

MEMORANDUM

Project: Alaskan Way Viaduct
Outreach to Ballard and Duwamish Industrial Businesses

Subject: Key Findings and Potential Mitigation Measures

Date: June 6, 2006

Authors: Marni C. Heffron, P.E., P.T.O.E., Heffron Transportation, Inc.
Marilyn Young-Skogland, Duwamish TMA
Debbie Driver, UrbanTrans Consultants, Inc.

The City of Seattle and Washington State Department of Transportation commissioned the Manufacturing Industrial Council (MIC) of Seattle to talk with businesses about how to best manage the construction impacts of the Alaskan Way Viaduct, and create the best operating plan in the event that the existing Viaduct were damaged and made unusable. This outreach effort focused on businesses in the Ballard and Duwamish Industrial areas. The information provided by businesses will help the City and State develop and refine their plans. The information will also help the MIC advocate for the needs of the industrial community.

This memorandum summarizes the findings of the survey, including the anecdotes obtained from businesses related to potential mitigation measures.

Summary of Interviews

Two teams interviewed 35 businesses in both the Duwamish and Ballard manufacturing and industrial centers (M&I Centers) from January through March 2006.

Industrial and trucking-intensive businesses were interviewed for this study. The 35 businesses interviewed including the following types of businesses:

- Trucking & Freight Transportation
- Vessel Repair
- Shipyards
- Marine Towing
- Construction
- Marine Terminal Operators
- Food processing and distribution
- Biotechnology
- Retail

The size of the businesses ranged from 50 to 1,000+ employees.

The interviewed businesses serve a diverse range of customer market areas, ranging from local to global. Businesses could report more than one market area. The types of markets include:

- 12 = customers located internationally
- 10 = customers located locally
- 7 = customers located regionally
- 7 = customers located in multiple states

Twelve of the interviewed businesses use their own truck fleet for distributing goods. The remaining businesses distributed goods using hired trucks, including LTL (less-than-truckload), dedicated trucks, or by marine or rail modes of transportation.

Most of the businesses interviewed (33) stated the AWW was important to their business (29 = very important, 4 = moderately important).

Each business was asked to map current freight and employee routes utilized to access the business. Businesses were also asked to map the routes freight and employees might use if the Viaduct is closed for construction or emergency purposes. Additionally, each business was also asked a series of questions regarding freight and employee mobility and accessibility. Four maps are attached:

1. Consolidated current freight route map
2. Consolidated planned freight route map
3. Consolidated current employee route map
4. Consolidated planned employee route map

Bottlenecks, tight turning radii, potential carpool or freight priority lanes and other facts are included on the freight and employee maps as appropriate.

Key Findings

1. Businesses will adapt

The key finding from these surveys, which was nearly universal across all surveyed businesses, is that **businesses will adapt**. However, the cost of doing business in the City will increase because of delays incurred by construction. Some of the ways in which businesses are expected to cope are listed below:

- **Take alternate travel routes.** The Alaskan Way Viaduct is the critical north-south link to Ballard and Interbay, particularly for the vast majority of freight trips that are coming from or destined to other major industrial areas located to the south. Surface Alaskan Way is the preferred alternative route if the AWW is closed; however, if this route is unavailable, then the Mercer Corridor and Westlake Avenue are the most likely alternative routes. Some longer detour routes might also be used; for example, some Ballard businesses stated that they may divert north to interchanges in North Seattle such as N 85th Street in order to return south on Interstate 5.
- **Increase the number of trucks that service Seattle businesses.** Some suppliers and delivery companies that serve Seattle businesses may not be able to make as many stops per truck with additional delay caused by construction. Federal work rules that limit driver shift times prevent companies from extending shifts. Instead, more trucks (at substantial cost for labor and equipment) may be needed to make these deliveries. This will affect the cost of shipping to Seattle businesses.

- **Move portions or all of operation out of Seattle.** Several businesses reported that they may move portions of their business to other manufacturing plants. Some of these are located outside of the Puget Sound region.

2. All freight **cannot** be moved at night

Most businesses that can move goods at night already do. These are typically the large businesses such as Safeway that have control over their supply chain between the warehouse and the store. Most businesses don't have such control and have to accept or deliver goods on the schedule of their suppliers or clients. Even a business as large as Boeing has been unable to move all goods at night since many of their suppliers are daytime-only operations.

