CONGESTION RELIEF

STATION #4

TRAFFIC SIGNALS AND SPLIT PHASES

EXISTING

PROPOSED

Potential Benefits: Peak Period Delay Reduction

<table>
<thead>
<tr>
<th>LOS</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<td>Existing Conditions</td>
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<td>Intersection Improvements No 3rd Lane</td>
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<td>Intersection Improvements + EB 3rd Lane</td>
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Capacity Improvements at Highway 101

Existing Conditions

With 3rd EB Lane + Intersection Improvements

AM PEAK

PM PEAK

LOS = A traffic engineering measure used to rate quality of traffic service based on speed, density, etc. Categorizes traffic flow on a scale of A (free flow) to F (traffic jam).

CONGESTION REDUCTION DIAGRAM

- Add North/South Simultaneous Signal Phasing (La Cuesta & Eliseo)
- Add 3rd Lane East Bound
- Add/Balance 2nd Left Turn Lane (Eliseo & College)
- Special Phasing
- Lengthen Left Turn Pocket
- Merge Lane onto SFDB (Manor & McAllister)
- Signal Timing
- Signalized Intersection

Additional 3rd Lane Zone

Intersecdion Improvement Zone

SIR FRANCIS DRAKE BOULEVARD

COMMUNITY OPEN HOUSE 06.01.2016
TIME-BASED TRAFFIC SIGNAL COORDINATION

Adaptive Traffic Signal System

- Sir Francis Drake Blvd. consists of interconnected and programmed traffic signals with multiple time-of-day timing plans responsive to traffic demands.
- Adaptive traffic signal systems have limited value in addressing oversaturated peak traffic conditions; generally help during “shoulders” of peak times and for adapting to fluctuations in traffic.
- Important to first focus on intersection improvements to improve peak period performance (e.g., targeted capacity improvements, traffic signal modifications, signal phasing changes).
- Project would provide basic infrastructure for future adaptive control: conduits, fiber optic cable, and new controller cabinets.
- Master control facility, controller equipment and sensors would be installed in the future; these have the highest costs.

TIME-BASED vs ADAPTIVE TRAFFIC SIGNAL COORDINATION

Time-based Signal Coordination:
Multiple time-of-day timing plans based on recent and typical traffic volumes

Adaptive Signal Coordination:
Timing plans adapt to real-time Traffic volumes
With community input & accident data, the project identifies important safety & access improvements to aid walking along the corridor & at street crossings. Local parents involved with Key Routes to School (KR2S) programs also contributed. Several walking tours were held. National accessibility requirements also shaped the recommendations, particularly at Wolfe Grade where stairs and long distances between intersections create access challenges.

Key Recommendations

- Major pedestrian safety improvements are recommended at Bon Air, Manor, Wolfe Grade, Laurel Grove, Ash, & McAllister.
- Additional enhancements are included at Eliseo & La Cuesta.
- KR2S program enhancements that support safe access of local kids to school are targeted for Sir Francis Drake between Eliseo & Bon Air where a widened sidewalk & barrier replacement is proposed. Additional KR2S intersection safety enhancements occur at McAllister, Laurel Grove, & Manor.
- Ash Street, a location of numerous pedestrian & vehicular accidents, is proposed to be improved with a push button activated flashing beacon to warn drivers, improved markings, & the addition of a center median pedestrian refuge island.
- The elevated pedestrian over-crossing to the east of Wolfe Grade does not meet accessibility code requirements per the American with Disabilities Act (ADA). Replacement with a code compliant structure at a cost of over 5 million dollars is not feasible at this time. The crossing at Laurel Grove is too far away to be considered an alternate accessible route. Signal improvements to the Wolfe Grade intersection will make the intersection operate more efficiently & allow a pedestrian phase to cross Sir Francis Drake. It is anticipated that the over-crossing & Laurel Grove will remain the primary route for kids going to school.
- Connect to the planned widened sidewalk on Bon Air Road connecting to Creekside Park.
Project cost to rebuild the overpass is $2,500,000.
This fee is for the structure itself and excludes design and right of way.
TRUCK TURNING

PROPOSED CONDITIONS

EXISTING CONDITIONS

SIR FRANCIS DRAKE BOULEVARD

COMMUNITY OPEN HOUSE 06.01.2016
Transit serves commuters & residents taking the bus to destination within & outside the Greenbrae, Kentfield & Ross communities. The project congestion reduction strategies, including intersection changes that give more green light time to Sir Francis Drake & the new third travel lane from El Portal to the 101, benefit transit function. Potential enhancements providing additional transit benefit include sidewalk enhancements at bus stops & signal priority to allow buses to pass through the intersection ahead of the normal green light.

Key Recommendations

- Provide widened code complaint sidewalk to the bus stop on eastbound Sir Francis Drake at Bon Air.
- Support Marin Transit & Golden Gate Transit who are studying comfort and signage at stops.

Potential Bus Queue Bypass

Existing Boarding + Alighting Data

SIR FRANCIS DRAKE BOULEVARD
COMMUNITY OPEN HOUSE, JUNE 1, 2016
SUMMARY TOPIC: BICYCLE NETWORK

STATION #4

This study evaluated bicycle access opportunities on the corridor for regional cyclists & kids going to & from school. No bike lanes are proposed on Sir Francis Drake due to lack of width to provide safe facilities. Bike lanes would require removal of travel lanes or purchase of additional right of way – both unfeasible outcomes. Removal of pinch points & general widening of the sidewalk between Eliseo & Bon Air as part of the Key Routes to School planning will better accommodate kids who wish to legally ride on the sidewalk. The creek multi-use path remains the primary regional route. Enhancement strategies include improving directional signage. Future studies are recommended to improve pedestrians & bicycle safety & intersection treatments.

Key Recommendations

- Conduct a future study of South Eliseo Drive and the existing Corte Madera Creek path to identify safety and access improvements. The study can also look at connections from Eliseo Drive to the creek path via Barry Way at Niven Park.

- Improve wayfinding signage to direct cyclists to the Corte Madera Creek path.

- Provide widened sidewalks along Sir Francis Drake Boulevard to accommodate kids who wish to bike to school.

Existing Bicycle + Pedestrian Infrastructure
Character & corridor beauty is important to this community. The project will be making streetscape & landscape enhancements associated with specific areas of transportation work along the corridor. The funding source restricts expenditure to repair activities when existing planting & landscape features are impacted. The County continues to support local LMMD activities in Greenbrae.

**Key Recommendations**

- Entry median and corner landscape treatments at Eliseo, La Cuesta, and El Portal should be replaced with new planting and decorative pavement if impacted by the project.
- New climate appropriate shrubs and trees should be added to the proposed planter areas along the widened sidewalk between Eliseo and Bon Air.
- Median planting and street trees should be repaired associated with improvements in Kentfield at Ash and College.