



**COMMUNITY DEVELOPMENT SERVICES  
DEPARTMENT OF TRANSPORTATION**

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TO: Board of Supervisors

FROM: Natalie K. Porter, P.E., T.E., Senior Civil Engineer  
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**Subject:** US 50/Cameron Park Drive Interchange Alternatives Analysis

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**PURPOSE**

In 2017, the Long Range Planning Division began the US 50/Cameron Park Drive Interchange Alternatives Analysis project with Dokken Engineering and DKS Associates. The project goals include identifying an interchange alternative that would accommodate future traffic growth, while reducing the project cost and impacts to private property.

The purpose of today's hearing is to select one or more of the interchange alternatives to carry forward to preliminary design and environmental studies, as funding becomes available.

**BACKGROUND**

The US 50/Cameron Park Drive Interchange is identified as a capacity-increasing project in the County's Capital Improvement Program (CIP) and Traffic Impact Mitigation (TIM) Fee Program. However, a preferred alternative has not yet been selected. In 2008, a Project Study Report (PSR) was prepared for the project and approved by Caltrans. The PSR evaluated three alternatives, and Alternative 1 was selected. The PSR identified the cost of Alternative 1 as \$66.8 million in 2007, including right-of-way costs of \$11 million.

In 2010, the Board of Supervisors (Board) directed staff to analyze other possible alternatives for the interchange, with the main objective of optimizing the cost/benefit ratio. County staff identified and screened 42 different alternatives and narrowed the list down to 14 feasible alternatives. The alternatives were presented to the Board on October 26, 2010. The Board received the report and by consensus noted the following:

1. The Board was satisfied with the work done to date.
2. The Wild Chaparral and Palmer Drive connection is critical.
3. The freeway overcrossing connecting Palmer Drive to the south side of the freeway is important.
4. Local road circulation improvements need to be considered.

5. Further study on the diverging diamond interchange concept is important.
6. The phasing of improvement projects should be considered.
7. The cost of improvements should be balanced against the improvements in traffic flows.

In 2015, as part of the Major CIP & TIM Fee Program Update, the County's consultants estimated the cost of the PSR Alternative 1 to be \$87.3 million. Staff noted that the interchange project is approximately 22 percent of the entire TIM Fee Program. The high cost is largely due to the need to acquire commercial properties with existing businesses to accommodate the project footprint. Staff was directed to conduct an alternatives study to determine a more economically viable improvement for the Cameron Park Drive Interchange.

## **DISCUSSION**

The Cameron Park Drive Interchange Alternatives Analysis project team has identified four alternatives for consideration. The 14 feasible alternatives from 2010 were evaluated against updated traffic forecasts. Of the 14 alternatives, six were screened out due to various factors, such as poor Level of Service (LOS), limited benefit for traffic demand, and poor access for existing businesses. Additional local roadway connections like the connection of Palmer Drive to Wild Chaparral Drive and an additional north-south roadway over US 50 were shown to have independent benefits, but not enough to reduce the footprint of the interchange. A pedestrian overcrossing was considered, but ruled out due to lack of clearance to the overhead utility lines that cross US 50 just west of the interchange.

The remaining alternatives went through a planning-level analysis, which narrowed the possible alternatives down to the following four alternatives:

- Alternative 1: Widening
- Alternative 2: Rodeo Road Off-Ramp
- Alternative 3: Hook Ramps
- Alternative 4: Diverging Diamond

Each of the alternatives is described below, along with a summary of the benefits and drawbacks of each. The Alternatives Screening Matrix (Attachment B) summarizes the evaluation of the alternatives. Traffic simulation videos of each alternative can be viewed on the project website:

<https://www.edcgov.us/Government/dot/projects/Pages/US-50-Cameron-Park-Drive-Interchange-Alternatives-Analysis-Study.aspx>

### Alternative 1: Widening

Alternative 1 (Attachment C) consists of widening Cameron Park Drive to three lanes in each direction from Coach Lane to north of Palmer Drive. Each off-ramp would be widened to provide additional storage and each on-ramp would be widened to provide a High Occupancy Vehicle (HOV) bypass lane. Coach Lane would be widened to provide

additional turn lanes at Cameron Park Drive. This alternative requires replacement of both US 50 bridges over Cameron Park Drive and new retaining walls along the freeway ramps and Cameron Park Drive. Class II (on-street) bike lanes would be provided on Cameron Park Drive in both directions. Sidewalk would be provided on the west side of the roadway from Robin Lane to Country Club Drive and on the east side of the roadway from Country Club Drive to north of Palmer Drive.

