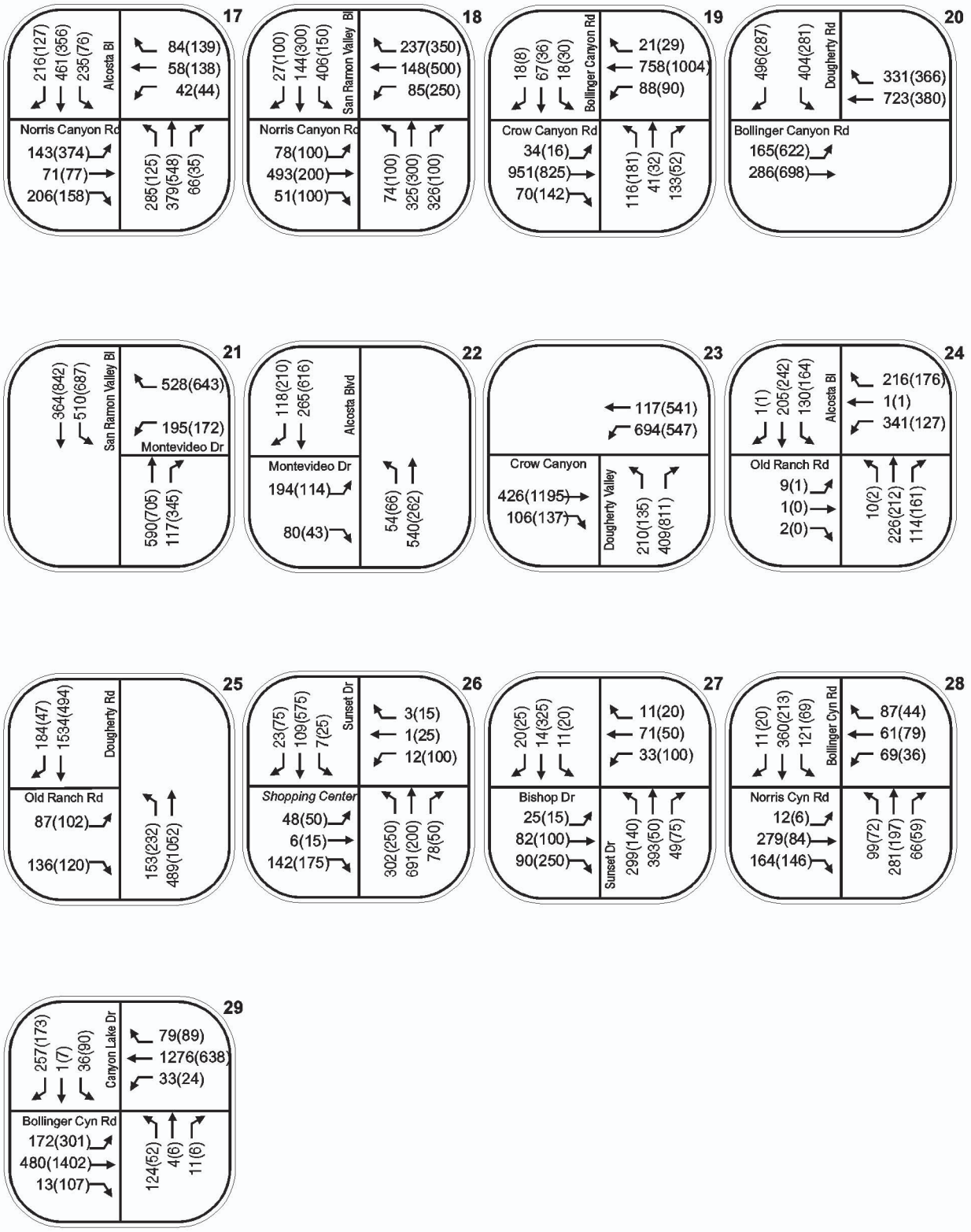


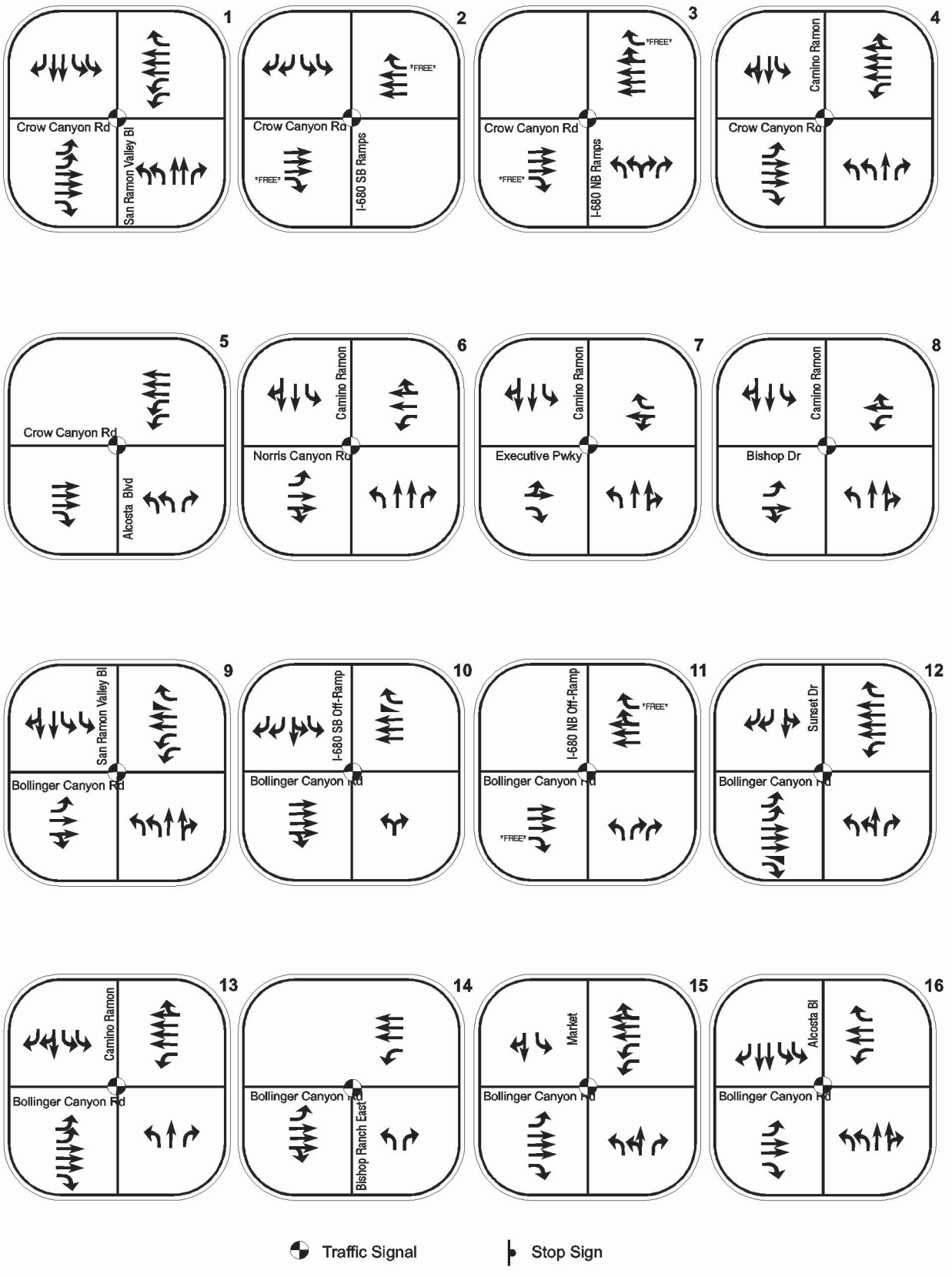
Source: DMJM HARRIS | AECOM, June 2007.

NORTH

Not to Scale

Michael Brandman Associates

Exhibit 4.12-2b
Existing Traffic Volumes

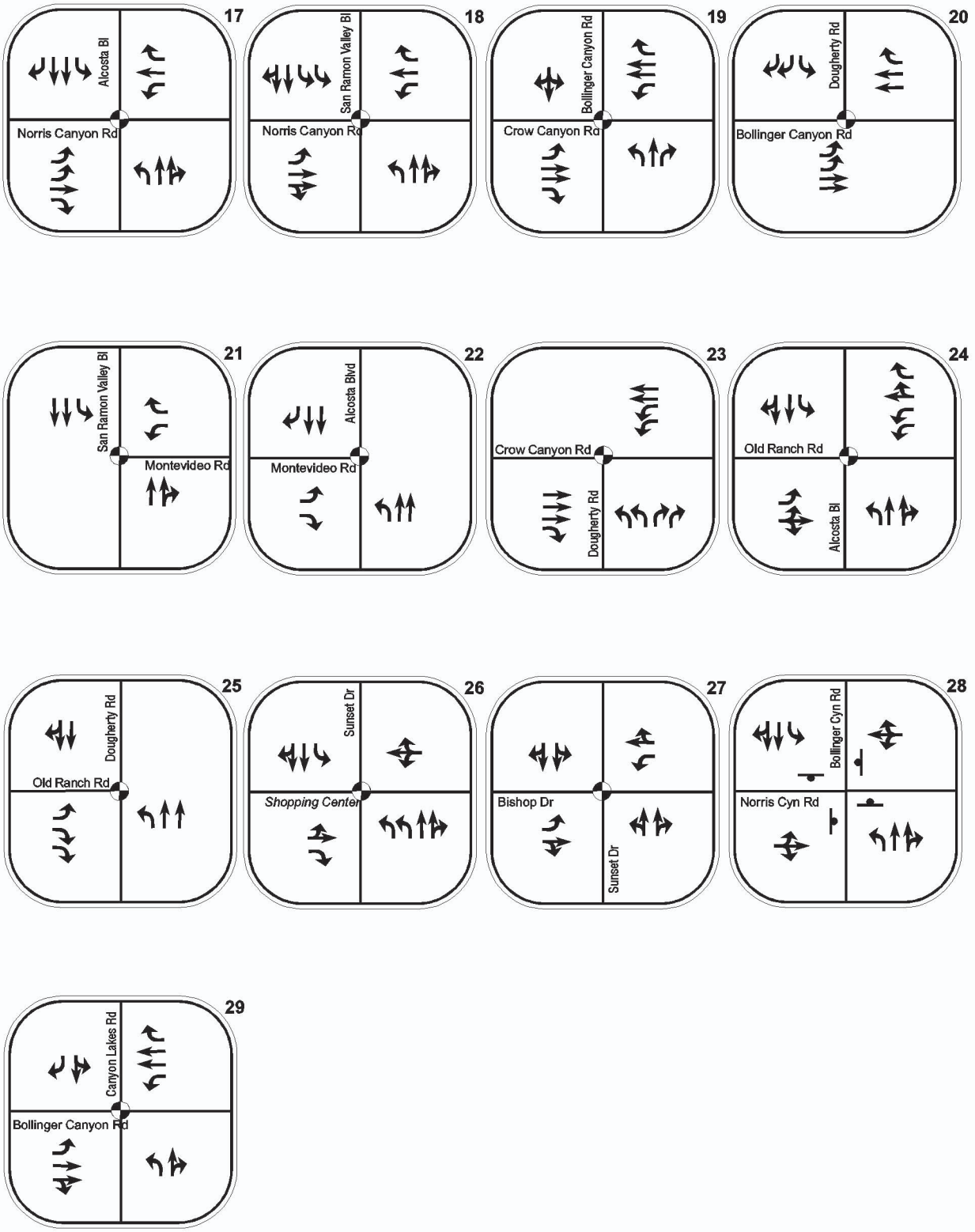


Source: DMJM HARRIS | AECOM, June 2007.

NORTH Not to Scale

Michael Brandman Associates

Exhibit 4.12-3a
Existing Intersection Geometries



Source: DMJM HARRIS | AECOM, June 2007.

NORTH Not to Scale

Michael Brandman Associates

Exhibit 4.12-3b
Existing Intersection Geometries

Table 4.12-3 (Cont.): Existing Intersection Levels of Service

No.	Intersection	AM Peak Hour		PM Peak Hour	
		V/C Ratio	LOS	V/C Ratio	LOS
29	Bollinger Canyon Road/Canyon Lakes Drive	0.59	A	0.55	A

Notes:
V/C Ratio = Volume to Capacity Ration LOS = Level of Service
* = HCM unsignalized intersection analysis
Source: DMJM Harris, 2007.

Freeway Operations

The freeway analysis was conducted using 2000 Highway Capacity Manual software for the study section of I-680 north and south of Bollinger Canyon Road. The analysis includes both the freeway mainline and on-and off-ramps to and from Bollinger Canyon Road.

The freeway operations analysis included four sections of I-680 at Bollinger Canyon Road: (1) northbound mainline north of the interchange, (2) southbound mainline north of the interchange, (3) northbound mainline south of the interchange, and (4) southbound mainline south of the interchange.

A ramp analysis was also completed at five ramps on the I-680 Bollinger interchange: (1) northbound off-ramp, (2) southbound off-ramp, (3) southbound on-ramp, (4) southbound on-ramp (loop), and (5) northbound on-ramp (loop). The northbound on-ramp is analyzed as a roadway because of the auxiliary lane that begins at Bollinger Canyon Road and extends to Crow Canyon Road. Auxiliary lanes are analyzed as weaving sections up to 2,500 feet long. Beyond that length, weaving does not apply. The analysis of a single lane addition, the case for the northbound Bollinger Canyon Road on-ramp, is simply considered a basic freeway segment with an additional lane.

LOS is a quality measure describing operation conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six LOS grades are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each LOS grade represents a range of operating conditions and the driver's perception of those conditions. The LOS for a basic freeway segment is based on density given in units of passenger cars per mile per lane. The LOS thresholds for freeway segments and merge and diverge areas are provided in Table 4.12-4.

Table 4.12-4: Freeway Level of Service Operations

Level of Service	Basic Freeway Segment	Merge and Diverge Areas
	Density Range (pc/mi/ln)	
A	0–11	0–10

Table 4.12-4 (Cont.): Freeway Level of Service Operations

Level of Service	Basic Freeway Segment	Merge and Diverge Areas
	Density Range (pc/mi/ln)	
B	> 11–18	> 10–20
C	> 18–26	> 20–28
D	> 26–35	> 28–35
E	> 35–45	> 35
F	> 45	Demand Exceeds Capacity

Notes:
pc/mi/hr = passenger cars per mile per hour
Source: Highway Capacity Manual, 2007.

The results of the existing freeway section analysis are provided in Table 4.12-5. The results of the ramp analysis are provided in Table 4.12-6. South of Bollinger Canyon Road, I-680 operates at level of service F in the southbound direction. South of Bollinger Canyon Road in the northbound direction, the section operates at LOS E. In both directions north of Bollinger Canyon Road, I-680 operates at LOS C and D. The Bollinger Canyon Road/I-680 ramps operate at level of service F in the AM peak hour except the northbound loop on-ramp, which operates at LOS C and the northbound on-ramp, which operates at LOS A. During the PM peak hour the southbound on ramps, both the diagonal and loop ramps operate at LOS F except for the northbound on-ramps, which operate at acceptable levels.