Besides supply-chain issues, many locations in Seattle have nighttime noise restrictions that prevent the nighttime movement of goods. Businesses such as Trident Seafoods and Foss Shipyards—which are located close to residential areas in Queen Anne and Magnolia—are challenged by noise restrictions. Even if the restrictions were lifted during AWW construction, these businesses may still avoid nighttime hours in order to be a good neighbor.

Finally, there is a very tight labor pool for truck drivers. Finding drivers for even the more-desirable day shift is difficult. A steep premium will likely be required to entice drivers to work a night shift. Concerns were also raised about the safety of nighttime driving, since many drivers continue to have daytime lives and may not be as alert late at night.

Finally, one firm talked about the experience of Los Angeles and Atlantic during the Olympics in those respective cities. Both cities imposed daytime truck restrictions for the three-week duration of the Olympics. It had little to no effect. Most retail stores refused to staff a night shift to receive nighttime deliveries. Also, the cost of the additional staffing and overtime to move freight at night by far exceeded any penalty that those cities could impose on trucks that might happen to be cited for an infraction. Businesses will find a way to move freight when they need to have it moved. Financial penalties imposed on businesses are not likely to shift freight to nighttime hours.

3. There is limited ability for freight to change modes

Trucks move nearly all of the local freight in Seattle. There are a few businesses that receive materials by rail and barge, but these are typically bulk commodities that are not time sensitive because they can be stored in quantity. A prime example is Salmon Bay Sand & Gravel that receives sand and gravel by barge and cement and fly ash by rail. Most other businesses in this town are dependent on the just-in-time delivery of goods. They do not warehouse supplies or finished products because the cost of inventory to a businesses is much higher than the cost of transportation.

Non-trucking modes of freight transportation are too slow and unreliable to serve businesses reliant on just-in-time delivery. The cost and time delay associated with transferring freight to another mode also make it infeasible. Boeing uses barges to ship oversized fuselage pieces from the Port of Seattle to the Port of Everett in Mukilteo. However, these elements are too large to be trucked. Boeing would never consider such a transfer to barge for any component that could fit on a truck. One Boeing staff member said, "Interstate 5 on its worst day is still 10 times faster than a barge." Additionally, rail is expensive and much slower than trucking. Nucor Steel reported a three hour truck trip to a major customer in Canada would take seven days on a rail car. This delay in delivery is not economical.

4. Focus solutions on commuters

Almost all of the businesses surveyed recognize that commuter solutions have the best chance of reducing congestion during AWW construction. Freight cannot carpool, be moved on a bus, and usually does not have a “flexible work schedule.” Freight moves when and how businesses need it to move. Reducing the number of personal vehicles that compete with freight would be the best use of limited resources.

Mitigation Ideas

The surveyed businesses were asked about physical improvements or operational changes that would help during construction of the AWW or if it were closed due to an emergency. These are summarized below.

1. Businesses need information about construction-related changes

As previously discussed, businesses will adapt to the changes imposed by the Alaskan Way Viaduct, and information is what they need to help them adapt. The following were recommended by businesses.

- **Provide information about major construction changes (e.g., viaduct closure, ramp closure, major detours) at least 30 days in advance of the change.**
Businesses need time to hire additional drivers, form carpools or vanpools, and make operational changes if needed.
- **Expand internet and fax list serve notification systems.** Many businesses use the City’s existing list services for real-time information about incidents as well as advance information about construction changes. The incident information is particularly useful for freight movements. It allows businesses to hold trucks at the site rather than have them get stuck in a traffic jam from which a large truck cannot escape (which unlike cars cannot easily U-turn or use streets with steep topography).
- **Consider telephone notification service for emergencies.** After an earthquake, power disruptions would affect internet and fax information services. Telephone service may still be available. Consider telephone alerts for major emergency closures of the viaduct (similar to Tsunami alert systems).
- **Consider highway advisory radio (HAR) for construction information.**
- **Post changeable message signs prior to alternative routes that are suitable for freight.** Many changeable message signs are posted too close to the closed roadway past alternate routes that can accommodate trucks.
- **Consider a “speakers bureau” that could inform employees at large firms in advance of construction.**
- **Utilize existing community groups to distribute messages and gather public comment.**

2. Changes to Accommodate Ballard/Interbay Freight and Commuter Traffic

The primary alternative routes to access the Ballard/Interbay industrial area are surface Alaskan Way, Mercer Street to Interstate 5, Westlake Avenue, and if allowed by the City, 2nd and 4th Avenues through downtown. Suggested improvements along these routes are:

