

12/11/2019

Edcgov.us Mail - Memo for Consideration at 12-12-2019 Planning Commission Meeting agenda Item 19-1670



PC 12/12/19
#3
Charlene Tim <charlene.tim@edcgov.us>
9 pages

Memo for Consideration at 12-12-2019 Planning Commission Meeting agenda Item 19-1670

Peter Eakland <P_Eakland@msn.com>
To: "charlene.tim@edcgov.us" <charlene.tim@edcgov.us>

Wed, Dec 11, 2019 at 2:12 PM

Please post on website (today if possible) the attached is memo in pdf format so that it can be considered during discussions on Item 19-1670, Central El Dorado Hills Specific Plan project to request a General Plan Amendment (A14-0003) to amend the County General Plan Land Use Map designations. It concerns several major issues related to the traffic analysis. Thank you for your consideration of this request.

Sent from Mail for Windows 10

 pbe memo for ed county pc 12-12-2019.docx
2169K

Peter B. Eakland, T.E. 1673
PBE Traffic
2371 Amber Falls Drive
Rocklin, CA 95765
916-740-4906

December 11, 2019

Ms. Char Tim, Clerk of the Planning Commission
El Dorado County Planning Department

Subject: Review of Critical Traffic Issues in Latest Traffic Analyses for Proposed Revision to Central

Dear Ms. Tim:

I have reviewed existing documents related to the proposed revision to the Central El Dorado Hills Specific Plan as described in documents related to the EIR process. My comments on the Central El Dorado Hills Blvd at this point in the process focus primarily on the intersection of El Dorado Hills Blvd. with Saratoga Way on the east and Park Drive on the west for the 2025 Near Term + Project scenario, as described in the Fehr&Peers memo to Parker Development dated May 26, 2017. This intersection is critical as it provides the primary entrance and exit for project development between I-50 and Serrano Parkway. Equally important, the traffic volumes for both the eastbound and westbound links are uncertain because of the mix of both project and commercial development on the west side and the pending completion of the Saratoga Way connection of Saratoga Way to the City of Folsom road system. As the overall intersection and individual movements approach capacity, especially in the AM peak period, concern exists that the minor mitigation measures included in the Final EIR at this intersection may be inadequate.

Proposed mitigations

- Adding a southbound right turn lane to create an approach configuration of one left turn lane, two through lanes and one right turn lane.
- Including a third westbound lane to create one left turn lane, one through lane, and one right turn lane in the project description and not listed as a mitigation measure. (Important Note: Figure 2-10 in the Draft EIR shows the new lane but the lane diagram for the Near Term + Project scenario instead shows the existing layout. Possibly the new lane actually may not be included in the project? If not, the inconsistency in documents should be addressed.) The Level of Service analyses for this intersection is not detailed enough to document the lane configuration actually included as the standard Synchro HCM are not included, only the results of SimTraffic post processing.
- A connecting link from the project to Silva Valley Parkway has been included as a future option, with the project including funding for only the section to the east boundary of its property. Completion of this link certainly will affect traffic on the Park Drive extension. No traffic modeling was done to forecast the impacts.

Proposed Park Drive Extension (Reference Figure 2-10 in Draft EIR)

- The proposed design presents some significant issues with only a cursory inspection. They are as follows:

