

APPENDIX F

EL REMATITO FLEA MARKET SUPPLEMENTAL TRAFFIC STUDY



180 Grand Avenue, Suite 250
Oakland, CA 94612
www.dowlinginc.com

510.839.1742
510.839.0871 fax
traffic@dowlinginc.com

Date: May 28, 2009

Memorandum

To: Rebecca Gorton, Lamphier-Gregory
From: Debbie Yueh and Kamala Parks
Reference #: P08-005
Subject: West Ceres Specific Plan – El Rematito Market Supplemental Traffic Study

This memorandum presents the findings and recommendations of the El Rematito Market Supplemental Traffic Study. The study was commissioned in response to public concerns over transportation related issues pertaining to the existing El Rematito Market (hereinafter referred to as the “Flea Market”), which is located within the West Ceres Specific Plan area. The purpose of the study is to identify specific issues related to the Flea Market and recommend short-term and long-term improvement measures that can be employed prior to and after the implementation of the West Ceres Specific Plan.

The study has found that the issues are primarily a result of insufficient parking capacity in the main parking lots of the Flea Market and inadequate access to the “unofficial” overflow parking area. Implementation of the measures recommended herein would better facilitate traffic in the Flea Market area and accommodate projected traffic generated by the West Ceres Specific Plan land uses.



Introduction

This study assesses the Existing (No Project) and Existing plus Project weekend transportation and circulation conditions for a portion of the West Ceres Specific Plan. This analysis assumes the existing Flea Market, Areas A, B, C, D and E in Figure 1, will remain.

To capture the range of transportation modes and activities in the study area, the following aspects of travel were surveyed and assessed:

- Parking
- Roadway operations
- Internal circulation
- Pedestrian access
- Vehicle intersection levels of service

Setting

The Flea Market area is located in the northwestern quadrant of the intersection of Crows Landing & West Hackett Roads. **Error! Not a valid bookmark self-reference.** shows the study area under consideration.

The shaded areas shown in Figure 1 indicate property owned by Marquez (Areas A, B, C, and E) and the Quetzal Corporation (Area D). Areas A, B, and C are where the Flea Market is approved to operate. Areas A and B function as the west and east parking lots, respectively, and Area C contains the Flea Market stands and vendors. Area D consists of existing business operations unrelated to the Flea Market, and Area E is an open field dirt lot containing a few structures in the lower southeast corner. Areas A, B and C have recently been paved.