Table 4.12-5: Existing Freeway Section Level of Service

Interstate 680		Peak Hour	LOS	Density (pc/mi/hr)	Average Speed
Direction	Segment				
Northbound	South of Bollinger Canyon Road Interchange	AM	E	44.7	52.4
		PM	E	36.0	59.0
Southbound	South of Bollinger Canyon Road Interchange	AM	F	*	*
		PM	F	*	*
Northbound	North of Bollinger Canyon Road Interchange	AM	C	23.1	65.0
		PM	C	23.7	65.0
Southbound	North of Bollinger Canyon Road Interchange	AM	D	30.5	62.7
		PM	D	34.1	60.4

Notes:
pc/mi/hr = passenger cars per mile per hour
*Density and average speed are not determined for LOS F.
Source: DMJM Harris, 2007.

Table 4.12-6: Existing Freeway Ramp Level of Service

Interstate 680/Bollinger Canyon Road Interchange Ramp	AM Peak Hour		PM Peak Hour	
	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
Northbound Off-Ramp	F	*	C	20.4
Southbound Off-Ramp	F	*	F	*
Southbound On-Ramp	F	*	F	*
Southbound On-Ramp (loop)	F	*	F	*
Northbound On-Ramp (loop)	C	27.9	C	26.3
Northbound On-Ramp**	A	V/C = 0.26	B	V/C = 0.45

Notes:
pc/mi/hr = passenger cars per mile per hour
* Density not determined for LOS F
** Only the volume capacity ratio (V/C) of the ramp is provided because of the auxiliary lane configuration.
Source: DMJM Harris, 2007.

Public Transportation

Bus Service

Central Contra Costa Transit Authority (County Connection) provides transit services in San Ramon, as well as other portions of central Contra Costa County. Exhibit 4.12-4 shows the existing transit services in the area. The project site is located about 0.4 mile south of the San Ramon Transit Center, which is located near the intersection of Executive Parkway and Camino Ramon, adjacent to the Iron Horse Trail. Several bus routes serve the transit center and the surrounding area, including Routes 121, 135, 221, 920, 960B, 960C, 970B, and 970C. The routes are briefly described below.

Route 121

Route 121 provides local service seven days a week throughout the San Ramon Valley, including the Study Area, between the Walnut Creek Bay Area Rapid Transit (BART) station and the Dublin/Pleasanton BART station. In San Ramon, Route 121 provides service along Camino Ramon and San Ramon Valley Boulevard (paralleling I-680) with deviations along Crow Canyon Road, Bollinger Canyon, Bishop Ranch Business Park and the San Ramon Transit Center. Weekday frequencies on Route 121 are approximately every 30 minutes during peak hours and every 60 minutes during midday and evening hours. Weekend frequencies are every hour. Weekday service begins on Route 121 at approximately 5:15 a.m. and ends at approximately midnight. Saturday service begins at approximately 7:00 a.m. and runs until 10:30 p.m. Sunday service begins at approximately 8:40 a.m. and ends at 6:30 p.m. Employees of businesses that belong to the Bishop Ranch Transportation Association ride free on Route 121 with an Express Pass.

Route 135

Route 135 provides service between the San Ramon Transit Center and Dublin/Pleasanton BART station via Bollinger Canyon Road and the Dougherty Valley from 6 a.m. to 7 p.m. on weekdays only. During the peak hour, service is provided every 20 minutes and the off-peak hours service is

provide every 45 minutes. In addition to a stop at the San Ramon Transit Center, the route includes stops at Sunset Drive and Bollinger Canyon Road at the Market Place. Employees of businesses that belong to the Bishop Ranch Transportation Association ride free on Route 135 with an Express Pass.

Route 221

Route 221 provides limited peak hour service on weekdays between Alamo and San Ramon. In San Ramon, service is provided on Crow Canyon Road (east of I-680), San Ramon Valley Boulevard (between Crow Canyon Road and Norris Canyon Road) and Annabel Lane in Bishop Ranch. Select trips also travel south of Annabel Lane to serve the San Ramon Transit Center, Alcosta Boulevard, Montevideo Drive and Broadmoor Drive. Morning service on Route 221 begins at approximately 6:00 AM and ends at 8:00 AM. Afternoon service begins at approximately 2:30 PM and ends at 4:00 PM.

Route 920

Route 920 operates on weekdays between Walnut Creek (Mitchell Drive park-and-ride lot) and the Altamont Commuter Express (ACE) station in Pleasanton, and from the ACE station to Bishop Ranch. The service runs five times (twice in the morning and three times in the evening) in the southbound direction and six times (three times each in the morning and evening) in the northbound direction. Near the project site, the route stops at the San Ramon Transit Center, at the stop located eastbound at Chevron Park, at eastbound Bishop Ranch 1 south of Bollinger Canyon Road near Camino Ramon, and at the AT&T campus, depending on the direction of travel and peak hour. Employees of businesses that belong to the Bishop Ranch Transportation Association ride free on Route 920 with an Express Pass.

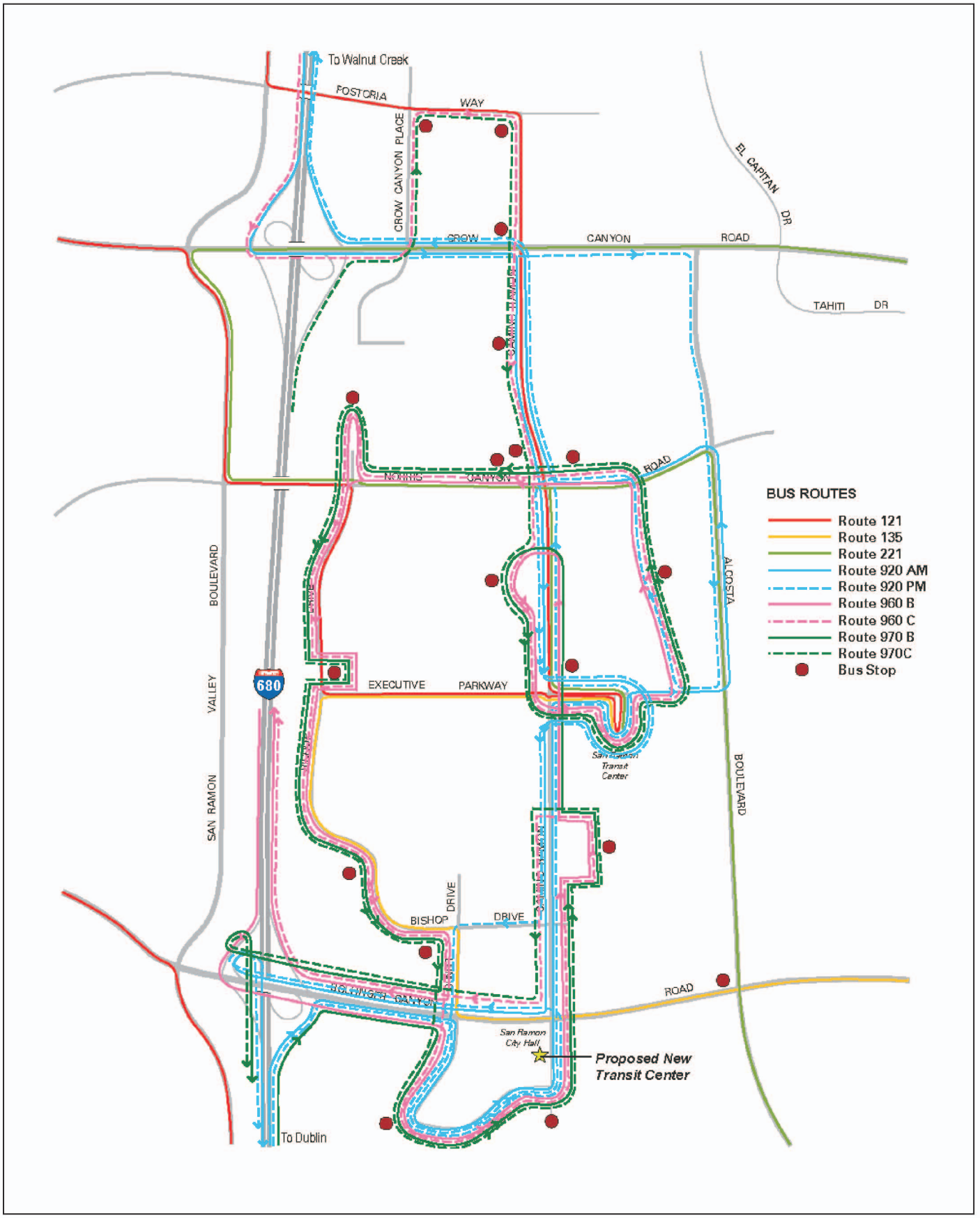
Routes 960 B/C and 970 B/C

Routes 960 B/C and 970 B/C provide express bus service between the Bishop Ranch Business Park and BART stations as part of a long-standing financial agreement between the Bishop Ranch Transportation Association (comprised of Sunset Development, Chevron Corporation, and Marriott International). Routes 960 B/C and 970 B/C provide service for commuters traveling to and from the Bishop Ranch Business Park, and Walnut Creek BART station and the Dublin/Pleasanton BART station, respectively. During the peak hours, service is provided every 15-20 minutes and the off-peak hour's service is provided every 45 minutes. Service is designed to meet every peak hour BART train in the AM and PM hours, beginning at 6:00 a.m. and ending at approximately 8:00 p.m. Employees of businesses that belong to the Bishop Ranch Transportation Association ride free on Route 960 B/C and 970 B/C with an Express Pass.

Bicycles

The Contra Costa Comprehensive Countywide Transportation Plan includes pedestrian and bicycle facilities as an important part of meeting the diverse needs of Contra Costa County.

Bicycle systems are generally classified using the following classes of bicycle facilities:



Source: DMJM HARRIS | AECOM, June 2007.

NORTH

Not to Scale

Michael Brandman Associates

Exhibit 4.12-4
Existing Transit Service

- Class I (bike path) provides exclusive right-of-way for bicyclists and pedestrians, with cross flows of motorists minimized.
- Class II (bike lane) provides a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles, with through travel by motor vehicles or pedestrians prohibited but with vehicle parking and cross flows by pedestrians and motorists permitted.
- Class III (bike route) provides a right-of-way, designated by signs or permanent markings, that is shared by pedestrians and motorists.

Table 4.12-7 provides a summary of bicycle facilities in central San Ramon. The most notable dedicated bicycle facility is the Iron Horse Trail, which is a 24.47-mile Class I facility extending from Pleasanton to Concord along the former San Ramon Branch Line right-of-way owned by the County of Contra Costa. Near the project site, Class II facilities, or bike lanes, exist west of Sunset Drive on Bishop Drive, on Alcosta Boulevard, and on San Ramon Valley Boulevard. Bollinger Canyon Road west of San Ramon Valley Boulevard also has Class II bike lanes. East of San Ramon Valley Boulevard, Bollinger Canyon Road becomes a Class III bicycle facility and extends on the south curb of Bollinger Canyon Road to the Iron Horse Trail. Exhibit 4.12-5 shows the existing bicycle transportation network near the planned project site.

Table 4.12-7: San Ramon Bicycle Facilities

Class	Roadway/Trail	Segment
I	Iron Horse Trail	Entire length of City; trail extends from Pleasanton to Concord (24.47 miles).
I	Cross Valley Trail	Del Mar Drive to Tareyton Avenue.
II	Crow Canyon Road	Alcosta Boulevard to eastern City limits; bike lanes continue into Danville.
II	San Ramon Valley Boulevard	Entire length of City; bike lanes continue into Danville and Dublin.
II	Norris Canyon Road	San Ramon Valley Boulevard to Alcosta Boulevard.
II	Alcosta Boulevard	Crow Canyon Road to Veracruz Drive.
II	Bollinger Canyon Road	Norris Canyon Road to San Ramon Valley Boulevard.
II	Bollinger Canyon Road	Canyon Lakes Drive to Dougherty Road.
III	Norris Canyon Road	San Ramon Valley Boulevard to Bollinger Canyon Road.
III	Bollinger Canyon Road	San Ramon Valley Boulevard to Alcosta Boulevard.
III	Montevideo Drive	San Ramon Valley Boulevard to Alcosta Boulevard.
III	Alcosta Boulevard	Veracruz Drive to San Ramon Valley Boulevard
III	Broadmoor Drive	Montevideo Drive to Alcosta Boulevard.
III	Davona Drive	Montevideo Drive to Alcosta Boulevard.
Source: Michael Brandman Associates, 2007.		

Pedestrians

Below is a summary of existing sidewalks and paths in the project vicinity. Exhibit 4.12-6 shows the pedestrian facilities at the intersections near the project site.

Bollinger Canyon Road

A sidewalk is present along the south side of Bollinger Canyon Road from the Chevron Park entrance to Alcosta Boulevard. On the north side of the roadway, a sidewalk exists between Central Park and Camino Ramon; there is no sidewalk along the Bishop Ranch 2 frontage. Sidewalks on the north and south side of Bollinger Canyon Road connect with the Iron Horse Trail.

The intersection of Bollinger Canyon Road and Camino Ramon/Bishop Ranch 1 entrance road has crosswalks across the west, north, and south legs. The Bollinger Canyon Road intersections with Bishop Ranch 1 East road and Sunset Drive/Chevron Park have crosswalks only across their east and south legs.

Camino Ramon

A sidewalk is present along the east side of Camino Ramon between Bollinger Canyon Road and Bishop Ranch 3. On the west side of the roadway, a meandering sidewalk extends from Norris Canyon Road to Bishop Drive; there is no sidewalk along the Bishop Ranch 2 frontage. All legs of the Camino Ramon intersection with Bishop Drive have pedestrian crosswalks.

