



Improving Access To Cottage Hospital – Las Positas/Mission Circulation Options Report

Final Report



Prepared for the City of Santa Barbara

by IBI Group

with Penfield & Smith

May 2009

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Prepared for:

City of Santa Barbara



Prepared by:



In association with:

Penfield & Smith, Inc.

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1.0 Introduction and Study Objective

The Las Positas/Mission Circulation Options Report identifies solutions to improve transportation access to and from Santa Barbara Cottage Hospital and surrounding neighborhoods. This study was managed by the City of Santa Barbara, and originated as a condition of approval for the Santa Barbara Cottage Hospital's Seismic Compliance and Modernization Project. The area surrounding the hospital experiences some of the highest levels of traffic congestion in the City of Santa Barbara. The Las Positas Road/Highway 101 and Mission Street/Highway 101 interchanges, which serve as the primary access routes between Highway 101 and Cottage Hospital, are congested, impacting hospital access and local resident mobility.

The transportation improvement alternatives analyzed in this report were developed as part of a collaborative process that involved community members, Cottage Hospital executive staff, the Santa Barbara County Association of Governments (SBCAG), Caltrans District 5, the City of Santa Barbara Planning Commission and Transportation & Circulation Committee, city staff, and the consultant team. The process emphasized the identification of strategies and solutions that addressed transportation needs in the study area, while minimizing the potential impacts to surrounding neighborhoods. Alternatives were evaluated not only on their ability to serve future traffic demand, but also on the potential benefits and impacts to adjacent development. The objective of this approach was to identify a feasible set of transportation solutions, while minimizing the potential impact to local residents.

The Circulation Options Report is designed to be a precursor to the preparation of a Project Study Report (PSR) for Caltrans. The objective of this approach was to develop and evaluate a series of potential improvement options with community and stakeholder involvement to ensure that a recommended alternative carried forward in the PSR phase has the support of local residents and Cottage Hospital. With community consensus on a specific set of preferred alternatives, the study effort can proceed with the more technical PSR process, which is subject to review and approval by Caltrans.

The Circulation Options Report summarizes the community outreach efforts, the process undertaken to develop and evaluate the project alternatives, and recommended next steps for the City of Santa Barbara to proceed towards the implementation of recommended improvements. The report consists of the following sections:

- 1.0 Introduction and Study Objective
- 2.0 Study Purpose and Need
- 3.0 Community Involvement
- 4.0 Potential Improvements
- 5.0 Alternatives Analysis
- 6.0 Recommendations and Next Steps

The organization of the Circulation Options Report is intended to provide the reader with an understanding of this phase of study development process, and the next steps required to proceed with the recommendations presented in the report. The alternatives analysis and evaluation included the use of the City of Santa Barbara's new traffic model and a substantial amount of traffic level of service analysis. The results of the modeling and traffic analysis effort are summarized in Appendix A.

2.0 Study Purpose and Need

Santa Barbara Cottage Hospital is centrally located within the City of Santa Barbara, just north of downtown. The hospital is surrounded by residential neighborhoods and is accessed via several small local streets, including Pueblo Street, Junipero Street, Castillo Street and Bath Street. The hospital serves as a significant local and regional destination and employment center, given the hospital's role as the only Level-2 trauma center on the California Coast between San Jose and Los Angeles. Vehicles traveling between the hospital and Highway 101 typically access the local street network through the Las Positas Road and Mission Street interchanges. These two interchanges experience substantial congestion during peak periods in the existing condition, and this situation is anticipated to worsen in the future. Las Positas Road and Mission Street also serve as popular local travel routes for residents seeking to travel between the Westside and Downtown.

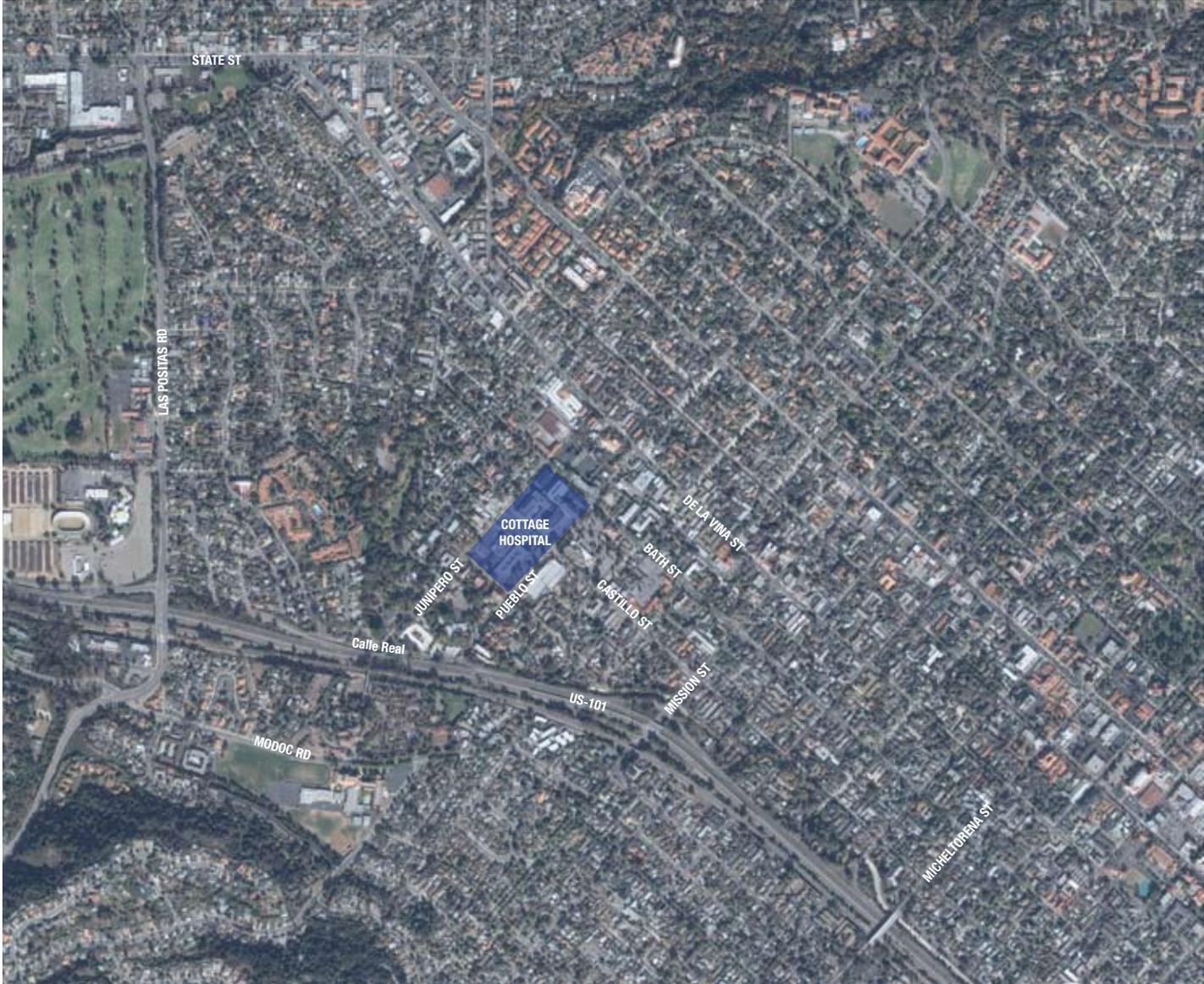
The analysis of transportation conditions and the development of improvement alternatives was focused in a study area generally bounded by State Street and De la Vina to the north and east, Micheltorena Street to the south, Modoc Road and San Andreas Street to the west, and Las Positas Road to the northwest. The project study area is shown in Figure 2.1 on the following page.

Study Area Needs

There are several existing transportation constraints and issues in the study area, including:

- Cottage Hospital and other medical offices are located north of Highway 101 between Mission Street and Las Positas Road, along the most congested section of the freeway in Santa Barbara County.
- The three closely-spaced exit ramps along northbound Highway 101 create traffic congestion and can affect traffic speeds and operations on the freeway mainline.
- A Caltrans improvement project on Highway 101 in the 1980's created a one-way section of Calle Real which prevents access to Cottage Hospital from the Las Positas Road interchange. Providing access to the Cottage Hospital area from Las Positas Road would relieve some of the congestion from the Mission Street interchange, which is currently operating at capacity.
- Local streets, such as Tallant Road, are used as neighborhood pass-through routes by regional traffic and commuters seeking to avoid traffic congestion on major streets. The limits on access and mobility resulting from the one-way configuration of Calle Real and the limited number of connections across Highway 101 contribute to this situation.
- There are a limited number of locations available to cross Highway 101, which divides the neighborhoods to the west and east of the freeway. Local vehicle, bicycle and pedestrian traffic are heavily impacted for short distance trips to the hospital or between neighborhoods, and it may be beneficial to create additional freeway crossing opportunities.
- Mission Street is a narrow 4-lane road without left-turn pockets, which constricts access to Cottage Hospital.

Figure 2.1 Project Location and Study Area



Traffic congestion resulting from the issues identified above is anticipated to only get worse in the future condition. Based on the traffic modeling effort completed in support of this study, the following intersections are anticipated to operate at an unacceptable level of service in the Year 2030 during either or both the AM and PM peak periods:

- Northbound 101 On-Ramp & Calle Real
- Las Positas Road & Tallant Road
- Las Positas Road & Calle Real
- Southbound 101 On/Off-Ramps & Las Positas Road
- Las Positas Road and Modoc Road
- Northbound 101 On/Off-Ramps & Mission Street
- Southbound 101 On/Off-Ramps & Mission Street
- Castillo Street & Mission Street
- Modoc Road & Portesuello Avenue

Most of these intersections directly serve or are located adjacent to the Highway 101 interchanges with Las Positas Road and Mission Street. The forecast traffic conditions for the Year 2030 emphasize the need to improve access between the study area and Highway 101, for the benefit of both local traffic traveling on Las Positas Road and Mission Street and regional traffic accessing the freeway.

The diversity of transportation issues and constraints in the study area creates a need for a diverse range of improvement alternatives. Improvements considered in this study process are multi-modal in nature and include roadway and interchange improvements, transit improvements, and pedestrian and bicycle improvements.

Purpose for Improvements

Beyond addressing the needs identified above, the City of Santa Barbara is analyzing the potential for transportation improvements in the study area with the purpose of improving access and mobility for both local residents and regional commuters traveling to Cottage Hospital. Mobility improvements and reductions to traffic congestion provide several benefits to the City, including reducing or eliminating neighborhood pass-through traffic, reducing vehicle emissions caused by traffic congestion, and improving the quality of life for residents in the study area.

In terms of local traffic, the study effort undertaken for the Circulation Options Report was focused on improving access across Highway 101, either through the addition of new capacity with a new freeway crossing or by reducing traffic congestion and delay on existing roadways that provide connections across the freeway. Transit and non-motorized transportation improvements are also important, as the City of Santa Barbara encourages the use of alternative transportation modes. Improving access to the Cottage Hospital area using alternative transportation modes is an essential component of reducing traffic congestion in the study area.

To address regional traffic improvement objectives, the work effort has focused on identifying improvements to the Las Positas Road and Mission Street interchanges. Improving traffic flow through these interchanges will allow for both Highway 101 and local streets to operate more efficiently, and alleviate delays in two of most congested areas of the City.

Purpose and Need Statement

Existing and future traffic congestion in the area surrounding Santa Barbara Cottage Hospital and at the interchanges of Las Positas Road and Mission Street at Highway 101 has a substantial impact on mobility for residents and commuters within this portion of the City of Santa Barbara. Transportation improvements targeting local and regional traffic are necessary in order to reduce congestion, improve access, and reduce pass-through regional traffic within local neighborhoods. The transportation improvements recommended in this Circulation Options Report were developed with substantial input from the community and project stakeholders. These recommendations are intended to address the transportation needs of residents and commuters within the study area, and provide improved mobility for all transportation modes. The Circulation Options Report is an important first step in the project development process, and sets the stage for proceeding with the preparation of a Caltrans Project Study Report (PSR) and the pursuit of project funding opportunities.

3.0 Community Involvement

Community and stakeholder involvement is an essential component of the project development process, and one of the key objectives of the Circulation Options Report was to involve the community in the identification, evaluation, and selection of the preferred alternatives that would proceed forward to the more detailed design, environmental review, and implementation phases. The community and stakeholder outreach effort was an integral part of the work scope for the Circulation Options Report. Key contacts in this effort included:

- Cottage Hospital
- SBCAG
- Caltrans District 5
- Santa Barbara Metropolitan Transit District (MTD)
- Neighborhood Associations (including Hidden Valley, Samarkand, Veronica Springs, and others)
- Santa Barbara Elementary School District
- Santa Barbara High School District
- Medical Offices and Facilities near Cottage Hospital

The stakeholder and public outreach efforts conducted for the Las Positas/Mission Circulation Options Report consist of three primary components:

- Stakeholder and Agency Meetings – Meetings with Cottage Hospital, Caltrans District 5 staff, and SBCAG staff to review the study and analysis results.
- Public Workshops – Two workshops conducted to discuss the study and analysis results with members of the public.
- Planning Commission/Transportation & Circulation Committee Meetings – Three presentations were made at joint meetings of the Planning Commission/Transportation & Circulation Committee (PC/TCC) to inform members about the project objectives, analysis results, and to present the final report.

Stakeholder and Agency Meetings

Two rounds of meetings with Cottage Hospital management staff and Caltrans District 5 and SBCAG staff were conducted during the course of this study. The initial meetings occurred in October 2008, and focused on discussing the study scope, purpose and need, and schedule, as well as an initial set of potential improvement options. Follow-up meetings were then held in February 2009 to review the results of the traffic analysis and conceptual design efforts. During the course of the study effort, two comment letters have been received from Caltrans. These letters summarize Caltrans' comments on the analysis completed to date and identify Caltrans' initial level of support or willingness to continue review of selected project options that could impact Highway 101. Both Caltrans comment letters received by the City of Santa Barbara are provided in Appendix G for reference.

Public Workshops

Two public workshops were conducted during the course of the Circulation Options Report study effort. These workshops were important parts of the study development process, as they provided the City and the consultant team with opportunities to review the objectives of the study effort and the results of the technical analysis with local residents, and to receive feedback on the levels of support and concern that local residents had with the improvement alternatives. The input and comments received from residents at the two workshops were directly incorporated into the study process and

the development of recommendations. The topics discussed at each workshop and the primary comments received from residents are summarized below.

Workshop #1 – November 2008

The first public workshop focused on the identification of transportation needs in the project study area and the initial development of potential improvements that would address these needs. The workshop included an introductory presentation, which provided attendees with a brief overview of the study purpose and need, existing traffic conditions, and an initial set of transportation issues and needs identified by the City and the consultant team.

Following the introduction presentation, workshop attendees were invited to break-out into smaller groups of 6-10 people to have a focused group discussion on transportation needs and potential solutions. Each group was facilitated by two members of the City and consultant team to lead the discussion and answer questions about the study. Following the completion of the break-out discussions, each group selected one member to present the findings and suggestions of the group to all workshop attendees.

The workshop attendees identified numerous transportation needs in the study area. The inputs received include the following:

- Addressing traffic congestion at specific locations including:
 - Pueblo Street/Castillo Street
 - Mission Street/Castillo Street
 - Las Positas Road/Modoc Road
 - Highway 101/Las Positas Road
- Reducing pass-through traffic on Tallant Road
- Improving access from Highway 101 to Cottage Hospital
- Restoring two-way traffic on Calle Real between Las Positas and Treasure
- Providing additional bicycle and pedestrian connections to the Cottage Hospital area
- Addressing traffic congestion in the Mission Street corridor
- Linking transportation planning with land use plan similar to the approach underway for the Plan Santa Barbara process

Potential solutions suggested by workshop attendees included the following:

- A new overpass, potentially with a full freeway interchange, providing an alternative route across Highway 101 for local traffic to avoid the Las Positas Road and Mission Street interchanges
- Reintroduce two-way traffic on Calle Real east of Las Positas Road
- Improve the Las Positas Road/Modoc Road intersection with a roundabout or grade separation
- Improve capacity and widen off-ramps at the Las Positas Road and Mission Street interchanges
- Add bike lanes on Bath Street and Castillo Street north of Mission and convert these streets to one-way to accommodate this improvement

- Convert De la Vina Street to serve two-way traffic between Constance and Pueblo and improve access from the Upper State Street area

Workshop #2 – February 2008

Following the completion of the initial public workshop in November 2008, the consultant team initiated the work effort to identify a set of potential transportation improvement options and analyze the ability of these options to address the issues and needs identified by members of the public. This work effort occurred over December 2008 and January 2009, culminating with the presentation of the analysis results at a second public workshop in February 2009.

The second public workshop focused on the review and discussion of the analysis results. The workshop opened with a presentation of the improvement options that were considered as part of the analysis and those improvements that were removed from consideration due to concerns regarding cost, neighborhood impacts, or consistency with Caltrans design requirements. The analysis process and results were also presented so that workshop attendees could understand the potential benefits of each improvement option in terms of reducing traffic congestion in the study area.

Similar to the format of the first workshop, attendees were invited to break out into smaller groups to discuss the results of the transportation analysis. The discussions focused on the attributes of the alternatives and obtaining feedback from residents on their level of support for various improvements.

Selected comments and feedback received from workshop attendees included:

- Positive support for reconfiguring the northbound Las Positas off-ramp as a hook ramp in order to reintroduce two-way traffic on Calle Real east of Las Positas Road
- Positive interest in continuing to consider local street improvements such as converting Castillo Street and Bath Street to one-way traffic north of Mission Street
- Positive interest in improving transit, pedestrian, and bicycle connections to Cottage Hospital
- Limited support for a new overpass at Pueblo Street due to potential impacts to properties on both sides of Highway 101 and the relocation of the Pueblo Street off-ramp from Highway 101
- Limited support for an interchange improvement at Las Positas Road that would involve the construction of a new bridge over the freeway

The general consensus of the workshop attendees was to support Alternative 2B as the preferred project to carry forward into a PSR phase. This alternative was felt to have the lowest amount of impact on the surrounding community and lowest visual impacts for adjacent properties and travelers on the freeway. Limited support was expressed for the Pueblo Street overcrossing or the remaining Las Positas Road interchange reconfiguration options.

PC/TCC Meetings

The third element of the community and stakeholder outreach process involved presentations at joint meetings of the City of Santa Barbara Planning Commission and Transportation & Circulation Committee (PC/TCC). These meetings provided commissioners and committee members with an opportunity to review the study progress and comment on specific aspects of the study effort. The meetings also provided residents with additional opportunities comment on the study process.

Three presentations to the PC/TCC were included as part of the Circulation Options Report preparation process. The first PC/TCC presentation occurred on October 16, 2008, and focused on providing an overview of the study scope, objectives, and schedule. This presentation also included a preliminary discussion of the improvement options that could be considered as part of the study.

The second PC/TCC meeting occurred on March 12, 2009. The presentation for this meeting focused on the initial traffic analysis results for Alternatives 1, 2, and 3. The comments and input received from the two public workshops were also summarized in this presentation. At the March 12, 2009 meeting, PC/TCC members were generally supportive of carrying forward Alternative 2B for further study as part of a PSR.

The third PC/TCC meeting involves the presentation of the final report and study recommendations. This presentation will occur in June 2009, prior to presentation of the study report and findings to the City Council.

4.0 Potential Improvements

A range of potential transportation improvements and strategies have been developed to address the purpose and need of the Circulation Options Report. These improvements are based on input received from the community and study stakeholders, as well as on observations of existing and future traffic patterns, areas of traffic congestion, gaps in transit services, and the bicycle and pedestrian environment. The preliminary list of options is organized into four project categories: Freeway Overcrossings, Interchange/Freeway Ramp Improvements, Local Street Improvements, and Alternative Transportation Improvements.

4.1 FREEWAY OVERCROSSING OPTIONS

A new vehicular crossing over US-101 would connect neighborhoods on the east and west sides of the freeway and provide an alternative to the congested Las Positas Road and Mission Street corridors. The overcrossing would be similar to the existing Micheltorena Street overpass of Highway 101 located at the southern end of the study area. The new overpass would serve pedestrians, bicycles, and motorized vehicles. The five initial overcrossing locations were selected based on the feasibility of connecting pairs of street segments on the east and west sides of Highway 101 within the study area. The five overcrossing options are illustrated in Figure 4.1 on the following page.

Option O-1: Junipero Street

This overcrossing option would begin north of the intersection of Junipero Street and Calle Real, travel over Highway 101 and the Union Pacific (UP) rail corridor, and form a T-intersection with Modoc Road in front of La Cumbre Junior High School. The existing intersection of Juniper Street and Calle Real would be eliminated, but access on Calle Real to Pueblo Street could be maintained, depending on the available clearance under the overpass. The existing pedestrian/bicycle bridge would be removed as part of this project and bicyclists and pedestrians would use the new overpass to cross Highway 101.

Option O-2: Pueblo Street

A Pueblo Street overcrossing would begin north of the intersection of Pueblo Street and Calle Real, travel over Highway 101 and the UP rail corridor, and connect to Portesuello Avenue at Modoc Road. No access would be provided between Pueblo Street and Calle Real. This overcrossing would provide a continuous connection from Las Positas Road to State Street, and serve the Pueblo Public Parking Structure, Cottage Hospital, and other medical uses along Pueblo Street. The overcrossing would require the relocation of the existing northbound Highway 101 off-ramp to Pueblo Street. In this analysis, it has been assumed that the off-ramp would be relocated to Junipero Street.

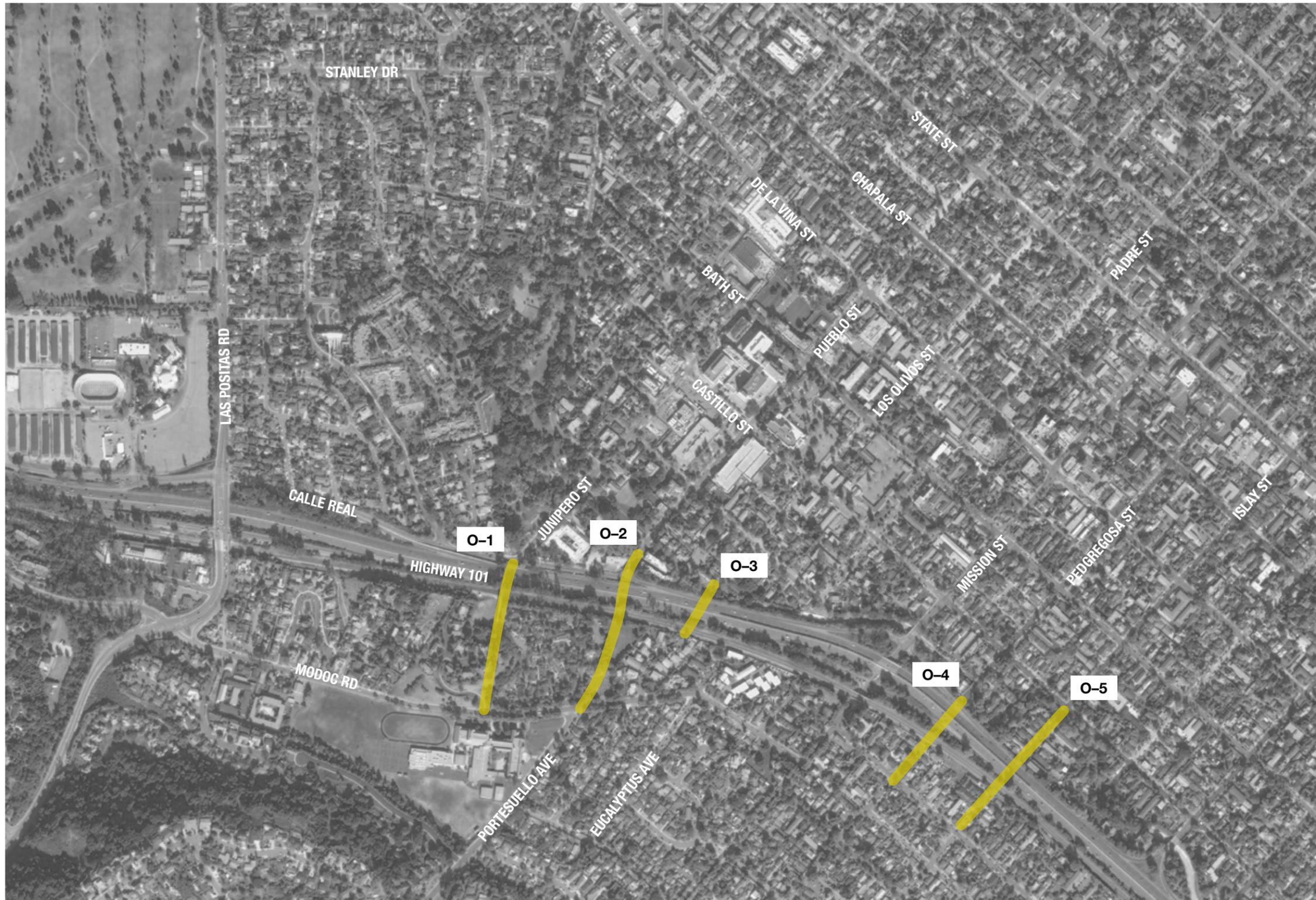
Option O-3: Los Olivos Street/Kentia Avenue

An overcrossing between Los Olivos Street on the east side of Highway 101 and Kentia Avenue on the west side of the freeway would provide a continuous connection from east of State Street to Gillespie Street. The overpass would be designed so as to not impact the existing northbound on-ramp from Mission Street to Highway 101 and the northbound off-ramp to Pueblo Street from Highway 101. Los Olivos and Kentia are local residential streets in the existing condition.

