



CITY OF SALINAS

COUNCIL STAFF REPORT

DATE: NOVEMBER 6, 2018

DEPARTMENT: PUBLIC WORKS, TRANSPORTATION & TRAFFIC DIVISION

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TITLE: TRAFFIC SIGNAL PRIORITIZATION UPDATE:
CONSTITUTION BOULEVARD AT LAS CASITAS DRIVE
AND EAST BORONDA ROAD AT NORTH SANBORN ROAD

RECOMMENDED MOTION:

A motion to approve a Resolution approving:

- 1) A traffic signal concept at Constitution Boulevard and Las Casitas Drive; and
- 2) A mini-roundabout concept at East Boronda Road and North Sanborn Road.

RECOMMENDATION:

Staff recommends that the City Council approve a Resolution approving the traffic signal concept at Constitution Boulevard and Las Casitas Drive and the mini-roundabout concept at East Boronda Road and North Sanborn Road.

EXECUTIVE SUMMARY:

On August 29, 2017, the City Council approved the 2017 Traffic Signal Priority List. With the approval of the signal priority list, Councilmembers made specific recommendations to consider roundabouts at the East Boronda Road/ North Sanborn Road intersection and at the Constitution Boulevard/Las Casitas Drive intersection. Staff has hired a consultant and prepared a draft Intersection Control Evaluation (ICE) report for each intersection. It is requested that the Council receive the report and approve the traffic signal concept at Constitution Boulevard and Las Casitas Drive; and the mini-roundabout concept at East Boronda Road and North Sanborn Road.

BACKGROUND:

Traffic Signal Priority Update

On August 9, 2017, the City Council approved a Resolution designating the priority intersections for signalization. The intersections prioritized were:

- 1) East Boronda Road at North Sanborn Road,

- 2) Williams Road at Garner Avenue,
- 3) Constitution Boulevard at Las Casitas Drive, and
- 4) Alvin Drive at Linwood Drive

The planned signal for the intersection of Alvin Drive at Linwood Drive is currently in the design phase with anticipation to be in construction in June 2019. The planned signal for the intersection of Williams Road at Garner Avenue is being designed concurrently with the Williams Road utility undergrounding and median project. The traffic signal design will take into consideration the ultimate configuration of the roadway, so that there is no added cost to retrofit the traffic signal at a later phase.

The two remaining intersections on the priority list, the East Boronda Road at North Sanborn Road and Constitution Boulevard at Las Casitas Drive, were both evaluated for both a traffic signal and roundabout at the request of Council. The remainder of this report focuses on the results of the evaluation and subsequent recommendations for the traffic control at these intersections.

Constitution Boulevard at Las Casitas Drive

The recommendation for traffic control follows Caltrans guidance for an Intersection Control Evaluation (ICE) that provide the benefit-costs analysis for alternatives to traffic signals. The ICE analysis for the intersection of Constitution Boulevard at Las Casitas Drive evaluates the intersection for treatment with either a signal or roundabout as the proposed intersection traffic control (see Attachment 4 for a copy of the study). The ICE examined proposed concepts and compared the results to existing conditions. Both scenarios also took into account the impacts at the adjacent intersection operations at Hughes Way and at Cape Cod Way and the ICE include scenarios with and without access controls at the adjacent intersections. Access controls in this case mean prohibiting left turns out of the adjacent intersections by using a median island.

Five performance metrics were considered including safety, delay reduction, emissions, operations and maintenance costs, and initial capital costs. The ICE indicates that construction of a traffic signal as traffic control for the intersection is recommended. In addition the study reveals that there is negligible benefits associated with the added costs of prohibiting left turns from the adjacent intersections of Constitution Boulevard with Hughes Way and Cape Cod Way when compared to the existing condition and may actually increase delay and increase emissions overall.

Constitution Boulevard at Las Casitas Drive

Life Cycle Benefit/Cost Analysis Summary, Initial Cost Estimate and Staff's estimated Completion Date

Traffic Control Concept	ICE B/C ratio	Estimated Initial Cost	Estimated Completion
Traffic Signal	14.76	\$1.469 Million	2020
Roundabout	6.99	\$3.513 Million	2023*

**Assuming additional grant funding is secured in the next 2 years*

Therefore, at the intersection of Constitution Boulevard at Las Casitas Drive, the alternative that was found to have the greatest benefit-cost ratio when compared to existing conditions was the traffic signal with no access control on the adjacent intersections. Staff concurs with the recommendation of the ICE study and recommend the traffic signal concept at this intersection.

