Case Studies for The I-81 Challenge

CASE STUDIES FOR PLANNING AND DESIGN PROJECTS - Existing elevated highways

Highway 99/Alaskan Way Viaduct

	Highway 99	I-81
Туре	elevated highway	existing elevated highway - TBD
Interstate Highway?	no	yes
Through Traffic?	yes	yes
Vehicles /Day	103,000	100,000
Project Length	2.8 miles	1.4 mi.
Context	waterfront	downtown
City	Seattle, WA	Syracuse, NY
Population	582,454	140,658
Project Stage	EIS	planning
Estimated Cost	\$1,913 million (bored waterfront	unknown
	tunnel alternative)	

Regional Context: Seattle





The Alaskan Way Viaduct carries State Route 99 through Seattle along its Puget Sound waterfront. It is a doubledeck highway with four lanes in each direction, and carries over 100,000 vehicles per day. The highway structure is considered an eyesore by residents and a barrier between downtown and the city's active waterfront. There has been strong interest in exploring alternatives.



What was the decision-making process?

The viaduct was damaged by an earthquake and is at risk of more serious damage or failure if another significant earthquake occurs. Alternatives that have been considered include a new replacement structure, which would be even larger than the existing facility in order to meet modern engineering standards. Several options for full or partial cut-and-cover tunnels, requiring complicated construction plans and high costs, have also been considered. Another alternative, which has been called "Streets and Transit," includes replacement of the viaduct with a boulevard, reconnecting and improving the downtown street grid's traffic capacity, and increasing transit service to and through downtown.

In March 2007, Seattle voters were asked to vote on two of these alternatives: a



new elevated highway and a new tunnel. The public voted "no" on both, indicating that perhaps the "Streets and Transit" alternative was the preferred option. Construction of both the new elevated highway tunnel and the alternatives would have required closing the viaduct for several years. For some members of

the community, this begged the question: if we can live without the viaduct for five years during construction, why can't we live without it forever?

Since the vote, a renewed, collaborative effort between Washington State DOT (WSDOT), the City of Seattle, and King County was initiated to look more broadly at alternatives. This included the development of a Study Advisory Committee that established a list of "Guiding Principles" for all alternatives and proposed broad

performance measures that reflect these principles. The alternatives development started with a set of "building blocks" representing a variety of urban mobility elements, including surface street improvements, highway improvements, transit improvements, and travel demand management strategies (e.g. land use strategies, parking management). These building blocks were then mixed and matched into alternatives.

This renewed, collaborative process has resulted in the City of Seattle, King County, and the WSDOT agreeing to proceed with a bored tunnel alternative. This tunnel would be substantially deeper than the other "cut and cover" tunnel alternatives that were considered previously, and it would provide no intermediate access points along its length. The bored tunnel is the highest cost alternative, but one factor in its favor is that it could be constructed while the existing viaduct remains open.



Illustration of the Proposed Double-Deck Bored Tunnel (WSDOT)

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What can The I-81 Challenge learn from this effort?

The traffic volume and function of the Alaskan Way viaduct is comparable to the I-81 viaduct through downtown Syracuse. However, it is not an interstate highway, and only about 20% of its traffic is through moving.

The city has seen high levels of investment and redevelopment in and around the downtown area, and the viaduct is a substantial barrier between the downtown and the city's scenic waterfront. There is strong consensus in the city that replacing the viaduct is not an appropriate alternative, and would prolong a mistake from an earlier era.

The renewed approach to the planning and design process has utilized some

innovative methods that are worthy of consideration in Syracuse. The first step was to come to consensus on a set of guiding principles, which helped set the basis for the subsequent development of performance measures. Another was the use of "building blocks," which included construction, transit, and demand management components (i.e. parking pricing), that could be mixed or matched as appropriate in the development of alternatives.



For More Information:

http://www.wsdot.wa.gov/projects/Viaduct/

http://www.seattle.gov/Transportation/awv.htm



Alaskan Way Viaduct Guiding Principles February 2008

Any solution to the Alaskan Way Viaduct is to be grounded in the city, state and county's recognition of, commitment to and integration across a set of six guiding principles. These guiding principles are as follows:

- Improve public safety. Replacing the viaduct is an urgent public safety issue. Any
 solution to the Alaskan Way Viaduct must improve public safety for current viaduct
 users and along the central waterfront.
- Provide efficient movement of people and goods now and in the future. Any
 solution to the Alaskan Way Viaduct must optimize the ability to move people and
 goods today and in the future in and through Seattle in an efficient manner, including
 access to businesses, port and rail facilities during and after construction.
- Maintain or improve downtown Seattle, regional, the port and state economies. Any
 solution to the Alaskan Way Viaduct must sustain the city, region, port and state's
 economic vitality during and after construction.
- Enhance Seattle's waterfront, downtown and adjacent neighborhoods as a place for people. Any solution to the Alaskan Way Viaduct must augment Seattle's reputation as a world-class destination.
- Create solutions that are fiscally responsible. Any solution to the Alaskan Way
 Viaduct must make wise and efficient use of taxpayer dollars. The state's contribution
 to the project is not to exceed \$2.8 billion in 2012 dollars.
- Improve the health of the environment. Any solution to the Alaskan Way Viaduct
 must demonstrate environmental leadership, with a particular emphasis on supporting
 local, regional and state climate change, water quality and Puget Sound recovery
 initiatives.