

TRAFFIC REPORT

PANATTONI NAPA CORPORATE CENTER PHASE 1

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Prepared for: Panattoni Development Company

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I. INTRODUCTION

This report has been prepared at the request of the Panattoni Development Company, LLC (Panattoni) to detail the expected circulation impacts due to the proposed Napa Airport Corporate Center – Phase 1. The project would contain 171,559 square feet of winery warehousing facilities and would be built and in full operation by year 2010. The project site is located west of State Route 29 (S.R.29) within the Napa County Airport Industrial Park Specific Plan area,¹ south of South Kelly Road and primarily east of the future southerly extension of Devlin Road. Access would be gained via both South Kelly Road and the future Devlin Road extension. May 2007 AM and PM peak period traffic counts have been conducted at all major intersections in the project vicinity to determine existing traffic volumes as well as the existing vehicle mix. Near term project impacts have been determined for year 2010 traffic conditions, while long term horizon project impacts have been determined for year 2030 traffic conditions. Measures have then been proposed, where needed, to mitigate any existing operational problems as well as to mitigate any near and long term horizon unacceptable operation both with and without the proposed project.

II. SUMMARY OF FINDINGS

A. EXISTING CONDITIONS

The circulation system providing access to the Napa Airport Corporate Center Phase 1 site is currently operating acceptably with the following exception.

- The two-lane section of Jameson Canyon Road at the Napa/Solano County line is currently operating at unacceptable levels during PM commute peak hour conditions.

Needed Improvement:

Jameson Canyon Road should be widened to a four-lane divided highway.

B. YEAR 2010 BASE CASE (WITHOUT PROJECT) OPERATING CONDITIONS

- By 2010, the circulation system providing access to the Napa Airport Corporate Center Phase 1 site will be operating acceptably with the exception of the S.R.29/Napa Junction Road intersection in American Canyon as well as the two-lane section of Jameson Canyon Road at the Napa/Solano County line.

¹ For ease of reference in this report, “Napa County Airport Industrial Park Specific Plan” area is shortened to “Airport Industrial Park” or “Specific Plan” area.

Needed Improvement:

- S.R.29/Napa Junction Road intersection: No improvement in operation would be possible until the widening of S.R.29 to six lanes through the intersection or completion of Newell Road as an alternate north-south route to S.R.29.
- Jameson Canyon Road should be widened to a four-lane divided highway.

C. YEAR 2030 BASE CASE (WITHOUT PROJECT) OPERATING CONDITIONS)

- By 2030, the circulation system providing access to the Napa Airport Corporate Center Phase 1 site will be operating acceptably after all planned circulation system improvements. However, the S.R.29/South Kelly intersection may experience unacceptable operation at some point between 2010 and 2030 before S.R.29 is widened from four to six lanes in the project vicinity. In addition, the left turn lane on the northbound S.R.29 approach to South Kelly Road may have 95th percentile queuing demands beyond available storage without optimized signal timing and phasing.

Needed Improvement:

S.R.29/South Kelly Road intersection: Provide an exclusive right turn lane on the eastbound South Kelly Road intersection approach. Construction of this right turn lane should be included in the area-wide set of circulation system improvements for the Napa Airport Industrial Area. In addition, local area developments should provide fair share contributions towards lengthening the left turn lane on the northbound S.R.29 approach to South Kelly Road.

D. PROJECT IMPACTS

- The proposed 171,559-square-foot winery warehouse project would be expected to generate 292 daily two-way trips (146 inbound and 146 outbound), with 17 inbound and 11 outbound trips during the AM peak hour, and nine inbound and 17 outbound trips during the PM peak hour.
- The project would not be expected to produce any significant intersection level of service, merging or 95th percentile queuing impacts by 2010.
- The project would not be expected to produce any significant intersection level of service impacts by 2030. However, the project would produce a significant 95th percentile queuing impact before 2030 in the left turn lane on the northbound S.R.29 approach to South Kelly Road.
- Potential safety and operational problems would occur along South Kelly Road adjacent to the project frontage if a left turn lane is not provided on the westbound South Kelly Road approach to project driveways and on the approach to Devlin Road.

E. PROJECT MITIGATIONS

1. The project should reserve right-of-way along its South Kelly Road frontage and provide a left turn lane on the westbound approach to the project's western driveway as well as a left turn lane on the westbound approach to Devlin Road. No left turn in or out access should be allowed at any project driveway along South Kelly Road in close proximity to S.R.29.
2. The project should reserve right-of-way along its South Kelly Road frontage in order to allow construction of an exclusive right turn lane on the eastbound approach to S.R.29 if needed between 2010 and 2030. Theoretical projections indicate marginally acceptable PM peak hour operation of the S.R.29/South Kelly Road intersection in 2010, and acceptable operation in 2030 with six lanes on S.R.29. There potentially will be a period after 2010 and before the widening of S.R.29 from four to six lanes when the intersection will be operating unacceptably. Provision of a right turn lane on the eastbound South Kelly Road intersection approach would improve operation and provide an overall area traffic benefit. Construction of the right turn lane should be included in the area-wide set of improvements for the Napa Airport Industrial Area.
3. The project should provide fair share contribution towards the lengthening of the left turn lane on the northbound S.R.29 approach to South Kelly Road.

III. PROPOSED PROJECT

The Panattoni Napa Airport Corporate Center Phase 1 project will be located on the west side of S.R.29 in the Napa County Airport Industrial Park, south of the City of Napa and north of the City of American Canyon – see **Figures 1 and 2**. The site is located southeast of the Napa County Airport on the south side of South Kelly Road and on the east side of the future extension of Devlin Road south of South Kelly Road. The project would be accessed from both South Kelly Road and from the southward extension of Devlin Road. Devlin Road would be completed as a two-lane road adjacent to the project frontage. Ultimately, it would be extended farther south to Green Island Road in American Canyon in conjunction with other area development. The project site is currently undeveloped.

The Napa Airport Corporate Center Phase 1 will contain 171,559 square feet of winery warehouse uses (in four buildings) on the parcel east of Devlin Road. It is scheduled to be built in 2008 with full occupancy by no later than 2010. The project is projected to have the same traffic activity for both the near term (2010) and long term (2030) horizons.

IV. EXISTING CIRCULATION SYSTEM

A. ROADWAYS

Roadways providing access to the site are briefly described below. Intersection geometrics and control are shown on **Figure 3**.

The **State Route 29 (S.R.29)** highway runs in a north-south direction between Vallejo and American Canyon to the south, and the City of Napa and other Napa County communities to the north. In the project site vicinity it has two travel lanes in each direction, separated by a grass and dirt median. As shown on **Figure 3**, within Napa County it has separate left turn lanes at its signalized intersection with South Kelly Road and separate left and right turn lanes at its signalized intersections with Airport Boulevard/Jameson Canyon Road (S.R.12).² The posted speed limit in the site vicinity is 55 miles per hour in both directions. S.R.29 is also designated S.R.12 north of Jameson Canyon Road.

South Kelly Road is a 34-foot-wide, two-lane roadway with narrow shoulders from Devlin Road to S.R.29. The west leg of the Devlin Road/South Kelly Road intersection is the entrance/exit to a Waste Transfer Station. South Kelly Road continues east and north of S.R.29 to Jameson Canyon Road and changes names to North Kelly Road to the north of Jameson Canyon Road.

Devlin Road is a 48-foot-wide, three-lane roadway that extends south of Tower Road (an east-west roadway within the Airport Industrial Park) about one half mile to a dead-end at South Kelly Road. It has one lane in each direction and a center two-way left turn lane that transitions to an exclusive left turn lane at the Tower Road and South Kelly Road intersections. Numerous businesses front or have access to Devlin Road. Devlin Road is planned to eventually be extended as a north-south three- to four-lane arterial roadway through the Airport Industrial Park between Soscol Ferry Road and Green Island Road (see Planned Improvements, below).

B. VOLUMES

Napa County staff requested analysis at the following locations for this study.

- S.R.12-29/Jameson Canyon Road (S.R.12)/Airport Boulevard (Napa County)
- Jameson Canyon Road (S.R.12)/North Kelly Road-South Kelly Road (Napa County)
- S.R.29/South Kelly Road (Napa County)
- S.R.29/Green Island Road-Paoli Loop Road hook ramps (American Canyon)
- S.R.29/Napa Junction Road intersection (American Canyon)

Traffic counts were conducted by Crane Transportation Group at the following Napa County locations in May 2007.

- S.R.12-29/Jameson Canyon Road (S.R.12)/Airport Boulevard: May 23, 2007
- Jameson Canyon Road (S.R.12)/North Kelly Road-South Kelly Road: May 22, 2007

² Southbound S.R.29 at the Airport Boulevard intersection has *two* left turn lanes.

- S.R.29/South Kelly Road: May 23, 2007
- S.R.29/Tower Road: May 23, 2007 (count required in order to provide complete traffic distribution pattern from area jointly served by Tower Road and South Kelly Road)

American Canyon traffic counts for the S.R.29 hook ramp connections with Green Island Road and Paoli Loop Road as well as the Napa Junction Road intersection were obtained from the City of American Canyon traffic consultant (Omni Means) and are from 2005. AM and PM peak hour traffic volumes at all locations are presented in **Figures 4** and **5**, respectively.

During the AM peak hour, the two-way traffic volume on South Kelly Road between S.R.29 and Devlin Road was about 205 vehicles per hour (vph). During the same time period, two-way volumes on S.R.29 just north and south of South Kelly Road was about 3,490 vph and 4,125 vph, respectively.

During the PM peak hour, the two-way traffic volume on South Kelly Road between S.R.29 and Devlin Road was 250 vph. For the same time period, two-way volumes on S.R.29 just north and south of South Kelly Road were 3,935 vph and 4,110 vph, respectively.

C. INTERSECTION OPERATION

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 1** summarizes the relationship between delay and LOS for signalized intersections.

Unsignalized Intersections. For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the 2000 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology for unsignalized intersections was utilized. For side-street stop-controlled intersections, operations are defined by the level of service and average control delay per vehicle (measured in seconds), with delay typically represented for the stop sign controlled approaches or turn movements. For all-way stop-controlled intersections, operations are defined by the average control delay for the entire intersection (measured in seconds per vehicle). The delay at an unsignalized intersection incorporates delay associated

with deceleration, acceleration, stopping, and moving up in the queue. **Table 2** summarizes the relationship between delay and LOS for unsignalized intersections.

2. Minimum Acceptable Operation

a. County of Napa

Based upon criteria established in the Napa Airport Specific Plan Update EIR, LOS E is the poorest acceptable operation during peak traffic periods at the signalized intersections analyzed within Specific Plan Area for this study.

b. City of American Canyon

The City of American Canyon uses LOS D as the poorest acceptable operation at signalized or unsignalized intersections.

3. Existing Operation

Tables 3 and 4 show existing operation at analyzed intersections for AM and PM peak hour conditions, respectively. As shown, all intersections are operating acceptably during the AM and PM peak hours. This result includes the recently completed (September 2007) signalization of the S.R.29/Napa Junction Road intersection.

D. MERGE ANALYSIS AT S.R.29/GREEN ISLAND ROAD & S.R.29/PAOLI LOOP ROAD

1. Methodology

On-ramp merge operation from the Green Island Road and Paoli Loop Road Hook Ramps to S.R.29 has been evaluated using planning level methodology contained in the *Year 2000 Highway Capacity Manual*. Level of service is dependent upon both vehicle speed as well as vehicle density (in passenger cars per lane per mile) in the merge area.

2. Minimum Acceptable Operation

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.*³

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

3. Existing Operation

Table 5 shows that during the AM peak hour the southbound merge to S.R.29 from Green Island Road is currently operating at an acceptable LOS B, while the northbound merge to S.R.29 from Paoli Loop Road is operating at an acceptable LOS C. During the PM peak hour, the southbound merge to S.R.29 from Green Island Road is operating at an acceptable LOS C, while the northbound merge to S.R.29 from Paoli Loop Road is operating at an acceptable LOS B.

E. 95TH PERCENTILE VEHICLE QUEUING – S.R.29 TURN LANES APPROACHING SOUTH KELLY ROAD

1. Methodology

The Synchro software intersection level of service program has been utilized to obtain the 95th percentile vehicle queuing expected in the left turn lane on the northbound S.R.29 approach to South Kelly Road and in the right turn lane on the southbound S.R.29 approach to South Kelly Road.

2. Minimum Acceptable Operation

Caltrans requires that the 95th percentile vehicle queuing be contained within the available turn lane storage distance.

3. Existing Operation

Field observations by Crane Transportation Group at the S.R.29/South Kelly Road intersection showed no queues in the 250-foot-long northbound S.R.29 left turn lane or in the 50-foot-long southbound S.R.29 right turn lane on the approaches to South Kelly Road extending beyond the storage limits of the existing turn lanes. In addition, **Table 6** shows that the existing theoretical 95th percentile queuing demand should not be exceeding available storage during either the AM and PM peak traffic hours in either turn lane.

F. JAMESON CANYON ROAD OPERATING CONDITIONS

1. Methodology

The year 2000 *Highway Capacity Manual* two-lane highway analysis methodology has been utilized to determine existing peak hour operating conditions of Jameson Canyon Road at the Napa/Solano county line. Input data includes volume levels, directional split of traffic, road and shoulder widths, percent no passing, rolling versus flat terrain and the percent truck and RVs.