Project considerations for Alternative 1:

- Most similar to the existing configuration
- Avoids significant impacts to commercial and residential properties (i.e. full acquisition of a home or business)
- Includes acquisition of many pieces of property from most property owners along Cameron Park Drive. Some impacts to parking and access are expected for most of the alternatives.
- Avoids environmentally sensitive areas
- Long traffic queues on the side streets
- Longest travel time - All traffic signals along this corridor would have to be perfectly timed to provide acceptable operations. Most of the traffic signals along this corridor are controlled by Caltrans, so the signal timing is out of the County's control.
- Alternative 1 has the lowest total project cost: \$45 – 50 million.

Alternative 2: Rodeo Road Off-Ramp

Under this alternative, the eastbound off-ramp would be relocated to align with Rodeo Road; approximately 2,000 feet west of Cameron Park Drive (see Attachment D). Rodeo Road would be extended from its current end point at Strolling Hills Road to intersect Cameron Park Drive opposite Robin Lane. Robin Lane would also be realigned near Cameron Park Drive. Due to existing traffic levels on Coach Lane, motorists exiting the freeway at Rodeo Road would be prohibited from turning left at Coach Lane. Cameron Park Drive would be widened to provide three northbound lanes from Robin Lane/Rodeo Road to north of Palmer Drive and three southbound lanes from north of Palmer Drive to Coach Lane. Alternative 2 also includes a new eastbound loop on-ramp. This new ramp allows for the removal of the existing traffic signal at the eastbound ramps, which improves traffic flow. Alternative 2 does not require replacing the two US 50 bridges, but it would require widening the southern bridge to accommodate the loop on-ramp.

Similar to Alternative 1, each ramp would be widened and turn lanes would be added to Coach Lane. Class II (on-street) bike lanes would be provided on Cameron Park Drive in both directions. Sidewalk would be provided on the west side of the roadway from Robin Lane to Country Club Drive and on the east side of the roadway from Country Club Drive to north of Palmer Drive. Sidewalk would also be provided along the north side of Rodeo Road.

Project considerations for Alternative 2:

- Avoids impacts to residential properties
- Requires the acquisition of the Chevron gas station and Car-izma Auto Spa
- Utilizes under-used roadway
- Caltrans generally avoids constructing isolated off-ramps, due to the potential to create confusion for drivers
- Takes motorists about 0.7 miles out of direction, compared to the existing interchange configuration. Additionally, these results in increased vehicle miles traveled (VMT) which will be a primary consideration for the environmental studies.
- Additional uncontrolled crossing for bicyclists and pedestrians at loop on-ramp
- Eliminates one traffic signal and associated travel delay
- Requires significant roadway improvements beyond the interchange footprint
- Alternative 2 has the highest total project cost: \$60 – 65 million.

Alternative 3: Hook Ramps

Alternative 3 would replace the existing eastbound on- and off-ramps with hook ramps that would intersect Coach Lane approximately 1,000 feet east of Cameron Park Drive (see Attachment E). Additionally, a new eastbound loop on-ramp would be constructed and the existing traffic signal for the eastbound off-ramps would be removed. Cameron Park Drive would be widened to provide three lanes in each direction from Coach Lane to north of Palmer Drive. This alternative requires a new bridge where the eastbound off-ramp crosses over Cameron Park Drive and widening the existing US 50 bridge to accommodate the loop on-ramp. Although not part of the interchange project, the team noted that Alternative 3 would benefit from a new north-south roadway between Coach Lane and Robin Lane to help distribute traffic away from the Cameron Park Drive/Coach Lane intersection.

Similar to Alternatives 1 and 2, all on- and off-ramps would be widened and turn lanes would be added on Coach Lane. Class II (on-street) bike lanes would be provided on Cameron Park Drive in both directions. Sidewalk would be provided on the west side of the roadway from Robin Lane to Country Club Drive and on the east side of the roadway from Country Club Drive to north of Palmer Drive.

Project considerations for Alternative 3:

- Potential impacts to environmentally sensitive areas
- Avoids impacts to residential properties
- Requires the acquisition of the Chevron gas station
- Increased development potential for area east of Cameron Park Drive
- Eliminates one traffic signal and associated travel delay
- Additional uncontrolled crossing for bicyclists and pedestrians at loop on-ramp
- Potential driveway access changes for businesses along Coach Lane
- Alternative 3 has the second highest total cost: \$55 – 60 million.

