

# CRANE TRANSPORTATION GROUP

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## MEMORANDUM

**TO:** John McDowell ([john.mcdowell@countyofnapa.org](mailto:john.mcdowell@countyofnapa.org))

**cc:** Tom Carey ([tcarey@dpf-law.com](mailto:tcarey@dpf-law.com))  
Erich Kroll ([ekroll@reatawines.com](mailto:ekroll@reatawines.com))

**FROM:** Mark D. Crane, P.E.

**DATE:** February 14, 2012

**RE:** REATA

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- 1. Question: Please provide your trip generation methodology. We are looking for a brief explanation or table describing how hourly/daily totals correlate to proposed annual production, and which describes types of trips and the capacity of the vehicles. Please include the extent of truck trips necessary for any off-site barrel aging/fermenting, case goods storage, de-alcohol processing, etc.*

Truck trip generation for Existing + Project conditions is detailed in **Appendix Tables A, B, C & D** attached to this memo, while each component of truck trip generation is explained below.

### **DeAlc Trip Generation**

The DeAlc Facility will deliver a tanker truck per day of wine (DeAlc Bulk Wine In) that will be placed into tank. The wine will be processed within the winery with the removed alcohol being transferred into an ethanol storage tank, and the remaining wine being pumped into a storage tank awaiting shipment offsite. We anticipate the ethanol storage tank will be filled every third day and will require a truck to come onsite (DeAlc Permeate). The treated bulk wine will be shipped offsite (DeAlc Bulk Wine Out) to make room for the next delivery of untreated bulk wine.

We are requesting permission to treat 310,000 gallons annually which correlates to 1,200 gallons per trip of receiving and 1,200 gallons of shipping out.

### **Grape Production Trip Generation**

During harvest, grapes will be delivered by flatbed or valley bin trucks with loads averaging 12-20 tons. Some loads will be a little larger while others will be a little smaller. Reata anticipates that the peak tons brought into the facility will be 200, with an average at 135 tons per day over

the 60-day Harvest period. Reata anticipates that the juice will be fermented onsite through January of that year. Reata will then begin shipping the bulk wine offsite in 2-6,000 gallon tanks to an offsite facility in order to make room for the following harvested fruit.

#### **Bottling – Wine Delivery Trip Generation**

In order to bottle 3.7 million gallons per year at our facility, this equates to 14,230 gallons of wine per day (52 weeks, 5 days per week) or 5,929 cases per day. This will require the delivery of 3-6,000 gallon wine shipments (Bulk Wine In for Bottling) on a daily basis in order to provide product for the demand. Reata's current line runs at 80 bottles per minute which equates to 3,200 cases per day. Therefore, in order to keep up with production levels, Reata will need to make improvements to the bottling line to 6,000 cases per day or 150 bottles per minute.

#### **Bottling – Glass Delivery Trip Generation**

In order to keep up with bottling needs, Reata will need to deliver 6,000 cases of glass per day. This will require the delivery of 3-2,000 case trucks on a daily basis (Glass In).

#### **Bottling - Case Goods Out Trip Generation**

Case Goods will be stored at an offsite location. Therefore, Reata will require the shipment of 3-2,000 case trucks to an offsite facility on a daily basis (Case Goods Out).

2. *Question: Please describe the extent of visitation and wine production occurring on the day(s) when the existing condition traffic counts were performed. Please also account for any other traffic generated by existing land uses relying on Kirkland Road.*

The day of our traffic count at SR12/Kirkland Ranch Road was Thursday, August 11, 2011. The visitor total that day was 60, while production was at a minimal level.

Traffic generation from the two water treatment plants as well as the few residential units served by Kirkland Ranch Road should have been minimal.

3. *Please evaluate the difference between current existing conditions (August traffic count) and entitled conditions listed in Tables 1 & 2 of the January 3, 2012 traffic supplement. The traffic supplement states 400 visitors as in existing condition, which appears to be reflective entitled visitation. The County is obligated to disclose the change from existing to proposed conditions, in addition to entitled to proposed conditions. Please opine as well on whether changes from actual existing conditions to proposed conditions will result in any reduced levels of service.*

The correct visitor number should have been 600, which has been updated in the traffic studies. The current approved visitation level of 600 people is permitted to occur between 10:00 AM and 4:00 PM. Therefore, today there should be no visitation-related traffic during the morning commute period (7:00-9:00 AM), and little or no traffic during the afternoon commute period (4:00-6:00 PM). The proposed project would allow visitation by appointment only to extend from 4:00 up to 10:00 PM, while holding the maximum visitation numbers at today's levels. While visitation-related traffic due to the project's proposed extended hours was added to PM

commute period traffic flow, there would be no resultant change in level of service and only minimal change in delay during the 4:00-5:00 and 5:00-6:00 PM hours due to this added traffic. This impact will be less than significant. Reata will make every attempt to continue to schedule visits to the winery to comply with the existing mitigation measure that requires scheduling of trips to avoid the 4:00-6:00 PM peak hours.

4. *Please provide your modeling assumptions on where fruit will be harvested and where wine being crush and fermented elsewhere will occur. The applicant has commented that fruit and bulk wine will be obtained on the open market sourced from existing vineyards and wineries. Please confirm. Staff is assuming that traffic generated from sourcing 75% Napa County fruit will be 50% from the Hwy. 29 corridor and 50% from Silverado Trail corridor. Please confirm or correct.*

Bulk wine will most likely be coming from the airport where there is a significant amount of storage currently. 75% or more of the grapes will be coming from the Napa Valley. A best estimate at this time would have 10% from American Canyon, 10% from Carneros, 35% from Highway 29 and 35% from Silverado Trail. As the production increase is implemented over the next several years, the applicant anticipates the vast majority of the grapes and wine supplied to the winery to originate from existing Napa County vineyards and wineries.

5. *Please confirm or correct the County's assumptions regarding amount of fruit and land area required for the proposed production as follows:*
  - a. *75% Napa Valley fruit required for 3.7 million gallons total production equates to 2,775,000 gallons.*
  - b. *2,775,000 gallons at an average of 165 gallons per ton of harvested grapes equates to 16,818 tons of fruit.*
  - c. *16,818 tons of fruit at an average yield of 3.5 acres per ton equates to 4,805 acres of land.*

Item a. Agree.

Item b. Reata assumed 160 gallons per ton of harvested grapes for 17,343 tons of fruit.

Item c. Reata assumed 4,955 acres.

6. *Please provide an explanation detailing the change in truck trips from 12 Entitled (presently labeled Existing) Daily Trips to the proposed 24 Total Daily 2-Way Trips with Project listed in Tables 1 and 2 of the January supplement.*

Tables 1 and 2 show that during harvest and non-harvest conditions, there are currently 12 truck trips per day (6 inbound and 6 outbound) associated with bringing bulk wine and glass to the winery as well as shipping case goods from the winery. This number of daily truck trips associated with these specific activities would double with the proposed project. This number of additional truck trips assumes zero (0%) efficiency in scheduling that will allow a truck bringing a load to the winery to also leave with case goods (i.e. all new truck trips related to inbound bulk wine/glass deliveries or outbound case goods shipments will be empty in one direction of travel).

7. *For Tables 1 and 2 of the January supplement, please provide rationale why 400 visitors per day was selected as the amount of daily visitation. The presently entitled use permit allows maximum daily visitation at 600 visitors per day, plus marketing events of up to 200 visitors (average of 25 visitors, and only 72 days out of the year). Tables 1 and 2 appear to be capturing a projected average weekday attendance.*

The 400 visitors per day was in error. The January supplement has been updated to reflect 600 visitors per day.

8. *Related to item 7 above, please opine on the project's potential to impact weekend daily traffic, as well as congested periods outside of the evaluated weekday peak hours. Please opine on the project's potential to result in lengthening the duration of peak hour congestion (peak spreading). Staff is assuming that maximum daily visitation (presently proposed at 570 visitors) would occur on weekends. Please confirm or correct. Also, based on the revised project narrative, it appears that truck traffic will not occur on weekends. Lastly, the revised project narrative states that visitation hours will be extended from 4 p.m. to 10 p.m. but without increasing visitation levels. Please describe the extent of visitation that will occur after the end of peak congested periods and describe any positive (or negative) results.*

Based upon historical count data from Caltrans for SR12 near the project site, peak two-way volumes on a Saturday or Sunday afternoon in August or September are comparable to those during a weekday AM commute peak hour, but are about 5 percent lower than those during a PM commute peak traffic hour. In addition, the weekend afternoon peak hour volumes are more balanced (eastbound/westbound), than those during the weekday commute peak hours, and thus result in somewhat less congestion.

There should be significantly less project employee traffic during the weekends than on weekdays. In addition, there would be no truck traffic on weekends. Project visitor traffic may be higher, but spaced throughout a weekend afternoon and evening because it will be by appointment only. Therefore, since the analysis of project traffic impacts was conducted for weekday commute peak hour conditions, a weekday PM peak hour analysis should provide a larger project traffic impact as it includes both employee and visitor traffic, not just primarily visitor traffic, as would be the case during any hour on a Saturday or Sunday afternoon. Given that the weekday PM peak hour analysis showed no significant project traffic impacts, none would be likely during a peak weekend traffic hour.

Project traffic would not be expected to spread the existing weekday commute peak traffic hours due to the small increment of project traffic projected during any given hour.

Project traffic would not be expected to significantly impact traffic flow during non-commute hours (even when congested), as the project is producing no significant impacts during the most congested conditions. Special event traffic could produce short duration increases in turn

movements to/from Kirkland Ranch Road, but these events are already permitted and no increase in special events or special event attendance is being requested.

It is likely that maximum daily visitation would occur on weekends.

It is correct that no truck traffic will occur on weekends.

Expanding visitation hours to 10:00 PM will have the slightly negative impact of adding traffic during the evening commute peak traffic hours. As the analysis has shown, this added traffic during these time periods would produce no significant traffic impacts. However, Reata will make every attempt to continue to schedule visits to the winery to comply with the existing mitigation measure that requires scheduling of trips to avoid the 4:00-6:00 PM peak hours.

9. *Please opine on whether the planned Caltrans' widening project will have any impacts to proposed project, and whether the proposed project will impact the widening.*

The proposed Caltrans widening project will have several positive impacts on the proposed project. They are:

1. The left turn lane on the eastbound SR12 approach to Kirkland Ranch Road will be lengthened from 280 up to 500 feet. This will allow added storage and Caltrans acceptable deceleration length for this turn pocket.
2. The merge from two to one lane along eastbound SR12 just east of the Kirkland Ranch Road intersection will be eliminated with provision of two eastbound lanes continuing to I-80. This will eliminate weekday evening (3:00-6:00) stop-and-go eastbound traffic on the eastbound approach to the merge area and through the Kirkland Ranch Road intersection as well as facilitate quicker access to the project site from the SR29 corridor.
3. The added lane on the SR12 westbound approach to the Kirkland Ranch Road intersection will result in improved intersection operation during the AM peak traffic period (and less vehicle delay).

Traffic from the proposed project should have minimal impact on the planned SR12 widening. The reasons are:

1. The widening is scheduled to begin in April 2012 and be completed in one to two years. The full extent of additional project traffic should not be on the local roadway network during the span of proposed construction.
2. Project traffic is projected to produce only minimal impacts on the local roadway system during both commute periods. This traffic should not significantly impact the road widening construction process.

10. *The General Plan EIR states that the Jamieson Canyon highway segment will operate at LOS E in 2030 inclusive of the widening that is soon to commence. Please address whether the project will result in a change to that projected LOS.*

Year 2030 AM and PM peak hour traffic projections have been developed for the SR12/Kirkland Ranch Road intersection based upon traffic analysis conducted along SR12 for the update of the County's Airport Area traffic mitigation fee.<sup>1</sup> These projections show that 2030 operating conditions at the SR12/Kirkland Ranch Road intersection (with the proposed Reata project) should be acceptable during both peak traffic hours.

AM Peak Hour – LOS C

PM Peak Hour – LOS C

General Plan analysis has also concluded that a four-lane Jameson Canyon Road will be operating at LOS E conditions in 2030. The addition of project traffic would not be expected to result in any change to this level of service designation.

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<sup>1</sup> Napa Airport Industrial Area Traffic Mitigation Fee Update – Future Conditions Memorandum by Atkins, July 29, 2011.