2. Minimum Acceptable Criteria

The County of Napa has determined that LOS E is the minimum acceptable operation for Jameson Canyon Road (within Napa County).

3. Existing Operation

Table 7 shows that currently, Jameson Canyon Road at the Napa/Solano county line is operating acceptably at level of service E (LOS E) conditions during the AM peak hour and unacceptably at LOS F conditions during the PM peak hour.

G. PLANNED IMPROVEMENTS

1. Near Term Improvements

a. County of Napa

There are no near term capacity improvements planned by Napa County or Caltrans along Jameson Canyon Road nor at any of the S.R.29 or S.R.12 intersections within Napa County evaluated for this study.⁴

b. City of American Canyon

Minor geometric improvements are planned at the Green Island Road and Paoli Loop Road connections to S.R.29.⁵

2. Long Term Improvements

a. County of Napa

The Napa County Board of Supervisors has adopted a resolution listing planned improvements for the Airport Industrial Park for local roadways and state highway.⁶ New development projects within the Specific Plan area are required to contribute to these improvements according to a mitigation fee schedule tied to PM peak hour vehicle trips generated by new projects. Listed projects that affect roadways analyzed in this report are improvements to Devlin Road (construction of extensions and widenings).

Devlin Road is ultimately planned to be a continuous road between Soscol Ferry Road (on the north) and Green Island Road (on the south). The section between Soscol Ferry Road and Airport Boulevard will ultimately have two travel lanes in each direction separated by a median. The section south of Airport Boulevard will have single travel lanes in each direction and a median continuous turn lane. For new segments of road, the median and travel lanes adjacent to the median (one each direction for the four-lane sections) will be financed through the off-site traffic fee collected from all new developments within the Airport Specific Plan Area. The curb travel lanes will be the financial responsibility of the adjacent property owners.⁷

⁴ Mr. John Ponte, Napa County Transportation Planning Agency (August 2007).

⁵ Omni Means, Inc. (September 2007).

⁶ County Board of Supervisors Resolution Number 90-152, adjusted by Resolution Number 98-117, adopting a traffic mitigation fee for new development projects in the Airport Industrial Park Specific Plan.

⁷ Mr. Larry Bogner, Napa County Public Works Department (personal communication, July 2005).

b. Caltrans

A full diamond interchange is planned for the S.R.12-29/Jameson Canyon Road (S.R.12)/Airport Boulevard intersection. There is no specific date for the interchange improvements at S.R.12-29/Jameson Canyon Road (S.R.12)/Airport Boulevard, although Caltrans and the Napa County Transportation Planning Agency⁸ (NCTPA) both agree that it will be in place before 2030. In addition, Jameson Canyon Road is planned to be widened to a four-lane divided highway between S.R.29 and I-80 before the year 2030.⁹

c. City of American Canyon

S.R.29 is planned to be widened to three through lanes in each direction through the City by 2030.¹⁰

The Napa County Transportation Authority and American Canyon have developed numerous plans for the potential extension of Flosden Road north of American Canyon Road (named Newell Road) to connect to either S.R.29 (at a variety of locations) or to South Kelly Road (east of S.R.29). For purposes of this study, the Napa County Planning Department has directed that the South County Corridor Study Alternative 5 roadway system (and year 2030 traffic projections) be utilized for long term horizon analysis. Improvements projected to be in place for this alternative are as follows.

- A diamond interchange will be built at the S.R.12-29/Jameson Canyon Road (S.R.12)/Airport Boulevard intersection.
- Newell Road will extend north of American Canyon Road and intersect S.R.29 opposite Green Island Road. The S.R.29/Green Island Road/Newell Road intersection will be signalized.
- S.R.29 will have three through lanes each direction from the Jameson Canyon intersection to south of the Green Island Road/Newell Road intersection.
- Jameson Canyon Road will be widened to four lanes.

⁸ Mr. John Ponte (personal communication in November 2005).

⁹ Mr. John Ponte (personal communication in November 2005).

¹⁰ Omni Means, Inc.

V. YEAR 2010 BASE CASE (WITHOUT PROJECT) CONDITIONS

A. VOLUMES

The Panattoni Napa Airport Corporate Center Phase 1 is planned to be constructed and occupied by the year 2010. For this reason, year 2010 ambient Base Case (without project) volumes were developed for analysis purposes using a straight line growth projection between existing volumes and year 2030 projections from the County's South County Corridor Alternative 5 Traffic Model. Adjustments were then made to reflect recently approved projects such as the Hanna Court Warehouses in American Canyon as well as the Montalcino and Gateway projects in Napa County, which would add more traffic to select through and turn movements at specific intersections than the straight line growth rate would produce. Resultant 2010 Base Case AM and PM peak hour volumes are presented in **Figures 6 and 7**, respectively.

B. IMPACTS AND NEEDED IMPROVEMENT

1. Intersection Operation

Impacts: Tables 3 and 4 show year 2010 Base Case (without project) AM and PM peak hour operating conditions at analyzed intersections. As shown, during the AM and PM peak hours all analyzed intersections would be operating acceptably with the exception of S.R.29 at Napa Junction Road in American Canyon, which would be operating at LOS E signalized conditions during the AM peak hour. While the S.R.29/South Kelly Road intersection would also be operating at LOS E conditions during the PM peak hour, LOS E is acceptable to the County at this location.

Needed Improvement:

S.R.29/Napa Junction Road intersection: No improvement in operation would be possible until the widening of S.R.29 to six lanes through the intersection or completion of Newell Road as an alternate north-south route to S.R.29.

2. Merge Operation at S.R.29/Green Island Road & S.R.29/Paolo Loop Road

Impact: Table 5 shows that year 2010 Base Case (without project) AM and PM peak hour merge operation at the Green Island Road and Paoli Loop Road hook ramp connections to S.R.29 would both be operating acceptably at LOS B or C conditions during the AM and PM peak traffic hours.

3. 95th Percentile Vehicle Queuing at the S.R.29/South Kelly Road Intersection

Impact: Table 6 shows that the left turn lane on the northbound S.R.29 approach to South Kelly Road (which is 250 feet long) and the right turn lane on the southbound S.R.29 approach to

South Kelly Road (which is 50 feet long) would not be expected to experience 95th percentile storage demands greater than available capacity. It should be noted, however, that elimination of potential queuing problems in both turn lanes depends upon Caltrans' signal timing parameters, which may not necessarily optimize clearing traffic from the turn lanes, particularly the northbound left turn lane.

4. Jameson Canyon Road

Impact: Table 7 shows that Jameson Canyon Road at the Napa/Solano County line would be operating unacceptably at LOS F conditions during both the AM and PM peak traffic hours.

Needed Improvement:

Jameson Canyon Road should be widened to a four-lane divided highway.

VI. YEAR 2030 BASE CASE (WITHOUT PROJECT) CONDITIONS

A. VOLUMES

Year 2030 Base Case AM and PM peak hour traffic volumes for all analysis intersections except S.R.29/Napa Junction Road (in American Canyon) have been obtained from the County's South County Corridor traffic model (Alternative 5). The South County Corridor model is consistent with the earlier traffic model developed for the County's General Plan update. Year 2030 volumes at the S.R.29/Napa Junction Road intersection have been obtained from traffic modeling projections supplied by the City of American Canyon's traffic engineering consultant Omni Means, Inc. These projections have been balanced with those at the S.R.29/Green Island Road-Newell Road intersection. Based upon direction of County Planning staff, the 2030 traffic needs projections did not include traffic from the Panattoni Napa Airport Corporate Center Phase 1 development. Resultant 2030 Base Case (without project) AM and PM peak hour volumes are presented in Figures 8 and 9.

B. IMPACTS AND NEEDED IMPROVEMENTS

1. Intersection Operation

Impact: Tables 3 and 4 show year 2030 Base Case AM and PM peak hour operating conditions at analyzed intersections, while Figure 10 presents approach geometrics and control at all analyzed intersections. As shown, all analyzed intersections are projected to be operating at acceptable levels of service in 2030. This includes the S.R.12-29 ramp intersections with Jameson Canyon Road-Airport Boulevard at the new diamond interchange, as well as at the new S.R.29/Green Island Road-Newell Road signalized intersection. However, the S.R.29/South Kelly Road intersection may experience unacceptable operation at some point between 2010 and 2030 before S.R.29 is widened from four to six lanes in the project vicinity.

Needed Improvement:

S.R.29/South Kelly Road intersection: Provide an exclusive right turn lane on the eastbound South Kelly Road intersection approach. Construction of this right turn lane should be included in the area-wide set of circulation system improvements for the Napa Airport Industrial Area. In addition, local area developments should provide fair share contributions towards lengthening the left turn lane on the northbound S.R.29 approach to South Kelly Road.

2. 95th Percentile Vehicle Queuing at the S.R.29/South Kelly Road Intersection

Impact: Table 6 shows that as development occurs within the Airport Industrial Park, the 95th percentile storage demand in the left turn lane on the northbound S.R.29 approach to South Kelly Road will be approaching storage capacity during the AM peak hour. This would be a potentially significant safety issue, particularly if Caltrans controlled signal timing and phasing is not optimized to clear traffic from this left turn lane.

Needed Improvement:

S.R.29/South Kelly Road Northbound Left Turn Lane – Lengthen the existing 250-foot turn lane to at least 350 feet (and preferably 400 feet) or to the length required based upon signal timing restrictions that may be imposed by Caltrans. Benefiting projects should pay for the cost of lengthening this lane when needed.

3. Jameson Canyon Road

Impact: Table 7 shows that a divided four-lane Jameson Canyon Road at the Napa/Solano County line would be operating at acceptable conditions during the AM peak hour (LOS B eastbound and LOS D westbound) as well as during the PM peak traffic hour (LOS D eastbound and LOS B westbound).

VII. PROJECT IMPACT SIGNIFICANCE CRITERIA

The following criteria were developed for recent EIR analysis of the Gateway Phase II development in the Airport Industrial Park Specific Plan area. These same criteria have been utilized in this study to determine the significance of impacts due to the Panattoni project. An impact is considered to be significant if any of the following conditions are met.

- If a signalized or all-way-stop intersection with Base Case (without project) volumes in the County is operating at LOS A, B, C, D or E and deteriorates to LOS F operation with the addition of project traffic, the impact is considered significant and would require mitigation.
- If the Base Case LOS at a signalized intersection in the County is already at LOS F, an increase in traffic passing through the intersection of 1 percent or more due to the project is considered to be significant and would require mitigation.

- If a signalized intersection with Base Case (without project) volumes in American Canyon is operating at LOS A, B, C or D and deteriorates to LOS E or F operation with the addition of project traffic, the impact is considered significant and would require mitigation.
- If the Base Case LOS at a signalized intersection in American Canyon is already at LOS E or F, an increase in traffic passing through the intersection of 1 percent or more due to the project is considered to be significant and would require mitigation.
- If traffic volume levels at a Base Case unsignalized intersection increase above Peak Hour Warrant #3 criteria levels with the addition of project traffic, the impact is considered significant and would require mitigation.
- If Base Case traffic volume levels at an unsignalized intersection already exceed peak hour signal warrant criteria levels, an increase in traffic passing through the intersection of 1 percent or more due to the project is considered significant and would require mitigation.
- If Base Case operation of the Green Island Road or Paoli Loop Road hook ramp merge to S.R.29 is operating at LOS A, B or C and deteriorates to LOS D, E or F with the addition of project traffic, the impact is considered significant and would require mitigation.
- If 95th percentile queuing in the turn lanes on the S.R.29 approaches to South Kelly Road are 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 Base Case volumes on Jameson Canyon Road change from LOS E to LOS F operation with the addition of project traffic, the impact is significant and would require mitigation.
- If Base Case traffic volumes on Jameson Canyon Road are already operating at LOS F conditions, an increase in traffic of 1 percent or more due to the project is considered to be significant and would require mitigation.
- If, in the opinion of the EIR registered traffic engineer, certain project-related traffic changes would substantially increase safety concerns, the impact is considered significant and would require mitigation.
- If 95th percentile Base Case queuing in the turn lanes on the S.R.29 approaches to South Kelly Road already exceed available storage, an increase in traffic of 1 percent or more due to the project is considered significant and would require mitigation.

VIII. PROJECT TRIP GENERATION

Table 8 shows that the proposed 171,559-square-foot winery warehouse project would generate 292 daily two-way trips (146 inbound and 146 outbound), with 17 inbound and 11 outbound trips during the AM peak hour and nine inbound and 17 outbound trips during the PM peak hour. Trip rates are based upon recent trip generation surveys of four winery warehouse facilities at the Napa Airport Industrial Park by Crane Transportation Group. Trip rates utilized reflect peak seasonal activity at the warehouses. **Appendix A** provides results of the winery warehouse trip generation surveys.

IX. PROJECT TRIP DISTRIBUTION

Table 9 shows project trip distribution based upon existing turn movements at the S.R.29/Tower, S.R.29/South Kelly and S.R.12-29/Airport Boulevard intersections. The project traffic increment distributed to the near term horizon 2010 roadway network is presented in **Figure 11**, while the project traffic increment distributed to the long term horizon year 2030 roadway network is presented in **Figure 12**. Year 2010 Base Case + Project AM and PM peak hour traffic volumes are presented in **Figures 13 and 14**, while year 2030 Base Case + Project AM and PM peak hour traffic volumes are presented in **Figures 15 and 16**.

