



CITY OF SANTA BARBARA

COUNCIL AGENDA REPORT

AGENDA DATE: November 19, 2013

TO: Mayor and Councilmembers

FROM: Engineering Division, Public Works Department

SUBJECT: Las Positas Road At Cliff Drive Intersection Improvements Project Update

RECOMMENDATION: That Council:

- A. Receive an update on the status of the Las Positas Road at Cliff Drive Intersection Improvements Project; and
- B. Provide direction to staff regarding final design of a new traffic signal at the intersection of Las Positas Road and Cliff Drive.

DISCUSSION:

PROJECT DESCRIPTION

The purpose of the Las Positas Road at Cliff Drive Intersection Improvements Project (Project) is to improve traffic operations and reduce congestion at the intersection. The existing all-way stop-controlled Las Positas Road at Cliff Drive Intersection (Intersection) experiences deficient traffic operations during both the morning and evening peak hours, including recurrent congestion and queuing during the evening peak hour. The Intersection currently operates at Level of Service (LOS) F, on a scale of A (best) through F (worst), during the evening peak hour. This means the number of vehicles passing through the Intersection significantly exceeds capacity, causing substantial delay, and as such, it is considered deficient based upon the City of Santa Barbara's acceptable intersection Level of Service standard, and operates at a City LOS C. Traffic operations at the Intersection are projected to continue to worsen without the implementation of any improvements at this location.

CURRENT STATUS

On June 25, 2013, staff presented to Council a status update on the Project and recommended that Council authorize staff to proceed with the final design of a new traffic signal at the Intersection (see Attachment). Staff recommended the traffic signal alternative, which can be fully funded within the \$750,000 construction grant amount, rather than the roundabout alternative, which is significantly underfunded by over \$1

million with a total project cost of \$1,905,000. Council authorized staff to proceed with the final design of the traffic signal alternative; however, they also directed staff to conduct additional research and analysis to determine if a lower cost roundabout alternative is feasible.

Subsequently, staff researched reductions in the construction scope to reduce the cost of a roundabout, such as the following: 1) removing all sidewalk, access ramps, and bike ramps; 2) removing all landscaping and irrigation; 3) shortening the medians on the east and west legs and replacing hardscape with striping (not on the north leg due to high speeds); and 4) reducing the amount of new pavement by grinding and overlaying where possible. It was determined that basic provisions for pedestrians and bicyclists would be necessary to achieve community standards for a transportation project. Other amenities, however, such as landscaping and median hardscape were eliminated or reduced, and pavement reconstruction was minimized in the development of a revised roundabout design with a reduced diameter (120 feet). This alternative has a total project cost estimate of \$1,412,500. To consider this alternative, staff will need Council's authorization and direction to proceed with design allowing for minimal aesthetic features, which will raise design review issues.

As a result of this additional analysis, there are currently three feasible project alternatives as summarized below:

Alternative	Total Remaining Project Costs	Current Amount Available	Additional Funding Needed	Comments
Traffic Signal*	\$850,000	\$60,000 (design) \$750,000 (construction)	\$40,000	Includes traffic signal, pedestrian and bike facilities, landscaping (traffic signal construction estimated at \$400,000 with \$350,000 available for additional amenities)
Roundabout (150')*	\$1,905,000	\$60,000 (design) \$750,000 (construction)	\$1,095,000	Design prepared by Kittelson & Associates; includes pedestrian and bike facilities and landscaping
Roundabout (120')	\$1,412,500	\$60,000 (design) \$750,000 (construction)	\$602,500	Design revised by City staff; includes pedestrian and bike facilities; reduced median hardscape and pavement reconstruction; does not include landscaping

*Presented to Council on June 25, 2013

Construction of the traffic signal alternative can be fully funded within the \$750,000 construction grant amount. The design and environmental review phases, which are not eligible for the construction grant funding, are currently estimated at \$100,000. With \$60,000 currently budgeted for the Project, there is a potential shortfall of \$40,000 for the design and environmental review phases for the traffic signal alternative, which if necessary would be budgeted in the future as part of the Streets Capital program. Council direction to move forward with a project other than the final design of the traffic signal will require an additional funding source.

BUDGET/FINANCIAL INFORMATION:

The following summarizes total Project costs, as currently estimated, for the traffic signal alternative. This estimate assumes that final design of the traffic signal will be completed by in-house Engineering staff. There are sufficient Streets Capital funds to cover the design costs of this Project, and construction costs will be fully covered by grant funding.