#### Alternative 4: Diverging Diamond

The Diverging Diamond alternative is an innovative interchange design where motorists on Cameron Park Drive cross to the left side of the roadway through the interchange (see Attachment F). As with a traditional interchange, the crossover points are controlled by traffic signals. The primary benefit is that left-turns from the local road to the freeway are uncontrolled, meaning the motorists do not have to stop and left-turn lanes are not required. Without left-turn lanes, this interchange requires less right-of-way than a traditional interchange design. The traffic signals operate more efficiently, because they no longer have to provide green time to those left-turn phases. This alternative requires the realignment of Country Club Drive to intersect Cameron Park Drive opposite Palmer Drive.

Cameron Park Drive would be widened to provide three lanes in each direction from Coach Lane to north of Palmer Drive. All on- and off-ramps would be widened to provide additional storage and HOV lanes. Sidewalks and bike lanes would be provided on both sides of the roadway approaching the interchange. At the interchange, bicyclists and pedestrians can cross into the median using the signalized crosswalk. A multi-use path would be provided in the median between the crossover intersections. The bicyclists and pedestrians would be protected from traffic by concrete barriers on either side of the multi-use path.

#### Project considerations for Alternative 4:

- Provides the best traffic operations (reduced queuing and travel time)
- Avoids impacts to environmentally sensitive areas
- Potential for driver confusion initially
- Innovative design
- Impacts three residential properties and surrounding neighborhood
- Requires replacement of US 50 bridges
- Fewer uncontrolled crossings for pedestrians & bicyclists and they only cross one traffic lane at a time
- Bicyclists use the multi-use path, instead of on-street bike lanes
- Alternative 4 has the second lowest total cost: \$50 – 55 million.

#### Public Outreach

The public outreach for this project consisted of three parts:

- Individual meetings with select property owners
- Public Workshop
- Comment Period (May 3 – 31, 2018)

In April 2018, the Department of Transportation (DOT) contacted 14 property/business owners that would be significantly affected by one or more of the alternatives. Of the 14 owners, eight scheduled meetings with DOT. These meetings provided the owners the

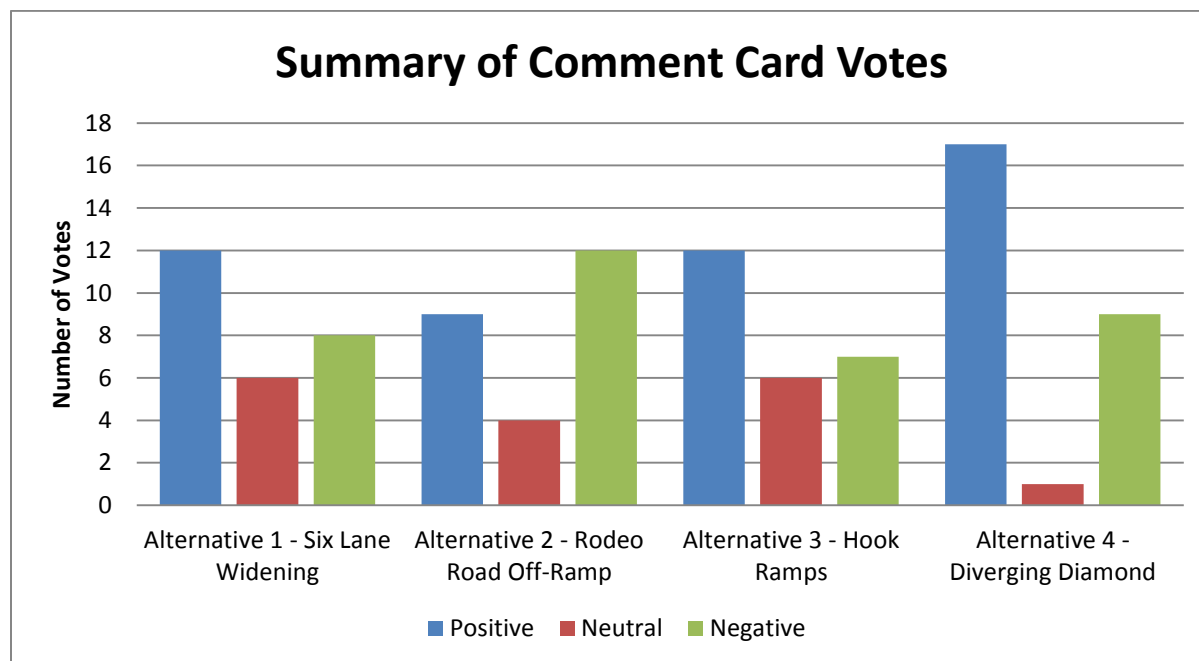
opportunity to see the proposed alternatives before the public workshop and talk directly with County staff about how each alternative would affect their property and/or business. All owners that declined the meeting were mailed copies of the alternatives and other materials that were provided at the meeting.