X. PROJECT TRAFFIC IMPACTS

A. YEAR 2010

1. Intersection Level of Service

Tables 3 and 4 show that the proposed project would not change acceptable Base Case operation to unacceptable levels at any analyzed location. PM peak hour operation at S.R.29/South Kelly Road would remain a minimally acceptable LOS E, with average control delay increased by about three seconds.

The project would slightly increase traffic at the S.R.29/Napa Junction Road intersection in American Canyon, which would be operating at an unacceptable LOS E during the AM peak hour. The project would be expected to add 11 vehicles to this location during this period. Project traffic would increase average control delay by about half a second and the overall intersection volume level by 0.2 percent, which would be less than the impact criteria level.

These would be less than significant impacts.

2. Merge Operation at S.R.29/Green Island Road & S.R.29/Paoli Loop Road

Table 5 shows that the Green Island Road and Paoli Loop Road hook ramp merges to S.R.29 would remain with acceptable AM and PM peak hour operation after the addition of project traffic.

This would be a less than significant impact.

3. 95th Percentile Queuing in the S.R.29 Turn Lanes Approaching South Kelly Road

Table 6 shows the left turn lane on the S.R.29 northbound approach to South Kelly Road as well as the right turn lane on the S.R.29 southbound approach to South Kelly Road would have theoretical 95th percentile AM and PM peak hour queues remaining less than the available storage lengths with the addition of project traffic.

This would be a less than significant impact.

4. Jameson Canyon Road Operation

AM Peak Hour

Table 7 shows that project traffic would increase volumes less than 1% (0.2%) along the two-lane section of Jameson Canyon Road, which would be experiencing Base Case LOS F operation.

This would be a less than significant impact.

PM Peak Hour

Table 7 shows that project traffic would increase volumes by less than 1% (0.2%) along the two-lane section of Jameson Canyon Road, which would be experiencing Base Case LOS F operation.

This would be a less than significant impact.

B. YEAR 2030

1. Intersection Level of Service

Tables 3 and 4 show that the proposed project would not change acceptable Base Case operation to unacceptable levels at any analyzed location. All locations would have LOS D or better operation. The S.R.29/South Kelly Road intersection would be operating at LOS C during the AM peak hour and LOS D during the PM peak hour. (This result includes the planned third travel lanes in each direction on S.R.29 through the intersection by 2030.)

This would be a less than significant impact.

It should be noted, however, that the S.R.29/South Kelly Road intersection may experience unacceptable LOS F PM peak hour operation sometime after 2010 before S.R.29 has been widened to six lanes through the intersection. The proposed project would increase PM peak hour volumes by 0.3 percent at this location, which *would be considered a less than significant impact.*

2. 95th Percentile Queuing in the S.R.29 Turn Lanes Approaching South Kelly Road

Table 6 shows that the addition of project traffic would increase 95th percentile AM peak hour vehicle queuing beyond available storage in the left turn lane on the northbound S.R.29 approach to South Kelly Road.

This would be a significant impact.

3. Jameson Canyon Road Operation

AM Peak Hour

Base Case + Project operation would be acceptable in both directions along a four-lane Jameson Canyon Road (LOS B eastbound and LOS D westbound).

This would be a less than significant impact.

PM Peak Hour

Base Case + Project operation would be acceptable in both directions along a four-lane Jameson Canyon Road (LOS D eastbound and LOS B westbound).

This would be a less than significant impact.

C. PROJECT ACCESS

Napa County staff has not requested evaluation of project access along either South Kelly Road or the future extension of Devlin Road as part of this study. However, due to the width of the existing two-lane South Kelly Road along the project frontage, failure to provide a left turn lane on the westbound approach to any project driveway could lead to operational and safety problems if inbound project traffic must wait to turn left into the site within the one westbound through travel lane.

This would be a significant impact.

XI. RECOMMENDED PROJECT MITIGATIONS

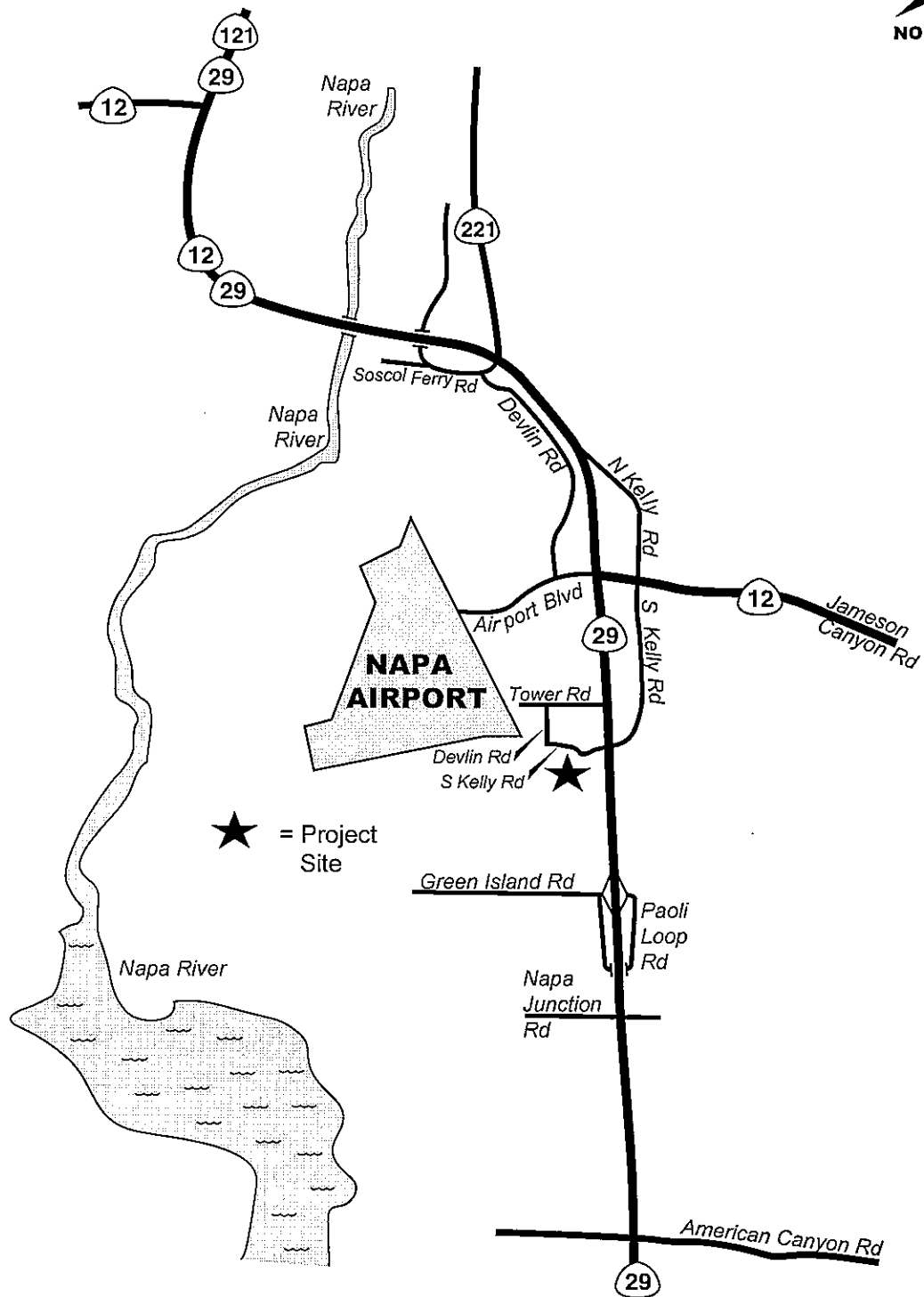
A. YEAR 2010

1. The project should reserve right-of-way along its South Kelly Road frontage and provide a left turn lane on the westbound approach to the project's western driveway as well as on the westbound approach to Devlin Road. No left turn in or out access should be allowed at any project driveway along South Kelly Road in close proximity to S.R.29.
2. The project should reserve right-of-way along its South Kelly Road frontage in order to allow construction of an exclusive right turn lane on the eastbound approach to S.R.29 if needed between 2010 and 2030. Theoretical projections indicate marginally acceptable PM peak hour operation of the S.R.29/South Kelly Road intersection in 2010, and acceptable operation in 2030 with six lanes on S.R.29. There potentially will be a period after 2010 and before the widening of S.R.29 from four to six lanes when the intersection will be operating unacceptably. Provision of a right turn lane on the eastbound South Kelly Road intersection approach would improve operation and provide an overall area traffic benefit. Construction of the right turn lane should be included in the area-wide set of improvements for the Napa Airport Industrial Area.
3. The project should provide fair share contribution towards the lengthening of the left turn lane on the northbound S.R.29 approach to South Kelly Road.

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Figures

Not To Scale



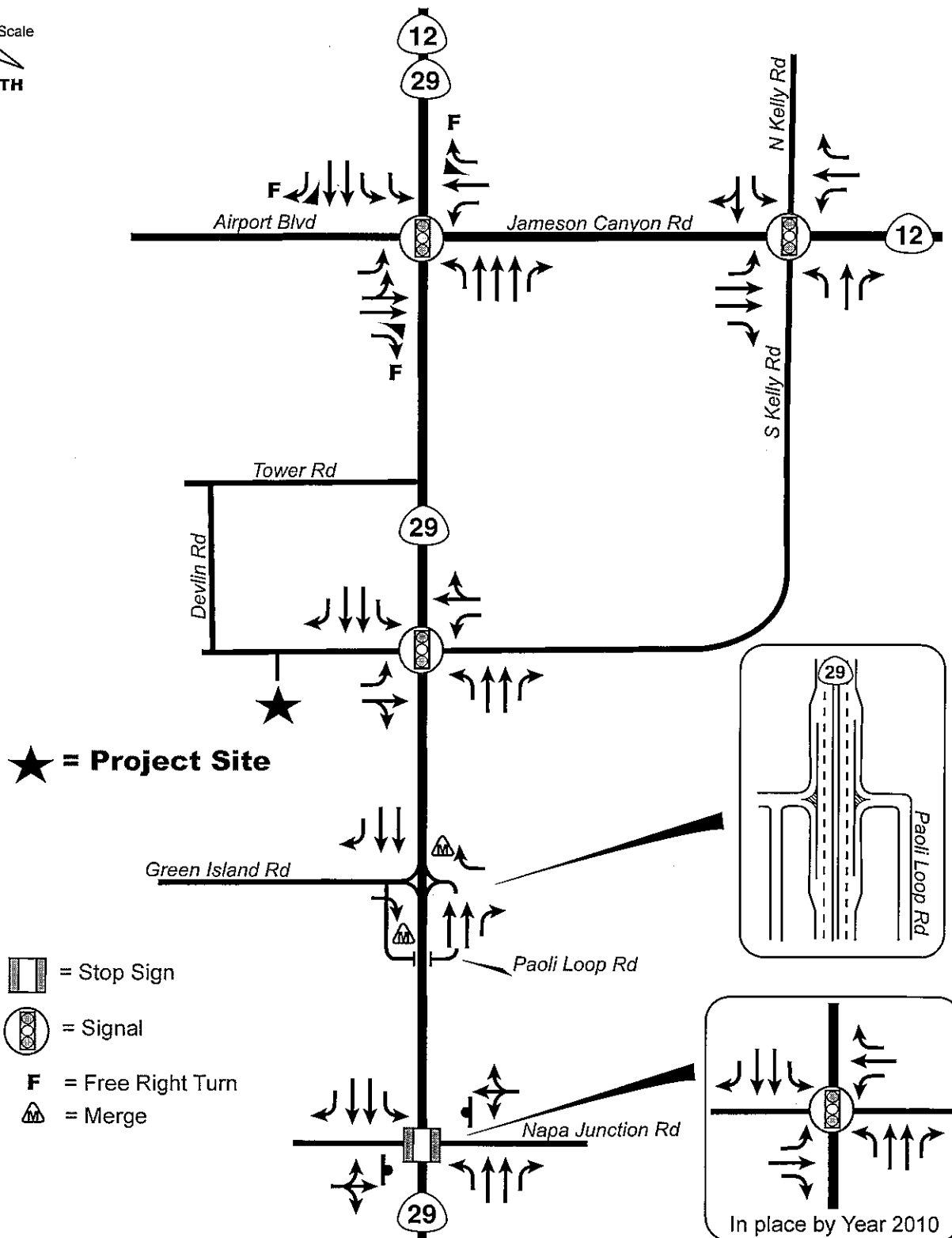
Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study