**ESTIMATED TOTAL PROJECT COST
 Traffic Signal Alternative**

**Cents have been rounded to the nearest dollar in this table.*

Final Design (City staff)	\$80,000
Other Design Costs – Environmental Clearances, Right of Way, Public Outreach, etc.	\$20,000
Subtotal	\$100,000
Estimated Construction Contract w/Change Order Allowance	\$645,000
Estimated Construction Management/Inspection (by Contract or City)	\$95,000
Estimated Other Construction Costs (testing, etc.)	\$10,000
Subtotal	\$750,000
TOTAL REMAINING PROJECT COST	\$850,000

ATTACHMENT: Las Positas Road At Cliff Drive Intersection Improvements Project Update Council Agenda Report, June 25, 2013

PREPARED BY: Pat Kelly, Assistant Public Works Director/City Engineer/AS/sk

SUBMITTED BY: Rebecca Bjork, Acting Public Works Director

APPROVED BY: City Administrator's Office



CITY OF SANTA BARBARA

COUNCIL AGENDA REPORT

AGENDA DATE: June 25, 2013

TO: Mayor and Councilmembers

FROM: Engineering Division, Public Works Department

SUBJECT: Las Positas Road At Cliff Drive Intersection Improvements Project Update

RECOMMENDATION: That Council:

- A. Receive an update on the status of the Las Positas Road at Cliff Drive Intersection Improvements Project; and
- B. Authorize staff to proceed with final design of a new traffic signal at the intersection of Las Positas Road and Cliff Drive.

DISCUSSION:

PROJECT SETTING AND PURPOSE

The Las Positas Road at Cliff Drive Intersection (Intersection) is located in the southwesterly area of the City, at the southern terminus of Las Positas Road, and is currently owned and operated by Caltrans as State Route 225 (SR 225). The Intersection provides residential, commercial, and recreational access to the surrounding areas, including Arroyo Burro Beach County Park, Douglas Family Preserve, Elings Park, and the Santa Barbara Waterfront.

The purpose of the Las Positas Road at Cliff Drive Intersection Improvements Project (Project) is to improve traffic operations and reduce congestion at the Intersection. The existing all-way stop-controlled intersection experiences deficient traffic operations during both the morning and evening peak hours, including recurrent congestion and queuing during the evening peak hour. The Intersection currently operates at Level of Service (LOS) F, on a scale of A (best) through F (worst), during the evening peak hour. This means the number of vehicles passing through the Intersection significantly exceeds the Intersection capacity, causing substantial delay, and as such, it is considered deficient based upon the City of Santa Barbara's acceptable intersection Level of Service standard of LOS C. Traffic operations at the Intersection are projected to continue to worsen without the implementation of any improvements at this location.

BACKGROUND

In order to qualify for grant funding, in 2001 the City initiated the preparation of a Caltrans Project Study Report (PSR); Caltrans subsequently approved the PSR in 2002. The PSR evaluated two alternatives, a traffic signal and a roundabout, to improve traffic operations at the Intersection. Based on the potential operational improvements, and considering that the construction cost estimates for each alternative were similar at that time, the roundabout was considered the preferred alternative in the approved PSR.

During the course of preparing the PSR, discussions developed between the City and Caltrans about the relinquishment of SR 225 to the City. Relinquishment of SR 225 to the City would eliminate the need for the Project to be reviewed and approved by Caltrans, as the Intersection would no longer be within the State right of way.

Upon approval of the PSR in 2002, the Santa Barbara County Association of Governments recommended the Project for \$750,000 of grant funding (full funding at that time). Since then, the funding has been reprogrammed several times due to the state's ongoing cash flow deficiencies. The funding is currently programmed in the Fiscal Year 2015-2016 State Transportation Improvement Program for the construction phase only. The City is funding the design phase. Due to rising costs over the past 11 years, the purchasing power of the \$750,000 in grant funding has been reduced by approximately 30 percent.

CURRENT STATUS

In January 2012, Council approved a contract with Penfield & Smith (P&S) for preliminary design services for the Project. P&S's scope of work included the preparation of preliminary designs and cost estimates for the two build alternatives, the traffic signal and the roundabout. P&S, with support from their sub-consultant Kittelson & Associates, who are experts in roundabout design, completed preliminary designs and cost estimates for both build alternatives in October 2012.

The preliminary cost estimates prepared for each alternative determined that the traffic signal alternative could be constructed within the grant funding amount, while the roundabout alternative would have a significant construction and total project shortfall. On November 8, 2012, staff presented the alternatives to the Transportation and Circulation Committee (TCC) and requested direction on how to proceed with the Project, given the significant funding shortfall for the roundabout alternative, which had previously been identified in the approved PSR as the preferred alternative. Upon consideration, the Committee made the motion "that staff keep the roundabout as the preferred alternative for another six months and look for further funding sources and return to the Committee."

