



April 19, 2005

Mr. Ray Kuzbari  
Senior Traffic Engineer  
City of Dublin  
100 Civic Plaza  
Dublin, CA 94568

**Subject: Focused Traffic/Parking Analysis for a Proposed Retail/Starbucks Development on Village Parkway in the City of Dublin.**

Dear Mr. Kuzbari,

This letter report summarizes an analysis of the traffic and parking conditions for the proposed Retail/Starbucks Enea Village development at 7197 Village Parkway in the City of Dublin. The analysis involved surveys of traffic and parking conditions and an evaluation of the effects of the project on those conditions.

## **1. PROJECT DESCRIPTION**

The focus of this analysis is the traffic generation and parking conditions resulting from the 8,539 square foot retail building which would include an 1,886 square foot Starbucks coffee store and 6,653 square feet of retail use. (The overall development would also eventually include a 5,582 square foot office building with separate parking). The project is located on the southeast corner of the Village Parkway/Amador Valley Boulevard intersection (see Figure 1). The area's land uses are a mix of commercial and residential development, with primarily retail/commercial land uses along Village Parkway and Amador Valley Blvd. west of the intersection. The area east of the project site is residential.

## **2. EXISTING TRAFFIC CONDITIONS**

Traffic flows have been established from A.M. peak period intersection counts conducted at the Village Pkwy./Amador Valley Blvd. intersection.<sup>(1)</sup> Based on the volumes, the intersection is operating at level of service (LOS) 'A' (v/c ratio 0.58) during the A.M. peak hour. The calculation indicates that the A.M. peak hour traffic conditions are stable with little delays overall. The average number of vehicles queued at each approach during the red (stopped) phase of the signal cycle were noted. The eastbound left/through queues averaged 6-8 vehicles; the westbound left/through queues averaged 6-7 vehicles; the southbound left/through queues averaged 7-8 vehicles; and the northbound left/through queues averaged 3 vehicles. Field observations noted that volumes and vehicle queues at some approaches increase temporarily between 7:45-8:15 a.m. due to school-related trips. (Average eastbound left/through queues of 6-8 vehicles increase to 12-13 vehicles; average southbound left/through queues of 7-8 vehicles increase to 14-15 vehicles.) However, the intersection continues to operate efficiently and the queued vehicles clear the intersection during each signal cycle.



### 3. PROJECT TRAFFIC AND PARKING EFFECTS

#### a. Trip Generation and Distribution

Surveys identifying the number of vehicle trips were conducted at three existing nearby Starbucks locations by Omni-Means Engineers and Planners.<sup>(2)</sup> These included a 2,425 square foot Starbucks with 51 seats (all interior) located at 7904 Dublin Blvd. (at Regional St.). A 2,046 square foot Starbucks with 21 interior and 34 exterior seats located at 4930 Dublin Blvd. in the Hacienda Crossings Shopping Center. And a 1,560 square foot location with 37 interior seats and 12 exterior seats located at 9150 Alcosta Blvd., San Ramon, in the Country Club Village Shopping Center. The locations were chosen based on their proximity to the project site and as being representative of the proposed Starbucks use. Starbucks' peak customer demand occurs in the mornings. In order to determine the project's peak hour of trip generation, the number of vehicle trips in and out of each location were counted from 6:00-10:00 a.m. The peak hourly in/out trips for each location were then averaged, deriving a trip rate of 101 trips per 1,000 sq. ft. of building space. Applying the trip rate to the proposed Starbucks of 1,886 square feet with 30 interior and 16 exterior seats results in 190 total trips, comprised of 95 inbound trips and 95 outbound trips. (For comparison, a trip rate based on the number of seats was also calculated, resulting in 178 total trips. In order to remain conservative, the higher trip rate based on square footage, was used for this study.)

Of the 190 total peak hour trips, a large percentage would actually consist of "pass-by" trips. Pass-by trips are not new vehicle trips to the street network, but reflect customers who are already traveling on the street for another purpose (for example, in route to work or school) and stop at the Starbucks. Pass-by trips are accounted for at the project driveways, but since they are already on the street, they do not add extra trips to the intersection. In a previous study for a Starbucks in Orinda, CA conducted by Abrams Associates, the pass-by trip rate was documented to be 70% of the total trips.<sup>(3)</sup> (The Institute of Transportation Engineers (ITE) has also documented pass-by trip rates. The published pass-by trip rate for a facility this small is closer to 80%.) Using the lower (more conservative) 70% pass-by rate results in 132 (66 in, 66 out) pass-by trips and 58 (29 in, 29 out) actual new trips created by the Starbucks.

Trip generation for the remaining 6,653 square foot retail space was derived from ITE published trip rates for retail centers.<sup>(4)</sup> The retail space was calculated to generate 31 (19 in, 12 out) total trips. A portion of these would also be pass-by trips. Using ITE data derived for retail space of this size results in 35% of the total trips being pass-by trips. This results in 11 (7 in, 4 out) pass-by trips and 20 (12 in, 8 out) net new trips during the A.M. peak hour.

