TAMC Board Item 9-23-26

Basis and Math Calculations of Roundabout Benefits/Costs for Hwy 68 Project?

I was extremely surprised during the August Board Meeting to not see **ANY DETAIL** of **how the Benefit Totals were mathematically calculated** (X x Y= Total) and why no Board member asked for the details when reviewing the Benefit Cost Analysis Summary for the Hwy 68 Improvement Project. Would you just accept a contractor's estimated total to build a house for you without asking for any of the details on how they arrived at the total? **Since the Benefit Cost Ratio of only 1.17 was SO LOW**, it is logical that each total should be examined closely for how they were calculated and if it was accurate and based on appropriate basis/assumptions. **Given that a miscalculation of only $16 Million (from a $380M Total of the Totals or 4%) determines if the project is barely a net benefit or a net loss**, the calculation details of Benefits and Costs totals need to be very closely examined.

The questions that were not asked or answered were:

1. Does Travel Time Savings ($159.8M) calculate only Peak times and use "transit times" and does it include the travel time **LOSS** during the non-peak times (approx. 18 hours per day) that Caltrans/TAMC admits will be experienced by installing roundabouts compared to Adaptive Signalized Intersections? What are the alleged travel time savings and what was the dollar value assigned to each unit?

2. How is the Collision Reduction Benefit ($99.6M) calculated and does it include alleged reduction of collisions that occur only **within an intersection** that may be impacted by roundabouts or does it include collisions that occur **between intersections** that would be unaffected by roundabouts. Was it based on **historical intersection collision data** for the 68 corridor which has been consistently below the state average and what percentage of reduction is attributed to roundabouts and why? What dollar value was attached to each type of collision, similar to how it was calculated in the EIR? Does the total include the **62% increase in collisions** that resulted in 2 lane roundabouts compared to the signalized intersections they replaced per the AZ Study?

3. How was Wildlife Crossing Crash Reduction ($6.6M) calculated and what **historical data** was it based on? **Was it based on vehicle damage from large animals like deer or was it calculated on cost to remove dead animals from the road?** How many historical collisions are there now on that stretch of the corridor currently and was it assumed that the crossing would **eliminate all of them or a percentage** depending on animal compliance?

4. Does the Cost of Right of Way ($21.7M) and Construction ($69.6M) factor in the **significant cost increase** that has occurred over the last 3 years and are those numbers factoring in the same cost increases expected in the next 3 years before construction begins? Estimates for 9 roundabouts increased from approx. $220M to $330M for a **50% increase** so was that kind of increase used in calculating the cost at the time they would be built? Does the construction cost include that cost of the newly recommended signage **"Do Not Drive Beside Trucks"** that Caltrans plans to install at each roundabout?

I understand that the Board voted to "support the continued advancement of the project" in spite of the **extremely low Benefit/Cost Ratio** which will have cost the taxpayers $21 Million in paperwork and plans before any construction could even start. However, **I urge Board members to obtain the missing details of the Benefit/Cost Totals before the final steps are taken to push roundabouts** that have very little real benefit (0 minutes AM Peak and alleged 6 minutes PM Peak reduction for only 2 hours a day) with a very significant cost that keeps rapidly increasing, negative impacts on emergency response times and non-peak commute and the inability to adapt to new technology and changing traffic needs.

Thank you,

Dwight Stump