

## STAFF REPORT

**DATE:** July 11, 2019  
**TO:** Bicycling, Transportation, and Street Safety Commission  
**FROM:** Brian Mickelson, Assistant City Engineer / Transportation Manager  
**SUBJECT:** Mace Blvd Design Revisions Update

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### **Recommendation**

Provide feedback on range of design revisions under consideration for the Mace Blvd Improvements project (CIP 8257).

### **Fiscal Impact**

To be determined.

### **Background and Analysis**

#### *Background:*

In 2016, the City completed the design phase of the Mace Blvd Improvements project with the intent to create a safer traveling environment for motor vehicles, bicyclists, and pedestrians. Previous Safe Routes to School surveys indicated the then existing conditions on Mace Blvd, and at the intersection of Mace Blvd/Cowell Blvd, created significant barriers to increased walking and bicycling. A specific goal of the improvements was to increase the rates of walking and bicycling to Pioneer Elementary School, which has the lowest rate of all Davis schools.

Creating a safe and comfortable transportation environment for all users of our streets requires design changes compared to those used in the past. The 2013 General Plan Transportation Element, 2014 Bicycle Action Plan, and 2016 Street Design Standards influenced the current project design including:

- Transportation Goals of Travel Choices, Sustainability, Complete Streets, and Bicycling.
- A stated action item to eliminate channelized right turns at intersections.
- Design priority for more vulnerable users where limited space exists (i.e. bicycles and pedestrians).
- Reduced travel lane widths and corner radii to reduce through movement and right-turning speeds.

The project was designed for, and can accommodate, **locally** generated traffic demand, which includes the following features:

- Mace Blvd/Cowell Blvd intersection: Intersection redesign, including removal of channelized right turn lanes.

- Cowell Blvd to El Macero Dr: Lane reduction from four to two lanes and added Class IV (protected) bike lanes.
- El Macero Dr to San Marino Dr: Lane reduction from three to two lanes and added Class IV (protected) bike lanes.
- Mace Blvd/San Marino Dr intersection: Enhanced bike/pedestrian crossing with manually-activated traffic signal for bicycles/pedestrians (HAWK signal).
- San Marino Dr to Red Bud Dr: Add two-way protected bicycle facility (“cycle track”).
- Cowell Blvd to Red Bud Dr: Pavement resurfacing and restriping.

Additional information can be located online <https://cityofdavis.org/maceblvd>.

*Traffic Congestion:*

Since the project design phase was completed in 2016 and prior to construction, traffic congestion steadily increased along the corridor during the evening peaks, particularly on Thursdays and Fridays. Several factors have converged which explain this condition:

- Traffic congestion on eastbound Interstate 80 backs up past the Downtown/Richards Blvd exit, sometimes west of State Route 113, resulting in motorists exiting at the Richards off-ramp, bypassing freeway congestion by traveling east on Chiles Road through Mace Blvd, which increases congestion at the Mace Blvd/Chiles Road intersection.
- The Mace Blvd on-ramps to eastbound Interstate 80 back up, increasing congestion.
- Mobile and in-car navigation applications re-route freeway traffic in Dixon at the Pedrick Road interchange around the congestion via eastbound Tremont Road and northbound Mace Blvd.

The Mace Blvd project has been under construction since 2018 and traffic congestion has continued to increase during peak times. The project has likely contributed to congestion as a result of the construction work itself and some of the specific design features including:

- Reduction from four travel lanes to two in the northbound direction between El Macero Dr and Cowell Blvd.
- Removal of channelized right turn lanes at the Mace Blvd/Cowell Blvd intersection.

Traffic congestion on Interstate 80 continues to increase, as does the use of navigation applications diverting drivers around it. This technology has also affected Cowell Blvd, Covell Blvd, and Second Street corridors. Given navigation algorithms route drivers based on travel time, peak traffic congestion relief from capacity-increasing design revisions may not endure, long term. That is, routing more cars through the corridor may occur, resulting in similar congestion problems. Therefore, adjustments to the Mace Blvd corridor should focus on accommodating local traffic demands and movements, while assisting with alleviating out of town “cut through” traffic to the extent possible. Ultimately, the solution rests with either capacity increases on Interstate 80 or other policies to bring highway travel in better alignment with capacity. Separate efforts with Caltrans are underway to examine this issue more closely.