The combined Retail/Starbucks project results in 221 (114 in, 107 out) total A.M. peak hour trips, comprised of 143 (73 in, 70 out) pass-by trips and 78 (41 in, 37 out) net new trips. The trip generation is summarized in Table 1.

**TABLE 1**  
**A.M. Peak Hour Traffic Generation for Retail/Starbucks Project**

<u>Project Component</u>	<u>A.M. Trip Rate</u>	<u>A.M. Trips</u>
1,886 sq. ft. Starbucks	101 trips/1,000 sq. ft. <sup>(A)</sup> (50% in, 50% out) <sup>(2)</sup>	<u>190 (95 in, 95 out) Total</u> 132 (66 in, 66 out) Pass-By 58 (29 in, 29 out) Net New
6,653 sq. ft. Retail	4.67 trips/1,000 sq. ft. <sup>(B)</sup> (61% in, 39% out)	<u>31 (19 in, 12 out) Total</u> 11 (7 in, 4, out) Pass-By 20 (12 in, 8 out) Net New
<b>Combined Retail/Starbucks Trips<sup>(C)</sup> =</b>		<b><u>221 (114 in, 107 out) Total</u></b> <b>143 (73 in, 70 out) Pass-By</b> <b>78 (41 in , 37 out) Net New</b>

(A) Omni-Means Engineers & Planners, derived from trip counts at 3 area Starbucks, April 4-7, 2005.

(B) ITE, Trip Generation, 7<sup>th</sup> Edition, 2003.

(C) Net new trips reflect 70% pass-by for the Starbucks and 35% pass-by for the retail.

The project trips were distributed onto the street network based on several factors. These included the project access points, surrounding locations of trip generating sources, and proximity of other Starbucks locations. It is estimated that about 35% of the project's traffic would be to/from the east on Amador Valley Boulevard, 20% to/from the west on Amador Valley Boulevard, 30% to/from the north on Village Parkway, and 15% to/from the south on Village Parkway. (Intersection and project driveway volumes are shown in Figure 2.)

The distribution also accounted for possible U-turns. Primarily, westbound Amador Valley Blvd. inbound trips would make U-turns at Village Parkway to access the Amador Valley driveway, and outbound Village Parkway driveway vehicles wishing to go south would make U-turns at Amador Valley Boulevard. Exiting vehicles could also make U-turns from eastbound Amador Valley Blvd. to westbound Amador Valley Blvd. at the Village Square Center driveway intersection just east of the project site.

#### **b. Intersection Operation**

With the project trips added to existing volumes, the Village Pkwy./Amador Valley Blvd. intersection would remain at LOS 'A' ( $v/c = 0.58$ ). (The LOS are listed in Table 2 and calculation worksheets are attached.) A comparison of the existing vehicle queues to those with the added project traffic indicates that the average southbound, northbound, and westbound left-turn queues would increase by one vehicle, and the average northbound through queue would increase by one vehicle. The intersection would

continue to operate efficiently. The short vehicle queues (average 4 vehicles) for the northbound Village Pkwy. approach to Amador Valley Blvd. would provide adequate clearance for vehicles to exit the Village Prkwy. driveway and access the northbound left-turn lane. For vehicles exiting the Amador Valley Blvd. driveway, the eastbound Amador Valley Blvd. approach volumes are low enough (approximately 520 cars) and the signal phasing provides numerous gaps in the eastbound traffic. These factors would allow adequate gaps for outbound vehicles to access the left-turn lane pocket at the Village Square Center driveway east of the project site.

