), which are major port users. • Designate one or more of the city members representing cities impacted by port freight movements. • Modify the project selection process to allow rigorous, quantitative cost/benefit analysis of major projects (e.g., those above a certain cost threshold, such as >\$100 million). FMSIB’s projects are currently small enough not to warrant detailed cost benefit analysis. • Remove statutory requirement for equal distribution of 45% percent of FMSIB funds among the Puget Sound, eastern Washington, and Western Washington regions.
Transportation Investment Board	<ul style="list-style-type: none"> • Freight industry stakeholders are not currently represented on the TIB board, so TIB board would to include adequate representation of freight stakeholders. Alternatively, a freight project panel within the TIB could be created which would include freight stakeholders. • To enhance focus on freight, it may be appropriate to increase the weighting of freight-specific considerations in TIB’s project selection process. Alternatively, a separate program could be developed (apart from the UCP) that would focus selection criteria only on freight considerations.
FAST Corridor	<ul style="list-style-type: none"> • FAST has the appropriate representation to represent freight interests and is housed in the PSRC. To take on the task of administering the fee revenues, FAST would need to be institutionalized and modified into a more formal structure. An objective project selection and recommendation process would need to be developed and supported by quantitative analysis where justified.

An alternative to creating or modifying a project recommendation body would be to allow the legislature to direct container fees to a special account for use on projects that it selects. This was the original proposal for the revenues that would have come from the container fee proposed in SB 5207, which would have been directed to a “Freight Congestion Relief Account” to fund set of projects pre-selected by the legislature.

Truck-Related Fees

It is current practice for the State to pool revenues from truck-related fees and taxes into its general account that fund WSDOT’s biennial budget expenditures. This budget is prepared by internal WSDOT staff and submitted to the Transportation Commission and State Legislature. Priorities for the trucking industry are not represented by truckers as members of a special panel. If existing truck-related fees are increased or new fees implemented, the Legislature may choose to program the fees as it does currently, without dedicating the funds to a special account or giving a special panel oversight.

Alternatively, the Legislature could give all or a portion of the funds to one of the existing project recommendation panels described previously (e.g., FAST, FMSIB, TIB). Trucking interests are currently represented in FAST and FMSIB, but are not represented on the TIB.

4.4 SUMMARY

The steps required to administer a new freight-related source of funds depend on the nature of the funding source. Roadway or railroad tolls dedicated to re-pay debt for the facility’s construction and fund its maintenance and operation would not require the creation of a new panel. If port related charges are to be implemented in a manner consistent with what has occurred in Los Angeles/ Long Beach, a project recommendation panel would be appropriate and probably necessary. Alternatively, the legislature could act as the project recommendation body by dedicating the revenues to a special account, as was planned for the original container fee revenues proposed under SB 5207. The legislature could also direct the revenues towards an existing project recommendation panel (e.g., FAST, FMSIB, TIB).

New (or increases to existing) truck-related fees would be collected by the state and could used in a manner consistent with current practice, which is to fund a mix of projects that benefit a range of user groups, including freight. Alternatively, the state could direct the additional revenues to increase the capacity of an existing project recommendation body, such as FAST, FMSIB, or TIB.

Key considerations are:

1. The degree to which the legislature desires to maintain the nexus between the source of the fee revenues and the projects that result. Nexus involves balancing the amount of revenue contributed with the amount benefits received.

In addition, nexus involves a proportionate say in the selection of projects. If railroads, for example, contribute 80 percent of funding to this project selection panel, they will demand 80 percent of control. Throughout this study, private-sector stakeholders expressed concern about the possibility of exclusive public agency control over programming freight sector funds to projects that did not benefit freight proportionally.

2. The degree to which stakeholder concerns can be adequately represented through traditional project planning and programming processes. Freight issues are currently considered in WSDOT's planning and programming process, but this process does not explicitly include representation from the freight industry. Private stakeholders may insist on having direct participation in the use of new fee revenues to ensure their concerns are addressed.