Bishop Drive

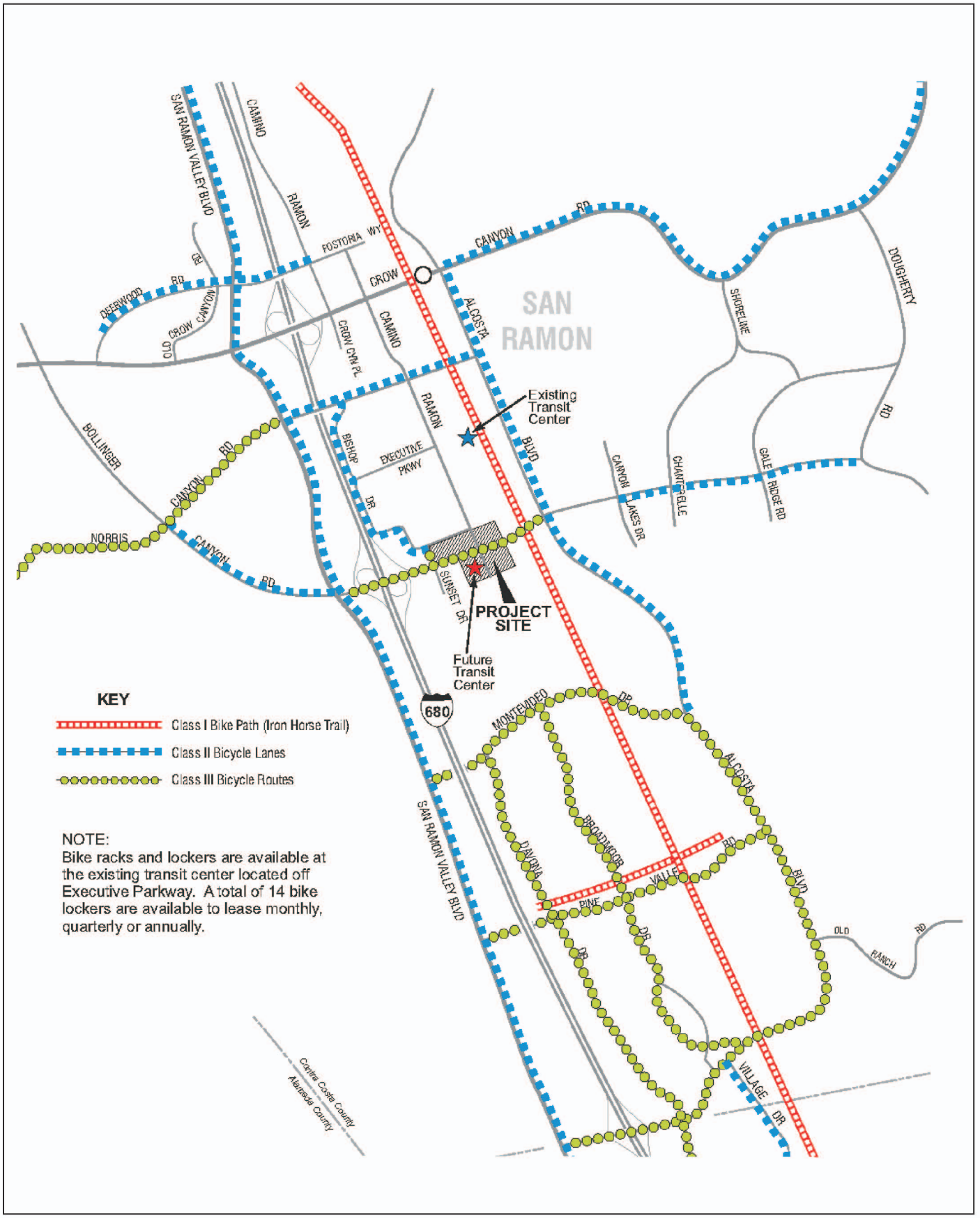
A meandering dirt path is located along the north side of the roadway between Camino Ramon and Executive Parkway. This dirt path includes a par course. A short segment of sidewalk is located along the south side of the roadway between Camino Ramon and a Bishop Ranch 2 driveway; however, it does not extend the full length of the Bishop Ranch 2 frontage. All legs of the Bishop Drive intersection with Sunset Drive have pedestrian crosswalks.

Sunset Drive

A sidewalk is present along the east side of Sunset Drive between Bollinger Canyon Road and Bishop Drive along the Bishop Ranch 2 frontage. On the west side, a sidewalk extends between the Shops at Bishop Ranch entrance and Bishop Drive; no sidewalk is present between Bollinger Canyon Road and the Shops at Bishop Ranch entrance. All legs of the Sunset Drive intersection with the Shops at Bishop Ranch/Bishop Ranch 2 entrance have pedestrian crosswalks.

Bishop Ranch 1 Entrance Road

Sidewalks are present on both sides of the Bishop Ranch 1 entrance road and extend between Bollinger Canyon Road and the Bishop Ranch 1 office complex.



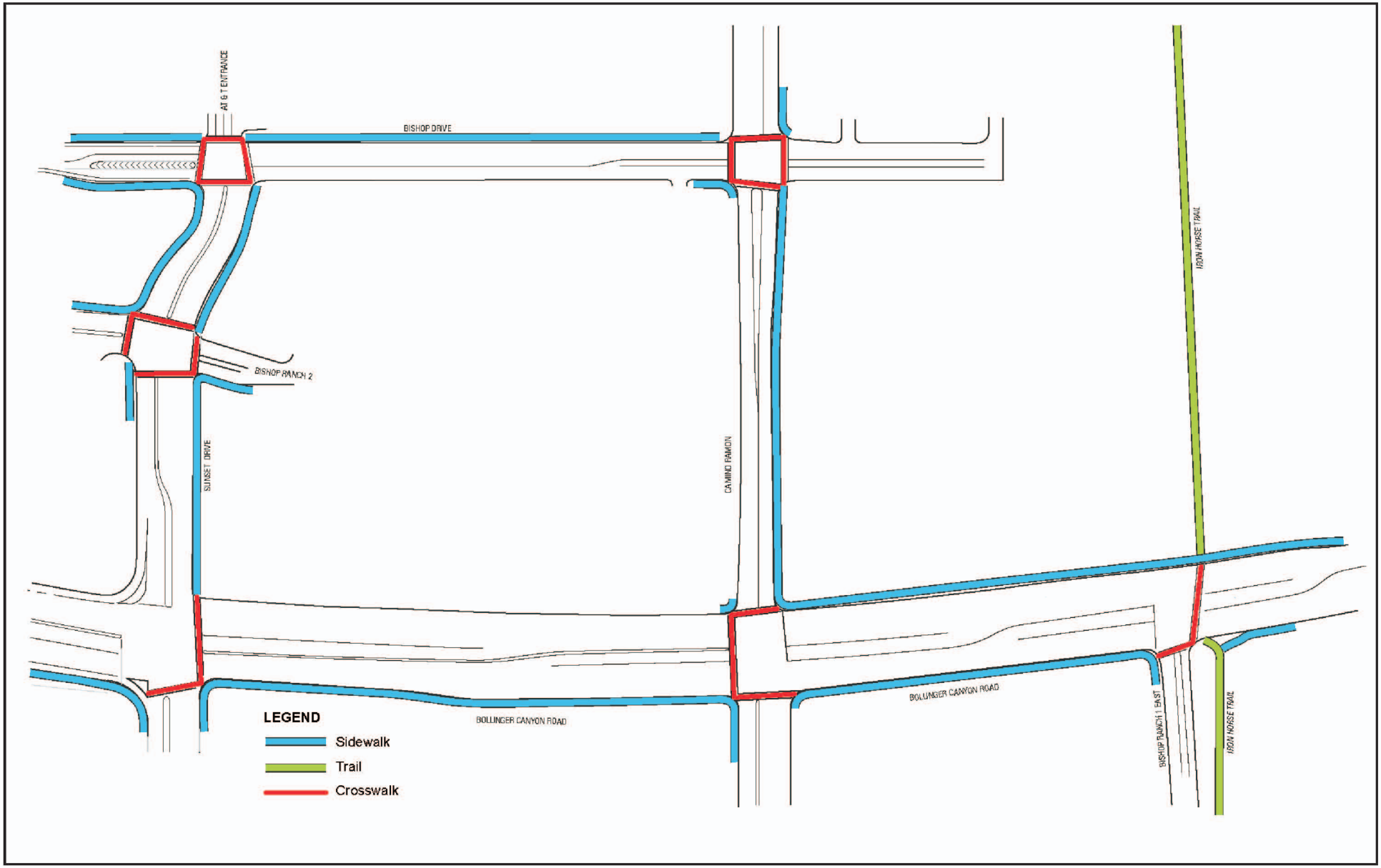
Source: DMJM HARRIS | AECOM, June 2007.

NORTH

Not to Scale

Michael Brandman Associates

Exhibit 4.12-5
Bicycle Facilities



Source: DMJM HARRIS | AECOM, June 2007.

NORTH

Michael Brandman Associates

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Exhibit 4.12-6
Pedestrian Facilities

Bishop Ranch 1 East Road

A sidewalk extends along the full length of the west side of the Bishop Ranch 1 East road. No sidewalk is present on the east side of the road. There are crosswalks linking the sidewalk with the Iron Horse Trail.

Transportation Demand Management

Transportation Demand Management (TDM) is a series of measures promoting alternatives to the single-occupant vehicle for reducing traffic congestion and improving air quality by maximizing the use of the existing transportation infrastructure. These measures include carpooling, vanpooling, transit, walking, bicycling, telecommuting, and compressed workweeks.

The City of San Ramon's TDM program was originally established in 1989. Over the years, the program has evolved into one of three regional TDM programs known as 511 Contra Costa. The City provides administrative oversight and implements the 511 Southern Contra Costa County TDM programs. The primary goal of the City's Employer TDM program is to reduce traffic congestion and improve air quality through the reduction of work-related car trips.

As part of this endeavor, the City facilitates a TDM Advisory Committee, which is responsible for the following:

- Coordinating and monitoring the implementation of the regional and Citywide TDM efforts in order to achieve reductions in employment-related, single-occupant vehicle traffic.
- Providing recommendations to the City Council regarding improvements in City services and facilities to assist employers in reducing single-occupant vehicles.
- Developing and implementing commute alternative programs in concert with 511 Contra Costa and the Contra Costa Transportation Authority.
- Coordinating TDM efforts with all employers and complexes in the City.
- Coordinating TDM efforts with local and regional agencies as designated by the City.
- Serving as liaison between the City and business community.

The Bishop Ranch Transportation Association has been an active member of the City's TDM program since the program's inception. Bishop Ranch has been recognized multiple times at the local, regional, State, and federal levels for its leadership and contribution to reducing the number of single-occupant vehicles and for encouraging commuters to carpool, ride transit, vanpool, walk, and bicycle to work.

Bishop Ranch also continues to create and implement unique, creative, and successful TDM strategies that improve air quality by significantly reducing traffic congestion. Since 1989, the City has collected data related to commute patterns from businesses throughout the City, including the Bishop

Ranch Business Park. Over the years, the survey data has included information and survey results from Bishop Ranch Business Park and the City of San Ramon. The most recent survey in 2006, which had a response rate of 38 percent, found that 24.3 percent of Bishop Ranch employees used an alternative form of transportation instead of driving alone. The survey results are below:

- Drive alone: 68.8 percent
- Carpool: 9.5 percent
- Vanpool: 3.3 percent
- Bus: 2.5 percent
- BART and bus: 2.4 percent
- Telecommute: 2.2 percent
- Compressed day off: 1.7 percent
- ACE: 0.9 percent
- Bicycle: 1.2 percent
- Motorcycle: 0.6 percent
- Walk: 0.6 percent

Note that responses were not available for the remaining 6.3 percent of those surveyed.

4.12.3 - Regulatory Framework

State

Caltrans

Caltrans' established performance standard for all state highway facilities is the transition between LOS C and D. If a state highway facility operates below the transition between LOS C and D, the Caltrans' threshold is to maintain the lower level of service.

Local

City of San Ramon

The City of San Ramon has several standards related to transportation. Each is discussed separately.

Intersection Operations

Thresholds of significance relate to the City's policies regarding traffic circulation, bicycle and pedestrian circulation, and transit service. According to the General Plan, traffic service criteria are quantifiable, but the pedestrian, bicycle, and transit service criteria are qualitative and are intended to provide a basis against which to evaluate the City's policies for these modes of travel. A proposed development project would have significant impacts on the transportation system if it would:

- Cause a study intersection to exceed the City's standard of level of service C, with level of service D (volume-to-capacity ratio less than or equal to 0.90) for no more than 3 hours of the day (a.m., noon, and p.m. peak hours). This criterion is consistent with, and slightly more

stringent than, the CCTA Transportation Service Objective for intersections on Routes of Regional Significance.

- Fail to provide for reasonably efficient pedestrian and bicycle circulation, through the implementation of City standards and the General Plan's proposed bicycle and trail network or General Plan policies related to pedestrian and bicycle circulation.
- Create a condition, either by design or by the generation of traffic, that provides a barrier to, or unsafe condition for, pedestrian and bicycle circulation.
- Create a transit demand that would exceed currently planned transit service.

In addition to the General Plan policies establishing standards of significance, the City entered into the Dougherty Valley Settlement Agreement that defines specific traffic performance requirements to minimize the impact to Bishop Ranch employees and visitors. These requirements are consistent with General Plan policies:

- Strive to maintain traffic LOS C or better as the standard at all intersections, with level of service D during no more than three hours of the day for the morning, noon, and afternoon peak hours.
- Accept LOS D during 2-hour peak periods, with the possibility of intersections at or closely approximating the limits of LOS D only on arterial routes bordered by non-residential development, where improvements to meet the City's standard would be prohibitively costly or disruptive.

The agreement stipulates that the City of San Ramon shall not change or approve land use designations, densities, or circulation systems in the City's outlying areas if they would cause (unless mitigated) the General Plan traffic service standards to be exceeded on the following streets and specific intersections:

- Bollinger Canyon Road from San Ramon Valley Boulevard to Alcosta Boulevard
- Camino Ramon from Bollinger Canyon Road to Crow Canyon Road
- Norris Canyon Road from San Ramon Valley Boulevard to Alcosta Boulevard
- Bollinger Canyon Road at Alcosta Boulevard, Camino Ramon, Sunset Drive, and San Ramon Valley Boulevard
- Camino Ramon at Bishop Drive and Executive Parkway
- Norris Canyon Road at Alcosta Boulevard, Camino Ramon, Bishop Drive, and San Ramon Valley Boulevard

To ensure that the intersection performance standards are met, the City conducts an assessment based on an annual intersection monitoring program. The results of the monitoring program trigger the need to implement Capital Improvement Projects to improve intersection LOS. The monitoring program allows required intersection improvements to be implemented as the need arises.

Parking Requirements

The City of San Ramon Zoning Ordinance establishes basic parking requirements based on type of use. The following off-street vehicular parking requirements by land use type form the basis for the shared use parking concept established for the project:

- **Multi-family residential:** 1 space/1-bedroom unit; 2 spaces/2- and 3-bedroom unit
- **Retail:** 1 space/250 square feet
- **Cinema:** 1 space/4 seats
- **Hotel:** 1.2 spaces/room
- **Office:** 4 spaces/1,000 square feet
- **Library:** 3 spaces/1,000 square feet

Because the project is a mixed-use project, there is an assumption that certain uses will share parking spaces based on unique operational characteristics and peak use timeframes. The specific breakdown of parking spaces throughout the project will continue to be refined as the building programming is finalized. Motorcycle and bicycle parking will also be provided throughout the project to encourage alternative means of transportation and comply with local regulations

4.12.4 - Methodology

Analysis in this section was based on the Traffic Operations Evaluation prepared by DMJM Harris in June 2007. Four analysis scenarios are included in the traffic operations analysis. These scenarios are as follows:

- **Existing Conditions:** This scenario reflects traffic counts that were conducted between May 2006 and February 2007.
- **Existing Plus Project Conditions:** This scenario adds project-generated trips from the flex retail condition to existing traffic conditions.
- **Year 2020 Conditions:** This scenario represents Year 2020 traffic conditions modeled by the Contra Costa Transportation Authority Countywide Travel Demand Model. The traffic model assumes that the City of San Ramon General Plan will be built out by 2020, providing for a conservative analysis.
- **Year 2020 Plus Project Conditions:** This scenario adds project-generated trips from the flex retail condition to Year 2020 traffic conditions.

The Traffic Operations Evaluation was prepared based on discussions with, and criteria set forth by, the City of San Ramon and Caltrans. The City identified the intersections that are evaluated in the Traffic Operations Evaluation. Intersection impacts were modeled using Traffix software, which is based on the methodology contained in the 2000 Highway Capacity Manual.

The Traffic Operations Evaluation also considered impacts on freeway mainline and ramp segments on I-680 near Bollinger Canyon Road. The freeway analysis was conducted using 2000 Highway Capacity Manual software.

