Applicant's Additional Materials

County of El Dorado Clerk of the Board <edc.cob@edcgov.us>

BOS Rcvd. 1-25-2022

Appeal PD-A21-0001

Robert Bone <bob@robertbonelaw.com>
To: edc.cob@edcgov.us

Tue, Jan 25, 2022 at 9:18 AM

Supervisors:

In addition to the matters raised in our appeal submitted earlier, please take into consideration on this Appeal PD-A21-0001 the enclosed letter and attached review of the traffic study that is deficient in this project. The traffic study is deficient and uses the wrong data. This will most certainly cause actual harm and potentially cause serious injury to residents, pedestrians, cyclists, and motorists.

Review of Kimley Horn Report.docx

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Law Office of
ROBERT M. BONE

January 25, 2022

VIA EMAIL TO edc.cob@edcgov.us

El Dorado County Board of Supervisors
El Dorado County Chief Administration
330 Fair Lane
Placerville, CA 95667

RE: Public Comments on PD-R20-0009

Dear Honorable Supervisor:

Please find attached in support of our pending appeal a traffic study performed by Kimley Horn ("Traffic Study"). This Traffic Study summarizes our experts' findings based on a Traffic Engineering review by Grant Johnson, registered Traffic Engineer in the State of California. The Traffic Study highlights certain hazardous conditions and traffic deficiencies that are not being properly considered as this project is reviewed. The Traffic Study also identifies certain trip generation errors that were made by the County's traffic engineer. Please consider the Traffic Study prior to granting the project approvals associated with PD-R20-0009.The undersigned, RESIDENTS FOR A SAFE CAMERON PARK, an unincorporated association of Cameron Park residents ("Association"), hereby authorizes the LAW OFFICE OF ROBERT M. BONE to act as agent for the Association in all matters associated with the appeal of the Approval of PD-R20-0009.

I include here for ease of review the conclusions of Prism Engineering.

Conclusions

- The trip generation of the proposed project was underestimated, using a trip rate generally reserved for much larger multi-purpose shopping centers, and not for a specific Grocery Outlet discount shopping store (which is specifically addressed in the ITE Trip Generation Manual as a trip rate).

- The overflowing queues from the NBL pockets at intersections #2 and #4 will create a safety hazard. These were not mitigated but explained away as insignificant non-impacts. However, in Figures 1, 2, 3, and 4 of this review report, it can be seen and is clearly illustrated how these safety impacts must not be ignored but mitigated with a solution to remove the safety deficiencies of narrow lanes, encroaching traffic flows into bike lanes, and other unsafe traffic operations.

- The Level of Service and Delay calculations were done incorrectly, using a generic software default Peak Hour Factor (PHF) of 0.92 for all calculations, even though there are (or should be) data to calculate these PHF for each turning movement at an intersection.

- It appears that regular turning movement traffic counts were not gathered for this project, which are normally based on 15 minute intervals but a non-standard method with just an hourly interval was used. The hourly intervals and total used in the KH study are non-standard, and do not find the true peak hour. The KH method was to add up traffic from 7 am to 8 am, get an hourly total, repeat for 8 am to 9 am and so on in similar manner for the pm (4pm-5pm, 5pm-6pm, 6pm-7pm) and this misses when the peak hour actually might really be from 7:15 to 8:15 am, or from 7:30 to 8:30 or from 7:45 to 8:45, etc. Also, this method of getting only hourly totals eliminates the possibility of using a Peak Hour Factor (PHF), and yet KH assumed a PHF of 0.92 for all movements based on no data whatsoever. This can result in an LOS C calculation actually being LOS D or LOS E… and an LOS D calculation could actually be LOS F. The traffic count data is incomplete to calculate a true LOS and Delay value to properly evaluate the intersections. Traffic counts with 15 minute intervals are needed.

Thank you for your consideration of this matter on appeal and my clients urge you to take the time before you vote on this matter to think about the real possibility of the actual harm that will be caused by this project if you fail to hold the Planning Department and the responsible parties to the legal standards. Think about the families that will suffer harm if this project proceeds without a proper and legal traffic study.