Option O-4: Pedregosa Street

An overcrossing at Pedregosa Street would pass over the northbound 101 off-ramp to Mission Street, the Highway 101 mainline lanes, the southbound 101 on-ramp from Mission Street, and the UP rail corridor. It would provide a continuous connection from east of State Street to Mountain Avenue. This overpass would be located south of Mission Street.

Figure 4.1 Overcrossing Improvement Options



Legend
Location of Potential Overcrossing

Option O-5: Islay Street

An overcrossing at Islay Street would provide a continuous connection from east of State Street to Robbins Street. Islay Street is primarily a residential street in the existing condition. Like Pedregosa Street, Islay Street is also located south of Mission Street, and does not pass directly into the Cottage Hospital area.

4.2 INTERCHANGE/FREEWAY RAMP IMPROVEMENT OPTIONS

The project options described in this section involve modifications to Highway 101 on-ramp and off-ramp facilities within the study area. Ramp improvements vary from simple widening to relocation, removal, and realignment. Some common objectives of these options include providing two-way traffic on Calle Real between Treasure Drive and Las Positas Road, providing a more direct connection from southbound 101 to Cottage Hospital, and enhancing traffic operations at the Las Positas Road and Mission Street interchanges. Interchange improvement options I-1 through I-5 are shown in Figure 4.2.

Option I-1: Northbound 101 Off-ramp to Junipero Street

This alternative would replace the two existing northbound 101 off-ramps at Las Positas Road and Pueblo Street with a single new northbound off-ramp at Junipero Street. This concept for an off-ramp at Junipero Street would allow for two-way traffic on Calle Real between Las Positas Road and Junipero Street because of the proposed removal of the existing northbound off-ramp to Las Positas Road.

Option I-2: Northbound 101 “Hook” Off-ramp to Calle Real at Las Positas Road

This option would remove the northbound 101 off-ramp at Las Positas Road and replace it with a hook off-ramp to the west of Las Positas Road. The new off-ramp would be paired with the existing hook on-ramp to northbound 101 at the Earl Warren Fairgrounds entrance. This alternative would allow for two-way traffic to be restored on Calle Real between Las Positas Road and Treasure Drive.

Option I-3: Las Positas Road Single Point Interchange

This single point interchange concept would realign the northbound and southbound Highway 101 on-ramps and off-ramps to meet at a single intersection on the existing Las Positas Road overpass. Calle Real would be lowered to pass under Las Positas Road, so these roads would no longer intersect.

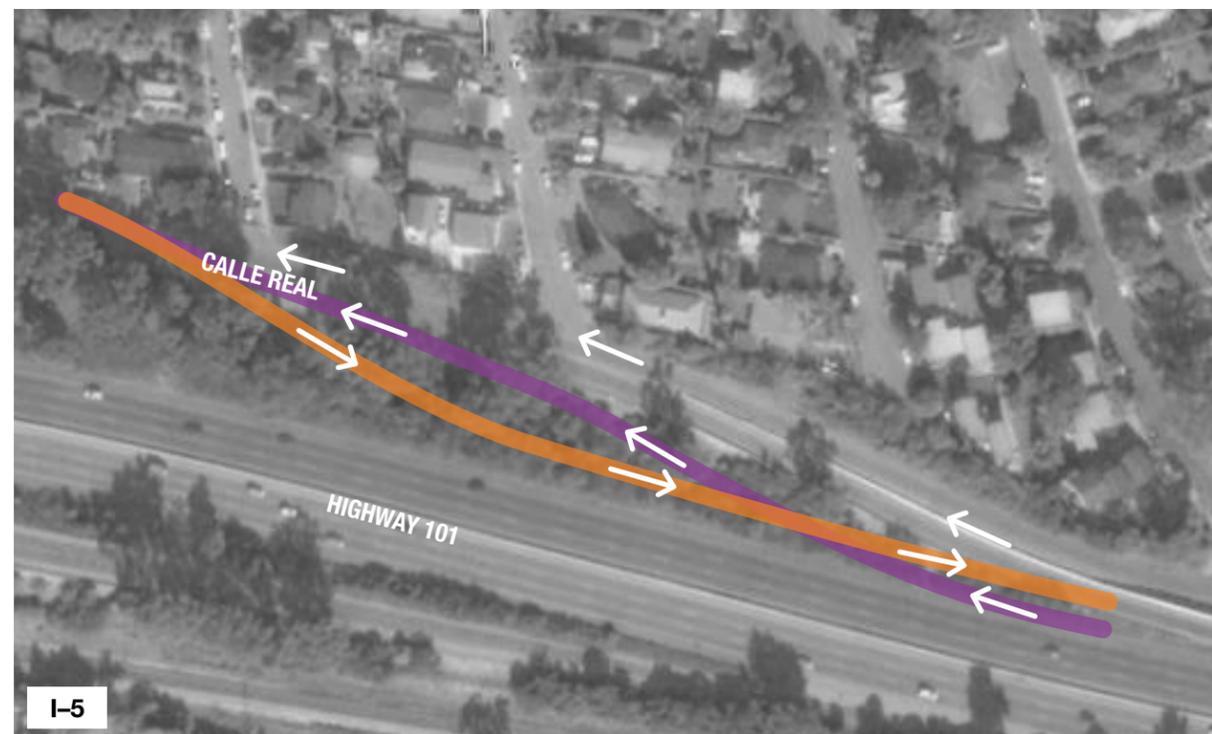
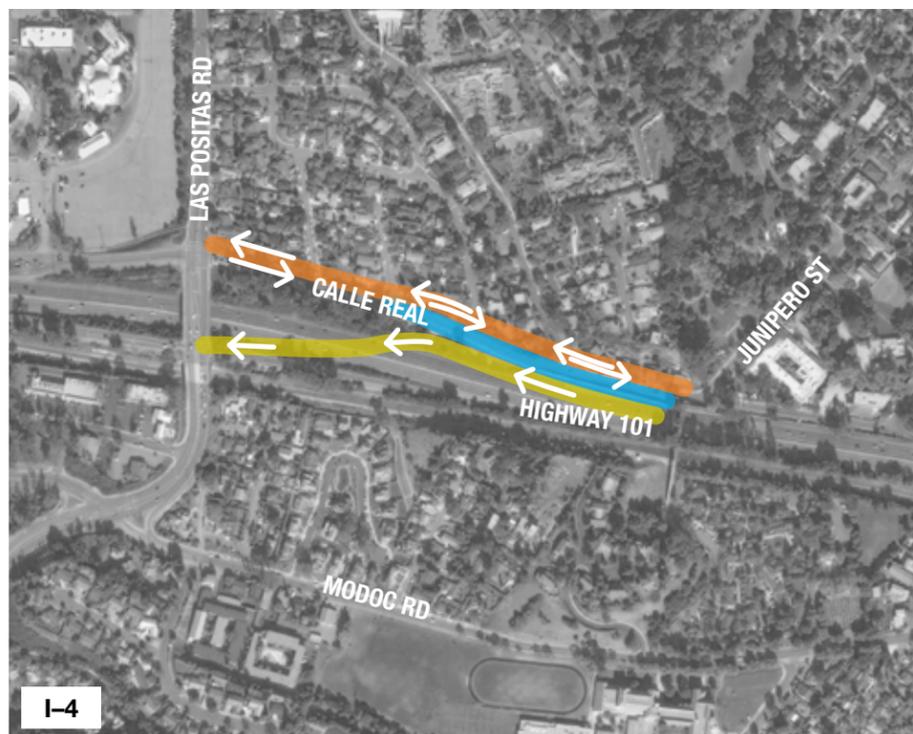
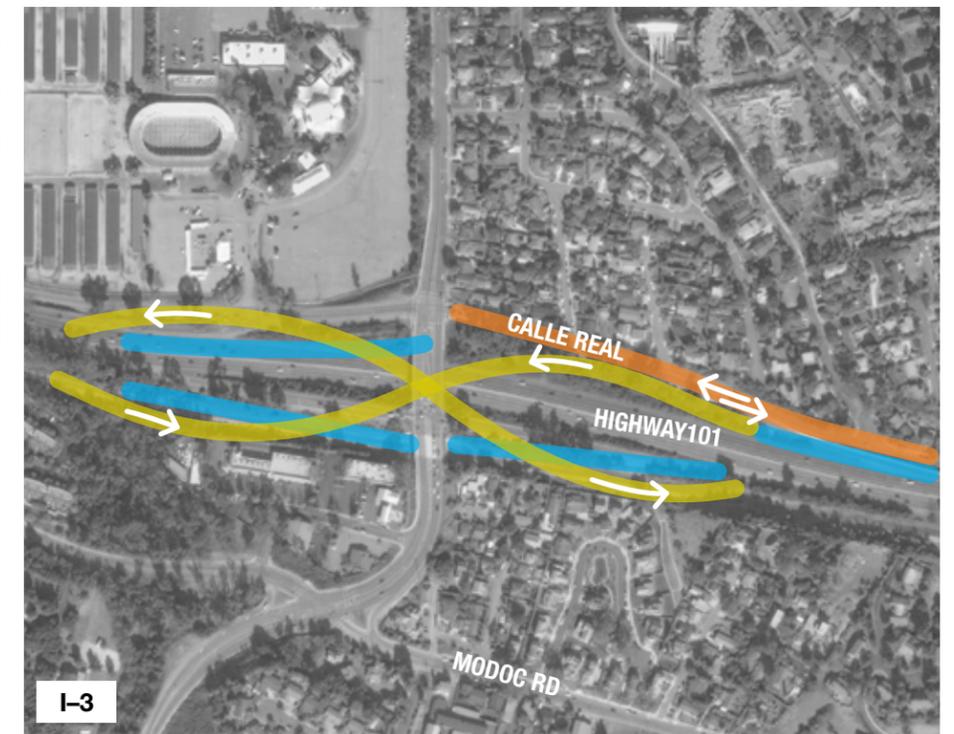
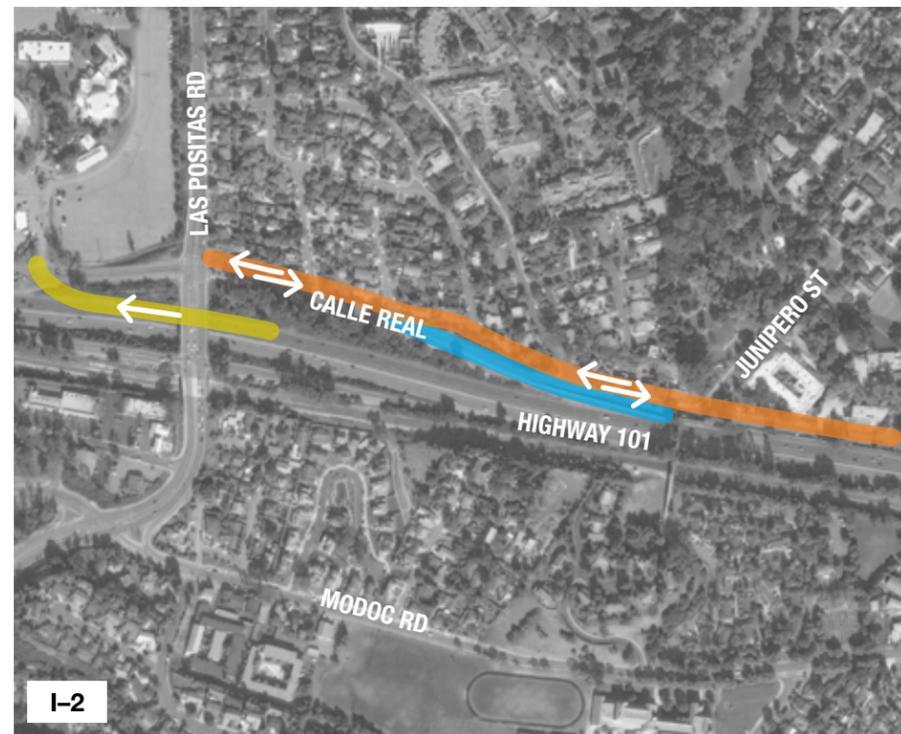
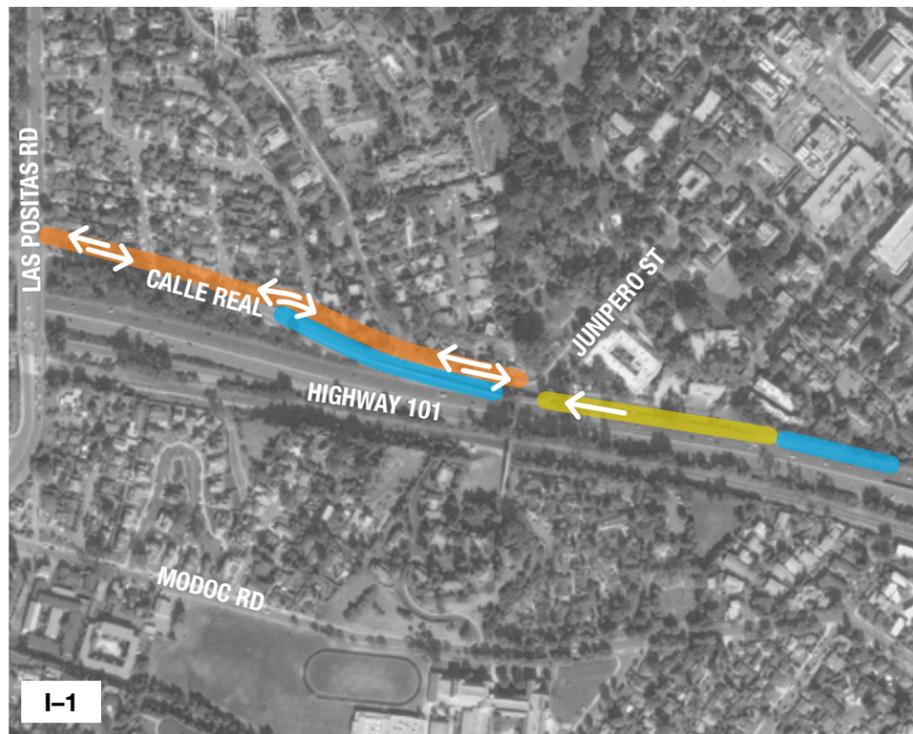
Option I-4: Northbound 101 Flyover Off-ramp to Las Positas Road

In this option, the northbound 101 off-ramp to Las Positas Road would be reconfigured to pass over the freeway on an aerial structure and connect to the southbound 101 ramp intersection with Las Positas Road. This configuration would restore two-way traffic on Calle Real between Las Positas Road and Treasure Drive. Vehicles exiting northbound or southbound 101 at Las Positas Road would be able to travel on Calle Real to access the Cottage Hospital area.

Option I-5: Eastbound Calle Real Flyover (From Upper State Street Study)

The Upper State Street Study proposed to construct a new aerial structure on the south side of Calle Real to carry eastbound vehicles from Las Positas Road to Treasure Drive. Westbound traffic would continue to travel on the existing roadway. The northbound 101 off-ramp to Las Positas Road would be realigned to pass under the new eastbound Calle Real structure and intersect Las Positas Road south of Calle Real.

Figure 4.2 Interchange Improvement Options



Legend

- █ New freeway ramp
- █ Convert Street to 2-way traffic
- █ Remove existing off-ramp
- █ Relocate existing off-ramp

Interchange improvement options I-6 through I-11 are illustrated in Figure 4.3 on the following page.

Option I-6: Southbound 101 Flyover from Las Positas Road to Junipero Street

This option involves the construction of an aerial structure that originates at the intersection of Las Positas Road and the southbound 101 ramps, travels across Highway 101, and merges with southbound Calle Real just north of Junipero Street. The flyover ramp would provide an alternative route for vehicles that wish to travel eastbound on Calle Real.

Option I-7: Las Positas Road and Calle Real Roundabout

This improvement would install a roundabout at the signalized intersection of Las Positas Road and Calle Real. The roundabout would serve local traffic on Las Positas Road and Calle Real, as well as the northbound off-ramp from Highway 101 to Las Positas Road. The roundabout would operate in a similar fashion to the existing roundabout installed on Milpas Street at the northbound Highway 101 on and off-ramps.

Option I-8: Pueblo Street Interchange and Overcrossing

This improvement would implement a new full interchange at Pueblo Street as part of the implementation of a new overcrossing in this location.

Option I-9: Highway 101 Auxiliary Lanes

The option involves the implementation of new auxiliary lanes between several interchanges in the study area. Auxiliary lanes are additional freeway lanes that are constructed between two adjacent interchanges. The lanes typically make merging onto and off of the freeway easier for vehicles, and allow the mainline freeway lanes to operate more efficiently. Candidate locations for auxiliary lanes include southbound Highway 101 between La Cumbre Road and Las Positas Road, southbound between Las Positas Road and Mission Street, and northbound between Arrellaga Street and Mission Street.

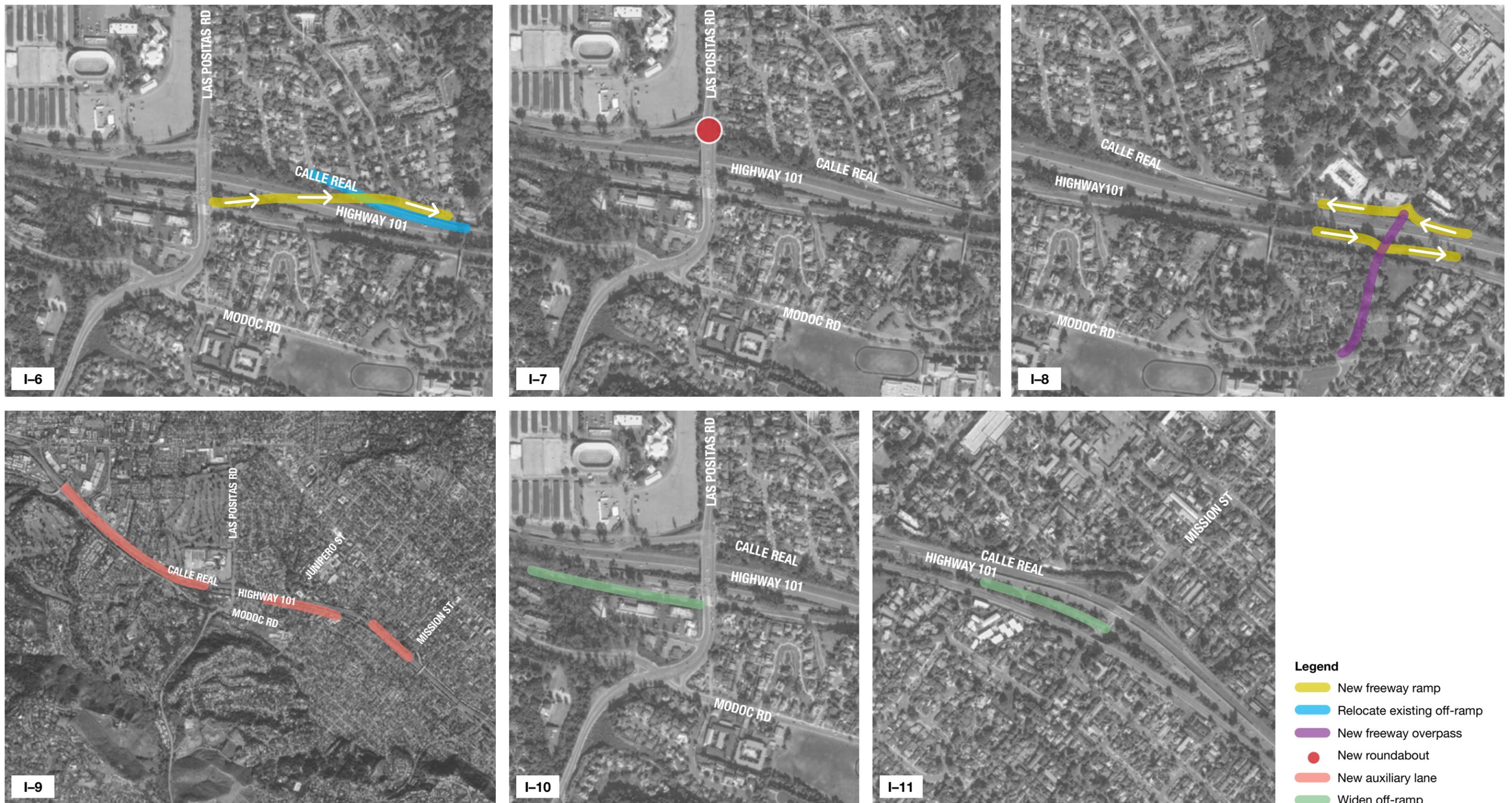
Option I-10: Widen Southbound 101 Off-ramp to Las Positas Road

This option proposes to widen the existing southbound off-ramp from Highway 101 to Las Positas Road to address the poor level of service observed at the intersection of Las Positas Road and the southbound 101 access ramps. This intersection currently operates below the minimum acceptable level of service during the AM and PM peak periods according to City of Santa Barbara and Caltrans standards.

Option I-11: Widen Southbound 101 Off-ramp to Mission Street

Peak hour traffic volumes on the southbound 101 off-ramp to Mission Street are forecast to exceed capacity by the Year 2030. This option involves widening the off-ramp from two lanes to three in order to provide a second left turn lane.

Figure 4.3 Interchange Improvement Options



4.3 LOCAL STREET INTERCHANGE OPTIONS

Local street modification options considered as part of the study effort include one-way travel, changes to signal control, and changes to traffic signal phasing. The City may pursue local street circulation projects even if they are not carried into the Caltrans PSR process. The location of selected local street improvement options are shown in Figure 4.4.

Option L-1: Extend Two-Way Traffic on De la Vina

De la Vina Street is a collector road that serves one-way traffic in the southbound direction from Constance Avenue down to Haley Street. This option proposes to convert the segment of De la Vina Street between Constance Avenue and Pueblo Street to serve two-way traffic.

Option L-2: Signalize Pueblo Street Intersections with State Street and De la Vina Street

This option proposes to install new traffic signals on Pueblo Street at State Street and De la Vina Street. The traffic signals would be intended to improve traffic circulation and safety for vehicles traveling on Pueblo Street.

Option L-3: Extend Castillo Street/Bath Street One-way Couplet

Mission Street is a four-lane undivided roadway within the study area. There are no left turn pockets or two-way left turn lanes available. Eastbound vehicles on Mission Street that wish to turn left onto Castillo Street or Bath Street block through traffic while waiting for adequate gaps in westbound traffic. This improvement option would extend the Castillo/Bath one-way couplet from Mission Street to Pueblo Street. This configuration would allow for left turn movements on Mission Street to be consolidated at a single intersection for each direction of travel, potentially improving traffic flow in the corridor.

Option L-4: Reduce Through Lanes on Mission Street to Provide Left Turn Pockets

As an alternative to Option L-3, this option would restripe Mission Street between Highway 101 and De la Vina Street as a two lane roadway with a center lane that permits left turns. The objective of this improvement is to provide left turn vehicles with their own lane, and potentially reduce the impacts these left turning vehicles have on through traffic. This option would also allow for wider through lanes on Mission Street.