Project queuing was also evaluated under Year 2020 conditions in the Traffic Operations Evaluation.

4.12.5 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether impacts to transportation are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

a.) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

b.) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

c.) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? (Refer to Section 7, Effects Found Not To Be Significant.)

d.) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

e.) Result in inadequate emergency access?

f.) Result in inadequate parking capacity?

g.) Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

4.12.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Analysis of Intersection Operation Impacts

Impacts TRANS-1 and TRANS-2 analyze the proposed project's impacts on intersection operations. Both impacts rely on the proposed project's trip generation rates, trip distribution pattern, and planned

improvements to the transportation network. For presentation purposes, the projections are summarized below. Note that Existing Plus Project conditions represent 2010.

Trip Generation

The addition of more than 2.1 million square feet of mixed uses (approximately 1.6 million-square foot-increase over existing vested entitlements) would add new trips to local roadways. Trip generation of the proposed development was calculated using statistics from the Institute of Transportation Engineers and the Civic Center traffic report prepared for the City of San Ramon. The ITE publication Trip Generation, 7th Edition, was used to determine the trip rates for the project. Because the Plaza District contains 50,142 square feet of flex retail/office (space that could be used for either purpose), it was assumed that all of this square footage would be retail, which generates more trips per square foot than office, and, therefore, represents a worst-case scenario. Table 4.12-8 provides the trip generation rates for the proposed project's uses, using the flex retail scenario.

Table 4.12-8: Trip Generation Rates - Flex Retail

Description	ITE Code	Trip Generation Units	Trip Generation Rates						
			AM			PM			Daily
			In	Out	Total	In	Out	Total	
Condo	230	Per unit	0.07	0.36	0.44	0.35	0.17	0.52	5.06
Hotel	310	Per room	0.34	0.22	0.56	0.31	0.28	0.59	6.74
Retail	820	Per 1000 sq ft	0.45	0.29	0.73	1.58	1.71	3.29	35.02
Cinema	444	Per screen	—	—	—	8.09	12.13	20.22	58.06
Office Park	750	Per 1000 sq ft	1.42	0.18	1.59	0.19	1.17	1.37	11.02
Library[2]	*	Per 1000 sq ft	0.70	0.30	1.00	2.50	2.50	5.00	39.75
City Hall[2]	*	Per 1000 sq ft	2.43	0.27	2.70	1.08	2.52	3.60	61.25

Notes:
Cinema trip generation is assumed for a Friday.
Trip generation for the library and City Hall are based on the Civic Center Report. Daily trip rates at the library and City Hall were based on the ratio of the average AM/PM peak hour from the Civic Center Report to the ITE Trip Generation for library and government office building. The ratio was multiplied by the ITE Trip Generation daily rate for the library and government office building, respectively, to determine an appropriate daily rate consistent with the Civic Center Report.
Source: DMJM Harris, 2007.

Reductions to the standard trip generation rates have been made to reflect how the project will actually generate traffic once it is built and occupied. Two types of reductions have been made. First, reductions have been made that are based on the interaction between the various land uses of the project. Second, percentage reductions have been taken into account for proximity to the proposed transit center, pass-by traffic that would otherwise remain on the roadway network, and

travel demand management programs that are in place in the Bishop Ranch Business Park. Pass-by trips are trips passing by on adjacent streets and stopping at the project as an intermediate stop between the origin and destination.

For internal trip reductions, adjustments were made to the retail, office park, condominium, and hotel land use trip generations based on the ITE methodology for determining the internal capture associated with multi-use development. The calculation sheets are included in Appendix I. Retail, office park, condominium, and hotel were assumed to generate internal trips at the proposed project. Guests at the hotel are expected to use the adjacent retail services and interact with the adjacent office space similar to residents in the condominium units. The internal trips were subtracted from the single-use trip generation estimate to determine the external trips for each land use. Additional percentage-based reductions were made, and these reductions were applied to the external trips, not the single-use trip generation estimate.

The additional percentage-based reductions include proximity to the proposed transit center, retail pass-by trips, transportation demand management (TDM), and a PM walk mode. A 2-percent reduction was made for the condominiums and hotel for residential development near a major transit facility, and a 2-percent reduction of the office trip generation was made for employment near a major transit facility. These reductions were adapted from the Santa Clara County Congestion Management Plan for development within 2,000 feet of a major bus stop. Data was adapted from Santa Clara County in the absence of any guidelines from Contra Costa County. The retail pass-by trip reduction was based on the fitted curve equation from the ITE pass-by methodology. The TDM reduction of 15 percent is based on historic data from the City and the Bishop Ranch Business Park TDM programs.

Two reductions were made for City Hall and library. A transit/TDM reduction of 10 percent was made for City Hall, and library PM peak-hour traffic was reduced by 25 percent for walking. These percentages are consistent with the prior environmental review for these projects in 2003.

The amount of traffic expected to be generated by the 488 planned condominiums would be 173 trips in the AM peak hour, 150 trips in the PM peak hour, and 1,525 daily trips. Reductions for internal trips and the 2-percent transit center reduction were assumed in this forecast.

The amount of traffic expected from the hotel would be 55 trips in the AM peak hour, 57 trips in the PM peak hour, and 703 daily trips. Reductions for internal trips and the 2-percent transit center reduction were assumed.

The retail component would generate 331 trips in the AM peak hour, 1,568 trips in the PM peak hour, and 16,487 daily trips. An internal trip reduction was applied. The external retail traffic was also reduced by 22 percent to account for pass-by traffic. The 22-percent adjustment was applied to the daily traffic, as well as the AM peak-hour outbound traffic and the PM peak-hour inbound traffic, which are the non-peak directions during the peak commuter hours. No TDM or transit center

reduction was applied to the traffic forecast for the retail component of the project. The six-screen cinema is not expected to generate trips during the AM peak hour but will generate 121 trips during the PM peak hour and 348 daily trips. No reduction was made to the cinema-generated traffic. The 681,770 square-foot Bishop Ranch 1A office park is expected to generate 891 trips in the AM peak hour, 724 trips in the PM peak hour, and 5,516 daily trips. During the AM peak hour, the majority of these trips—89 percent—would be inbound. During the PM peak hour, the majority of the office trips—86 percent—would be outbound. An internal trip reduction was applied. The external trips were reduced by 15 percent to reflect the successful TDM program in place within the Bishop Ranch Business Park. In addition, a 2-percent reduction has been assumed for the proposed transit center.

The amount of traffic expected from the library would be 36 trips in the AM peak hour, 133 trips in the PM peak hour, and 1,405 daily trips. During the AM peak hour, 70 percent of these trips would be inbound, and during the PM peak hour, the directional distribution would be evenly split.

The total PM peak-hour trip generation has been reduced by 25 percent to reflect the anticipated number of people who would walk to the library during this period. The amount of traffic expected from City Hall would be 183 trips in the AM peak hour, 243 trips in the PM peak hour, and 4,143 daily trips. During the AM peak hour, 90 percent of these trips would be inbound, and during the PM peak hour, 70 percent of these trips would be outbound. The total trip generation has been reduced by 10 percent to reflect the successful TDM program in place within the Bishop Ranch Business Park. The trip generation rates and the trip reduction assumptions for the library and City Hall are consistent with the City Civic Center traffic report completed in 2003.

Table 4.12-9 provides trip generation totals for the proposed project after trip reduction rates are applied.

Table 4.12-9: Trip Generation Totals - Flex Retail

Trips								
Description	Size	AM			PM			Daily
		In	Out	Total	In	Out	Total	
Condo	487 units	37	178	215	170	84	254	2,469
Internal Trip Adjustments		-11	-27	-38	-56	-45	-101	-913
External Trips		26	151	177	114	39	153	1,556
Transit Center Reduction (2%)		-1	-3	- 4	-2	-1	-3	-31
Net New Trips		25	148	173	112	38	150	1,525
Hotel	169 rooms	58	37	95	53	47	100	1,139
Internal Trip Adjustments		-19	-20	-39	-17	-25	-42	-422
External Trips		39	17	56	36	22	58	717
Transit Center Reduction (2%)		-1	0	-1	-1	0	-1	-14
Net New Trips		38	17	55	35	21	57	703

Table 4.12-9 (Cont.): Trip Generation Totals - Flex Retail

Description	Size	Trips						
		AM			PM			Daily
		In	Out	Total	In	Out	Total	
Retail	663,340	297	190	487	1,048	1,135	2,182	23,231
Internal Trip Adjustment	square	-53	-35	-88	-91	-103	-194	-2,094
External Trips	feet	244	155	399	957	1,032	1,988	21,137
Retail Pass-by Reduction (22%)		-34	-34	-68	-210	-210	-421	-4,650
Net New Trips		210	121	331	746	821	1,568	16,487
Cinema	6 screens	—	—	—	49	73	121	348
Office Park	681,770	967	120	1,087	130	801	931	7,513
Internal Trip Adjustment	square	-6	-8	-14	-34	-25	-59	-867
External Trips	feet	961	112	1,073	96	776	872	6,646
Transportation Demand Management Reduction (15%)		-144	-17	-161	-14	-116	-131	-997
Transit Center Reduction (2%)		-19	-2	-21	-2	-16	-17	-133
Net New Trips		798	93	891	80	644	724	5,516
Library	35,340	25	11	36	88	88	177	1,405
Afternoon Walk Mode Reduction (25%)	square feet	—	—	—	-22	-22	-44	0
Net New Trips		25	11	36	66	66	133	1,405
City Hall	75,150	183	20	203	81	189	271	4,603
Transit/TDM Reduction (10%)	square feet	-18	-2	-20	-8	-19	-27	-460
Net New Trips		165	18	183	73	170	243	4,143
Total New Trips Without Adjustments	—	1,566	556	2,122	1,619	2,417	4,035	40,709
Total New Trips with Adjustments	—	1,261	407	1,668	1,161	1,834	2,995	30,127

Notes:
For the retail pass-by trip reduction, the ITE pass-by trip percentage equation was used for the PM peak period and applied this percentage to the AM peak hour outbound and PM peak hour inbound, with the same number of inbound and outbound pass-by trips during each peak hour.
An internal traffic reduction was applied to condominium, hotel, retail, and office park based on the ITE methodology.
Condominium, hotel, and office traffic is reduced by 2 percent to reflect the new location of the transit center.
Office traffic is reduced by 15 percent and City Hall by 10 percent to reflect the existing TDM program.
Source: DMJM Harris, 2007.

Office Trip Generation

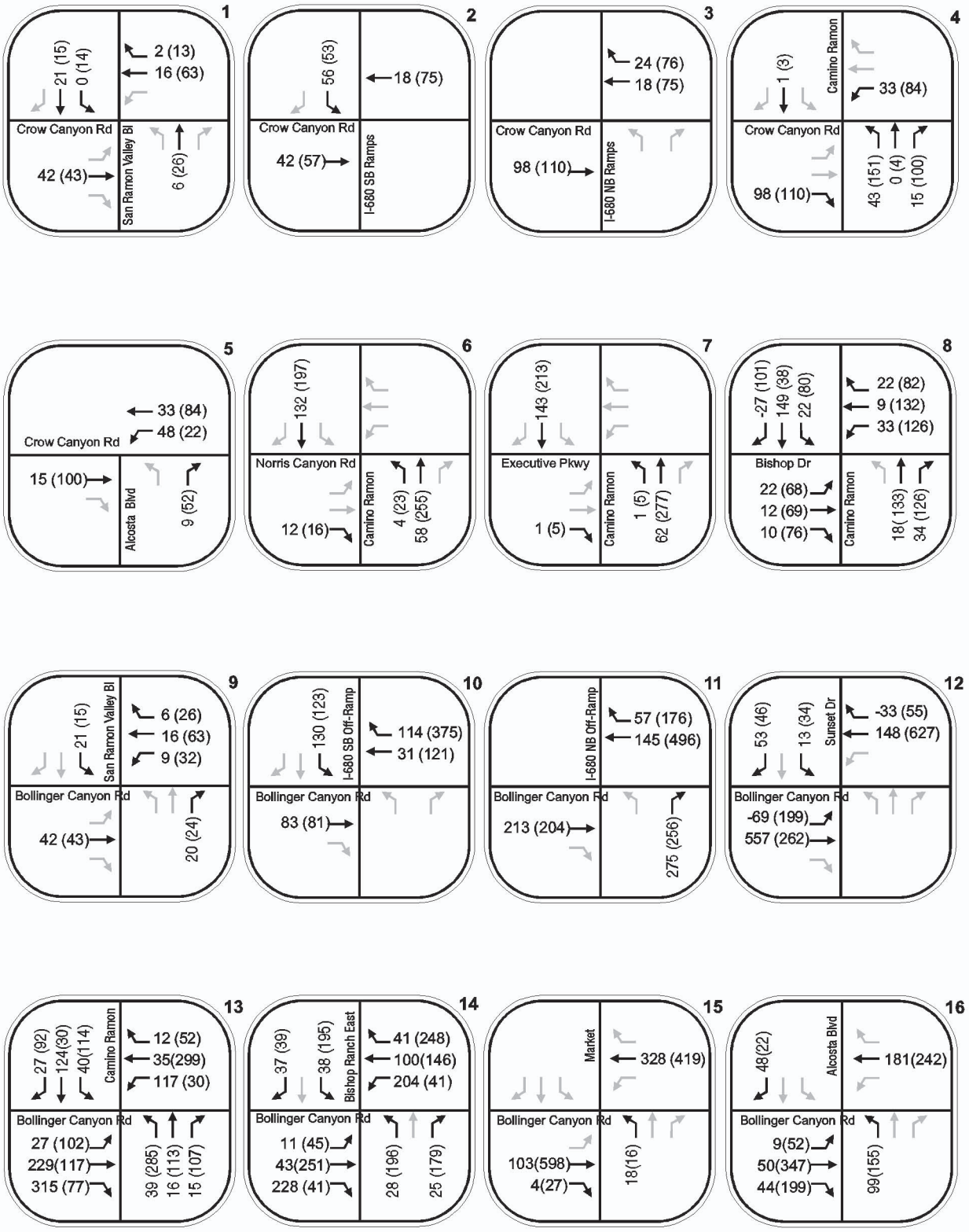
Two types of credits were applied to the office use trip generation. The first trip generation deduction is a "replacement" deduction, as it accounts for the teardown of 194,652 square feet of the existing Bishop Ranch 2 office building. The second trip generation deduction is a previous entitlement—328,220 square feet of Bishop Ranch 1A that has been entitled, and grandfathered in, under an existing development but that has yet to be constructed.

Bishop Ranch 1A consists of 681,769 square feet. Bishop Ranch 2, consisting of 194,652 square feet, currently exists and its traffic generation is included in the existing traffic volumes. Bishop Ranch 2 will be torn down. Since its traffic generation is already in existing traffic volume, 194,652 square feet of trip generation was applied as a deduction against the proposed square footage of office development in Bishop Ranch 1A of 681,769 square feet, leaving a net increase of 487,117 square feet of office space for the project. The increase of an additional 487,117 square feet is used in the Existing Plus Project scenario for this traffic study. Table 4.12-10 shows the traffic volumes from the existing office space to be deducted from the roadway network. Table 4.12-11 shows the resulting trip generation for the existing condition with the removal of the existing office space.