Staff subsequently pursued numerous possible grant funding opportunities in an effort to identify additional funding to cover the cost of the roundabout alternative. The potential funding sources included local, state, and federal grants; unfortunately, none of the

potential funding sources provided a strong likelihood for the Project to receive sufficient funds to cover the shortfall needed to complete the roundabout alternative.

On May 23, 2013, staff returned to the TCC with an update on the Project funding and to request the Committee's input prior to returning to Council. Since no additional funding had been identified for the roundabout alternative, and the traffic signal alternative would be fully funded, staff recommended that the City move forward with final design of the traffic signal alternative. The Committee again indicated that the roundabout alternative is still their preferred alternative and that they would prefer that Council make fiscal decisions to fund the roundabout alternative. If that is not feasible, then a traffic signal could be installed.

ALTERNATIVES ANALYSIS

Both the traffic signal and roundabout alternatives would result in a significant improvement in delay and level of service at the Intersection, thus meeting the Project goals of improving operations and reducing congestion at the Intersection. As summarized in the table below, the roundabout would reduce delay slightly more than the traffic signal alternative; however, overall, both alternatives would provide comparable and noticeable improvements in operations at the Intersection.

At this time, the traffic signal alternative is fully funded and final design could be completed within the timeframe necessary to utilize the grant funding as it is currently programmed, for Fiscal Year 2015/2016.

The roundabout alternative is estimated to have a total project shortfall of approximately \$1,150,000, and no additional funding sources are anticipated to be identified in the near future. If this alternative were to continue to be pursued, the City would risk losing the \$750,000 in grant funding that is currently programmed for the construction phase, without any assurance that the funding necessary for the shortfall could be identified. Furthermore, as more time elapses, the cost estimate for both alternatives is expected to continue to rise as the purchasing power of the \$750,000 in grant funding (assuming it can be reprogrammed to a future fiscal year) will continue to decrease.

Project Alternative	Evening Peak Hour Average Intersection Delay (seconds)		Fundable Within Grant Amount?
	2012	2035	
No Project	38.6 (LOS E)	76.1 (LOS F)	N/A
Traffic Signal	14.5 (LOS B)	19.2 (LOS C)	Yes
Roundabout	10.9 (LOS B)	12.9 (LOS B)	No

Because both the traffic signal and roundabout alternatives achieve the Project goal of improving operations and reducing congestion at the Intersection to meet the City's acceptable level of service goal, staff is recommending that Council authorize staff to move forward with the final design of the alternative that is currently fully funded, the traffic signal.

BUDGET/FINANCIAL INFORMATION:

The following summarizes total Project costs, as currently estimated, for the traffic signal alternative. This estimate assumes that final design will be completed by in-house Engineering staff. There are sufficient Streets Capital funds to cover the design costs of this Project and construction costs will be fully covered by grant funding.

**ESTIMATED TOTAL PROJECT COST
 Traffic Signal Alternative**

**Cents have been rounded to the nearest dollar in this table.*

Preliminary Design by Consultant (Completed)	\$45,196
Final Design (City staff)	\$80,000
Other Design Costs – Environmental Clearances, Right of Way, Community Outreach, etc.	\$20,000
Subtotal	\$145,196
Estimated Construction Contract w/Change Order Allowance	\$645,000
Estimated Construction Management/Inspection (City staff)	\$95,000
Estimated Other Construction Costs (testing, etc.)	\$10,000
Subtotal	\$750,000
TOTAL PROJECT COST	\$895,196