*Community Concerns/Feedback:*

The street design and its effect on traffic circulation has received criticism from residents in the adjacent neighborhoods that rely on Mace Blvd for their daily travel. Heavily attended community meetings were held at Davis Fire Station 33 on Mace Blvd on January 30<sup>th</sup>, March 28<sup>th</sup> and April 11<sup>th</sup> for residents to express their concerns, which included:

- Congestion and frustrated/bad driving behaviors associated with the reduction of four traffic lanes to two traffic lanes.
- Removal of right turn lanes - through-traffic and right-turn traffic share one travel lane.
- Difficult left-turn from El Macero Shopping Center to northbound Mace Blvd.
- Cut through traffic being directed to the Mace corridor via apps such as “Waze”.
- When congested, egress for emergency vehicles exiting Davis Fire Station 33 is blocked.
- When congested, egress for emergency vehicles traveling southbound on Mace Blvd between Cowell Blvd and El Macero Dr is blocked/delayed.
- Mace Blvd/Cowell Blvd intersection bulb-outs and pedestrian/bike plazas are too large.
- Crosswalks are too wide and set back from intersections impacting line of sight.
- Raised concrete curbs separating bike lanes from traffic lanes eliminates second traffic lane, catches debris, allows water to pond, is confusing, feels confining,, and is too wide.
- Restricted vehicle movements to move over to the right out of the way of emergency vehicles, especially between El Macero and Cowell.
- Residents from San Marino Dr. have difficulty accessing Mace due to congestion, stop sign set back and line of sight issues.
- Traffic lane widths feel tight and concern for accommodating farm equipment.
- Right-turn radii are too tight.
- Delineation is confusing/poor.
- Sidewalks missing or in need of repair.
- Harsh appearance of concrete, median islands.
- ADA accessibility of bus stop on southbound Mace Blvd<sup>1</sup>.
- ADA accessibility of parking on southbound Mace Blvd between El Macero Dr and San Marino Dr.
- Insufficient, noticing, communications, and outreach for both the project design and construction activity.

Community meeting results as well as potential design revisions were brought to City Council on April 23<sup>rd</sup> at which point they directed staff to engage with multiple street design experts to make sure a wide range of potential design solutions could be considered.

*Design Revisions for Consideration:*

On June 19<sup>th</sup>, a collaborative design meeting was held to look at Mace Blvd in its current state and develop a design to improve traffic flow and safety along the corridor. The following

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<sup>1</sup> The bus stop is no longer being used by Yolobus or Unitrans and is scheduled to be removed

consultants attended the meeting. These consultant are experts in the field.

	<b>Participant</b>	<b>Company</b>
1	Maurits Lopes Cardozo with Bas Breakman	Bike Minded / Bicycle Consultancy
2	Carlos Valadao Brett Hondorp	Alta Planning
3	Greg Behrens Adrian Engel	Fehr and Peers
4	Brian Wright Tim Hayes	Psomas
5	Matt Salveson	Wood Rodgers
6	Jerry Champa Doug Ries	GHD

The below information captures a brief history of the items emerging from the design meeting. The general concepts and possible solutions will be modified into a scope of work for one of the City’s on-call consultants to evaluate and present design options for City Council consideration. We anticipate the first draft of these solutions, which will be made public, to be available in a couple of months.

General concepts moving forward

1. Maintain the original design intent; however, better balance the overall competing user group’s needs: cars, bikes, agriculture, and pedestrians.
2. Engage in discussions with Caltrans to determine whether on-ramp modifications are feasible.
  - Increasing length of HOV lane
  - Increasing length of HOV lane but removing the HOV requirement
  - Moving the metering lights further down the ramp for more vehicle storage
  - Decreasing the metering time to allow more cars to enter the freeway
3. Reduce the concrete islands at intersections and along the corridor.
4. Determine whether metering at Montgomery during peak hours would reduce traffic along the corridor and reduce the number of vehicles directed there by navigation applications.
5. Modifications should be iterative. The City should implement one modification and observe how it affects the corridor before implementing another.

Solutions needing modeling and iterative evaluation

The following solutions came out of the group discussion and will be used with the recent traffic counts and traffic modeling to evaluate the best overall design options and recommendations for Council approval.

1. Restore second northbound Mace traffic lane. The two lanes would start at San Marino and continue to Cowell.
2. Restore second southbound Mace traffic lane.

3. Add second left turn lane for northbound Mace to westbound Cowell; Determine how far south the left turn pocket should extend
  - Note: This may require removal of some trees.
4. Create a dedicated right turn lane for northbound Mace to eastbound Cowell.
5. Determine whether the shared use path can create a wider bike lane on the **west** side of Mace so that two-way bicycle traffic can continue from San Marino to Cowell.
  - Note: This would require reconstructing & widening the existing Class IV bike lane on the west side. This may impact on-street parking.
6. Widen the shared use path on the east side of Mace to support two-way bike traffic.
  - Note: This will require a discussion with Yolo County as it is located outside the City right of way.
7. Meter northbound Mace traffic at Montgomery during peak times.
  - Note: There is a potential that frustrated drivers will not comply with a signal that arbitrarily forces them to wait at a low-volume three-way intersection with no logical justification.

### **Attachments**

1. Design plan of constructed project

# Mace Blvd Corridor (CIP #8257)

