



November 20, 2020

John Wanger
City of Willows
Engineering Department
Willows, CA 95988

Response to Comments from Review of Traffic Impact Study for South Willows Residential (dated October 20, 2020)

Dear Mr. Wanger,

The following responses address comments from the review of the Traffic Impact Study for South Willows Residential project (dated October 20, 2020):

Comment 1: *Page i – last paragraph on the page speaks to “...Tehama Street at the project driveway.” It should be noted that the main entry into the project is a roadway and not a driveway.*

Response: Roadway is a better description than driveway. We will update the text in the report if other changes are needed as well.

Comment 2: *Page 1 – Study Area and evaluated Scenarios – I thought we asked them to include the Tehama/Road 57 intersection to see impacts. It’s not listed, but it seems like it should be. Is this anything that Caltrans required?*

Response: In short, the Cumulative Plus Project traffic volumes at the Tehama Street/County Road 57 intersection will be lower than what was analyzed in the original study (in 2010). Studying this intersection again would not yield any new impacts or recommendations and level of service for that intersection was not reanalyzed for that reason. A detailed comparison of the volumes supporting this conclusion is included below.

The Tehama Street/County Road 57 intersection was analyzed as part of the 2010 Traffic Study conducted by Dowling & Associates. The overall Cumulative Plus Project conditions traffic volumes are provided in the following table. Comparative traffic volumes were developed for the overall intersection based on information compiled from other related studies. The *Willows Gateway Center Traffic Impact Study (2014)* includes existing AM and PM peak hour traffic volumes. Consistent with the current Traffic Impact Study, Cumulative Plus Project conditions traffic volumes for the overall intersection were calculated by adding traffic from the South Willows Industrial Subdivision project, the Willows Gateway Center project, and the subject project.

Tehama Street/County Road 57 Traffic Volume Comparison

Intersection	2010 Traffic Study		Cumulative Plus Project Volumes AM (PM)	Change in Volume AM (PM)
	Traffic Volumes AM (PM)	Delay - LOS AM (PM)		
Tehama Street/County Rd 57	900 (972)	25.2 – D (13.2 – B)	749 (847)	-17% (-13%)

As shown in the table, the overall cumulative intersection volumes would be lower than what was analyzed in the 2010 Traffic Study. The Tehama Street/County Road 57 intersection was formerly expected to operate at LOS D with 25.2 seconds of delay (0.2 seconds above the LOS C threshold). With approximately 17 percent less traffic; this impact is not expected with the current project plus 20-year horizon background volumes.

Note that the Cumulative conditions traffic volumes are higher in the 2010 Traffic Study due to prior over-estimation of trip generation for the Industrial Subdivision project. Please refer to the Supplemental Traffic Analysis for the South Willows Industrial Subdivision Project (Traffic Works, April 4, 2018) for further explanation of the difference in traffic volumes.

In summary, the Tehama Street/County Road 57 intersection would operate at acceptable levels of service in the cumulative plus project conditions and no improvements are justified.

Comment 3: *Page 3 – Bicycle & Pedestrian Facilities – per the Willows Bike and Pedestrian Master Plan, South Tehama is shown as a Class III bike facility (signs only as a Bike Route but no dedicated bicycle lanes.) Seems like this should be mentioned in this section.*

Response: We will update the text in the report to note the Tehama Street bicycle facility if other changes are needed as well, however this additional information will not change any conclusions or recommendations of the study.

Comment 4: *In comparing Table 4 (Existing plus project) and Table 6 (Cumulative), at the intersection of Tehama/Sycamore it was noted that the delay times actually were less for the cumulative analysis as compared to the existing plus project analysis. The report mentions that the signal at Tehama/Sycamore is set on flashing red, but the analysis looked at both a flashing red and a fully operation signal. My question is are both of these tables comparing the same condition (e.g. both look at just flashing red or both look at a fully operational signal)? It seems like the existing plus project may be looking at the flashing red condition and the cumulative may be looking at the fully operation signal condition. The footnote 2 under Table 6 should state which condition the numbers shown in the table represent.*

Response: The Cumulative conditions delays at the Tehama Street/Sycamore Street intersection are less than the Existing Plus Project conditions delay for the all-way stop control analysis because the Cumulative conditions volumes do not include project traffic. These two scenarios are not a direct comparison. Note that the Cumulative Plus Project delays are all higher than the Existing Plus Project delays.



The Tehama Street/Sycamore Street intersection was analyzed as both a signalized intersection and an all-way stop controlled intersection for all analysis scenarios (see Table 4 and Table 7 from the Traffic Impact Study).

Table 4: Existing Plus Project Intersection Level of Service Results

Intersection	Control	Existing				Existing Plus Project			
		AM		PM		AM		PM	
		Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS
Tehama St/Sycamore St	Signal	12.6	B	12.3	B	13.1	B	13.2	B
	All-Way Stop ²	9.9	A	10.8	B	13.0	B	16.1	C

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized and All-Way Stop Controlled intersections, and for the worst approach/movement for Side Street Stop Controlled intersections.
 2. The signal at the Tehama Street/Sycamore Street was flashing red on all movements at the time of field observations and functioning as All-Way Stop Control, therefore analysis was performed with both intersection control types.
 Source: Headway Transportation, 2020

Table 7: Cumulative Plus Project Intersection Level of Service Results

Intersection	Control	Cumulative				Cumulative Plus Project			
		AM		PM		AM		PM	
		Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS
Tehama St/Sycamore St	Signal	13.1	B	13.5	B	13.7	B	14.2	B
	All-Way Stop ²	12.1	B	13.3	B	17.2	C	23.9	C

Notes: 1. Delay is reported in seconds per vehicle for the overall intersection for signalized and All-Way Stop Controlled intersections, and for the worst approach/movement for Side Street Stop Controlled intersections.
 2. The signal at the Tehama Street/Sycamore Street was flashing red on all movements at the time of field observations and functioning as All-Way Stop Control, therefore analysis was performed with both intersection control types.
 Source: Headway Transportation, 2020

The analysis and comparisons are correct in the traffic study.

Sincerely,
 Headway Transportation, LLC

Loren E. Chilson, PE
 Principal

