

## COMMENTS FOR THE IBR ESG 3/17/21 MEETING RECEIVED BETWEEN 2/17 AND 3/15

Bob Ortblad

3/5/21

Any new I-5 bridge will have a failing grades of “F” and 3.3%. To meet the U.S. Coast Guard’s bridge clearance requirement of 116 feet or more, a bridge will require a 3,600-foot long grade at 3.3% from ground level to the center of the bridge. This will make the 36 acres of current on and off-ramps inaccessible. A new bridge will require the extremely expensive movement of these ramps, a quarter-mile north at Vancouver, and quarter-mile south on Hayden Island

However, an immersed tube tunnel (ITT) requires only a 2,000-foot long grade at 3% from ground level to the center of the river. This allows an ITT to connect to the current on and off-ramps.

A long 3,600-foot 3.3% bridge grade will slow trucks by 20 mph.

A shorter 2,000-foot 3% ITT grade will slow trucks by 10 mph.

This difference in speed makes an ITT four times safer than a bridge.

**\* ADA compliant versions of the attachments can be made available upon request**

Bob Ortblad

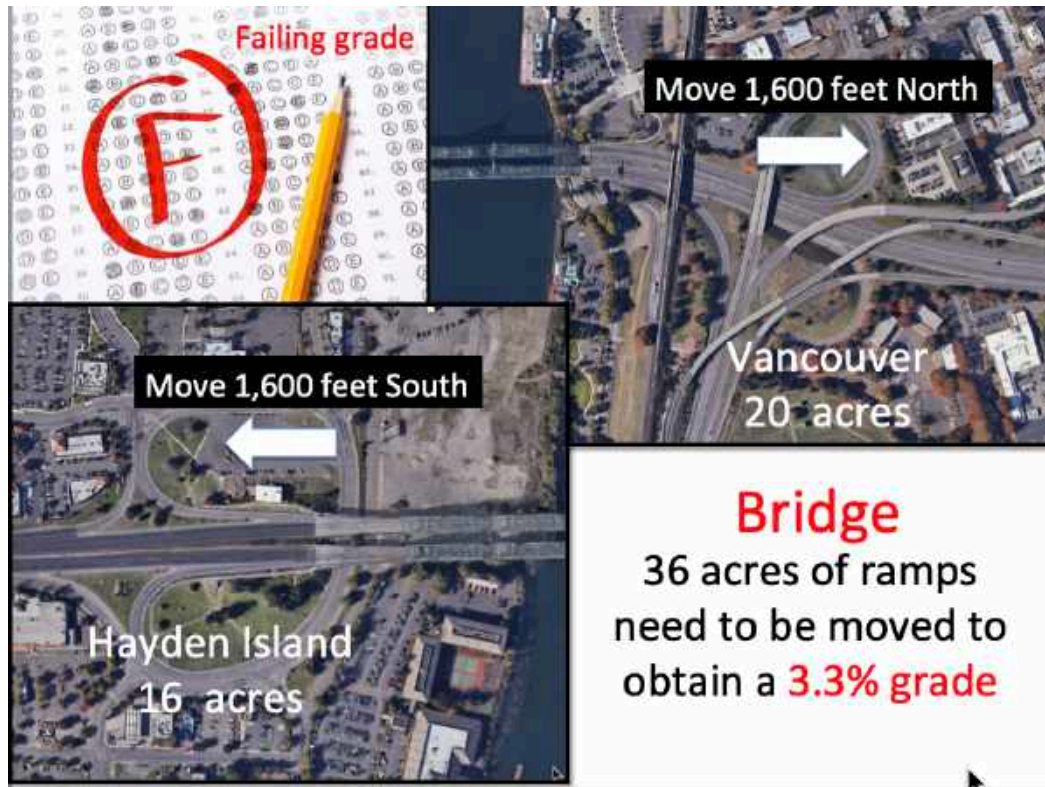
3/14/21

Executive Steering Group

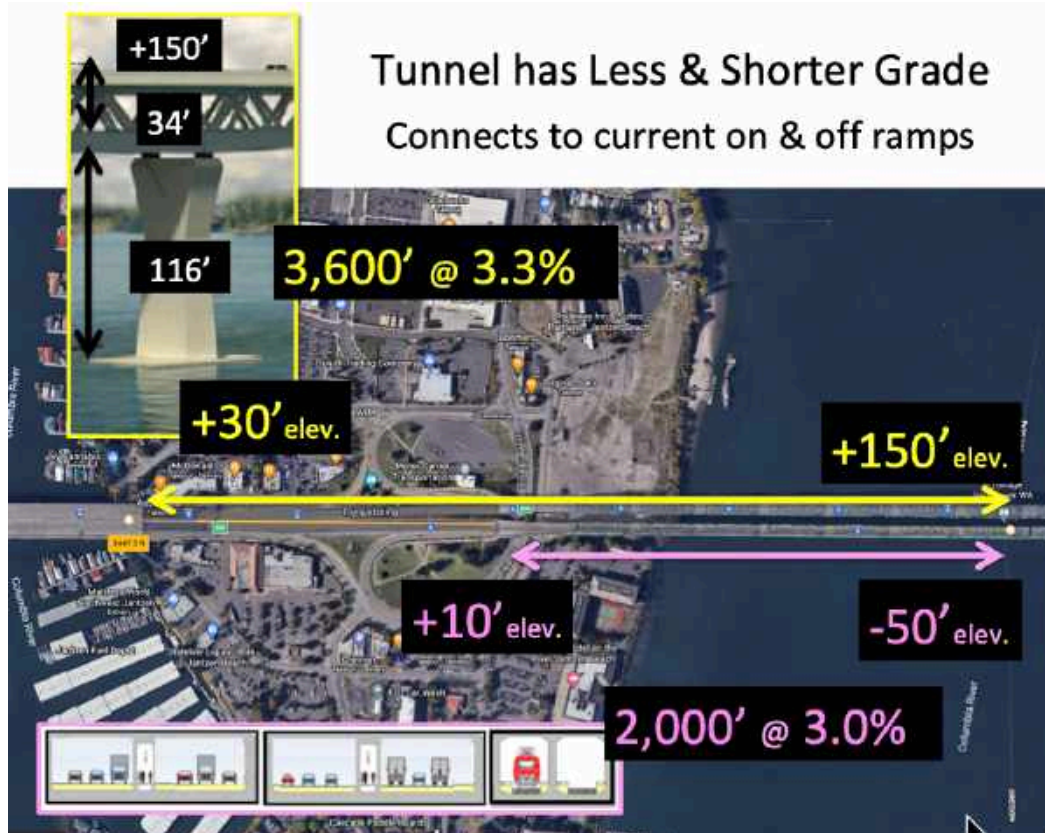
Please accept the attached public comment for the March 18 ESG meeting.