CRANE TRANSPORTATION GROUP

Figure 1
Area Map

Not To Scale



Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study

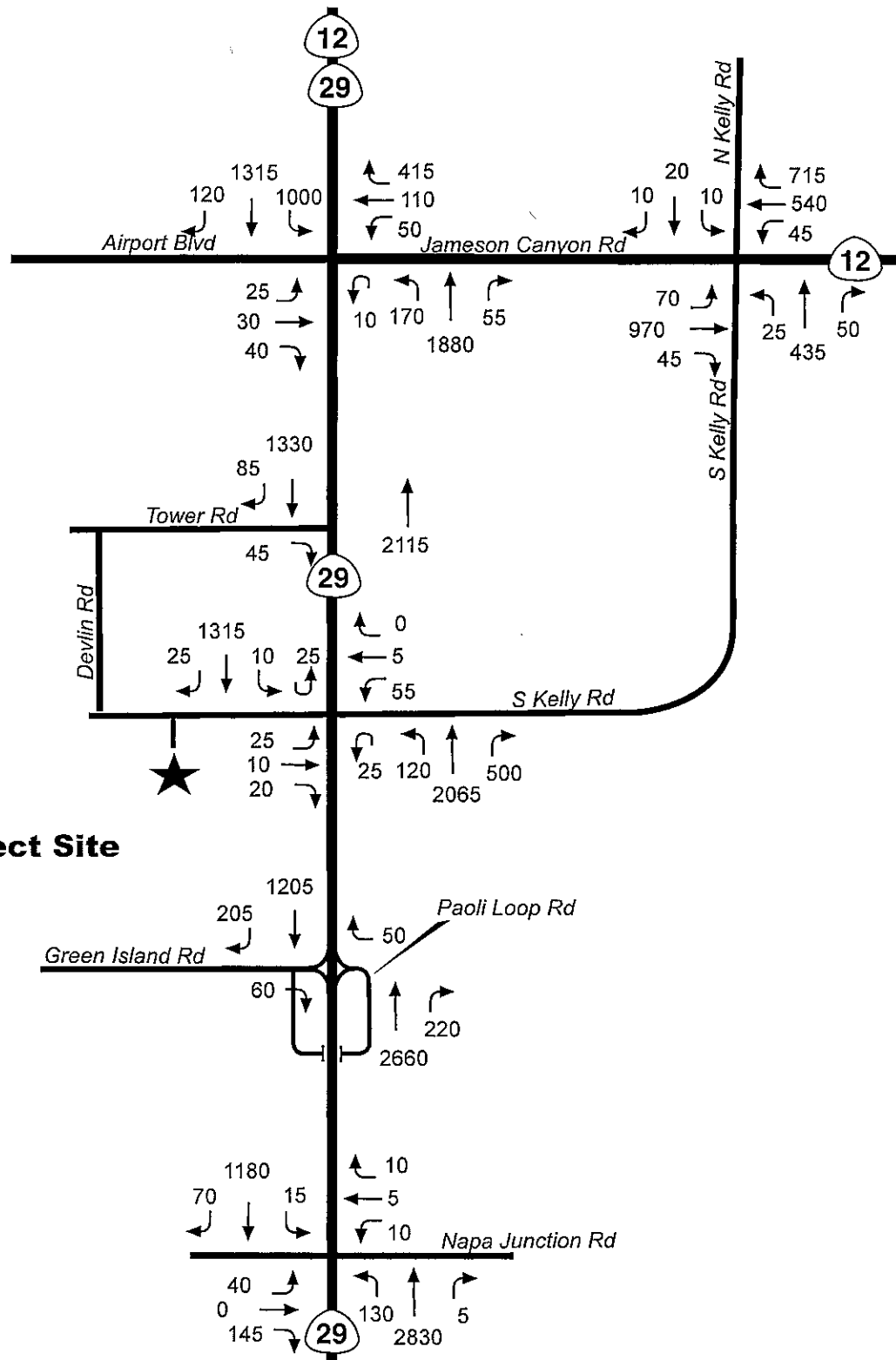
Figure 3

**Existing and Year 2010
Intersection Lane Geometrics and Control**



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Not To Scale



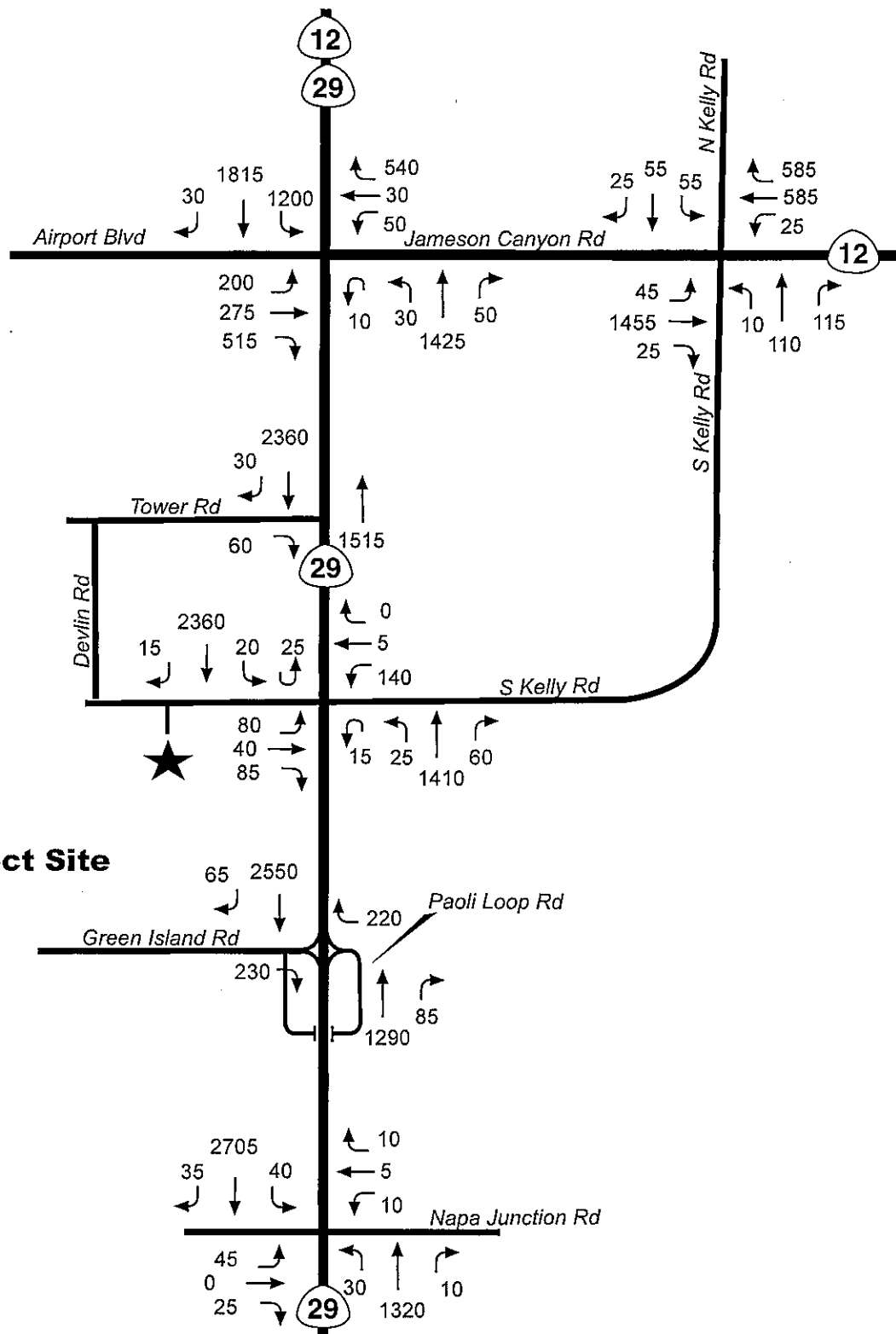
Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study



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Figure 4
Existing (Year 2007)
AM Peak Hour Volumes

Not To Scale



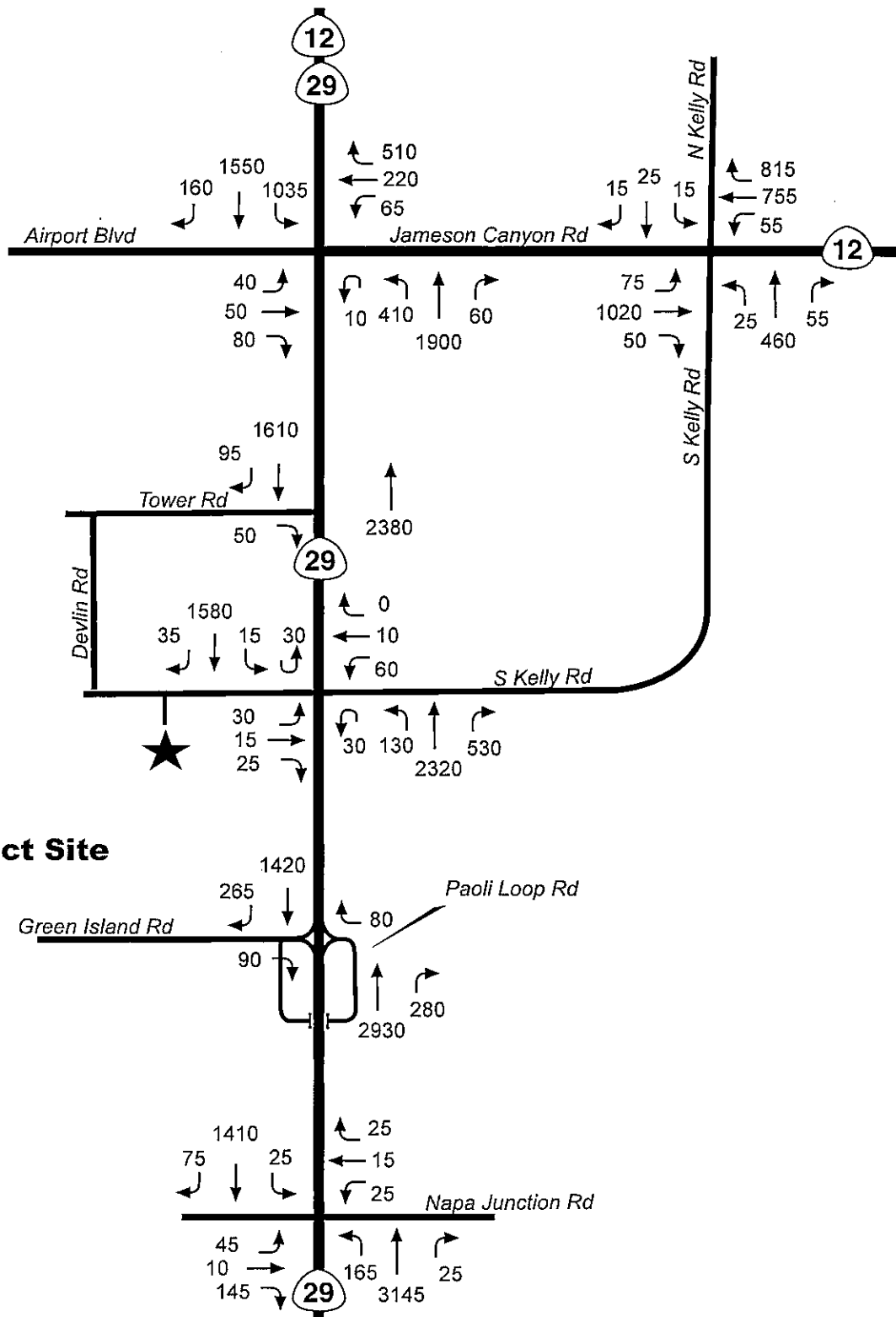
Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study



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Figure 5
Existing (Year 2007)
PM Peak Hour Volumes