The second trip generation credit relates to existing entitlement on the southeast quadrant land use that has been incorporated into the City's General Plan 2020. When Sunset Development obtained the southeast quadrant property from Chevron, that purchase also included the right and entitlement to construct 1,056,311 square feet of office development. The traffic associated with the development of 1,056,311 square feet was included in the build-out traffic analysis prepared for the General Plan 2020 Environmental Impact Report. Of the 1,056,311 square feet, Sunset Development subsequently developed 728,091 square feet of office development, Bishop Ranch 1, and retained the right to build the remaining 328,220 square feet of office space in the future. This right and entitlement is conferred in the Second Amendment, dated May 28, 2002, to the assumed Chevron Development Agreement. Since the 328,220 square feet of office trip generation was already planned for in the General Plan 2020 trip generation analysis, this amount of credit has been taken in the Year 2020, with project analysis leaving a net increase of 353,550 square feet. Removing the existing Bishop Ranch 2 office space reduces the net increase further to 158,898 square feet. Table 4.12-12 illustrates the traffic volumes generated by the entitled office development. Table 4.12-13 shows the resulting trip generation for the project condition with both the existing office space and the entitled office space subtracted.

Trip Distribution

Trip distribution is the pattern of travel to and from the project during peak hours. Since the project has land uses that attract traffic both locally and regionally, the traffic analysis uses three distribution patterns. The office component would generally attract regional travel from the surrounding Tri-Valley community. The retail component would attract travel from the surrounding office park and residents living in the area. Other retail trips would be from the Tri-Valley regional area and would travel longer distances to the site. The residential component would produce regional travel destined to and from the freeways for the surrounding Tri-Valley community. The library component would produce locally generated traffic, and the Civic Center would attract trips regionally. Table 4.12 15 summarizes the distribution patterns used in the analysis, which was derived using CCTA's Regional Travel Demand Forecasting Model. The resultant project trips for the Flex Retail project conditions are shown in Exhibits 4.12-7a and 4.12-7b. Some movements noted on the exhibits are negative. Negative trips are the result of demolishing the existing Bishop Ranch 2 office space.



Source: DMJM HARRIS | AECOM, June 2007.

NORTH

Not to Scale

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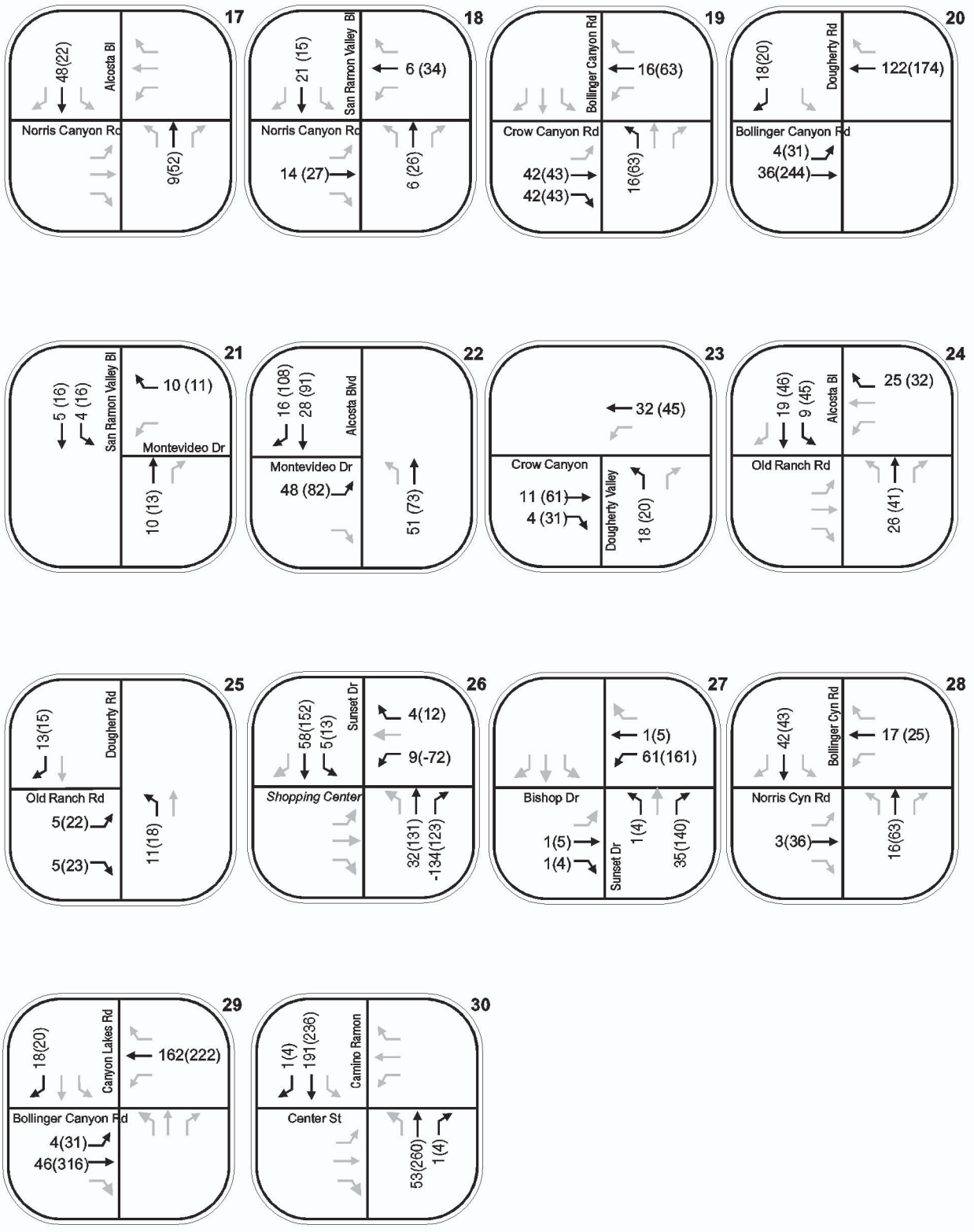
Exhibit 4.12-7a
Flex Retail Traffic Volumes
AM (PM) Peak Hour



Source: DMJM HARRIS | AECOM, June 2007.

NORTH

Not to Scale

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Exhibit 4.12-7b
Flex Retail Traffic Volumes
AM (PM) Peak Hour

Table 4.12-10: Trip Generation - Net Change from Demolition of Bishop Ranch 2

Description	ITE Code	Size	Units	Trip Generation Rates							Trips						
				AM			PM			Daily	PM			AM			Daily
				In	Out	Total	Out	In	Total		In	Out	Total	Out	In	Total	
Existing Office Park	750	194.6	KSF	1.73	0.21	1.95	0.25	1.51	1.76	12.52	337	42	379	48	294	342	2,437
Transportation Demand Management Reduction (15%)	—	—	—	—	—	—	—	—	—	—	-51	-6	-57	-7	-44	-51	-366
Transit Center Reduction (2%)	—	—	—	—	—	—	—	—	—	—	-7	-1	-8	-1	-6	-7	-49
Existing Office Park Trips Removed	—	—	—	—	—	—	—	—	—	—	280	35	315	40	244	284	2,023
Source: DMJM Harris, 2007.																	

Table 4.12-11: Trip Generation - Flex Retail Project Traffic Existing Analysis Summary

Description	AM			PM			Daily
	In	Out	Total	In	Out	Total	
Adjusted New Project Trips	1,261	407	1,668	1,161	1,834	2,995	30,127
Existing Office Removed	-280	-35	-315	-40	-244	-284	-2,023
Net New Project Trips (Existing)	981	372	1,353	1,121	1,590	2,711	28,105
Source: DMJM Harris, 2007.							

Table 4.12-12: Trip Generation - Current Bishop Ranch 2 Entitlement

Description	ITE Code	Size	Units	Trip Generation Rates							Trips						
				AM			PM			Daily	PM			AM			Daily
				In	Out	Total	Out	In	Total		In	Out	Total	Out	In	Total	
Existing Office Park	750	328.2	KSF	1.59	0.20	1.79	0.21	1.32	1.53	11.67	523	65	588	70	433	503	3,829
Transportation Demand Management Reduction (15%)	—	—	—	—	—	—	—	—	—	—	-78	-10	-88	-10	-65	-75	-574
Transit Center Reduction (2%)	—	—	—	—	—	—	—	—	—	—	-10	-1	-12	-1	-9	-10	-77
Office Park Trips Removed in 2020	—	—	—	—	—	—	—	—	—	—	434	54	488	59	359	418	3,178
Source: DMJM Harris, 2007.																	

Table 4.12-13: Trip Generation - Flex Retail Project Traffic 2020 Analysis Summary

Description	AM			PM			Daily
	In	Out	Total	In	Out	Total	
Adjusted New Project Trips	1,261	407	1,668	1,161	1,834	2,995	30,127
Minus Office Entitlement	-434	-54	-488	-59	-359	-418	-3,178
Subtotal (New Project Trips – Entitlement)	827	353	1,180	1,102	1,475	2,577	26,949
Existing Office Removed	-280	-35	-315	-40	-244	-284	-2,023
Net New Project Trips (Existing)	547	318	865	1,062	1,231	2,293	24,926
Source: DMJM Harris, 2007.							

Table 4.12-14: Trip Distribution Assumptions

Gateway	Local Distribution Pattern (Applies to Library and 40% of Retail)	Regional Distribution Pattern (Applies to Civic Center, Office, and 60% of Retail)	Regional Distribution Pattern (Applies to Residential)
I-680 North	0%	20%	30%
I-680 South	0%	30%	40%
San Ramon Valley Boulevard South	2%	2%	3%
Crow Canyon Road West	4%	9%	9%
Bollinger Canyon Road East	31%	18%	2%
San Ramon Valley Boulevard North	4%	2%	2%
Fostoria Way	1%	0%	0%
Bishop Ranch East	1%	0%	0%
Bishop Ranch West	1%	0%	0%
Neighborhoods west of I-680 north of Bollinger Canyon Road	5%	1%	1%
Neighborhoods west of I-680 south of Bollinger Canyon Road	6%	1%	1%
Chevron Park	0%	0%	0%
Market Place	1%	2%	0%
Crow Canyon Road East	7%	5%	2%
Canyon Lakes Drive North	5%	2%	0%
Canyon Lakes Drive South	5%	0%	0%
Alcosta Boulevard South	27%	8%	10%
Source: DMJM Harris, 2007.			

Project Roadway Improvements

Below is a summary of the roadway improvements that would occur as a result of the proposed project. These improvements are shown on Exhibit 4.12-8.

Sunset Drive

The existing signalized intersection at Sunset Drive and The Shops at Bishop Ranch/Bishop Ranch 2 entrance will be modified to accommodate the future Center Street.

Bishop Drive

Below is a summary of the access points to the Plaza District from Bishop Drive:

- Parking Structure A: This access will allow all movements. Turning movements from the parking structure will be stop-controlled.

- West Street: This access will allow all movements. Turning movements from West Street will be stop-controlled.
- Parking Structure E: This access will allow all movements. Turning movements from the parking structure will be stop-controlled.
- East Street: This access will allow all movements. Turning movements from East Street will be stop-controlled.
- Immediately East of East Street: This access will allow only right-in, right-out movements because of limited sight distance to the east. Right-out turning movements will be stop-controlled.
- Parking Structure F and G: This access will allow for full movements and will be signalized.

South of Bollinger Canyon Road, Bishop Drive becomes the Bishop Ranch 1 East road. Bishop Ranch 1 East will provide access to the Bishop Ranch 1A parking structures. Three accesses, all stop-controlled for the minor movements, are proposed.

Bollinger Canyon Road

The easternmost access along Bollinger Canyon Road is a right-turn-only access at East Street. To facilitate movement into and out of this intersection, an auxiliary lane will be installed between Bishop Drive and Camino Ramon.

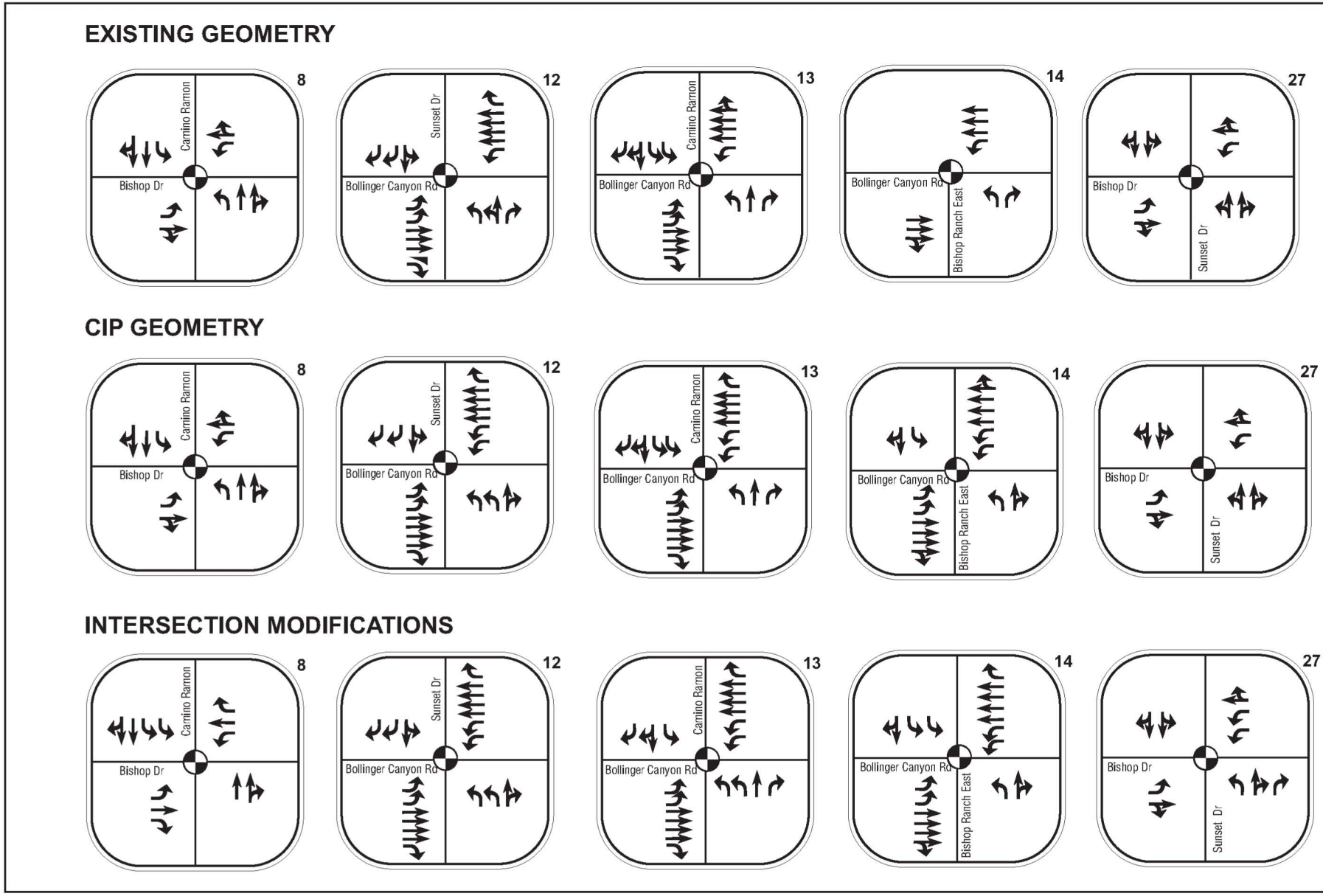
Two access points are noted along Bollinger Canyon Road between Camino Ramon and Sunset Drive. The first access (easternmost) is a right-in from an auxiliary lane on Bollinger Canyon Road. The second access is a right-out onto Bollinger Canyon Road, also into an auxiliary lane.