**\* ADA compliant versions of the attachments can be made available upon request**

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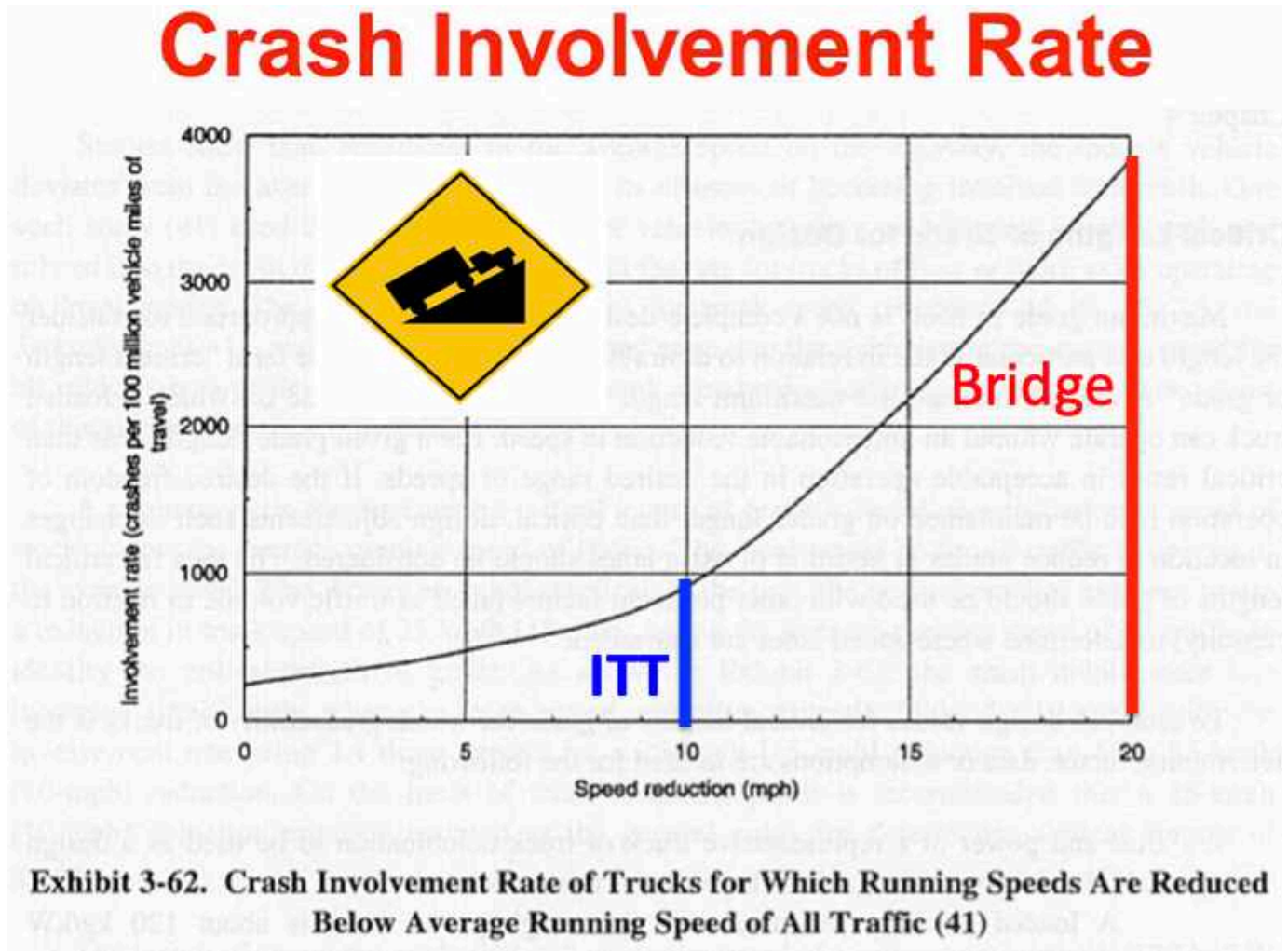


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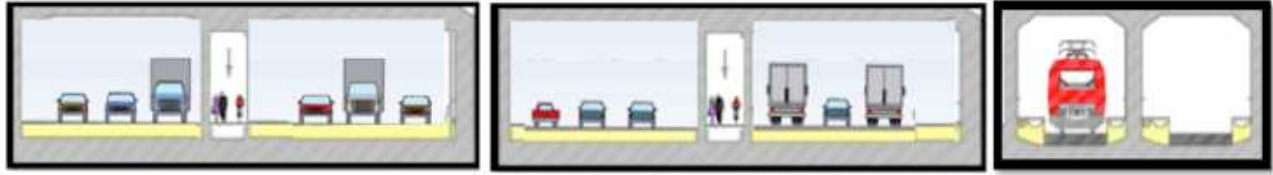
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Bob Ortblad, MSCE, MBA



An immersed tube tunnel (ITT) will take advantage of local labor, materials, technology, and geography.



## Let's Buy Local Labor & Materials

The 2<sup>nd</sup> Tacoma Narrow Bridge was completed in 2007. Much of it was prefabricated in Korea and transported on a Dutch ship to the Tacoma Narrows. Local ironworkers lost the opportunity for 250 jobs.





