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**To:** Interagency Consultation Partners

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**From:** Maya Hildebrand  
Caltrans Central Region  
Environmental Engineering Branch

**Subject:** Consultation on PM 10 & PM 2.5 Hot-spot Conformity Assessment.

**Project:** South Fresno Interchange Project, State Route (SR) 99 in Fresno County

The California Department of Transportation is providing a PM10 & PM 2.5 Hot-spot Conformity assessment for the South Fresno Interchange Project for Interagency Consultation. It is requested that the Interagency Consultation Partners concur that this project is not a "Project of Air Quality Concern" (POAQC). Comments on the assessment are due by July 25, 2020. An interagency conference call will be held upon request.

**Project Description**

The South Fresno Interchange project is located in Fresno County. The project proposes to reconstruct two existing interchanges on State Route 99 between post miles 12.5 and 19.1 in the southwest area of the City of Fresno. The project would not change the State Route 99 mainline configuration, except to construct modified on- and off-ramps where they intersect the mainline at the interchange locations, and to set up traffic control during construction. Please see the attached map.

The purpose of the South Fresno Interchange Project is to improve the traffic operations of the existing North Avenue and American Avenue interchanges. The interchanges were built in 1965 and have numerous issues which must be addressed to update the facility to current Caltrans design standards.

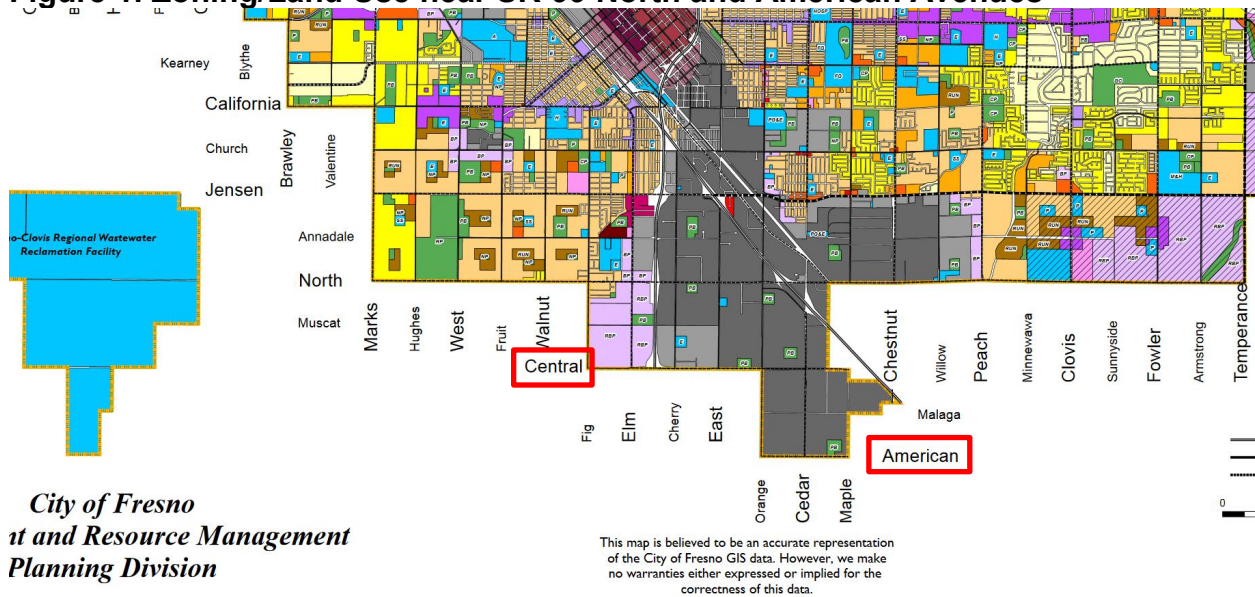
- Existing interchange configurations are non-standard and are split to form five half interchanges.
- There are only two lanes for traffic to cross over the freeway; one lane for each direction of travel.

- The on and off ramps have limited dimensions which make navigation for large trucks especially difficult.
- On and off ramps are separated from each other with no expectation of where to find corresponding on or off ramps, forcing vehicles to wind their way on local streets, to and from the freeway, to reach their destinations.
- Pavement is old and cracked.

Caltrans traffic studies show the operations and performance of the interchanges will only deteriorate with time.

The project location is in an area of Fresno zoned for light to heavy industry (gray) and business parks (purple). Many large-scale shipping companies have their operations here (See Figure 1). These businesses rely on a readily accessible SR-99 to reach their customers. North Avenue and American Avenue are two of the major roads they use to reach SR-99.