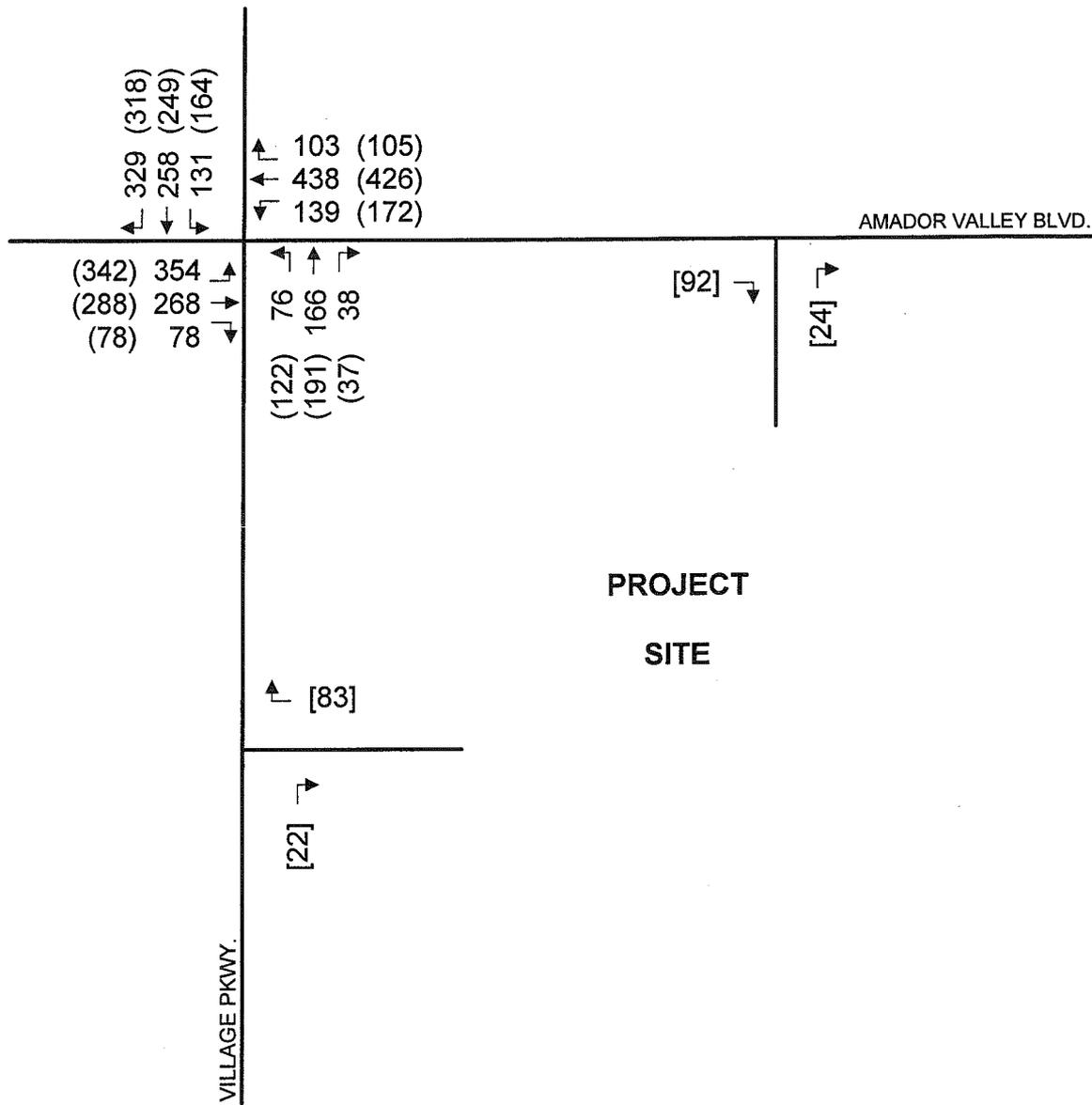
**c. Traffic Conditions With Site Buildout**

Future buildout of the project site could include development of a 5,582 square foot office building. The intersection operating conditions were also analyzed accounting for trips from the office. Using ITE trip rates for office buildings, the 5,582 square foot building was calculated to generate 19 (17 in, 2 out) A.M. peak hour trips. (The site buildout project volumes are shown in Figure 2A.) The Village Pkwy./Amador Valley Blvd. intersection would continue to operate at LOS 'A' with the addition of the office trips. This level of service indicates the intersection would continue to operate efficiently.

**TABLE 2**  
**A.M. Peak Hour Level of Service at Village Pkwy./Amador Valley Blvd. Intersection**

<u>Existing</u>	<u>Existing Plus Retail &amp; Starbucks</u>	<u>Existing Plus Retail, Starbucks, &amp; Office</u>
<u>LOS</u> <u>V/C</u>	<u>LOS</u> <u>V/C</u>	<u>LOS</u> <u>V/C</u>
A 0.58	A 0.58	A 0.58