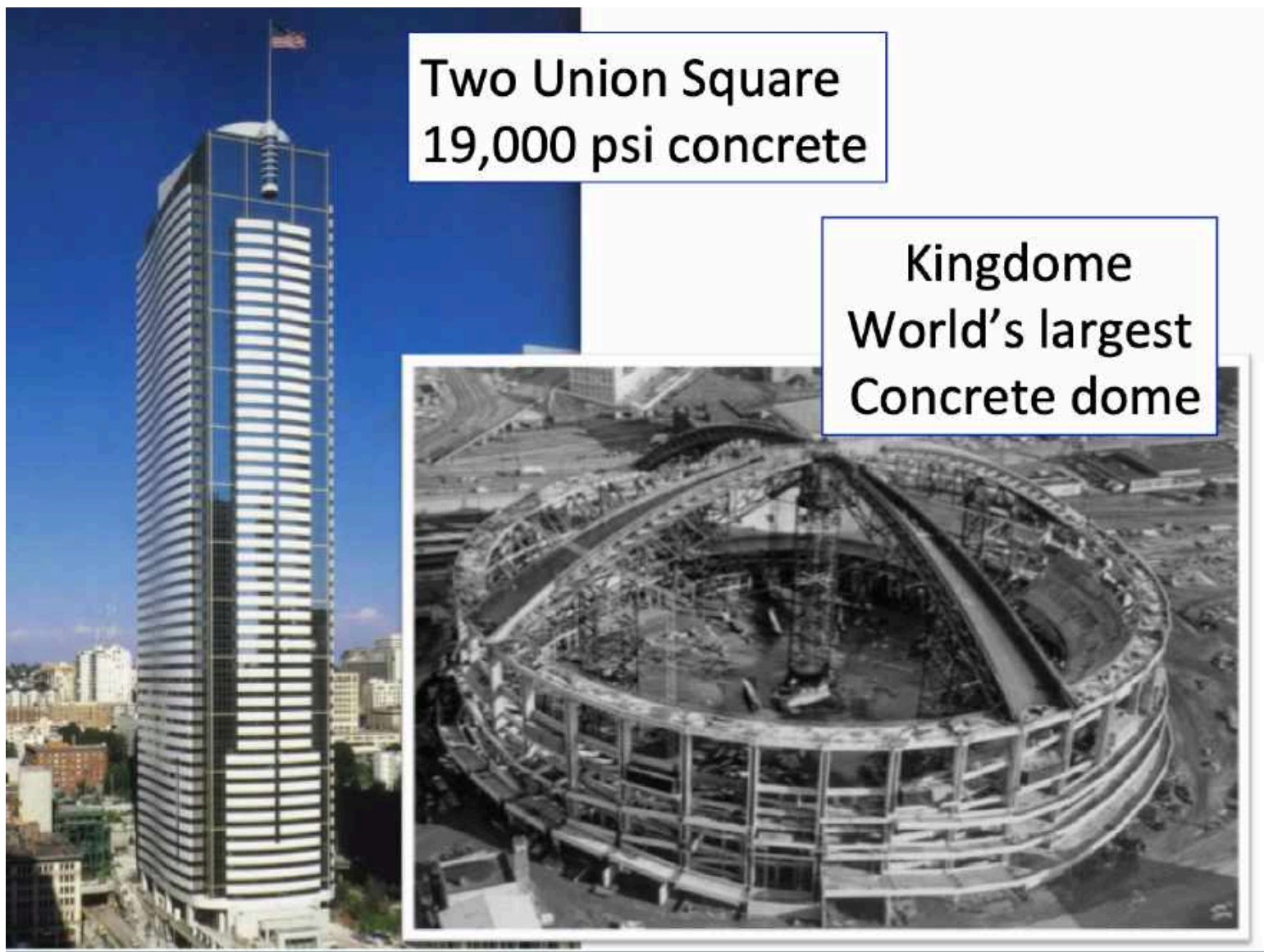
## LOCAL LABOR

The construction of concrete tubes for an ITT is almost identical to the construction of the 77 pontoons for the Lake Washington 520 Bridge opened in 2016. The bridge created thousands of jobs across Washington State. Jobs were created at the bridge site, plus Aberdeen, Tacoma, and Kenmore where the pontoons and anchors were fabricated.



## LOCAL MATERIAL

The ITT tubes will use famous high-quality NW concrete. The Kingdome had the largest concrete roof in the world. The Seattle office tower Two Union Square achieved a compressive strength of 19,000 psi, one of the highest on record.



