

Agenda Item #4 (SR 68 Adaptive Signal Project Update)

It was very encouraging to see the TAMC staff report that stated **“early results show improved travel times in the prime direction of traffic flow during peak commute times”** that were produced by the newly installed AI Adaptive System on Hwy 68 and to see the numerous news articles, recognizing and applauding the installation of this AI Adaptive System Technology. Here are just some of the articles from news sources:

[California Just Put AI in Charge of 9 Traffic Lights. Here's Why](#)

[Heavily congested California highway will now be controlled by AI](#)

[Caltrans Deploys AI Traffic Control on Highway 68 | Let's Data Science](#)

[California Highway 68 Gets AI Traffic Control in \\$1.2M Pilot - NewsBreak](#)

[AI traffic signals introduced on Highway 68 to improve flow](#)

The AI Adaptive installation also aligns with new technology programs from Sacramento as noted in one of the articles:

[California Transportation Secretary Toks Omishakin highlighted the speed advantage of AI tools for traffic analysis: “Two to three months will turn into two to three days... to identify problems.”](#) The pilot feeds into Governor Newsom’s broader AI initiative, part of statewide efforts to leverage machine learning for everything from congestion analysis to safety improvements.

The Highway 68 experiment involves roughly **two years** of data analysis to determine whether AI signals can permanently replace traditional infrastructure solutions. If successful, expect similar AI deployments across California’s most congested corridors—a future where your commute gets smarter, not just wider.

The TAMC staff report by Doug Bipse stated that **“staff validated the use of the Miovision data for before and after analysis”** so everyone knows that they can be trusted in future analysis.

The report stated that after only a short time of operation the Miovision AI Adaptive system reduced peak travel time, which was much more than previous simulations for roundabouts. Showing its ability to adapt and learn, the report also stated that **“Importantly, travel time results significantly improved between the first and second weeks of operation and appear to be improving more in the third week.”** Additionally, **“the project team verified that the adaptive system continually adjusts and optimizes signal timing, indicating that performance may continue to improve over time.”** As the AI system continues to learn and Miovision and Caltrans continue to make adjustments to the system, the performance will continue to improve even more which is the great advantage of the AI Adaptive system over roundabouts, which cannot adapt to traffic changes.

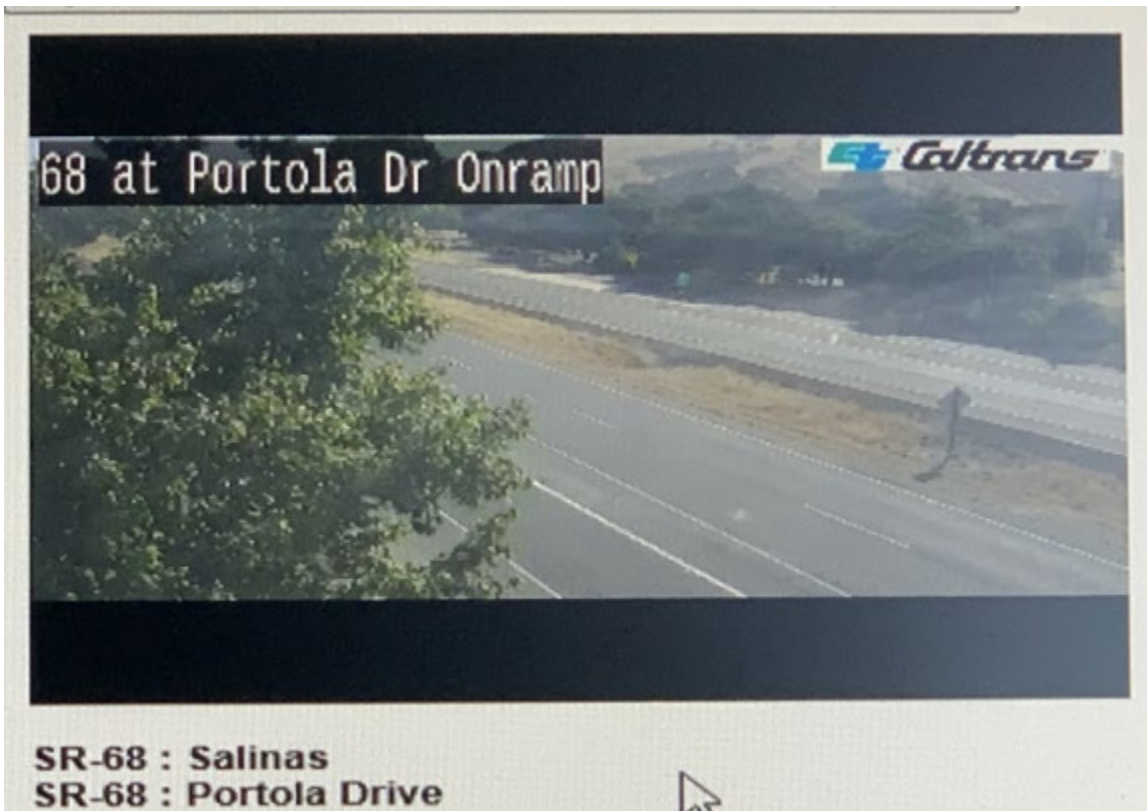
The report confirms that the AI Adaptive **“establishes a real-world benchmark for evaluating the proposed Phase 1 roundabouts”** and seems to already make the roundabouts unjustifiable based on preliminary performance and cost/benefit analysis. **The Board needs to relook at putting a hold on the spending of millions on Phase 1 roundabouts final design, since Ai Adaptive is already showing to be a better option.**