Not To Scale



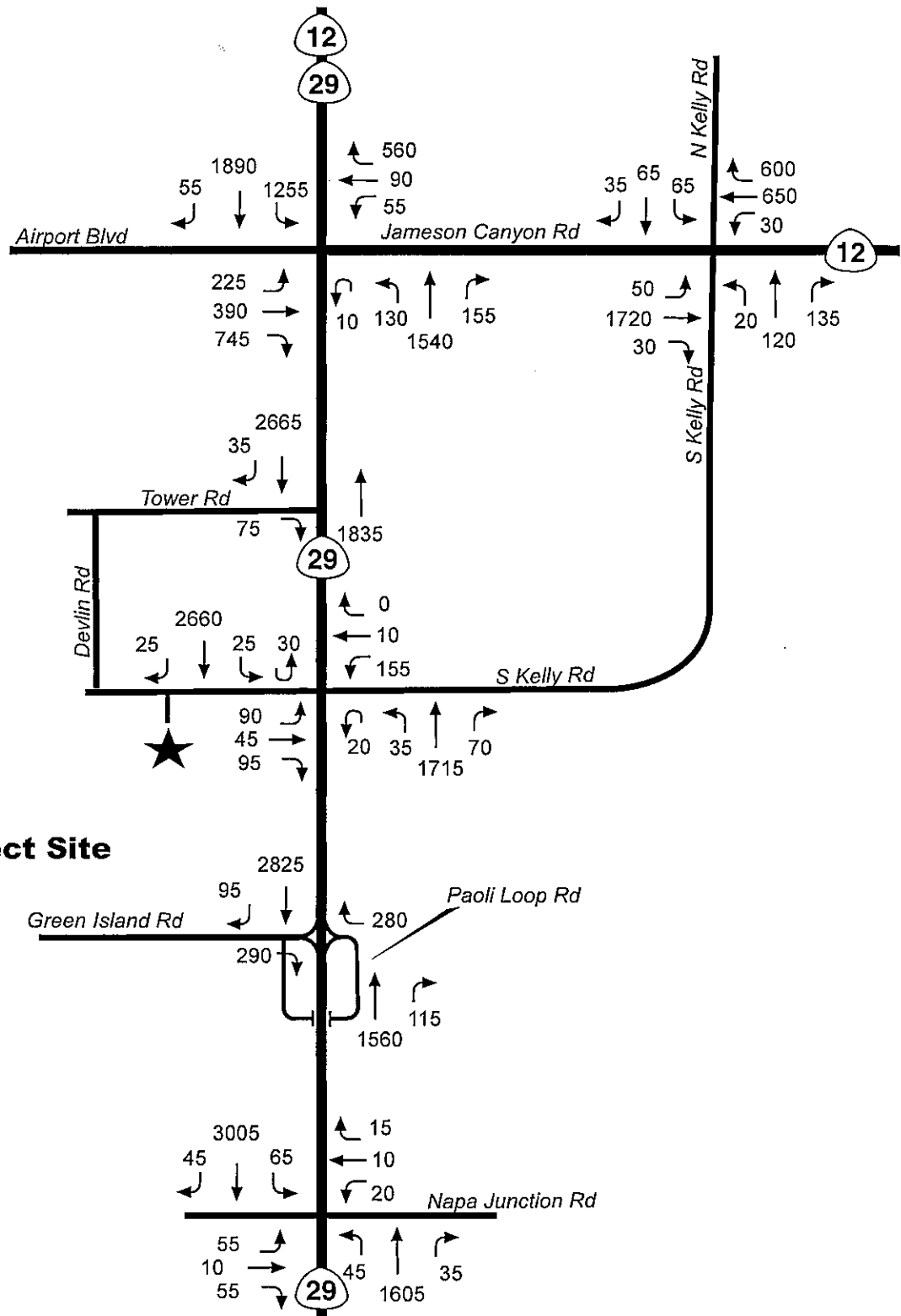
Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study