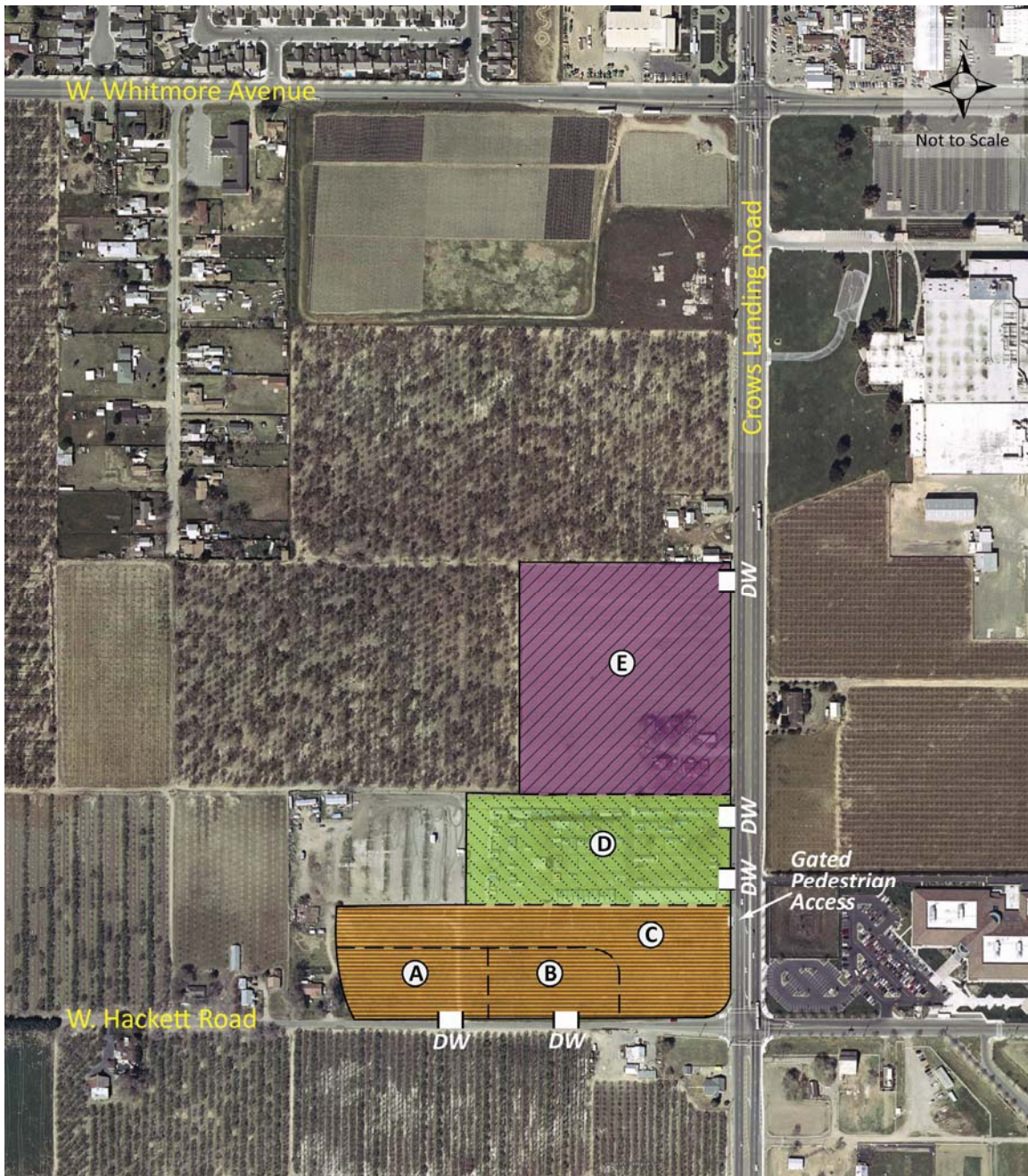
Roadway Descriptions

Roadways in the study area are described as follows:

Crows Landing Road is a four-lane north-south roadway. In the study area, it contains a two-way left turn median for the majority of the segment. There is a raised median for about 450 feet north of West Hackett Road and a posted speed limit of 45 miles per hour. There are paved shoulders on both sides of the roadway for much of the section between West Hackett Road and Area E.

West Hackett Road is a local, two-lane east-west roadway that provides a connection to the Flea Market parking areas. *West Hackett Road* contains a moveable barrier located west of the Flea Market property, which prevents through traffic along this road. On-street parking is not allowed on this roadway in the study area. There is a continuous sidewalk with a raised curb on the north side of the street in the study area.

Figure 1: Study Area





Field Observations

Dowling Associates conducted field observations of vehicle and pedestrian behavior in the Flea Market study area on Saturday, March 28, 2009. Metro Traffic Data, a transportation data counting firm under contract with Dowling Associates, performed counts and conducted field observations a week later in the same area on Saturday, April 4 and Sunday, April 5, 2009.

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Figure 1, Area A (West parking lot) and Area B (East parking lot) are the parking areas approved for the Flea Market. Parking in the West and East lots are laid out as head-in angle parking with narrow aisles. Area E is a mostly open field with a one-lane driveway off of Crows Landing Road for which parking is not approved. Area D consists of existing business operations. Dowling Associates and Metro Traffic Data conducted field observations of Flea Market patron parking in this study area.

As observed by Dowling Associates on Saturday, March 28, Flea Market patrons and vendors began arriving before 7:00 a.m. and parked in Areas A and B. By 9:15 a.m., Areas A and B were completely full, so vehicles began parking on Crows Landing Road and in Area E north of the Flea Market. There were no indications provided to motorists that Areas A and B were full. By 11:00 a.m., Crows Landing Road was approximately 50 percent parked on both sides of the street and about 60 percent of Area E was covered by parked vehicles. At about 1:15 p.m., Crows Landing Road was approximately 90 percent parked on both sides of the street and about 50 percent of Area E was covered by parked vehicles. Patrons began leaving in significant numbers at around 1:30 p.m.