LAW OFFICE OF ROBERT M. BONE

/S/

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Robert M. Bone, Esq.
Attorneys for Residents for a Save Cameron Park

TRAFFIC STUDY REVIEW

Of The Kimley Horn Transportation Impact Study
For
The Grocery Outlet in Cameron Park, CA

Grocery Outlet
Cameron Park, California

April 6, 2021

Prepared for:

Boos Development West, LLC

Prepared by:

Kimley»Horn

555 Capitol Mall, Suite 300
Sacramento, California 95814

Phone: (916) 858-5800

Prepared for Law Office of Robert M. Bone

January 24, 2022

This Traffic Study Review
Authored by:
Grant P. Johnson, TE

PRISM ENGINEERING

Traffic Engineering & Transportation Planning

This Review has been prepared and certified by Grant P. Johnson, TE, Principal. Lic #1453

REGISTERED PROFESSIONAL ENGINEER
GRANT P. JOHNSON
No. 1453
TRAFFIC
STATE OF CALIFORNIA

PRISM Engineering Review of Kimley Horn Traffic Impact Analysis Report

This report summarizes our findings based on a Traffic Engineering review by Grant Johnson, registered Traffic Engineer in the State of California.

QUEUE ANALYSIS REVIEW

The queue analysis is important because it represents estimates for overflowing left turn pockets, and the safety hazards that an overflowing left turn pocket can cause in the traffic operations on a roadway intersection approach. Intersections should always be designed to clearly communicate to all drivers and cyclists using delineated or striped areas where the vehicle has a right-of-way and can expect a level of safety in navigating their lane. In the pages that follow, some of the Kimley Horn (KH) analyses in their 4/6/2021 traffic study are reviewed.

KH QUEUE analysis deficient at Intersection #2, and ignores traffic Safety problems