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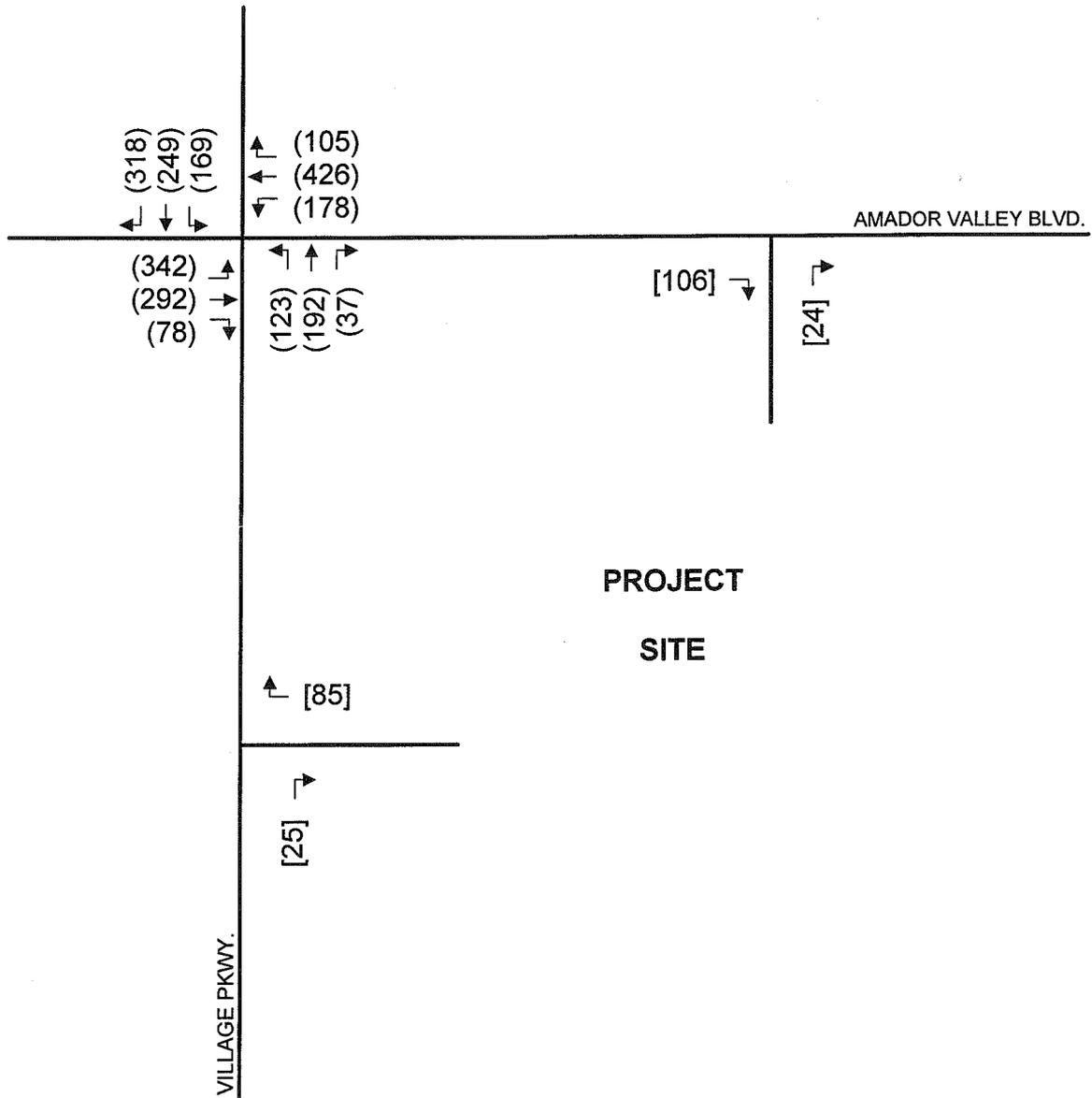


NOT TO SCALE



A.M. Peak Hour  
 Existing and (Existing+Project) Intersection Volumes,  
 with [Project Volumes] at Driveways





NOT TO SCALE



A.M. Peak Hour Site Buildout  
 (Existing + Retail, Starbucks, & Office) Intersection Volumes,  
 with [Buildout Project Volumes] at Driveways



#### **d. Parking Needs**

The proposed retail/Starbucks building parking supply would consist of 32 onsite spaces. The Dublin zoning ordinance results in 45 required spaces when the retail (“neighborhood retail”) and Starbucks store (“convenience eating and drinking establishment”) are treated separately and added together. Sometimes, however, the mix of businesses within a development may generate peak parking demands at different times of the day (termed a “shared parking” condition). In this case, the peak Starbucks demand occurs in the morning when retail parking demand is generally lower.

In order to identify the overall parking demand in the morning, a shared parking analysis was conducted. This consisted of establishing the Starbucks and the retail area parking demands separately at different times throughout the morning, then adding them together for a total demand. The Starbucks parking demand was determined by conducting morning parking surveys at the existing Starbucks locations previously mentioned.<sup>(5)</sup> The surveys were conducted between 6:00-10:00 a.m., with the number of occupied spaces tabulated at each half hour. From the occupancy numbers surveyed at each location, an average parking demand rate per 1,000 square feet of building space was calculated for each half-hour. This rate was then applied to the proposed 1,886 square foot Starbucks to obtain the parking demand at each half hour as shown in Table 3. The 1,886 square foot Starbucks parking demand rises to a peak of 27 vehicles at 9:30 a.m.

The morning retail space demand was determined by applying the Dublin Zoning Ordinance requirement of 1 space per 300 square feet (3.33 spaces per 1,000 sq. ft.), which equates to 22 spaces. The ordinance is formulated to address the *peak* parking demand which typically occurs in the afternoon. Published data from the Urban Land Institute (ULI) shows that average mid-week parking demand for retail stores peaks around 1:00 p.m. The subsequently lower demands earlier in the morning have been identified by ULI as a percentage of the maximum demand.<sup>(6)</sup> Applying these percentages to the 22 space peak retail demand results in parking demands at each half-hour as listed in Table 3.

