Project SR

Improving Exit 7B

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Our Challenge Statement

Our challenge is to create safer, more efficient lanes, specifically on exit 7B, one of the most notoriously dangerous exits in Santa Rosa.
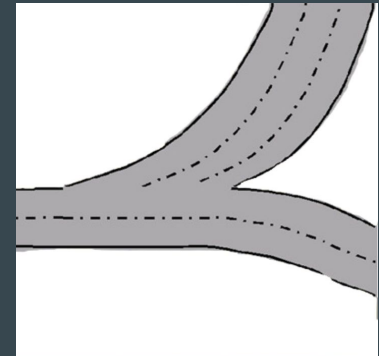
Our plan to create better highway conditions for the city can take a couple different approaches by fixing these problems making driving safer for everyone.

Actions That Can Be Taken

Adding more merging lanes so that two single lanes aren't merging into one with low visibility, or adding a breakdown lane on the side of the road in case of any accidents.

A couple of other actions we could take are to widen the lanes and cut back the brush to increase visibility. The goal is to create safer and more efficient highways in Santa Rosa by creating fixes for problematic intersections like bottlenecks.

Existing Conditions

Existing conditions of traffic seem to be never ending because a lot of people get out of work or start work around the same time and it causes huge traffic jams on highways/freeways making it even more difficult for people to get to where they need to be with a higher percentage of being in a accident
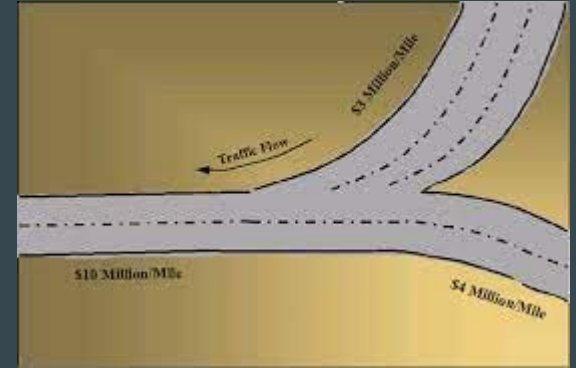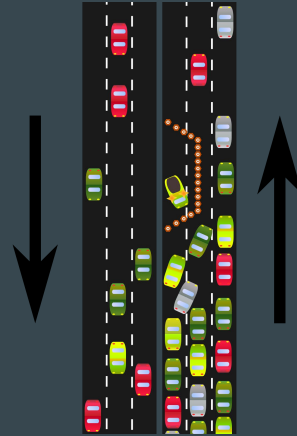
Existing conditions

The reason we chose this challenge is to get a solution for the problem we have on exit 7b and the US-101 north exit. Its a problem because many people including myself have or almost have been in a collision. A merging lane that turned into a single lane to a 2 lane soon again after. Another problem is that the exits force you to make quick decisions because the trees around that area block the view of the other car until its close to merging. I believe that the conditions the tree blocking to much of the view, it's dangerous when wet, and dangerous when there's a traffic jam.

Case Study

These are some pictures that are similar to the specific exit we believe is a big problem that leads to multiple accidents.
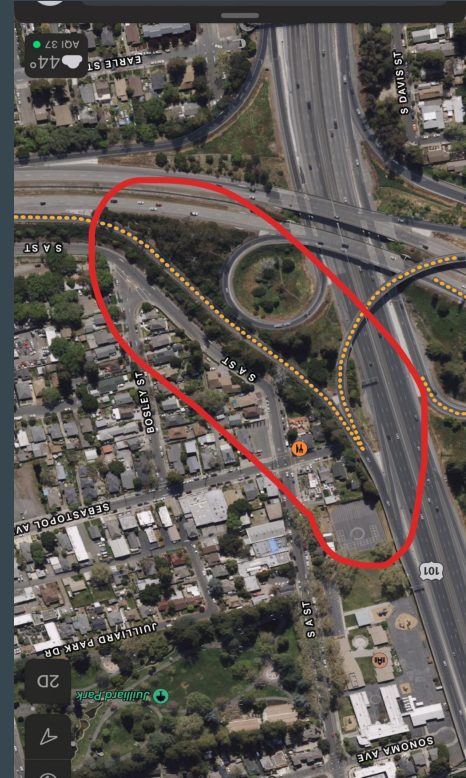

These are a couple different examples of what bottlenecks can look like, none of which are as dangerous as the one in Santa Rosa.

Lessons Learned

Adding extra merging lanes so that two single lanes aren't merging into one with low visibility, or adding a breakdown lane on the side of the road in case of any accidents, could help prevent and assist with any accidents that might take place.

A few other actions we could take, is to widen the lanes, cut back brush to increase visibility, and keep the yield stop light on at all times. The goal is to create safer and more efficient highways in Santa Rosa by creating fixes for problematic intersections like bottlenecks.

Short-Term Recommendations

As far as short term solutions, there's not a lot that we can do. Realistically any changes that we make will be long term, however one quick fix that would probably create a safer exit would be to have a yield light on at all times. The rest of the solutions are most likely more long term then short term but they both have the same goal in mind. While short term goals might make the highway somewhat safer, short term solutions are likely to increase safety but decrease in efficiency.

Short term solution:

Another short term solution could be to even set up a traffic light to allow cars to pass through at separate times because i have seen this work very well in other places and it is a simple solution.

Long Term Recommendations

Finding a long-term solution for traffic back-ups on exit 7B is key to ensuring less time is wasted during morning or evening commutes.

Our solutions: Add more merging lanes, widening lanes, providing breakdown lanes, and cutting back overgrowth for more visibility.

Adding More Merging Lanes

Widening Lanes

Long Term Recommendations

An added breakdown lane would also provide a space for vehicles that need emergency help without putting others on the road at risk.

Finally, cutting back brush and other overgrowths along the exit would help reduce visual obstructions preventing drivers from spotting hazards ahead of time and better preparing them on how to respond.

Cutting Back Brush

Adding Breakdown Lane