CRANE TRANSPORTATION GROUP

Figure 6
Near Term (Year 2010) Base Case
AM Peak Hour Volumes

Not To Scale



Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study

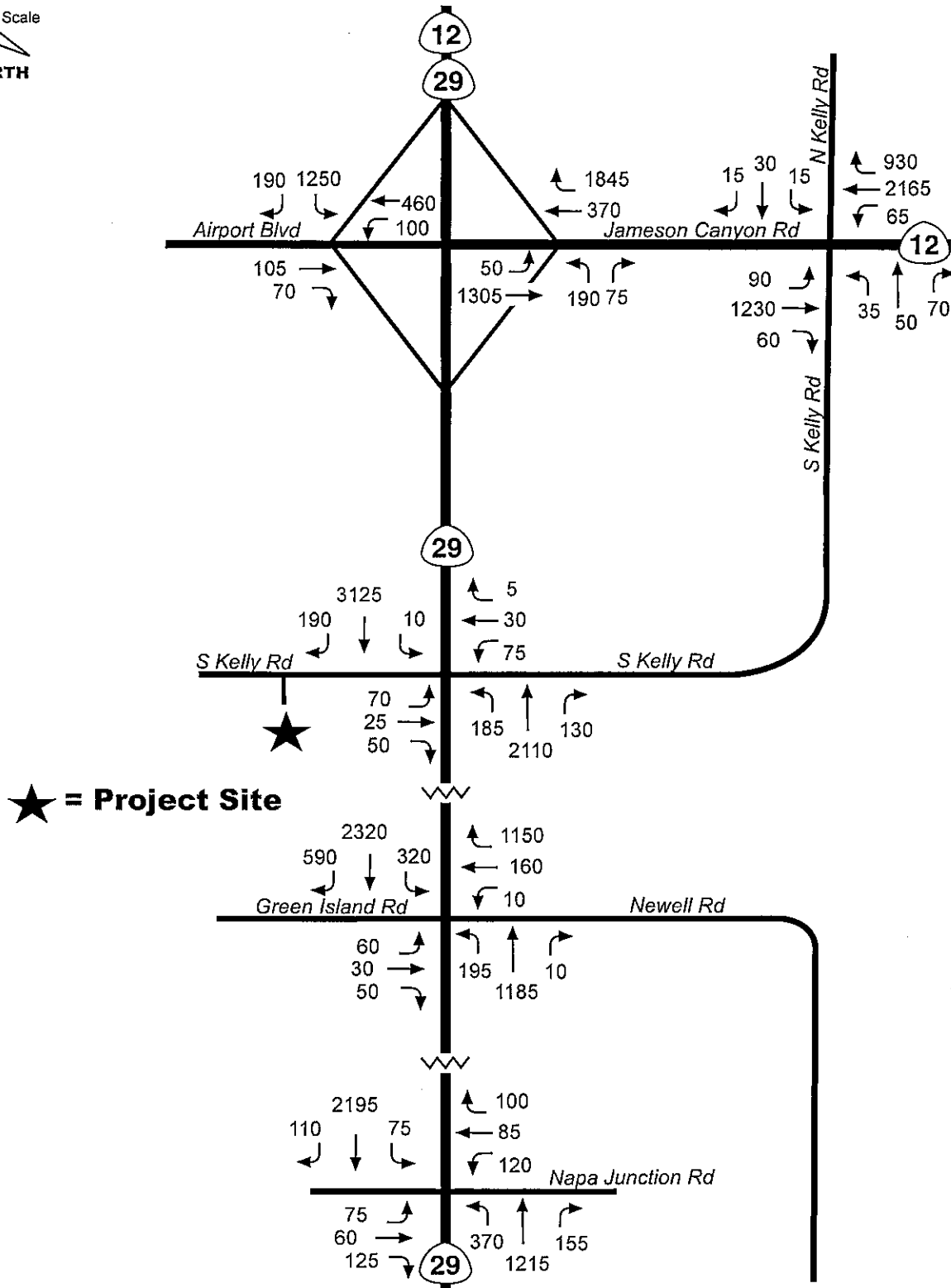
Figure 7

**Near Term (Year 2010) Base Case
PM Peak Hour Volumes**



CRANE TRANSPORTATION GROUP

Not To Scale



Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study

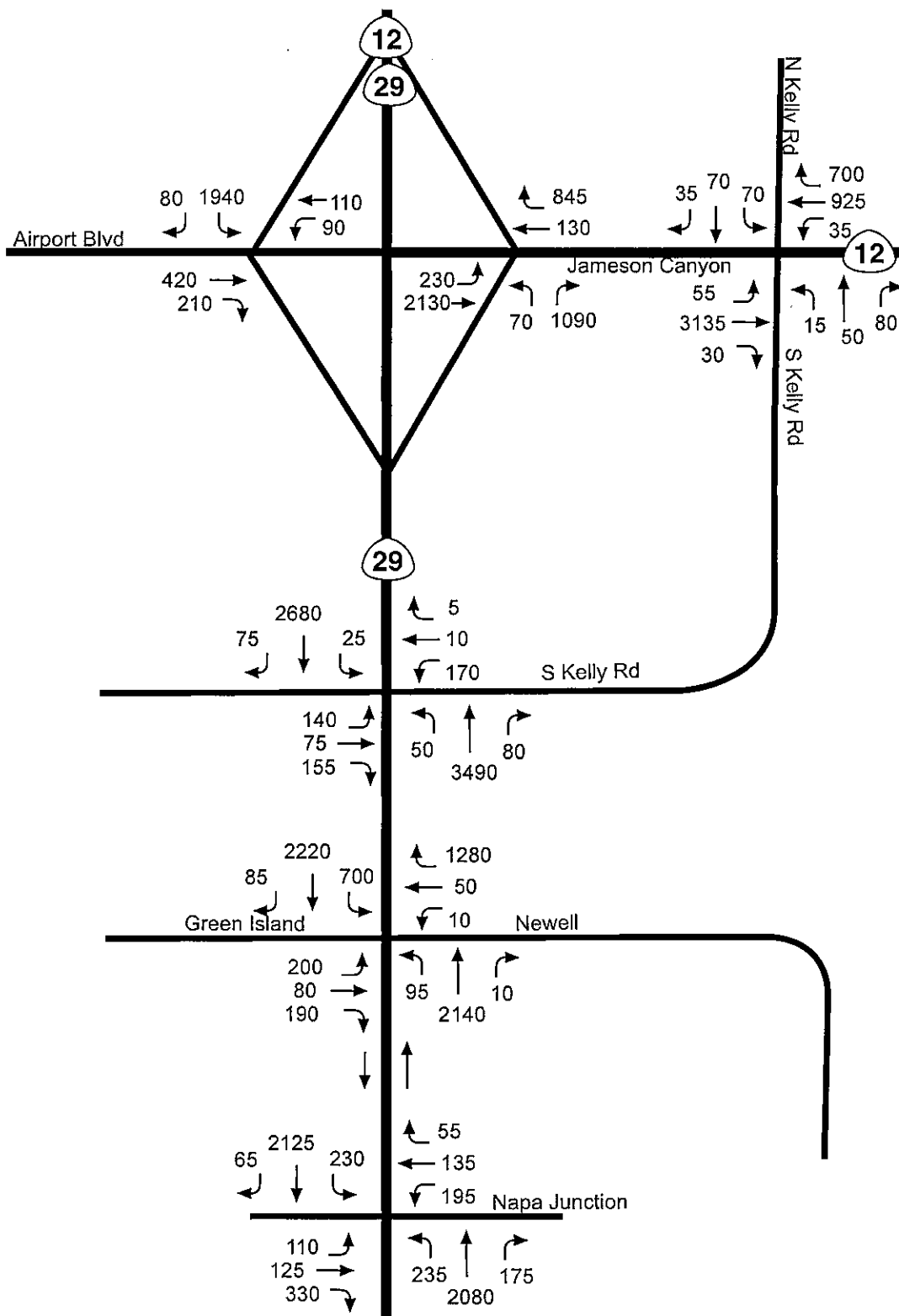


CRANE TRANSPORTATION GROUP

Figure 8

**Year 2030 Base Case
AM Peak Hour Volumes**

Not To Scale



Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study

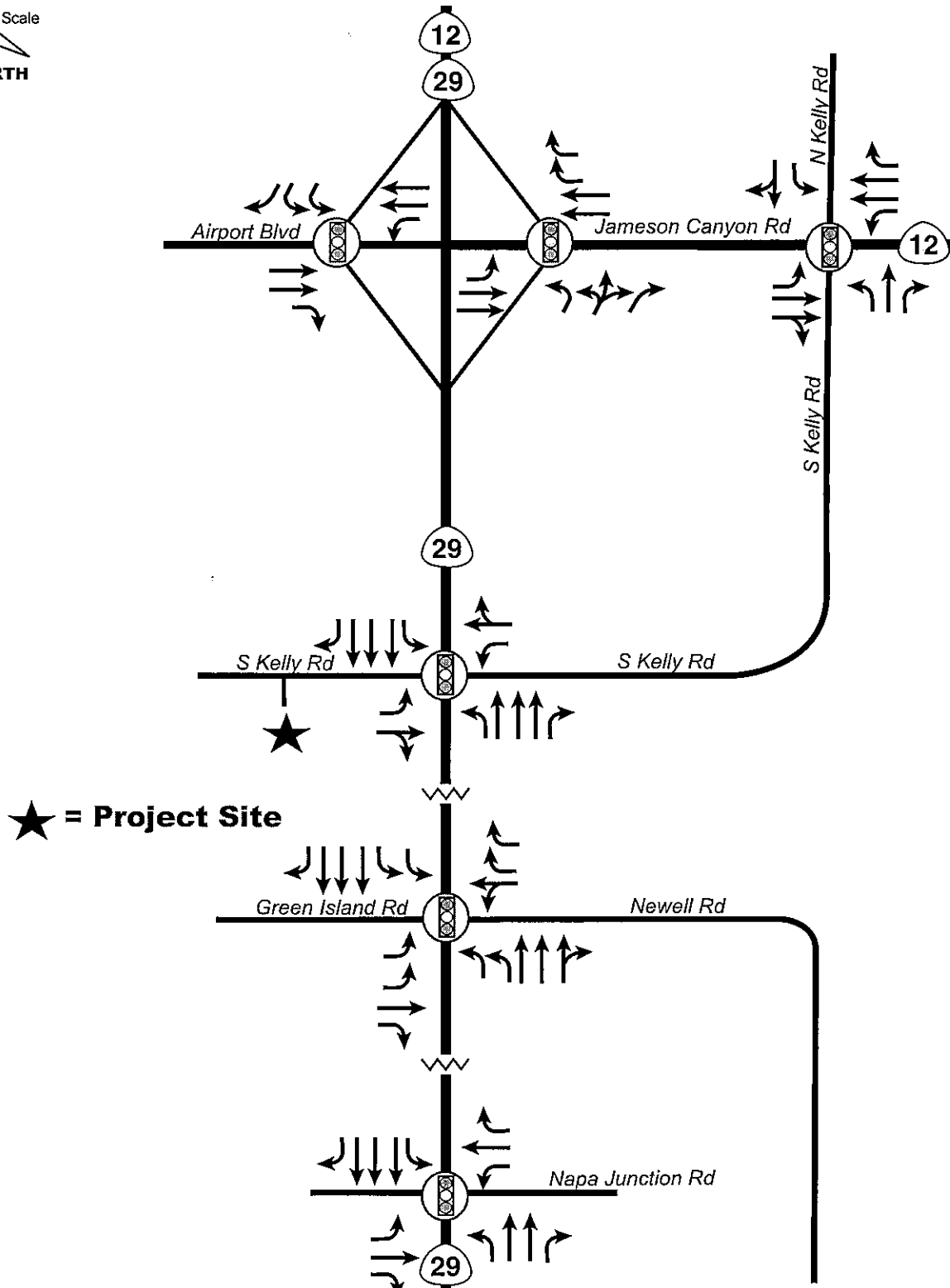


CRANE TRANSPORTATION GROUP

Figure 9

**Year 2030 Base Case
PM Peak Hour Volumes**

Not To Scale



Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study



CRANE TRANSPORTATION GROUP

Figure 10

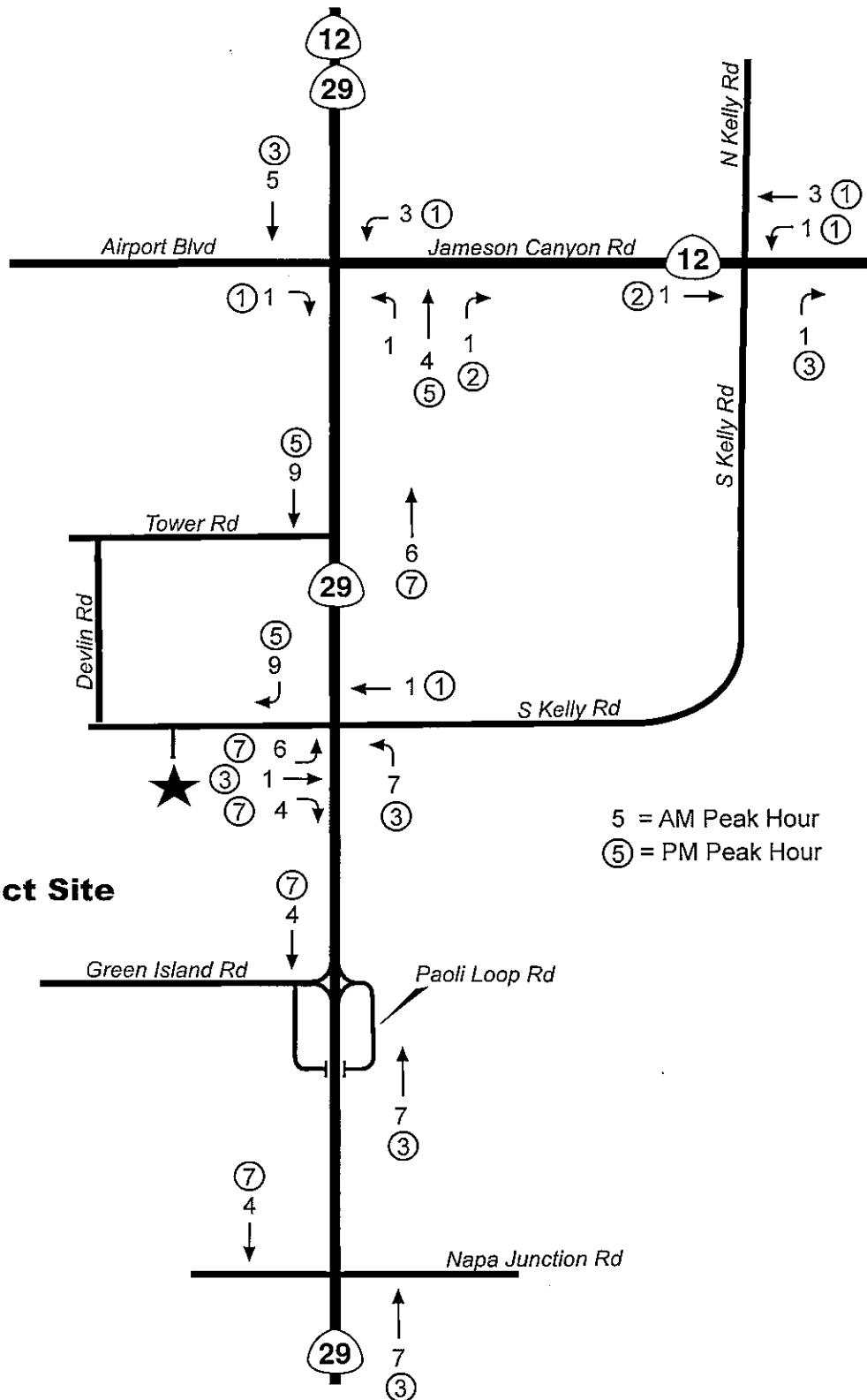
**Year 2030 Intersection
Lane Geometrics and Control**

