



Economic Development and Highway Right-Sizing

Elevated Freeway to Tunnel Right-Sizing

Disruptions and Dividends in Freeway to Tunnel Projects

Right-sizing a transportation facility by removing an elevated highway and replacing it underground presents unique challenges:

- **Construction:** Unstable conditions during construction can lead to costly delays and may require specific equipment and knowledge from outside experts.
- **Funding and Financing:** The capital and operational costs of building and maintaining a tunnel are extensive and often require joint funding efforts from Federal, State, and local entities, as well as innovative finance solutions.

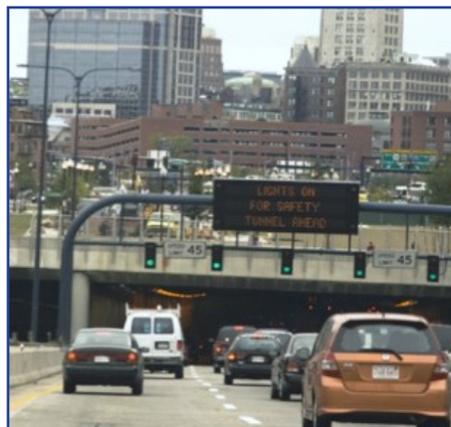
Despite these challenges, when tunnels replace elevated facilities, the benefits can be substantial:

- **Economic Development:** Tunnels free up valuable surface space for commercial, retail, and/or residential development.
- **Recreational Opportunities:** Tunnels provide the opportunity to dedicate surface space to the public right-of-way, including public parks and infrastructure for bicyclists and pedestrians.

Boston's Big Dig: Burying a Highway and Building a Greenway

The Boston Central Artery/Tunnel Project, also known as the "Big Dig," replaced the Interstate 93 viaduct in downtown Boston with a higher-capacity tunnel. On the surface, the project included a 1.5-mile-long park that is flanked by boulevards. The tunnel was created in response to traffic congestion and an inner city revitalization plan that sought to decrease traffic on surface roads in order to create recreational and open space. In addition, removing the elevated highway and rebuilding it as a tunnel would remove a barrier between Boston's downtown and the North End, a neighborhood cut off from the rest of the city by the highway. City and State leaders saw the Big Dig as a critical step in improving the crawling downtown traffic, which then enabled both public and private investment in the creation of a vibrant and multimodal downtown with diverse retail and commercial opportunities and ample pedestrian and event space for residents and visitors alike.

The photos below (Source: Boston Magazine, Boston Globe) display the Boston Central Artery, 1999 (Left), the Tip O'Neill Tunnel, 2012 (Center), and the Rose F. Kennedy Greenway, 2012 (Right).





Tunnel Right-Sizing in Downtown Seattle: The Alaskan Way Viaduct

The Alaskan Way Viaduct, an elevated section of State Route 99 in Seattle, WA, was built in the 1950s and today is a key component of the transformation of the city's waterfront. Decades of wear and tear, along with the Viaduct's age and vulnerability to earthquakes, led to a decision in 2009 to address these structural concerns in the short term and replace the highway with an underground tunnel, improving access to more than two miles of Seattle's waterfront. The tunnel was envisioned to solve not only the Viaduct's traffic limitations and safety problems, but also allow better uses for waterfront real estate, including parks, housing, and retail developments. After political stalemates, the decision to replace the elevated highway with a tunnel (as opposed to an at-grade facility) was left in the hands of Seattleites who approved the decision with 60 percent in favor. Despite significant delays due to tunneling and construction complications, the replacement of the Alaskan Viaduct has prompted more than \$700 million in public and private investment, and sparked a Waterfront Revitalization Plan to utilize new public space.



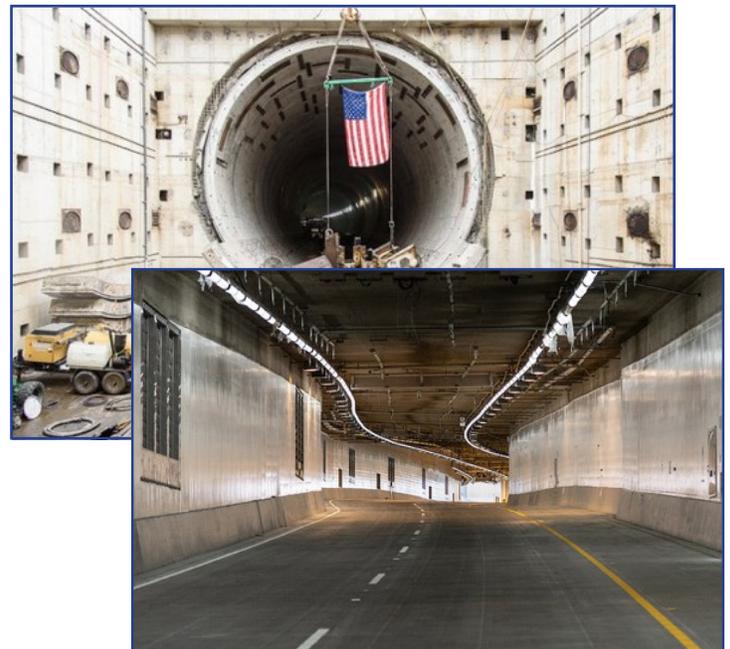
The photo above is an aerial view of the Alaskan Way Viaduct prior to demolition. (Source: Washington State Department of Transportation).

Large-scale projects like this often require a variety of funding and financing strategies. The Alaskan Way Viaduct drew its \$3 billion budget from the following initiatives:

- Federal, State, and local government taxes and tolls
 - Gas tax
 - Local Improvement District property owner assessments
 - Tolls
- Private investment
 - Joint ventures
- Philanthropic investment

Innovative and shared financing enable a project with the complexity of the Alaskan Way Viaduct to gain political traction and public support.

Elements of this project are ongoing. For updates, visit www.wsdot.wa.gov/Projects/Viaduct.



The photos above show the Alaskan Way Viaduct Tunnel in progress and completed. (Source: Washington State Department of Transportation).