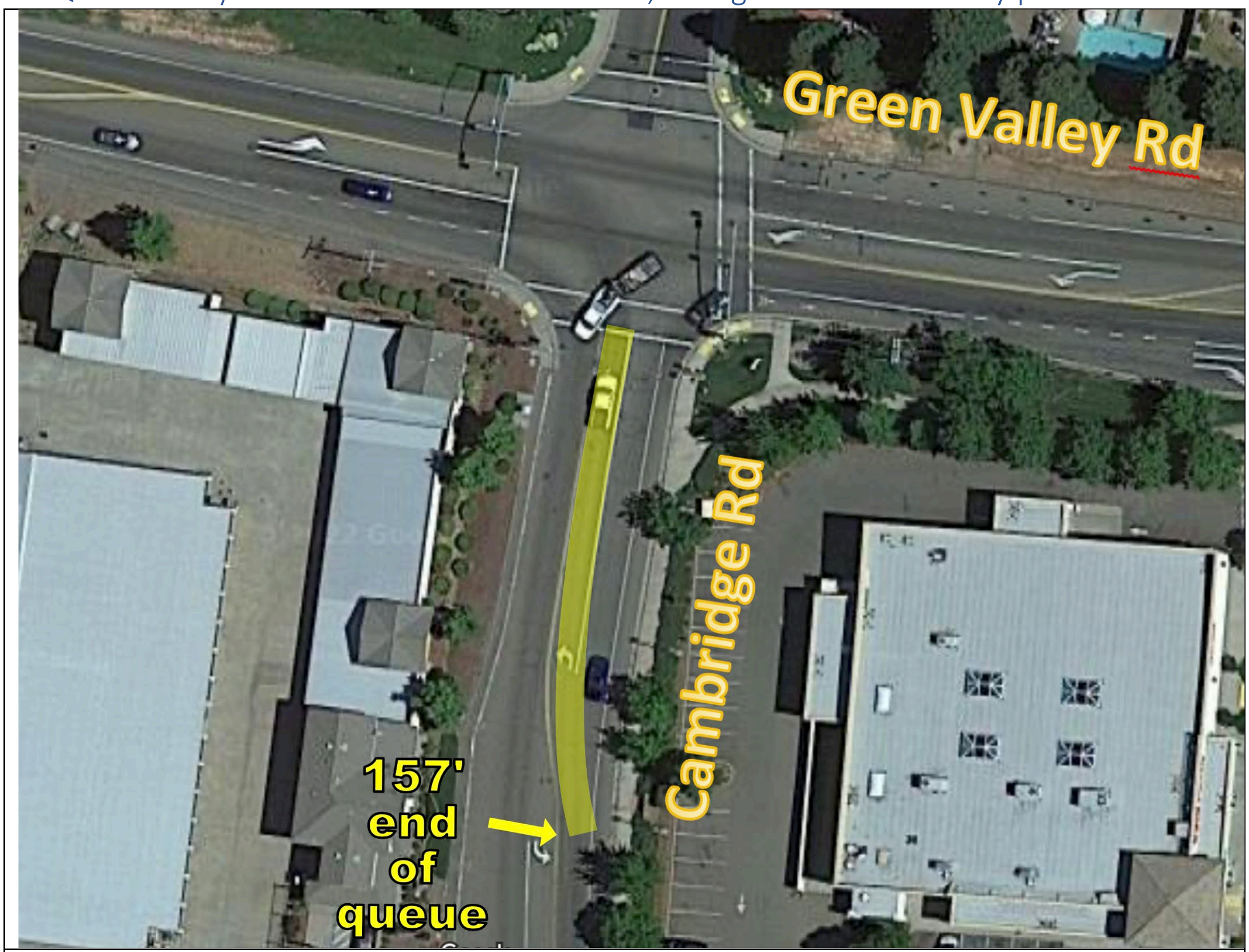

Figure 1. PM Queue exceeds pocket length, blocks THRU lane.

At this intersection #2, Cambridge Road and Green Valley Road, the NBL pocket overflowed in the analysis as shown in Table 8 of the report, and no mitigation was suggested, but the existing condition deficiency was approved. Table 8 said there is 125' of striped storage, but actually there is only 118'. The 95th percentile queue is 157' which means that 95% of the time the queue will be shorter than 157'. Since the pocket is only 118' long it will be overflowed many times during the peak hour. Figure 2 shows this graphically where the yellow lane is the LEFT turn pocket and with an overflow that will happen 5% of the time.

The red lane is the THRU lane and when the overflow happens (yellow) then the THRU lane (red) traffic is blocked within the established striping on the road. Some THRU cars may encroach unsafely into the BIKE lane (green) putting an unsuspecting cyclist at risk. A single asterisk in the KH traffic study (Table 8) references their footnote saying:

"*In the scenario where a queue spills back, the existing roadway width allows room for drivers to bypass the left-turn queue legally and safely due to the existing wide bike lane."

Figure 2 to the left shows how this is not true, based on a close inspection of the geometric facts: the bike lane is only 6 feet wide from the face of the curb, which is close enough to the 5 foot minimum width suggested by AASHTO. Therefore, the bike lane is not "wide" in any practical sense to allow a car or truck to navigate through it. There is a danger zone depicted by the red circle. The red THRU lane path crosses over the green BIKE lane path, a danger to cyclists.

Figure 2. PM Queue exceeds pocket length, blocks THRU lane.

In order to have an abundance of caution towards cyclists using this bike lane, it is an unsafe idea to suggest that vehicles can suddenly occupy this lane to go around a queue, without warning to a cyclist who may be using the lane. This is not a solution to ignore this safety deficiency in the Cambridge Road cross section south of Green Valley Road. There are MUTCD regulatory signs that would have to let cyclists know there are in potential danger and have to share the road, the Class 3 bike lane or even a warning sign with "share the road" text could be installed. If such signs are installed, then the bike lane would need to be removed to prevent confusion. Why have a bike lane if cars and bikes are to "share the road?" It would be safer and more clear if the cyclist KNEW that they might have to share the road with a car, than to think that they have the right of way in while riding in a striped bike lane which communicates right-of-way, only to be surprised by a vehicle turning or swerving into it. There needs to be an abundance of caution towards cyclists in roadway design that includes bike lanes, or it creates a liability on the County.