## Appendix Table A

### REATA DAILY TRUCK TRIP GENERATION (EXISTING + PROJECT)

Day 1	Day 2	Day 3	Day 4	Day 5
Receive untreated wine				
	DeAlc Wine			
		Ship out permeate in bulk tank		
		Ship out treated wine		

**Receive DeAlc Bulk Wine**

310,000      gallons per year  
 1,192      average gallons per trip  
 1      trip in/1 trip out per weekday

**Ship Out DeAlc Treated Bulk Wine**

310,000      gallons per year  
 1,192      average gallons per trip  
 1      trip in/1 trip out per weekday

**Ship Out DeAlc Permeate in Bulk Tank (once per week)**

310,000      gallons per year  
 1,192      average gallons per trip  
 1      trip in/1 trip out 1 day per week

*Source: Reata*

## Appendix Table B

### REATA DAILY TRUCK TRIP GENERATION (EXISTING + PROJECT)

Day 1	Day 2	Day 3	Day 4	Day 5
Receive wine				
	Bottle wine			
		Ship out case goods		

**For receiving Wine (Bulk Wine for Bottling)**

6500 gallons per tanker truck  
 3,700,000 gallons per year  
 14,231 average gallons per day  
 5,929 cases per day  
 3 full trips in/3 empty trips out per weekday

**For Bulk Wine Out**

6500 gallons per tanker truck  
 3,700,000 gallons per year  
 14,231 average gallons per day  
 3 empty trips in/3 full trips out per weekday

**For Case Goods Out**

2,900 cases per truck load  
 3,700,000 gallons per year  
 14,231 average gallons per day  
 5,929 cases per day  
 3 empty trips in/3 full trips out per weekday

**For Glass In**

2,900 cases per truck load  
 3,700,000 gallons per year  
 14,231 average gallons per day  
 5,929 cases per day  
 3 full trips in/3 empty trips out per weekday

*Source: Reata*



Appendix Table C

**REATA DAILY HARVEST FRUIT DELIVERY  
TRUCK TRIP GENERATION  
(EXISTING + PROJECT)**

6500	Gallons per tanker truck
1,300,000	Gallons per year
21,667.67	average gallons per crush (60 days)
135	Average tons per day (60 days)
200	Peak tons per day
12-20	Tons per trip
15	Full trips in/15 empty trips out

*Source: Reata*

Appendix Table D

**REATA TOTAL EXISTING + PROJECT  
DAILY 2-WAY TRUCK TRIPS**

**NON HARVEST**

	APP	TOTAL 2-WAY TRIPS*
Bulk Wine In for Bottling	C	6
Bulk Wine Out from Harvested Grapes	A	6
Glass In	C	6
Case Goods Out	C	6
DeAlc Bulk Wine In	B	2
DeAlc Bulk Wine Out	B	2
DeAlc Permeate	B	2
Total		30

**HARVEST**

	APP	TOTAL 2-WAY TRIPS*
Bulk Wine In for Bottling	C	6
Bulk Wine Out from Harvested Grapes	A	6
Glass In	C	6
Case Goods Out	C	6
Harvest Grapes In	D	15
Harvest Truck Trip Out (no grapes)	D	15
DeAlc Bulk Wine In	B	2
DeAlc Bulk Wine Out	B	2
DeAlc Permeate	B	2
Total		60

\* Assumes 0% efficiency of loaded vehicle entering winery also leaving with full load (i.e. one direction of trip truck is empty). (Inbound + outbound.)

Source: Reata

# **TRAFFIC IMPACT REPORT**

## **REATA EXPANSION IN NAPA COUNTY**

**October 5, 2011  
[Revised February 13, 2012]**

**Prepared for: Reata**

**Prepared by: Mark D. Crane, P.E.  
California Registered Traffic Engineer (#1381)  
CRANE TRANSPORTATION GROUP  
2621 E. Windrim Court  
Elk Grove, CA 95758  
(916) 647-3406**

## I. INTRODUCTION

This report has been prepared at the request of Reata along the north side of State Route 12 (Jameson Canyon Road) in Napa County. It details the circulation-related impacts due to proposed winery production expansion and an increase in visitor hours for tours by appointment only, although there would be no increase in the total number of tour visitors currently entitled by the Winery. Proposed expansion would increase production from a permitted 200,000 gallons up to 1.3 million gallons of wine per year and an additional bottling of up to 2.4 million gallons. In addition, visitor center hours would be increased from the existing 10:00 AM to 4:00 PM up to 10:00 AM to 10:00 PM. There would be no change to the currently entitled special events, which are scheduled to not impact weekday 4:00 to 6:00 PM traffic flow on S.R.12.

Evaluation has been conducted of project traffic impacts at the Jameson Canyon Road (S.R.12)/Kirkland Ranch Road/Chardonnay Country Club signalized intersection (postmile 1.28). August weekday 2011 traffic counts have been conducted at the intersection during the AM and PM commute periods. Summer counts have then been seasonally adjusted to reflect peak harvest conditions. Future traffic model projections recently developed for the Napa Airport Industrial Area Traffic Mitigation Fee update program have been utilized to project year 2012 Base Case (without Winery expansion) traffic volumes on Jameson Canyon Road. The net change in traffic due to proposed expansion of Reata has then been determined and Base Case (without project) as well as Base Case + Project operating conditions determined on the local circulation network. A determination has then been made whether Winery expansion traffic would result in any significant circulation impacts.

## II. SUMMARY OF FINDINGS

1. Reata is currently generating the following levels of traffic during the peak weekday traffic hours along Jameson Canyon Road (S.R.12).

### EXISTING REATA TRIP GENERATION DURING HOURS OF PEAK TRAFFIC ALONG JAMESON CANYON ROAD (S.R.12)

SEASON	WEEKDAY AM PEAK HOUR TRIPS 7:30-8:30		WEEKDAY PM PEAK HOUR TRIPS			
	INBOUND	OUTBOUND	4:00-5:00		5:00-6:00	
			INBOUND	OUTBOUND	INBOUND	OUTBOUND
Summer	5	1	0	16	1	2
Harvest	7	2	2	18	2	3

Source: Reata/Crane Transportation Group

2. The proposed Reata expansion would be expected to result in the following volume increases during the peak weekday traffic hours along Jameson Canyon Road (S.R.12).

**REATA PROPOSED EXPANSION  
NET NEW TRIP GENERATION DURING  
HOURS OF PEAK TRAFFIC ALONG JAMESON CANYON ROAD (S.R.12)**

SEASON	WEEKDAY AM PEAK HOUR TRIPS 7:30-8:30		WEEKDAY PM PEAK HOUR TRIPS			
			4:00-5:00		5:00-6:00	
	INBOUND	OUTBOUND	INBOUND	OUTBOUND	INBOUND	OUTBOUND
Summer	6	0	12	4	11	13
Harvest	7	1	13	5	11	13

*Source: Reata/Crane Transportation Group*

3. The Jameson Canyon Road (S.R.12)/Kirkland Ranch Road/Chardonnay Country Club signalized intersection currently operates at acceptable levels of service during the summer and harvest weekday peak traffic hours along S.R.12, and should continue to operate acceptably through the year 2012 without any improvements (without the proposed project). Backups do occur, however, in the eastbound direction along S.R.12 through the intersection during the PM commute period, extending back from a point about half a mile east of the intersection where the two eastbound travel lanes merge to a single lane.
4. The Jameson Canyon Road (S.R.12)/Kirkland Ranch Road/Chardonnay Country Club intersection will continue to operate acceptably in the year 2012 with the addition of project traffic during all weekday peak traffic hours on Jameson Canyon Road.
5. The existing 280-foot-long left turn lane on the eastbound S.R.12 approach to Kirkland Ranch Road will be able to accommodate the maximum 95th percentile queuing demand in 2012. Less than 50 feet of storage will be required during any peak traffic hour.
6. The proposed project will only add a negligible increase in traffic to eastbound S.R.12 during the PM commute period when there is a significant backup in traffic from the two to one eastbound lane merge area about half a mile east of the Kirkland Ranch Road intersection: only one to three vehicles per hour will be added by the project to the merge.
7. Overall, the proposed project would not be expected to produce any potentially significant circulation impacts. No specific mitigations are required, although it is encouraged that currently entitled special events would be scheduled not to impact weekday 4:00 to 6:00 PM traffic flow on S.R.12.

### III. PROJECT DESCRIPTION

Reata is located on the south side of Kirkland Ranch Road to the north of Jameson Canyon Road (S.R.12) (see **Figure 1**). The Winery has two access connections to Kirkland Ranch Road, one is about 80 feet north of Kirkland Ranch Road's signalized intersection with S.R.12, and the other about 1,450 feet from the signal.

The proposed Winery expansion would be expected to increase production and expand visitor hours by the following levels.

- Winery production will increase from a permitted 200,000 up to 1,300,000 gallons of fermentation from grapes. This will bring an additional 6,875 tons of grapes for on-site crush. This will result in an additional 53 truck deliveries per week during crush (10 to 11 new truck deliveries per day, or on average one new truck delivery per hour). Virtually all deliveries will occur on weekdays.
- An additional 2,400,000 gallons of bulk wine will be received at the Winery and bottled.
- Tasting room hours will increase from the existing entitled 10:00 AM to 4:00 PM up to 10:00 AM to 10:00 PM. Visitation will remain by appointment only and tours will be scheduled to the utmost to avoid adding extra traffic to Jameson Canyon Road between 4:00 and 6:00 PM on weekdays. Total visitors will be held at the existing entitled maximum of 2,000 per week and 600 per day.
- There will be no change in the number or size of special events. Currently, 72 events per year are entitled with a maximum attendance of 200 people, and an average attendance of 25 people. Thirty events per year are allowed on weekend, with 42 allowed on weekdays. Events are scheduled not to impact weekday 4:00 to 6:00 PM traffic flow on S.R.12.

**Tables 1 to 4** present details of Reata's existing and proposed project trip generation during summer weekday AM and PM peak traffic hours on Jameson Canyon Road, while **Tables 5 to 8** present details of Reata's existing and proposed project trip generation during harvest weekday AM and PM peak traffic hours. Employee, truck and visitor traffic projections are provided.

## I. INTRODUCTION

This report has been prepared at the request of Reata along the north side of State Route 12 (Jameson Canyon Road) in Napa County. It details the circulation-related impacts due to proposed winery production expansion and an increase in visitor hours for tours by appointment only, although there would be no increase in the total number of tour visitors currently entitled by the Winery. Proposed expansion would increase production from a permitted 200,000 gallons up to 1.3 million gallons of wine per year and an additional bottling of up to 2.4 million gallons. In addition, visitor center hours would be increased from the existing 10:00 AM to 4:00 PM up to 10:00 AM to 10:00 PM. There would be no change to the currently entitled special events, which are scheduled to not impact weekday 4:00 to 6:00 PM traffic flow on S.R.12.

Evaluation has been conducted of project traffic impacts at the Jameson Canyon Road (S.R.12)/Kirkland Ranch Road/Chardonnay Country Club signalized intersection (postmile 1.28). August weekday 2011 traffic counts have been conducted at the intersection during the AM and PM commute periods. Summer counts have then been seasonally adjusted to reflect peak harvest conditions. Future traffic model projections recently developed for the Napa Airport Industrial Area Traffic Mitigation Fee update program have been utilized to project year 2012 Base Case (without Winery expansion) traffic volumes on Jameson Canyon Road. The net change in traffic due to proposed expansion of Reata has then been determined and Base Case (without project) as well as Base Case + Project operating conditions determined on the local circulation network. A determination has then been made whether Winery expansion traffic would result in any significant circulation impacts.

## II. SUMMARY OF FINDINGS

1. Reata is currently generating the following levels of traffic during the peak weekday traffic hours along Jameson Canyon Road (S.R.12).

### EXISTING REATA TRIP GENERATION DURING HOURS OF PEAK TRAFFIC ALONG JAMESON CANYON ROAD (S.R.12)

SEASON	WEEKDAY AM PEAK HOUR TRIPS 7:30-8:30		WEEKDAY PM PEAK HOUR TRIPS			
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Summer	5	1	0	16	1	2
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Source: Reata/Crane Transportation Group

2. The proposed Reata expansion would be expected to result in the following volume increases during the peak weekday traffic hours along Jameson Canyon Road (S.R.12).