The following weekend, staff from Metro Traffic Data was on site to count vehicles at intersections and make field observations. Parking occurred in Areas A, B, and E, as well as on Crows Landing Road, as was observed the previous Saturday. On Saturday, April 4, Flea Market staff made two attempts to prohibit vehicular access to Area E by blocking the driveway at Crows Landing Road, but most vehicles were able to circumvent the barrier. On Sunday, April 5, the driveway leading to Area E from Crows Landing Road was closed off to motorists, but Flea Market patrons were still able to park in Area E by using Area D's driveways.



Roadway Operations

Observed elements of roadway operations in the study area are described below.

W. Hackett Road

Based on Saturday, March 28 observations, Flea Market vendors arrive as early as 5:00 a.m., with a steady stream of vendor vehicles arriving from 6:15 a.m. onwards from W. Hackett Road. Area A's driveway (West parking lot) on W. Hackett Road is the only entrance open in the early morning, which helped to prevent vehicle queues reaching the intersection of Crows Landing Road. Vehicle queues onto W. Hackett Road from Area A's driveway were observed periodically from roughly 7:20 a.m. to 7:40 a.m., but typically lasted less than one minute in duration. Traffic speeds on W. Hackett Road leading up to Area A's driveway were slow but steady as Flea Market patrons arrived until roughly 8:45 a.m., when the traffic began to queue onto the roadway as much as ten vehicles. At approximately 9:30 a.m., Area B's driveway (East parking lot) was opened, which also resulted in slow but steady speeds on W. Hackett Road with periodic vehicle queues onto the roadway. Queues on W. Hackett Road did not spill back to the Crows Landing Road intersection.

At 1:30 p.m., vehicles departing in significant numbers from Area A and B's parking lots resulted in traffic congestion in the eastbound direction on W. Hackett Road. Eastbound motorists on this leg endured multiple traffic signal cycles in order to get through the Crows Landing Road intersection.

Crows Landing Road

As revealed during each day's field observations (two Saturdays and one Sunday), U-turns on Crows Landing Road were often performed by motorists from the two-way left-turn median to access an on-street parking space, or from a parking space to access Crows Landing Road in the opposite direction.

During the Saturdays observed, northbound motorists wanting to access Area E's single-lane driveway from the two-way left-turn median on Crows Landing Road were blocked by southbound motorists turning right into this driveway. This led to queuing in the two-way left-turn median and U-turns by northbound motorists between Area E's driveway and Whitmore Avenue. On-street queuing in the southbound traffic lane was also caused by the conflict of vehicles exiting and entering the driveway, due to the single-lane driveway width.

During the Sunday observations, traffic congestion on Crows Landing Road appeared to be worse than had been observed on the two Saturdays. The driveway to Area E was closed off. Most all motorists wishing to park in Area E used Area D's northern driveway (existing business operations) to enter and its southern driveway to exit. Southbound vehicles on Crows Landing Road by noon were queued all the way to Whitmore Avenue (a distance of about 2,000 feet) and spilled



back into the intersection. Northbound vehicles performed U-turns from the two-way left-turn median near Area E's driveway in order to access Area D's driveway.

Pedestrians

In the morning, pedestrians were observed accessing the Flea Market site from the south using the W. Hackett Road driveways and Area A and B parking lots. However, vehicles parking on Crows Landing Road or in Area E produced pedestrians who accessed the site from the north. Observations revealed that vehicles parking on the east side of Crows Landing Road tended to produce pedestrians who crossed the roadway mid-block between W. Hackett Road and Whitmore Avenue. In the late morning or early afternoon, a gate in Area C, located on Crows Landing Road roughly 350 feet north of W. Hackett Road, was opened to allow for pedestrian access. The number of pedestrians crossing mid-block was observed to be highest on Sunday, April 5, when Area E's driveway was closed off. Pedestrians parking in the Area E were also able to access the Flea Market through Area D (existing business operations).

Flaggers

As observed by Metro Traffic Data on Sunday, April 5, Flea Market staff members were stationed at the driveways on Crows Landing and W. Hackett Roads to help direct traffic. They were not equipped with safety gear or traffic control tools (such as handheld stop signs) and appeared to be completely untrained. As a result, they were observed directing motorists to and from the driveways into situations of conflict with other motorists.

