

## Key Findings

1. Instead of bus rapid transit, Sound Transit officials advanced light rail as their preferred mode across the Interstate 90 bridge.
2. By increasing the costs of building the bus system to rail standards and adding the costs of converting it to light rail, and accounting for traffic disruption during construction and conversion, Sound Transit officials were able to artificially boost the costs and reduce the efficiencies normally found in traditional BRT systems.
3. By overstating the benefits of light rail and artificially increasing the costs of a much more efficient BRT system, Sound Transit officials were able to “justify” their otherwise unjustifiable plan to build costly passenger rail across I-90.
4. A true bus rapid transit system could be built faster, cheaper and carry more passengers than would light rail. Sound Transit should admit their bias and give taxpayers what they want: cheap, efficient, high capacity transit, now.

## Sound Transit Officials Exaggerate Benefits of Light Rail across I-90

### *Early Bias Shows Planning Failures*

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In 2005, Sound Transit officials conducted an alternatives assessment of several different high-capacity transit modes for its East Link alignment across Lake Washington. Two modes made the final cut, light rail transit and bus rapid transit (BRT).

After the analysis, Sound Transit officials advanced light rail as their preferred mode across the Interstate 90 bridge. Officials claimed light rail was faster, carried more people and was more reliable, and cheaper than BRT.

This decision surprised many public transit experts because BRT is generally cheaper and performs more efficiently than passenger rail.

This decision also confirmed that Sound Transit officials have always wanted light rail on the Interstate 90 (I-90) bridge across Lake Washington, regardless of rail's poor performance and high costs. As far back as 1995, and before any substantive alternatives analysis, Sound Transit's first proposal to voters included light rail across the bridge.

Given its complexities and high capital costs, how do Sound Transit officials justify their choice of light rail over BRT for its route across the Interstate 90 bridge?

Sound Transit officials invented a completely new form of BRT, which was more expensive and operated less effectively than a traditional bus rapid transit system.

Dubbed rail convertible bus rapid transit (RCBRT), officials created a bus system built to rail standards, on exclusive guide ways, which would be fully converted to light rail at some point in the future.<sup>1</sup> By increasing the costs of building the bus system to rail standards and adding the costs of converting it to light rail, and accounting for traffic disruption during construction and conversion, Sound Transit officials were able to artificially boost the costs and reduce the efficiencies normally found in traditional BRT systems, perhaps hoping that no one would notice.

<sup>1</sup> “Rail Convertible BRT – Further Study Issue Paper Summary,” Sound Transit, November, 2005, at [www.soundtransit.org/documents/pdf/projects/seis/BRTIssuePaperSummary\\_13.pdf](http://www.soundtransit.org/documents/pdf/projects/seis/BRTIssuePaperSummary_13.pdf).

## **Sound Transit's Make-Believe BRT System Artificially Increases Costs**

Sound Transit officials estimated that a light rail system between Seattle and Redmond with a tunnel in downtown Bellevue costs \$3.2-\$4.4 billion (2005\$).<sup>2</sup>

To make BRT appear more expensive than this, Sound Transit officials assumed it would be built to rail standards and converted to rail in the future. Sound Transit officials explain that a RCBRT system designed to rail standards “means that the appropriate curves, grades, station platforms and station configurations are built in from the start . . . and the alignment chosen is the same as what would be chosen for light rail.”<sup>3</sup>

As a result, Sound Transit officials estimated a RCBRT system between Seattle and Redmond, with a tunnel in downtown Bellevue costs \$4.42-\$5.94 billion (2005\$).<sup>4</sup>

Traditional bus rapid transit systems cost far less than this.

In a comprehensive study comparing light rail to a BRT system and Sound Transit's bias towards light rail, transportation consultant Dr. Richard Harkness found many examples of Sound Transit officials overestimating the benefits of light rail transit while at the same time underestimating the value of bus rapid transit.<sup>5</sup>

Dr. Harkness estimates that if Sound Transit were to switch to a BRT alternative, taxpayers would save \$900 million per year over a thirty year period.<sup>6</sup>

## **Sound Transit Officials Exaggerate Benefits of Light Rail, Again**

Sound Transit officials have a long history of inflating the supposed benefits of light rail. The most recent example shows Sound Transit officials projecting a passenger rail ridership of 310,000 passenger trips per day by 2030 on its entire rail system.<sup>7</sup> Yet the Puget Sound Regional Council, which is the federally mandated Metropolitan Planning Organization, says passenger rail ridership will be only 164,400 passenger trips per day by 2030, half of what Sound Transit officials claim it would be.<sup>8</sup>

Sound Transit officials also exaggerate the passenger capacity of light rail and conclude that it is superior to Bus Rapid Transit.

In an alternatives study, Sound Transit officials say that conceptually, BRT “would support the long-range land use plans and projected growth in activity centers, but it may not be able to meet long term travel needs between Seattle and

<sup>2</sup> “Sound Transit ST2, Past and Present I-90/East Corridor HCT Alternatives Studies,” Sound Transit, March 2006, Pg. 27, at [www.soundtransit.org/documents/pdf/projects/seis/Past-PresentI-90ECorridorHCTAltStudies.pdf](http://www.soundtransit.org/documents/pdf/projects/seis/Past-PresentI-90ECorridorHCTAltStudies.pdf).

<sup>3</sup> Ibid, page 29.

<sup>4</sup> Ibid, page 30.

<sup>5</sup> “How Sound Transit abused the planning process to promote light rail,” R.C. Harkness PhD., Coalition for Effective Transportation Alternatives, January 2005, at [www.globaltelematics.com/pitf/harknessreport.pdf](http://www.globaltelematics.com/pitf/harknessreport.pdf).

<sup>6</sup> Ibid.

<sup>7</sup> “Mass Transit Guide, The Sound Transit 2 Plan,” Sound Transit, September 2008, Pg. 5, at [www.washingtonpolicy.org/sites/default/files/STInfoMailer10-08.pdf](http://www.washingtonpolicy.org/sites/default/files/STInfoMailer10-08.pdf).

<sup>8</sup> “Transportation 2040, Chapter 4 Transportation,” Puget Sound Regional Council, March 2010, Pg. 71, at [www.psrc.org/assets/3677/04-Transportation.pdf](http://www.psrc.org/assets/3677/04-Transportation.pdf).

Bellevue.”<sup>9</sup> Sound Transit officials claim BRT would only be able to carry 5,400 persons per hour per day across I-90, yet cross-lake demand during the peak hour would reach 5,850 passengers, which according to Sound Transit officials was beyond the capability of BRT.<sup>10</sup>

Yet, Dr. Harkness’ analysis shows real-world examples of many BRT systems that carry far more passengers per hour than what Sound Transit officials assume. In fact, Dr. Harkness adds:

It is interesting to note what Sound Transit’s predecessor agency said about ultimate BRT capacity in their 1993 FEIS, which compared heavy rail against a busway alternative. ‘The theoretical per direction capacity of a busway, or barrier separated lane for exclusive use for buses, is approximately 22,000 persons per hour in one direction past a single point.’ Amazingly enough operators of the New York busway and Bogotá’s TransMillenio are already far exceeding what Sound Transit asserts is the theoretical [passenger] limit for BRT.<sup>11</sup>

Dr. Harkness adds, “Sound Transit’s estimated year 2020 passenger demand for Link light rail is far below the systems’ capacity, and could easily be handled by a modest BRT system.”<sup>12</sup> He goes on to conclude that light rail transit on I-90 “would reduce the people moving capacity in that corridor to well below what a mix of BRT and other HOV vehicles could achieve.”<sup>13</sup>

## Conclusion

By overstating the benefits of light rail and artificially increasing the costs of a much more efficient BRT system, Sound Transit officials were able to “justify” their otherwise unjustifiable plan to build costly passenger rail across I-90.

Not surprisingly, this approach has been met with strong popular resistance, as Sound Transit faces a legal challenge in front of the State Supreme Court, opposition from Bellevue city officials and local residents, rising costs, and falling revenues.

A true bus rapid transit system could be built faster, cheaper and carry more passengers than would light rail. Sound Transit should admit its bias and give taxpayers what they want: cheap, efficient, high capacity transit, now.

*Read the full study “How Sound Transit Abused the Planning Process to Promote Light Rail,” by Dr. Richard Harkness at, [www.bettertransport.info/pitf/harknessreport.pdf](http://www.bettertransport.info/pitf/harknessreport.pdf).*

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<sup>9</sup> “Sound Transit ST2, Past and Present I-90/East Corridor HCT Alternatives Studies,” Sound Transit, March 2006, Pg. 15, at [www.soundtransit.org/documents/pdf/projects/seis/Past-PresentI-90ECorridorHCTAltStudies.pdf](http://www.soundtransit.org/documents/pdf/projects/seis/Past-PresentI-90ECorridorHCTAltStudies.pdf).

<sup>10</sup> Ibid, page 16.

<sup>11</sup> “Comparison of Link light rail versus Bus Rapid Transit trunk line capacity,” R.C. Harkness, PhD, March 11, 2003, Pg. 4, at [www.effectivevtransportation.org/docs/BRTvsRailCapacityHarkness.pdf](http://www.effectivevtransportation.org/docs/BRTvsRailCapacityHarkness.pdf).

<sup>12</sup> Ibid, page 10.

<sup>13</sup> Ibid, page 10.