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NET NEW TRIP GENERATION DURING  
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4. The Jameson Canyon Road (S.R.12)/Kirkland Ranch Road/Chardonay Country Club intersection will continue to operate acceptably in the year 2012 with the addition of project traffic during all weekday peak traffic hours on Jameson Canyon Road.
5. The existing 280-foot-long left turn lane on the eastbound S.R.12 approach to Kirkland Ranch Road will be able to accommodate the maximum 95th percentile queuing demand in 2012. Less than 50 feet of storage will be required during any peak traffic hour.
6. The proposed project will only add a negligible increase in traffic to eastbound S.R.12 during the PM commute period when there is a significant backup in traffic from the two to one eastbound lane merge area about half a mile east of the Kirkland Ranch Road intersection: only one to three vehicles per hour will be added by the project to the merge.
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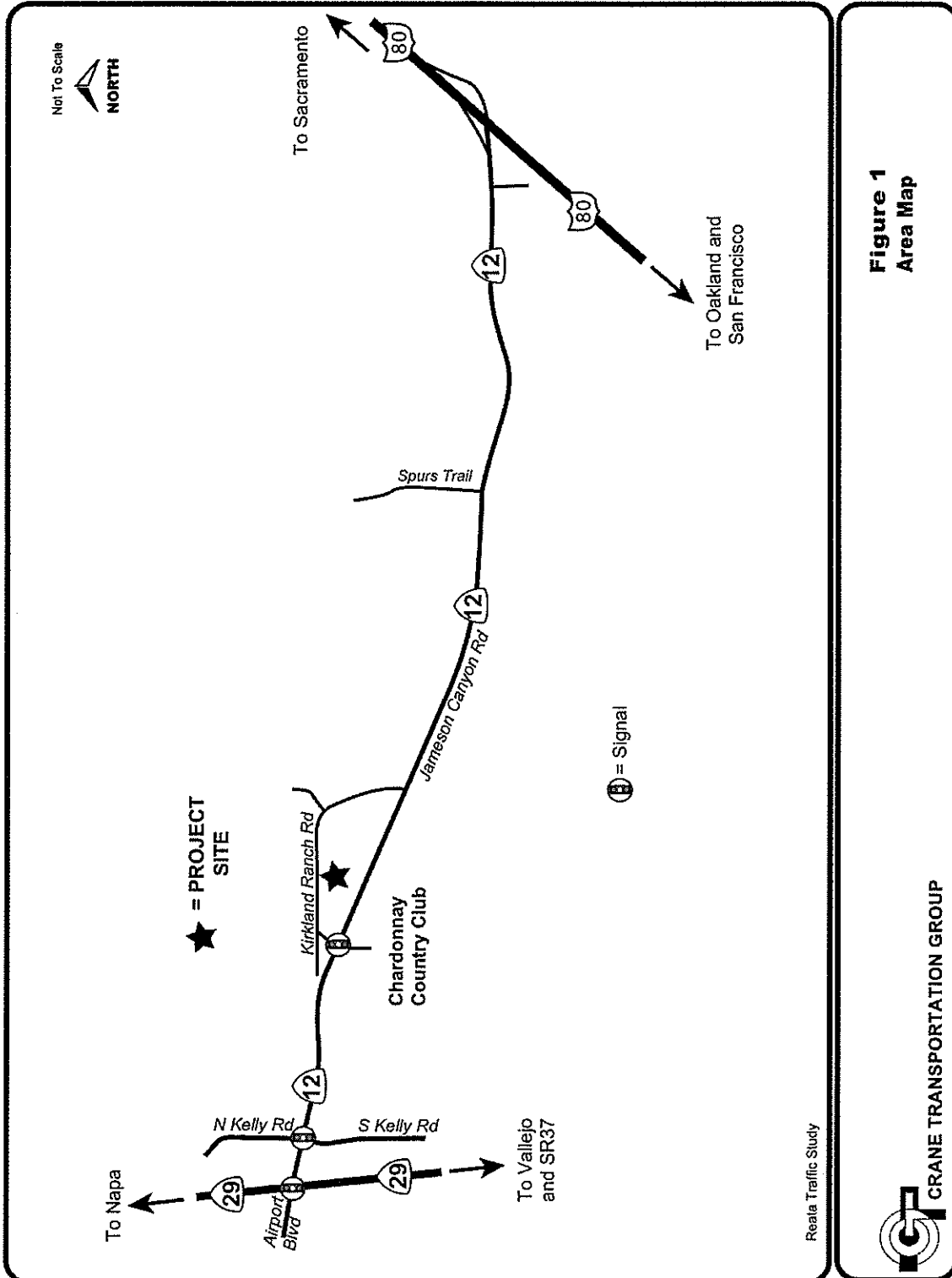
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- There will be no change in the number or size of special events. Currently, 72 events per year are entitled with a maximum attendance of 200 people, and an average attendance of 25 people. Thirty events per year are allowed on weekend, with 42 allowed on weekdays. Events are scheduled not to impact weekday 4:00 to 6:00 PM traffic flow on S.R.12.

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**Table 1**  
**PROJECT TRIP GENERATION**  
**SUMMER (NON HARVEST) 7:00-8:00 AM**

ACTIVITY		INBOUND TRIPS			OUTBOUND TRIPS		
		EXISTING	PROJECT INCREMENT	TOTAL	EXISTING	PROJECT INCREMENT	TOTAL
ADMINISTRATION	Employees	2	1	3	0	0	0
PRODUCTION/ BOTTLING	Employees	1	1	2	0	0	0
	Trucks	0	1	1	0	0	0
BULK WINE DELIVERY	Employees	1	1	2	0	0	0
	Trucks	0	1	1	0	0	0
FINISH CASES SHIPPING	Employees	1	0	1	0	0	0
	Trucks	1	0	1	0	0	0
TASTING ROOM/ TOURS	Employees	1	1	2	0	0	0
	Visitors	0	0	0	0	0	0
SUBTOTAL	Autos	6	4	10	0	0	0
	Trucks	1	2	3	0	0	0
TOTAL VEHICLES		7	6	13	0	0	0

Source: Reata/Crane Transportation Group

**Table 2**  
**PROJECT TRIP GENERATION**  
**SUMMER (NON HARVEST) 8:00-9:00 AM**

ACTIVITY		INBOUND TRIPS			OUTBOUND TRIPS		
		EXISTING	PROJECT INCREMENT	TOTAL	EXISTING	PROJECT INCREMENT	TOTAL
ADMINISTRATION	Employees	0	0	0	0	0	0
PRODUCTION/ BOTTLING	Employees	1	1	2	0	0	0
	Trucks	0	0	0	1	0	1
BULK WINE DELIVERY	Employees	0	0	0	0	0	0
	Trucks	0	0	0	0	1	1
FINISH CASES SHIPPING	Employees	0	0	0	0	0	0
	Trucks	0	0	0	0	1	1
TASTING ROOM/ TOURS	Employees	0	0	0	0	0	0
	Visitors	0	0	0	0	0	0
SUBTOTAL	Autos	1	1	2	0	0	0
	Trucks	0	0	0	1	2	3
TOTAL VEHICLES		1	1	2	1	2	0

Source: Reata/Crane Transportation Group

**Table 3**  
**PROJECT TRIP GENERATION**  
**SUMMER (NON HARVEST) 4:00-5:00 PM**

ACTIVITY		INBOUND TRIPS			OUTBOUND TRIPS		
		EXISTING	PROJECT INCREMENT	TOTAL	EXISTING	PROJECT INCREMENT	TOTAL
ADMINISTRATION	Employees	0	0	0	2	1	3
PRODUCTION/ BOTTLING	Employees	0	0	0	1	1	2
	Trucks	0	0	0	0	1	1
BULK WINE DELIVERY	Employees	0	0	0	0	0	0
	Trucks	0	0	0	0	0	0
FINISH CASES SHIPPING	Employees	0	0	0	1	0	1
	Trucks	0	0	0	1	0	1
TASTING ROOM/ TOURS	Employees	0	2	2	1	1	2
	Visitors	0	10*	10	10*	0	10
SUBTOTAL	Autos	0	12	12	15	3	18
	Trucks	0	0	0	1	1	2
TOTAL VEHICLES		0	12	12	16	4	20

\* 2.6 people/vehicle for tours (25 people)      Source: Reata/Crane Transportation Group

**Table 4**  
**PROJECT TRIP GENERATION**  
**SUMMER (NON HARVEST) 5:00-6:00 PM**

ACTIVITY		INBOUND TRIPS			OUTBOUND TRIPS		
		EXISTING	PROJECT INCREMENT	TOTAL	EXISTING	PROJECT INCREMENT	TOTAL
ADMINISTRATION	Employees	0	0	0	0	0	0
PRODUCTION/ BOTTLING	Employees	1	1	2	0	0	0
	Trucks	0	0	0	0	1	1
BULK WINE DELIVERY	Employees	0	0	0	0	0	0
	Trucks	0	0	0	0	1	1
FINISH CASES SHIPPING	Employees	0	0	0	0	0	0
	Trucks	0	0	0	1	0	1
TASTING ROOM/ TOURS	Employees	0	0	0	1	1	2
	Visitors	0	10*	10	0	10*	10
SUBTOTAL	Autos	1	11	12	1	11	12
	Trucks	0	0	0	1	2	3
TOTAL VEHICLES		1	11	12	2	13	15

\* 2.6 people/vehicle for tours (25 people)  
Source: Reata/Crane Transportation Group

**Table 5**  
**PROJECT TRIP GENERATION**  
**FALL (HARVEST) 7:00-8:00 AM**

ACTIVITY		INBOUND TRIPS			OUTBOUND TRIPS		
		EXISTING	PROJECT INCREMENT	TOTAL	EXISTING	PROJECT INCREMENT	TOTAL
ADMINISTRATION	Employees	2	1	3	0	0	0
PRODUCTION/ BOTTLING	Employees	1	1	2	0	0	0
	Trucks	0	1	1	0	0	0
BULK WINE DELIVERY	Employees	1	1	2	0	0	0
	Trucks	0	1	1	0	0	0
FINISH CASES SHIPPING	Employees	1	0	1	0	0	0
	Trucks	1	0	1	0	0	0
TASTING ROOM/ TOURS	Employees	1	1	2	0	0	0
	Visitors	0	0	0	0	0	0
HARVEST GRAPE DELIVERY	Employees	1	1	2	1	1	2
	Trucks	1	0	1	1	0	1
SUBTOTAL	Autos	7	5	12	1	1	2
	Trucks	2	2	4	1	0	1
TOTAL VEHICLES		9	7	16	2	1	3

*Source: Reata/Crane Transportation Group*

**Table 6**  
**PROJECT TRIP GENERATION**  
**FALL (HARVEST) 8:00-9:00 AM**

ACTIVITY		INBOUND TRIPS			OUTBOUND TRIPS		
		EXISTING	PROJECT INCREMENT	TOTAL	EXISTING	PROJECT INCREMENT	TOTAL
ADMINISTRATION	Employees	0	0	0	0	0	0
PRODUCTION/ BOTTLING	Employees	1	1	2	0	0	0
	Trucks	0	0	0	1	0	1
BULK WINE DELIVERY	Employees	0	0	0	0	0	0
	Trucks	0	0	0	0	1	1
FINISH CASES SHIPPING	Employees	0	0	0	0	0	0
	Trucks	0	0	0	0	1	1
TASTING ROOM/ TOURS	Employees	0	0	0	0	0	0
	Visitors	0	0	0	0	0	0
HARVEST GRAPE DELIVERY	Employees	0	0	0	0	0	0
	Trucks	1	0	1	1	0	1
SUBTOTAL	Autos	1	1	2	0	0	0
	Trucks	1	0	1	2	2	4
TOTAL VEHICLES		2	1	3	2	2	4