Enforcement

As observed by Metro Traffic Data on Sunday, April 5, a sheriff patrolled Crows Landing and W. Hackett Roads and assisted in directing traffic, but did not appear to issue any parking tickets or other citations.

Internal Circulation

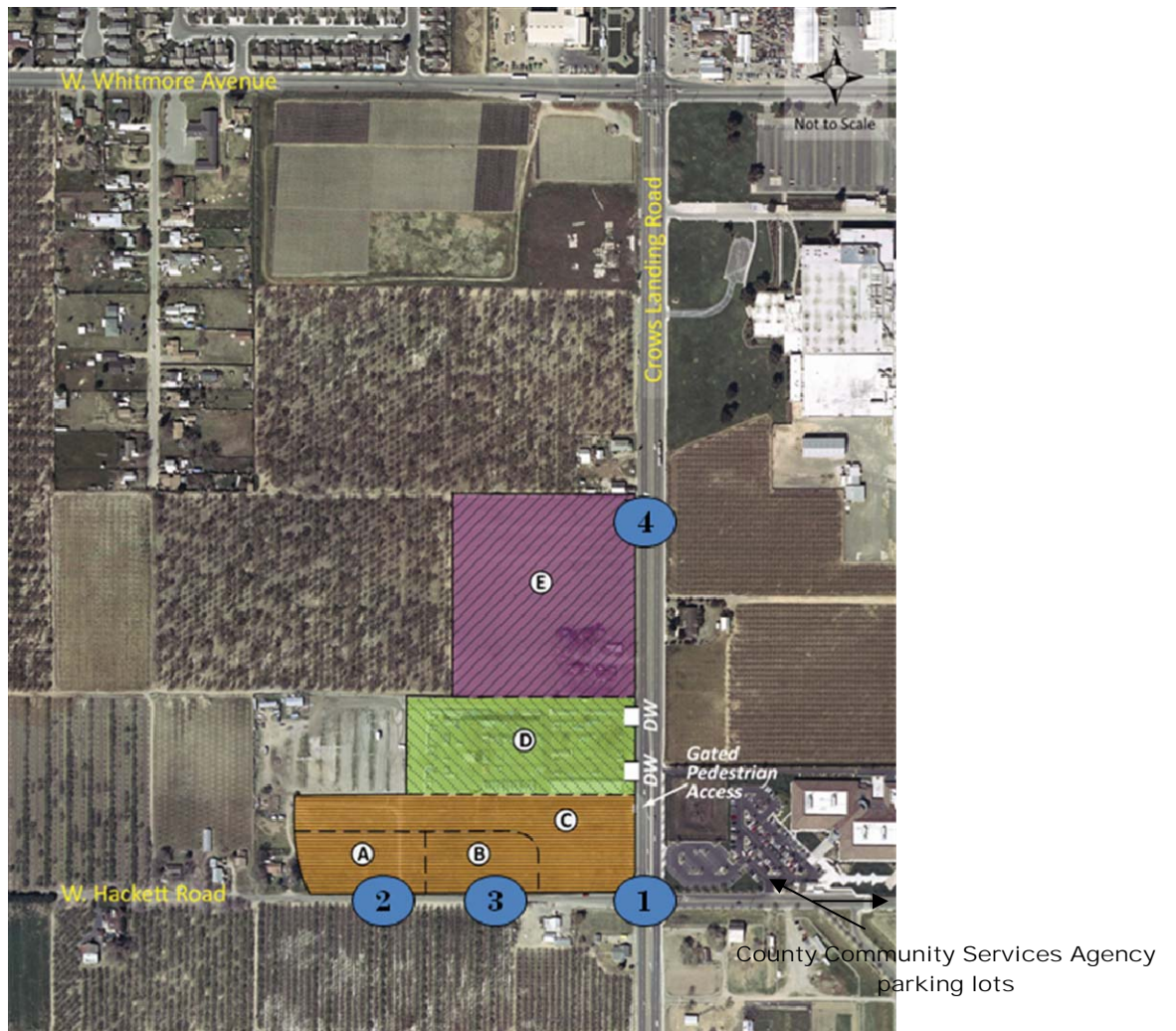
With reference to the subareas identified for the purposes of discussion and analysis in Figure 1, pedestrians are able to access all areas internally. Vehicles are able to circulate between Areas A and B, the paved parking lot, but not between the paved lot and in Area E.

