

This isn't the cut-and-cover tunnel

In the March 2007 advisory vote, Seattle voters considered two Alaskan Way Viaduct replacement options – a new viaduct or a cut-and-cover tunnel. Both options were defeated.

In January 2009, the Governor, King County Executive and Seattle Mayor announced their recommendation for replacing the Alaskan Way Viaduct and Seawall. This recommendation included a bored tunnel through downtown, a new waterfront surface street, transit investments and downtown surface street improvements.

What makes the bored tunnel different than the previously considered cut-and-cover tunnel?

Different construction methods

Cut-and-cover is a simple method of construction for shallow tunnels where a trench is excavated and roofed. This type of construction method is normally used when a tunnel is built close to the surface, and is faster and more inexpensive to build than other types of tunnels. Examples of cut-and-cover tunnels in our region include the Battery Street Tunnel and the I-90 tunnel on Mercer Island.

Comment [MR1]: Harvey or John should weigh in on this

Building close to the surface, however, has its drawbacks. Existing utilities along the tunnel route must be moved, and disruption to the public and surrounding businesses can be significant.

Bored tunnels are created using tunnel boring machines (TBMs). This is a highly automated process that occurs deep underground. TBMs can operate in a variety of conditions, from hard rock to soft water-bearing ground. Examples of bored tunnels in Seattle include the I-90 Mt. Baker tunnel and Sound Transit's Beacon Hill tunnel.

Comment [MR2]: Harvey can comment here. This is not really like what we are proposing.

While more expensive than the cut-and-cover approach, bored tunnels can be routed under existing structures and utilities. The chief advantage of bored tunnels is that they are much less disruptive to surrounding residents and businesses, other than the work that occurs at either end of the tunnel.

Comment [MR3]: Again, input needed from Harvey or John. I believe that bored tunnels can actually be less expensive than cut-and-cover.

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Different locations

The cut-and-cover tunnel would have been located to the west of the existing viaduct. This would have meant many years of heavy construction activity along the waterfront, as the tunnel was built and the existing viaduct removed. Crews would also have had to manage construction in the weak fill soil along the waterfront.

The new bored tunnel will be further inland, where soils are denser. This will also avoid the sensitive shoreline area. A bored tunnel allows us the option of building the new corridor while the viaduct stays open to traffic. Some construction will be necessary on the waterfront, such as removal of the viaduct, rebuilding the surface street, and replacing the seawall, but this work can be done in stages to limit disruptions.

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