*Source: Reata/Crane Transportation Group*

**Table 7**  
**PROJECT TRIP GENERATION**  
**FALL (HARVEST) 4:00-5:00 PM**

ACTIVITY		INBOUND TRIPS			OUTBOUND TRIPS		
		EXISTING	PROJECT INCREMENT	TOTAL	EXISTING	PROJECT INCREMENT	TOTAL
ADMINISTRATION	Employees	0	0	0	2	1	3
PRODUCTION/ BOTTLING	Employees	0	0	0	1	1	2
	Trucks	0	0	0	0	1	1
BULK WINE DELIVERY	Employees	0	0	0	0	0	0
	Trucks	0	0	0	0	0	0
FINISH CASES SHIPPING	Employees	0	0	0	1	0	1
	Trucks	0	0	0	1	0	1
TASTING ROOM/ TOURS	Employees	0	2	2	1	1	2
	Visitors	0	10*	10	10*	0	10
HARVEST GRAPE DELIVERY	Employees	1	1	2	1	1	2
	Trucks	1	0	1	1	0	1
SUBTOTAL	Autos	1	13	14	16	4	20
	Trucks	1	0	1	2	1	3
TOTAL VEHICLES		2	13	15	18	5	23

\* 2.6 people/vehicle for tours (25 people) Source: Reata/Crane Transportation Group

**Table 8**  
**PROJECT TRIP GENERATION**  
**FALL (HARVEST) 5:00-6:00 PM**

ACTIVITY		INBOUND TRIPS			OUTBOUND TRIPS		
		EXISTING	PROJECT INCREMENT	TOTAL	EXISTING	PROJECT INCREMENT	TOTAL
ADMINISTRATION	Employees	0	0	0	0	0	0
PRODUCTION/ BOTTLING	Employees	1	1	2	0	0	0
	Trucks	0	0	0	0	1	1
BULK WINE DELIVERY	Employees	0	0	0	0	0	0
	Trucks	0	0	0	0	1	1
FINISH CASES SHIPPING	Employees	0	0	0	0	0	0
	Trucks	0	0	0	1	0	1
TASTING ROOM/ TOURS	Employees	0	0	0	1	1	2
	Visitors	0	10*	10	0	10*	10
HARVEST GRAPE DELIVERY	Employees	0	0	0	0	0	0
	Trucks	1	0	1	1	0	1
SUBTOTAL	Autos	1	11	12	1	11	12
	Trucks	1	0	1	2	2	4
TOTAL VEHICLES		2	11	13	3	13	16

\* 2.6 people/vehicle for tours (25 people) Source: Reata/Crane Transportation Group

In summary, Reata is currently generating the following levels of traffic.

### EXISTING REATA TRIP GENERATION DURING HOURS OF PEAK TRAFFIC ALONG JAMESON CANYON ROAD

SEASON	WEEKDAY AM PEAK HOUR TRIPS 7:30-8:30		WEEKDAY PM PEAK HOUR TRIPS			
	INBOUND	OUTBOUND	4:00-5:00		5:00-6:00	
			INBOUND	OUTBOUND	INBOUND	OUTBOUND
Summer	5	1	0	16	1	2
Harvest	7	2	2	18	2	3

Source: Reata/Crane Transportation Group

## IV. EXISTING CONDITIONS

### A. ROADWAYS

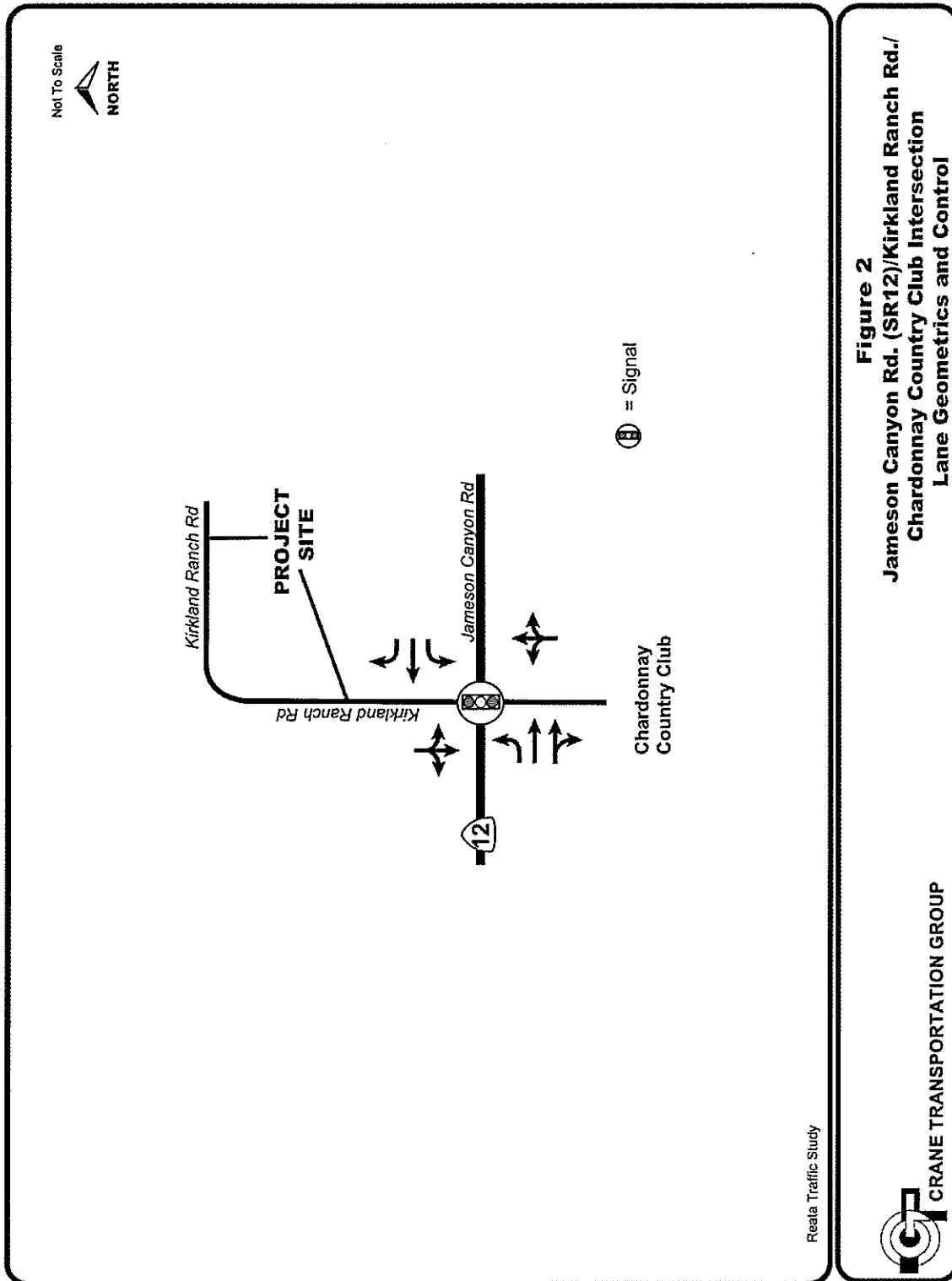
Regional access to the project site is provided by Jameson Canyon Road, which is designated State Route 12 (S.R.12), while direct access to the project site is provided by Kirkland Ranch Road. Each roadway is briefly described below, while a schematic presentation of approach lanes and control at the signalized Jameson Canyon Road/Kirkland Ranch Road/Chardonnay Country Club intersection is presented in **Figure 2**.

**State Route 12 (S.R.12-Jameson Canyon Road)** is a two- to three-lane rural throughway<sup>1</sup> (arterial roadway) with wide paved shoulders and left turn lanes provided on the approaches to major intersections. It extends easterly from S.R.29 in Napa County to Interstate 80 in Solano County. It is mostly level and has a gradual horizontal curving alignment in the project vicinity. Jameson Canyon Road has one westbound and two eastbound through lanes at its signalized intersection with Kirkland Ranch Road. The two eastbound lanes merge to a single lane about 2,340 feet east of the Kirkland Ranch Road signalized intersection. Exclusive left and right turn deceleration lanes are provided on the westbound intersection approach and a 280-foot-long left turn lane is provided on the eastbound intersection approach.

Jameson Canyon Road is programmed to be widened to a four-lane facility from S.R.29 to I-80. If funding is available, the project will start in 2012 and be completed by 2014.

**Kirkland Ranch Road** is a rural two-lane roadway that connects to Jameson Canyon Road in two locations: on the west at a signalized intersection opposite the Chardonnay Country Club entrance, and on the east at a stop sign controlled Tee intersection. Left turns from Kirkland Ranch Road to eastbound Jameson Canyon Road at the easterly (stop sign controlled) intersection are prohibited from 3:00 to 7:00 PM on weekdays. Reata has two connections to Kirkland Ranch Road; 80 feet north of Jameson Canyon Road and about 1,450 feet to the north and east of Jameson Canyon Road. Kirkland Ranch Road is well paved and has centerline

<sup>1</sup> Napa County General Plan Circulation Element, 2008.





striping for about 580 feet north of Jameson Canyon Road; to the east of this point the roadway narrows, there are no shoulders and there is no centerline striping. Kirkland Ranch Road has a single lane (southbound) approach to Jameson Canyon Road at their signalized intersection. The Chardonmay Country Club access road also has a single lane (northbound) approach to the same intersection.

## **B. VOLUMES**

Thursday AM peak period (7:00-9:00) and PM peak period (3:00-6:00) traffic counts were conducted for Crane Transportation Group at the Jameson Canyon Road (S.R.12)/Kirkland Ranch Road/Chardonmay Country Club intersection on Thursday, August 11, 2011. The weather was hot on the count day. The AM peak hour was determined to be 7:30-8:30, while the PM peak hour was determined to be 4:00-5:00. Resultant summer (August) weekday AM and PM peak hour counts are presented in **Figure 3**.

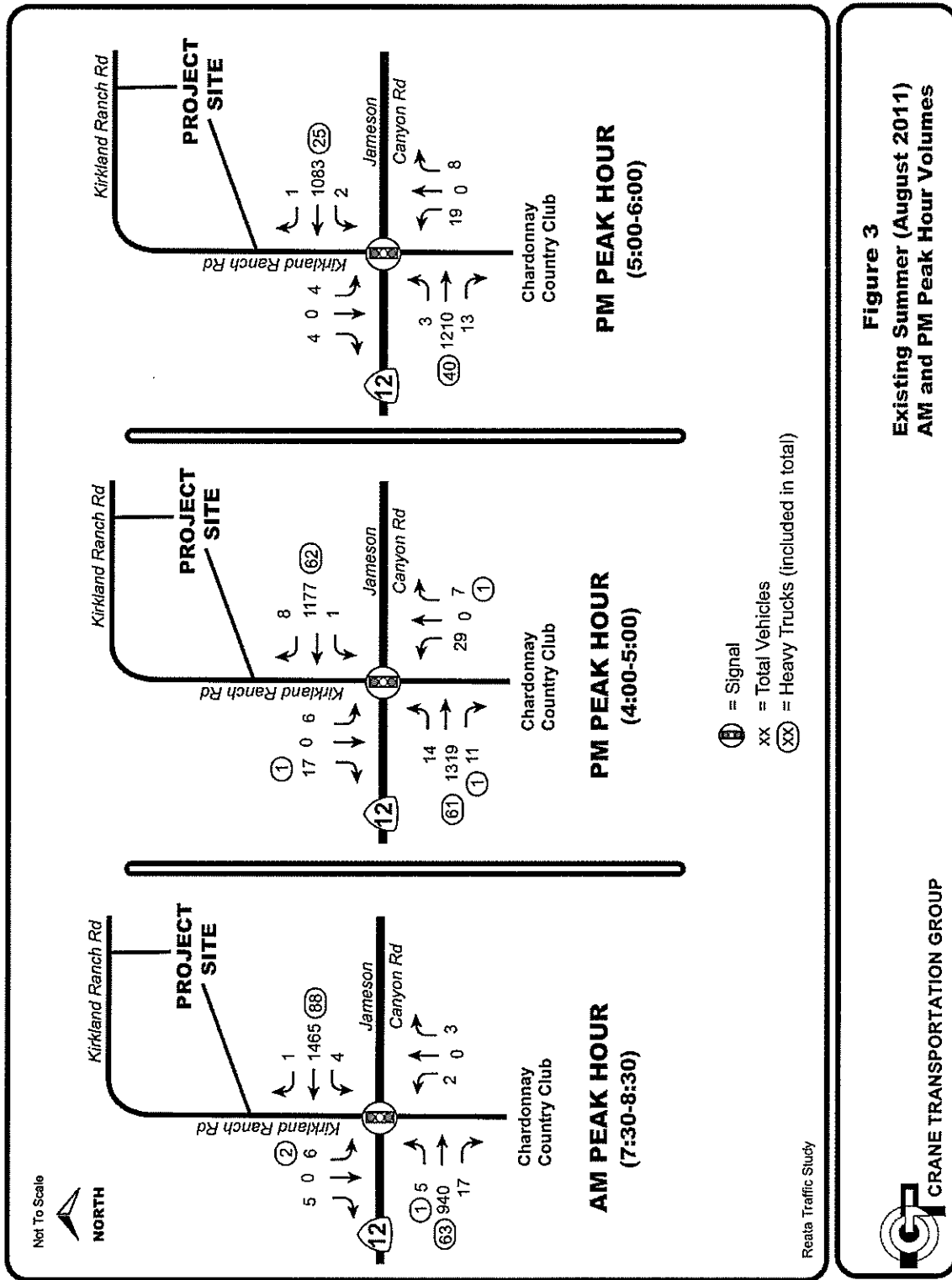
Summer counts were seasonally adjusted to reflect harvest (September) conditions based upon Caltrans' seasonal traffic count data for S.R.12. Resultant harvest weekday AM and PM peak hour volumes are presented in **Figure 4**. Caltrans counts showed that September weekday peak hour volumes were slightly higher than October volumes, and that September AM and PM peak hour volumes were 1 and 5 percent higher than August AM and PM peak hour volumes, respectively.