Analysis

The analysis focused on automobile circulation, primarily in terms of the Levels of Service (LOS) provided at key study area intersections, which are as follows and shown in Figure 2.

#	Intersection
1	Crows Landing Road & W Hackett-E Hackett Road
2	West parking lot driveway (Area A) & W Hackett Road
3	East parking lot driveway (Area B) & W Hackett Road
4	Crows Landing Road & Area E driveway

Figure 2: A Locations





Weekend Volumes

Metro Traffic Data conducted manual vehicle turning movement counts on both Saturday, April 4 and Sunday, April 5 in 2009 during the Flea Market's peak hours of 10:00 a.m. to 2:00 p.m. Manual turning movement counts were collected at Intersection #1, 3 and 4 on Saturday and at Intersection #1, 3 and Area D driveways on Sunday. Volumes for Intersection #2 were derived from data for Intersections #1 and #3 as Hackett Road was closed west of the Flea Market.¹

It was generally found that there were about three percent more vehicles counted on Sunday when compared to Saturday. However, because the Area E is not approved for Flea Market parking or operations, it appeared that the Flea Market staff altered their typical parking arrangements for the Sunday observations in response to Metro Traffic Data's presence during the Saturday count. Doing so may have triggered higher counts because of motorist confusion of the alteration of typical parking arrangements. Because the Sunday operations were atypical, analysis was performed for Saturday only. However, count sheets are provided for both days in Appendix A.

Level of Service (LOS) Method

To analyze intersection levels of service in the project area, this study used the Transportation Research Board's *Highway Capacity Manual*, 2000 methods. Level of service (LOS) is a qualitative indication of the level of delay and congestion experienced by motorists using an intersection. Levels of service are designated by the letters A through F, with A having the best operating conditions and F the worst (high delay and congestion).

LOS at signalized intersections and all-way stop-controlled intersections is based on the weighted average delay for all intersection legs. At one- or two-way stop-controlled intersections (side-street stop-controlled), LOS is based on the weighted average delay of the intersection leg experiencing the worst delay. The criteria used for unsignalized intersections are summarized in Table 1 and for signalized intersections in Table 2.

¹ Hackett Road served only the Flea Market and a single family residence during both data collection periods.



Table 1: Level of Service Criteria for Unsignalized Intersections

Level of Service (LOS)	Control Delay Average (sec/veh)	Description
A	≤ 10.0	Little or no congestion or delays
B	> 10.0 and ≤ 15.0	Limited congestions with short delays
C	>15.0 and ≤ 25.0	Some congestion with average delays
D	>25.0 and ≤ 35.0	Significant congestion with long delays
E	>35.0 and ≤ 50.0	Severe congestion with very long delays
F	> 50.0	Extreme congestion with delays unacceptable to most drivers

Source: Transportation Research Board. *Highway Capacity Manual*, 2000. Washington DC

Table 2: Level of Service Criteria for Signalized Intersections

Level of Service (LOS)	Average Delay ¹ (sec/veh)	Description
A	≤ 10.00	Very Low Delay: This level of service occurs when progression is extremely favorable and most vehicles arrive during a green phase. Most vehicles do not stop at all.
B	10.1-20.0	Minimal Delays: This level of service generally occurs with good progression, short cycle lengths, or both. More vehicles stop than at LOS A, causing higher levels of average delay.
C	20.1-35.0	Acceptable Delay: Delay increases due to only fair progression, longer cycle lengths, or both. Individual cycle failures (<i>to service all waiting vehicles</i>) may begin to appear at this level of service. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	35.1-55.0	Approaching Unstable/Tolerable Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55.1-80.0	Unstable Operation/Significant Delays: This is considered by many agencies the upper limit of acceptable delays. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	≥ 80.0	Excessive Delays: Describes operations with average delay in excess of 60 seconds per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: Transportation Research Board. *Highway Capacity Manual*, 2000. Washington DC



Intersection Levels of Service

Levels of service were calculated using Traffix Software® for Existing conditions and Existing plus Project (West Ceres Specific Plan) conditions for the Saturday peak-hour, which assumed continuing Flea Market operations (Area A thru E). The calculation results for the key study area intersections are shown in Table 3. Detailed calculations are contained in the appendices.