PREPARED BY: Pat Kelly, Assistant Public Works Director/City Engineer/AS/sk

SUBMITTED BY: Christine F. Andersen, Public Works Director

APPROVED BY: City Administrator's Office



Las Positas Road at Cliff Drive Intersection Improvements

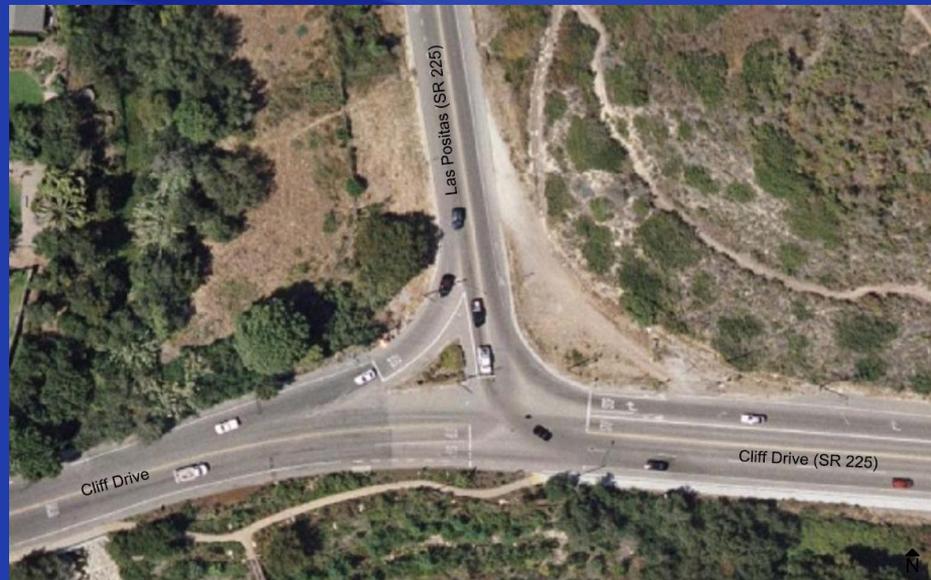
November 19, 2013

Previous Council Direction

- ◆ June 25, 2013:
 - Proceed with final design of a new traffic signal at Las Positas Road and Cliff Drive.
 - Conduct additional research into the cost of the roundabout, and should that cost estimate be reduced significantly, return to Council to present that information.

Background - Project Purpose

- ◆ Improve traffic operations and reduce congestion at the intersection of Las Positas Road and Cliff Drive.



Background – Funding

- ◆ Grant of \$750,000
 - For construction phase only
 - Programmed in Fiscal Year 2015-2016
- ◆ City Funding Budgeted \$60,000

Background – Remaining Project Costs

- ◆ Roundabout (Previous Design)
 - \$1,905,000
 - \$1,095,000 City Funding
- ◆ Traffic Signal
 - \$850,000
 - \$100,000 City Funding

Background – Previous Roundabout Design Concept



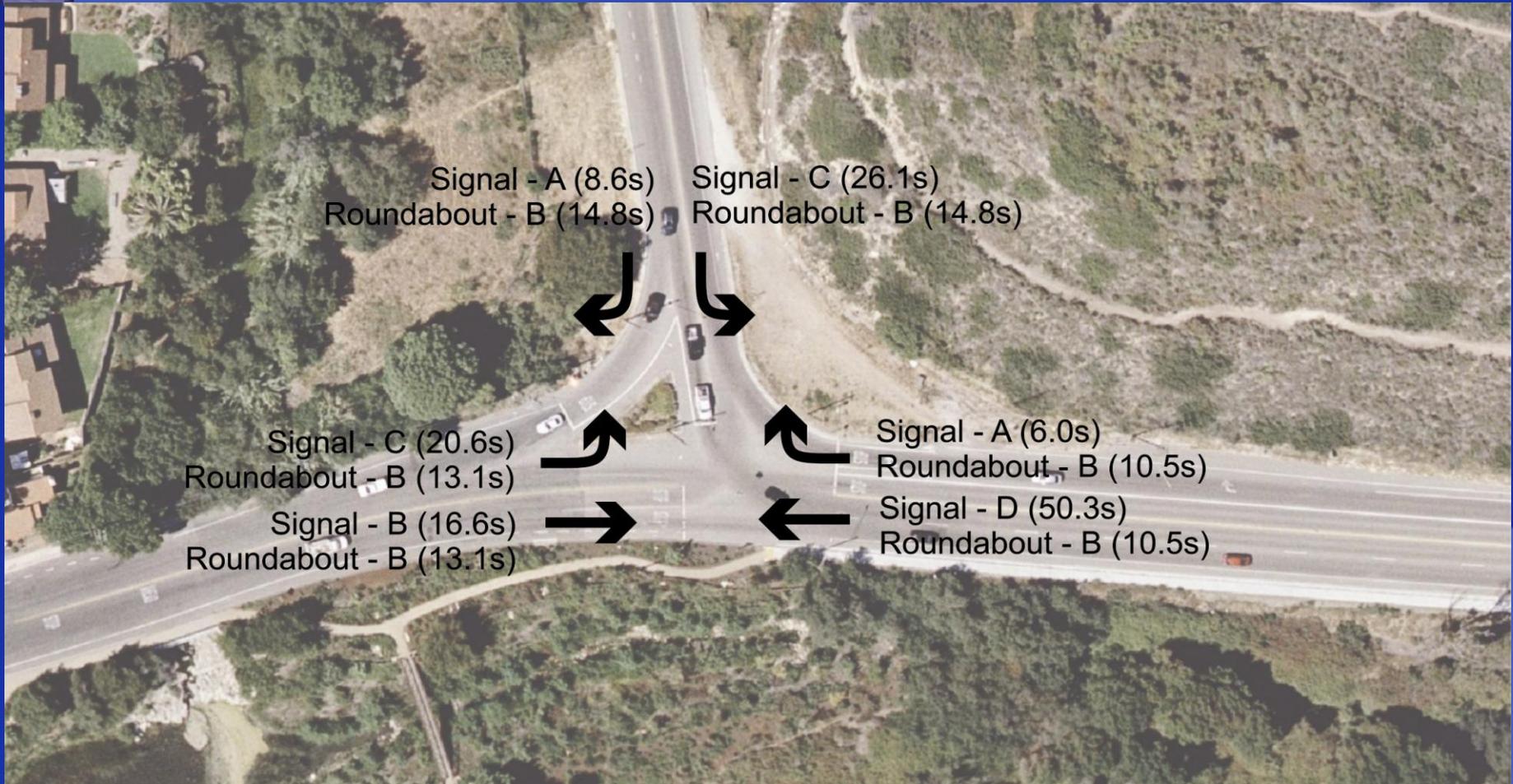
Background – Performance Comparison PM Peak Hour