The 157' long queue in the left turn pocket as shown in Figure 2, will happen about 5% of the time during the peak hour, but it is important to note that the left turn pocket is actually only 118' long, and not 125' as stated in the KH report. Any queue past that 118' distance means the lane will be overflowed into the through lane causing a safety problem. Note in Table 8 that the column heading is the 95th % Queue, and it reports an overflow queue of 157' that will happen about 5 % of the time, or about 2 or 3 times during the peak hour. I disagree that the use of a bike lane on a curve for drivers to pass by this minimum of 157' long queue, three times an hour, is a legal and safe maneuver for the potential cyclists who have no choice in the matter, the impulsive unexpected driver maneuver into the bike lane. The last thing that a cyclist wants to experience is being caught in a blind spot of a driver's vehicle who decides to fully encroach the bike lane that they currently occupy, and finding themselves being crushed towards the sidewalk curb and crash. Figure 3 shows a drivers view of this section of Cambridge Road, and how dangerous this THRU lane (red) maneuver could be.

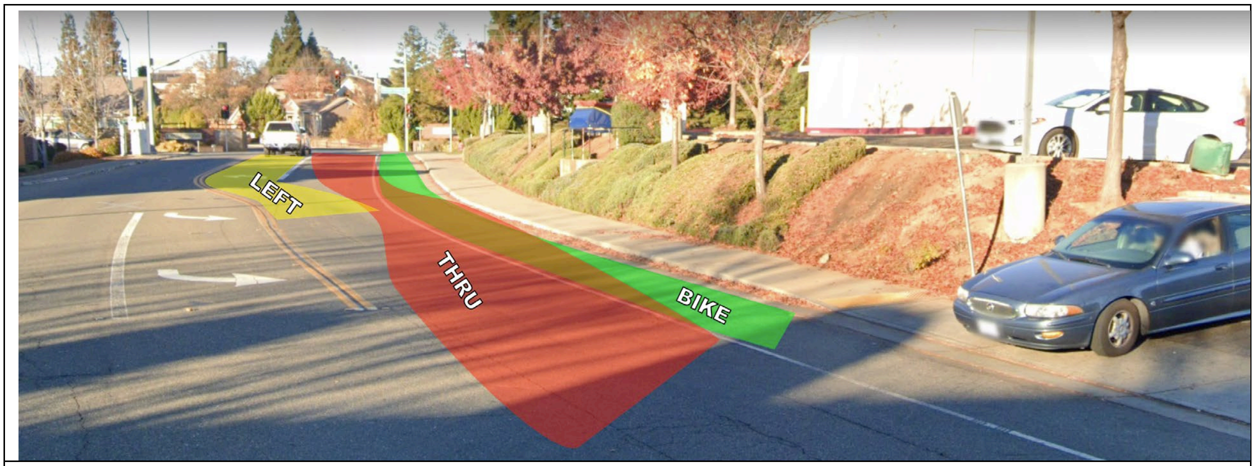

Figure 3. Cambridge Road looking north towards Green Valley Road signal.

This is an unsafe condition, the KH traffic study is deficient on this point, lacking proper mitigation for this safety deficiency. ***Safety*** is an environmental impact to be analyzed and addressed in an EIR according to new CEQA law. An EIR should be prepared to address this very REAL impact of safety for cyclists using the bike lane on Cambridge Road, where there is a regular occurring safety hazard at this location.

KH QUEUE analysis deficient at Intersection #4, and ignores traffic Safety problems

At this intersection #4, Cameron Park Drive and Green Valley Road, the NBL pocket overflowed in the KH study analysis as shown in Table 8 of that report, and no mitigation was suggested, even though it was necessary. In fact, the report said there was adequate physical NBL turn pocket storage, even though there is no such available storage. In fact, the road width tapers making it impossible to have additional left turn pocket storage overflow without also blocking the THRU traffic (red lane stops as shown where 12 foot width is no longer available.