Table 3: Saturday Intersection Levels of Service

Intersection	Control	Peak Hour	Existing		Existing + Project	
			LOS	Delay	LOS	Delay
1 Crows Landing Rd & Hackett Rd	Signal	11:45 a.m. - 12:45 p.m.	C	27	D	44
2 West Flea Market driveway & W. Hackett Rd	Unsig	11:15 a.m. - 12:15 p.m.	A (B)	8 (11)	A (C)	10 (24)
3 East Flea Market driveway & W. Hackett Rd	Unsig	11:15 a.m. - 12:15 p.m.	A (C)	2 (19)	A (E)	4 (44)
4 Crows Landing Rd & Area E driveway	Unsig	11:45 a.m. - 12:45 p.m.	A (D)	1 (28)	A (F)	3 (97)

Count conducted Saturday, April 4, 2009 from 10:00 a.m. to 2:00 p.m.

Signal = Signalized intersection; **Unsig** = One or two side-street approach controlled by stop sign; **LOS** = Level of Service

Delay is measured as "seconds per vehicle". It refers to the weighted average delay at signalized intersections and the weighted average delay of the intersection leg with the worst level of service at Unsig intersections.

Unsig intersection LOS and delay appear in the table as "Average (Worst Leg)"

Calculated by Dowling Associates, Inc in May 2009 using Traffix Software© version 8.0.

For Existing conditions, all intersections analyzed in the project study area currently operate at or above LOS “D”, which is the minimum level of service standard for intersections in the City of Ceres. For Existing plus Project conditions, the following two locations are projected to operate below City of Ceres’ LOS standards:

- Intersection #3 (East Flea Market driveway and W. Hackett Road) with LOS E for vehicles exiting the driveway in the southbound direction.
- Intersection #4 (Crows Landing Road and Area E driveway) with LOS F for vehicles exiting the driveway in the eastbound direction.



Recommendations

Based on field observations and traffic volume data, the combined parking capacities in Area A, Area B and Area E are sufficient to meet the demand of the Flea Market provided the existing market area remains. Therefore, the recommendations provided in this section focus on Recommended changes to the existing circulations conditions are provided below for both short-term and long-term implementation.

Short-term

Some measures can be implemented immediately to improve circulation conditions during Flea Market operating hours. Each measure is supported by a rationale.

Measure 1-A: Allow parking in County Community Services Agency's parking lots off Hackett Road on Saturday and Sunday.

Rationale: It is apparent from our observations and counts that the current approved parking areas for the Flea Market's operations are insufficient and the use of the Area E dirt lot for overflow parking is in violation of permitted use by the County. Because the County offices are not open on the weekends, the Flea Market operator could work with the County to temporarily lease the use of the parking lots on weekends. The Flea Market should furnish security on the lots as well as be responsible for cleaning-up the lots every Sunday.

Measure 1-B: Allow parking in Area E.

Rationale: Because any agreement with the County regarding the use of the Community Services Agency's lots may take time and may ultimately be unfruitful, this measure may present a more viable alternative. It is apparent from our observations that parking in Area E is an established pattern. Given the limited parking options in the area, it is recommended that overflow parking be allowed in Area E. The following measures assume Measure 1-B would be implemented.

Measure 1-C: Relocate and/or improve vehicular access to parking in Area E.

Rationale: The current driveway that provides access to is too narrow to accommodate two-way traffic, creating queues on Crows Landing Road. Access to Area E can be provided a number of ways.

Option 1, if the Quetzal Corporation is amenable, is to provide vehicular access to Area E through Area D's driveways at Crows Landing Road. Vehicle operations at Area D's driveway, where the inbound vehicles can use the north driveway and the outbound



vehicles can use the south driveway, would improve operations on Crows Landing Road and at the driveways.