- a. The first driveway on the south side of Park Drive is only 165 ft. from the intersection but currently allows for all inbound and outbound movements and includes a pedestrian crosswalk. Even now, this arrangement is problematic for safety reasons, but with the project a five-lane cross-section will be developed that will essentially preclude all movements except inbound right turns. The gap in the median needs to be closed, the right turn movement needs to be channelized to prevent outbound turns, and a connection at the east end of the buildings to the large parking lot to the south needs to be opened.
- b. A 4-way stop intersection is proposed with modifications to the approaches from each direction. The intersection will be approximately 325 ft. from the signalized intersection. Its close proximity precludes a westbound flow of traffic consistent with the green time for the approach. The problem is compounded by three crosswalks that will disrupt the flow of movements. Furthermore, as vehicles on each approach move in turn, the intersection favors low volume movements. The EIR does not reflect inefficient traffic flows during peak periods of traffic that will lead to cumulative delays for a significant amount of traffic.
- c. Thirteen right-angle parking spaces have been added on the north approach to the four-way stop intersection to replace an equal number of spaces lost with the extension of Park Drive to the boundary of the new development. Located within 25 ft. of the intersection, they present a serious safety issue for vehicles both entering and leaving the spaces and should be removed from the plan. The southbound movement likely will block one or more spaces during peak traffic periods, and all vehicles entering or leaving spaces will conflict with vehicles entering the driveway. The lost spaces can be replaced elsewhere in the commercial area or if necessary within the project near its property line.
- d. Traffic flow inefficiencies also can occur when one lane diverges into two or more lanes as the possibility of blocking a lane can exist. In this case, one lane diverges into three lanes of equal 160 ft. length. If one of the lanes exceeds its capacity, i.e. more than seven vehicles, the other two lanes will be blocked.
- e. A final inefficiency factor is the steep upgrade on the westbound approach to El Dorado Hills Blvd. It reduces the capacity of each lane by at least three percent (assumes 6% grade).
- f. EIR documents only specify that the Park Drive extension will be constructed to County standards but clearly the design needs to consider its context within the commercial development. Counties are being strongly encouraged to support "Complete Street" designs that provide for safe use by pedestrians and bicyclists, but the proposed Park Drive extension only provides for a sidewalk on one side of the street and does not include bike lanes. A pedestrian access point is being proposed on the project's north-south roadway both east and west of its connection to Park Drive, but additional pedestrian and bicycle amenities should be included in the extension since the EIR documents promote increased usage of these two modes.

Saratoga Way (eastbound) Approach

- The east approach serves Saratoga Way. As with the Park Drive road, a single lane widens into three lanes beginning approximately 220 ft. from the intersection. At that point, a second lane is added that then diverges into two lanes at 150 ft. from the intersection. Any lane backing up to 200 ft. (eight vehicles) will prevent vehicles from continuing to enter either of the other two lanes.

- South of the intersection, El Dorado Hills Blvd. has three lanes but is only fed by two southbound through lanes approaching Saratoga Way. A channelized westbound right turn lane into the added lane could be created. This minor improvement is not critical but would slightly reduce overall intersection delay.

Level of Service Analysis

- Attached are level of service results for the El Dorado Hills Blvd/Saratoga Way-Park Drive intersection as prepared for the 2017 Measure E analysis. It includes a summary of SimTraffic Post-Processor analyses and does not include lane configurations and signal timing data that are routinely provided for straight-forward Highway Capacity Manual (HCM) analyses conducted for most other intersections. In both AM and PM peak hours, the green time allocations are well-balanced with the percentages of traffic demand for each movement in a narrow range between approximately 97% and 102%. In real practice, such a narrow range is rarely achieved if pedestrian crossings are considered, which certainly leads to a longer cycle time than has been selected. If the HCM analyses had been utilized for this intersection with consideration of pedestrian crossings, almost certainly LOS F would have resulted. Without providing justification for its use or even operational assumptions, the analysis obscures the absence of flexibility in addressing future conditions beyond 2025.
- The attached results for the Measure E traffic analysis state that the traffic signal with minor mitigations can operate at LOS E in the AM peak hour and D in the PM peak hour, but there are major warning signs. In the AM peak period, the approach with the largest traffic demand operates at LOS F, with the left turn lane only accommodating 98.9% of demand. For the PM peak period, each approach has at least one movement operating at LOS F, and both the eastbound and westbound approaches operate at LOS E. Although the analysis results technically meet EIR LOS thresholds, it actually shows that concerns already exist and likely will experience cycle failures with moderate additions of traffic on even one of the approaches. As the intersection has crosswalks on the southbound, eastbound, and westbound approaches, cycle failures are likely to occur frequently with appropriate signal controller settings for 2025 with project conditions.