Camino Ramon

A single access point into the project will be located at Camino Ramon and Center Street, approximately halfway between Bollinger Canyon Road and Bishop Drive. This access point will be signalized and will be the pedestrian crossing between the western and eastern halves of the project. Right turns will be accommodated from Camino Ramon, but left turns will not. Movements will also be accommodated for the Center Street legs of the intersection.

Bishop Ranch 1 Entrance Road

The Bishop Ranch 1 entrance road would provide access to Bishop Ranch 1A and City Hall. The northern access will serve as drop-off space. The southern access will be the primary ingress/egress for the parking structures. The two intersections will be stop-controlled for the side-street legs.



Source: DMJM HARRIS | AECOM, July 2007.

NORTH

Not to Scale

Michael Brandman Associates

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Exhibit 4.12-8
Intersection Improvements

Planned and Proposed Transportation Improvements

Various local and regional agencies have identified transportation improvements in the project vicinity. These planned and proposed improvements would alter the roadway network, change pedestrian and bicycle routes, or alter public transit service. These transportation improvements are described below.

City of San Ramon General Plan

The San Ramon General Plan 2020 provides a long-term vision for the City. The General Plan 2020 focuses on achievable goals that can be implemented by 2020. The General Plan 2020 includes a Traffic and Circulation component.

Arterial Roadways

- **Crow Canyon Road:** Widen to eight lanes from I-680 to Alcosta Boulevard (completed in June 2007). Widen to six lanes from Alcosta Boulevard to Danville town limits. Preserve right-of-way for widening to four lanes from Bollinger Canyon Road to the Alameda County line.
- **Dougherty Road:** Support construction to six lanes from Crow Canyon Road to the Alameda County line.
- **Bollinger Canyon Road:** Widen to eight lanes from I-680 to Alcosta Boulevard. Construct to six lanes from Alcosta Boulevard to Dougherty Road (North). Construct to four lanes from Dougherty Road (North) to Dougherty Road (South).
- **San Ramon Valley Boulevard:** Four lanes from Montevideo Drive to Alcosta Boulevard (improvement completed).
- **Alcosta Boulevard Extension:** Extend Alcosta Boulevard north from Crow Canyon Road to Fostoria Parkway as a four-lane street. Widen and construct Fostoria Parkway as a four-lane roadway from Camino Ramon east to Alcosta Boulevard extension. (These streets are partially within the Danville town limits, and these projects would require the support and participation of the Town of Danville.)

Collector and Local Roadways

- **Deerwood Road:** Widen to four lanes from Deerwood Drive to Crow Canyon Road.
- **Camino Ramon:** Widen to four lanes from Crow Canyon Road to Fostoria Parkway (improvement completed).
- **Twin Creeks Drive:** Extend and construct as a four-lane street from Crow Canyon Road to Old Crow Canyon Road.

Bicycle and Pedestrian Facilities

- **Iron Horse Trail:** Study the feasibility of bicycle/pedestrian overcrossings on the Iron Horse Trail at Bollinger Canyon Road and Crow Canyon Road. (This study is currently underway.)
- **Fostoria Parkway:** Designate as a Class III bicycle facility from Crow Canyon Place to Iron Horse Trail (to be constructed).
- **Dougherty Road:** Provide new Class II bike lanes.

Bollinger Canyon Road Plan Line Study

A Plan Line Study is being prepared for the ultimate geometric alignment of Bollinger Canyon Road from San Ramon Valley Boulevard to Canyon Lakes Drive. The Plan Line Study is currently in the design phase and will be finalized and adopted by the end of 2007.

Contra Costa Countywide Comprehensive Transportation Plan

The Countywide Comprehensive Transportation Plan (CTP) 2004 Update is a 20-year plan developed by CCTA that serves as a long-range transportation planning document for Contra Costa County. During the development of the CTP 2004, the CCTA has identified a range of projects, with several of the projects being located in the study area. The following is a list of improvements in the project vicinity, excluding the improvements already described elsewhere in this section.

- Development of an Iron Horse Trail Corridor Concept Plan for Bollinger Canyon Road, Crow Canyon Road, and Sycamore Valley Road. The Concept Plan will study the feasibility of constructing pedestrian/bicycle overcrossing(s) along the corridor at the three identified locations.
- Installation of Iron Horse Trail signage for bicyclists and pedestrians along the entire length of Iron Horse Trail.
- Widening of San Ramon Valley Boulevard from Sycamore Valley Road to Crow Canyon Road from two to four lanes.
- Crow Canyon Road and Dougherty Road intersection modification. Reconfigure the eastbound approach on Crow Canyon Road to three through lanes and one right-turn lane, and reconfigure the southbound Dougherty Road south of the intersection to include an acceleration lane for vehicles that have made right-turns from the eastbound Crow Canyon Road.

Tri-Valley Transportation Plan

In 1994, seven jurisdictions comprised of Alameda County, Contra Costa County, Dublin, Pleasanton, Livermore, Danville and San Ramon formed the Tri-Valley Transportation Council (TVTC). In 1995, the TVTC adopted the Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance. The TVTC created a Joint Exercise of Powers Agreement (JEPA) and a Tri-Valley Transportation Development Fee was adopted and signed by all TVTC jurisdictions in 1998.

In addition, the TVTC identified 11 transportation improvement projects as "high priority" for the region, including:

- I-580/I-680 interchange (completed).
- SR 84 - I-580 to I-680 Expressway.
- SR 84 - Isabel/Route 84 interchange at I-580.
- I-680 Auxiliary Lane Project–Contra Costa (segments 1 and 3 completed).
- West Dublin BART Station (currently under construction).
- I-580 HOV Project.
- I-680 HOV Project-SR-84 to Sunol Grade.
- Foothill Road/San Ramon Road at I-580 interchange.
- Alcosta Boulevard/I-680 interchange (completed).
- Crow Canyon Road improvements - Alameda County portion.
- Vasco Road improvements - Alameda County portion.
- Express Bus Service - Alameda County (LAVTA).

Interstate 680 Investment Options Study

In 2003, DKS Associates, in association with CH2M Hill, prepared this study for the Contra Costa Transportation Authority. The study examined several long-term investment options for the I-680 corridor. The recommended option contained numerous improvements along I-680 in the study area. These improvements are referenced below.

- New Express Bus Service: Additional service between the study area and Martinez, East County, and Fremont/San Jose consistent with the Enhanced Scenario recommendations from the Express Bus Study; eight new buses in this service area; and expansion of the existing CCCTA maintenance facility to accommodate additional buses. The additional express bus service would not replace or compete with existing bus service.
- Initiation of a Project Study Report for the Norris Canyon Project: The Contra Costa Transportation Authority, in concert with San Ramon and Caltrans, will develop and finalize a PSR that will confirm the scope, schedule, and estimated costs of the Norris Canyon project. The Project will provide convenient and direct access for transit, car/vanpools to and from the San Ramon Transit Center and will improve safety by reducing the amount of weaving by HOVs entering or exiting the freeway. Exhibit 4.12-9 illustrates the HOV ramp concept. The Project Study Report is anticipated to be completed by August 2008.
- San Ramon Transit Center Enhancements: Includes expanded parking to be achieved through lease agreements with adjacent properties.
- HOV Lane Extension South (Alcosta Boulevard to south of the I-580 Junction): Includes re-striping the median and widening the outside shoulder to create the width necessary to extend

the HOV lanes through the interchange. This project may require design exemptions to accommodate an additional lane.

- Northbound HOV Lane Extension: North (Livorna Road to North Main Street): Through the SR-24 junction. A Project Study Report is currently underway.
- Sycamore Valley Road Direct HOV Ramps: Includes reconstruction of interchange, widening of median, and construction of new HOV-only on- and off-ramps in both the northbound and southbound directions.

Measure J

Contra Costa's Transportation Sales Tax Expenditure Plan, adopted by Contra Costa voters in 2004, will continue with the County's existing 0.5-cent transportation sales tax to 2034. The Expenditure Plan includes Capital Improvement Projects and Programs ranging from the Caldecott Tunnel Fourth Bore, Highway 4 expansion, intersection improvements on I-680 and SR-242, adding express bus service from Central Contra Costa to the San Ramon Valley, a San Ramon Valley School Bus Program, pedestrian, bicycle and trail facilities, and other improvements.

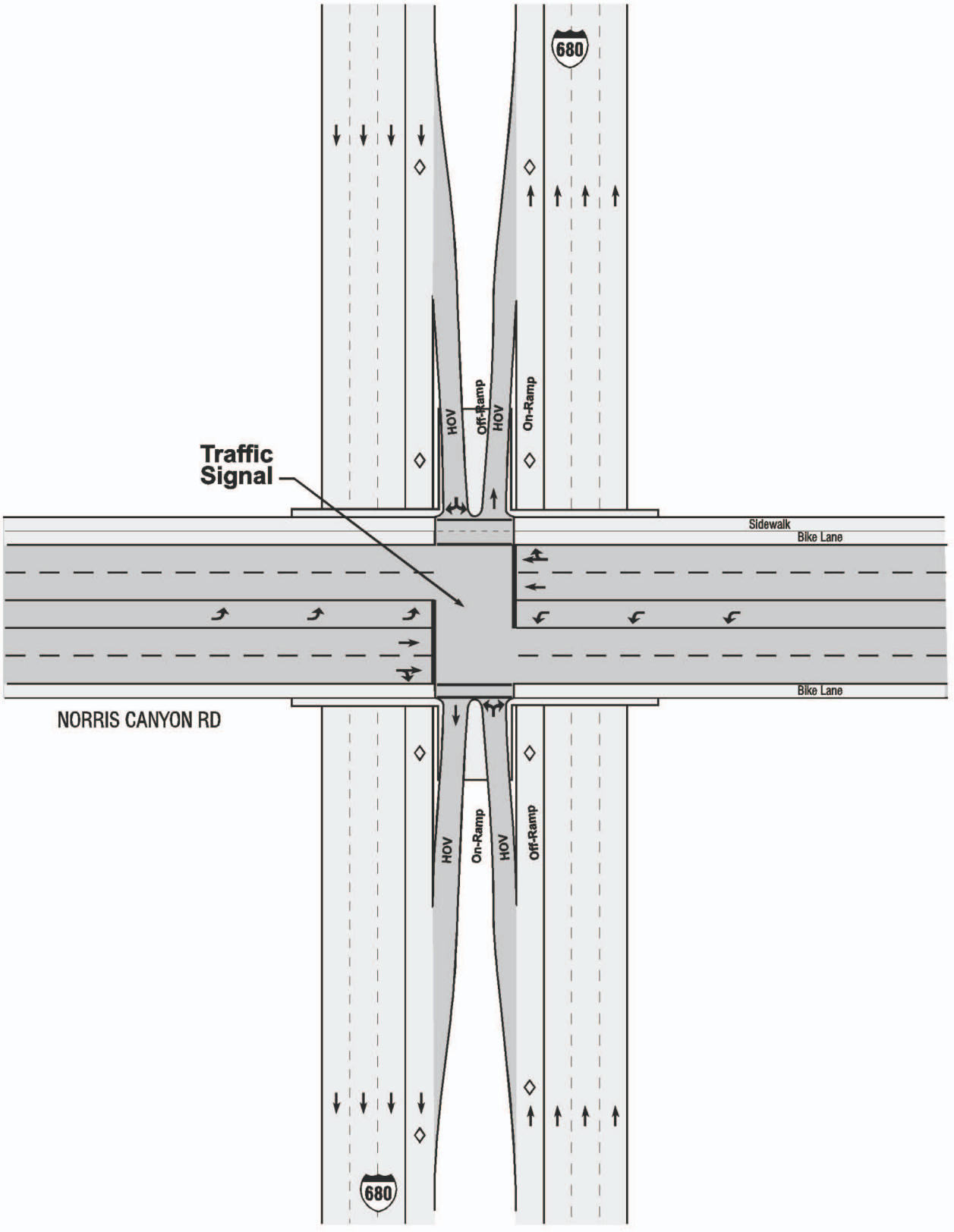
The Interstate 680 Carpool Lane Gap Closures/Transit Corridor Improvement is a critical capital improvement project for the San Ramon Valley. The project will extend existing bus/carpool/ vanpool lanes on southbound I-680 from North Main Street to Livorna Road and northbound from North Main Street to north of SR-242, construct bus/carpool on-and-off ramps at Norris Canyon Road and/or Sycamore Valley Road, and include other transit corridor improvements.

County Connection Fiscal Years 2005–2014 Short-Range Transit Plan

A short-range transit plan addresses transit improvements expected over the next five years. The plan justifies the County Connection's funding requests and outlines likely changes in services and operations in the future. The plan is based on current information that is subject to change as new data becomes available. The changes listed below are divided in two groups: Track I and Track II. Track I changes are expected to be implemented in the foreseeable future. Track II changes depend on the availability of funding and may or may not be implemented within a reasonable period.

Track I Planned Service Changes

- Route 121 Alignment Changes
- New Service Using Out-of Service Bus Trips: This project will review current out-of service bus trips for the potential of operating this trip or portions of these trips as regular in-service trips. Each day, County Connection buses travel between the operations facility and the starting points of the routes. These trips could provide service between San Ramon and Dublin, and between downtown Concord and the north Concord industrial area.



Source: DMJM HARRIS | AECOM, June 2007.

NORTH

Not to Scale

Michael Brandman Associates

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Exhibit 4.12-9
Norris Canyon Road High Occupancy Vehicle Ramp Concept

Track II Proposed Service Changes

- Dougherty Valley Transit Service: This transit plan recommends the creation of an all-day route serving Dougherty Valley and Dublin BART, changes to existing Route 121 and the creation of a new local San Ramon bus route. The highest priority has been the new Dougherty Valley route and some of the changes on Route 121. The inauguration of Dougherty Valley Transit Service took place December 2006.
- CCCTA Route 920 service expansion to serve a future, fourth Altamont Commuter Express train: Currently, by agreement with ACE, County Connection provides service to each of ACE's three morning and afternoon trains. Route 920 links the Pleasanton Train Station to Bishop Ranch in San Ramon as well as to Walnut Creek.
- Provide limited holiday service on New Year's Day, Labor Day, Fourth of July, Memorial Day, Thanksgiving, or Christmas Day. Currently, no service is provided during these holidays.
- Provide restructured weekend service designed to link major weekend traffic generators with more densely developed residential areas. This improvement would mostly focus on restoring Saturday service to areas that had their Saturday service eliminated as part of the recent efforts to reduce the Authority's operating budget deficit.
- Expand Paratransit to provide ADA parallel service during the same times and days as Track II fixed-route projects.
- Increase express bus service (various routes).

