

False Promises: Light Rail Reduces Congestion

Does Rail Reduce Congestion-1?

From the Oregonian [October 29, 1998](#) (just after the Westside line opened):

The debate about ridership on westside light rail and its effect on traffic continued Wednesday, with Tri-Met saying it has attracted 1,773 new bus and rail riders in the westside corridor

Tri-Met based its number on a count of bus riders between 6 and 9 a.m. on an average of five mornings in October 1997 compared with a similar count of bus and rail riders this month in the same corridor. The agency's transportation consultants counted 3,642 riders both directions in October 1997 and 5,415 this month.

Analysis: This is a real count, not a projection and is from the transit agency itself

Ridership went from 3,642 to 5,415 an increase of 1,773. Of the 5,415 total transit users, 3,642 (67%) were previous transit users and 1,773 (33%) were not. Typically light rail lines have more riders in the first month due to the hoopla surrounding their opening and before some riders realize that, for them, the rail is actually worse than the bus that it replaced so this number of new riders is probably an ABSOLUTE MAXIMUM

Conclusions

1. Tri-Met found that, over a three hour period, 1,773 people were removed from the freeway for a total of 591 people per hour.
2. A freeway lane has a capacity of around 1,800 cars per hour.
3. 591 people would occupy 492 cars at 1.2 people per car.
4. $492 / 1800 = 0.27$, or about 1/4 of one lane of freeway capacity.
5. **MAX removed ONE-QUARTER OF ONE LANE worth of traffic from the Sunset during rush hour.**

Does Rail Reduce Congestion-2 ?

A Tri-Met [Fact Sheet](#) (year 2006, 8 years after the Westside line opened) claims that

- "Westside MAX provides the transportation capacity equivalent to another 1.2 lanes in each direction on the Sunset Hwy."

Conclusion

1. 2/3 of MAX riders would be on a bus if MAX had not been built (as shown above: "Of the 5,415 total transit users, 3,642 (67%) were previous transit users...")
2. Therefore MAX carries a number of people equal to 1/3 of the number of people on 1.2 lanes of the freeway. $1/3 \times 1.2 = 40\%$ The number of cars removed is 40% of one lane / 1.3 people per car = 31% of one lane of US-26
3. **MAX only reduces traffic by 31% of one lane of freeway, according to Tri-Met's own data.**

Comment

1. Those 3 lanes of the Sunset, also carry trucks and buses along with a share of commuter equal to MAX.
2. 18 miles of MAX cost \$963 million or \$53.5 million per route mile of double track (\$26.75 million per track-mile).
3. Freeways typically cost \$5-10 million per lane-mile
4. The cost was 267% - 535% that of a freeway lane for removing 31% of one freeway lane of traffic - **a cost of 950% - 1900% above that of a freeway per usefulness.**

Does Rail Reduce Congestion-3?

The [Portland/Vancouver I-5 Transportation and Trade Partnership](#) used 18% and 31% as the percentage of rail riders that would be in cars if light rail wasn't built [See here for the method used.](#)

Conclusion :

The above two methods produce answers consistent with the [Portland/Vancouver I-5 Transportation and Trade Partnership](#) and we can be fairly confident that Portland's MAX only removes less than 1/3 of one lane worth of traffic from a three lane freeway. LRT costs about 10-19 as much as freeways for the same capacity.

Final Conclusion: LIGHT RAIL COSTS TOO MUCH AND DOES TOO LITTLE