## **C. INTERSECTION LEVEL OF SERVICE**

### **1. Analysis Methodology**

Transportation engineers and planners commonly use a grading system called level of service (LOS) to measure and describe the operational status of the local roadway network. LOS is a description of the quality of a roadway facility's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). Intersections, rather than roadway segments between intersections, are almost always the capacity controlling locations for any circulation system.

**Signalized Intersections.** For signalized intersections, the 2000 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology was utilized. With this methodology, operations are defined by the level of service and average control delay per vehicle (measured in seconds) for the entire intersection. For a signalized intersection, control delay is the portion of the total delay attributed to traffic signal operation. This includes delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 9** summarizes the relationship between delay and LOS for signalized intersections.



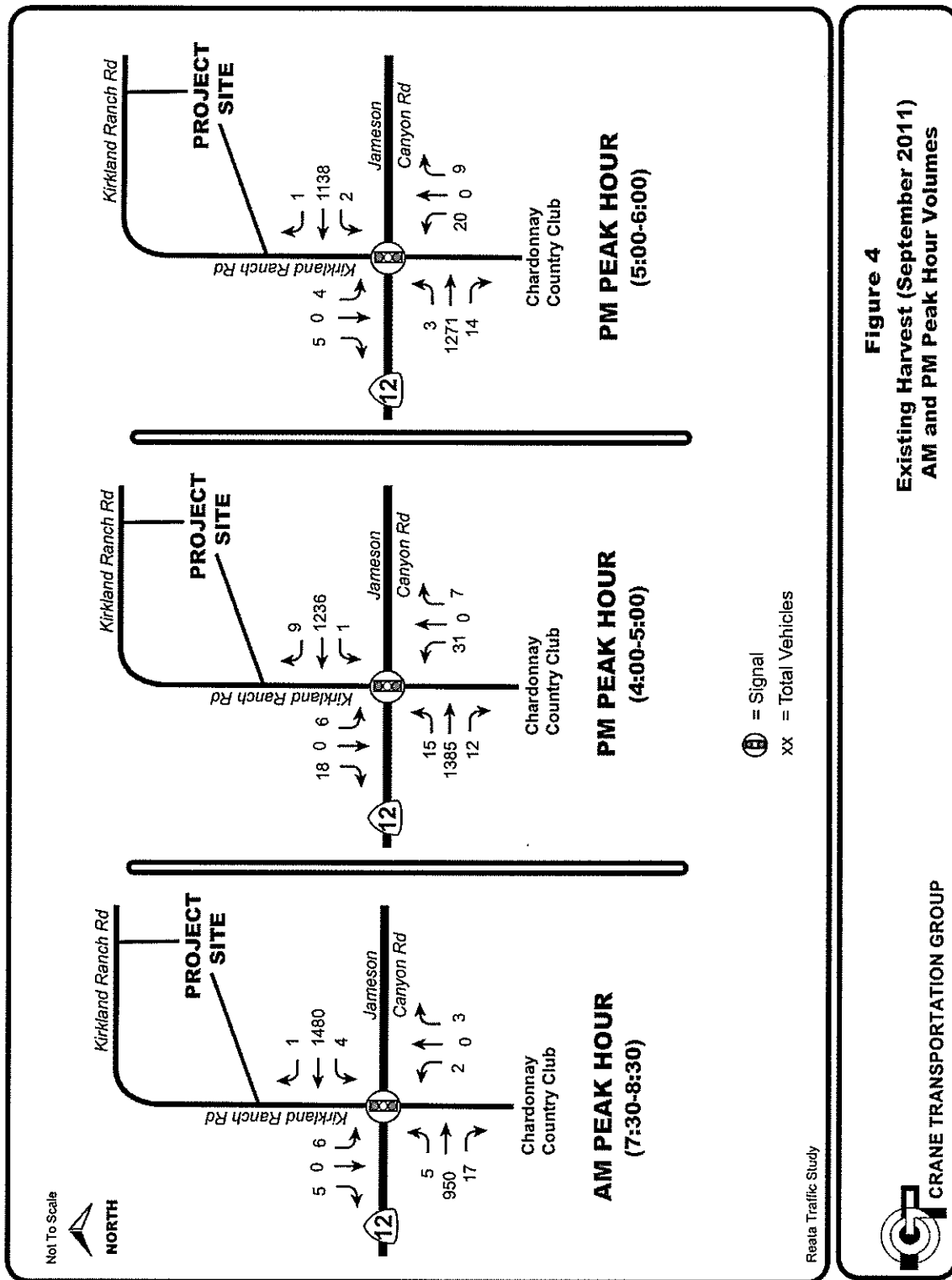


Table 9

## SIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	$\leq 10.0$
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	$> 80.0$

*Source: 2000 Highway Capacity Manual (Transportation Research Board).*

### 2. Minimum Acceptable Operation

#### a. Napa County

The Napa County General Plan Circulation Element<sup>2</sup> states that the County shall seek to maintain LOS D or better at all signalized intersections, except where the level of service already exceeds this and increased intersection capacity is not feasible without substantial added right-of-way.

#### b. Caltrans

Caltrans' Guide for the Preparation of Traffic Impacts Studies (December 2002) is intended to provide a consistent basis for evaluating traffic impacts to state facilities. Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D. On state highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.<sup>3</sup>

<sup>2</sup> June 3, 2008.

<sup>3</sup> California Department of Transportation, December 2002, *Caltrans Guide for the Preparation of Traffic Impact Studies*.

### 3. Existing Operation

Operating conditions at the Jameson Canyon Road (S.R.12)/Kirkland Ranch Road/Chardonnay Country Club intersections are presented in **Tables 10** and **11** for AM and PM peak hour conditions, respectively. As shown in **Table 10**, during the AM peak hour operation is LOS B during either peak summer or harvest conditions. As shown in **Table 11**, during the 4:00-5:00 PM hour, operation is LOS A during the summer and LOS B during harvest, while from 5:00-6:00 PM operation is LOS A during both seasons. It should be noted that during the PM peak period, eastbound traffic on S.R.12 backs up from the two- to one-lane merge location (about half a mile east of the Kirkland Ranch Road intersection) back through the signalized Kirkland Ranch Road intersection. This stop-and-go backup extended through the intersection from 3:30 to past 6:00 PM during the August count day. Although observation of the intersection during the evening commute indicates a problem due to the eastbound stop-and-go traffic, this is not due to intersection operation; rather, it is due to the merge operation to the east. The two eastbound travel lanes through the intersection provide it with more than adequate capacity during the evening commute period.

**Table 10**  
**INTERSECTION LEVEL OF SERVICE**  
**JAMESON CANYON RD. (S.R.12)/KIRKLAND RANCH RD./**  
**CHARDONNAY COUNTRY CLUB ACCESS RD.**  
**(SIGNALIZED)**

#### AM PEAK HOUR

##### SUMMER (NON HARVEST)

EXISTING	YEAR 2012	
	BASE CASE	BASE CASE + PROJECT
B-13.5(1)	C-21.5(1)	C-22.7(1)

##### FALL (HARVEST)

EXISTING	YEAR 2012	
	BASE CASE	BASE CASE + PROJECT
B-14.8(1)	C-23.2(1)	C-24.7(1)

<sup>(1)</sup> Level of service – control delay in seconds.  
2000 Highway Capacity Manual analysis methodology.  
Source: Crane Transportation Group

Table 11  
**INTERSECTION LEVEL OF SERVICE**  
**JAMESON CANYON RD. (S.R.12)/KIRKLAND RANCH RD./**  
**CHARDONNAY COUNTRY CLUB ACCESS RD.**  
**(SIGNALIZED)**

**PM PEAK HOUR**

**SUMMER (NON HARVEST)**

EXISTING		YEAR 2012			
4:00-5:00	5:00-6:00	4:00-5:00		5:00-6:00	
		BASE CASE	BASE CASE + PROJECT	BASE CASE	BASE CASE + PROJECT
A-9.1(1)	A-6.7(1)	A-9.3(1)	B-10.4(1)	A-6.8(1)	A-7.1(1)

**FALL (HARVEST)**

EXISTING		YEAR 2012			
4:00-5:00	5:00-6:00	4:00-5:00		5:00-6:00	
		BASE CASE	BASE CASE + PROJECT	BASE CASE	BASE CASE + PROJECT
B-10.2(1)	A-7.3(1)	B-10.2(1)	B-10.5(1)	A-7.3(1)	A-7.6(1)

(1) Level of service – control delay in seconds.

2000 Highway Capacity Manual analysis methodology.

Source: Crane Transportation Group

## V. NEAR TERM HORIZON BASE CASE (WITHOUT PROJECT) CONDITIONS

Evaluation has been conducted of Base Case operating conditions for the year 2012. Year 2012 reflects the earliest potential year of project completion and full operation.

### A. YEAR 2012 (NEAR TERM HORIZON)

#### 1. Base Case (Without Project) Volumes

Year 2012 weekday summer and harvest Base Case peak hour volumes were determined projecting straight line growth between existing traffic volumes and those projected for 2030 in the Napa Airport Industrial Area Traffic Mitigation Fee Update Program.<sup>4</sup> Resultant year 2012

<sup>4</sup> Atkins, July 29, 2011.

summer weekday AM and PM peak hour Base Case (without project) projections are presented in **Figure 5**, while year 2012 harvest weekday AM and PM peak hour Base Case (without project) projections are presented in **Figure 6**.

## **2. Base Case 2012 Intersection Level of Service**

### **a. AM Peak Hour**

**Table 10** shows that in 2012, AM peak hour operation at the Jameson Canyon Road/Kirkland Ranch Road/Chardonnay Country Club signalized intersection would be an acceptable LOS C during both summer and harvest conditions.