- **Consolidate and control pedestrian access points across surface Alaskan Way.** Alaskan Way was listed as the preferred alternative routes for most businesses in Ballard and Interbay. The unsignalized pedestrian crossing that now exist are safety concerns for truck driver—pedestrians often enter the street without providing an oncoming truck adequate stopping time or cannot be seen by truck drivers. Reducing the number and signaling pedestrian crossing would improve safety and operations.
- **Maximize capacity of the Mercer Corridor.** This route will be the primary alternative route if/when the AWW and surface Alaskan Way are closed to traffic. Capacity on this route should be maximized.
- **Accommodate truck turning needs between the Mercer Corridor and Westlake Avenue corridor.** Westlake Avenue will be one of the primary alternative routes for freight to Ballard/Interbay during AWW construction because of its level grade. Westbound-to-northbound and southbound-to-eastbound turns between the corridors will need to be accommodated.
- **Improve Mercer Street merge to southbound Interstate 5.** The existing Mercer on-ramp to southbound I-5 becomes an HOV lane just after entering the freeway. This will force trucks to merge right into their blind spot in the area where there are already many merging and weaving moves. Capacity and safety may be enhanced by allowing trucks to use the HOV lane, even if it is only during off-peak hours.
- **When AWW is closed through Battery Street tunnel, remove northbound off-ramp to Dexter Avenue/Mercer Street.** This would allow the fifth leg of the Mercer Street/Dexter Avenue intersection to be eliminated and free up signal green-time for eastbound Mercer Street.
- **Provide westbound queue bypass lane on Westlake Avenue approaching Fremont Bridge.** When the Fremont Bridge is open to traffic, it can block all westbound traffic on Westlake Avenue. A through lane that bypasses the right-turning traffic would maintain flow to Ballard/Interbay.
- **Consider allowing trucks over 30 feet to use 2nd and 4th Avenues through downtown when AWW is closed to traffic.**
- **Consider changes to noise ordinances to provide more flexibility for businesses to move freight at night.**
- **Encourage Port of Seattle container terminals to operate night gates for local freight (not just intermodal freight).**
- **Evaluate where Aurora and Elliott/Western Avenue detour routes would intersect in Belltown.** The emergency closure plan current shows routes that may be used by traffic being detoured on and off Aurora Avenue N if the AWW is closed to traffic. These are likely to cross the Ballard/Interbay-bound detour routes at 4th Avenue/Wall Street and 2nd Avenue/Wall Street. The city should evaluate whether additional improvements are needed where these two detour paths cross.

- **Extend waterfront Trolley to Interbay.** A commuter transit route that avoids Elliott Avenue may relieve traffic in this corridor. Consider trolley service along the west side of the BNSF Railway tracks from about Dravus Street to about the Aquarium.
- **Improve in-City transit connections.** Many of the long-distance commuters to major businesses use alternative modes of transportation. However, employees who live in the city are the most resistant to using alternative modes of transportation because in-City transit service takes so much longer than driving.

3. Changes to Accommodate Duwamish Freight and Commuter Traffic

- **Improve connections between West Seattle Freeway (Spokane Street Viaduct) and Interstate 5.** Congestion that now exists at the interchange—particularly during the AM peak hour—is expected to increase if the AWW is closed.
- **Consider building a dedicated on-ramp from Michigan Street to I-5.** Ramp would accommodate freight moving to I-5 from the Duwamish area and Harbor Island.
- **Maximize capacity of the Mercer Corridor.** Many Duwamish businesses will move freight directly to I-5 and access Ballard via Mercer if/when the AWW and surface Alaskan Way are closed to traffic. Capacity on this route should be maximized.
- **Encourage Port of Seattle container terminals to operate night gates for local freight (not just intermodal freight).**
- **If Freight Priority Lanes are implemented, allow single-unit trucks (e.g., UPS trucks) to use them.**
- **Maximize capacity on Fourth Avenue.** Many Duwamish businesses noted potential use of Fourth Avenue to access delivery points in Downtown and north.
- **Maximize capacity on East and West Marginal Ways.** Businesses on and proximate to Harbor Island would utilize East and West Marginal Ways to access Harbor Island.
- **Explore potential shuttle services to/from the Duwamish area.** Shuttles would provide direct access to King Street Station, future light rail stations and downtown transit routes.
- **Consider changes to noise ordinances to provide more flexibility for businesses to move freight at night.**
- **Improve overall transit service and frequency.** Many of the businesses interviewed reported the presence of accessible bus stops. Yet few employees utilize transit due to infrequent and irregular service.

Attachments: Maps of freight and employee routes