San Ramon Transit Plan

In 2004, San Ramon initiated a public transit analysis to provide an objective assessment and overview of the multiple transit services and operational alternatives available to the City. The final plan, adopted by the San Ramon City Council in April 2005, is a transit-planning tool to assist and guide the City's policy makers toward the pursuit of improved and expanded transit service throughout San Ramon.

The San Ramon Transit Plan articulates a vision for public transit services for residents, seniors, youth, commuters, and the business community. San Ramon's vision of transit service includes:

- Fixed route circulator service.
- Service to south San Ramon, including California High School, Pine Valley Middle School, and the San Ramon Senior Center.
- Expanded weekend service.
- Service to activity centers along the northwest corridor of San Ramon Valley Boulevard.

- Maximize the existing regional transit routes to effectively meet the needs of all San Ramon residents and commuters.
- Maximize the use of transit funds.

Contra Costa Countywide Bicycle Plan

This plan describes bicycle and pedestrian needs in the Contra Costa County and outlines goals and strategies as they apply to bicycling and walking. The plan seeks to encourage local efforts to improve bicycle and pedestrian facilities facilitating safety and attractiveness of bicycling and walking. The plan lists several projects proposed in the study area, including already mentioned Iron Horse Trail overcrossing at Bollinger Canyon Road, as well as Old Ranch Road Bicycle Trail, which would run from Old Ranch Park to Stage Coach Road.

Bay Area Rapid Transit Fiscal Year 2006–2015 Short-Range Transit Plan and Capital Improvement Plan

This report identifies a new West Dublin/Pleasanton station that is planned to be constructed on Blue Line between Castro Valley and Dublin/Pleasanton stations in the median of I-580. The station is projected to open in fiscal year 2009.

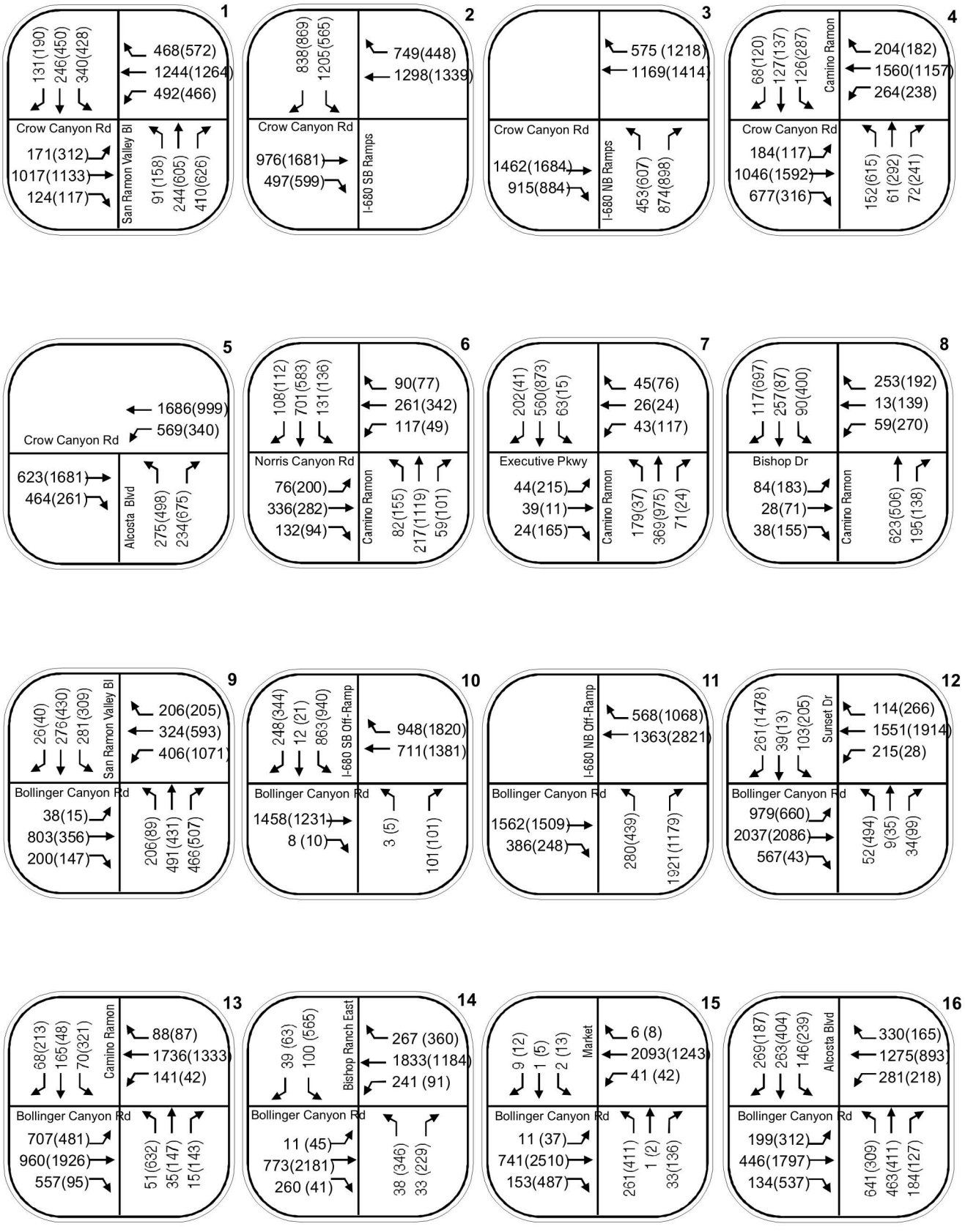
Existing Plus Project Intersection Operations

Impact TRANS-1: Trips associated with the proposed project would substantially degrade intersection performance under Existing Plus Project conditions.

Impact Analysis

The trip generation for the proposed project was added to the surrounding roadway network according to the trip distribution patterns. These new trips were then added to the existing traffic volumes to arrive at the Existing Plus Project traffic volumes. Table 4.12-16 summarizes intersection operations for the without project and with project scenarios under Existing Plus Project conditions. Exhibits 4.12-10a and 4.12-10b show the Existing Plus Project peak-hour traffic volumes. Exhibits 4.12-11a and 4.12-11b show the Existing Plus Project daily traffic volumes.

This intersection operations analysis assumes that four through travel lanes are available on Camino Ramon between Bishop Drive and Bollinger Canyon Road. The project applicant intends to allow parallel parking on Camino Ramon in the Plaza District during non-peak commute hours that would result in the narrowing of Camino Ramon to one through lane between Bishop Drive and Bollinger Canyon Road.



Source: DMJM HARRIS | AECOM, July 2007.

NORTH Not to Scale

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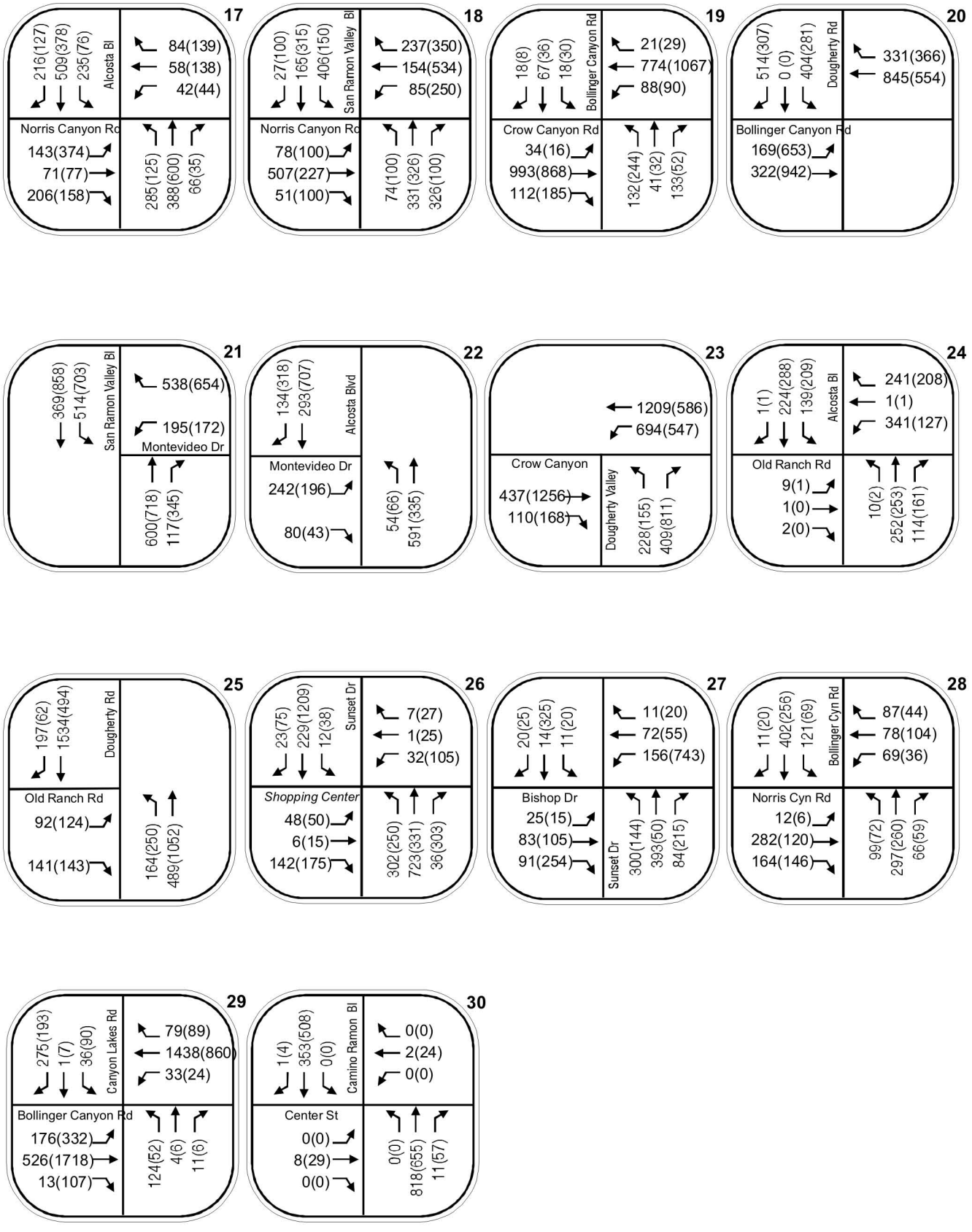
Exhibit 4.12-10a
Existing Plus Project Traffic Volumes
AM (PM) Peak Hour



Source: DMJM HARRIS | AECOM, July 2007.

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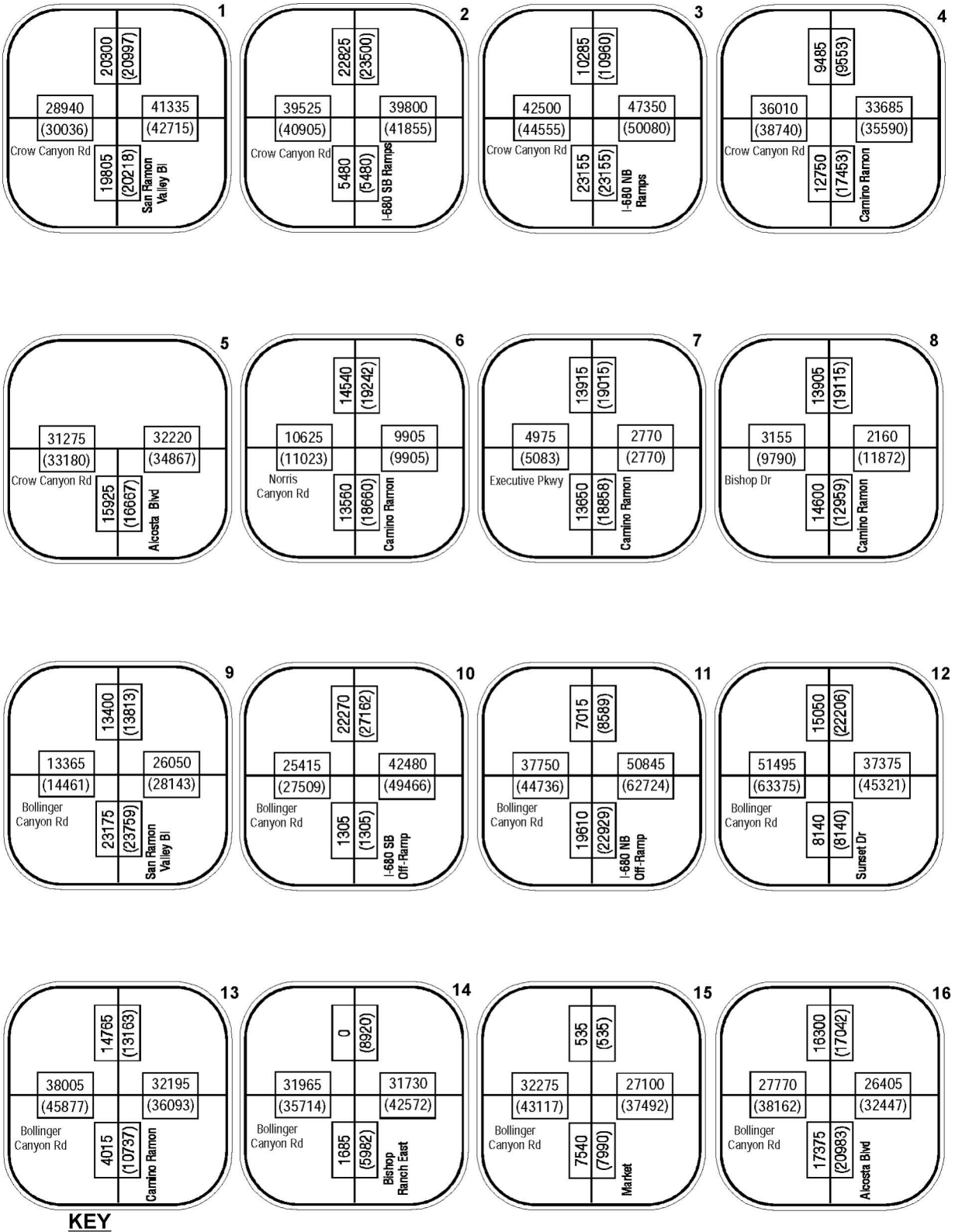
Michael Brandman Associates

Exhibit 4.12-10b
Existing Plus Project Traffic Volumes
AM (PM) Peak Hour



Source: DMJM HARRIS | AECOM, July 2007.