The sum of the Starbucks and retail shared demands are also shown in Table 3. Based on the calculations, the parking supply would accommodate the expected demand until about 9:30 a.m., when a peak demand for 39 spaces would exceed the on-site parking supply of 32 spaces. After 9:30 a.m., overall parking demand declines but still exceeds the supply. By 10:30 a.m., the onsite parking supply would accommodate the shared Starbucks and retail demand (based on an extended survey period at the existing 7904 Dublin Blvd. Starbucks).

**TABLE 3**  
**Weekday Shared Parking Demand For Starbucks & Retail Space**

Time	Starbucks Demand <sup>(a)</sup>	Retail Demand <sup>(b)</sup>	Total Demand	Parking Supply	Surplus / Deficit
6:00 a.m.	4	0	4	32	+ 28
6:30 a.m.	9	1	10	32	+ 22
7:00 a.m.	13	2	15	32	+ 17
7:30 a.m.	15	3	18	32	+ 14
8:00 a.m.	17	4	21	32	+ 11
8:30 a.m.	21	7	28	32	+ 4
9:00 a.m.	21	9	30	32	+ 2
9:30 a.m.	27	12	39	32	-7
10:00 a.m.	23	15	38	32	- 6

<sup>(a)</sup> Parking demand for 1,886 sq. ft. Starbucks, based on surveys conducted by Omni-Means Eng. & Planners at three area Starbucks stores.

<sup>(b)</sup> Zoning ordinance (source: City of Dublin), with hourly demand as a percentage of p.m. maximum (source: ULI).

In a preliminary study of the project conducted by the City of Dublin, several mitigation measures were presented to address an onsite parking deficit.<sup>(7)</sup> One measure referred to the presence of nearby on-street parking. Curb space for 10-12 vehicles is available on Village Pkwy. and Amador Valley Blvd. fronting the project site. Given their location and the absence of other nearby parking generators during the morning peak period, we concur with the City's report that these spaces are not likely to be utilized by motorists who are not associated with the project site. Also, our observations at the other Starbucks indicate patrons will utilize street parking when it is in close proximity. Due to these factors, it is likely the curb spaces would accommodate the excess demand.

It is also noted that the existing Starbucks at 9150 Alcosta Blvd. is located approximately one mile north on Village Parkway. Two Starbucks serving the same general area may result in a reduction in the average parking demand. Thus, the Starbucks parking demand identified for this project is probably conservatively high.

**e. Pedestrian Issues / Vehicle Access**

The project would be served by one right-turn in/out driveway on Village Pkwy. and one right-turn in/out driveway on Amador Valley Boulevard, both 24 feet wide. (The project site plan is illustrated in Figure 3.) The previous site use (gasoline service station) had two driveways fronting each street that were approximately 40 feet wide. Pedestrian safety is generally enhanced when the number of driveways is reduced.

Pedestrian and bicycle volumes on Village Pkwy. and Amador Valley Blvd. were also monitored during the intersection count. For the two-hour period between 7:00-9:00 a.m., 20 pedestrians and 10 bicyclists were observed on Amador Valley Blvd., with 3 pedestrians walking along the project frontage. On Village Pkwy., 9 pedestrians and 2 bicyclists were observed, with 4 pedestrians and 1 bicyclist traveling along the project frontage.

Although the proposed retail/Starbucks project would have a relatively high A.M. peak hour trip generation, standard safety measures such as unobstructed sight lines along the sidewalk and driveway, the eight-foot sidewalk width, clearly differentiated sidewalk paving, and the current signalized intersection and crosswalk at Amador Valley Blvd. and Village Pkwy. would be adequate to protect pedestrians and bicyclists in the A.M. peak hours. In addition, the project's elimination of the two driveways provided for the former gasoline service station would reduce the potential for vehicle and pedestrian or bicyclist conflicts.

#### 4. SUMMARY AND CONCLUSIONS

The proposed retail/Starbucks project would not significantly impact traffic conditions at the study intersection compared to existing conditions. With the added project trips, the intersection would continue to operate at LOS 'A' conditions during the A.M. peak hour. Average southbound, northbound, and westbound left-turn vehicle queues would increase by one vehicle.

The parking supply of 32 onsite spaces would accommodate the expected combined retail/Starbucks demand until 9:30 a.m. when demand peaks for 39 spaces. The peak demand would exceed the on-site parking supply by 7 spaces. After 9:30 a.m., the parking demand declines but still exceeds the supply until 10:00 a.m.

Curb space for 10-12 vehicles is available on Village Pkwy. and Amador Valley Blvd. fronting the project site. The location of these spaces suggests most of them are not likely to be occupied by other than patrons of the retail/Starbucks development. It is likely the curb spaces would accommodate the excess demand.