Not To Scale



★ = Project Site

5 = AM Peak Hour
⑤ = PM Peak Hour



Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study



CRANE TRANSPORTATION GROUP

Figure 11
Year 2010 AM and PM Peak Hour
Project Traffic Increment

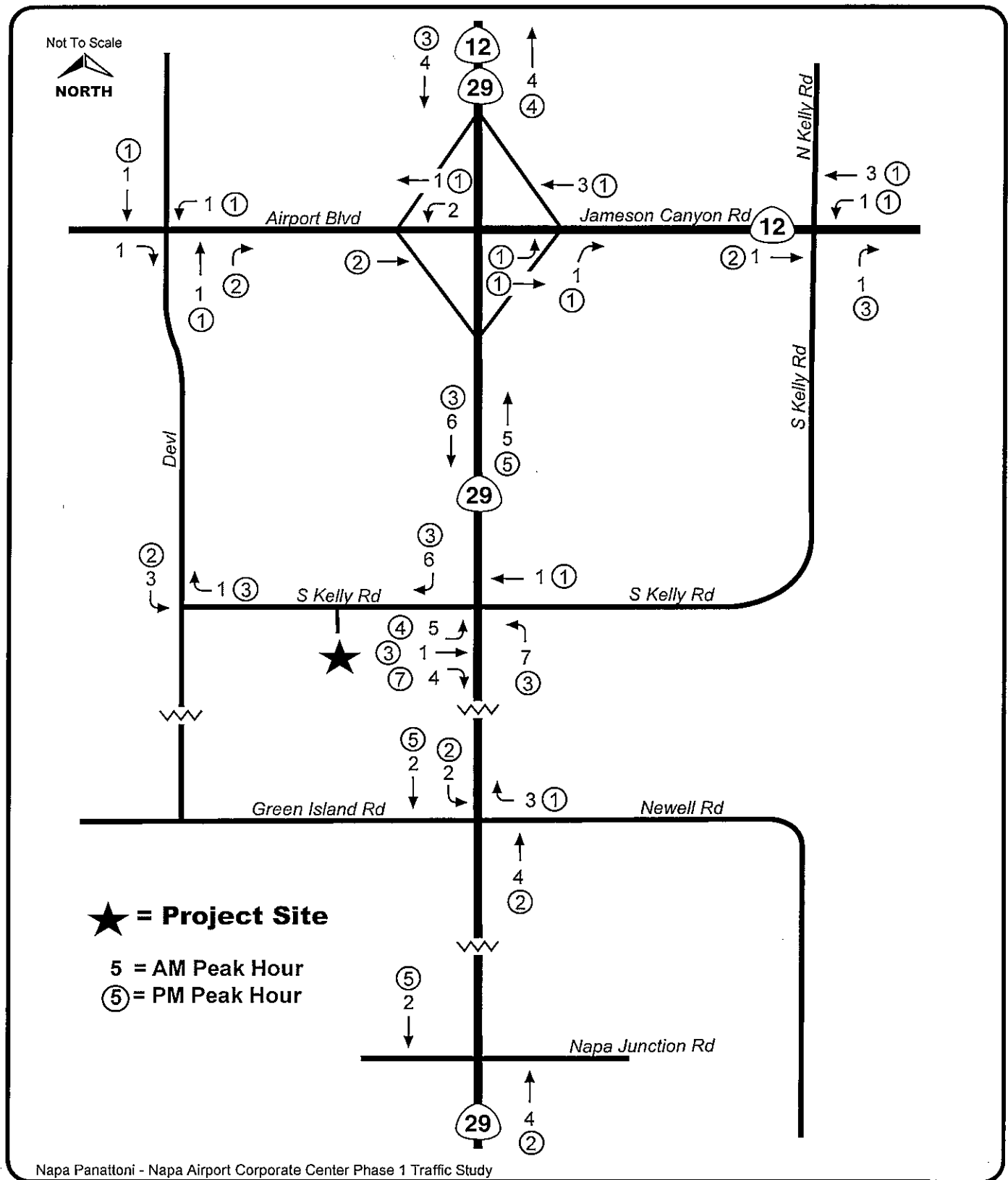


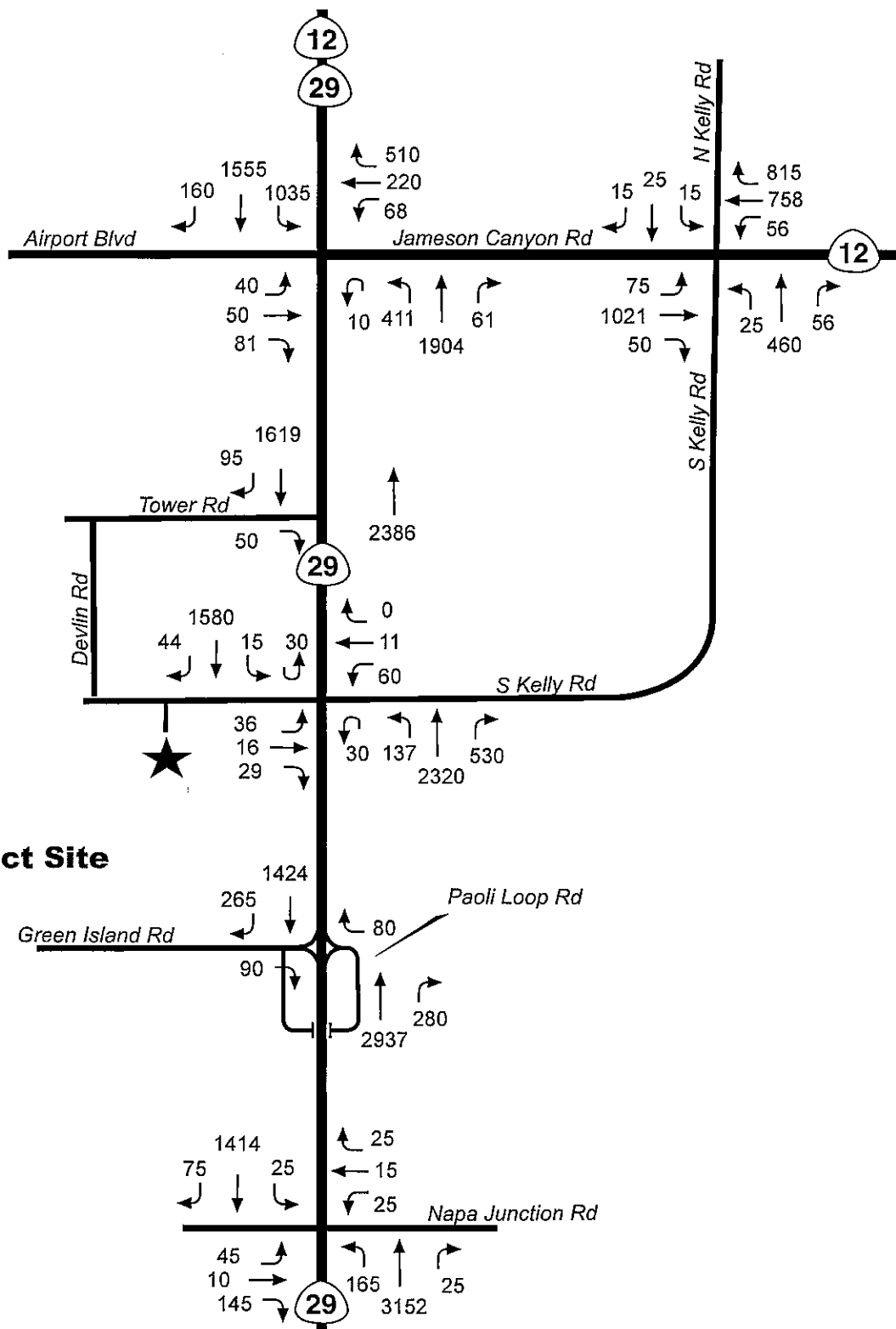
Figure 12

**Year 2030 AM and PM Peak Hour
Project Traffic Increment**



CRANE TRANSPORTATION GROUP

Not To Scale



Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study

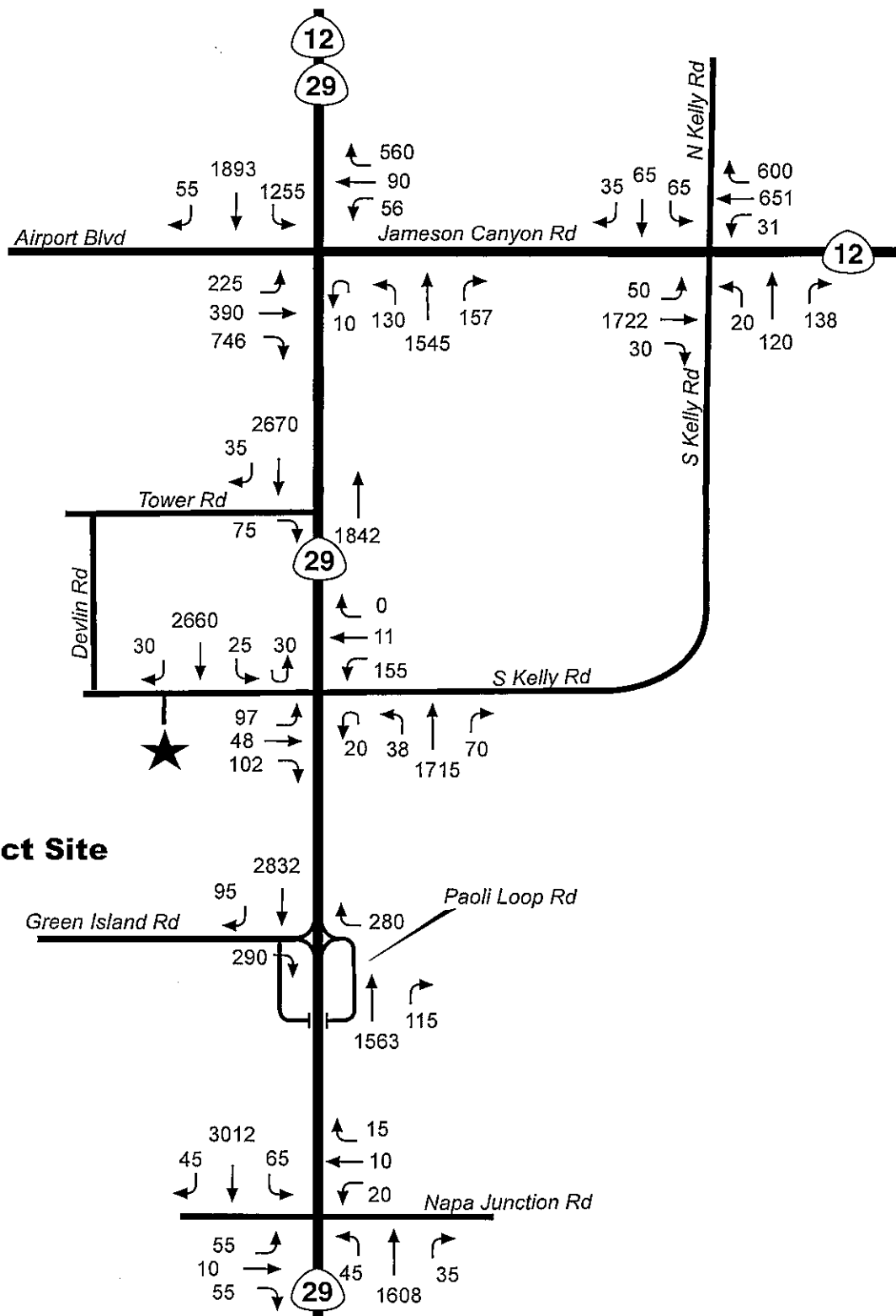
Figure 13

**Near Term (Year 2010) Base Case + Project
AM Peak Hour Volumes**



CRANE TRANSPORTATION GROUP

Not To Scale



Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study

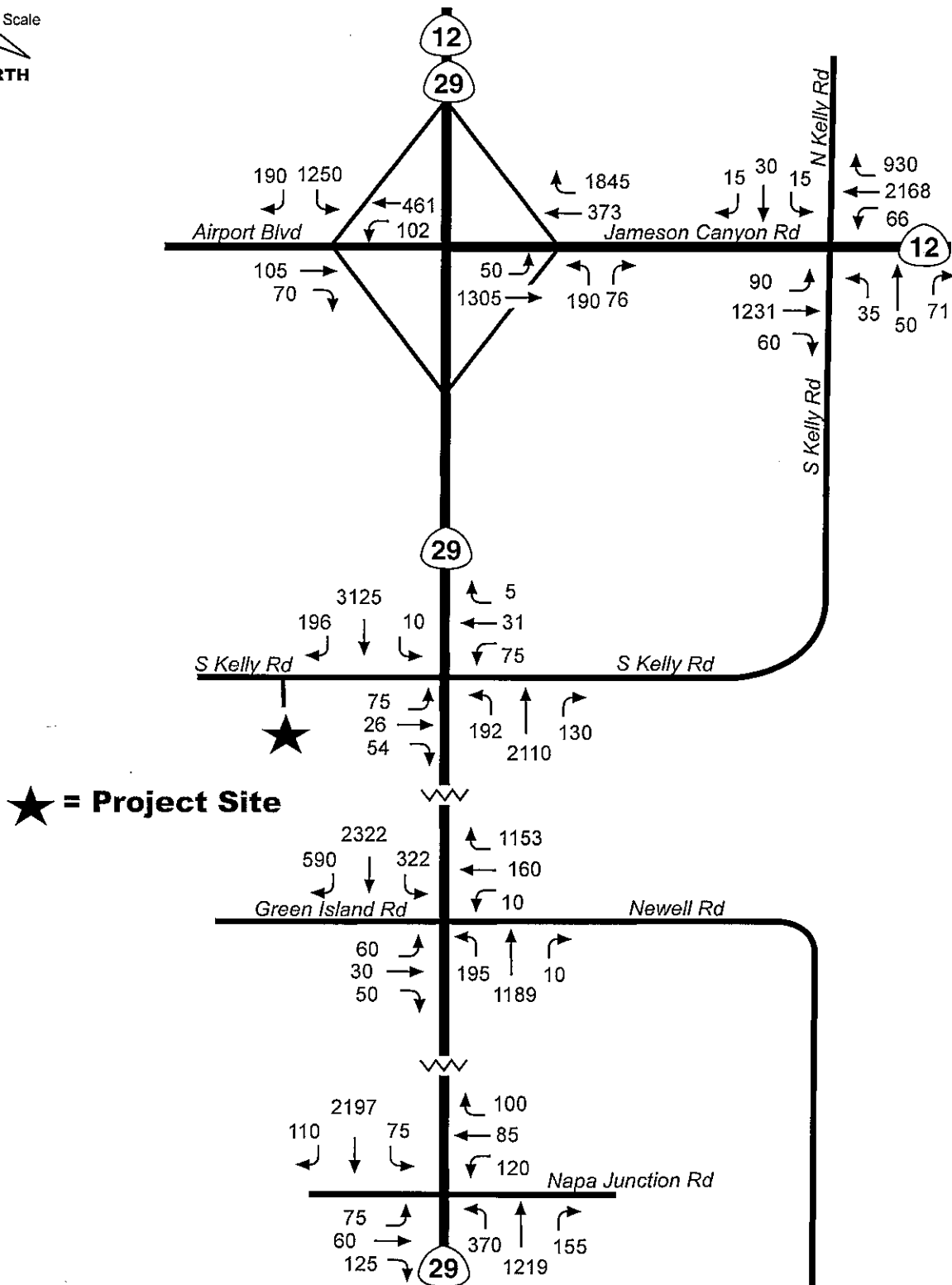
Figure 14

**Near Term (Year 2010) Base Case + Project
PM Peak Hour Volumes**



CRANE TRANSPORTATION GROUP

Not To Scale



Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study

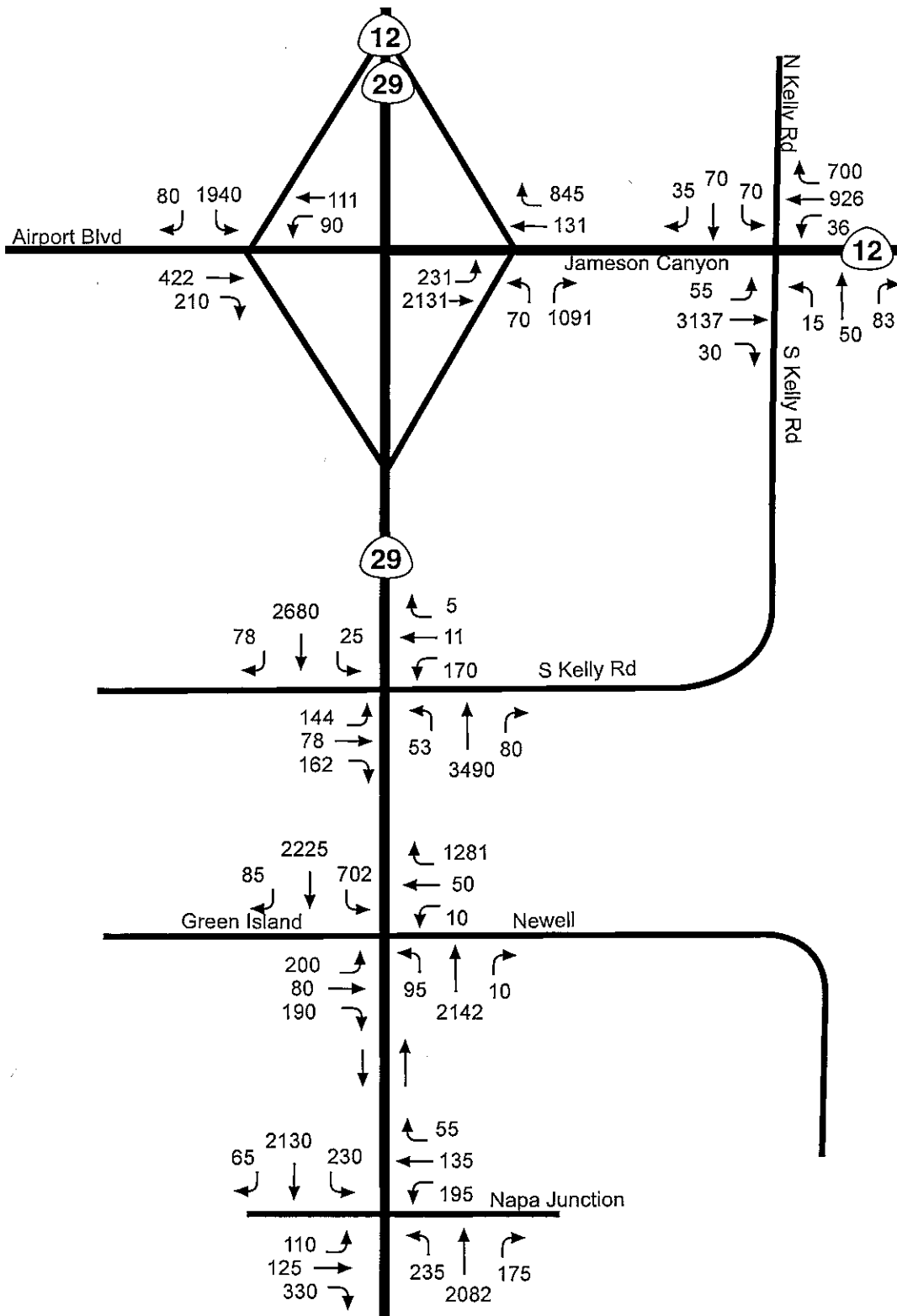
Figure 15

**Year 2030 Base Case + Project
AM Peak Hour Volumes**



CRANE TRANSPORTATION GROUP

Not To Scale



Napa Panattoni - Napa Airport Corporate Center Phase 1 Traffic Study

Figure 16



CRANE TRANSPORTATION GROUP

**Year 2030 Base Case + Project
PM Peak Hour Volumes**

Tables

Table 1**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.	< 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, 2000).

Table 2**UNSIGNALIZED INTERSECTION LOS CRITERIA**

Level of Service	DESCRIPTION	Average Control Delay (Seconds Per Vehicle)
A	Little or no delays	< 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded (for an all-way stop), or with approach/turn movement capacity exceeded (for a side street stop controlled intersection)	> 50.0

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

Table 3

INTERSECTION LEVEL OF SERVICE AM PEAK HOUR

LOCATION	EXISTING	YEAR 2010		YEAR 2030	
		BASE CASE	BASE CASE + PROJECT	BASE CASE	BASE CASE + PROJECT
S.R.29/Jameson Canyon Rd.(S.R.12)/Airport Blvd. (Signal)	C-33.3 ⁽¹⁾	E-61.0	E-61.4		
Jameson Canyon Rd. (S.R.12)/North Kelly Rd./South Kelly Rd. (Signal)	C-30.2 ⁽¹⁾	D-42.4	D-42-8	C-27.1	C-27.1
S.R.29/South Kelly Rd. (Signal)	B-17.4 ⁽¹⁾	C-27.1	C-27.7	C-26.4	C-26.8
S.R.29/Napa Junction Rd. (Signal)	C-30.7 ⁽¹⁾	E-66.5 ⁽¹⁾	E-67.1	C-30.1	C-30.1
YEAR 2030					
Diamond Interchange at S.R.12-29/Jameson Canyon Rd.					
Airport Blvd./S.R.12-29 Southbound Off-Ramps (Signal)				B-13.5 ⁽¹⁾	B-13.5
Jameson Canyon Rd (S.R.12)/S.R.12-29 Northbound On-Off Ramps (Signal)				D-47.5 ⁽¹⁾	D-47.5
S.R.29/Green Island Rd./Newell Rd. (Signal)				C-22.7 ⁽¹⁾	C-23.1

⁽¹⁾ Signalized level of service -- average control delay in seconds.