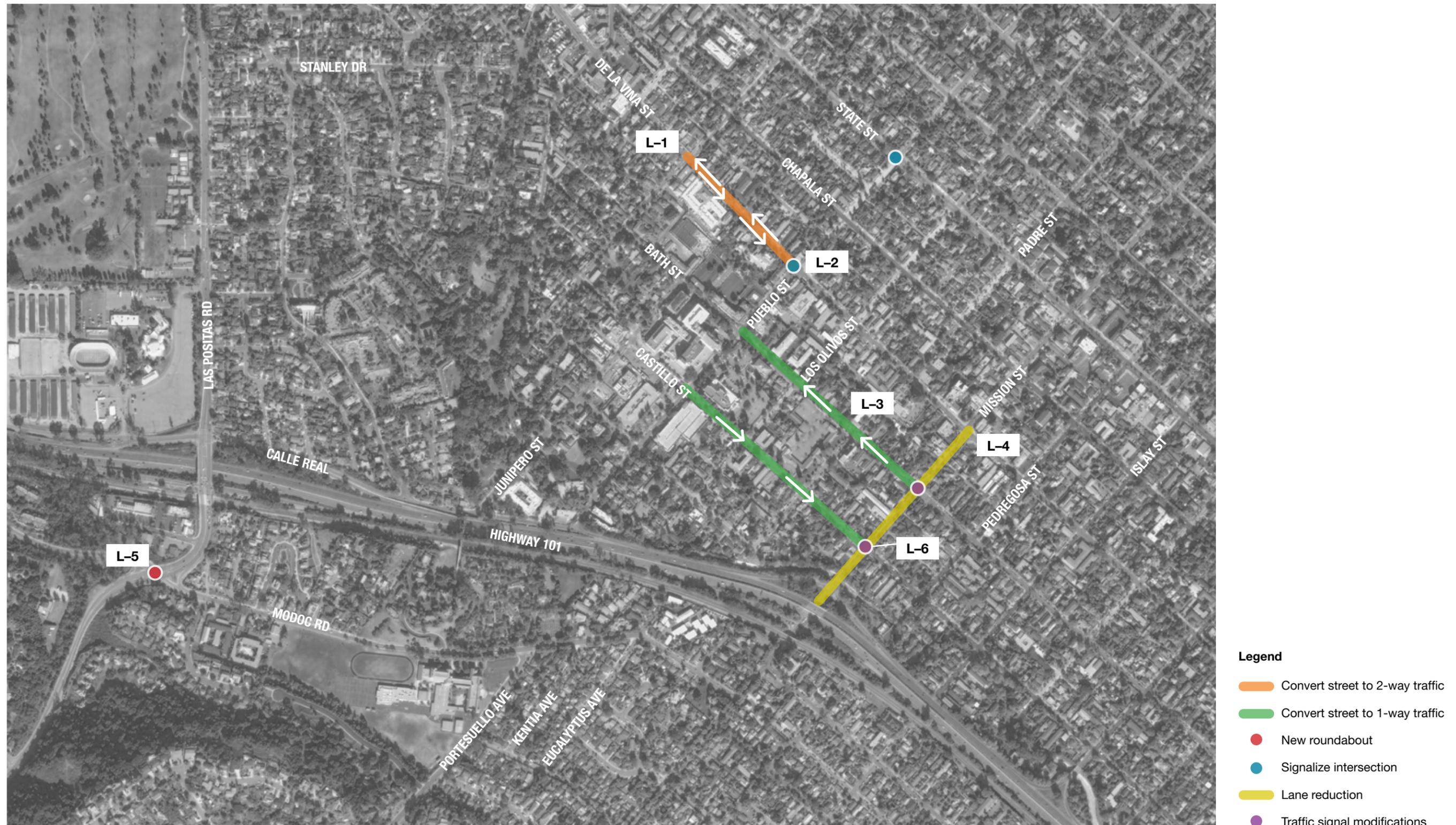
Option L-5: Las Positas Road and Modoc Road Roundabout

This option would replace the existing signalized intersection of Las Positas Road and Modoc Road with a roundabout.

Option L-6: Mission Street Traffic Signal Modifications

This option is related to Options L-3 and L-4, and proposes various modifications to signal control on Mission Street at Castillo Street and Bath Street. Modifications considered include permissive-protected left turn phasing or restriction of left turn movements.

Figure 4.4 Local Street Improvement Options



4.4 NON-MOTORIZED AND/OR TRANSIT SYSTEM IMPROVEMENT OPTIONS

Improvement options that involve transit services or pedestrian and bicycle facilities have been grouped together as alternative transportation improvements. Transit service in and around the study area is provided by Santa Barbara Metropolitan Transit District (MTD). Three alternatives have been identified for modifying MTD routes to provide better transit connections to Santa Barbara Cottage Hospital. These changes are shown in Figure 4.5 on the following page. Bicycle and pedestrian facility improvements are presented following the suggested transit improvements.

Option MN-1: Modify MTD Route 3 (use Pueblo Street Overcrossing)

MTD Route 3 originates at the Downtown Santa Barbara Transit Center and travels into the study area on Bath Street. Route 3 travels past Cottage Hospital and turns toward Highway 101 on Junipero Street. Route 3 turns north onto Calle Real and then travels through the Samarkand neighborhood on Treasure Drive and connects to Las Positas Road just north of Tallant Road. The route continues north on Las Positas Road then west on State Street to service La Cumbre Plaza and North State and Hitchcock neighborhoods before returning along a similar route.

The modified Route 3 would maintain its current route between the Santa Barbara Transit Center and Cottage Hospital. It would then travel on the proposed Highway 101 overcrossing at Pueblo Street to serve the Bel Air and Hidden Valley neighborhoods south of the freeway. A connection to MTD Route 5 at Veronica Springs Road would be provided to service the La Cumbre Road area, Hope Ranch and North State neighborhoods.

Option MN-2: Modify MTD Route 8 (use two-way Calle Real)

MTD Route 8 currently bypasses the study area and SBCH. Originating at the Santa Barbara Transit Center to the southeast, Route 8 uses US-101 to provide service to locations north and west of the study area. The modified Route 8 would still originate at Downtown's Transit Center and still provide service to west Santa Barbara's Hope and North State neighborhoods, as well as La Cumbre Plaza, the City of Goleta, and the County Health Care Services Center.

Instead of passing the study area using the freeway, however, the modified route would approach the study area as Route 3 does, servicing Oak Park, Downtown, and/or West Downtown neighborhoods. The exact route through these areas south and east of the study area would be determined in coordination with the Metropolitan Transit District. As Route 3 does, Route 8 would enter the study area using Bath Street and exit by De la Vina Street. Once two-way access is available on Calle Real to Junipero Street, Route 8 would provide connection between Cottage Hospital and Calle Real using Junipero Street and Bath Street. The route would then continue on the existing two-way portion of Calle Real between Las Positas Road and Hope Avenue to rejoin the original Route 8 service to west Santa Barbara and Goleta.

Option NM-3: Modify MTD Route 6 and/or 11 (use two-way De la Vina Street)

MTD Routes 6 and 11 currently travel along State Street between Downtown Santa Barbara and points west of the Upper State Street corridor. Route 6 connects to Goleta and the Camino Real Marketplace along Hollister Avenue. Route 11 diverges from Route 6 at Fairview and connects to the University of California at Santa Barbara (UCSB). The proposed modification to one or both of these routes would be to utilize De la Vina Street between State Street and Pueblo Street to serve the Cottage Hospital area. The proposed routing is tied to the local street improvement option to convert De la Vina Street to serve two-way traffic between Constance Avenue and Pueblo Street. This modification would allow the routes to provide better connections to Cottage Hospital, particularly from the Goleta and Upper State Street areas.

Figure 4.5 Bus Transit Improvement Options



- Legend**
- Route 3 existing
 - Route 8 existing
 - Route 3 Realignment with Pueblo Overcrossing
 - Route 8 Realignment with 2-way Calle Road
 - Route 6 & 11 Existing
 - Route 6 & 11 Realignment with 2-way De La Vina

Option NM-4: Calle Real Sidewalk Improvements

Pedestrian facilities are not available on Calle Real between Las Positas Road and Treasure Drive. The construction of sidewalks along one or both sides of the street could be implemented as a stand-alone project or in conjunction with other modifications to Calle Real.

Option NM-5: Pedestrian Crossing Improvements on Las Positas Road

There are limited opportunities for pedestrians to cross Las Positas Road between Modoc Road and Calle Real. Pedestrian improvements could be considered as part of other intersection modifications along this road segment.

Option NM-6: Union Pacific Rail Corridor Station Platform

Residents of Santa Barbara and employees of Cottage Hospital have expressed an interest in adding a commuter rail station platform on the Union Pacific Railroad Line within the study area. A specific location has not been identified at this time. Possible locations include near the existing Junipero Street pedestrian overpass or near existing commercial properties along Las Positas Road and Mission Street near the UP rail corridor. This improvement would be dependent on the implementation of a commuter rail service between Santa Barbara and Ventura, as well as a study of the feasibility of providing adequate access to a station in this location.

Option NM-7: Shuttle Bus Service from Santa Barbara Amtrak Station

Should commuter rail service between Santa Barbara and Ventura be implemented in the future, the City of Santa Barbara could consider working with MTD and Cottage Hospital to implement a dedicated shuttle bus service linking the existing Amtrak Station on State Street near Highway 101 directly to Cottage Hospital. This service would be accomplished with a shuttle bus that would be scheduled to meet commuter rail trains during peak period service times and provide quick, and possibly even direct, service to the Cottage Hospital area.

Option NM-8: Class II Bike Lanes on Castillo Street and Bath Street

South of Mission Street, Castillo Street and Bath Street operate as a one-way couplet. Castillo Street has one southbound lane and a Class II bike lane, and Bath Street has one northbound lane and a Class II bike lane. There are parking lanes on both sides of each street. If the one-way couplet is extended between Mission Street and Pueblo Street, then the Class II bike lanes could be extended as well.

4.5 INITIAL SCREENING OF ALTERNATIVES

The circulation improvement alternatives were evaluated to identify viable alternatives that should be carried forward for more detailed study and analysis using the City of Santa Barbara's new traffic model. As discussed in Section 3, the evaluation process involved an extensive amount of community and stakeholder involvement. Each of the improvement options summarized above was presented to the community at the February 2008 public workshop and again at the March 2009 PC/TCC meeting.

The public comments, suggestions, and other relevant feedback collected at the workshop and PC/TCC meeting were utilized as part of the evaluation criteria. The community involvement process helped to identify improvement options that could have negative impacts to the surrounding neighborhoods and those improvements that had community support for further design and study.

This section provides an overview of the evaluation criteria, evaluation process, and the short list of improvement options that were selected to be included in the detailed transportation analysis effort. This initial screening process helped to reduce the overall number of improvements and assisted in the process to develop a set of improvement alternatives for the traffic modeling effort.

Evaluation Criteria

Each of the thirty circulation improvement options identified above was subjected to initial evaluation using several criteria. These evaluation criteria were developed as tools for assessing the potential of each alternative to enhance Santa Barbara’s economic vitality and to improve quality of life. The criteria reflect the City’s goals of expanding mobility, improving the circulation of goods and people, and increasing alternative transportation options and utility. Improving access to Santa Barbara Cottage Hospital was also taken into consideration in the development of the criteria.

The criteria utilized for the initial evaluation includes:

- Traffic Circulation Benefits/Impacts
- Transit Connectivity
- Bicycle and Pedestrian Connectivity
- Community Benefits/Impacts
- Preliminary Environmental Benefits/Impacts (more detailed environmental analysis would also be conducted after the PSR phase)
- Cost Effectiveness

Overcrossing Options

The benefits and challenges associated with each overcrossing option are summarized in Table 4-1.

Table 4-1 Overcrossing Improvement Options Summary

| Overcrossing Project | Benefits | Challenges | Selected For Modeling Analysis |
|---------------------------------------|---|---|--------------------------------|
| O-1: Junipero Street | <ul style="list-style-type: none"> • Provides connection to Cottage Hospital area for local traffic traveling from the western portions of the City • Would replace existing pedestrian bridge with an improved facility • Good access from Las Positas Road | <ul style="list-style-type: none"> • Does not connect through to State Street • Possible impacts to adjacent park, residential, and school land uses • Significant grade challenges with hills on west side of Highway 101 • Right-of-way impacts to Vista Madera community | no |
| O-2: Pueblo Street | <ul style="list-style-type: none"> • Provides connection to Cottage Hospital area for local traffic traveling from the western portions of the City • Provides most direct hospital public parking structure access • Continuous corridor from Las Positas to State Street via Portesuello Avenue and Pueblo Street. | <ul style="list-style-type: none"> • Some residential impacts on east side of freeway • Impacts Pilgrim Terrace community park and garden • Requires relocation of NB 101 Pueblo Street off-ramp • Adjacent park and school land uses • Requires raising the Modoc/ Portesuello intersection to meet grade of new overpass | yes |
| O-3: Los Olivos Street/ Kentia Avenue | <ul style="list-style-type: none"> • Provides through connection to State Street and De la Vina • Reduces traffic increase near La Cumbre Junior High School | <ul style="list-style-type: none"> • Impacts to residential properties • Narrow street width may not be able to accommodate increased traffic volumes | no |

| Overcrossing Project | Benefits | Challenges | Selected For Modeling Analysis |
|-----------------------|--|--|--------------------------------|
| O-4: Pedregosa Street | <ul style="list-style-type: none"> Provides through connection to State Street and De la Vina Reduces traffic increase near La Cumbre Junior High School | <ul style="list-style-type: none"> Location south of Mission Street limits benefits to hospital access Impacts to residential properties Narrow street width may not be able to accommodate increased traffic volumes | no |
| O-5: Islay Street | <ul style="list-style-type: none"> Provides through connection to State Street and De la Vina Reduces traffic increase near La Cumbre Junior High School | <ul style="list-style-type: none"> Location south of Mission Street limits benefits to hospital access Impacts to residential properties Narrow street width may not be able to accommodate increased traffic volumes | no |

The Los Olivos/Kentia, Pedregosa, and Islay overcrossing options were removed from consideration due to the residential nature of these streets. These corridors would not be complimentary to high through-traffic volumes. Based on the preliminary screening, the Pueblo Street option has the highest potential to satisfy the purpose and need of the project, and is the only overcrossing option selected for further analysis.

Interchange/Freeway Ramp Options

The benefits and challenges associated with each interchange/ freeway ramp option are summarized in Table 4-2.

Table 4-2 Interchange Improvement Options Summary

| Interchange Project | Benefits | Challenges | Selected For Modeling Analysis |
|---|---|--|--------------------------------|
| I-1: Northbound Highway 101 Off-ramp to Junipero Street | <ul style="list-style-type: none"> Increases the distance between this off-ramp and Mission Street on-ramp to NB Highway 101 Allows for two way traffic on Calle Real between Las Positas Road and Junipero Street | <ul style="list-style-type: none"> Off-ramp may not have capacity to accommodate traffic volumes from both the Las Positas and Pueblo Street off-ramps Eliminates access to private properties on Calle Real between Junipero Street and Pueblo Street | no |
| I-2: Northbound Highway 101 "Hook" Off-ramp to Calle Real at Las Positas Road | <ul style="list-style-type: none"> Lower capital cost than alternatives involving new bridge structures Allows for two way traffic on Calle Real between Las Positas Road and Junipero Street | <ul style="list-style-type: none"> Right-of-way requirements could result in impact to Earl Warren Showgrounds property Design needs to account for existing Las Positas Road overpass and avoid impacts to structure | yes |
| I-3: Las Positas Road Single Point Interchange | <ul style="list-style-type: none"> Focuses on and off-ramp traffic at a single intersection, potentially improving through traffic flow on Las Positas Road Allows for two way traffic on Calle Real between Las Positas Road and Junipero Street | <ul style="list-style-type: none"> Significant capital cost likely necessary to construct Possible right-of-way impacts Would require removal of Las Positas Road/Calle Real intersection due to proximity | no |

| Interchange Project | Benefits | Challenges | Selected For Modeling Analysis |
|--|---|---|--------------------------------|
| I-4: Northbound Highway 101 Flyover Off-ramp to Las Positas Road | <ul style="list-style-type: none"> Likely to have a lower capital cost than a full single point interchange Focuses on and off-ramp traffic at a single intersection, potentially improving through traffic flow on Las Positas Road Allows for two way traffic on Calle Real between Las Positas Road and Junipero Street | <ul style="list-style-type: none"> Significant capital cost likely necessary to construct | yes |
| I-5: Eastbound Calle Real Flyover (Upper State Street Study) | <ul style="list-style-type: none"> Allows for two way traffic on Calle Real between Las Positas Road and Junipero Street | <ul style="list-style-type: none"> Significant capital cost likely necessary to construct Limited access to properties on Calle Real for eastbound traffic Possible impacts to Caltrans right-of-way | no |
| I-6: Southbound Highway 101 Flyover from Las Positas Road to Junipero Street | <ul style="list-style-type: none"> Accomplishes same objective of two way Calle Real, by allowing eastbound traffic to access Cottage Hospital from Las Positas Road Reduces impact to northbound off-ramp from Highway 101 to Las Positas Road | <ul style="list-style-type: none"> Significant capital cost likely necessary to construct | yes |
| I-7: Las Positas Road and Calle Real Intersection Roundabout | <ul style="list-style-type: none"> Could reduce traffic congestion at this intersection | <ul style="list-style-type: none"> Existing topography on northwest corner of the intersection may preclude this proposed improvement Possible right-of-way impacts to private property | no |
| I-8: Pueblo Street Interchange and Overcrossing | <ul style="list-style-type: none"> Provides direct access from northbound and southbound Highway 101 to Cottage Hospital area | <ul style="list-style-type: none"> Would not provide required distance between interchanges, given proximity to Las Positas Road and Mission Street Would likely impact freeway mainline traffic operations | no |
| I-9: Highway 101 Auxiliary Lanes | <ul style="list-style-type: none"> Improves freeway mainline traffic operations and makes merging onto and off of the freeway easier for vehicles | <ul style="list-style-type: none"> Possible right-of-way impacts to private property Possible impacts to Union Pacific rail right-of-way | * |
| I-10: Widen Southbound Highway 101 Off-ramp to Las Positas Road | <ul style="list-style-type: none"> Increases capacity of the off-ramp and improves level of service at terminus intersection | <ul style="list-style-type: none"> Possible right-of-way impacts to private property Possible impacts to Union Pacific rail right-of-way | * |
| I-11: Widen Southbound Highway 101 Off-ramp to Mission Street | <ul style="list-style-type: none"> Increases capacity of the off-ramp and improves level of service at terminus intersection | <ul style="list-style-type: none"> Possible right-of-way impacts to private property Possible impacts to Union Pacific rail right-of-way | * |

*These options are not modeled with the City of Santa Barbara traffic model, but remain under consideration for inclusion in the preferred alternative.

Local Street Improvement Options

The benefits and challenges associated with each local street improvement option are summarized in Table 4-3.

Table 4-3 Local Street Improvement Options Summary

| Local Street Project | Benefits | Challenges | Selected For Modeling Analysis |
|---|---|---|--------------------------------|
| L-1: Extend Two-Way Traffic on De la Vina Street from Constance Street to Pueblo Street | <ul style="list-style-type: none"> Improves access to Cottage Hospital area from De la Vina Street and Upper State Street Potentially reduces traffic volumes on Alamar Avenue | <ul style="list-style-type: none"> Sufficient street width may not be available to provide on-street parking, two-way traffic, and bicycle lanes | yes |
| L-2: Signalize Pueblo Street intersections with State Street and De la Vina Street | <ul style="list-style-type: none"> Improves safety and traffic operations for vehicles traveling on Pueblo Street | <ul style="list-style-type: none"> Could impact traffic flow on De la Vina Street and State Street | * |
| L-3: Extend Castillo Street and Bath Street One-Way Couplet | <ul style="list-style-type: none"> Focuses left turns from Mission Street to a single location Allows for extension of Class II bikeways to Cottage Hospital | <ul style="list-style-type: none"> Inbound traffic to Cottage Hospital would use Bath Street and be forced to circulate on Pueblo Street to access public parking structure on Castillo Street | yes |
| L-4: Reduce Through Lanes on Mission Street | <ul style="list-style-type: none"> Allows for dedicated left turn pocket, reducing delays to through traffic trapped behind left turn vehicles Addresses safety concerns associated with narrow existing travel lanes | <ul style="list-style-type: none"> Reduces overall through traffic capacity May shift some through traffic to parallel streets | * |
| L-5: Mission Street Traffic Signal Modifications | <ul style="list-style-type: none"> Would improve operation for left turn vehicles | <ul style="list-style-type: none"> May reduce capacity for through traffic | * |

*These options are not modeled with the City of Santa Barbara traffic model, but remain under consideration for inclusion in the preferred alternative.

Non-Motorized and/or Transit System Improvement Options

The benefits and challenges associated with each non-motorized and/or transit system improvement option are summarized in Table 4-4.

Table 4-4 Non-Motorized and/or Transit System Improvement Options Summary

| Project | Benefits | Challenges | Selected For Modeling Analysis |
|--------------------------|---|---|--------------------------------|
| NM-1: Modify MTD Route 3 | <ul style="list-style-type: none"> Improves access to Cottage Hospital area from western portions of Santa Barbara | <ul style="list-style-type: none"> Eliminates direct link to Cottage Hospital from La Cumbre Plaza/Upper State Street area | * |
| NM-2: Modify MTD Route 8 | <ul style="list-style-type: none"> Improves access to Cottage Hospital area from Goleta area | <ul style="list-style-type: none"> Increases travel times on route that could operate as express from La Cumbre Road to Downtown | * |

| Project | Benefits | Challenges | Selected For Modeling Analysis |
|---|---|--|--------------------------------|
| NM-3: Calle Real and Las Positas Sidewalk Improvements | <ul style="list-style-type: none"> Improves pedestrian access and safety | <ul style="list-style-type: none"> Possible private property impacts | * |
| NM-4: Pedestrian Crossing Improvements on Las Positas Road | <ul style="list-style-type: none"> Improves pedestrian access and safety | <ul style="list-style-type: none"> May impact traffic flow on Las Positas Road | * |
| NM-5: Union Pacific Rail Corridor Station Platform | <ul style="list-style-type: none"> Provides possible commuter rail connection to Cottage Hospital area | <ul style="list-style-type: none"> Access to station may be difficult given surrounding land uses Sufficient right-of-way may not exist to accommodate station | * |
| NM-6: Shuttle Bus Link to Downtown Amtrak Station | <ul style="list-style-type: none"> Provides direct transit connection from station and possible commuter rail stop to Cottage Hospital | <ul style="list-style-type: none"> Identifying source for funding operating costs | * |
| NM-7: Extend Class II Bike Lanes on Castillo and Bath Streets | <ul style="list-style-type: none"> Extends Class II bike lanes to Cottage Hospital | <ul style="list-style-type: none"> Tied to extending the one-way couplet on these streets, sufficient street width does not exist with current configuration | * |

* These options are not modeled with the City of Santa Barbara traffic model, but remain under consideration for inclusion in the preferred alternative.

5.0 Alternatives Analysis

Based on the initial screening results, the projects selected for further consideration were grouped into three “packages” of alternatives for the purposes of traffic modeling. The three packages allow for a comparison of the benefits of an overpass option versus interchange improvements, and an assessment of these two types of improvements in a combined alternative. Selected local street improvements that would cause changes to traffic circulation patterns were also included in the traffic modeling effort so that the affects could be appropriately quantified.

Alternatives 2 and 3 have been subdivided into three sub-alternatives for the purposes of evaluating several interchange reconfiguration options for the Highway 101/Las Positas Road interchange. The alternatives discussed in this section are summarized as follows:

- Alternative 1: Pueblo Street Overcrossing – Implements a new freeway overpass at Pueblo Street over Highway 101, connecting to the intersection of Modoc Road and Portesuello Avenue west of Highway 101.
- Alternative 2A: Las Positas Northbound “Fly-Over” Off-Ramp – Replaces the existing northbound Las Positas Road off-ramp with a new off-ramp that would transition over the Highway 101 mainline and create a new off-set single-point intersection at the location of the existing Las Positas Road on and off-ramps with southbound Highway 101.
- Alternative 2B: Las Positas “Hook” Northbound Off-Ramp - Replaces the existing northbound Las Positas Road off-ramp with a new off-ramp that would be located adjacent to the existing northbound on-ramp, west of the existing Las Positas Road overpass. The new on and off-ramp would be a “hook” ramp design similar to the existing northbound on and off-ramps at Highway 101 and Hope Street.
- Alternative 2C: Las Positas “Fly-Over” Southbound Ramp – Would maintain the existing northbound Las Positas Road off-ramp. However, minor relocation may be necessary. This alternative proposes a new single-lane bridge connecting the southbound Las Positas Road on and off-ramp intersection with Calle Real, west of Junipero Street. The new bridge would cross over the mainline traffic lanes of Highway 101 and have a similar alignment and profile to the bridge proposed in Alternative 2A. The objective of this alternative would be to provide for eastbound travel for vehicles between Las Positas Road and Junipero Street, effectively accomplishing the same goal as two-way traffic on Calle Real.
- Alternative 3A: Pueblo Street Overcrossing and Las Positas Northbound “Fly-Over” Off-Ramp – Combines the projects proposed in Alternative 1 and Alternative 2A.
- Alternative 3B: Pueblo Street Overcrossing and Las Positas “Hook” Northbound Off-Ramp – Combines the projects proposed in Alternative 1 and Alternative 2B.
- Alternative 3C: Pueblo Street Overcrossing and Las Positas “Fly-Over” Southbound Ramp – Combines the projects proposed in Alternative 1 and Alternative 2C.

Graphical examples of each of the alternatives are presented later in this section.