Sincerely,

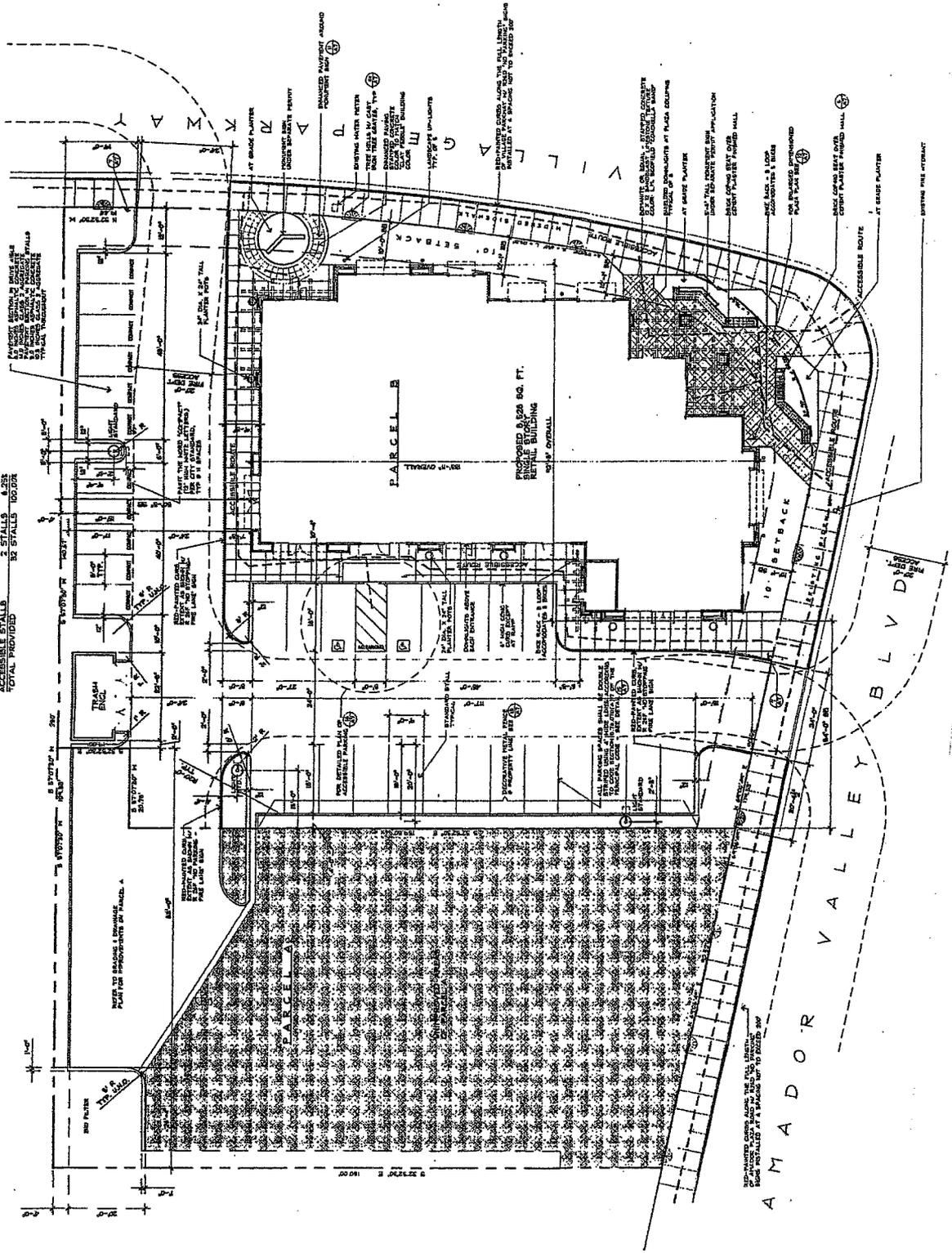


George W. Nickelson, P.E.

Attachments: LOS Definitions  
LOS Calculations

**PARCEL B**

BUILDING AREA: 1450 SQ. FT.  
 PARKING REQUIRED (1800): 284 STALLS  
 PARKING PROVIDED: 284 STALLS  
 CONTRACT STALLS: 284 STALLS  
 TOTAL PROVIDED: 284 STALLS