It is noted that this system was the de facto operations during the Sunday counts and seemed to create southbound queues that stretched back to Whitmore Avenue. The sudden closure of Area E's driveway appeared to create motorist confusion and a number of northbound vehicles were seen performing U-turns to access Area D's driveway, which in turn resulted in excessive queues. Such confusion would likely dissipate if vehicular access to Area E's driveway from Crows Landing Road is permanently close off. The conflicts between vehicles exiting Area D's driveway and those accessing Hackett Road would continue to persist due to their relative proximity. Eastbound left-turn movements from the driveway and northbound left-turn movements into the driveway should be prohibited. Such restrictions, nonetheless, may be difficult to enforce.

Option 2 is to keep Area E's driveway open for one-way outbound operations only and utilize one of Area D's driveways for inbound vehicles to access the Area E. This option allows greater distance between exiting vehicles from the driveway and the Hackett Road intersection.

Option 3, provided the Quetzal Corporation is not amenable to having its driveways used for Area E access, is to widen the driveway at Area E to allow for two-way vehicle operations. Eastbound left-turn movement from the driveway should be prohibited.

For all three options, parking should be prohibited with 100 feet of any of the driveways on Crows Landing Road in order to provide a right-turn pocket for ingress vehicles and minimize queuing onto the southbound travel lane.

Measure 1-D: Enforcement by law enforcement officers of existing parking prohibitions on Crows Landing Road between Hackett Road and Whitmore Avenue and enforcement of mid-block pedestrian crossings.

Rationale: Vehicles were observed making unsafe U-turns on Crows Landing Road to reach available on-street parking spaces. Vehicles parking on the east side of the street produced pedestrians who cross Crows Landing mid-block, in violation of California Vehicle Code §21955.² Enforcement should reduce the number and demand of pedestrian mid-block crossings and minimize conflicts between U-turning vehicles and approaching traffic. With adequate off-street parking

² California Vehicle Code §21955 says that pedestrians may not cross between two adjacent intersections that are both signalized unless specific provisions are provided for mid-block crossings.



facilities and access driveways, the attractiveness of on-street parking should be diminished substantially.

Measure 1-E: Restrict pedestrian access at the Flea Market's pedestrian gate on Crows Landing Road.

Rationale: Because the gate is located some 200 feet north of Hackett Road, pedestrians parked on the east side of Crows Landing Road are attracted to the shorter walking distance by crossing at mid-block. Closing the gate and allowing access to the Flea Market only through Area A and Area B would remove the incentive to crossing mid-block. Unfortunately, this measure would also penalize those walking on the west side of the road to and from parking in Area E.

Measure 1-F: Hire, train, and properly attire at least 3, possibly 4, flaggers (Stationed at Area A, B, D, and possibly Area E) to direct traffic safely and efficiently to and from the parking areas.

Rationale: In order to maintain smooth roadway and parking operations, competent flaggers need to be posted at Flea Market driveways. They should direct vehicles to alternative parking areas as the lots fill up. They should also control the flow of vehicles in and out of parking areas so that roadway queues due to the Flea Market patrons are minimized.

Measure 1-G: Provide moveable roadway signs to direct Flea Market patrons where to access parking.

Rationale: Moveable roadway signs can be placed along Crows Landing Road south of Hackett Road, at the Hackett Road intersection, north of Hackett Road, and near driveways providing access to Area E. These signs should indicate where Flea Market patrons should go to park. When parking in Areas A and B fills up, flaggers should change signs so that motorists are directed to park in Area E. This will improve roadway operations, provide advance notification to Flea Market patrons, and minimize driving in the study area. Signs should be placed where motorists can see them and in locations where they do not obstruct vehicle or pedestrian travel. The Flea Market should work with City and County staff to determine suitable sign locations.

Long-term

Some measures need more time to be implemented, but will be important for improving circulation conditions and LOS during Flea Market operating hours. It is assumed that measures implemented in the short-term remain, unless otherwise noted. Each measure is again supported by a rationale.

Measure 2-A: Relocate all Flea Market vehicular access to W. Hackett Road by creating vehicular access to Area E through Areas A, C, and D.



Rationale: In order to minimize the effects of traffic generated by the Flea Market on Crows Landing Road operations, it is recommended that all parking areas for the Flea Market be accessed through the driveways off of W. Hackett Road. Some Area C Flea Market stall locations and Area A parking spaces may need to be relocated to allow for two-way vehicle operations for vehicles accessing Area E. The Quetzal Corporation would also need to agree to allow vehicular access across their property, and may need to relocate some of the existing business operations to accommodate Flea Market patron access. Implementing Measure 2-A would supersede Measure 1-B.