The following local street improvements are included in all Alternatives:

- Extend Castillo/Bath One-way Couplet
- Convert De La Vina to two-way operation between Constance and Pueblo Street

These local street improvements result in the following changes to study intersection lane geometry:

- De la Vina Street and Nogales Avenue: from one southbound through lane and one southbound shared through-right lane on De la Vina Street and an eastbound right turn lane on Nogales Avenue to one southbound shared through-right lane and one northbound shared through-left lane and a shared left-right lane on Nogales Avenue.
- De la Vina Street and Pueblo Avenue: from one southbound through-left lane and one southbound through-right lane on De la Vina Street and an eastbound through-right and one westbound through-left on Nogales Avenue to one shared left-through-right lane on the southbound, eastbound, and westbound approaches.
- Bath Street and Mission Street: the southbound approach on Bath Street is removed, and Bath operates as a northbound one-way street.
- Castillo Street and Mission Street: eastbound left turn and westbound right turn movements are no longer permitted as Castillo will operate as a southbound one-way street.

5.1 ALTERNATIVE 1: PUEBLO STREET OVERCROSSING

Alternative 1 includes a new overcrossing at Pueblo Street that would pass over the northbound 101 off-ramp to Calle Real, Highway 101, and the UP rail corridor and form a four-leg intersection with Modoc Road and Portesuello Avenue. This would require at least partial acquisition of the Pilgrim Terrace Residential Property between Pilgrim Terrace Drive and Kentia Avenue. Currently there is a park and community garden in the area where the city would need to obtain right-of-way. There would also be right-of-way impacts to property on the east side of Highway 101.

Conceptual engineering indicates that Modoc Road would need to be raised about two feet to meet the resulting grade of the Pueblo Street overpass. Additionally, the northbound 101 off-ramp to Pueblo Street would need to be shifted west to fit under the new overpass, and would be realigned connect to Junipero Street instead of Pueblo Street. Conceptual engineering drawings of the Pueblo Street overcrossing are available in Appendix D.

The locations of the improvements analyzed in this alternative are shown in Figure 5.1. Intersection lane geometry assumptions for Alternative 1 are illustrated in Figure 5.2. Intersection geometry for Alternative 1 is assumed to be the same as the Baseline condition, with the following exceptions:

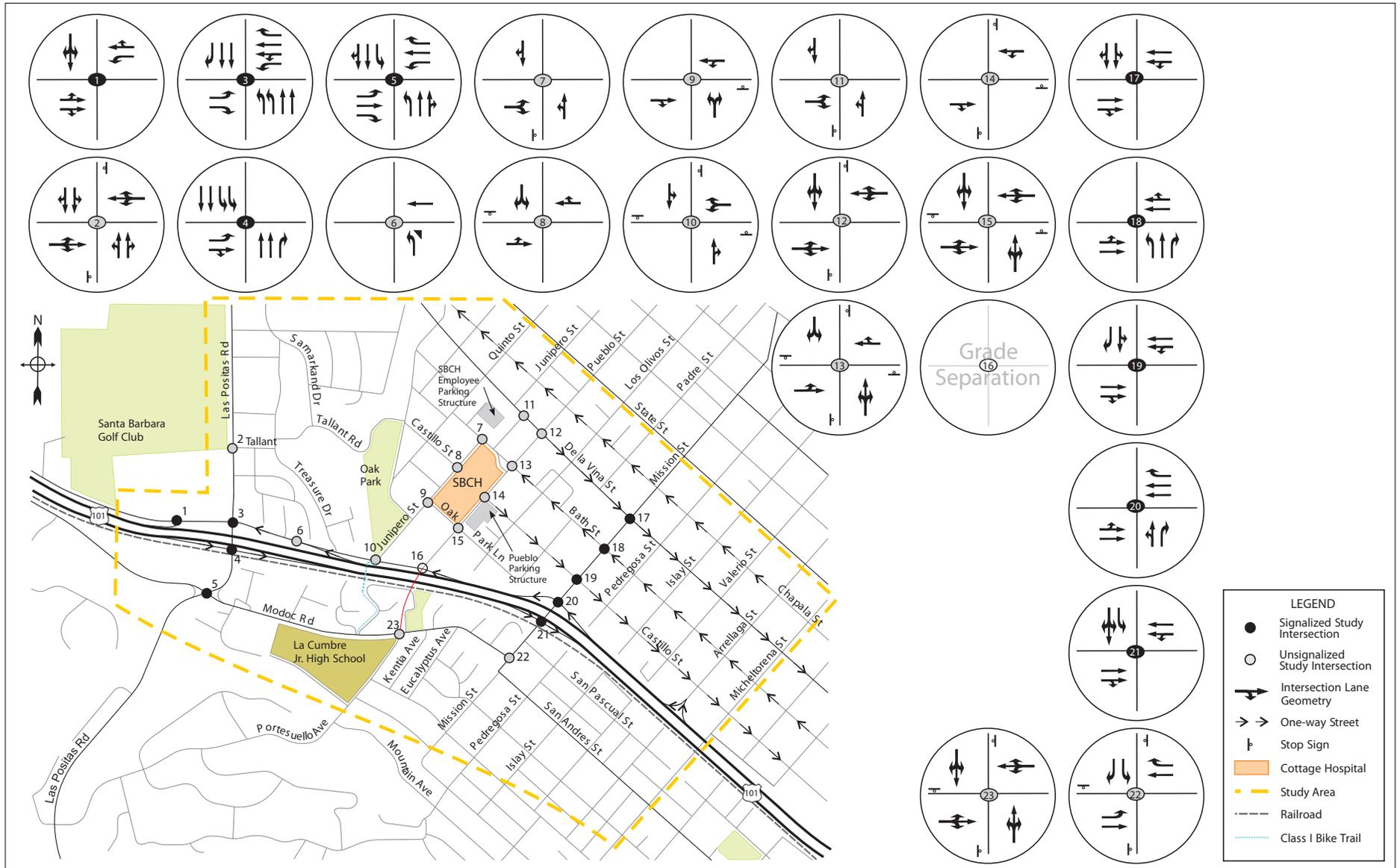
- Calle Real and Pueblo Street (#16): the northbound 101 off-ramp would no longer intersect with Pueblo Street, but pass under the Pueblo Street overcrossing structure.
- Modoc Road and Portesuello Avenue (#23): the Pueblo Street overcrossing structure would connect to this intersection and add a southbound approach. This location is initially modeled as a four-way stop controlled intersection with one shared left-through-right lane on each approach.

Vehicles that utilize the Pueblo Street overcrossing could reduce their travel distance to Cottage Hospital by up to 0.5 miles compared to crossing Highway 101 on Mission Street. Northbound 101 vehicles that currently take the Pueblo Street exit and turn right onto Pueblo Street would continue north on Calle Real to Junipero Street and travel about 0.3 miles further with the new configuration.

Figure 5.1 Proposed Improvements: Alternative 1



Figure 5.2 Lane Geometry: Alternative 1



Changes to Traffic Patterns

The construction of a new overpass at Pueblo Street would cause changes to traffic patterns in the study area. Based on the traffic model forecasts developed for this alternative, traffic volume increases are anticipated along Pueblo Street, Junipero Street, and Modoc Road. These forecasted increases primarily result for traffic using the new overpass to cross Highway 101, vehicles accessing the new overpass from Las Positas Road, and the relocation of the northbound Pueblo street off-ramp to Junipero Street.

Traffic reductions are forecast to occur on Mission Street and Las Positas Road, which is reflective of the objective of the overpass to provide an alternative route for local traffic to cross Highway 101. In the Year 2030 Baseline condition there are four intersections along Las Positas Road that are forecast to operate at LOS D or worse during both peak periods. This condition improves with the Pueblo Street overcrossing, particularly during the AM peak hour. Unacceptable LOS still exists in the PM peak hour at all four intersections, but they do show improvement from the Year 2030 Baseline condition. The model forecasts do not show a major difference in volumes on Mission Street with the overcrossing, which indicates that freeway traffic is not likely to use the Pueblo Street overcrossing as an alternative to Mission Street and limited changes to local traffic volumes on Mission Street are forecast to occur. The small forecast changes to traffic volumes on Mission Street may be influenced by the proposed changes to one-way traffic flow on Castillo Street and Bath Street, which may attract additional regional traffic to Mission Street as access between Cottage Hospital and Highway 101 becomes more efficient. This regional traffic increase is forecast offset the local traffic reductions resulting from a new Pueblo Street overcrossing.

The influence of the extension of the Castillo/Bath one-way couplet is apparent on Pueblo Street and Mission Street where changes in traffic volumes are forecast to occur within the segments adjacent to Castillo and Bath Streets. Figure 5.3 illustrates the forecast changes in traffic flow between the Year 2030 Baseline and Alternative 1 along selected study area streets during the AM peak hour.

Figure 5.3 Net Traffic Volume Change: Alternative 1 – AM Peak



Additional Improvements Required to Achieve Acceptable LOS

As illustrated in the figure above, the introduction of a new overpass at Pueblo Street would change traffic patterns in the study area. The overpass is also forecast to redistribute traffic away from Las Positas Road and Mission Street and reduce future traffic volumes on these streets. The second step in the analysis and evaluation process for this alternative is to examine what additional intersection lane configuration improvements might be necessary in order to provide acceptable level of service at all intersections in the study area. The City of Santa Barbara defines acceptable level of service as LOS C or better, with an intersection volume to capacity (v/c) ratio of 0.77 or better.

The improvements identified below are intended to address intersection level of service deficiencies that occur either in the Baseline Year 2030 condition or deficiencies that may result from changes in traffic patterns resulting from the implementation of the Pueblo Street Overcrossing. While the introduction of a new overpass at Pueblo Street would improve operations at several of intersections, additional improvements are necessary to provide acceptable level of service throughout the study area.

Intersections that are forecast to experience deficient operations during the AM or PM peak period in Alternative 1 are included in Table 5-1, along with one or more improvement options to provide an acceptable level of service.

Table 5-1 Alternative 1 Intersection Improvement Options

| Intersection | Baseline | | | Alternative 1 | | | Improvement Option | | |
|--|----------------------|---------------|--------------------------|----------------------|--------------------------|---------------------------|----------------------|--------------------------|--------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (9) N/S: Oak Park E/W: Junipero | | | AM 11.2 s B | | | AM 15.0 s C | | AM 0.54 A | AM 8.9 s A |
| | | | PM 13.8 s B | | PM 42.9 s E | PM 0.65 B | | PM 15.4 s B | |
| (10) N/S: Calle Real E/W: Junipero | | | AM 9.0 s A | | | AM 13.6 s B | | AM 0.58 A | AM 12.4 s B |
| | | | PM 15.8 s C | | PM 60.9 s F | PM 0.46 A | | PM 9.3 s A | |
| (11) N/S: De la Vina E/W: Nogales | | | AM 10.5 s B | | | AM 16.3 s C | | AM 0.49 A | AM 3.4 s A |
| | | | PM 10.5 s B | | | PM 117.5 s F | | PM 0.64 B | PM 14.3 s B |
| (12) N/S: De la Vina E/W: Pueblo | | | AM 18.6 s C | | | AM 26.3 s D | | AM 0.59 A | AM 16.6 s B |
| | | | PM 20.2 s C | | | PM 231.0 s F | | PM 0.71 C | PM 20.5 s C |

| Intersection | Baseline | | | Alternative 1 | | | Improvement Option | | |
|--|----------------------|---------------------------|---------------------------|----------------------|---------------|---------------------------|----------------------|--------------------------|--------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (15) N/S: Oak Park E/W: Pueblo | | AM 17.1 s C | AM 295.7 s F | | | AM 295.7 s F | | AM 0.53 A | AM 16.9 s B |
| | | PM 14.0 s B | PM 409.0 s F | | | PM 409.0 s F | | PM 0.64 B | PM 17.9 s B |
| (20) N/S: NB 101 ramps E/W: Mission | | AM 0.78 C | AM 23.6 s C | | | AM 0.82 D | | AM 0.72 C | AM 20.9 s C |
| | | PM 0.78 C | PM 35.6 s D | | | PM 0.90 E | | PM 20.9 s C | PM 0.60 A |
| (21) NS: SB 101 ramps E/W: Mission | | AM 0.93 E | AM 29.1 s C | | | AM 0.87 D | | AM 0.77 C | AM 31.9 s C |
| | | PM 1.06 F | PM 98.0 s F | | | PM 1.03 F | | PM 85.7 s F | PM 0.75 C |
| (23) NS: Modoc E/W: Portesuello | | AM 81.4 s F | AM 113.4 s F | | | AM 113.4 s F | | AM 0.71 C | AM 18.8 s B |
| | | PM 435.7 s F | PM 194.0 s F | | | PM 194.0 s F | | PM 0.74 C | PM 18.0 s B |

Notes:

A blank entry in the "Geometry and Control" column indicates that no changes from the Baseline are assumed in Alternative 1 at this location.

Black arrows indicate existing lane geometry.

Green arrows indicate added lane geometry, movements, or capacity.

Grey arrows indicate removed lane geometry or movements.

It should be noted that at intersections where new traffic signals are recommended, the City of Santa Barbara will conduct a traffic signal warrant analysis to determine if other improvements may also address level of service deficiencies.

5.2 ALTERNATIVE 2A: NORTHBOUND 101 OFF-RAMP FLYOVER TO LAS POSITAS ROAD

In Alternative 2A, a flyover ramp structure would be constructed from northbound Highway 101 to a new westbound approach at the intersection of Las Positas Road and the southbound 101 ramps. The existing northbound 101 off-ramp to Las Positas Road would be removed, and two-way traffic would be restored on Calle Real between Treasure Drive and Las Positas Road. Vehicles would be able to exit southbound 101 at Las Positas Road and use Calle Real to access the Cottage Hospital area, which would shave about 0.5 miles from the travel distance compared to exiting at Mission Street and doubling back.

The southbound 101 on-ramp from Las Positas Road would need to be widened to provide room for the flyover approach. For the initial traffic analysis, it is assumed that the northbound off-ramp would have a single lane to serve both left and right turn movements. Conceptual engineering drawings of the Northbound Off-ramp Flyover are available in Appendix D.

The locations of the improvements analyzed in this alternative are shown in Figure 5.4. Intersection lane geometry assumptions for Alternative 2A are illustrated in Figure 5.5. Intersection geometry for Alternative 2A is assumed to be the same as the Baseline condition, with the following exceptions:

- Las Positas Road and Calle Real: a southbound left turn lane would be striped within the existing right-of-way, and the northbound outside lane will operate as a shared through-right lane. On Calle Real, the eastbound right turn lane will serve both through and right turn movements. The westbound approach would be re-striped to provide two left turn lanes and a shared through-right lane.
- Las Positas Road and 101 ramps: a westbound approach lane would be added to serve left and right turn movements.

Changes in Traffic Patterns

The traffic flow changes associated with the reconfiguration of the Las Positas Road interchange are similar for each of the three sub-alternatives under consideration for Alternative 2. The most substantial change to traffic patterns in the study area is forecast to occur on Calle Real between Las Positas Road and Treasure Drive. The forecasted increase in traffic along this roadway segment is directly attributable to the reintroduction of two-way traffic on this roadway segment. A corresponding observation can be made for traffic forecasts on Tallant Road, which are forecast to decrease substantially from the Year 2030 Baseline condition. Reintroducing two-way traffic on Calle Real has a major effect on reducing traffic volumes on Tallant Road. Junipero Street and Pueblo Street would experience traffic increases resulting from the new traffic using Calle Real. Mission Street is forecast to experience a reduction in traffic, resulting from regional traffic shifting to Las Positas and Calle Real to access Cottage Hospital. Figure 5.6 illustrates the forecast changes in traffic flow between the Year 2030 Baseline and Alternative 2 along selected study area streets during the AM peak hour.

Figure 5.4 Proposed Improvements: Alternative 2A



Extend two-way traffic on De La Vina Street

Extend one-way couplet on Castillo Street and Bath Street to Pueblo Street

- Legend**
- New freeway off-ramp
 - Convert street to 2-way traffic
 - Remove existing off-ramp
 - Convert street to 1-way traffic

Figure 5.5 Lane Geometry: Alternative 2A

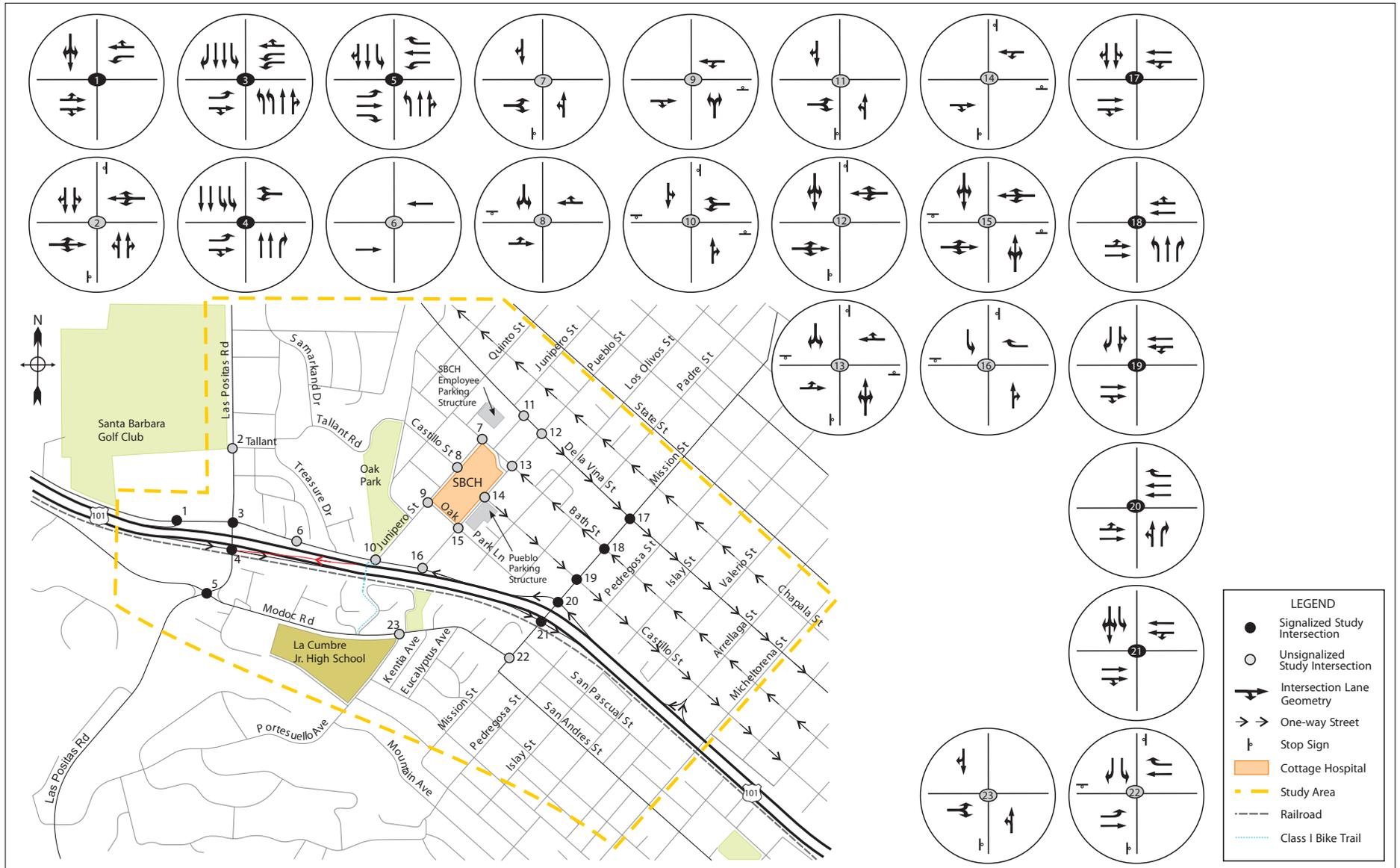


Figure 5.6 Net Traffic Volume Change: Alternative 2 – AM Peak



Additional Improvements Required to Achieve Acceptable LOS

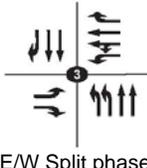
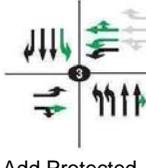
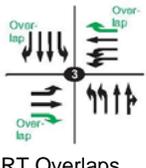
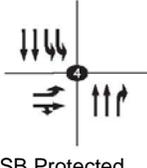
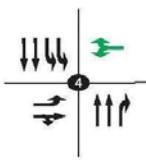
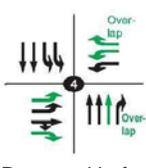
As was the case with the Pueblo Street Overcrossing, the reconfiguration of the Las Positas northbound off-ramp would also change traffic patterns in the study area. The most significant change influencing the redistribution of traffic volumes in this alternative is the reintroduction of two-traffic on Calle Real between Las Positas Road and Treasure Drive. As shown in Figure 5.6, this roadway is forecast to serve a substantial amount of traffic traveling to Cottage Hospital from Las Positas Road and southbound Highway 101.

The forecast changes to traffic flow on Calle Real and the focusing of both directions of freeway off-ramp traffic at the existing southbound Las Positas Road off-ramp will require intersection capacity improvements. These intersections are both forecast to serve higher volumes of traffic than in the Year 2030 Baseline condition. Specific improvements include:

- Adding a third eastbound approach lane to the intersection of Las Positas Road and Calle Real and providing overlap phasing for the southbound right turn and eastbound right turn movements.
- Widening the southbound Highway 101 off-ramp to Las Positas Road. This ramp is in need of improvement in the Year 2030 Baseline condition to in order to accommodate future traffic volumes and the introduction of additional traffic at this intersection with the addition of the northbound 101 off-ramp increases the need for capacity improvements. The southbound off-ramp would be improved to provide two left turn lanes, one through-right lane, and one right turn lane. The northbound flyover off-ramp approach would also be widened to provide one left turn lane and one right turn lane. Overlap signal phasing would also need to be provided for the northbound and westbound right turn movements.

Intersections that are forecast to experience deficient operations during the AM or PM peak period in Alternative 2A are included in Table 5-2, along with one or more improvement options to provide an acceptable level of service.

Table 5-2 Alternative 2A Intersection Improvement Options

| Intersection | Baseline | | | Alternative 2A | | | Improvement Option | | |
|--|---|---------------|-----------------|---|---------------|-----------------|---|---------------|-----------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (3) N/S: Las Positas E/W: Calle Real |  | AM | AM |  | AM | AM |  | AM | AM |
| | | 0.81 | 36.0 s | | 0.85 | 40.4 s | | 0.67 | 28.0 s |
| | | D | D | | D | D | | B | C |
| | | PM | PM | | PM | PM | | PM | PM |
| | | 0.95 | 52.3 s | | 0.96 | 53.8 s | | 0.71 | 29.8 s |
| | | E | D | | E | D | | C | C |
| (4) N/S: Las Positas E/W: 101 ramps |  | AM | AM |  | AM | AM |  | AM | AM |
| | | 0.81 | 29.7 s | | 0.97 | 38.9 s | | 0.70 | 29.8 s |
| | | D | C | | E | D | | C | C |
| | | PM | PM | | PM | PM | | PM | PM |
| | | 0.80 | 30.0 s | | 1.03 | 95.2 s | | 0.76 | 30.7 s |
| | | C | C | | F | F | | C | C |

| Intersection | Baseline | | | Alternative 2A | | | Improvement Option | | |
|--|------------------------|--------------------------|--------------------------|----------------------|---------------|---------------------------|--|--------------------------|--------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (10) N/S: Calle Real E/W: Junipero | | AM 9.0 s A | | | | AM 54.6 s F | New Signal, Permitted Lefts | AM 0.75 C | AM 26.1 s C |
| | | PM 15.8 s C | | | | PM 31.0 s D | | PM 0.72 C | PM 19.5 s B |
| (11) N/S: De la Vina E/W: Nogales | | AM 10.5 s B | | | | AM 17.7 s C | New Signal, Permitted Lefts | AM 0.52 A | AM 4.6 s A |
| | | PM 10.5 s B | | | | PM 113.8 s F | | PM 0.69 B | PM 19.4 s B |
| (12) N/S: De la Vina E/W: Pueblo | | AM 18.6 s C | | | | AM 23.0 s C | New Signal, Permitted Lefts | AM 0.61 B | AM 18.5 s B |
| | | PM 20.2 s C | | | | PM 192.3 s F | | PM 0.77 C | PM 23.4 s C |
| (20) N/S: NB 101 ramps E/W: Mission | | AM 0.78 C | AM 23.6 s C | | | AM 0.83 D | Permitted Left Turn Phasing | AM 0.68 B | AM 17.9 s B |
| | | PM 0.78 C | PM 35.6 s D | | | PM 0.82 D | | PM 18.9 s B | PM 0.72 C |
| (21) NS: SB 101 ramps E/W: Mission | Permitted Lefts | AM 0.93 E | AM 29.1 s C | | | AM 0.89 D | Add a south- bound right turn lane and a westbound left turn lane with Split east-west phasing | AM 0.77 C | AM 33.0 s C |
| | | PM 1.06 F | PM 98.0 s F | | | PM 0.98 E | | PM 72.3 s E | PM 0.75 C |

Notes:

A blank entry in the "Geometry and Control" column indicates that no changes from the Baseline are assumed in Alternative 2A at this location.