**figure 3**

**Project Site Plan**



**omni-means**

## REFERENCES

- (1) Traffic counts conducted by Omni-Means Engineers & Planners, A.M. Peak Period (7:00-9:00 a.m.), April 5, 2005.
- (2) Trip counts conducted by Omni-Means Engineers & Planners at three Starbucks locations:
  - 7904 Dublin Blvd. (at Regional St.), Dublin, CA  
(2,425 square feet with 51 interior seats.)  
Surveys conducted 6:00- 10:30 a.m., April 6, 2005.
  - 4930 Dublin Blvd., Dublin, CA (in Hacienda Crossings Shopping Center)  
(2,046 square feet with 21 interior and 34 exterior seats.)  
Surveys conducted 6:00-10:00 a.m., April 7, 2005.
  - 9150 Alcosta Blvd., San Ramon, CA (in Country Club Village Center)  
(1,560 square feet with 37 interior seats and 12 exterior seats.)  
Surveys conducted 6:00-10:00 a.m., April 4, 2005.
- (3) Abrams Associates, *Starbucks Coffee Company, City of Orinda Parking and Traffic Study*, December 1995.
- (4) Institute of Transportation Engineers, Trip Generation, 7<sup>th</sup> edition, 2003.
- (5) Parking surveys conducted by Omni-Means Engineers & Planners at three Starbucks locations: 7904 Dublin Blvd. (6:00-10:30 a.m., April 6, 2005); 4930 Dublin Blvd. (6:00-10:00 a.m., April 7, 2005); and 9150 Alcosta Blvd. (6:00-10:00 a.m., April 4, 2005).
- (6) Urban Land Institute and National Parking Association, Dimensions of Parking, Washington, D.C.
- (7) City of Dublin, *Starbucks 7197 Village Parkway Parking Study*, Prepared by Community Development and Public Works Departments, December 29, 2004.

ATTACHMENTS

Level of Service Definitions

Level of Service Calculations

## LEVEL OF SERVICE DEFINITIONS

LEVEL OF SERVICE	SIGNALIZED INTERSECTIONS	UNSIGNALIZED INTERSECTIONS*
"A"	Uncongested operations, all queues clear in a single-signal cycle. (Average stopped delay less than 10 seconds per vehicle; V/C less than or = 0.60).	Little or no delay. (Average delay of $\leq 10$ seconds)
"B"	Uncongested operations, all queues clear in a single cycle. (Average delay of 10-20 seconds; V/C=0.61-0.70).	Short traffic delays. (Average delay of $>10$ and $\leq 15$ secs.)
"C"	Light congestion, occasional backups on critical approaches. (Average delay of 20-35 seconds; V/C=0.71-0.80).	Average traffic delay. (Average delay of $>15$ and $\leq 25$ secs.)
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. (Average delay of 35-55 seconds; V/C=0.81-0.90).	Long traffic delays for some approaches. (Average delay of $>25$ and $\leq 35$ secs.)
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). (Average delay of 55-80 seconds; V/C=0.91-1.00).	Very long traffic delays for some approaches. (Average delay of $>35$ and $\leq 50$ secs.)
"F"	Total breakdown, stop-and-go operation. (Average delay in excess of 80 seconds; V/C of 1.01 or greater).	Extreme traffic delays for some approaches (intersection may be blocked by external causes--delays $>50$ seconds).

\* Level of Service refers to delays encountered by certain stop sign controlled approaches. Other approaches may operate with little delay.

Source: Transportation Research Board, Highway Capacity Manual, 2000.

Condition: AM Existing Conditions 04/11/05

INTERSECTION 1 Village Pkwy./Amador Vallye Bl Dublin  
 Count Date 4/5/05 Time AM PEAK Peak Hour 8:00-9:00 AM

CCTA METHOD RIGHT THRU LEFT 4-PHASE SIGNAL

			329	258	131						
	^						^				
			<---	v	---				Split? Y		
LEFT	354	---	2.1	1.1	2.1	1.0	1.1	---	103	RIGHT	
THRU	268	---	2.2	(NO. OF LANES)			2.1	---	438	THRU	STREET NAME: Amador Vallye Bl
RIGHT	78	---	1.1	2.1	2.2	1.1	1.0	---	139	LEFT	
		v		<---	^	---		v			
	N										SIG WARRANTS: Urb=Y, Rur=Y
W + E				76	166	38					
S				LEFT THRU RIGHT							
											Split? Y

STREET NAME: Village Pkwy.

MOVEMENT	ORIGINAL VOLUME	ADJUSTED VOLUME*	CAPACITY	V/C RATIO	CRITICAL V/C
NB RIGHT (R)	38	38	1650	0.0230	
THRU (T)	166	166	3300	0.0503	
LEFT (L)	76	76	3000	0.0253	
T + R		204	3300	0.0618	0.0618
T + L		242	4650	0.0520	
T + R + L		280	4650	0.0602	
SB RIGHT (R)	329	329	1650	0.1994	0.1994
THRU (T)	258	258	3300	0.0782	
LEFT (L)	131	131	1650	0.0794	
T + R		587	3300	0.1779	
EB RIGHT (R)	78	78	1650	0.0473	
THRU (T)	268	268	3300	0.0812	
LEFT (L)	354	354	3000	0.1180	
T + R		346	3300	0.1048	
T + L		622	4650	0.1338	
T + R + L		700	4650	0.1505	0.1505
WB RIGHT (R)	103	103	1650	0.0624	
THRU (T)	438	438	3300	0.1327	
LEFT (L)	139	139	1650	0.0842	
T + R		541	3300	0.1639	0.1639