Recommendation

The purpose of a specific plan is to provide land use and traffic details that go significantly beyond what are available in a general plan. The details need to be well-thought out especially for infrastructure that is critical for avoiding future impacts. The available data and analyses suggest that the appropriate level of detail has not as yet occurred for the Park Drive extension and the El Dorado Hills Blvd/Park Drive-Saratoga Way intersection. It is not enough, as the Final EIR states, that the Park Drive extension will be built to County standards without demonstrating that this can be done without creating unforeseen traffic or land use impacts.

Sincerely,

Peter Eakland, T.E. 1673

Attachments:

- Fig. 1 and Fig 2. Existing Eastbound and Westbound Approaches to El Dorado Hills Blvd, a shown in Google Earth imagery dated 9/12/2019.
- Figure 2-10 from 2015 Draft EIR
- Level of Service Analyses for El Dorado Hills Blvd/Saratoga Way-Park Dr (Intersection 13) as presented on pages 208 and 209 for 2025 Near Time + Project Scenario in "Central El Dorado Hills Specific Plan Measure E Analysis", by Fehr&Peers, dated May 26, 2017.



Fig. 1. Existing Saratoga Way Approach to El Dorado Hills Blvd



Fig. 2. Existing Park Drive Approach to El Dorado Hills Blvd.



19-1670-F-99-SS-01-001 - Central El Dorado Hills EIR - 11/11/19



Figure 2-10
Park Drive Reconfiguration
19-1670 F 99 of 686

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Central El Dorado Hills Specific Plan
Near Term Plus Project Conditions (Mitigated)
AM Peak Hour

Intersection 13

El Dorado Hills Blvd/Saratoga Way-Park Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	360	357	99.1%	121.8	53.2	F
	Through	750	750	100.0%	14.9	1.8	B
	Right Turn	60	59	97.8%	12.2	4.4	B
	Subtotal	1,170	1,166	99.6%	46.6	18.0	D
SB	Left Turn	110	109	98.9%	107.5	34.7	F
	Through	1,405	1,403	99.8%	87.7	32.4	F
	Right Turn	270	269	99.6%	83.1	34.3	F
	Subtotal	1,785	1,780	99.7%	88.1	32.4	F
EB	Left Turn	80	82	102.0%	114.3	47.1	F
	Through	80	80	99.9%	150.0	42.5	F
	Right Turn						
	Subtotal	160	162	100.9%	132.0	44.9	F
WB	Left Turn	120	115	95.6%	53.1	7.0	D
	Through	80	85	106.3%	50.0	9.6	D
	Right Turn	50	49	98.0%	30.2	8.4	C
	Subtotal	250	249	99.5%	47.9	5.6	D
Total		3,365	3,356	99.7%	72.2	20.7	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Central El Dorado Hills Specific Plan
Near Term Plus Project Conditions (Mitigated)
PM Peak Hour

Intersection 13

El Dorado Hills Blvd/Saratoga Way-Park Dr

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	186	184	99.1%	86.8	38.0	F
	Through	1,377	1,384	100.5%	37.3	5.1	D
	Right Turn	171	170	99.2%	36.6	7.8	D
	Subtotal	1,734	1,738	100.2%	42.7	8.3	D
SB	Left Turn	150	145	96.9%	93.0	13.6	F
	Through	960	986	102.7%	43.2	9.2	D
	Right Turn	90	94	104.0%	18.0	7.0	B
	Subtotal	1,200	1,225	102.1%	47.6	9.6	D
EB	Left Turn	240	230	95.7%	78.4	36.7	E
	Through	130	128	98.3%	86.3	43.5	F
	Right Turn	450	450	99.9%	52.4	38.4	D
	Subtotal	820	807	98.4%	65.2	38.9	E
WB	Left Turn	111	114	102.5%	38.3	9.4	D
	Through	100	98	97.6%	82.7	51.8	F
	Right Turn	260	260	100.0%	67.7	63.7	E
	Subtotal	471	472	100.1%	64.8	46.2	E
Total		4,225	4,241	100.4%	51.4	12.4	D