**Figure 1. Zoning/Land Use near SR-99 North and American Avenues**



### SR-99/North Avenue – Cedar Avenue IC

Currently, direct access to SR-99 is via a half diamond configuration with isolated ramps. North Avenue has a SB off-ramp and a NB on-ramp. Approximately 2.5 miles south, the Cedar Avenue access to SR-99 is comprised of a NB off-ramp and a SB on-ramp. The current North Avenue and Cedar Avenue ramp configuration function together as one complete IC.

The current North Avenue OC is a two-lane bridge, and all existing ramps are one-lane. Traffic control for the NB off-ramp/Cedar Avenue intersection is currently controlled with a single stop sign, while the SB off-ramp/Parkway/North Avenue intersections are controlled by two-way stop signs.

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transportation system  
to enhance California’s economy and livability”*

West of SR-99, Parkway Avenue is located between North and Cedar Avenues and serves as the main local conduit for businesses. The Parkway/Cedar Avenue intersection is the access for the Cedar Avenue SB on-ramp to SR-99.

On the eastern side of SR-99, the North/Cedar Avenue intersection serves as the NB on-ramp.

Construction of any of the four alternatives would construct a full interchange to meet current design standards at North Avenue. The North Avenue OC will be reconstructed with four through-lanes. Intersections on North Avenue at Orange Avenue (west of the IC) and Cedar Avenue (east of the IC) would be improved, with left turn pockets installed at all four legs, as well as signals and lighting. Redesigned turn lanes and intersections will better accommodate truck traffic.

### **SR-99/American Avenue**

The current configuration for the American IC is a half diamond interchange with isolated ramps. There is a SB off-ramp on the western side of SR-99 and a NB on-ramp on the eastern side of SR-99. These existing ramps are the only direct access points to SR-99.

The current American Avenue OC is a two-lane bridge. The SB off-ramp/American Avenue intersection is currently controlled with a single stop sign at the off-ramp. There are dedicated left- and right-turn lanes. All approaches on American Avenue at the SB off-ramp are one lane. The NB on-ramp/American Avenue intersection is uncontrolled with one-lane approaches on American Avenue. The SB off-ramp/American Avenue intersection is the only SB access point from SR-99 to the Fresno County Juvenile Justice Campus. There is no direct access to NB SR-99 at from American Avenue at this point.

All build alternatives for the American Avenue/SR-99 IC would construct a full interchange to meet current design standards at American Avenue. Intersections will be constructed where modified on- and off-ramps intersect on American Avenue. The American Avenue OC would be reconstructed with four through-lanes. On the west side, the reconstructed interchange along American Avenue would be four lanes through the on- and off-ramp intersections, then narrow to two lanes before the driveway of the County Juvenile facility. On the east side, the four lanes would narrow down and end before intersecting Golden State Highway.

### **Level of Service for Existing Conditions**

#### **SR-99/North/Cedar Avenue IC**

All studied intersections are currently operating at acceptable LOS with the following exceptions. These three locations currently operate at LOS “F” during AM peak travel hour:

- SB off- ramp/Parkway/North Avenue

- NB left-turn on Parkway
- SB off-ramp left-turn that are currently operating at LOS "F" during AM peak travel hour

### SR-99/American Avenue IC

All studied intersections are currently operating at acceptable LOS during peak travel hours.

Overall, NB SR-99 currently operates at LOS "D" during AM and PM peak travel hours, except the segment between on and off-ramps at Central and North Avenue, and north of North Avenue on-ramp. This segment operates at LOS "E" during PM peak travel hour.

The SB Route 99 segment is currently operating at LOS "C" to "D" during peak travel hours. All existing diverge areas at North and American Avenues are operating at LOS "D" during peak travel hours. All on-ramps merge areas at North and American Avenues are operating at LOS "C" during peak travel hours, except the NB on-ramp at North Avenue that is operating at LOS "D" during PM peak travel hour.

### **Traffic**

The Caltrans Technical Planning Unit has provided estimated AADT (Annual Average Daily Traffic) for the 2019 Existing year, 2026 Open to Traffic year, and 2046 Horizon year traffic volumes.

Tables 1 shows mainline SR 99 traffic data along SR-99 between North and American Avenues. It should be noted that SR 99 traffic will not change due to interchange improvements. Tables 2 and 3 show traffic data for North Avenue and American Avenue Interchanges. Each table shows Annual Average Daily Traffic (AADT) and Truck AADT for the Existing Year 2019, Open to Traffic Year 2026 and Horizon Year 2046.

**Table 1: Mainline Traffic Data**

<b>Mainline</b>	<b>Annual Average Daily Traffic</b>	<b>Truck Annual Average Daily Traffic (16%)</b>
2019 Existing	245,300	39,248
2026 No Build	275,300	44,048
2046 No Build	408,200	65,312

Source: Caltrans Travel Forecasting.