Alternative	2012	2035	Fundable within Grant Amount?
No Project	E (38.6s)	F (76.1s)	N/A
Traffic Signal	B (14.5s)	C (19.2s)	Yes
Roundabout	B (10.9s)	B (12.9s)	No

Background – Performance Comparison Other Times of Day Year 2035

Time of Day	Traffic Signal	Roundabout
AM Peak	B (15.0s)	A (9.6s)
Mid Morning	B (10.8s)	A (7.0s)
Evening	B (13.5s)	A (4.3s)

Background – PM Peak Delay by Movement Year 2035



Background – Safety Comparison

- ◆ Roundabouts compared to traffic signals
 - 21% fewer crashes
 - 66% fewer injury crashes

Updated Design - Cost Estimate

- ◆ Previous
 - \$1,905,000
- ◆ Updated
 - \$1,412,000
- ◆ Funding shortfall
 - \$602k

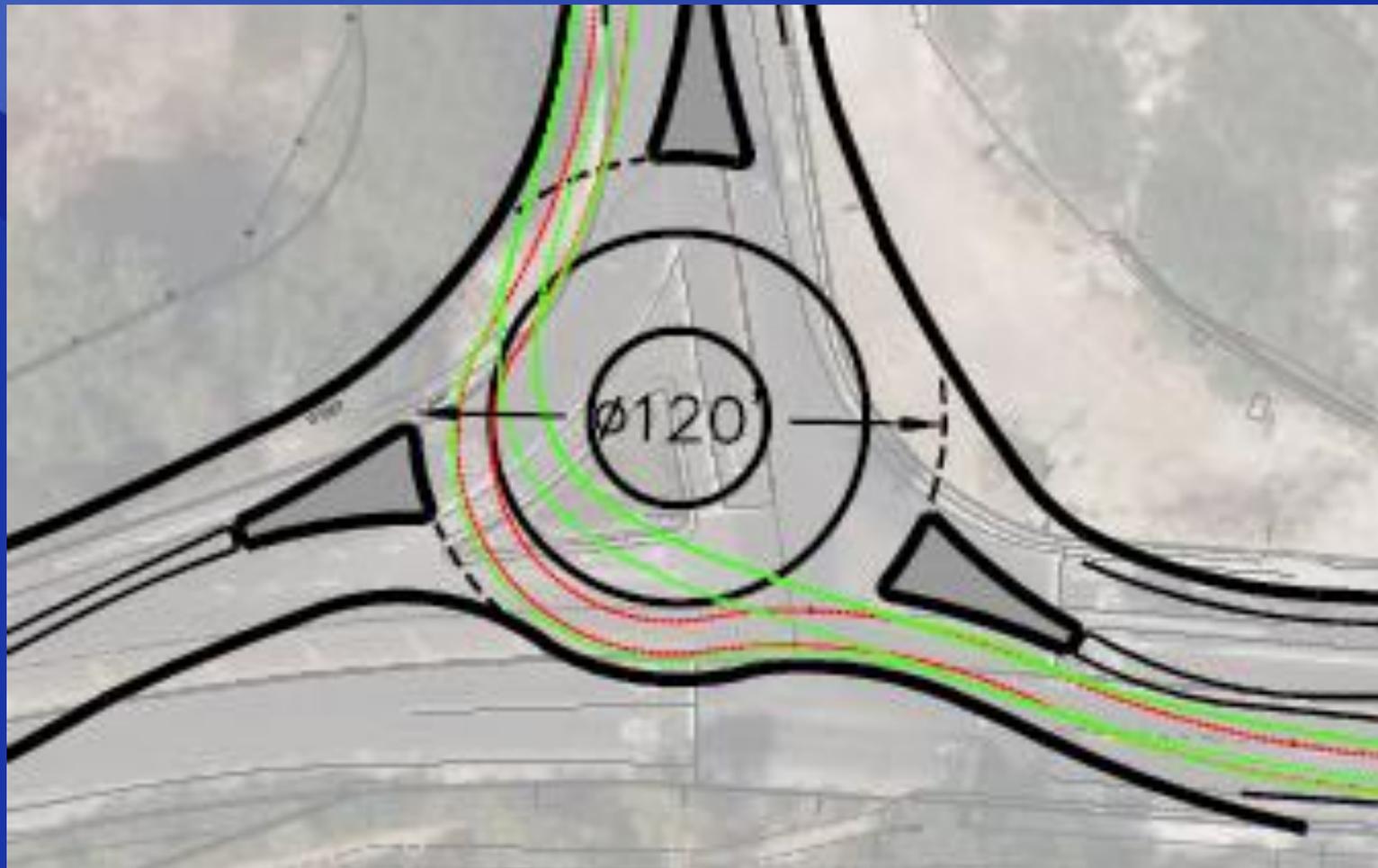
Updated Design – Features Removed

- ◆ Diameter
 - Previous 150', Updated 120'
- ◆ Landscaping/Aesthetics Removed
 - \$100,000 savings
- ◆ Minimal Pavement Reconstruction
 - \$82,000 savings
- ◆ Minimize Approach Treatments
 - \$30,000 savings

Updated Design – Size



Updated Design – Size



Updated Design – Aesthetics



Updated Design – Features Comparison

	Traffic Signal	Roundabout
Basis Pedestrian Features	\$51,000	\$120,000
Extra Pedestrian Features Within Grant Amount	\$350,000	\$0

- ◆ \$350,000 could build a 1,750-foot long multi purpose pathway

Updated Design - Cost Estimate

- ◆ Previous
 - \$1,905,000
- ◆ Updated
 - \$1,412,000
- ◆ Funding shortfall
 - \$602k

Conclusion

- ◆ Roundabout provides better traffic performance and safety
- ◆ Traffic signal construction is fully fundable within grant amount, and meets goal of reducing congestion
- ◆ Staff is seeking direction from City Council on how proceed
 - If roundabout, recommend that Staff work with ABR to revise cost estimate.