Black arrows indicate existing lane geometry.

Green arrows indicate added lane geometry, movements, or capacity.

Grey arrows indicate removed lane geometry or movements.

It should be noted that at intersections where new traffic signals are recommended, the City of Santa Barbara will conduct a traffic signal warrant analysis to determine if other improvements may also address level of service deficiencies.

5.3 ALTERNATIVE 2B: NORTHBOUND 101 “HOOK” OFF-RAMP TO LAS POSITAS ROAD

Alternative 2B proposes to construct a “hook” off-ramp from northbound Highway 101 to Calle Real on the west side of Las Positas Road. In order to avoid impacts to the Las Positas bridge structure, the new off-ramp would need to diverge from the freeway mainline on the west side of the bridge. Preliminary engineering drawings of the horizontal alignment of the hook off-ramp structure are available for review in Appendix D.

According to Caltrans minimum ramp length requirements, the off-ramp intersection with Calle Real would need to be about 700 feet west of Las Positas Road. The existing hook on-ramp to northbound 101 and the entrance to the Earl Warren Showgrounds property would be relocated to coincide with the new hook off-ramp. Calle Real would also be realigned to the north in order to accommodate the ramp geometry, which would result in right-of-way impacts to the Showgrounds property. The conceptual designs estimate a potential encroachment of 125 to 150 feet into the property at the maximum point.

As part of this Alternative, the existing northbound 101 off-ramp to Las Positas Road would be removed, and Calle Real would be reconfigured to provide two-way traffic between Las Positas Road and Pueblo Street. This would allow vehicles traveling southbound on Highway 101 to exit at Las Positas Road and use Calle Real to access the Cottage Hospital area. This route is about 0.5 miles shorter than exiting at Mission Street and using Castillo Street or the northbound exit to Pueblo Street to get to the hospital.

Alternative 2B includes modification to these intersections in addition to the local street improvements:

- Northbound 101 ramps and Calle Real (#1): the existing northbound 101 on-ramp intersection with Calle Real at the entrance to the Earl Warren Showgrounds would be relocated to the west to provide adequate length for the northbound 101 off-ramp. The off-ramp approach is assumed to have one left-through lane and one right turn lane. It is also assumed that the northbound right turn lane would have overlap phasing, and be coordinated with the intersection of Las Positas Road and Calle Real (#3).
- Las Positas Road and Calle Real (#3): a southbound left turn lane would be striped within the existing right-of-way, and the northbound outside lane will operate as a shared through-right lane. On Calle Real, the eastbound right turn lane will serve both through and right turn movements. The westbound approach would be restriped to provide two left turn lanes and a shared through-right lane.

The locations of the improvements analyzed in this alternative are shown in Figure 5.7. Intersection lane geometry assumptions for Alternative 2B are illustrated in Figure 5.8.

Figure 5.7 Proposed Improvements: Alternative 2B

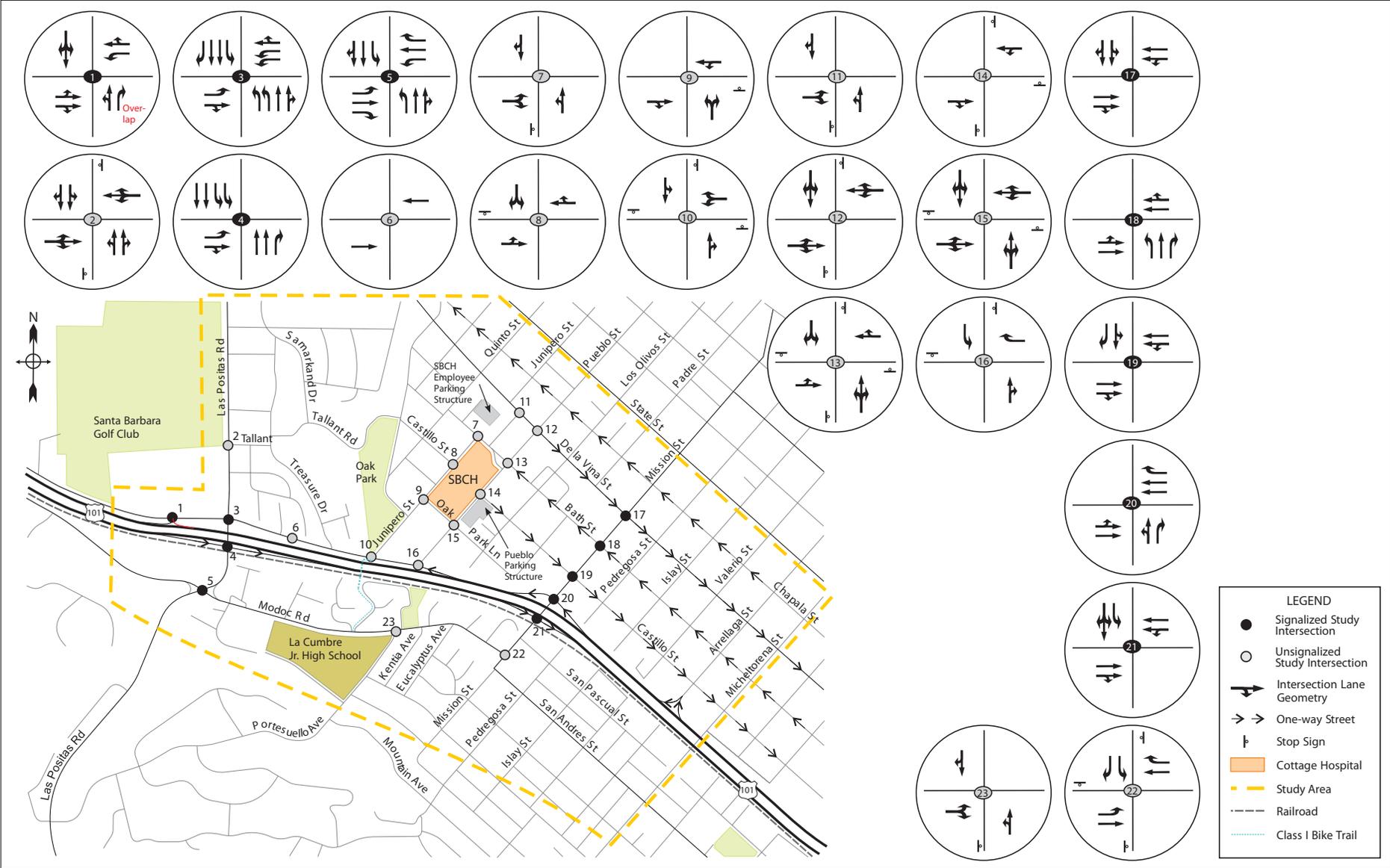


Extend two-way traffic on De La Vina Street

Extend one-way couplet on Castillo Street and Bath Street to Pueblo Street

- Legend**
- New freeway off-ramp
 - Convert street to 2-way traffic
 - Remove existing off-ramp
 - Convert street to 1-way traffic

Figure 5.8 Lane Geometry: Alternative 2B



Additional Improvements Required to Achieve Acceptable LOS

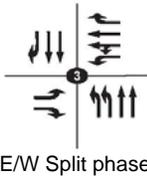
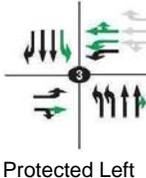
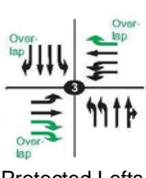
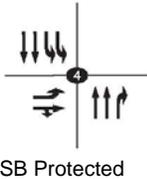
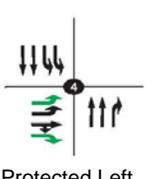
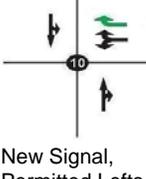
Similar to Alternative 2A, reconfiguration of the Las Positas northbound off-ramp proposed in Alternative 2B would also have a substantial influence on traffic patterns in the study area. This alternative does require some additional improvements at the intersection of Las Positas Road and Calle Real as a greater volume of traffic is focused at this location as compared to Alternative 2A. However, when compared to Alternative 2A, this alternative does not cause as great a change to the intersection of Las Positas Road and the southbound Highway 101 on and off-ramps, reducing the level of improvements necessary to provide an acceptable level of service at this location.

As was the case in Alternative 2A, the most significant change influencing the redistribution of traffic volumes in this alternative is the reintroduction of two-traffic on Calle Real between Las Positas Road and Treasure Drive. This change does affect the volume of traffic on Las Positas Road at the southbound on and off-ramps and at Calle Real. Specific improvements to provide an acceptable level of service at these two intersections include:

- Adding an eastbound right turn and providing overlap phasing for the southbound right and eastbound right turn movements at the intersection of Las Positas Road and Calle Real. This improvement would likely occur within Caltrans right-of-way and may require reconstruction of the existing slope between Calle Real and the northbound Highway 101 traffic lanes.
- Widening the southbound 101 off-ramp to Las Positas Road by one additional lane to accommodate two left turn lanes and one through-right lane.

Intersections that would experience deficient operations during the AM or PM peak period in Alternative 2B are included in Table 5-3, along with one or more improvement options to provide an acceptable level of service.

Table 5-3 Alternative 2B Intersection Improvement Options

| Intersection | Baseline | | | Alternative 2B | | | Improvement Option | | |
|--|--|------------------------|--------------------------|---|--------------------------|--------------------------|---|--------------------------|--------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (3) N/S: Las Positas E/W: Calle Real |  E/W Split phase | AM 0.81 D | AM 36.0 s D |  Protected Left Turns | AM 0.91 E | AM 47.2 s D |  Protected Lefts | AM 0.67 B | AM 28.4 s C |
| | | PM 0.95 E | PM 52.3 s D | | PM 1.08 F | PM 86.4 s F | | PM 0.72 C | PM 30.2 s C |
| (4) N/S: Las Positas E/W: 101 ramps |  SB Protected Left Turns | AM 0.81 D | AM 29.7 s C | | AM 0.85 D | AM 33.5 s C |  Protected Left | AM 0.75 C | AM 27.6 s C |
| | | PM 0.80 C | PM 30.0 s C | | PM 0.89 D | PM 34.5 s C | | PM 0.76 C | PM 26.3 s C |
| (10) N/S: Calle Real E/W: Junipero |  | | AM 9.0 s A | | | AM 54.6 s F |  New Signal, Permitted Lefts | AM 0.75 C | AM 26.1 s C |
| | | | PM 15.8 s C | | PM 31.0 s D | PM 0.72 C | | PM 19.5 s B | |

| Intersection | Baseline | | | Alternative 2B | | | Improvement Option | | |
|--|----------------------|---------------|-----------------|----------------------|---------------|-----------------|--|---------------|-----------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (11) N/S: De la Vina E/W: Nogales | | AM | AM | | | AM | | AM | AM |
| | | 10.5 s | 10.5 s | | | 17.7 s | | 0.52 | 4.6 s |
| | | B | B | | | C | New Signal, Permitted Lefts | A | A |
| | | PM | PM | | | PM | | PM | PM |
| | | 10.5 s | 10.5 s | | | 113.8 s | | 0.69 | 19.4 s |
| | | B | B | | | F | | B | B |
| (12) N/S: De la Vina E/W: Pueblo | | AM | AM | | | AM | | AM | AM |
| | | 18.6 s | 18.6 s | | | 23.0 s | | 0.61 | 18.5 s |
| | | C | C | | | C | New Traffic Signal with Permitted Left Turns | B | B |
| | | PM | PM | | | PM | | PM | PM |
| | | 20.2 s | 20.2 s | | | 192.3 s | | 0.77 | 23.4 s |
| | | C | C | | | F | | C | C |
| (20) N/S: NB 101 ramps E/W: Mission | | AM | AM | | | AM | | AM | AM |
| | | 0.78 | 23.6 s | | | 0.83 | | 40.2 s | 0.68 |
| | | C | C | | | D | Permitted Left Turns | B | B |
| | | PM | PM | | | PM | | PM | PM |
| | | 0.78 | 35.6 s | | | 0.82 | | 0.72 | 11.7 s |
| | | C | D | | | D | | C | B |
| (21) NS: SB 101 ramps E/W: Mission | | AM | AM | | | AM | | AM | AM |
| | | 0.93 | 29.1 s | | | 0.89 | | 25.5 s | 0.77 |
| | | E | C | | | D | Add a south- bound right turn lane and a westbound left turn lane with Split east-west phasing | C | C |
| | Permitted Lefts | PM | PM | | | PM | | PM | PM |
| | | 1.06 | 98.0 s | | | 0.98 | | 0.75 | 31.5 s |
| | | F | F | | | E | | C | C |

Notes:

A blank entry in the "Geometry and Control" column indicates that no changes are assumed in Alternative 2B at this location.

Black arrows indicate existing lane geometry.

Green arrows indicate added lane geometry, movements, or capacity.

Grey arrows indicate removed lane geometry or movements.

It should be noted that at intersections where new traffic signals are recommended, the City of Santa Barbara will conduct a traffic signal warrant analysis to determine if other improvements may also address level of service deficiencies.

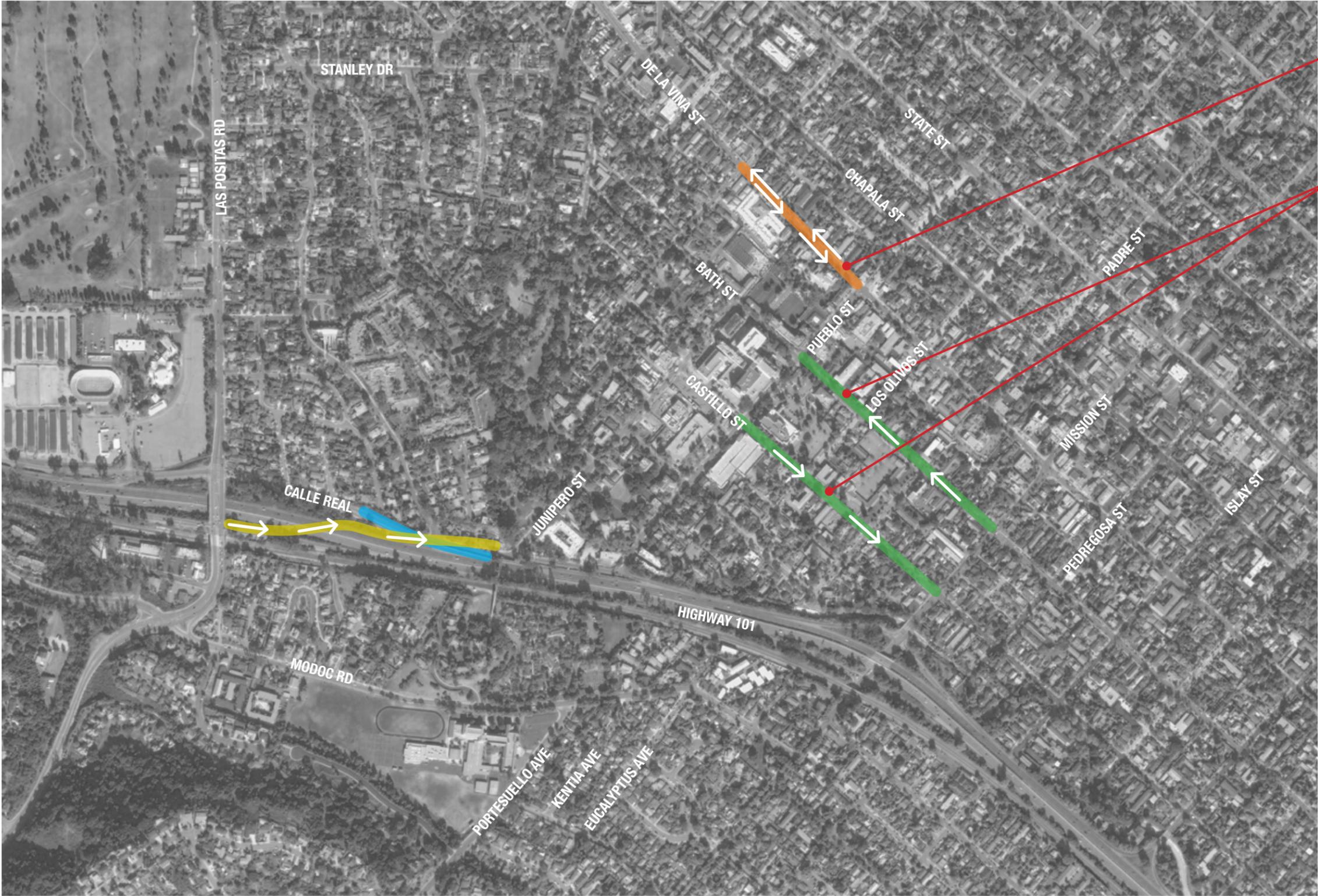
5.4 ALTERNATIVE 2C: SOUTHBOUND 101 OFF-RAMP FLYOVER TO LAS POSITAS ROAD

Alternative 2C involves the construction of an aerial structure that originates at the intersection of Las Positas Road and the southbound 101 ramps, travels across the 101 freeway, and merges with Calle Real just north of Junipero Street. The flyover ramp would provide an alternative route for vehicles that wish to travel eastbound on Calle Real. Vehicles would be able to exit southbound 101 at Las Positas Road and continue straight through the intersection to the flyover ramp.

The southbound 101 on-ramp from Las Positas Road would need to be widened to provide room for the flyover departure lane. The new bridge would provide capacity for a single lane of traffic on the flyover bridge. The locations of the improvements analyzed in this alternative are shown in Figure 5.9. Intersection lane geometry assumptions for Alternative 2C are illustrated in Figure 5.10. Intersection geometry for Alternative 2C is assumed to be the same as the Baseline condition, with the following exceptions:

- Las Positas Road and Calle Real (#3): a southbound left turn lane would be striped within the existing right-of-way, and the northbound outside lane will operate as a shared through-right lane. On Calle Real, the eastbound right turn lane will serve both through and right turn movements. The westbound approach would be restriped to provide two left turn lanes and a shared through-right lane.
- Las Positas Road and 101 ramps (#4): an eastbound departure lane would be added, which would branch off from the southbound 101 on-ramp and fly over the freeway to merge with Calle Real north of Junipero Street.

Figure 5.9 Proposed Improvements: Alternative 2C

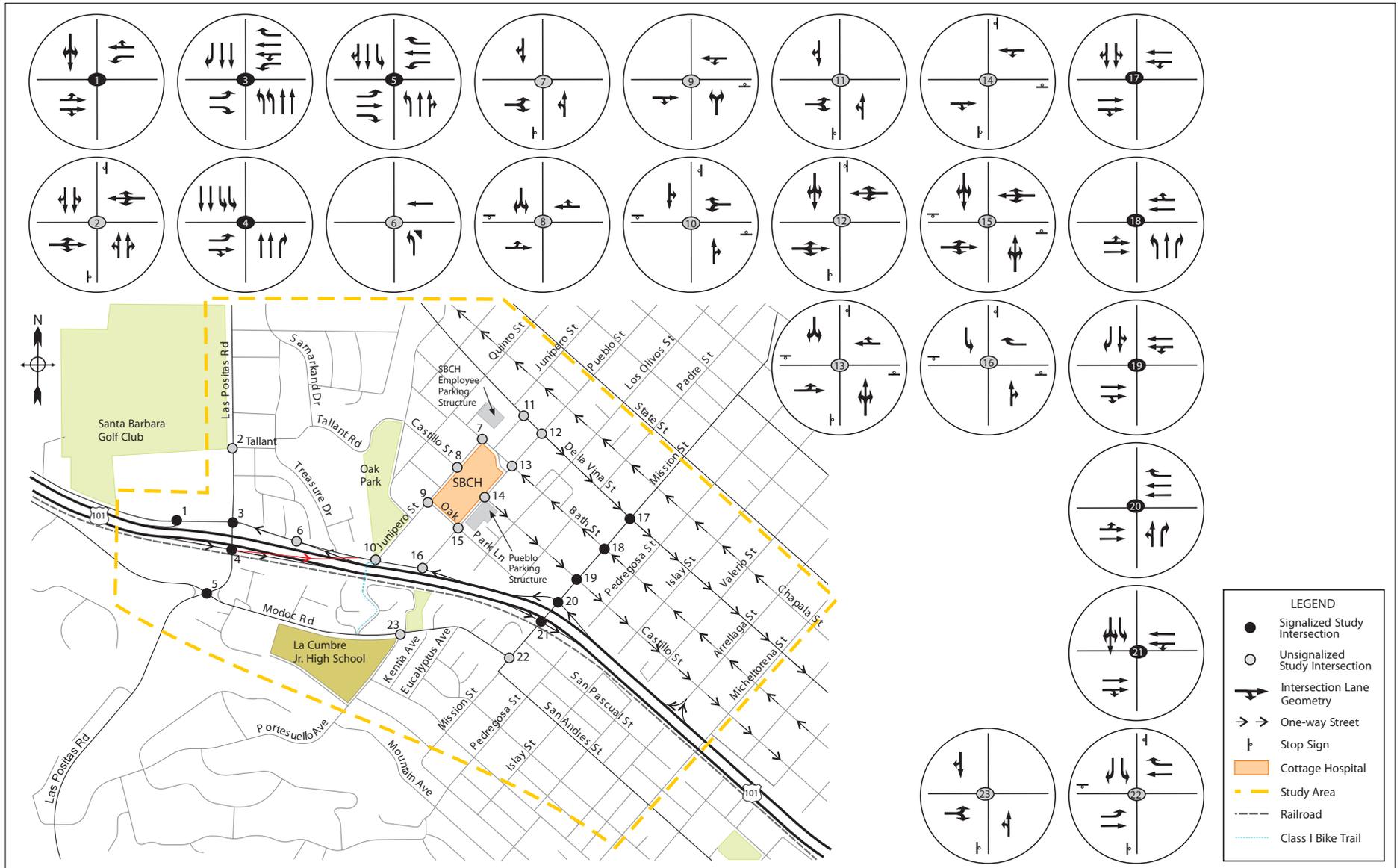


Extend two-way traffic on De La Vina Street

Extend one-way couplet on Castillo Street and Bath Street to Pueblo Street

- Legend**
- New freeway off-ramp
 - Convert street to 2-way traffic
 - Realign existing off-ramp
 - Convert street to 1-way traffic

Figure 5.10 Lane Geometry: Alternative 2C



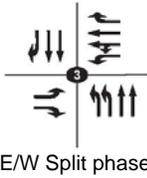
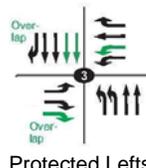
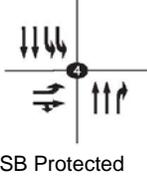
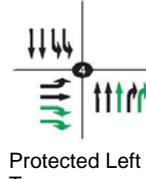
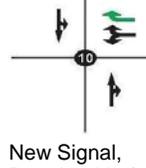
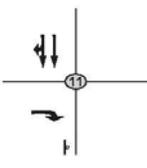
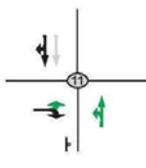
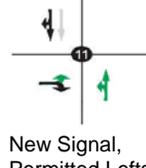
Improvements Required to Achieve Acceptable LOS

The objective of this alternative was to study an improvement that would effectively achieve the same goal of allowing for eastbound travel on Calle Real east of Las Positas Road, while minimizing the reconfiguration of on and off-ramps from Highway 101 to Las Positas Road. This alternative does face a similar challenge as Alternative 2A, with focusing higher traffic volumes at the intersection of Las Positas Road and the Southbound Highway 101 on and off-ramps. This intersection is already forecast to operate at a deficient level of service in the Year 2030 Baseline condition, and the redistribution of traffic to this intersection would create a greater deficiency.

Widening of the southbound 101 off-ramp to Las Positas Road and the northbound approach on Las Positas would be required to accommodate the volumes on the new southbound flyover ramp to Junipero Street. To obtain acceptable operations at this location, two eastbound right turn lanes and a second northbound right turn lane would need to be provided. The east leg of the intersection would be widened to provide a departure lane for the flyover ramp.

Additional improvements to address level of service deficiencies from the Year 2030 Baseline condition are also identified. Intersections that would operate at a deficient level of service during the AM or PM peak period in Alternative 2C are included in Table 5-4, along with one or more improvement options to provide an acceptable level of service.