Figure 4. Intersection #4 Cameron Park at Green Valley, NBL Queue overflow and blockage

The KH Table 8 said there is 100' of striped storage for the NBL lane, but actually there is only 90' of striping. The width of the northbound approach at this location is only 21 feet from centerline to the white edge line. This is narrow and typically there are 12 foot lanes on roads. This northbound approach width tapers and narrows even more near the south edge of the Winery Plaza Shopping Center driveway to a width of only 19 feet. A double asterisk (**) in Table 8 references a KH study footnote stating that ***"**Physical queueing distance of 200 feet is provided although only 100 feet is delineated***." However, without striping installed, nothing is "provided" in the traffic engineering sense. In fact, even if it were to be striped, which is not recommended, the lane widths would only be 9 feet wide for a left lane and 9.5 feet wide for a thru lane, which is woefully insufficient and below standard. The recommended non-action in the KH report, where traffic control is left to drivers' opinions to figure out where the storage takes place, can lead to a safety hazard. Drivers should not be left to their opinions about where the line or queue is, especially when only 9 feet of physical width is available. The PM peak hour 95th % queue length was 140' in the KH analysis, so this is actually 50 feet longer than what is striped, and it will lead to unsafe passing if left as is. A mitigation is needed to improve safety, and this should be looked at in an EIR as an impact since it cannot be simply mitigated. There is insufficient width of roadway. Notice from the aerial that as the QUEUE (yellow) backs up to a distance of 140' it completely passes the driveway of the Winery Plaza Shopping Center on Cameron Park Drive. The shopping center outbound traffic will therefore NOT be able to enter the NBL queue but would have to wait unto the signal clears traffic, which could take minutes of delay and sufficient gaps in NB traffic. Without a delineated stripe, drivers may unsafely compete for the unstriped space. The traffic control and striping should anticipate driver behavior, and traffic control pavement markings and striping should enhance safety and not contribute to driver confusion.

Also, as this 140' queue condition persists from time to time in the peak hour, shopping center outbound drivers intending to use the NBL pocket on Cameron Park Dr will likely try to avoid those long queues and delays, and instead use the north side driveway on Green Valley Road to turn left and go west on Green Valley Road. In doing so, they would be crossing a double yellow centerline, a left turn pocket, and navigate into a single westbound lane… an unsafe exit to save what could be several minutes of waiting for a gap in the NBL queue line.

KH Study Trip Generation Error

In the Trip Generation calculations shown in Table 1 of the KH study, the ITE land use code of shopping center was used, a trip generation rate that is normally applied to much larger shopping centers ranging from 10 acres to 100 acres or more with huge anchor stores or multiple big box stores. The KH report had the following Trip Generation Table 1 which also showed the am peak hour to be the much higher trip generation when compared to the pm peak hour, which makes no sense because most people do not go shopping in the am peak hour, or the work-commute hour, but do so after work or school and the higher trip generation takes place in the pm peak hour.

Table 1 – Proposed Project Trip Generation

Land Use (ITE Code)	Size (KSF)	Daily Trips	AM Peak-Hour					PM Peak-Hour				
			Total Trips	In		Out		Total Trips	In		Out	
				%	Trips	%	Trips		%	Trips	%	Trips
Shopping Center (820)	16,061	1,734	160	62%	99	38%	61	140	48%	67	52%	73
Driveway Trips		1,734	160		99		61	140		67		73
Shopping Center Pass-By Trip Reduction (0% AM / 34% PM)								-47		-22		-25
Net New Project Trips		1,734	160		99		61	93		45		48

Source: Trip Generation Manual, 10th Edition.
***Pass-by trip reductions are based on guidance from the Trip Generation Handbook, 3rd Edition published by ITE*

Also, it is not clear and makes no sense as to why the am peak hour had no pass-by trips applied, but the pm peak hour had a very heavy pass-by trip reduction applied, as if in the am peak hour drivers do not "pass by" a grocery store, but only drive directly from home to the store and back, and do that in the am peak hour combined with all of the school and work traffic. This seems like an error because there is no logic or engineering judgment in applying the rates in this manner.