Intersection level of service analysis for Existing plus Project conditions was conducted to determine the effects of redirecting existing Flea Market traffic away from Intersection #4 (Crows Landing Road & Area E driveway) to Intersection #2 (West Flea Market driveway & W. Hackett Road). This would result in an additional 144 inbound vehicles and 68 outbound vehicles in the Saturday peak-hour. The results indicate that the southbound vehicles at Intersection #2 would experience more delay than they would if there were no changes to the Flea Market traffic patterns, but Intersection #4's level of service would improve dramatically. Table 4 shows the level of service for Existing plus Project scenario under existing traffic patterns and with the proposed access to Area E from W. Hackett Road.

Table 4: Saturday Existing + Project LOS with Mitigations

Intersection	Control	Peak Hour	No Change		Mitigated	
			LOS	Delay	LOS	Delay
2 West Flea Market driveway & W. Hackett Rd	Unsig	11:15 a.m. - 12:15 p.m.	A (C)	10 (24)	C (E)	17 (45)
3 East Flea Market driveway & W. Hackett Rd	Unsig	11:15 a.m. - 12:15 p.m.	A (E)	4 (44)	A (E)	4 (44)
4 Crows Landing Rd & Area E driveway	Unsig	11:45 a.m. - 12:45 p.m.	A (F)	3 (97)	A	0

Count conducted Saturday, April 4, 2009 from 10:00 a.m. to 2:00 p.m.

Unsig = One or two side-street approach controlled by stop sign; **LOS** = Level of Service

Delay is measured as "seconds per vehicle". It refers to the weighted average delay of the intersection leg with the worst level of service at Unsig intersections.

Unsig intersection LOS and delay appear in the table as "Average (Worst Leg)"

Calculated by Dowling Associates, Inc in May 2009 using Traffix Software© version 8.0.



Measure 2-B: Adjust traffic signal timing at Intersection 10 (Crows Landing Road & Hackett Road) to improve traffic operations in the eastbound direction during Flea Market peak-hours.

Rationale: Implementing Measure 2-A would result in more traffic on W. Hackett Road; however; the intersection would operate acceptably. Nonetheless, signal timing adjustments can be made to minimize eastbound vehicle queues and improve traffic operations at this intersection. Intersection level of service analysis for Existing plus Project was conducted to determine the effects of adjusting the signal timing. The mitigated signal timing used in the level of service analysis adjusted the signal to create split-phases in the eastbound and westbound directions and included a southbound right-turn overlap phase (for which a right-turn arrow signal head would need to be installed and eastbound U-turns would need to be prohibited.). This signal timing change would result in an overall level of service improvement at the intersection, as shown in Table 5.

Table 5: Saturday Existing + Project LOS with Mitigations

Intersection	Control	Peak Hour	No Change		Mitigated	
			LOS	Delay	LOS	Delay
1 Crows Landing Rd & Hackett Rd	Signal	11:45 a.m. - 12:45 p.m.	D	44	C	35

Count conducted Saturday, April 4, 2009 from 10:00 a.m. to 2:00 p.m.

Signal = Signalized intersection; **LOS** = Level of Service

Delay is measured as "seconds per vehicle". It refers to the weighted average delay at signalized intersections

Unsig intersection LOS and delay appear in the table as "Average (Worst Leg)"

Calculated by Dowling Associates, Inc in May 2009 using Traffix Software© version 8.0.

Measure 2-C: If U-turns continue to occur on Crows Landing Road between Hackett Road and Whitmore Avenue, install “No U-turn signs” on the two-way-left-turn-lane.

Rationale: U-turns on Crows Landing Road affect roadway operations and safety. Most U-turns in the study area typically occur when vehicles enter or exit a parking space on-street. For the Sunday observed, Area E's vehicle access was disrupted, which resulted in an increase of northbound U-turns in order to access Area D's driveways. The normalization of parking should result in a decrease of U-turns. If, however, this is not the case, traffic signs and enforcement will be required.