⁽²⁾ Side Street Stop Sign controlled level of service -- average delay in seconds -- eastbound approach/westbound approach.

Year 2000 Highway Capacity Manual Analysis Methodology

Source: Crane Transportation Group

Table 4

INTERSECTION LEVEL OF SERVICE PM PEAK HOUR

LOCATION	EXISTING	YEAR 2010		YEAR 2030	
		BASE CASE	BASE CASE + PROJECT	BASE CASE	BASE CASE + PROJECT
S.R.29/Jameson Canyon Rd.(S.R.12)/Airport Blvd. (Signal)	C-31.8 ⁽¹⁾	D-46.5	D-46.9		
Jameson Canyon Rd. (S.R.12)/North Kelly Rd./South Kelly Rd. (Signal)	B-16.6 ⁽¹⁾	B-19.4	B-19.4	B-18.6	B-18.7
S.R.29/South Kelly Rd. (Signal)	D-38.3 ⁽¹⁾	E-59.8	E-61.3	D-39.0	D-40.2
S.R.29/Napa Junction Rd. (Signal)	C-25.5 ⁽¹⁾	D-46.8 ⁽¹⁾	D-46.8	D-50.4	D-50.5
YEAR 2030					
Diamond Interchange at S.R.12-29/Jameson Canyon Rd.					
Airport Blvd./S.R.12-29 Southbound Off-Ramps (Signal)				C-22.3 ⁽¹⁾	C-22.4
Jameson Canyon Rd (S.R.12)/S.R.12-29 Northbound On-Off Ramps (Signal)				D-35.8 ⁽¹⁾	D-35.7
S.R.29/Green Island Rd./Newell Rd. (Signal)				D-54.6 ⁽¹⁾	D-54.8

⁽¹⁾ Signalized level of service – average control delay in seconds.

⁽²⁾ Side Street Stop Sign controlled level of service – average delay in seconds – eastbound approach/westbound approach.

Year 2000 Highway Capacity Manual Analysis Methodology

Source: Crane Transportation Group

Table 5

MERGE ANALYSIS **S.R.29/GREEN ISLAND ROAD & S.R.29/PAOLI LOOP ROAD HOOK RAMPS**

AM PEAK HOUR

YEAR 2010										
		EXISTING			BASE CASE			BASE CASE + PROJECT		
					LOS	DENSITY	SPEED	LOS	DENSITY	SPEED
Paoli Loop Road to NB S.R.29		C	24.1	57	C	26.6	56	C	26.7	56
Green Island Rd. to SB S.R.29		B	12.0	58	B	14.0	58	B	14.1	58

PM PEAK HOUR

		YEAR 2010								
		EXISTING			BASE CASE			BASE CASE + PROJECT		
LOCATION		LOS	DENSITY	SPEED	LOS	DENSITY	SPEED	LOS	DENSITY	SPEED
Paoli Loop Road to NB S.R.29		B	14.0	58	B	15.1	58	B	15.1	58
Green Island Rd. to SB S.R.29		C	24.7	57	C	27.5	56	C	27.5	56

⁽¹⁾ LOS = Level of Service

⁽²⁾ Density in passenger cars/lane/mile

*Year 2000 Highway Capacity Manual Analysis Methodology.
 Compiled by: Crane Transportation Group*

Table 6

TURN LANE 95TH PERCENTILE QUEUE LENGTHS ON THE S.R.29 APPROACHES TO SOUTH KELLY ROAD

AM PEAK HOUR

	EXISTING	YEAR 2010		YEAR 2030	
		BASE CASE	BASE CASE + PROJECT	BASE CASE	BASE CASE + PROJECT
Northbound S.R.29 Left Turn Lane					
Storage	250'	250'	250'	250'	250'
Demand	136	192	194	244	254
Southbound S.R. Right Turn Lane					
Storage	50'	50'	50'	50'	50'
Demand	13	16	19	43	43

PM PEAK HOUR

	EXISTING	YEAR 2010		YEAR 2030	
		BASE CASE	BASE CASE + PROJECT	BASE CASE	BASE CASE + PROJECT
Northbound S.R.29 Left Turn Lane					
Storage	250'	250'	250'	250'	250'
Demand	82	151	171	85	89
Southbound S.R. Right Turn Lane					
Storage	50'	50'	50'	50'	50'
Demand	8	12	16	30	32

Source: Crane Transportation Group

Table 7

**JAMESON CANYON ROAD (S.R.12) LEVEL OF SERVICE
(AT THE NAPA/SOLANO COUNTY LINE)**

CONDITION	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Existing (2-Lane, 2-Way Operation)	E	F
Year 2010 (2-Lane, 2-Way Operation)		
Base Case	F	F
Base Case + Project	F	F
Year 2030 (4-Lane Directional Operation)		
Base Case (Eastbound)	B	D
Base Case (Westbound)	D	B
Base Case + Project (Eastbound)	B	D
Base Case + Project (Westbound)	D	B

*Year 2000 Highway Capacity Manual Analysis Methodology
Compiled by: Crane Transportation Group*

Table 8

PROJECT TRIP GENERATION

USE	SIZE (SQ.FT.)	DAILY 2-WAY TRIPS (INBD + OUTBD)		AM PEAK HOUR			PM PEAK HOUR		
		RATE	VOL	RATE	VOL	OUTBOUND	RATE	VOL	OUTBOUND
Winery Warehouse	171,559	1.70	292	.10	17	.06	.10	9	17

Trip Rate Source: Crane Transportation Group, surveys at four winery warehouses in the Napa Airport Industrial Park, July 2007, factored to reflect peak season of warehouse trucking activity.

Compiled by: Crane Transportation Group

Table 9

PROJECT TRAFFIC DISTRIBUTION

	AM PEAK HOUR		PM PEAK HOUR	
	IN	OUT	IN	OUT
S.R.29 South of South Kelly Road	40%	35%	35%	40%
S.R.29 North of Jameson Canyon Road	35%	45%	45%	30%
Jameson Canyon Road East of North Kelly Road/South Kelly Road	25%	20%	20%	30%
TOTAL	100%	100%	100%	100%

Source: Crane Transportation Group

Appendix

Appendix A

CRANE TRANSPORTATION GROUP

545 Burnett Avenue, #101
San Francisco, CA 94131
(415) 282-9656 *phone*
(415) 821-9837 *fax*

6220 Bay View Avenue
El Sobrante, CA 94806
(510) 236-9375 *phone*
(510) 236-5624 *fax*

MEMORANDUM

TO: Mike Kelley (mkelley@panattoni.com)

FROM: Mark D. Crane, P.E.

DATE: July 23, 2007

RE: **DETERMINATION OF AM & PM PEAK HOUR TRIP RATES FOR
WINERY WAREHOUSES IN THE NAPA AIRPORT INDUSTRIAL PARK**

I. RESULTS OF SURVEYS OF EXISTING WEEKDAY AM AND PM PEAK HOUR TRAFFIC AT FOUR COMPARABLE WINERY WAREHOUSE FACILITIES

Weekday AM peak period (7:00-9:00) and PM peak period (4:00-6:00) traffic counts were conducted by Crane Transportation Group in June or July 2007 at four winery warehouse facilities identified by Panattoni to be comparable to those being proposed for the Napa Airport Corporate Center: Cal Wine Transport, 660 Airpark Boulevard (Napa County); Biagi Brothers, 787 Airpark Boulevard (Napa County); Biagi Brothers, 770 Skyway (Napa County); and Biagi Brothers, 50/80 Technology Court (Napa County). Traffic count results, by hour, are presented in **Table 1**. June/July counts were then factored upward to reflect full occupancy of each surveyed warehouse as well as peak seasonal activity. **Table 2** presents the resultant mid summer AM and PM peak hour trip rates for each of the surveyed winery warehouses, while **Table 3** presents the resultant seasonally adjusted trip rates reflecting peak (pre-Christmas) trip activity at the winery warehouses.

Table 3 shows that the pre-Christmas AM peak hour (inbound + outbound) winery warehouse trip rate would be .16 trips/1,000 square feet, while the pre-Christmas PM peak hour (inbound + outbound) trip rate would be .15 trips/1,000 square feet. For comparison purposes, normal (non winery) warehouse trip rates utilized by Napa County (from the Institute of Transportation Engineers¹) would be 0.45 trips/1,000 square feet during the AM peak hour and 0.47 trips/1,000 square feet during the PM peak hour (or three times greater than the winery warehouse rates).

¹ *Trip Generation*, 7th Edition, by the Institute of Transportation Engineers (ITE) 2003.

Appendix A Table 1

**SURVEY RESULTS OF EXISTING AM & PM PEAK PERIOD TRAFFIC ACTIVITY
AT 4 WINERY WAREHOUSES IN THE NAPA INDUSTRIAL PARK
JUNE/JULY 2007**

WAREHOUSE FACILITY	AM PEAK HOUR						PM PEAK HOUR					
	INBOUND TRIPS			OUTBOUND TRIPS			INBOUND TRIPS			OUTBOUND TRIPS		
	AUTO	TRUCK*	TOTAL	AUTO	TRUCK*	TOTAL	AUTO	TRUCK*	TOTAL	AUTO	TRUCK*	TOTAL
Cal Wine Transport, 660 Airport (119,430 sq.ft.)												
7:00-8:00 AM	11	3	14	1	1	2						
8:00-9:00 AM	4	2	6	8	2	10						
4:00-5:00 PM							3	1	4	15	2	17
5:00-6:00 PM							1	0	1	2	0	2
Biagi Bros., 770 Skyway (101,200 sq.ft.)												
7:00-8:00 AM	0	1	1	0	0	0						
8:00-9:00 AM	3	1	4	1	3	4						
4:00-5:00 PM							0	5	5	3	1	4
5:00-6:00 PM							1	1	2	1	2	3
Biagi Bros., 787 Airport (377,000 sq.ft.)												
7:00-8:00 AM	14	7	21	3	5	8						
8:00-9:00 AM	12	12	24	4	7	11						
4:00-5:00 PM							3	9	12	13	4	17
5:00-6:00 PM							0	3	4	9	8	17
Biagi Bros., 50/80 Technology Court (400,000 sq.ft.)												
7:00-8:00 AM	4	2	6	0	4	4						
8:00-9:00 AM	1	5	6	3	1	4						
4:00-5:00 PM							1	0	1	2	1	3
5:00-6:00 PM							1	0	1	2	0	2

* Also includes truck cab only.
Source: Crane Transportation Group

Appendix A Table 2

TRIP GENERATION RATES

WINERY WAREHOUSES IN THE NAPA INDUSTRIAL PARK
RAW MID SUMMER 1007 COUNT DATA – NOT ADJUSTED
FOR BUILDING OCCUPANCY OR PEAK SEASONAL ACTIVITY

LOCATION	SIZE	AM PEAK HOUR				PM PEAK HOUR			
		INBOUND		OUTBOUND		INBOUND		OUTBOUND	
		TRIPS	RATE/ 1000 SQ.FT.	TRIPS	RATE/ 1000 SQ.FT.	TRIPS	RATE/ 1000 SQ.FT.	TRIPS	RATE/ 1000 SQ.FT.
Cal Wine Transport 660 Airpark	119,430 sq.ft.	14	.12	6	.05	4	.03	17	.14
Biagi Bros. 770 Skyway	101,200 sq.ft.	4	.04	4	.04	5	.05	4	.04
Biagi Bros. 787 Airpark	377,000 sq.ft.	24	.06	11	.03	10	.03	21	.06
Biagi Bros. 50/80 Technology Court	400,000 sq.ft.	6	.02	6	.02	1	.01	3	.01

Source: Crane Transportation Group

Appendix A Table 3

TRIP GENERATION RATES

WINERY WAREHOUSES IN THE NAPA INDUSTRIAL PARK
YEAR 2007 COUNT DATA ADJUSTED TO REFLECT 100% BUILDING OCCUPANCY
AND PEAK SEASON ACTIVITY

LOCATION	SIZE	AM PEAK HOUR				PM PEAK HOUR			
		INBOUND		OUTBOUND		INBOUND		OUTBOUND	
		TRIPS	RATE/ 1000 SQ.FT.	TRIPS	RATE/ 1000 SQ.FT.	TRIPS	RATE/ 1000 SQ.FT.	TRIPS	RATE/ 1000 SQ. FT.
Cal Wine Transport 660 Airpark	119,430 sq.ft.	21	.18	9	.08	6	.05	26	.22
Biagi Bros. 770 Skyway	101,200 sq.ft.	5	.05	5	.05	6	.06	5	.05
Biagi Bros. 787 Airpark	377,000 sq.ft.	47	.13	22	.06	20	.06	41	.11
Biagi Bros. 50/80 Technology Court	400,000 sq.ft.	11	.03	11	.03	2	.01	6	.02
Average			.10		.06		.05		.10

Source: Crane Transportation Group