The Grocery Outlet project is a small 2 acre development, is a standalone project, and ITE already has a trip generation rate for a "Discount Supermarket" which perfectly describes the Grocery Outlet brand. That trip rate for KSF (per 1000 square feet) is 90.9 for daily, 2.53 for am peak hour, and 8.34 for pm peak hour, as shown in Table 2 below. Recalculating and comparing to the KH report, the following table shows the differing results with the KH rates shown on the bottom row of the table for comparison:

Table 2 Trip Generation Comparison

Description/ITE Code	Units KSF2	ITE Vehicle Trip Generation Rates			TRIP ENDS		
		Weekday	AM	PM	Weekday	AM	PM
Discount Supermarket 854	16,061	90.86	2.53	8.34	1459	41	134
Shopping Center 820 (KH)	16,061	42.70	0.96	3.71	686	15	60
				NET DIFFERENCE	773	25	74

One can see by comparison of these two ITE trip generation rates, that the use of the Shopping Center rate results in a much lower trip generation total than if the more appropriate rate were used for grocery shopping. A "shopping center" rate as used in the ITE Trip Generation Manual can contain not only groceries, but Home Depot, Lowes, Costco, Hair Salons, Restaurants, etc. which differ greatly from the Grocery Outlet brand. Based on this information, it seems that the project's trip generation as shown in the KH report was underestimated by 40 trips in the pm peak hour (134 trips vs 93 trips).

KH Study Peak Hour Factor (PHF) Oversight

In the appendix output shown below, it can be seen that the Peak Hour Factor parameter used in all calculations was a generic 0.92 across the board for all 12 turning movements at each intersection analyzed in the KH study. This leads to errors and incorrect calculations of level of service, usually under-estimating the impacts of traffic, and therefore safety if the traffic conditions are creating high delays. Figure 5 shows the relevant appendix calculation sheet output as a sample.

The KH traffic study used the same Peak Hour Factor (PHF) of 0.92 for all approaches and for all turning movements. This is a mistake, as each intersection has a traffic count and from the traffic count all of the individual PHF values are determined. The KH study went with software defaults and the results of the LOS and delay are most likely incorrect, and probably missing a full impact of the turning movement data.

PD-R20-0009 GROCERY OUTLET AT GREEN VALLEY STATION, PHASE II

Grocery Outlet **ATTACHMENT 13 - TRANSPORTATION IMPACT STUDY** Existing (2021) AM Conditions

4: Cameron Park Dr/Starbuck Rd & Green Valley Rd — Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	100	110	60	320	10	240	10	40	10	80	30
Future Volume (veh/h)	10	100	110	60	320	10	240	10	40	10	80	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	109	120	65	348	11	261	11	43	11	87	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2

Figure 5. Sample APPENDIX Synchro Calculation Worksheet showing 0.92 as Peak Hour Factor

Table 4 from the KH study is shown in Appendix below for reference.

Table 4 – Existing (2021) Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Existing (2021) Delay (sec)	LOS
1	Green Valley Road @ Bass Lake Road	Signal	AM	32.8	C
			PM	23.9	C
2	Green Valley Road @ Cambridge Road	Signal	AM	19.1	B
			PM	23.0	C
3	Green Valley Road @ Shared Access Drive	Stop Control	AM	1.5 (11.7 NB)	B
			PM	1.9 (17.9 NB)	C
4	Green Valley Drive @ Cameron Park Drive	Signal	AM	19.0	B
			PM	25.3	C
5	Cambridge Road @ Shared Access Drive	Stop Control	AM	2.4 (10.8 WB)	B
			PM	1.3 (10.4 WB)	B
6	Cameron Park Drive @ Winterhaven Drive / Maple Drive	Stop Control	AM	4.5 (17.7 EB)	C
			PM	3.6 (34.6 WB)	D
7	Cambridge Road @ La Canada Drive	Stop Control	AM	5.9 (15.4 EB)	C
			PM	8.9 (18.7 SB)	C
8	Cameron Park Drive @ La Canada Drive	Signal	AM	13.6	B
			PM	27.1	C