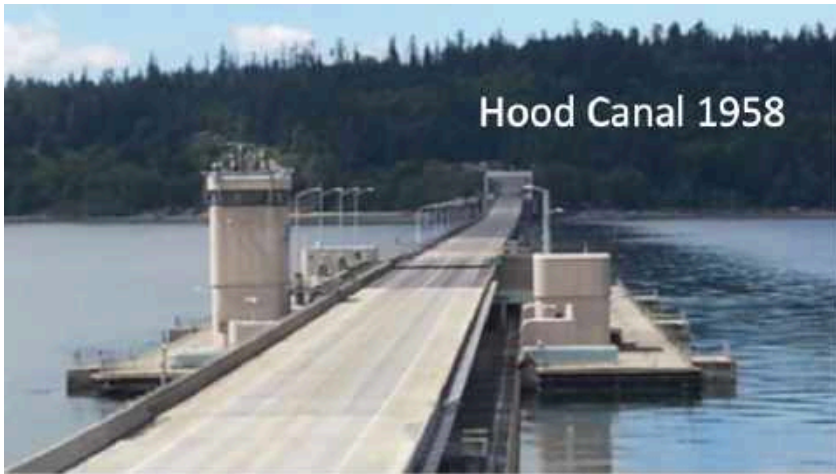
Two Union Square  
19,000 psi concrete

Kingdome  
World's largest  
Concrete dome



## LOCAL TECHNOLOGY

Washington State is the world's leader in building concrete pontoons. The first Lake Washington Bridge was opened in 1940. The Hood Canal Bridge opened in 1958, and the 520 Bridge in 2016. Tacoma's Concrete Technology Corporation founded in 1951 was the country's first prestressed concrete fabricator. They have built and shipped floating structures to San Diego, Alaska, and Indonesia.



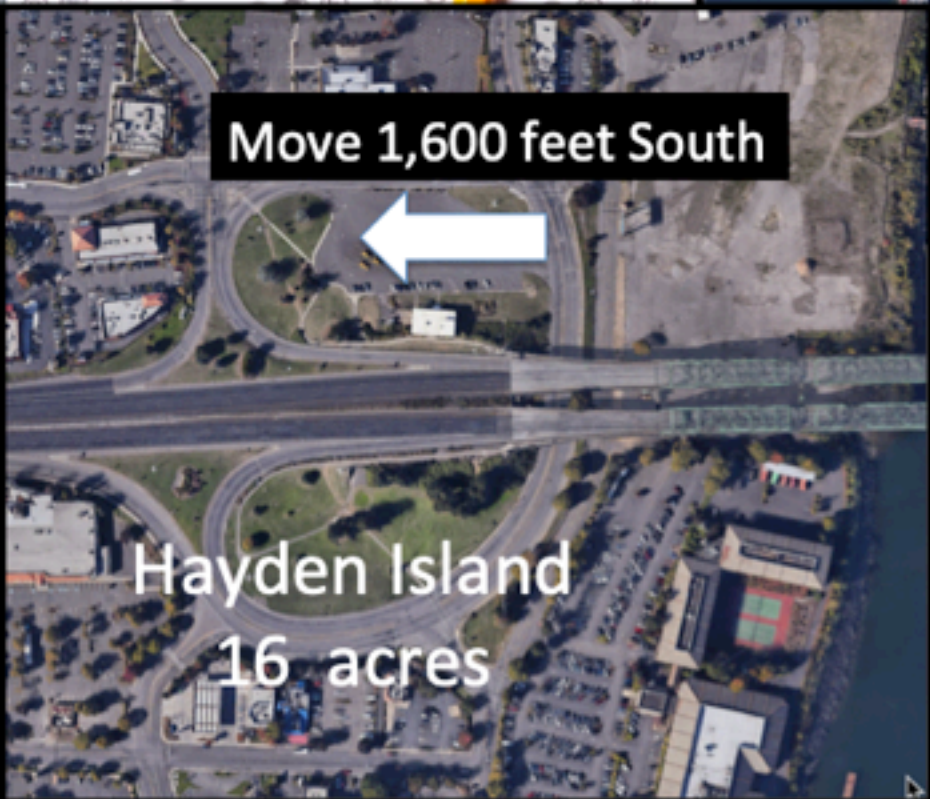
## LOCAL GEOGRAPHY

The Port of Vancouver has an 82-acre site 6 miles downriver of the current I-5 Bridge. This site is ideal for an ITT casting yard similar to the Aberdeen casting yard built for the 520 pontoons.