TOTAL VOLUME-TO-CAPACITY RATIO: 0.58  
 INTERSECTION LEVEL OF SERVICE: A

\* ADJUSTED FOR RIGHT TURN ON RED  
 INT=X. INT, VOL=XA. VOL, CAP=

Condition: AM Existing + Proj. (Starbucks & Retail) 04/15/05

INTERSECTION 1 Village Pkwy./Amador Vallye Bl Dublin  
 Count Date 4/5/05 Time AM PEAK Peak Hour 8:00-9:00 AM

CCTA METHOD		RIGHT THRU LEFT						4-PHASE SIGNAL	
		318	249	164					
	^					^			
LEFT	342 ---	2.1	1.1	2.1	1.0	1.1 ---	Split? Y	105 RIGHT	
THRU	288 --->	2.2	(NO. OF LANES)			2.1<---	426 THRU	STREET NAME: Amador Vallye Bl	
RIGHT	78 ---	1.1	2.1	2.2	1.1	1.0 ---	172 LEFT		
	v					v			
N			122	191	38		SIG WARRANTS:		
W + E			LEFT THRU RIGHT			Split? Y	Urb=Y, Rur=Y		
S									

STREET NAME: Village Pkwy.

MOVEMENT	ORIGINAL VOLUME	ADJUSTED VOLUME*	CAPACITY	V/C RATIO	CRITICAL V/C
NB RIGHT (R)	38	38	1650	0.0230	
THRU (T)	191	191	3300	0.0579	
LEFT (L)	122	122	3000	0.0407	
T + R		229	3300	0.0694	
T + L		313	4650	0.0673	
T + R + L		351	4650	0.0755	0.0755
SB RIGHT (R)	318	318	1650	0.1927	0.1927
THRU (T)	249	249	3300	0.0755	
LEFT (L)	164	164	1650	0.0994	
T + R		567	3300	0.1718	
EB RIGHT (R)	78	78	1650	0.0473	
THRU (T)	288	288	3300	0.0873	
LEFT (L)	342	342	3000	0.1140	
T + R		366	3300	0.1109	
T + L		630	4650	0.1355	
T + R + L		708	4650	0.1523	0.1523
WB RIGHT (R)	105	105	1650	0.0636	
THRU (T)	426	426	3300	0.1291	
LEFT (L)	172	172	1650	0.1042	
T + R		531	3300	0.1609	0.1609

TOTAL VOLUME-TO-CAPACITY RATIO: 0.58  
 INTERSECTION LEVEL OF SERVICE: A

\* ADJUSTED FOR RIGHT TURN ON RED  
 INT=X.INT, VOL=XA.VOL, CAP=

Condition: AM Existing+Project+Office

04/15/05

INTERSECTION 1 Village Pkwy./Amador Vallye Bl Dublin  
 Count Date 4/5/05 Time AM PEAK Peak Hour 8:00-9:00 AM

CCTA METHOD		RIGHT	THRU	LEFT	4-PHASE SIGNAL	
		318	249	169		
LEFT	342	1.1	2.1	1.0	1.1	105
THRU	292	(NO. OF LANES)			2.1	426
RIGHT	78	2.1	2.2	1.1	1.0	178
N		123	192	37	SIG WARRANTS:	
W + E		LEFT THRU RIGHT			Urb=Y, Rur=Y	
S						

STREET NAME: Village Pkwy.

MOVEMENT	ORIGINAL VOLUME	ADJUSTED VOLUME*	CAPACITY	V/C RATIO	CRITICAL V/C
NB RIGHT (R)	37	37	1650	0.0224	
THRU (T)	192	192	3300	0.0582	
LEFT (L)	123	123	3000	0.0410	
T + R		229	3300	0.0694	
T + L		315	4650	0.0677	
T + R + L		352	4650	0.0757	0.0757
SB RIGHT (R)	318	318	1650	0.1927	0.1927
THRU (T)	249	249	3300	0.0755	
LEFT (L)	169	169	1650	0.1024	
T + R		567	3300	0.1718	
EB RIGHT (R)	78	78	1650	0.0473	
THRU (T)	292	292	3300	0.0885	
LEFT (L)	342	342	3000	0.1140	
T + R		370	3300	0.1121	
T + L		634	4650	0.1363	
T + R + L		712	4650	0.1531	0.1531
WB RIGHT (R)	105	105	1650	0.0636	
THRU (T)	426	426	3300	0.1291	
LEFT (L)	178	178	1650	0.1079	
T + R		531	3300	0.1609	0.1609

TOTAL VOLUME-TO-CAPACITY RATIO: 0.58  
 INTERSECTION LEVEL OF SERVICE: A

\* ADJUSTED FOR RIGHT TURN ON RED  
 INT=X.INT, VOL=XA.VOL, CAP=