Table 5-4 Alternative 2C Intersection Improvement Options

| Intersection | Baseline | | | Alternative 2C | | | Improvement Option | | |
|--|---|---------------|-----------------|---|---------------|-----------------|---|---------------|-----------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (3) N/S: Las Positas E/W: Calle Real |  | AM | AM | | AM | AM |  | AM | AM |
| | | 0.81 | 36.0 s | | 0.83 | 39.9 s | | 0.61 | 29.9 s |
| | | PM | PM | | PM | PM | | PM | PM |
| | | 0.95 | 52.3 s | | 1.03 | 67.9 s | | 0.76 | 32.5 s |
| | | E | D | | F | E | | C | C |
| (4) N/S: Las Positas E/W: 101 ramps |  | AM | AM | | AM | AM |  | AM | AM |
| | | 0.81 | 29.7 s | | 1.07 | 68.5 s | | 0.74 | 29.2 s |
| | | PM | PM | | PM | PM | | PM | PM |
| | | 0.80 | 30.0 s | | 0.98 | 47.0 s | | 0.72 | 27.6 s |
| | | C | C | | E | D | | C | C |
| (10) N/S: Calle Real E/W: Junipero |  | | AM | | | AM |  | AM | AM |
| | | | 9.0 s | | 54.6 s | 0.75 | | 26.1 s | |
| | | | PM | | PM | PM | | PM | PM |
| | | | 15.8 s | | 31.0 s | 31.0 s | | 0.72 | 19.5 s |
| | | | C | | | D | | C | B |
| (11) N/S: De la Vina E/W: Nogales |  | | AM |  | | AM |  | AM | AM |
| | | | 10.5 s | | 17.7 s | 0.52 | | 4.6 s | |
| | | | PM | | PM | PM | | PM | PM |
| | | | 10.5 s | | 113.8 s | 113.8 s | | 0.69 | 19.4 s |
| | | | B | | | F | | B | B |

| Intersection | Baseline | | | Alternative 2C | | | Improvement Option | | |
|--|----------------------|------------------------|--------------------------|----------------------|------------------------|---------------------------|----------------------|------------------------|--------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (12) N/S: De la Vina E/W: Pueblo | | | AM 18.6 s C | | | AM 23.0 s C | | AM 0.61 B | AM 18.5 s B |
| | | | PM 20.2 s C | | | PM 192.3 s F | | PM 0.77 C | PM 23.4 s C |
| (20) N/S: NB 101 ramps E/W: Mission | | AM 0.78 C | AM 23.6 s C | | AM 0.83 D | AM 40.2 s D | | AM 0.68 B | AM 17.9 s B |
| | | PM 0.78 C | PM 35.6 s D | | PM 0.82 D | PM 18.9 s B | | PM 0.72 C | PM 11.7 s B |
| (21) NS: SB 101 ramps E/W: Mission | | AM 0.93 E | AM 29.1 s C | | AM 0.89 D | AM 25.5 s C | | AM 0.77 C | AM 33.0 s C |
| | | PM 1.06 F | PM 98.0 s F | | PM 0.98 E | PM 72.3 s E | | PM 0.75 C | PM 31.5 s C |

Notes:

A blank entry in the "Geometry and Control" column indicates that no changes are assumed in Alternative 2C at this location.
 Black arrows indicate existing lane geometry.
 Green arrows indicate added lane geometry, movements, or capacity.
 Grey arrows indicate removed lane geometry or movements.

It should be noted that at intersections where new traffic signals are recommended, the City of Santa Barbara will conduct a traffic signal warrant analysis to determine if other improvements may also address level of service deficiencies.

5.5 ALTERNATIVE 3A: PUEBLO OVERCROSSING AND NB 101 FLYOVER TO LAS POSITAS

Alternative 3A incorporates the combined improvements of a Pueblo Street overcrossing and a northbound 101 flyover off-ramp to Las Positas Road, along with local street circulation modifications. The Pueblo Street overcrossing would connect Pueblo Street on the east side of Highway 101 with the intersection of Modoc Road and Portesuello Avenue. The flyover ramp structure would be constructed from northbound Highway 101 to a new westbound approach at the intersection of Las Positas Road and the southbound 101 ramps. The existing northbound 101 off-ramp to Las Positas Road would be removed, and two-way traffic would be restored on Calle Real between Treasure Drive and Las Positas Road.

The conceptual engineering completed for this study indicates that Modoc Road would need to be raised about two feet to meet the grade of the Pueblo Street overpass. The northbound 101 off-ramp to Pueblo Street would need to be shifted west to fit under the overpass, and would connect to Junipero Street instead of Pueblo Street. This would require at least partial acquisition of park and garden land between Pilgrim Terrace Drive and Kentia Avenue. There would also be right-of-way impacts to property on the east side of Highway 101.

The southbound 101 on-ramp from Las Positas Road would need to be widened to provide room for the flyover approach. For the initial traffic analysis, it is assumed that the northbound off-ramp would have a single lane to serve both left and right turn movements. Preliminary engineering drawings of the Pueblo Street overcrossing and the northbound off-ramp flyover are available in Appendix D.

Improvements proposed as part of this alternative are shown in Figure 5.11. Intersection lane geometry assumptions for Alternative 3A are illustrated in Figure 5.12. Intersection geometry for Alternative 3A is assumed to be the same as the Baseline condition, with the following exceptions:

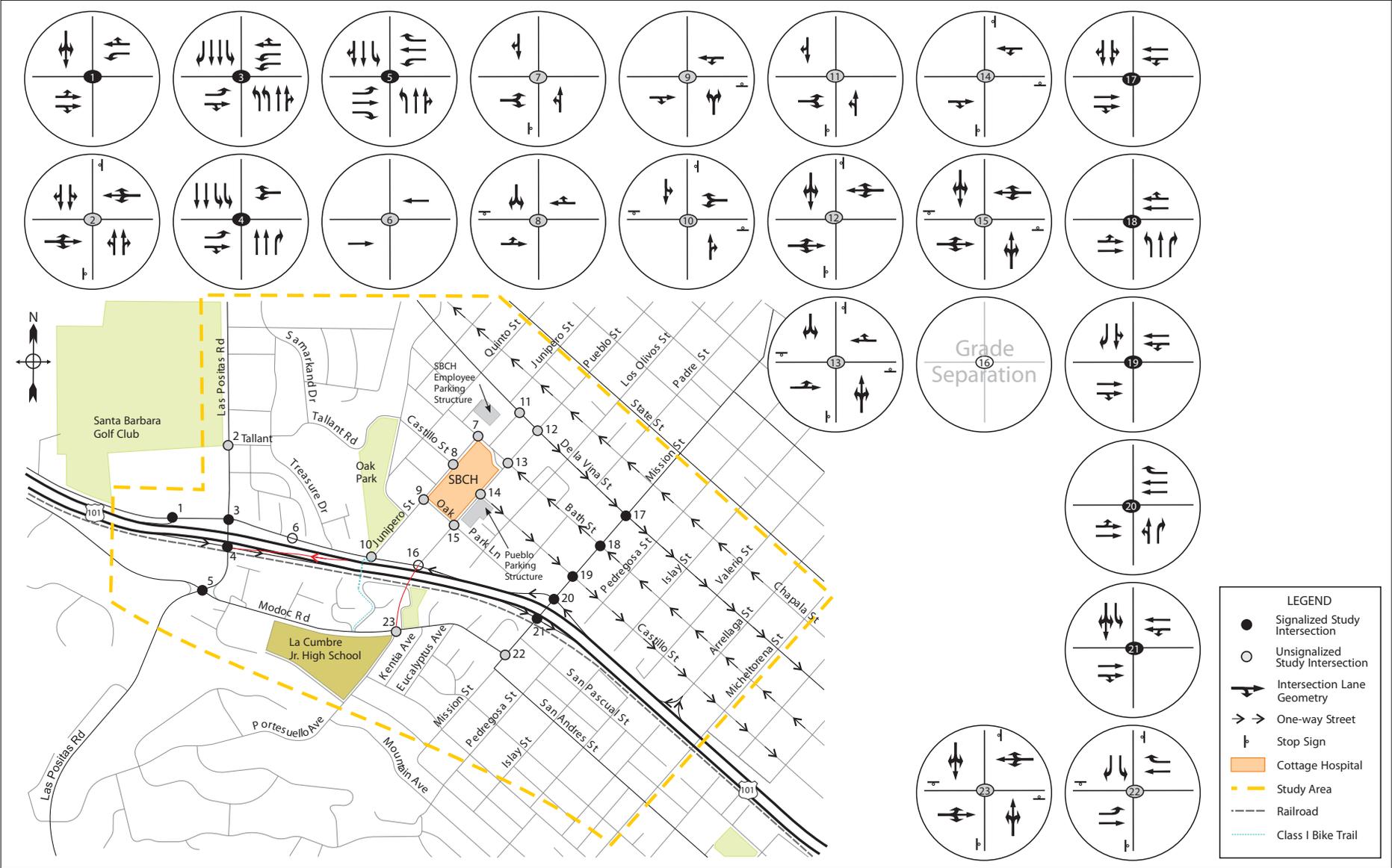
- Las Positas Road and Calle Real: a southbound left turn lane would be striped within the existing right-of-way, and the northbound outside lane will operate as a shared through-right lane. On Calle Real, the eastbound right turn lane will serve both through and right turn movements. The westbound approach would be restriped to provide two left turn lanes and a shared through-right lane.
- Las Positas Road and 101 ramps: a westbound approach lane would be added to serve left and right turn movements.
- Calle Real and Pueblo Street: the northbound 101 off-ramp would no longer intersect with Pueblo Street, but pass under the Pueblo Street overcrossing structure.
- Modoc Road and Portesuello Avenue: the Pueblo Street overcrossing structure would connect to this intersection and add a southbound approach. This location is initially modeled as a four-way stop controlled intersection with one shared left-through-right lane on each approach.

Vehicles that utilize the Pueblo Street overcrossing would reduce their travel distance by 0.5 miles compared to crossing Highway 101 on Mission Street. Northbound 101 vehicles that currently take the Pueblo Street exit and turn right onto Pueblo Street would continue north on Calle Real to Junipero Street and travel about 0.3 miles further with the new configuration. Vehicles that exit southbound 101 at Las Positas Road and use Calle Real to access the Cottage Hospital area would reduce their trip lengths by about 0.5 miles.

Figure 5.11 Proposed Improvements: Alternative 3A



Figure 5.12 Lane Geometry: Alternative 3A



Changes to Traffic Patterns

Figure 5.13 highlights the net traffic volume changes between the Year 2030 Baseline condition and this alternative for the AM peak hour. The combination of a new overcrossing at Pueblo Street with the reconfiguration of the Las Positas Road interchange and the reintroduction of two-way traffic on Calle Real results in substantial changes to traffic flows and traffic patterns in the study area. Forecasted traffic increases on Junipero Street and Calle Real are higher than those observed in Alternatives 1 and 2. Traffic reductions are still forecast along Las Positas Road and Mission Street, reflecting the benefits of the Pueblo Street Overcrossing in improving local access across Highway 101.

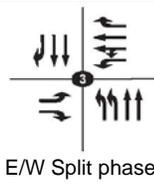
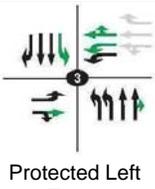
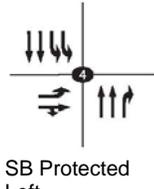
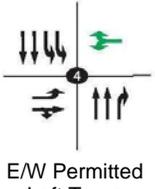
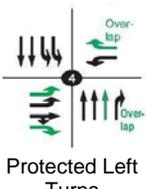
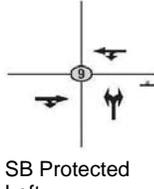
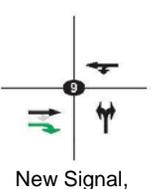
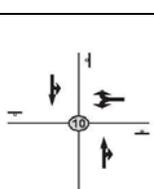
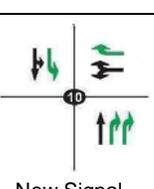
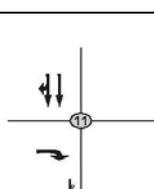
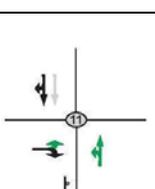
An interesting observation for these volume change forecasts is the difference in traffic volumes forecast for the Pueblo Street corridor in Alternative 1 and Alternative 3. Traffic volumes on the existing segments of Pueblo Street and the new overcrossing are significantly lower in Alternative 3 when compared to the forecasted produced for Alternative 1. This condition is primarily the result of the reintroduction of two-way traffic on Calle Real between Las Positas and Treasure. Calle Real attracts a greater new of regional vehicle trips from Highway 101 and Las Positas, while the Pueblo Street Overcrossing primarily attracts local trips. The traffic flow forecasts suggest that providing for two-way traffic Calle Real would result in a greater benefit for regional mobility than would the Pueblo Street overcrossing. The traffic flow maps also show that the level of benefit gained from implementing both the overcrossing and the interchange reconfiguration is not significantly greater than constructing the interchange reconfiguration by itself.

Additional Improvements Required to Achieve Acceptable LOS

The combination of the overcrossing and the interchange improvements in Alternative 3A results in similar issues and opportunities as identified in Alternative 2A. The most substantial challenge in Alternative 3A is providing an acceptable level of service at the intersection of Junipero and Calle Real, which is forecast to experience an increase in traffic if two-way traffic on Calle Real is implemented and the Pueblo Street northbound off-ramp is relocated due to the proposed overcrossing.

Intersections that would experience a deficient level of service during the AM or PM peak period in Alternative 3A are included in Table 5-5, along with one or more improvement options to achieve an acceptable level of service.

Table 5-5 Alternative 3A Intersection Improvement Options

| Intersection | Baseline | | | Alternative 3A | | | Improvement Option | | |
|--|---|------------------------|--------------------------|---|------------------------|---------------------------|---|------------------------|--------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (3) N/S: Las Positas E/W: Calle Real |  E/W Split phase | AM 0.81 D | AM 36.0 s D |  Protected Left Turns | AM 0.80 C | AM 38.1 s D |  Protected Left Turns | AM 0.63 B | AM 28.0 s C |
| | | PM 0.95 E | PM 52.3 s D | | PM 0.89 D | PM 45.7 s D | | PM 0.70 B | PM 30.2 s C |
| (4) N/S: Las Positas E/W: 101 ramps |  SB Protected Left | AM 0.81 D | AM 29.7 s C |  E/W Permitted Left Turns | AM 0.91 E | AM 35.5 s D |  Protected Left Turns | AM 0.65 B | AM 28.8 s C |
| | | PM 0.80 C | PM 30.0 s C | | PM 0.98 E | PM 53.0 s D | | PM 0.69 B | PM 28.7 s C |
| (9) N/S: Oak Park E/W: Junipero |  SB Protected Left | | AM 11.2 s B | | | AM 47.5 s E |  New Signal, Permitted Lefts | AM 0.70 B | AM 13.4 s B |
| | | | PM 13.8 s B | | | PM 229.4 s F | | PM 0.76 C | PM 24.0 s C |
| (10) N/S: Calle Real E/W: Junipero |  New Signal, Split Phasing | | AM 9.0 s A | | | AM 106.0 s F |  New Signal, Split Phasing | AM 0.60 A | AM 28.3 s C |
| | | | PM 15.8 s C | | | PM 100.9 s F | | PM 0.63 B | PM 30.9 s C |
| (11) N/S: De la Vina E/W: Nogales |  New Signal, Permitted Lefts | | AM 10.5 s B |  New Signal, Permitted Lefts | | AM 17.6 s C |  New Signal, Permitted Lefts | AM 0.51 A | AM 4.7 s A |
| | | | PM 10.5 s B | | | PM 84.8 s F | | PM 0.70 B | PM 19.1 s B |

| Intersection | Baseline | | | Alternative 3A | | | Improvement Option | | |
|---|----------------------|------------------------|---------------------------|----------------------|------------------------|---------------------------|--|------------------------|--------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (12) N/S: De la Vina E/W: Pueblo | | | AM 18.6 s C | | | AM 24.2 s C | New Signal, Permitted Lefts | AM 0.64 B | AM 20.4 s C |
| | | | PM 20.2 s C | | | PM 189.4 s F | | PM 0.76 C | PM 27.4 s C |
| (15) N/S: Oak Park E/W: Pueblo | | | AM 17.1 s C | | | AM 223.7 s F | New Signal, Permitted Lefts | AM 0.56 A | AM 19.8 s B |
| | | | PM 14.0 s B | | | PM 203.3 s F | | PM 0.68 B | PM 20.3 s C |
| (20) N/S: NB 101 ramps E/W: Mission | Permitted Lefts | AM 0.78 C | AM 23.6 s C | | AM 0.80 C | AM 28.8 s C | Permitted Lefts | AM 0.75 C | AM 21.5 s C |
| | | PM 0.78 C | PM 35.6 s D | | PM 0.87 D | PM 16.3 s B | | PM 0.66 B | PM 14.7 s B |
| (21) NS: SB 101 ramps E/W: Mission | Permitted Lefts | AM 0.93 E | AM 29.1 s C | | AM 0.85 D | AM 23.6 s C | Split east-west phasing | AM 0.75 C | AM 31.7 s C |
| | | PM 1.06 F | PM 98.0 s F | | PM 0.96 E | PM 66.8 s E | | PM 0.73 C | PM 31.6 s C |
| (23) N/S: Portesuello /Pueblo E/W: Modoc | | AM 0.78 C | AM 81.4 s F | | AM 0.80 C | AM 89.5 s F | Protected Lefts, Right Turn Overlap Phasing | AM 0.56 A | AM 25.2 s C |
| | | PM 0.78 C | PM 435.7 s F | | PM 0.87 D | PM 156.8 s F | | PM 0.62 B | PM 30.5 s C |

Notes:

A blank entry in the "Geometry and Control" column indicates that no changes from the Baseline are assumed in Alternative 3A at this location.

Black arrows indicate existing lane geometry.

Green arrows indicate added lane geometry, movements, or capacity.

Grey arrows indicate removed lane geometry or movements.

It should be noted that at intersections where new traffic signals are recommended, the City of Santa Barbara will conduct a traffic signal warrant analysis to determine if other improvements may also address level of service deficiencies.

5.6 ALTERNATIVE 3B: PUEBLO OVERCROSSING AND NB 101 “HOOK” OFF-RAMP TO LAS POSITAS

Alternative 3B incorporates the combined improvements of a Pueblo Street overcrossing and a “hook” off-ramp from northbound Highway 101 to Calle Real on the west side of Las Positas Road, along with local street circulation modifications. The Pueblo Street overcrossing would connect Pueblo Street on the east side of Highway 101 with the intersection of Modoc Road and Portesuello Avenue. Preliminary engineering indicates that Modoc Road would need to be raised about two feet to meet the grade of the Pueblo Street overpass. The northbound 101 off-ramp to Pueblo Street would need to be shifted west to fit under the overpass, and would connect to Junipero Street instead of Pueblo Street. This would require at least partial acquisition of park and garden land between Pilgrim Terrace Drive and Kentia Avenue. There would also be right-of-way impacts to property on the east side of Highway 101.

The new northbound 101 hook off-ramp intersection with Calle Real would need to be about 700 feet west of Las Positas Road. The existing hook on-ramp to northbound 101 and the entrance to the Earl Warren Showgrounds property would be relocated to coincide with the new hook off-ramp. Calle Real would also be realigned to the north in order to accommodate the ramp geometry, which would result in right-of-way impacts to the Showgrounds property. The level of impact would be identical to that described in Alternative 2B.

As part of this Alternative, the existing northbound 101 off-ramp to Las Positas Road would be removed, and Calle Real would be reconfigured to provide two-way traffic between Las Positas Road and Pueblo Street. This would allow vehicles traveling southbound on Highway 101 to exit at Las Positas Road and use Calle Real to access the Cottage Hospital area.

Improvements proposed as part of this alternative are shown in Figure 5.14. Intersection lane geometry assumptions for Alternative 3A are illustrated in Figure 5.15. Intersection geometry for Alternative 3A is assumed to be the same as the Baseline condition, with the following exceptions:

- Northbound 101 ramps and Calle Real: the existing northbound 101 on-ramp intersection with Calle Real at the entrance to the Earl Warren Showgrounds would be relocated to the west to provide adequate length for the northbound 101 off-ramp. The off-ramp approach is assumed to have one left-through lane and one right turn lane. It is also assumed that the northbound right turn lane would have overlap phasing, and be coordinated with the intersection of Las Positas Road and Calle Real (#3).
- Las Positas Road and Calle Real: a southbound left turn lane would be striped within the existing right-of-way, and the northbound outside lane will operate as a shared through-right lane. On Calle Real, the eastbound right turn lane will serve both through and right turn movements. The westbound approach would be restriped to provide two left turn lanes and a shared through-right lane.
- Calle Real and Pueblo Street: the northbound 101 off-ramp would no longer intersect with Pueblo Street, but pass under the Pueblo Street overcrossing structure.
- Modoc Road and Portesuello Avenue: the Pueblo Street overcrossing would connect to this intersection and add a southbound approach. This location is initially modeled as a four-way stop controlled intersection with one shared left-through-right lane on each approach.

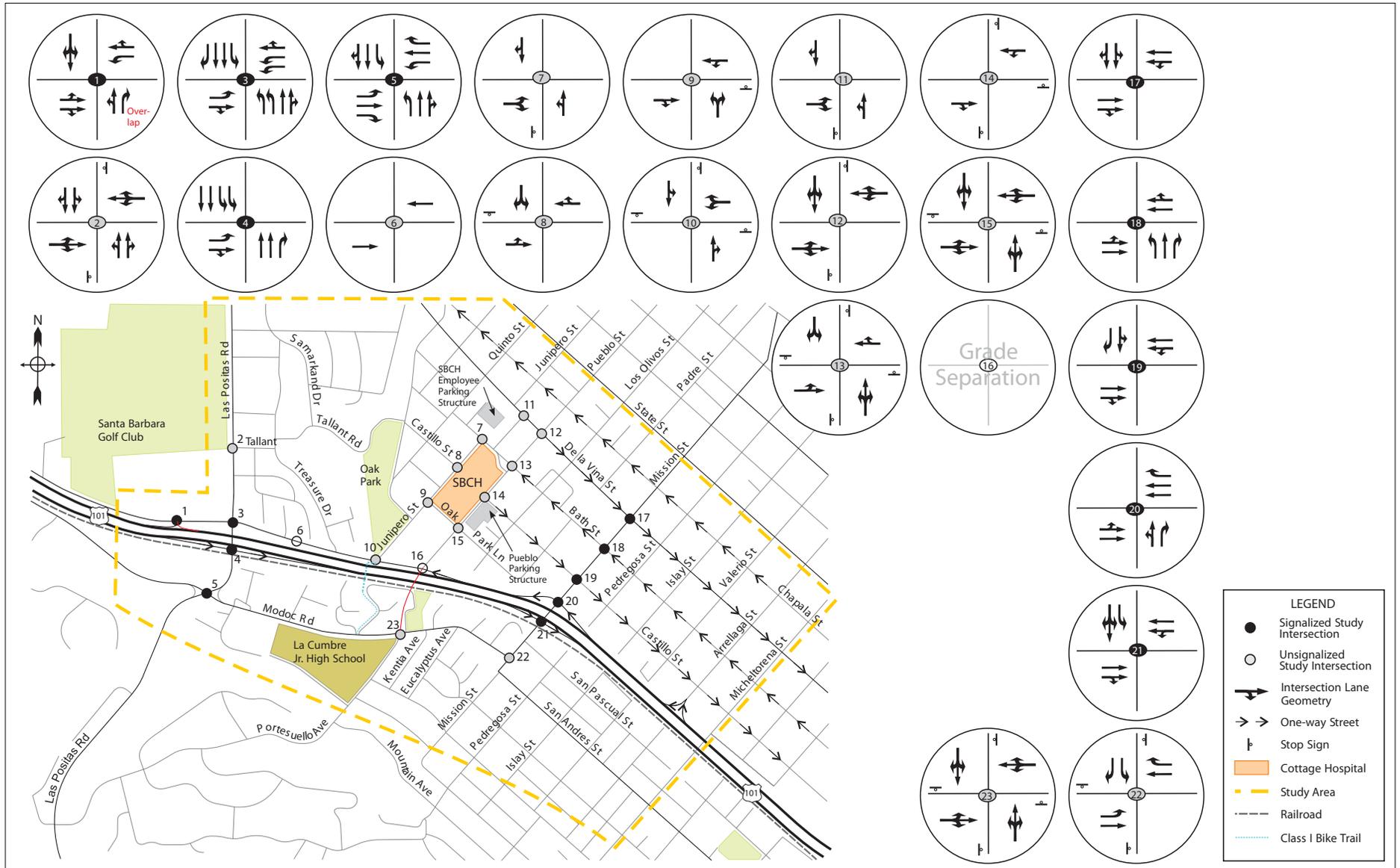
Vehicles that utilize the Pueblo Street overcrossing would reduce their travel distance by 0.5 miles compared to crossing Highway 101 on Mission Street. Northbound 101 vehicles that currently take the Pueblo Street exit and turn right onto Pueblo Street would continue north on Calle Real to

Junipero Street and travel about 0.3 miles further with the new configuration. Vehicles that exit southbound 101 at Las Positas Road and use Calle Real to access the Cottage Hospital area would reduce their trip lengths by about 0.5 miles.