### **b. PM Peak Hour**

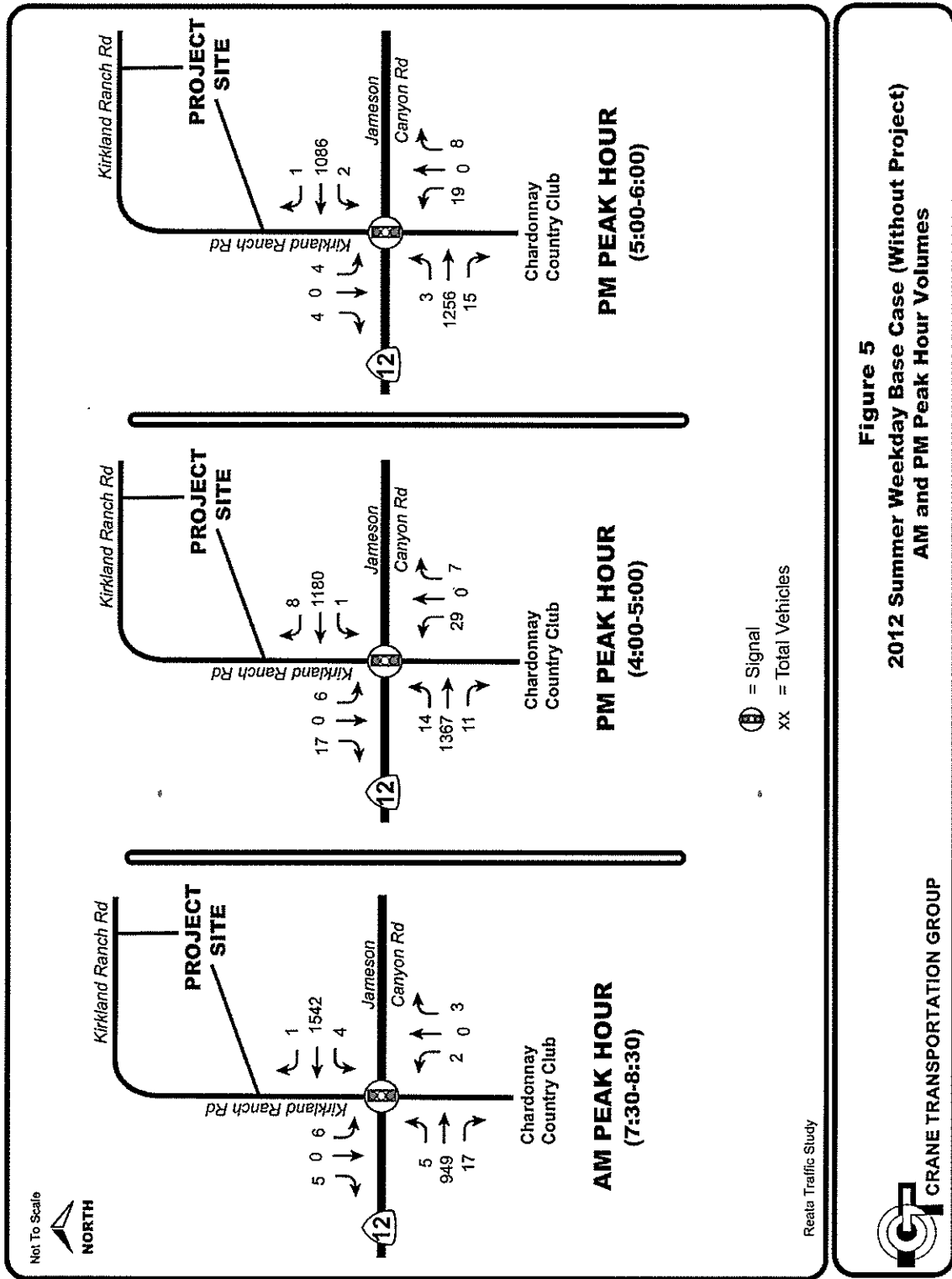
**Table 11** shows that in 2012, 4:00 to 5:00 PM intersection operation would be an acceptable LOS A during the summer and an acceptable LOS B during harvest, while during 5:00 to 6:00 PM operation it would be an acceptable LOS A during both summer and harvest conditions.

## **VI. PROJECT IMPACTS**

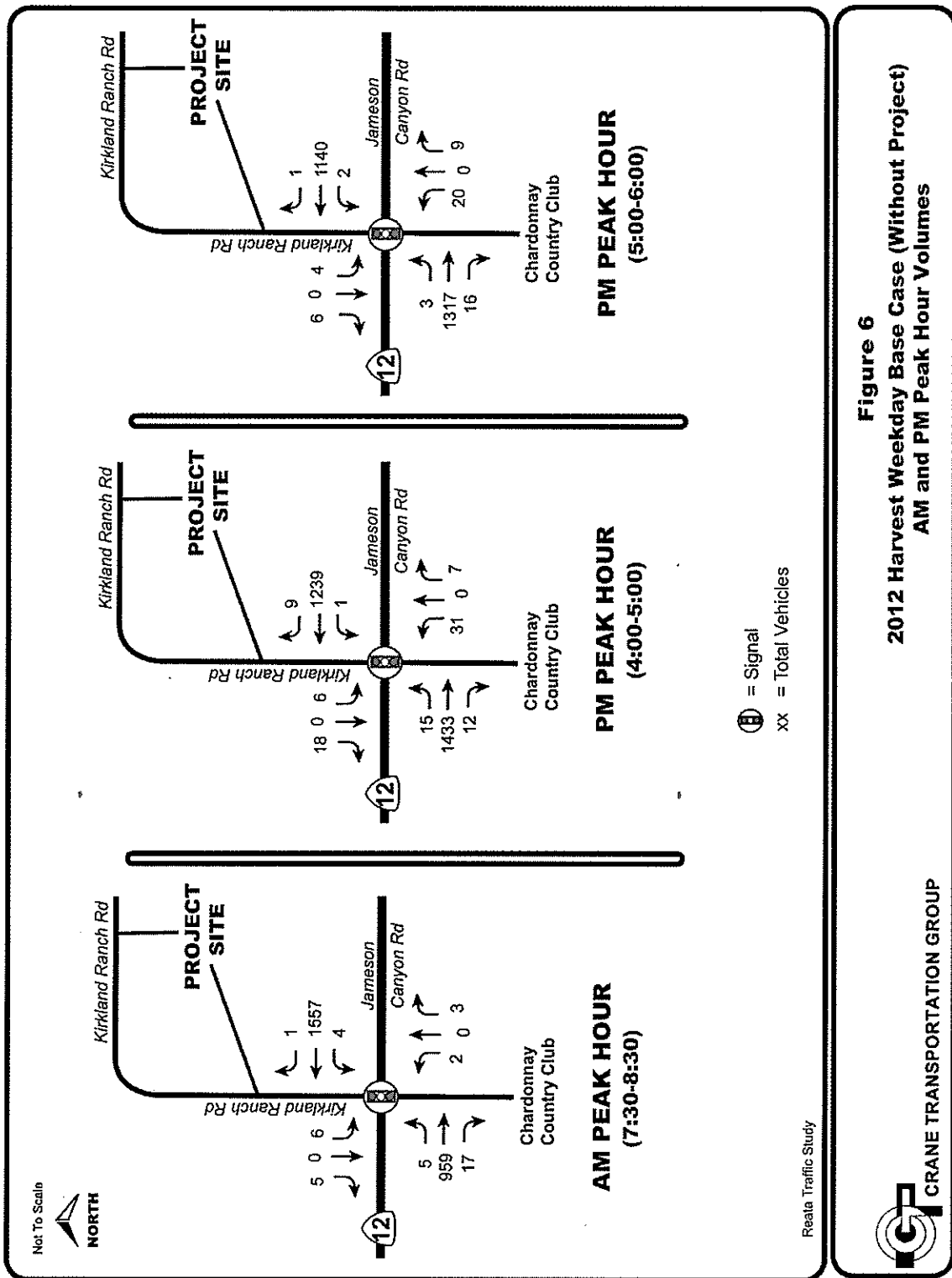
### **A. SIGNIFICANCE CRITERIA**

The following criteria were developed for recent traffic impact analyses in the County. These same criteria have been utilized in this study to determine the significance of impacts due to the Reata project. An impact is considered to be significant if any of the following conditions are met.

- If a signalized intersection with Base Case (without project) volumes has LOS A, B, C or D peak hour operation and deteriorates to LOS E or F operation with the addition of project traffic, the impact is considered significant and would require mitigation.
- If Base Case LOS at a signalized intersection is already at LOS E or F, an increase in control delay of 5 seconds or more due to the project is considered to be significant and would require mitigation.
- If 95th percentile queuing in the left turn lane on the Jameson Canyon Road (S.R.12) eastbound approach to Kirkland Ranch Road is projected to be operating within the available storage distance and the addition of project traffic increases queuing beyond available storage, the impact is considered significant and would require mitigation.







- If 95th percentile Base Case queuing in the left turn lane on the Jameson Canyon Road (S.R.12) eastbound approach to Kirkland Ranch Road would already exceed available storage, an increase in traffic of 1 percent or more due to the project is considered significant and would require mitigation.
- If, in the opinion of the registered traffic engineer conducting this study, certain project-related traffic changes would substantially increase safety or operational concerns, the impact is considered significant and would require mitigation.

## B. PROJECT TRIP GENERATION

The added traffic that would be expected due to the Reata expansion is detailed in **Tables 1 to 4** for summertime peak hour conditions and **Tables 5 to 8** for harvest peak hour conditions as follows.

Table 1	Summer	7:00-8:00 AM
Table 2	Summer	8:00-9:00 AM
Table 3	Summer	4:00-5:00 PM
Table 4	Summer	5:00-6:00 PM
Table 5	Harvest	7:00-8:00 AM
Table 6	Harvest	8:00-9:00 AM
Table 7	Harvest	4:00-5:00 PM
Table 8	Harvest	5:00-6:00 PM

Projections have been developed by Reata and Crane Transportation Group for new employee vehicles and trucks associated with the proposed increased production, new bulk importation of wine and its associated bottling, as well as increased importation of grapes. It should be noted that while Reata is not requesting any increase in visitors or special events, they are proposing that tours (by appointment) can take place until 10:00 PM. Currently, tours end at 4:00 PM. However, they are not requesting any currently entitled special events be scheduled that would impact weekday traffic flow from 4:00 to 6:00 PM on S.R.12. Projected increases are summarized below.

### SUMMERTIME

- **Weekday AM Peak Hour (7:30-8:30)**  
There will be up to 6 new inbound trips and no new outbound trips during this hour. Two of the new inbound trips will be trucks.
- **Weekday PM Peak Hour (4:00-5:00)**  
There will be 12 new inbound and 4 new outbound trips. One of the outbound trips will be a truck. Most new inbound trips will be associated with patrons entering for a tour (by appointment).

- **Weekday PM Peak Hour (5:00-6:00)**  
There will be 11 new inbound and 13 new outbound trips, most due to visitor vehicles associated with the extended tour by appointment hours. Two of the outbound trips will be trucks.

## **HARVEST**

- **Weekday AM Peak Hour (7:30-8:30)**  
There will be 7 new inbound trips and 1 new outbound trip. Two of the new inbound trips will be trucks.
- **Weekday PM Peak Hour (4:00-5:00)**  
There will be 13 new inbound and 5 new outbound trips. One of the outbound trips will be a truck. Most new inbound trips will be associated with patrons entering for a tour (by appointment).
- **Weekday PM Peak Hour (5:00-6:00)**  
There will be 11 new inbound and 13 new outbound trips, most due to visitor vehicles associated with the extended tour by appointment hours. Two of the outbound trips will be trucks.

### **C. PROJECT TRIP DISTRIBUTION**

The project traffic increment is shown distributed to the local roadway network in **Figure 7** for summertime AM and PM peak hour conditions and in **Figure 8** for harvest AM and PM peak hour conditions. Approximately 75 percent of all employees, visitors and non-grape haul trucks will be expected to travel to/from the west on Jameson Canyon Road, while virtually all grape haul trucks will be expected to travel to/from the west.