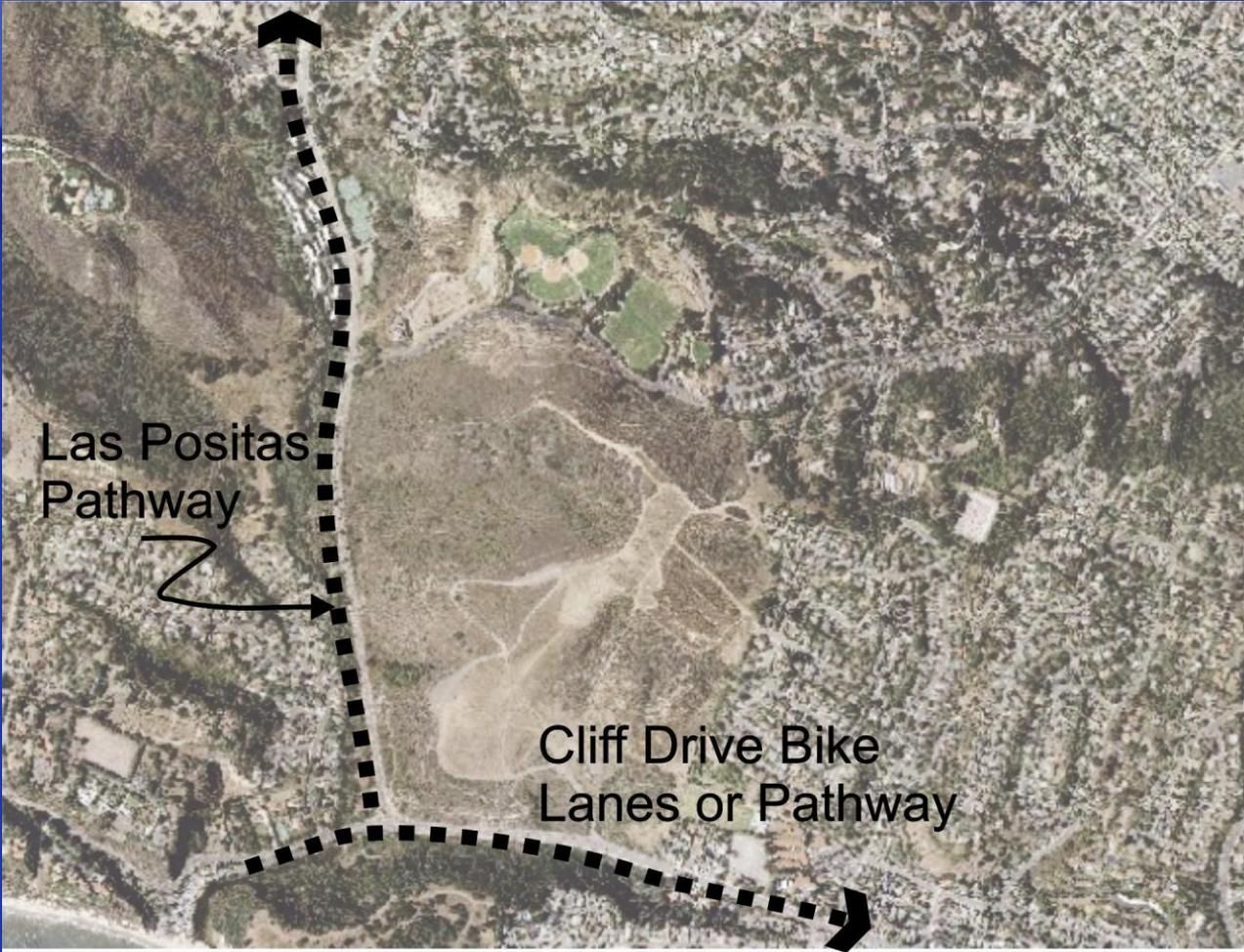
Traffic Signal Concept



Potential Nearby Grant Funded Projects

- ◆ Las Positas Bike Path
 - Potential \$1,500,000 safety grant
- ◆ Cliff Drive Bike Lanes or Bike Path
 - Potential \$1,000,000 safety grant