Figure 5.14 Proposed Improvements: Alternative 3B



Figure 5.15 Lane Geometry: Alternative 3B

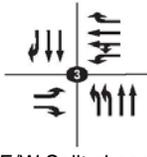
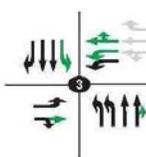
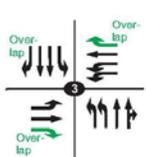
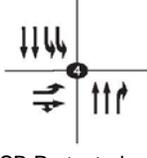
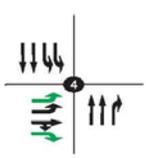
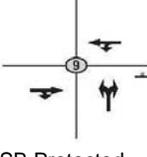
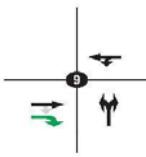
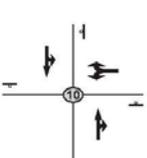
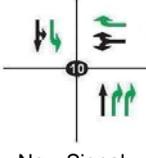
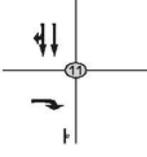
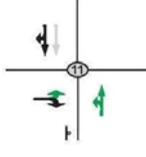
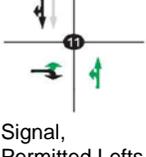


Additional Improvements Required to Achieve Acceptable LOS

The combination of the overcrossing and the interchange improvements in Alternative 3B results in similar issues and opportunities as identified in Alternative 2B. Although the provision of the Pueblo Street overcrossing does help to reduce traffic volumes on Las Positas Road, allowing the intersections along Las Positas to operate slightly better than in Alternative 2B. As is the case with all three Alternative 3 concepts, the most substantial challenge in Alternative 3B is providing an acceptable level of service at the intersection of Junipero and Calle Real, which is forecast to experience a substantial increase in traffic if two-way traffic on Calle Real is implemented and the Pueblo Street northbound off-ramp is relocated due to the proposed overcrossing.

Intersections that would operate at a deficient level of service during the AM or PM peak period in Alternative 3B are included in Table 5-6, along with one or more improvement options to provide an acceptable level of service.

Table 5-6 Alternative 3B Intersection Improvement Options

| Intersection | Baseline | | | Alternative 3B | | | Improvement Option | | |
|--|---|---------------|--------------------------|---|---------------|---------------------------|---|---------------|--------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (3) N/S: Las Positas E/W: Calle Real |  E/W Split phase | AM 0.81 | AM 36.0 s D |  Protected Lefts | AM 0.85 | AM 42.3 s D |  Protected Lefts | AM 0.63 | AM 28.6 s C |
| | | PM 0.95 | PM 52.3 s E | | PM 0.98 | PM 60.6 s E | | PM 0.71 | PM 32.2 s C |
| (4) N/S: Las Positas E/W: 101 ramps |  SB Protected Left | AM 0.81 | AM 29.7 s C | | AM 0.85 | AM 34.7 s C |  Protected Lefts | AM 0.70 | AM 27.5 s C |
| | | PM 0.80 | PM 30.0 s C | | PM 0.86 | PM 35.4 s D | | PM 0.70 | PM 26.3 s C |
| (9) N/S: Oak Park E/W: Junipero |  SB Protected Left | | AM 11.2 s B | | | AM 47.5 s E |  New Signal, Permitted Lefts | AM 0.70 | AM 13.4 s B |
| | | | PM 13.8 s B | | | PM 229.4 s F | | PM 0.76 | PM 24.0 s C |
| (10) N/S: Calle Real E/W: Junipero |  New Signal, Split Phasing | | AM 9.0 s A | | | AM 106.0 s F |  New Signal, Split Phasing | AM 0.60 | AM 28.3 s C |
| | | | PM 15.8 s C | | | PM 100.9 s F | | PM 0.63 | PM 30.9 s C |
| (11) N/S: De la Vina E/W: Nogales |  Signal, Permitted Lefts | | AM 10.5 s B |  Signal, Permitted Lefts | | AM 17.6 s C |  Signal, Permitted Lefts | AM 0.51 | AM 4.7 s A |
| | | | PM 10.5 s B | | | PM 84.8 s F | | PM 0.70 | PM 19.1 s B |

| Intersection | Baseline | | | Alternative 3B | | | Improvement Option | | |
|--|------------------------|---------------|--------------------------|----------------------|---------------|---------------------------|---|------------------------|---------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (12) N/S: De la Vina E/W: Pueblo | | | AM 18.6 s C | | | AM 24.2 s C | New Signal, Permitted Lefts | AM 0.64 B | AM 20.4 s C |
| | | | PM 20.2 s C | | | PM 189.4 s F | | | PM 0.76 C |
| (15) N/S: Oak Park E/W: Pueblo | | | AM 17.1 s C | | | AM 223.7 s F | New Traffic Signal with Permitted Left Turns | AM 0.56 A | AM 19.8 s B |
| | | | PM 14.0 s B | | | PM 203.3 s F | | | PM 0.68 B |
| (20) N/S: NB 101 ramps E/W: Mission | Permitted Lefts | | AM 0.78 C | | | AM 0.80 C | Permitted Lefts | AM 0.75 C | AM 21.5 s C |
| | | | PM 0.78 C | | | PM 0.87 D | | | PM 16.3 s B |
| (21) NS: SB 101 ramps E/W: Mission | Permitted Lefts | | AM 0.93 E | | | AM 0.85 D | Split east-west phasing | AM 0.75 C | AM 31.7 s C |
| | | | PM 1.06 F | | | PM 0.96 E | | | PM 66.8 s E |
| (23) N/S: NB 101 ramps E/W: Mission | | | AM 0.78 C | | | AM 0.80 C | Protected Lefts, Right Turn Overlap Phasing | AM 0.56 A | AM 25.2 s C |
| | | | PM 0.78 C | | | PM 0.87 D | | | PM 156.8 s F |

Notes:

A blank entry in the "Geometry and Control" column indicates that no changes are from the Baseline assumed in Alternative 3B at this location.

Black arrows indicate existing lane geometry.

Green arrows indicate added lane geometry, movements, or capacity.

Grey arrows indicate removed lane geometry or movements.

It should be noted that at intersections where new traffic signals are recommended, the City of Santa Barbara will conduct a traffic signal warrant analysis to determine if other improvements may also address level of service deficiencies.

5.7 ALTERNATIVE 3C: PUEBLO OVERCROSSING AND SB 101 FLYOVER TO JUNIPERO

Alternative 3C incorporates the combined improvements of a Pueblo Street overcrossing and a southbound 101 flyover ramp from Las Positas Road to Junipero Street, along with local street circulation modifications. The Pueblo Street overcrossing would connect Pueblo Street on the east side of Highway 101 with the intersection of Modoc Road and Portesuello Avenue. The flyover ramp would provide an alternative route for vehicles that wish to travel eastbound on Calle Real. Vehicles would be able to exit southbound 101 at Las Positas Road and continue straight through the intersection to the flyover ramp.

The flyover would consist of an aerial structure that originates at the intersection of Las Positas Road and the southbound 101 ramps, travels across the 101 freeway, and merges with southbound Calle Real just north of Junipero Street. The southbound 101 on-ramp from Las Positas Road would need to be widened to provide room for the flyover departure lane. For the initial traffic analysis, it is assumed that the northbound off-ramp would have a single lane to serve both left and right turn movements. Preliminary engineering drawings of the Pueblo Street overcrossing and the southbound ramp flyover are available in Appendix D.

Improvements proposed as part of this alternative are shown in Figure 5.16. Intersection lane geometry assumptions for Alternative 3C are illustrated in Figure 5.17. Intersection geometry for Alternative 3C is assumed to be the same as the Baseline condition, with the following exceptions:

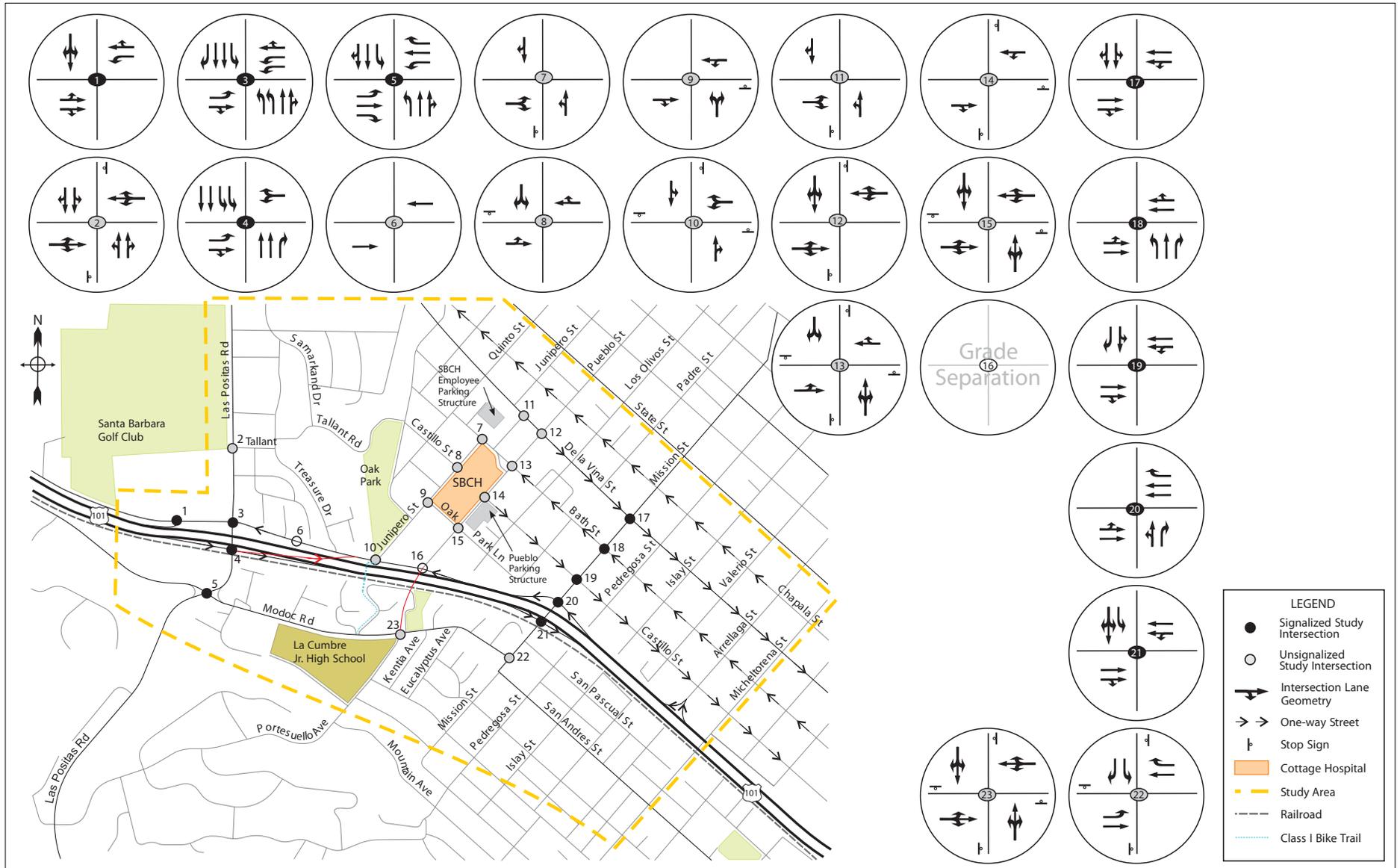
- Las Positas Road and Calle Real: a southbound left turn lane would be striped within the existing right-of-way, and the northbound outside lane will operate as a shared through-right lane. On Calle Real, the eastbound right turn lane will serve both through and right turn movements. The westbound approach would be restriped to provide two left turn lanes and a shared through-right lane.
- Las Positas Road and 101 ramps: an eastbound departure lane would be added, which would branch off from the southbound 101 on-ramp and fly over the freeway to merge with Calle Real north of Junipero Street.
- Calle Real and Pueblo Street: the northbound 101 off-ramp would no longer intersect with Pueblo Street, but pass under the Pueblo Street overcrossing structure.
- Modoc Road and Portesuello Avenue: the Pueblo Street overcrossing structure would connect to this intersection and add a southbound approach. This location is initially modeled as a four-way stop controlled intersection with one shared left-through-right lane on each approach.

Vehicles that utilize the Pueblo Street overcrossing could reduce their travel distance to Cottage Hospital by up to 0.5 miles compared to crossing Highway 101 at Mission Street. Northbound Highway 101 vehicles that currently take the Pueblo Street exit and turn right onto Pueblo Street would continue north on Calle Real to Junipero Street and travel about 0.3 miles further with the new configuration. Vehicles that exit southbound 101 at Las Positas Road and use the southbound flyover to access the Cottage Hospital area could reduce their trip lengths by about 0.5 miles.

Figure 5.16 Proposed Improvements: Alternative 3C



Figure 5.17 Lane Geometry: Alternative 3C

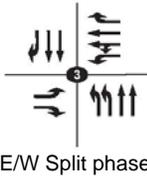
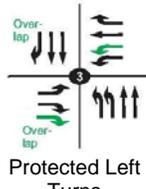
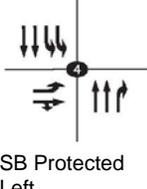
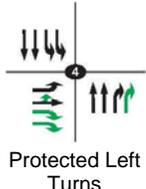
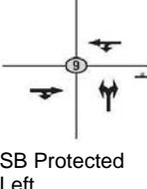
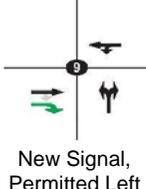
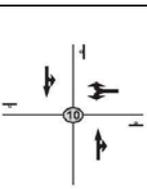
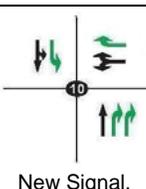
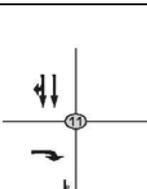
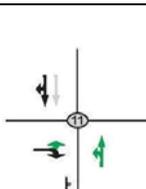
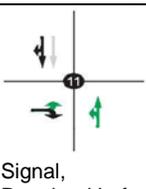


Additional Improvements Required to Achieve Acceptable LOS

As discussed previously with the other Alternative 3 concepts, the combination of the overcrossing and the interchange improvements in Alternative 3C results in similar issues and opportunities as identified in Alternative 2C. As is the case with all three Alternative 3 concepts, the most substantial challenge in Alternative 3C is providing an acceptable level of service at the intersection of Junipero and Calle Real, which is forecast to experience a substantial increase in traffic if two-way traffic on Calle Real is implemented and the Pueblo Street northbound off-ramp is relocated due to the proposed overcrossing.

Intersections that would operate at a deficient level of service during the AM or PM peak period in Alternative 3C are included in Table 5-7, along with one or more improvement options to provide an acceptable level of service.

Table 5-7 Alternative 3C Intersection Improvement Options

| Intersection | Baseline | | | Alternative 3C | | | Improvement Option | | |
|--|---|------------------------|--------------------------|---|------------------------|---------------------------|---|------------------------|--------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (3) N/S: Las Positas E/W: Calle Real |  | AM 0.81 D | AM 36.0 s D | | AM 0.79 C | AM 37.6 s D |  | AM 0.67 B | AM 30.1 s C |
| | | PM 0.95 E | PM 52.3 s D | | PM 0.94 E | PM 52.9 s D | | PM 0.75 C | PM 29.2 s C |
| (4) N/S: Las Positas E/W: 101 ramps |  | AM 0.81 D | AM 29.7 s C | | AM 1.05 F | AM 67.1 s E |  | AM 0.75 C | AM 29.0 s C |
| | | PM 0.80 C | PM 30.0 s C | | PM 1.01 F | PM 53.9 s D | | PM 0.73 C | PM 27.1 s C |
| (9) N/S: Oak Park E/W: Junipero |  | | AM 11.2 s B | | | AM 47.5 s E |  | AM 0.70 B | AM 13.4 s B |
| | | | PM 13.8 s B | | | PM 229.4 s F | | PM 0.76 C | PM 24.0 s C |
| (10) N/S: Calle Real E/W: Junipero |  | | AM 9.0 s A | | | AM 106.0 s F |  | AM 0.60 A | AM 28.3 s C |
| | | | PM 15.8 s C | | | PM 100.9 s F | | PM 0.63 B | PM 30.9 s C |
| (11) N/S: De la Vina E/W: Nogales |  | | AM 10.5 s B |  | | AM 17.6 s C |  | AM 0.51 A | AM 4.7 s A |
| | | | PM 10.5 s B | | | PM 84.8 s F | | PM 0.70 B | PM 19.1 s B |

| Intersection | Baseline | | | Alternative 3C | | | Improvement Option | | |
|--|----------------------|---------------|--|----------------------|---------------|--|--|------------------------|--------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (12) N/S: De la Vina E/W: Pueblo | | | AM 18.6 s C | | | AM 24.2 s C | New Traffic Signal with Permitted Left Turns | AM 0.64 B | AM 20.4 s C |
| | | | PM 20.2 s C | | | PM 189.4 s F | | | PM 0.76 C |
| (15) N/S: Oak Park E/W: Pueblo | | | AM 17.1 s C | | | AM 223.7 s F | New Traffic Signal with Permitted Left Turns | AM 0.56 A | AM 19.8 s B |
| | | | PM 14.0 s B | | | PM 203.3 s F | | | PM 0.68 B |
| (20) N/S: NB 101 ramps E/W: Mission | Permitted Lefts | | AM 0.78 C AM 23.6 s C | | | AM 0.80 C AM 28.8 s C | Permitted Lefts | AM 0.75 C | AM 21.5 s C |
| | | | PM 0.78 C PM 35.6 s D | | | PM 0.87 D PM 16.3 s B | | | PM 0.66 B |
| (21) NS: SB 101 ramps E/W: Mission | Permitted Lefts | | AM 0.93 E AM 29.1 s C | | | AM 0.85 D AM 23.6 s C | Split east-west phasing | AM 0.75 C | AM 31.7 s C |
| | | | PM 1.06 F PM 98.0 s F | | | PM 0.96 E PM 66.8 s E | | | PM 0.73 C |
| (23) N/S: Portesuello E/W: Modoc | | | AM 81.4 s F | | | AM 89.5 s F | Protected Lefts, Right Turn Overlap Phasing | AM 0.56 A | AM 25.2 s C |
| | | | PM 435.7 s F | | | PM 156.8 s F | | | PM 0.62 B |

Notes:

A blank entry in the "Geometry and Control" column indicates that no changes are assumed in Alternative 3C at this location.
Black arrows indicate existing lane geometry.
Green arrows indicate added lane geometry, movements, or capacity.
Grey arrows indicate removed lane geometry or movements.

It should be noted that at intersections where new traffic signals are recommended, the City of Santa Barbara will conduct a traffic signal warrant analysis to determine if other improvements may also address level of service deficiencies.

6.0 Recommendations and Next Steps

The Las Positas/Mission Circulation Options Report has summarized the alternatives development, transportation analysis, and public outreach efforts involved with this study effort. The objective of the Circulation Option Report was to evaluate a series of potential improvement options that would address transportation needs for the area surrounding Cottage Hospital. With the completion of this study effort, the City of Santa Barbara is able to proceed with the preparation of a Project Study Report (PSR) for the recommended project options, and to explore potential project funding opportunities.

The findings and recommendations presented in this report are the product of an extensive amount of community involvement and technical analysis. The community involvement process and technical analysis have resulted specific recommendations for project alternatives that should proceed into the PSR phase.

6.1 RECOMMENDED PROJECT OPTIONS

The recommended project options are categorized into three groups.

- Freeway-Related Improvements – Projects involving Highway 101 traffic lanes or interchanges
- Local Street Improvements – Projects involving local City of Santa Barbara streets
- Alternative Transportation Improvements – Projects involving transit, pedestrian, or bicycle improvements

The first group of recommendations includes improvements or changes to freeway ramps or lanes on Highway 101. These improvements fall under the authority of Caltrans, and a PSR must be prepared for Caltrans approval prior to the initiation of preliminary engineering or environmental review.

The second group of recommendations includes local street improvements that would fall under the authority of the City of Santa Barbara. These projects do not need to be part of a PSR process unless the local street improvement is directly tied to a recommended freeway improvement. The City of Santa Barbara has decision-making authority over these projects and their ability to proceed to the preliminary engineering and environmental review phases.

Alternative transportation improvements fall into two subcategories. Recommended transit improvements would require coordination with the Santa Barbara MTD and/or the operator of the proposed future commuter rail service between Santa Barbara and Ventura. Similar to the local street improvements, pedestrian and bicycle improvements fall under the authority of the City of Santa Barbara and the city is able to proceed to the preliminary engineering and environmental review phases for these project options through its own authority.

All projects involving physical improvements would require environmental clearance under the guidelines of the California Environmental Quality Act (CEQA). Projects that could potentially receive Federal funding would also need to be environmentally cleared under the National Environmental Policy Act (NEPA).

Freeway-Related Improvements

Alternative 2B – Las Positas Northbound Hook Off-Ramp – This improvement will replace the existing northbound on-ramp and off-ramp from Highway 101 to Las Positas Road with a new hook on and off-ramp located to the west of the Las Positas Road overpass. Based on the conceptual engineering completed to date, the relocated northbound on and off-ramp will

need to be relocated to the west of the existing northbound on-ramp to avoid possible impacts to the Las Positas Road overpass bridge structure and abutment.

Prior to the completion of the Circulation Options Report, City staff and the consultant team discussed with Caltrans the addition of a sub-option to Alternative 2B. The purpose of this sub-option is to provide a back-up option to Alternative 2B, as a result of concerns related to construction costs and the right-of-way impact to the Earl Warren Showgrounds property for an off-ramp located west of Las Positas Road.

The sub-option would locate the new northbound hook off-ramp east of the Las Positas Road overpass, rather than to the west as proposed in Alternative 2B. The location of the off-ramp would be near the historical location of the original northbound Las Positas off-ramp, and correspond to the existing off-ramp location near the intersection of Calle Real and Leslie Drive. The primary difference from the existing condition is that the existing off-ramp would be realigned to a “hook” configuration to create a new signalized intersection and allow the conversion of Calle Real to serve two-way traffic. Figure 6.1 illustrates this concept.

In the initial stages of this study, Caltrans was not supportive of a reconfigured off-ramp east of Las Positas Road. However, through further discussions with City staff and the consultant team, it was determined that the sub-option could be examined as part of the PSR as a sub-option to Alternative 2B. As such, the sub-option is proposed to be carried forward in the PSR as a sub-option to Alternative 2B should the cost and right-of-way constraints associated with Alternative 2B prove to be too substantial. An initial analysis of the traffic operations for the sub-option has been completed and is included in the Circulation Options Report. This sub-option will be further evaluated as part of the PSR process.

The primary difference from the existing condition would be the redesign of the ramp as a “hook” ramp, creating a new intersection, and allowing for two-way traffic on Calle Real. Figure 6.2 shows the proposed lane geometry for this new intersection and Las Positas/Calle Real. Level of service forecasts for this intersection and the intersection of Las Positas and Calle Real are shown in Table 6-1.