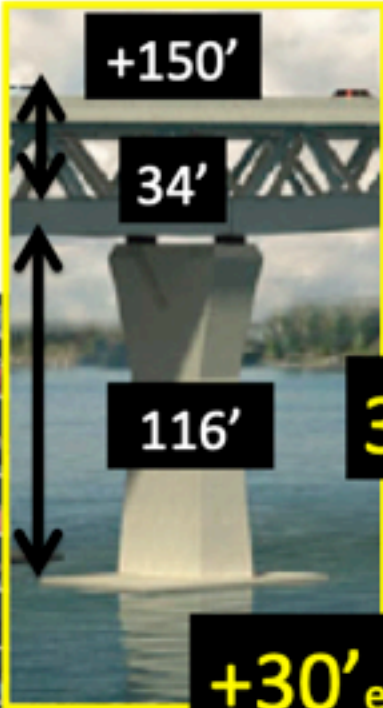
Bob Ortblad MSCE, MBA





**Bridge**  
36 acres of ramps  
need to be moved to  
obtain a **3.3% grade**

# Tunnel has Less & Shorter Grade Connects to current on & off ramps



**3,600' @ 3.3%**

**+30' elev.**

**+150' elev.**

**+10' elev.**

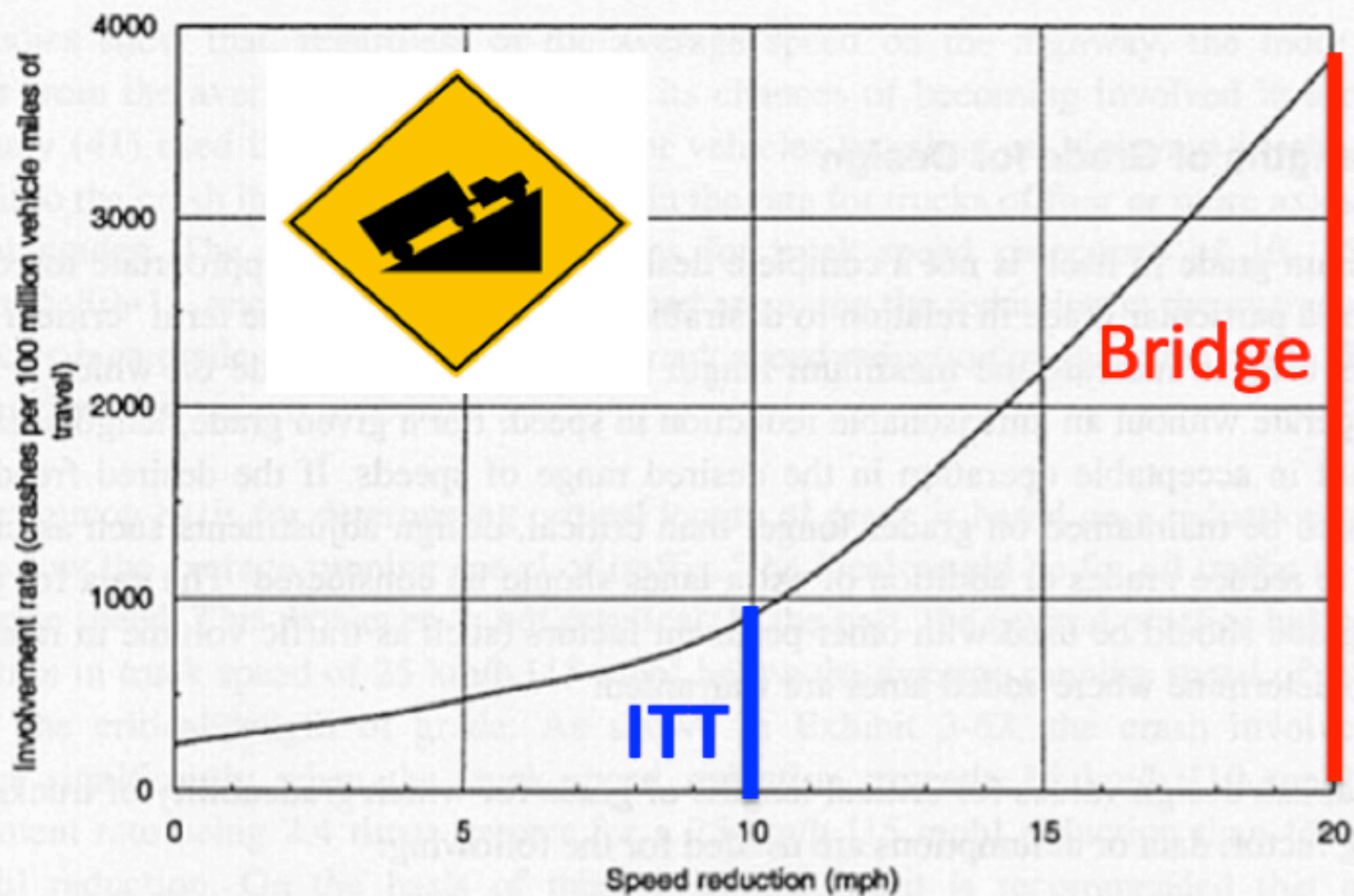
**-50' elev.**

**2,000' @ 3.0%**





# Crash Involvement Rate



**Exhibit 3-62. Crash Involvement Rate of Trucks for Which Running Speeds Are Reduced Below Average Running Speed of All Traffic (41)**