The popularity of a roundabout recommendation is understood in Salinas. Roundabouts are proposed along the Boronda Road corridor and roundabouts are anticipated to provide safety and efficiency benefits. However, at the Constitution Boulevard and Las Casitas intersection, the traffic signal provides the better benefit to cost ratio. In addition, staff anticipates the delivery of a traffic signal to the intersection is possible in the very near future while a roundabout will take several years to complete.

East Boronda Road at North Sanborn Road

The evaluation of traffic control for the intersection of East Boronda Road at North Sanborn Road included consideration for a traffic signal, a roundabout, and a mini-roundabout as alternatives for the intersection traffic control (Attachment 3). The mini-roundabout, sometimes referred to as a compact roundabout, was recommended as the optimal alternative given the context of this intersection. Mini-roundabouts have the same traffic operations as a full size roundabout, but have a smaller footprint.

The same five performance metrics were considered including safety, delay reduction, emissions, operations and maintenance costs, and initial capital costs. The results indicate that the roundabout options would both provide the most safety benefits to the intersection. The roundabout options would also provide the most delay reduction benefit and emission reduction benefit when compared to the traffic signal option. The operations and maintenance cost was lowest for the miniature roundabout alternative, followed by the roundabout alternative and highest for the traffic signal alternative. The initial capital cost was lowest for the miniature roundabout, followed by the traffic signal alternative, and highest for the roundabout alternative. Each of the metrics are normalized by establishing a life-cycle benefit costs score compared to the existing condition. For the intersection of East Boronda Road at North Sanborn Road, the alternative which was found to have the greatest cost benefit ratio when compared to existing conditions was the mini-roundabout alternative.

Boronda Road at North Sanborn Road

Life Cycle Benefit/Cost Analysis Summary, Initial Cost Estimate and Staff's estimated Completion Date

Traffic Control Concept	ICE B/C ratio	Estimated Initial Cost	Estimated Completion
Mini-roundabout	9.40	\$0.936 Million	2021*
Traffic Signal	7.42	\$1.029 Million	2020
Roundabout	3.65	\$2.387 Million	2023*

**Assuming additional grant funding is secured in the next 2 years*

The project schedule for the miniature roundabout alternative would delay the project delivery approximately one year due to additional preliminary and construction engineering needs. The project schedule for the roundabout alternative would delay the project approximately three years due to additional right of way, preliminary and construction engineering needs.

Staff concurs with the findings of the ICE. The mini-roundabout provides much of the benefits expected of roundabouts for less than the estimated cost of a full roundabout.

CEQA CONSIDERATION:

The City of Salinas has determined that the proposed action to select a concept for traffic control at the subject intersections is not a project as defined by the California Environmental Quality Act (CEQA) (CEQA Guidelines Section 15378). In addition, CEQA Guidelines Section 15061 includes the general rule that CEQA applies only to activities which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. Because the proposed action and this matter have no potential to cause any effect on the environment, or because it falls within a category of activities excluded as projects pursuant to CEQA Guidelines section 15378, this matter is not a project. As the traffic control projects resulting from this action enter preliminary design, each project will be assessed for CEQA applicability.

STRATEGIC PLAN INITIATIVE:

Consideration of appropriate traffic control for prioritized intersections supports the Council of “Well planned city and excellent infrastructure.”

DEPARTMENTAL COORDINATION:

Public Works staff and Community Development staff have collaborated to consider the evaluation of the roundabout alternative for the intersection of East Boronda Road and Sanborn Road. In the process of designing these traffic control concepts, Public Works staff will be working in coordination with Police, Fire Department and affected school districts with and through our Administration Department.

FISCAL AND SUSTAINABILITY IMPACT:

Both intersections are funded for design and construction of a traffic signal, with a budget \$600,000 for each intersection. Measure X funds are the funding source for both projects. The cost for preparing an ICE analysis is approximately \$15,000, which is funded using the design budget for each intersection. Initial construction cost estimates in the ICE analyses indicate there may be a need for additional funding. Preliminary design work will confirm additional funds needed.

Staff has applied for federal grant funding for the mini-roundabout option at the intersection of East Boronda Road at North Sanborn Road which may fully fund this project, however there is no certainty that a grant will be awarded.

ATTACHMENTS:

Attachment 1: Resolution

Attachment 2: Traffic Control Concepts at Constituion-Las Casitas

Attachment 3: Traffic Control Concept at Boronda-Sanborn

Attachment 4: Intersection Control Evaluation: Constitution Boulevard at Las Casitas Drive

Attachment 5: Intersection Control Evaluation: East Boronda Road at North Sanborn Road