Table 6-1 Recommend Intersection Improvements – Hook Ramp Sub-Option

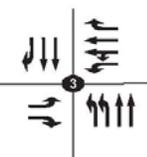
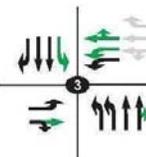
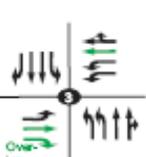
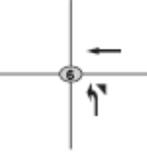
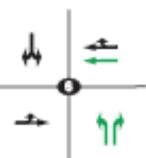
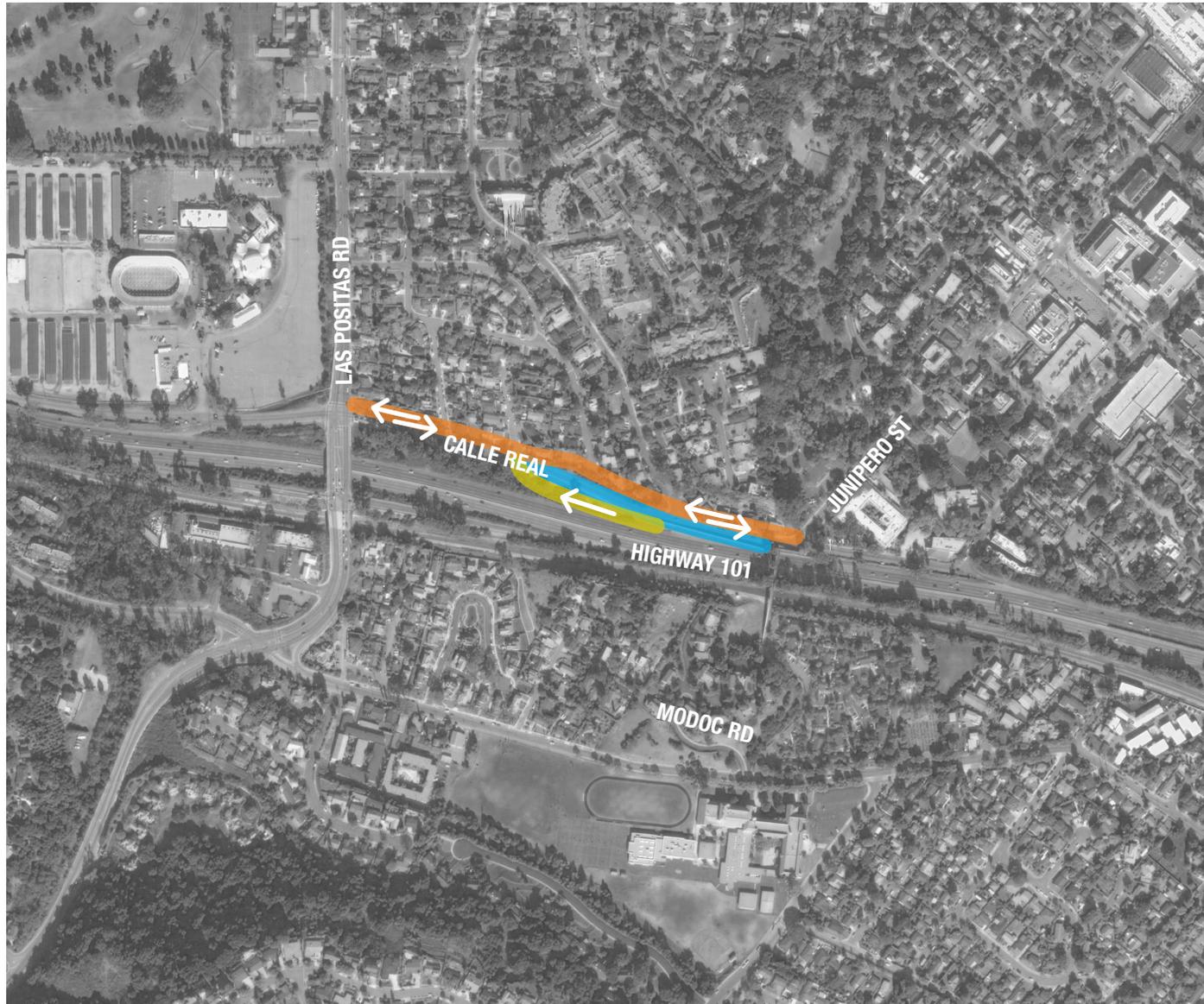
| Intersection | Baseline | | | With Option | | | Improvement Option | | |
|--|---|------------------------|--------------------------|---|------------------------|--------------------------|---|------------------------|--------------------------|
| | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) | Geometry and Control | V/C LOS (ICU) | Delay LOS (HCM) |
| (3) N/S: Las Positas Rd EW: Calle Real |  | AM 0.81 D | AM 36.0 s D |  | AM 0.87 D | AM 42.1 s D |  | AM 0.69 B | AM 30.5 s C |
| | | PM 0.95 E | PM 52.3 s D | | PM 1.00 E | PM 62.3 s E | | PM 0.75 C | PM 33.4s C |
| (6) N/S: Leslie Dr & 101 NB off-ramp EW: Calle Real |  | | |  | AM 0.66 B | AM 11.9 s B |  | AM 0.64 B | AM 10.5s B |
| | | | | | PM 0.82 D | PM 20.4 s C | | PM 0.59 A | PM 17.9s B |

Figure 6.1 Northbound Las Positas Hook Ramp Sub-Option

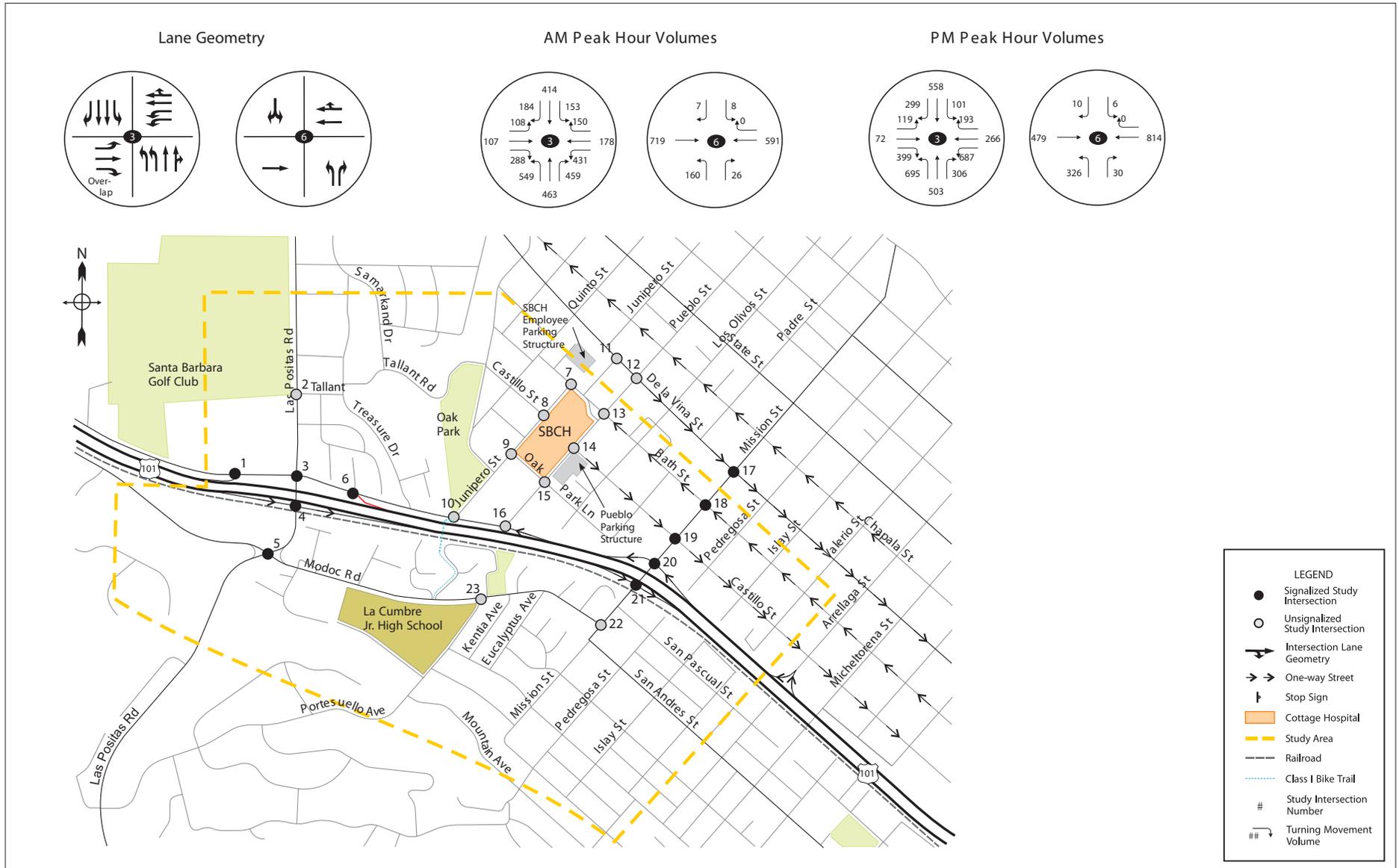


Legend

-  New freeway ramp
-  Convert Street to 2-way traffic
-  Remove existing off-ramp



Figure 6.2 Lane Geometry and Peak Hour Volumes – Hook Ramp Sub-Option



The primary objective of Alternative 2B and its sub-option is to restore two-way traffic flow on Calle Real between Las Positas Road and Treasure Drive. A preliminary design for providing two-way traffic on Calle Real will be developed as part of the PSR phase and advancement of the design process for the Las Positas Hook Ramp project option.

The next step in proceeding toward the implementation of this project option is for the City of Santa Barbara to prepare a PSR for review and approval by Caltrans. As part of the PSR phase, the design for this new on and off-ramp will be advanced and more detailed technical analysis will be conducted. In their initial review of the conceptual design for this improvement, Caltrans included several specific requests for analysis and design refinement that would be part of the PSR process. These requests include a more detailed analysis of vehicle queue lengths on the off-ramp, preparation of design drawings showing the proposed super-elevation of the on and off-ramps, and review of the proximity of the off-ramp to the existing Las Positas Road overpass and bridge abutment.

- Widen Las Positas Road Southbound Off-Ramp – The intersection of Las Positas Road and the southbound Highway 101 on and off-ramps is forecast to operate at LOS D or worse in both the AM and PM peak hour in the Year 2030 Baseline condition and all Alternative 2 scenarios. This off-ramp is in need of improvement even in the absence of the potential implementation of the reconfigured northbound hook on and off-ramps. To provide an acceptable level of service at this intersection, a second left turn lane would be added to the off-ramp. This lane addition would provide a three lane cross section for the off-ramp at the intersection and would require widening of the off-ramp in order to provide sufficient queuing space for additional left turn lane. It is recommended that this project option be included in the preparation of a PSR for the northbound Las Positas on and off-ramps.
- Widen Mission Street Southbound Off-Ramp – In the Year 2030 Baseline condition, this intersection is forecast to operate at LOS E in the AM peak hour and LOS F in the PM peak hour. With the implementation of the project options proposed as part of Alternative 2B, the Year 2030 LOS for this intersection is forecast to improve to LOS D in the AM peak hour and LOS E in the PM peak hour. This improvement is a result of the forecasted shift in southbound Highway 101 traffic volumes from this interchange to Las Positas Road to utilize the two-way segment of Calle Real. It is recommended that the addition of a third lane to the southbound off-ramp be implemented for this location. Similar to the improvements proposed for the southbound Las Positas Road off-ramp, this improvement would increase the capacity of the ramp and improve the operation of the intersection.
- Widen Mission Street Northbound Off-Ramp – This intersection is forecast to operate at LOS D in the PM peak hour during the Year 2030 Baseline condition under the HCM 2000 methodology. In Alternative 2B, the level of service is forecast to deteriorate to LOS D in both the AM and PM peak hours under both the ICU and HCM analysis methodologies. This deterioration is a result of forecasted increases in traffic volumes as some additional traffic is likely attracted to Mission Street to use the proposed Castillo Street and Bath Street one-way couplet between Mission Street and Cottage Hospital. If the one-way couplet is not implemented, this improvement may not be necessary. To provide an acceptable level of service for this intersection, a second northbound right turn lane from the off-ramp to eastbound Mission Street should be provided. This lane addition would provide a three lane cross section for the off-ramp at the intersection and would require some widening of the off-ramp in order to provide sufficient queuing space for the new right turn lane.

It is recommended that improvements to the Mission Street interchange with Highway 101 be evaluated in a separate PSR from the Las Positas Road interchange improvements. There are two primary reasons for this recommendation. First, the PSR approval process requires the all elements of the PSR be approved together. If any one project is not approved by Caltrans, the full PSR will not be approved. Separating the improvements at the two

interchanges prevents complications or constraints at one interchange from negatively impacting the advancement of improvements at the other interchange. Secondly, identifying funding for two simultaneous interchange improvement projects may be difficult and the projects could end up competing with each other. Allowing the Las Positas Road interchange improvements to proceed first would reduce competition for funding and provide a greater level of regional traffic benefit.

- Add auxiliary lanes on Highway 101 in selected locations between La Cumbre Road and Carrillo Street – The existing interchanges of Highway 101 at La Cumbre Road, Las Positas Road, Mission Street, Arrellaga Street, and Carrillo Street are closely spaced, resulting in limited distance for vehicles to merge on and off the freeway, and impacting freeway mainline traffic operations. The addition of auxiliary lanes would improve mainline freeway traffic operations and allow vehicles to merge on and off the freeway in a safer and more efficient manner. Candidate locations for auxiliary lanes include southbound between La Cumbre Road and Las Positas Road, southbound between Las Positas Road and Mission Street, and northbound between Arrellaga Street and Mission Street.

A PSR was previously prepared by Caltrans, exploring the potential for auxiliary lanes on Highway 101 within the study area, including in the southbound direction between Las Positas Road and Mission Street. To advance these concepts, the City of Santa Barbara and Caltrans need to identify potential funding sources for design, environmental clearance and construction. The auxiliary lane projects could be pursued together with the Las Positas Road interchange improvements or independently. The recommended approach would likely be determined as part of the PSR process for the Las Positas Road interchange. In either case, the proposed auxiliary lane for the northbound freeway between Mission Street and Arrellaga Street should be evaluated as part of a PSR for the Mission Street interchange.

Local Street Improvements

- Proceed with preliminary engineering for a concept to implement two-way traffic on De la Vina Street between Constance Street and Pueblo Street – This option would improve vehicle access to the Cottage Hospital Pueblo Street parking structure for vehicles traveling along De la Vina Street and Upper State Street. The preliminary engineering phase will fully evaluate the ability of the existing roadway to accommodate two-way traffic while maintaining the existing Class II bike lane and on-street parking on both sides of the street.
- Proceed with the implementation of traffic signal modifications on Mission Street at Castillo Street and Bath Street and the bike lanes on Castillo Street and Bath Street between Mission Street and Pueblo Street – These improvements received support at the public workshop from the community members and residents in attendance. Traffic signal modifications on Mission Street would involve restricting left turns onto Castillo Street during peak hours and providing a protected-permissive traffic signal phasing at Bath Street. The bike lanes on Castillo Street and Bath Street could be implemented by either converting the streets to one-way traffic or removing parking on one side of each street. The City of Santa Barbara will further explore these options separately from the PSR process, as these are local street improvements.
- Widen the intersection of Las Positas Road and Calle Real – The proposed implementation of the project options included in Alternative 2B would cause an increase in the traffic volumes passing through this intersection as vehicles would utilize the new access to Cottage Hospital provided by the provision of two-way traffic Calle Real east of Las Positas Road. To accommodate the forecasted increase in traffic, this intersection should be improved to provide a new right turn lane with an overlap signal phase in the eastbound direction and a new overlap signal phase for the existing southbound right turn lane. It is anticipated that these improvements would occur on the south side of Calle Real, and not result in extensive

right-of-way impacts north of Calle Real. The design of the proposed improvements at this intersection would be further developed as part of the PSR prepared for the Las Positas Road interchange.

Alternative Transportation Improvements

- **Modify MTD Route 6 and 11** – As part of the conversion of De la Vina Street to two-way traffic between Constance Avenue and Pueblo Street, the City of Santa Barbara should continue discussions with MTD to explore the potential rerouting of bus Routes 6 and/or 11. Rerouting these bus routes onto De la Vina from State Street would provide an improved transit link between Upper State Street and Cottage Hospital.
- **Construct sidewalks on Calle Real** – No sidewalks are currently provided on Calle Real between Las Positas Road and Treasure Drive. The City of Santa Barbara should proceed with the design of sidewalks within this segment with or without the conversion of Calle Real to two-way traffic.
- **Union Pacific Rail Corridor Commuter Rail Station** – There is an existing proposal under study to implement commuter rail service between Santa Barbara and Ventura County. As the study effort for this project proceeds, the City of Santa Barbara should explore the feasibility of implementing a commuter rail station in the Union Pacific rail corridor near Las Positas Road or Mission Street. The benefit of this station is that it would provide quick and convenient access to the Cottage Hospital area for hospital employees and visitors who reside in Ventura County and commute into Santa Barbara. Specific challenges include providing sufficient space for the station, including platforms, passenger drop-off/pick-up and parking. The commuter rail operating plan would also need to be explored to determine if the station could be operated cost-effectively given projected ridership demand.
- **Shuttle Bus Service from Downtown Amtrak Station** – If the proposed commuter rail service between Santa Barbara and Ventura County is implemented, this proposal could represent a lower-cost option for providing a convenient and efficient connection between the commuter rail station and Cottage Hospital when compared to the construction of a new station near Mission Street. Working with MTD and Cottage Hospital, the City of Santa Barbara should explore the implementation of a dedicated shuttle bus service linking the Downtown Amtrak station on State Street directly with Cottage Hospital. Shuttle bus schedules would be timed to meet commuter rail trains, allowing for a seamless connection between modes. Issues to be addressed with this option include the selection of an operator and funding the capital (bus procurement) and operational costs.
- **Extend Class II Bike Lanes on Castillo and Bath Streets** – Implementing Class II bike lanes on these street segments would provide a direct bicycle lane connection from Downtown to Cottage Hospital.

6.2 NEXT STEPS

Caltrans Project Study Report

Project options involving modifications to the State Highway System or to transportation facilities located within Caltrans right-of-way require the preparation of a Project Initiation Document (PID). The Project Study Report (PSR) is one type of PID, and would be the likely document required by Caltrans for any of the project options identified in this study. A completed PSR is required before a project can be considered for funding through the State Transportation Improvement Program (STIP) or approved by Caltrans if the project is to be funded by other sources.

The preparation of a PSR requires that the project have a clearly defined purpose and need. The Circulation Options Report identifies a specific purpose and need for the identification of a range of improvements within the study area. As individual project options proceed into the PSR stage, this overall study purpose and need to can be refined and targeted to the specific project option in order to satisfy the project-specific purpose and need requirements for the PSR.

With the completion of this report, the City of Santa Barbara intends to initiate the PSR process for the Las Positas Interchange. The PSR would study the following project options:

- Las Positas Road Hook On and Off-Ramp
- Widening the Southbound Highway 101 Off-Ramp to Las Positas Road
- Widening the Las Positas Road/Calle Real intersection

The PSR process will involve a more detailed examination of the design and operation of the proposed hook ramp and evaluate the opportunities and constraints associated with the location of the hook ramp. The advancement of the proposal southbound auxiliary lanes on Highway 101 between La Cumbre Road and Las Positas Road and between Las Positas Road and Mission Street would be further discussed with Caltrans in the PSR phase.

Other projects options that would require the preparation of PSR include improvements to the Mission Street interchange and the addition of auxiliary lanes on northbound Highway 101 between Mission Street and Arrellaga Street. These project options are not proposed to be included in the PSR prepared as part of the Las Positas Road interchange modifications. Instead, these project options would be studied in the future as part of a separate PSR process. As noted earlier in this section, this approach reduces the chance that a challenge or constraint at one interchange would delay improvements at both locations and reduces the competition between projects for funding.

Local Street Improvements

Local street, bicycle, and pedestrian improvements that would occur outside of Caltrans right-of-way would not require the preparation of PID (PSR or other document). The City of Santa Barbara has authority over the initiation of more detailed analysis and design studies for these local street improvements. As noted above, the improvements proposed at the Las Positas Road/Calle Real intersection would be included as part of the PSR for the Las Positas Road interchange.

Other recommended local street improvements such as the extension of two-way traffic on De la Vina Street, new traffic signals on Pueblo Street at De la Vina Street and State Street, and the traffic signal modifications on Mission Street at Castillo Street and Bath Street would proceed separately from the PSR, as these improvements are not dependent on Caltrans approval for implementation.

Environmental Clearance

Any project options involving physical improvements to the existing roadway network would require environmental clearance under the provisions of the California Environmental Quality Act (CEQA). Should the City of Santa Barbara obtain Federal funding for any of the recommended projects identified in this report, environmental clearance could also be required under the National Environmental Policy Act (NEPA).

Depending of the scope and potential impacts of a particular project, environmental clearance under CEQA could entail the preparation of an environmental impact report (EIR), mitigated negative declaration (MND), or a notice of exemption. NEPA clearance follows a similar hierarchy with an environmental impact statement (EIS), an environmental assessment (EA), or a categorical exemption (CE).

As the project development process progresses for the project options identified in this study, the City of Santa Barbara would initiate the environmental review process with the preparation of an Initial Study for each project option. The Initial Study would identify the potential for significant environmental impacts associated with each project option and identify the appropriate environmental review process for each individual project.

Possible Funding Sources

As the various project options identified above are advanced into the PSR, preliminary design, and environmental clearance phases, the City of Santa Barbara will begin the process to identify potential funding sources for the construction of these improvements. Possible funding sources include local, State and Federal transportation funding programs.

Local Funding Sources

Santa Barbara County voters approved Measure A in November 2008. Measure A is a ½ cent sales tax measure that is programmed to provide over \$1 billion for transportation improvements in Santa Barbara County over the next 30 years. A portion of the Measure A revenues are allocated to Local Street and Transportation Improvements. The City of Santa Barbara is scheduled to receive an allocation of approximately \$105 million over the 30 year term of Measure A for local street and transportation improvements. Transportation improvements eligible for funding under this source include:

- Maintaining or constructing roadways, bridges, and bicycle and pedestrian facilities
- Highway improvements
- Bus and rail transit improvements that provide alternatives to the automobile
- Matching funds for State and Federal funding sources

Several of the project options identified above could be eligible for receiving Measure A funding, including the Alternative 2B Las Positas “Hook” Off-Ramp, intersection improvement projects, the proposed commuter shuttle bus service, and bicycle and pedestrian improvements identified on Calle Real, Castillo Street, and Bath Street.

State of California Funding Sources

The State of California and Caltrans fund a range of transportation improvement projects, both on and off the State Highway Network, through the State Transportation Improvement Program (STIP). The STIP is a multi-year funding program, and funding allocations through the STIP occur every two years.

As part of the funding program cycle, the State of California releases a funding estimate in July on odd numbered years and the California Transportation Commission typically approves the funding estimate one month later in August. Once the fund estimate is adopted, Caltrans and the regional planning agencies prepare transportation improvement plans for submittal. Selected projects submitted for consideration under the STIP program are then approved for funding in April of the following year.

In order to pursue funding through the STIP program, the City of Santa Barbara would work with Caltrans District 5 representatives and the Santa Barbara County Association of Governments (SBCAG) to identify specific project options identified in this report that could be funded under the STIP. Candidate projects could include the Alternative 2B Las Positas “Hook” Off-Ramp, the identified improvements to the Highway 101 off-ramps to Las Positas Road and Mission Street, and new auxiliary lanes on Highway 101 in the study area. A completed PSR would be required for any of these projects to be eligible for STIP funding.

Federal Transportation Funding Sources

The American Recovery and Reinvestment Act (ARRA) was approved on February 17, 2009. This Federal stimulus program allocates \$27.5 billion for transportation infrastructure improvements nationwide. Over \$2.5 billion of this funding is allocated to transportation improvement projects in California. The funding allocated under this program is targeted at “shovel-ready” projects that are capable of entering into construction in a short period of time, with the objective of creating new jobs. The ARRA requires that all funds be obligated within one year of apportionment of funding from the Federal Highways Administration (FHWA) to states.

The project options identified in this study would likely not be eligible for funding under the ARRA, as the time required to complete the design and environmental clearance phases would likely exceed the one year time horizon for the obligation of funds. However, the City of Santa Barbara should track the program funding allocations should a future funding opportunity arise from funds reallocated through the program if other California cities or other States fail to obligate their funding within the requirements of the program.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was enacted on August 10, 2005. This Federal program allocates funding for surface transportation improvements from 2005 to 2009. With the expiration of this legislation occurring at the end of the 2009 Federal Fiscal Year, Congress will begin the process for adopting a reauthorization of Federal transportation funding for the next five year period. The reauthorization will identify Federal funding allocations for highway, roadway and transit improvements over the next five years. In order to be eligible for funding through this program, City of Santa Barbara will need to work with SBCAG and Caltrans District 5 to ensure that project options identified in this study are incorporated, as appropriate, into transportation programming documents such as the Regional Transportation Plan (RTP). To be eligible for Federal funding, projects must also be environmentally cleared through the National Environmental Policy Act (NEPA) in addition to obtaining clearance under the CEQA. In working with SBCAG and Caltrans, the City of Santa Barbara should identify projects that may be eligible for Federal funding and pursue environmental clearance under NEPA as appropriate.

Las Positas/Mission Circulation Options Report

APPENDIX A – TRAFFIC ANALYSIS REPORT

APPENDIX B – TRAFFIC COUNT DATA

APPENDIX C – SANTA BARBARA MODEL FORECAST LINK VOLUMES

APPENDIX D – TRAFFIC IMPACT ANALYSIS REPORTS

APPENDIX E – PRELIMINARY DESIGN DRAWINGS

APPENDIX F – SANTA BARBARA COTTAGE HOSPITAL ORIGIN-DESTINATION SURVEY

APPENDIX G – CALTRANS COMMENT LETTERS