Performance Observation

AI Adaptive performance can easily be seen first-hand by anyone by using the real time Waze system that shows actual transit times through the corridor and viewing the intersection operation via the Caltrans intersection cameras that are at each of the 9 intersections. **I reported my recorded observations to Doug from Wednesday, May 20th for the AM Peak Commute which showed a big improvement over historical delays as follows:**

May 20 AM AI Adaptive Performance

I studied it with Waze transit times from Toro Cafe to Josselyn Canyon Rd and documented the slow down areas. There was the usual back up at the 2-lane merge at Portola that happened **before** there was any slow down at Torero or San Benancio, but it never got very long in length and never got back to the second Caltrans camera (east of Portola) which showed no delay at all today. I recorded Waze transit times of **15 min at 6:38 am** with a gradual increase to **16 min at 6:49, 17 min at 7:06, 18 min at 7:20, 17 min at 8:30, 18 min at 9:03**. I took pictures of the map and video of the intersection flow, and Torero and Portola traffic flow. Torero, San Benancio and Corral showed good flow with gaps between vehicles. Green times for the west mainline ranged from 160 to 178 seconds and there as very quick cycle lengths back to green for the west bound, so very little back up at the light. **By 9:03 am there was no back up at all at Portola** (see attached picture) and the entire corridor was flowing very well. **So today, the transit time during peak through the entire corridor only increased by 3 minutes, did not have the historic length of back up at the merge and the merge congestion at Portola was completely gone by 9:03.**



AI Adaptive System Data Acquisition

The report also noted an additional benefit of using the Miovision AI Adaptive system over roundabouts is that **“the Miovision system continually collects travel time data and other performance measures that can easily be retrieved”** which is much more accurate than previous methods of traffic data acquisition and is captured and retained at **significantly less cost.**

Performance Measurement Suggestions

As TAMC and Caltrans continue to collect data on the performance of the AI Adaptive system, I suggest that they select **measurement points** that include just before the San Benancio intersection, like the Toro Café, and just after the Josselyn Canyon intersection to **accurately measure the performance of the Miovision system** at the intersections. Although the intersection performance will impact the condition at the Portola 2-lane merge, the system should not be judged on what happens when traffic suddenly increases significantly and is funneled from 2 lanes to 1 before the first signalized intersection. Simple observations have already documented that the **traffic back up at Portola merge occurs well before** any slow down from the San Benancio intersection and thus is not caused by it.

Non-Peak Travel Time Measurement

It would also be important to measure travel times during **non-peak corridor commute times with AI Adaptive to compare to the travel times with 9 roundabouts** since it was already acknowledged by TAMC staff that roundabouts will lengthen the non-peak travel times, which are approximately 20 hours each day. That longer travel time with roundabouts needs to be quantified for the Board and the Public and factored into the cost/benefit for them, along with the longer emergency response times they produce. The longer travel times caused by the repetitive (9 times) slowing down and accelerating back up to speed will also increase the emissions, since acceleration emissions are 6-10 times greater than idle emissions, as verified by submitted studies.

AI Adaptive with Roundabout Combination Proposal

As stated in previous Board meetings, **I strongly disagree with the Staff suggestion to combine the 3, Phase 1 roundabouts with 6 AI Adaptive intersections on the corridor.** There is no documented evidence that combination will improve anything on the corridor and it will **decrease the AI Adaptive performance**. It is well known that **one of the big advantages of the Miovision Adaptive System is its ability to communicate between intersections to maximize traffic flow** so it is totally illogical and detrimental to the system to remove 3 AI Adaptive units and replace them with 3 roundabouts. Where is the data and what are the facts that support such an unjustified idea of disrupting a system that operates best as a communicating unit? **That proposed option makes absolutely no sense and should be discarded.**

I urge the Board to study this new information thoroughly, evaluate the current AI Adaptive performance and future potential of this exciting technology and make prudent decisions on the best use of taxpayer funds now and going forward.

Sincerely,
Dwight Stump