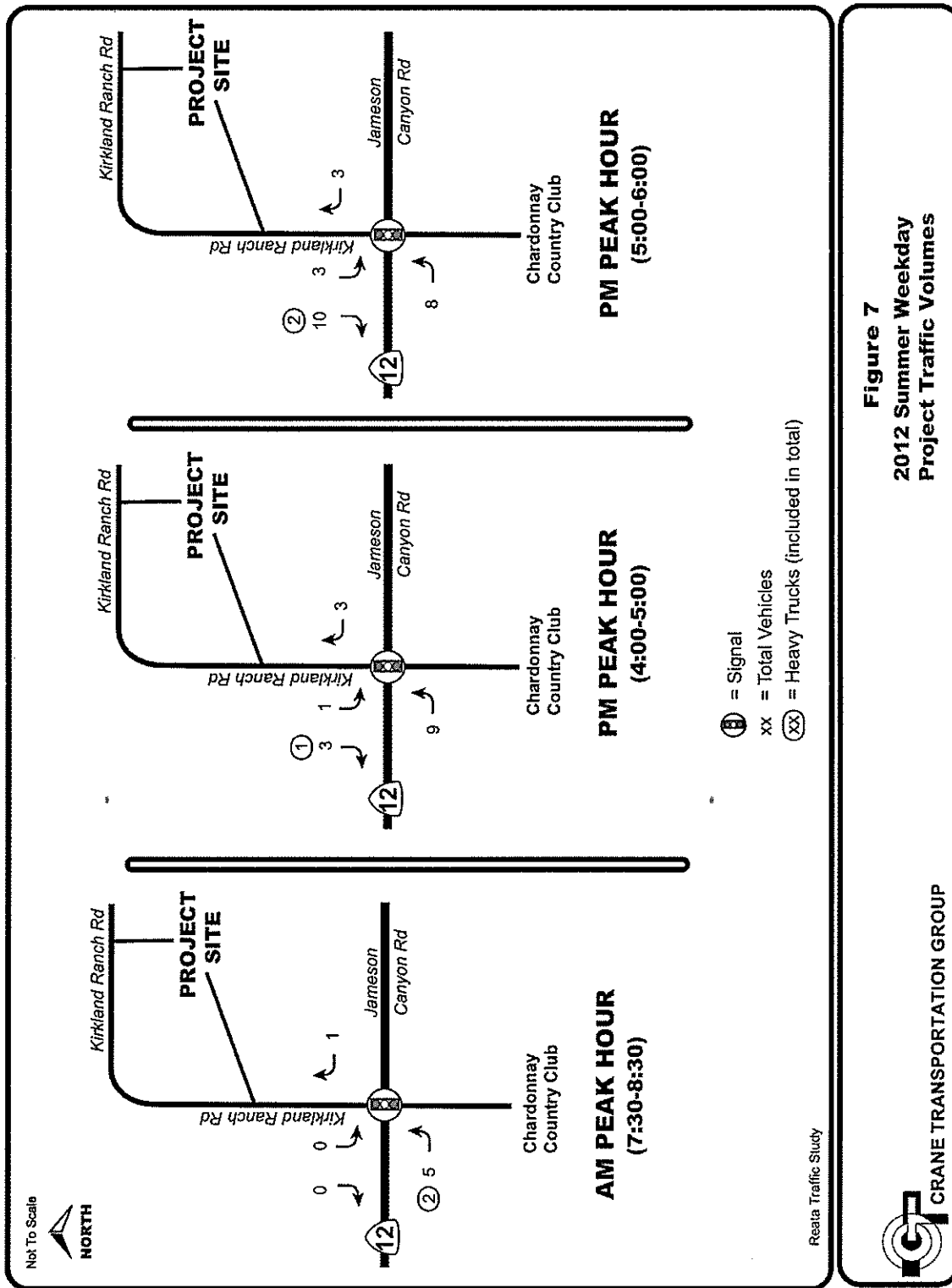
Resultant year 2012 Summer Weekday Base Case + Project peak hour traffic is presented in **Figure 9**, while year 2012 Harvest Weekday Base Case + Project peak hour traffic is presented in **Figure 10**.

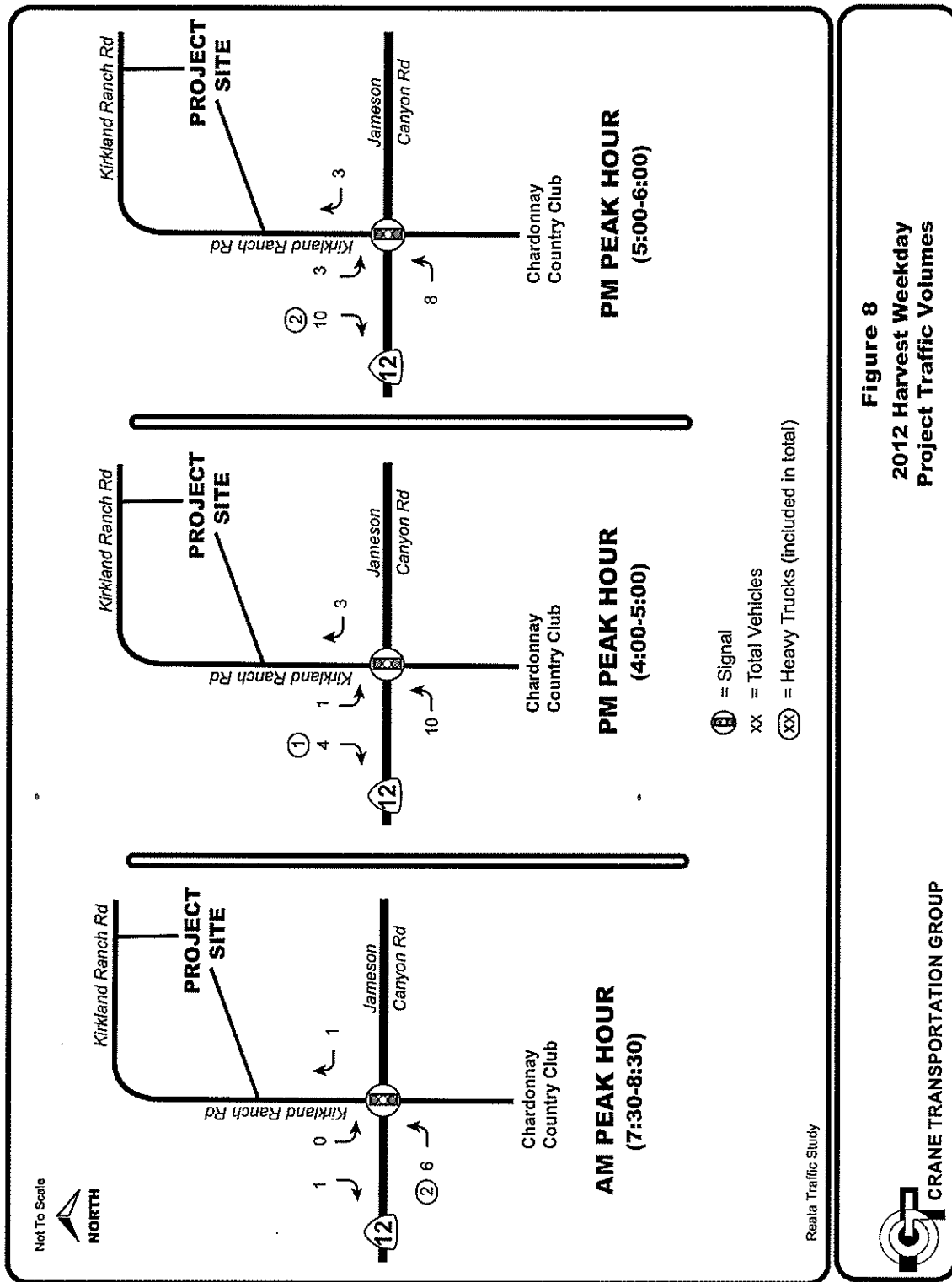
### **D. YEAR 2012 PROJECT IMPACTS TO THE JAMESON CANYON ROAD/KIRKLAND RANCH ROAD/CHARDONNAY COUNTRY CLUB INTERSECTION**

#### **1. Intersection Level of Service**

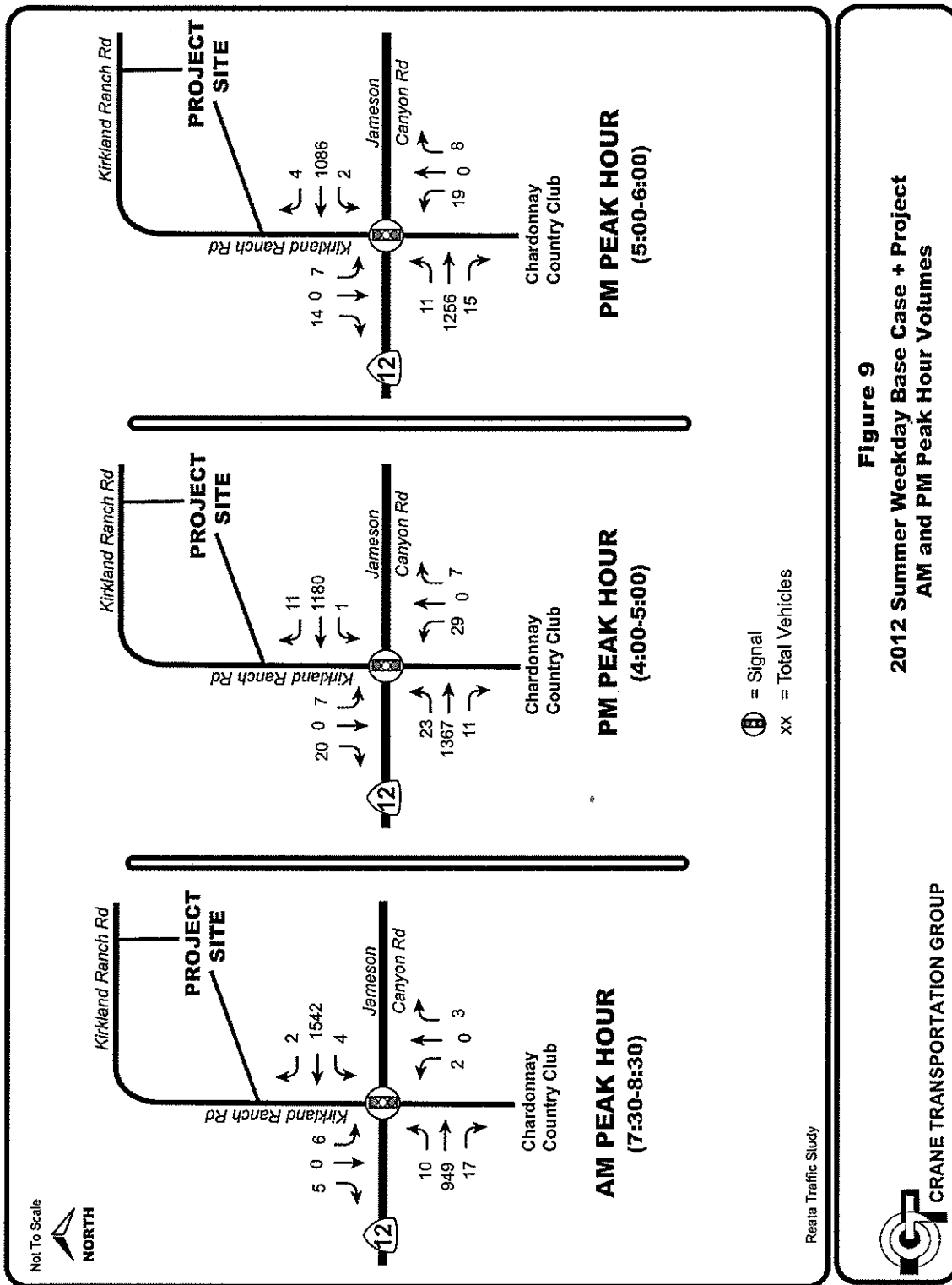
##### **a. Weekday AM Peak Hour (7:30-8:30)**