Kimley-Horn 11 April 6, 2021

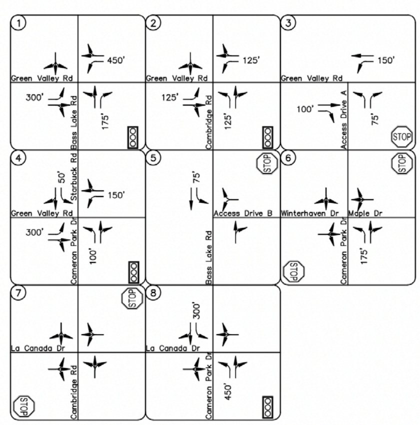

Table 8 – Existing (2021) Intersection Queuing Evaluation Results

Intersection / Analysis Scenario	Movement	AM Peak-Hour		PM Peak-Hour	
		Available Storage (ft)	95th % Queue (ft)	Available Storage (ft)	95th % Queue (ft)
#1, Green Valley Road @ Bass Lake	WBL				
Existing (2021)		450	205	450	102
Existing (2021) plus Proposed Project			219		100
#2, Green Valley Road @ Cambridge Road	WBL				
Existing (2021)		125	118	125	117
Existing (2021) plus Proposed Project			111		114
	NBL				
Existing (2021)		125*	99	125*	**152**
Existing (2021) plus Proposed Project			84		**157**
#3, Green Valley Road @ Shared Access Drive	WBL				
Existing (2021)		150	36	150	47
Existing (2021) plus Proposed Project			52		59
	NBR				
Existing (2021)		75	37	75	50
Existing (2021) plus Proposed Project			55		52
#4, Green Valley Road @ Cameron Park Drive	EBL				
Existing (2021)		300	33	300	35
Existing (2021) plus Proposed Project			31		49
	NBL				
Existing (2021)		100**	**121**	100**	**140**
Existing (2021) plus Proposed Project			**126**		**141**
#5, Cambridge Road @ Shared Access Drive	SBL				
Existing (2021)		75	23	75	16
Existing (2021) plus Proposed Project			23		15
#6, Cameron Park Drive @ Winterhaven Dr / Maple Dr	NBL				
Existing (2021)		175	33	175	36
Existing (2021) plus Proposed Project			40		30
#8, Cameron Park Drive @ La Canada Dr	NBL				
Existing (2021)		450	43	450	237
Existing (2021) plus Proposed Project			39		198
	SBL				
Existing (2021)		300	29	300	60
Existing (2021) plus Proposed Project			38		62

Source: *Highway Capacity Manual (HCM) 2016* methodology per Synchro© v10.

Notes: For approaches with dual left-turn lanes, the longest queue length is reported.

*In the scenario where a queue spills back, the existing roadway width allows room for drivers to bypass the left-turn queue legally and safely due to the existing wide bike lane.

**Physical queueing distance of 200 feet is provided although only 100 feet is delineated.

Conclusions

- The trip generation of the proposed project was underestimated, using a trip rate generally reserved for much larger multi-purpose shopping centers, and not for a specific Grocery Outlet discount shopping store (which is specifically addressed in the ITE Trip Generation Manual as a trip rate).
- The overflowing queues from the NBL pockets at intersections #2 and #4 will create a safety hazard. These were not mitigated but explained away as insignificant non-impacts. However, in Figures 1, 2, 3, and 4 of this review report, it can be seen and is clearly illustrated how these safety impacts must not be ignored but mitigated with a solution to remove the safety deficiencies of narrow lanes, encroaching traffic flows into bike lanes, and other unsafe traffic operations.
- The Level of Service and Delay calculations were done incorrectly, using a generic software default Peak Hour Factor (PHF) of 0.92 for all calculations, even though there are (or should be) data to calculate these PHF for each turning movement at an intersection.
- It appears that regular turning movement traffic counts were not gathered for this project, which are normally based on 15 minute intervals but a non-standard method with just an hourly interval was used. The hourly intervals and total used in the KH study are non-standard, and do not find the true peak hour. The KH method was to add up traffic from 7 am to 8 am, get an hourly total, repeat for 8 am to 9 am and so on in similar manner for the pm (4pm-5pm, 5pm-6pm, 6pm-7pm) and this misses when the peak hour actually might really be from 7:15 to 8:15 am, or from 7:30 to 8:30 or from 7:45 to 8:45, etc. Also, this method of getting only hourly totals eliminates the possibility of using a Peak Hour Factor (PHF), and yet KH assumed a PHF of 0.92 for all movements based on no data whatsoever. This can result in an LOS C calculation actually being LOS D or LOS E… and an LOS D calculation could actually be LOS F.
- The traffic count data is incomplete to calculate a true LOS and Delay value to properly evaluate the intersections. Traffic counts with 15 minute intervals are needed.