A public workshop was held on May 3, 2018 at the Cameron Park Community Services District offices. The workshop was advertised with two notices in the Mountain Democrat, a flyer mailed to all property owners within a half mile (over 250 flyers), and in-person flyer distribution to all businesses in the area (over 175 flyers). The press release was posted on a variety of electronic formats, such as the County's website, Facebook, Twitter, and Next Door.

The public workshop was an open house format, where individuals could review the four proposed alternatives, view the traffic simulation videos, and learn about the next steps in the process. Attendees were encouraged to fill out a comment slip providing feedback on each of the proposed alternatives. County staff along with multiple consultants from Dokken Engineering and DKS Associates were on hand to answer questions. A Caltrans representative was also in attendance. Approximately 50 individuals attended the public workshop and 24 comment slips were submitted.

After the workshop, all materials were posted to the County's website. The public was invited to review the alternatives and provide comments by May 31, 2018. Eight additional individuals provided comments by email or phone. All public comments and comment cards are included in Attachment G.

The graph below displays a summary of the public feedback from the public workshop and the comment period. The Diverging Diamond interchange received the most positive feedback and the Rodeo Road Off-Ramp received the most negative feedback. Summary tables for each interchange are included in Attachment H.



Many attendees submitted comments along with their votes. Listed below are a few of the comments on the alternatives:

- Alternative 1
  - “Not enough long term traffic accommodation” and “Short-term fix”
  - “Old school thinking” and “Doesn’t solve the problem”
  - “Minimizes impacts to existing parcels”
  - “Simple. Direct. Least impact”
- Alternative 2
  - “Makes northbound traffic on Cameron Park Drive difficult”
  - “Impacts subdivision”
  - “Good use of unused road”
  - “Off-ramp before businesses are seen”
- Alternative 3
  - “Good storage for eastbound SR 50 off-ramp”
  - “Good balance of trade-offs”
- Alternative 4
  - “Looks like the best flow onto the freeway”
  - “Can handle the most traffic”
  - “Too much” and “seems intimidating”
  - “Don’t like the impact to residential properties”
  - “Very modern design” and “Innovative”
  - “Would love except for Country Club realignment”

Several additional comments/considerations were brought up during the public outreach process:

- “Plan for, and identify, a future crossing for local traffic that is not an interchange and allows safe alternative modes.”
- “Pedestrians and bicyclists must be scored separately. One has wheels and the other does not. Speed differentials between pedestrians and people riding bicycles can be great, which presents an ongoing collision hazard.”
- “Rapid changes in transportation are underway including vehicle electrification, vehicle automation, and transportation network companies that may dramatically change the transportation infrastructure needed.”
- California Department of Fish and Wildlife “have been investigating animal movements across Highway 50 for the last 2 years...There is a ravine on the south where the eastbound on-ramp is planned and undoubtedly, a culvert. Will the culvert be replaced? If so, maybe enlarge it so smaller mammals could use it?...Available habitat on both sides of the highway will be key.”
- “Our request is that when you review the options, you take into consideration the impacts on homeowners and choose the proposed alternative that least impacts the residents on Los Santos Drive.”
- “My vote is for whatever the engineers say is best for traffic flow and that should always be the answer.”
- “Concerned about eastbound merge.”

## **NEXT STEPS**

Staff will work with Caltrans to document the alternatives analysis as the starting point for the next Caltrans study (PSR or Project Report). As funding becomes available, the environmental technical studies will commence.

During the 2019 Minor TIM Fee Update, the project cost will be adjusted in the TIM Fee Program to match the most expensive alternative of the alternatives selected for further consideration. On June 26, 2018, the Board approved the Minor Technical TIM Fee Update and the 2018 CIP Book, which both included \$61.4 million for Alternative 2 (Rodeo Road Off-Ramp), which is currently the most expensive alternative.

## **RECOMMENDATION**

Staff recommends selecting Alternative 1 (Widening), Alternative 3 (Hook Ramps), and Alternative 4 (Diverging Diamond) for further technical and environmental studies.

## **CONTACT**

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