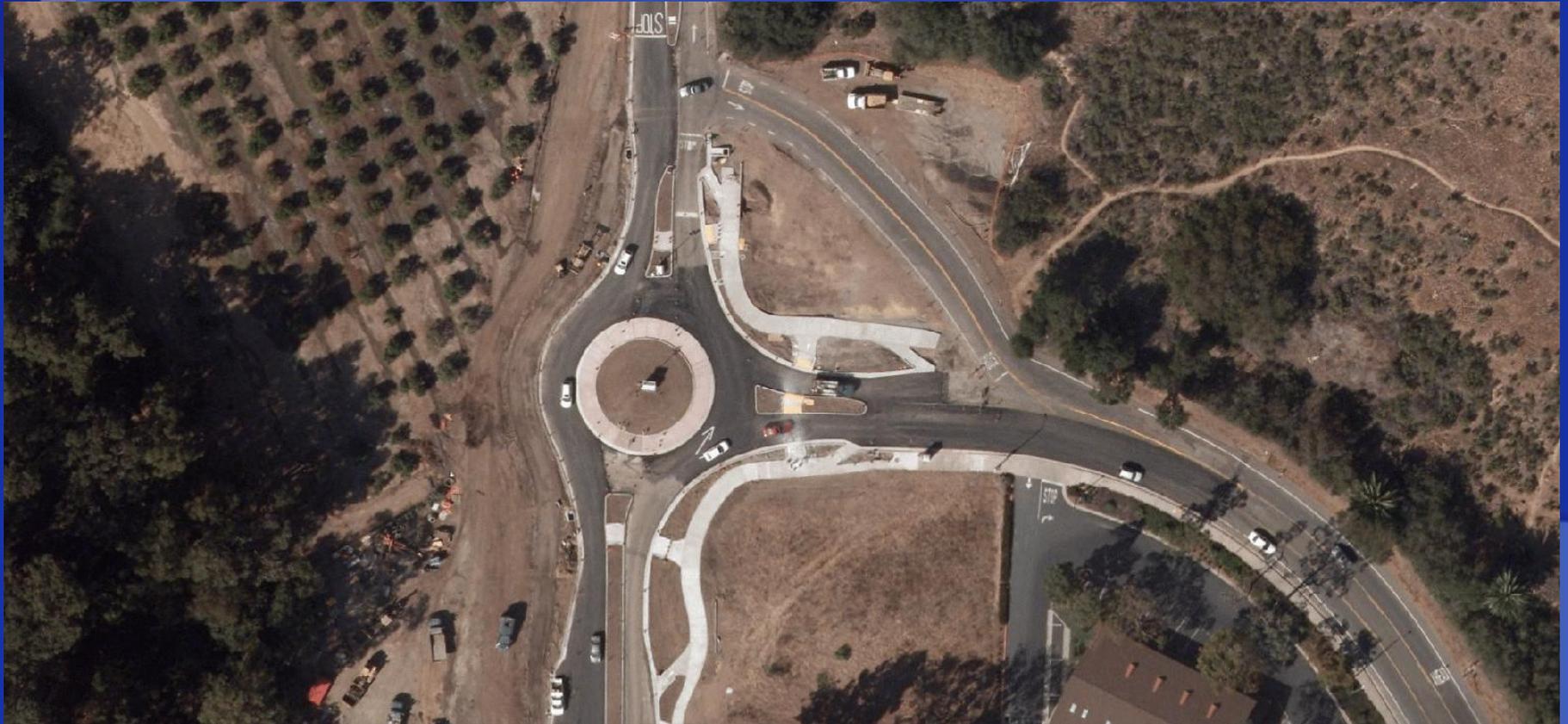
Potential Nearby Grant Funded Projects



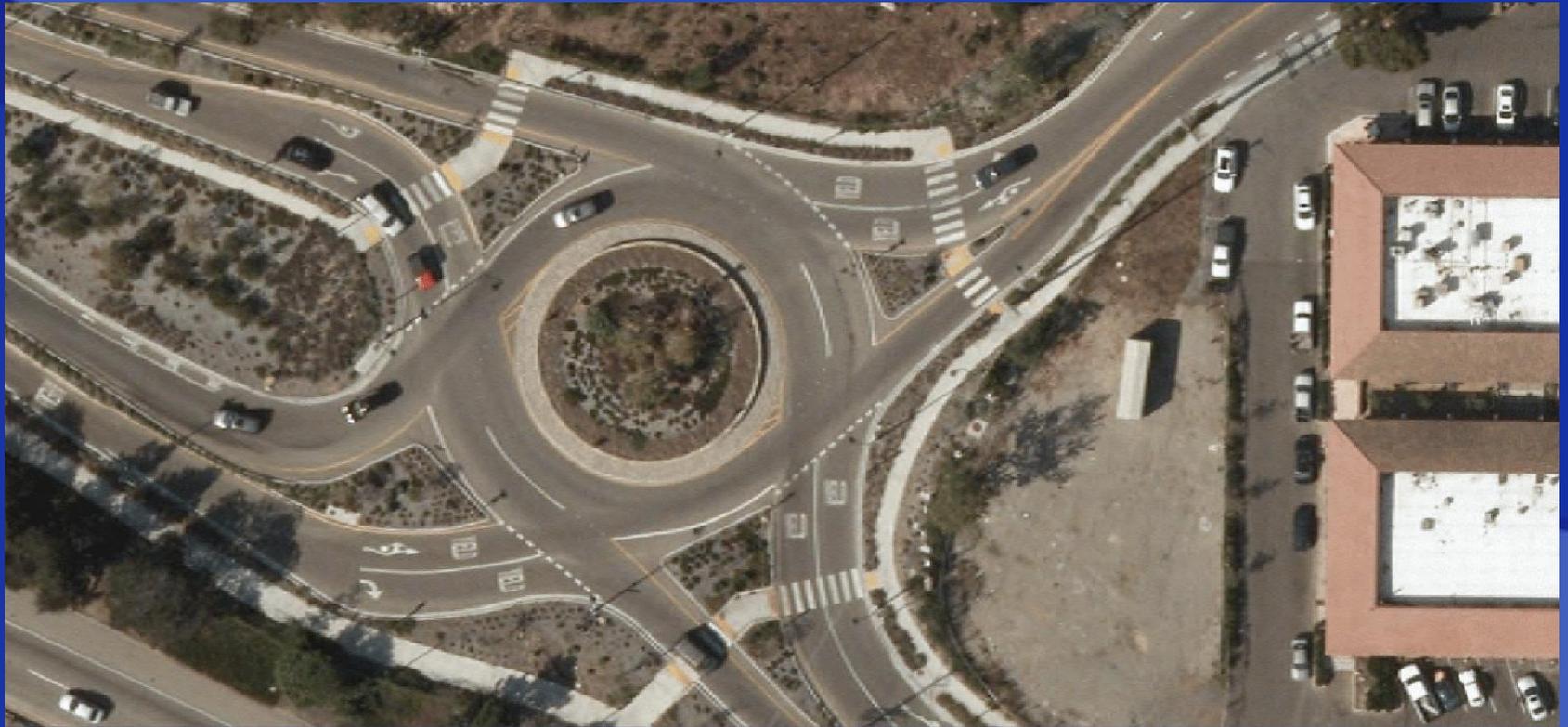
City of Goleta – Los Carneros Roundabout



City of Goleta – Los Carneros Roundabout



Hot Springs Roundabout



Milpas Roundabout



Five Points Roundabout



Bike Lane Treatment at Roundabout



Pedestrian and Bike Treatment at Roundabout