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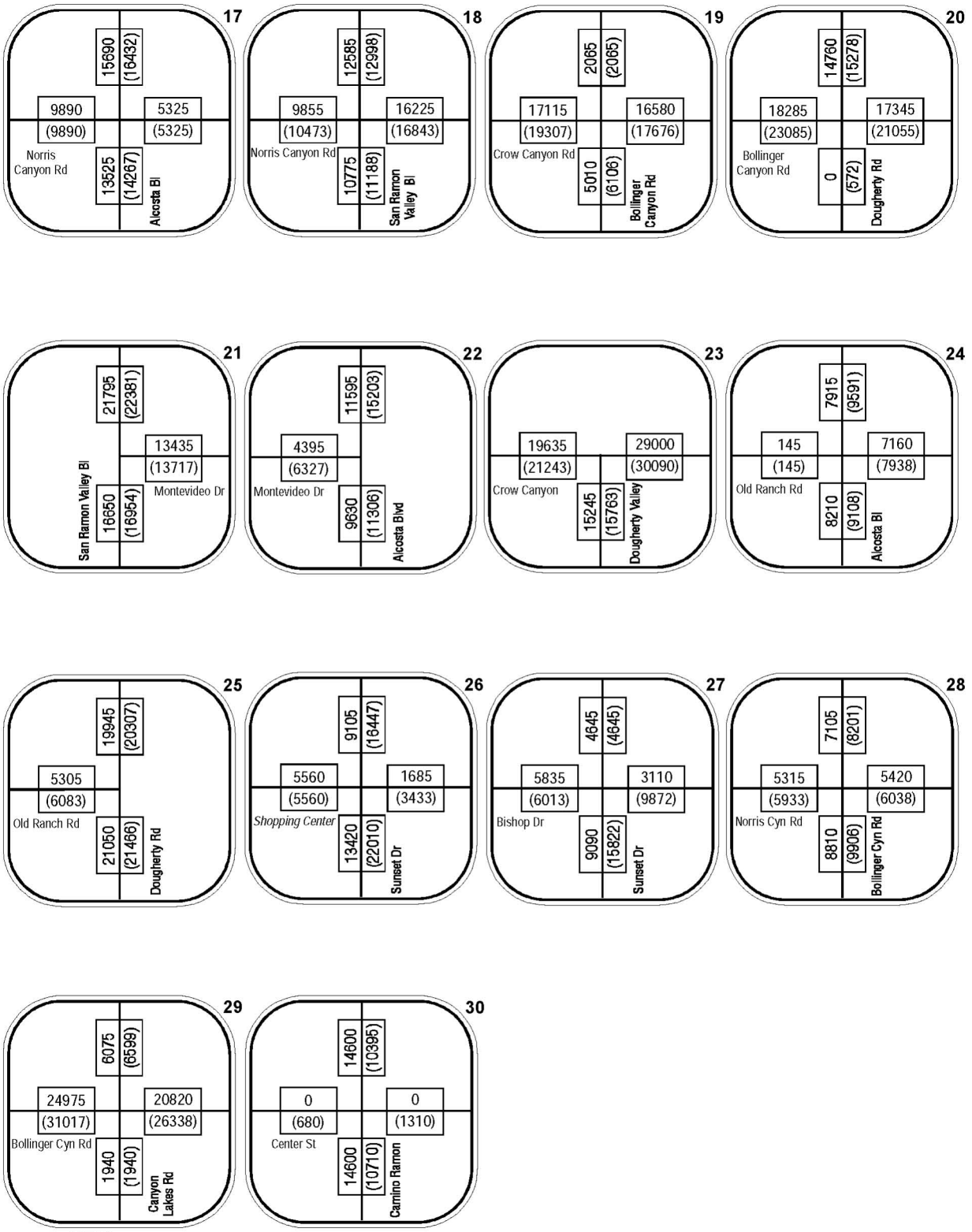
Exhibit 4.12-11a
Existing Plus Project Traffic Volumes Daily Traffic Volumes



Source: DMJM HARRIS | AECOM, July 2007.

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Exhibit 4.12-11b
Existing Plus Project Traffic Volumes Daily Traffic Volumes

Table 4.12-15: Existing Plus Project Intersection Operations

Intersection	Without Project				With Project				V/C Ratio Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	AM	PM
1. Crow Canyon Road/San Ramon Valley Boulevard	0.56	A	0.74	C	0.57	A	0.75	C	0.01	0.01
2. Crow Canyon Road/ I-680 Southbound Ramps	0.59	A	0.57	A	0.61	B	0.58	A	0.02	0.01
3. Crow Canyon Road/ I-680 Northbound Ramps	0.52	A	0.60	A	0.54	A	0.62	A	0.02	0.02
4. Crow Canyon Road/Camino Ramon	0.57	A	0.76	C	0.63	B	0.82	D	0.06	0.06
5. Crow Canyon Road/ Alcosta Boulevard	0.44	A	0.67	B	0.45	A	0.72	C	0.01	0.05
6 Camino Ramon/ Norris Canyon Road	0.46	A	0.59	A	0.51	A	0.67	B	0.05	0.08
7. Camino Ramon/ Executive Parkway	0.36	A	0.43	A	0.40	A	0.51	A	0.04	0.08
8. Camino Ramon/ Bishop Drive	0.36	A	0.46	A	0.45	A	0.59	A	0.09	0.13
9. Bollinger Canyon Road/ San Ramon Valley Boulevard	0.79	C	0.88	D	0.82	D	**0.92**	**E**	0.03	0.04
10. Bollinger Canyon Road/ I-680 Southbound Ramps	0.50	A	0.57	A	0.55	A	0.64	B	0.05	0.07
11. Bollinger Canyon Road/I-680 Northbound Ramps	0.75	C	0.71	C	0.88	D	0.88	D	0.13	0.17
12. Bollinger Canyon Road/ Sunset Drive/Chevron Park	0.66	B	0.68	B	0.67	B	**1.06**	**F**	0.01	0.38
13. Bollinger Canyon Road/Camino Ramon	0.56	A	0.74	C	0.63	B	0.70	B	0.07	-0.04
14. Bollinger Canyon Road/ Bishop Ranch 1 East	0.39	A	0.56	A	0.43	A	0.83	D	0.04	0.27
15. Bollinger Canyon Road/Market Place	0.45	A	0.54	A	0.52	A	0.67	B	0.07	0.13
16. Bollinger Canyon Road/Alcosta Boulevard	0.71	C	0.81	D	0.80	D	**0.92**	**E**	0.09	0.11

Table 4.12-15 (Cont.): Existing Plus Project Intersection Operations

Intersection	Without Project				With Project				V/C Ratio Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	AM	PM
17. Alcosta Boulevard/Norris Canyon Road	0.40	A	0.43	A	0.41	A	0.45	A	0.01	0.02
18. San Ramon Valley Boulevard/Norris Canyon Road	0.55	A	0.55	A	0.56	A	0.57	A	0.01	0.02
19. Bollinger Canyon Road/ Crow Canyon Road	0.46	A	0.45	A	0.48	A	0.50	A	0.02	0.05
20. Bollinger Canyon Road/ Dougherty Road	0.50	A	0.47	A	0.54	A	0.53	A	0.04	0.06
21. San Ramon Valley Boulevard /Montevideo Drive	0.62	B	0.81	D	0.62	B	0.82	D	0.00	0.01
22. Alcosta Boulevard/ Montevideo Drive	0.27	A	0.28	A	0.31	A	0.36	A	0.04	0.08
23. Crow Canyon Road/ Dougherty Road	0.41	A	0.57	A	0.42	A	0.58	B	0.01	0.01
24. Alcosta Boulevard/ Old Ranch Road	0.30	A	0.26	A	0.32	A	0.30	A	0.02	0.04
25. Old Ranch Road/ Dougherty Road	0.64	B	0.37	A	0.65	B	0.38	A	0.01	0.01
26. Sunset Drive/Shops at Bishop Ranch	0.30	A	0.38	A	0.27	A	0.65	B	0.03	0.27
27. Bishop Drive/ Sunset Drive	0.36	A	0.47	A	0.41	A	0.67	B	0.05	0.20
28. Bollinger Canyon Road/Norris Canyon Road	0.86*	C*	0.37*	B*	0.90*	C*	0.45*	B*	0.04*	0.08*
29. Bollinger Canyon Road/Canyon Lakes Drive	0.59	A	0.54	A	0.65	B	0.63	B	0.06	0.09
30. Camino Ramon/Center Street^	—	—	—	—	0.26	A	0.23	A	NA	NA

Notes:
Bold denotes deficient intersection operation.
* HCM unsignalized intersection analysis.
^ Future intersection associated with project.
Source: DMJM Harris, 2007.

Operations at three intersections would degrade to unacceptable LOS E or F as a result of project-generated trips:

- **Bollinger Canyon Road/San Ramon Valley Boulevard:** The existing PM peak hour of LOS D would degrade to LOS E under Existing Plus Project with project conditions.
- **Bollinger Canyon Road/Sunset Drive/Chevron Park:** The existing PM peak hour of LOS D would degrade to LOS F under Existing Plus Project with project conditions.
- **Bollinger Canyon Road/Alcosta Boulevard:** The existing PM peak hour of LOS D would degrade to LOS E under Existing Plus Project with project conditions.

Mitigation is proposed that would implement intersection improvements at all three intersections. Table 4.12-16 provides a comparison of the unmitigated Existing Plus Project condition to the mitigated Existing Plus Project condition. As shown in the table, all intersections would operate at an acceptable LOS after the implementation of mitigation. Existing Plus Project intersection operation impacts would be less than significant.

Table 4.12-16: Existing Plus Project Mitigated Intersection Operations

Intersection	With Project, Unmitigated				With Project, Mitigated				V/C Ratio Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	AM	PM
9. Bollinger Canyon Road/ San Ramon Valley Boulevard	0.82	D	0.92	E	0.68	B	0.74	C	-0.14	-0.18
12. Bollinger Canyon Road/ Sunset Drive/Chevron Park	0.67	B	1.06	F	0.67	B	0.87	D	0.00	0.19
16. Bollinger Canyon Road/Alcosta Boulevard	0.80	D	0.92	E	0.80	D	0.74	C	0.00	-0.07
Source: DMJM Harris, 2007.										

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM TRANS-1a When the improvements are warranted by the City's annual monitoring program, the project applicant shall provide pro-rata share payments to the City for the installation of a northbound right-turn lane on San Ramon Valley Boulevard at Bollinger Canyon Road. The proposed intersection improvements are part of the City Capital Improvement Program.

MM TRANS-1b This mitigation consists of two parts:

1. When the improvements are warranted by the City's annual monitoring program, the project applicant shall provide pro-rata share payments to the City for the installation of a free southbound right-turn lane on Sunset Drive at Bollinger Canyon Road. The southbound curb lane along Sunset Drive would be signed for northbound I-680 only. This lane would be free-flowing into the westbound curb lane on Bollinger Canyon Road. The adjacent lane on Bollinger Canyon Road would be physically separated from the curb lane to prevent weaving between Sunset Drive and the northbound I-680 on-ramp.
2. To respond to the off-peak parking on Camino Ramon, curbside traffic will be required to turn right at Bishop Drive, prior to the proposed parking. To enhance the effectiveness of this mitigation measure, the project applicant shall install signage along the southbound approach of Camino Ramon prior to the intersection with Bishop Drive indicating that the curbside, right southbound lane between Bishop Drive and Bollinger Canyon Road is through-right-turn lane during peak commute hours. During non-peak commute hours, Camino Ramon shall have one through travel lane in each direction between Bishop Drive and Bollinger Canyon Road.

MM TRANS-1c When the improvements are warranted by the City's annual monitoring program, the project applicant shall provide pro-rata share payments to the City for the installation of a third eastbound and westbound through lane on Bollinger Canyon Road at Alcosta Boulevard. The proposed intersection improvements are part of the City Capital Improvement Program.

Level of Significance After Mitigation

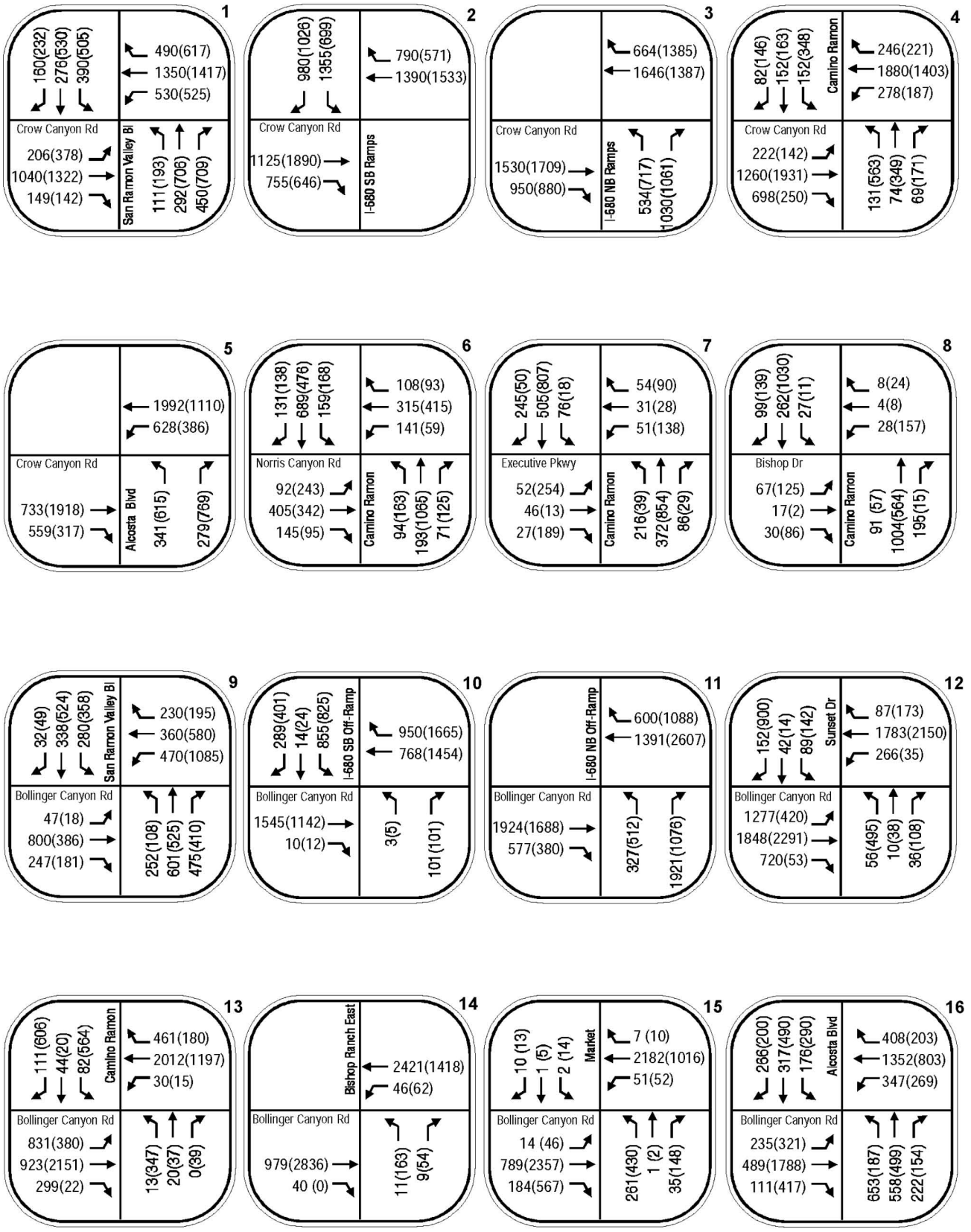
Less than significant impact.

Year 2020 Intersection Operations

Impact TRANS-2: Trips associated with the proposed project would substantially degrade intersection performance under Year 2020 conditions.

Impact Analysis

Year 2020 background conditions were derived from the most recent version of the Contra Costa County Travel Demand Model. These background conditions account for forecast growth in the County and planned and proposed roadway improvements. Note that this model assumes the development of the 328,220 square feet of previously entitled office space on Parcel 1A. