

OC Transport Chapter 5

The 2003 CenterLine EIR

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The 2003 CenterLine EIR [1] drastically redefined the CenterLine Project to include,

1. The \$1040 million CenterLine Light Rail System, essentially as previously defined in the 2000 report, plus,
2. A \$185 million, 12 lane-mile widening of Bristol Street (BSW) , and
3. A \$544 million, 12% bus service expansion (BUS).

Although the added elements clearly are, and were described in the report as, of independent utility, the performance analysis was performed only on the bundled whole *project*. This had the effect of cloaking the performance of the individual elements, in particular, the light rail element.

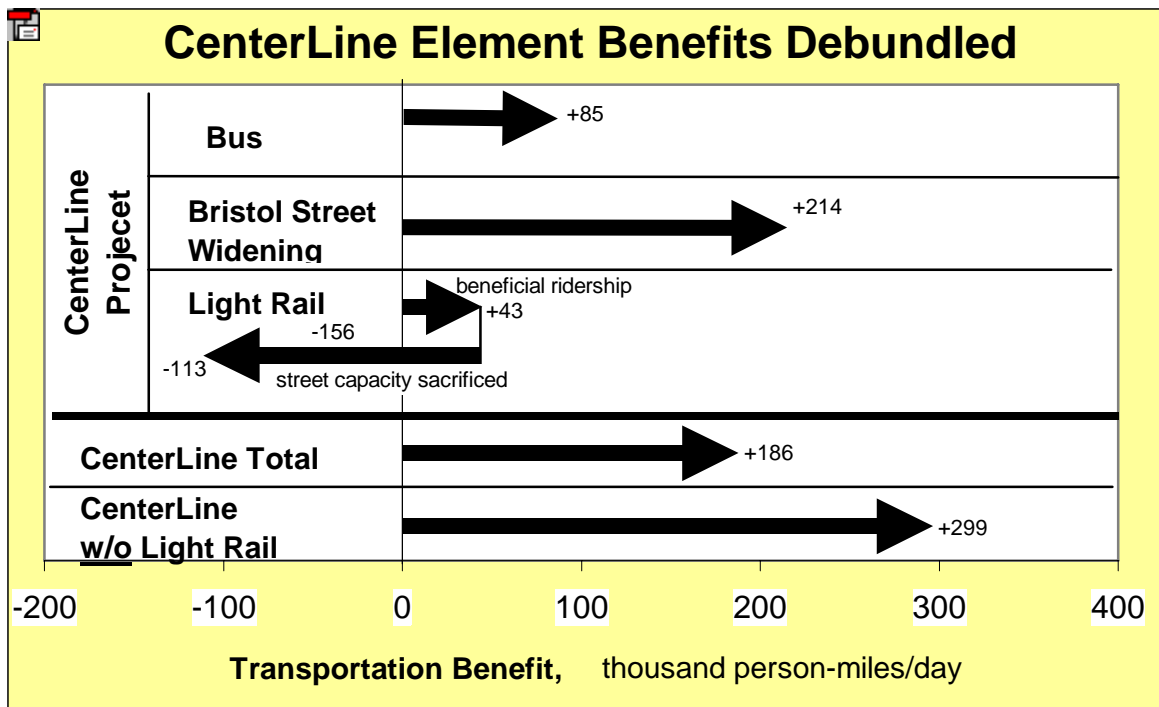
Not surprisingly, the analysis, as opposed to that in the 1999 and 2000, reports, showed a positive overall transportation benefit. But that begs the question: “Is that positive result attributable the centerpiece light rail or the street widening and bus service expansion?” Is the marginal benefit of the light rail system in the CenterLine *Project* positive, or, as found in the 1999-2000 EIRs, negative..

As early as November 2003 [2] AJM argued that the analysis must be “debundled”, in order to understand how much if any of the benefit could be attributable to the billion dollar light rail. Several presentations made to the Board in the next several months argued that this marginal benefit could and should be determined by a relatively small extension of the bundled project analysis, by comparing the performance of the bundled *project* with that of BSW performance and BUS alone, without the Light Rail element (i.e. without light rail ridership and its three adverse guideway traffic impacts¹).

In May 2004, AJM carried out a “second best analysis “ being the best one could do without OCTA’s traffic modeling capabilities of. By simple standard approximations one can make pretty good estimates of the capacity lost to street lane taking, and that gained by the BSW and BUS elements. The loss due to blockading and green light preemption of cross streets cannot be estimated short of OCTA modeling capabilities so were ignored. The effect of ignoring those adverse impacts is that the analysis can only serve as an *upper* limit (*best case*) estimate of light rail net benefit.

The results of that analysis are depicted in the following chart

¹ The three guideway impacts are: 1. street lane taking, 2. blockading of unsignalized crossings, and, ,3. partial preemption of green light at signalized crossings.



Each horizontal arrow here represents the transportation capacity benefit, of an element or sub element of the *project* in person-miles/day. The top three rows represent the three independent utility elements of the *Project*: BUS, BSW, and LR. The CenterLine bus element (12% service expansion) yields a benefit capacity of 85,000 person-miles/day; BSW, 11 arterial lane-miles, 214,000 ps-mi/day.

The light rail element consists of two totally dependent components, a positive (right facing arrow) ridership benefit of the 43,000^{2,3} person-mi/day removed from the streets and a negative, (left facing arrow), loss of 113,000 ps-mi/day street capacity based on the 11 lane-miles taken. The other two loss terms due to partial or complete blockage of cross streets cannot be estimated without the traffic model, so are ignored, here (effectively set = zero). We see that even ignoring the cross-street blockage, the loss of street capacity alone (156,000) is more than three times the beneficial ridership. The bottom two lines represent the resultant total system capacity, with and without the light rail element. The bottom line is that by this estimate:

simply removing the light rail element and its intrinsic adverse street impacts from the CenterLine Project, would provide more than 61% increase in transportation benefit at a cost reduction of \$1 billion.

² "FY 2005 Section 5309 New Starts Report", Template 6. This is the result of a properly debundled analysis of the light rail component only, as mandated by FTA guidelines, but does not account for the adverse street traffic impacts.

These results were submitted to OCTA on May 14, 2004, in the form of a complete, fully referenced spreadsheet derivation³. OCTA staff was tasked to review and comment. A staff engineer was assigned to prepare the critique. Through about three months and about as many meetings between OCTA and AJM, staff was fully briefed and understood the derivation. A final report was written but never released. That effort died and the board request for comment was never satisfied.

Ultimately in about October 2004 Parsons-Brinkerhoff was tasked to do a "Marginal Benefits" analysis. AJM was asked to submit a problem statement and specification for the study and did so. An analysis entitled "Marginal Benefits Report" was prepared and submitted by PB, in March 2005 [3]. The AJM critique of that study [4], is too long to include here but in short, it studied the wrong problem. What it did study is the relative advantages of 1: light rail without any intrinsic adverse traffic impacts, and, 2.: adding 4.8 lane-miles to Bristol Street.

It did not deal with the issue defined in the AJM specification, namely the marginal benefit of the whole *light rail element* (including its intrinsic adverse traffic impacts on parallel and crossing traffic).

So in summary, the bottom line finding of the AJM analysis that:

simply removing the light rail element and its intrinsic adverse street impacts from the CenterLine Project, would provide more than 61% increase in transportation benefit at a cost reduction of \$1 billion.

stands strongly supported by the 1999-2000 EIRs, and unrefuted by any subsequent documented argument.

This finding has implications far beyond the narrow confines of the now dormant CenterLine project which will be discussed in the final, Ch 6, of this series.

References:

1. The CenterLine, Supplemental Draft Environmental Impact Statement and Revised Draft Environmental Impact Report", OCTA, October 2003.
2. Letter, to Charles Guess, Project Manager, Re: "CenterLine, SDEIS/RDEIR Dated Oct 2003", "Unbundle the 2003 CenterLine SDEIS/R", AJM Engineering, 20 November 2003.
3. "Marginal Benefits Report", Task no. 21.05, Parsons-Brinkerhoff Quade and Douglas, March 14, 2000', .
4. "Critique of 'Marginal Benefit' Report", AJM Engineering, 3 May, 2005, online at <www.urbantransport.org/critiq.mbr.pdf>

³ Detailed calculations from EIR data at "CenterLine Debundle Analysis", AJM Engineering, 8/23/04, online at <www.urbantransport.org/debundle.pdf>