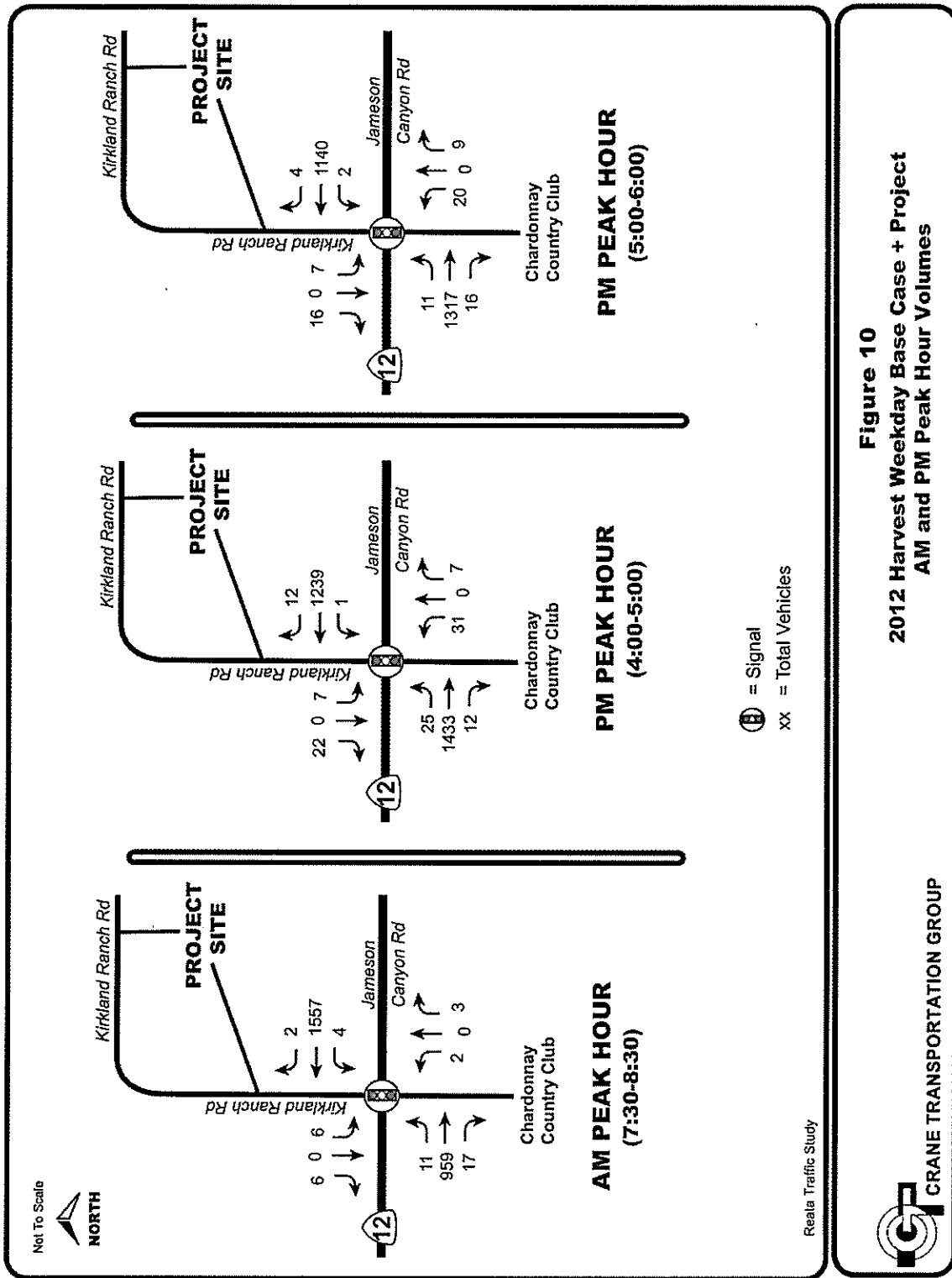
**Table 10** shows that the signalized Jameson Canyon Road/Kirkland Ranch Road/Chardonnay Country Club intersection will maintain acceptable LOS C operation with the addition of project traffic during both the summer and harvest AM peak traffic hours along Jameson Canyon Road. Vehicle control delay will be increased by only 1.2 seconds during the summer AM peak hour, and by only 1.5 seconds during the harvest AM peak hour.





**Figure 8**  
**2012 Harvest Weekday**  
**Project Traffic Volumes**





**b. Weekday PM Peak Hour (4:00-5:00)**

**Table 11** shows that the signalized Jameson Canyon Road (S.R.12)/Kirkland Ranch Road/Chardonnay Country Club intersection will change from acceptable LOS A to acceptable LOS B operation during summertime conditions, and will maintain acceptable LOS B operation during harvest conditions with the addition of project traffic. Also, the project will not significantly add to the flow of eastbound traffic on S.R.12 east of the proposed site where the merge from two to one lane produces stop-and-go conditions and backups through the Kirkland Ranch Road intersection. Only 1 vehicle will be added to the merge area during the 4:00 to 5:00 PM peak traffic hour.

**c. Weekday PM Peak Hour (5:00-6:00)**

**Table 11** shows that the signalized Jameson Canyon Road (S.R.12)/Kirkland Ranch Road/Chardonnay Country Club intersection will maintain acceptable LOS A operation during both summertime and harvest conditions with the addition of project traffic. Also, the project will not significantly add to the flow of eastbound traffic on S.R.12 east of the proposed site where the merge from two to one lane produces stop-and-go conditions and backups through the Kirkland Ranch Road intersection. Only 3 vehicles will be added to the merge area during the 4:00 to 5:00 PM peak traffic hour.

*These would be less than significant impacts.*

**2. Vehicle Queuing in Left Turn Lane on the Eastbound Jameson Canyon Road Approach to Kirkland Ranch Road**

Analysis has been conducted of the projected 95th percentile vehicle queuing in the 280-foot-long left turn lane on the eastbound Jameson Canyon Road approach to Kirkland Ranch Road. Evaluation has utilized queuing results from the Synchro software program.

**a. AM Peak Hour (7:30-8:30)**

**Table 12** shows that the 95th percentile vehicle queue in the eastbound S.R.12 left turn lane approaching Kirkland Ranch Road will be 22 feet (or 1 vehicle) without the proposed project, and will increase to 35 feet during the summer peak hour and 37 feet during the harvest peak hour (or up to 2 vehicles) during the weekday AM peak hour. This number of vehicles could be easily accommodated in the existing turn lane.

**b. PM Peak Hour (4:00-5:00)**

**Table 12** shows that the 95th percentile vehicle queue in the eastbound S.R.12 left turn lane approaching Kirkland Ranch Road will be 32 to 33 feet during the weekday PM peak hour without the proposed project, and will increase up to 44-46 feet (2 vehicles total storage demand) with the addition of project traffic during either summer or harvest conditions. This number of vehicles could be accommodated within the existing 280-foot left turn lane.



Table 12  
**95TH PERCENTILE QUEUE**  
**LEFT TURN LANE ON EASTBOUND**  
**JAMESON CANYON ROAD (S.R.12) APPROACH TO**  
**KIRKLAND RANCH ROAD SIGNALIZED INTERSECTION**

**AM PEAK HOUR**

**SUMMER (NON HARVEST) QUEUE**

EXISTING	YEAR 2012	
	BASE CASE	BASE CASE + PROJECT
22 feet	22 feet	35 feet

**FALL (HARVEST) QUEUE**

EXISTING	YEAR 2012	
	BASE CASE	BASE CASE + PROJECT
22 feet	22 feet	37 feet

**PM PEAK HOUR**

**SUMMER (NON HARVEST) QUEUE**

EXISTING		YEAR 2012			
4:00-5:00	5:00-6:00	4:00-5:00		5:00-6:00	
		BASE CASE	BASE CASE + PROJECT	BASE CASE	BASE CASE + PROJECT
32 feet	12 feet	32 feet	44 feet	12 feet	26 feet

**FALL (HARVEST) QUEUE**

EXISTING		YEAR 2012			
4:00-5:00	5:00-6:00	4:00-5:00		5:00-6:00	
		BASE CASE	BASE CASE + PROJECT	BASE CASE	BASE CASE + PROJECT
33 feet	12 feet	33 feet	46 feet	12 feet	27 feet

2000 Highway Capacity Manual analysis methodology.  
Source: Crane Transportation Group

c. **PM Peak Hour (5:00-6:00)**

**Table 12** shows that the 95th percentile vehicle queue in the eastbound S.R.12 left turn lane approaching Kirkland Ranch Road will be increased from 12 feet up to 26 feet during summertime weekday PM peak hour conditions with the addition of project traffic. During weekday PM peak hour harvest conditions, the 95th percentile queue will be increased from 12 up to 27 feet with the addition of project traffic. Either summer or harvest storage demand increases could be accommodated within the existing 280-foot left turn lane.

*These would be less than significant impacts.*

## **VII. CONCLUSIONS & RECOMMENDATIONS**

1. Traffic due to the proposed Reata expansion project would not significantly impact summertime or harvest peak hour level of service or vehicle queuing demands at the Jameson Canyon Road/Kirkland Ranch Road/Chardonnay Country Club signalized intersection.
2. Traffic due to the proposed Reata expansion would not significantly impact existing PM commute period backups on Jameson Canyon Road to the east of the project site, where two eastbound lanes merge to a single lane. The project would only add 1 to 3 vehicles per hour to the merge location.
3. No specific mitigation measures are recommended, although Reata should be encouraged to continue scheduling special events not to impact weekday 4:00 to 6:00 PM traffic flow on S.R.12.

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**REATA  
DAILY TRAFFIC PROJECTIONS**

**January 3, 2012  
[Revised February 13, 2012]**

**Prepared for: Reata**

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Table 1

# REATA DAILY 2-WAY TRIP GENERATION

## NON HARVEST

	EXISTING DAILY TRIPS	PROJECT INCREMENT DAILY TRIPS	TOTAL DAILY 2-WAY TRIPS WITH PROJECT
<b>NON TRUCK TRIPS</b>			
Full-time Employees (Admin, wine production, bottling, shipping)	(13) <sup>(1)</sup> 40	(3) 9	49
Full-time Tasting Room/Tour Employees	(2) <sup>(1)</sup> 6	(3) 9	15
Part-time Tasting Room/Tour Employees	(3) <sup>(1)</sup> 9	(-2) -6	3
Tasting Room Visitors by Appointment (600 visitors @ 2.6 people/vehicle=231 vehicles)	462	0	462
<b>SUBTOTAL – NON TRUCK TRIPS</b>	<b>518*</b>	<b>12</b>	<b>530*</b>
<b>TRUCK TRIPS</b>			
Bulk Wine-Glass In/Case Goods Out	12	12	24
De Alc Bulk Wine In	0	2	2
De Alc Bulk Wine Out	0	2	2
De Alc Permeate	0	2	2
<b>SUBTOTAL – TRUCK TRIPS</b>	<b>12</b>	<b>18</b>	<b>30</b>
<b>GRAND TOTAL</b>	<b>530</b>	<b>30</b>	<b>560</b>

<sup>(1)</sup> (XX)=number of employees. 1.5 factor used to estimate daily employee trips.

\* Rounding up to even volume.

Source: Reata/Crane Transportation Group

Table 2

# REATA DAILY 2-WAY TRIP GENERATION

## HARVEST

	EXISTING DAILY TRIPS	PROJECT INCREMENT DAILY TRIPS	TOTAL DAILY 2-WAY TRIPS WITH PROJECT
<b>NON TRUCK TRIPS</b>			
Full-time Employees (Admin, wine production, bottling, shipping)	(13) <sup>(1)</sup> 40	(3) 9	49
Full-time Tasting Room/Tour Employees	(2) <sup>(1)</sup> 6	(3) 9	15
Part-time Tasting Room/Tour Employees	(3) <sup>(1)</sup> 9	(-2) -6	3
Part-time Harvest Grape Delivery	(3) <sup>(1)</sup> 9	0	9
Tasting Room Visitors by Appointment (600 visitors @ 2.6 people/vehicle=231 vehicles)	462	0	462
<b>SUBTOTAL – NON TRUCK TRIPS</b>	<b>526</b>	<b>12</b>	<b>538</b>
<b>TRUCK TRIPS</b>			
Bulk Wine-Glass In/Case Goods Out	12	12	24
Grape Delivery	20	10	30
De Alc Bulk Wine In	0	2	2
De Alc Bulk Wine Out	0	2	2
De Alc Permeate	0	2	2
<b>SUBTOTAL – TRUCK TRIPS</b>	<b>32</b>	<b>28</b>	<b>60</b>
<b>GRAND TOTAL</b>	<b>558</b>	<b>40</b>	<b>598</b>

<sup>(1)</sup> (XX)=number of employees. 1.5 factor used to estimate daily employee trips.

Source: Reata/Crane Transportation Group

Table 3

**REATA DAILY PROJECT TRAFFIC INCREASES  
ALONG SR29 NORTH & SOUTH OF  
JAMESON CANYON ROAD (SR12)**

**NON HARVEST**

LOCATION	DAILY 2-WAY TRIPS		
	NON TRUCKS	TRUCKS	TOTAL
SR29 North of Jameson Canyon Road	6	12	18
SR29 South of Jameson Canyon Road	4	4	8

**HARVEST**

LOCATION	DAILY 2-WAY TRIPS		
	NON TRUCKS	TRUCKS	TOTAL
SR29 North of Jameson Canyon Road	6	22	28
SR29 South of Jameson Canyon Road	4	4	8

*Source: Reata/Crane Transportation Group*