**Table 2: SR-99/North/Cedar Avenue IC**

<b>North Ave IC (Alternatives)</b>	<b>Annual Average Daily Traffic 2026</b>	<b>Truck Annual Average Daily Traffic 2026</b>	<b>Annual Average Daily Traffic 2046</b>	<b>Truck Annual Average Daily Traffic 2046</b>
No Build	25,500	9,996	39,400	13,250
Alt 1 Partial Clover	29,000	9,372	37,600	12,311
Alt 2 Partial Clover-Slip ramps	29,000	9,372	37,600	12,311
Alt 3 Spread Diamond	29,000	9,516	37,500	12,372
Alt 4 Diverging Diamond	29,000	9,516	37,500	11,988

Source: Caltrans Travel Forecasting.

The No-Build AADT includes traffic counts for both North and Cedar Avenue, as they function together as a single interchange. The Build alternatives AADT assumes a full interchange is in place.

The current/existing configuration is a partial half diamond configuration at North Avenue with a SB off-ramp and a NB on-ramp. The North Avenue OC is a two-lane bridge. Cedar Avenue lies 2.5 miles south, and accesses SR-99 via a NB off-ramp and a SB on-ramp.

Construction of the project would add two additional ramps to construct a full interchange at the North Avenue location, widen the North Avenue OC to a four-lane bridge, and improve existing intersections which feed into North Avenue by installing left-turn pockets and controlled signals.

**Table 3: American Avenue IC**

<b>American Ave IC (Alternatives)</b>	<b>Annual Average Daily Traffic 2026</b>	<b>Truck Annual Average Daily Traffic 2026</b>	<b>Annual Average Daily Traffic 2046</b>	<b>Truck Annual Average Daily Traffic 2046</b>
No Build	5,700	513	7,800	702
Alt 1 Spread Diamond	8,100	993	10,800	1,302
Alt 2 Partial Clover	8,110	986	10,800	1,284

Source: Caltrans Travel Forecasting.

The No-Build AADT at American Avenue is for the existing northbound on- and southbound off-ramps. The Build AADT assumes a full American Avenue interchange is in place.

The current/existing configuration is also a partial half diamond configuration at American Avenue with a SB off-ramp and a NB on-ramp.

Construction of the project would add two additional ramps to construct a full interchange at the American Avenue location, widen the American Avenue OC to a four-lane bridge, and construct intersections created by the modified on and off-ramps with American Avenue. Intersections would be constructed to current design standards.

## **Analysis**

The purpose of the overall project is to improve local traffic circulation and smooth traffic flow to the mainline. No new truck traffic will be added, as the proposed project will be built to serve the already established commercial and retail industry. Growth in AADT by Opening to Traffic and Design/Horizon years are due to normal anticipated population increase.

Both North and American Avenue ICs, were originally built as a partial interchange. As the proposed project will convert the existing partial interchanges into full interchanges, the project is not considered a new alignment. Construction of the full interchanges will enable drivers to directly access SR-99 instead of taking local, non-continuous routes to get to their destination.

The redesigned interchanges and associated intersections will improve traffic flow and efficiency, allow direct access to SR-99, improve LOS, and contribute to overall better air quality.

## **Conformity**

The South Fresno Interchange Project is in Fresno County in the San Joaquin Valley, which is in non-attainment for PM 2.5 and attainment/maintenance for PM 10. According to the Environmental Protection Agency (EPA) Transportation Conformity Guidance, PM2.5 hot-spot analysis is required for Projects of Air Quality Concern (POAQC) in non-attainment and maintenance areas (40CFR 93.123 (b) (1)). Projects that are exempt or not POAQC do not require hot-spot analysis.

Caltrans, as a Project Sponsor, has determined that this project does meet the criteria for not a "Project of Air Quality Concern" based on the November 2013 Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas which states: Section 93.123(b)(1) of the conformity rule defines the projects that require a PM2.5 or PM10 hot-spot analysis as:

“(i) New highway projects that have a significant number of diesel vehicles, and **expanded highway projects that have a significant increase in the number of diesel vehicles;**

(ii) Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;

(iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;

(iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and

Based on the projected traffic above, Caltrans has determined that the MAD-99 project should be assessed as NOT a POAQC for the following reasons:

- The Truck AADTs for the future Build Alternative are consistent with growth associated with anticipated future population, not an influx of traffic due to a new industrial/commercial/trucking facility. The project will not cause a significant increase in the number of diesel vehicles in the project area.
- Mainline SR-99 volumes are not affected by the improvements proposed by the project.
- Construction of full interchanges will give vehicles direct access to SR-99, thus improving safety, efficiency and maneuverability for all motorists.

**Public Involvement Process:**

The NEPA document will be Routine EA. Public involvement is necessary.

If you have any questions, please contact me at (559) 445-6426 or by email at [maya.hildebrand@dot.ca.gov](mailto:maya.hildebrand@dot.ca.gov).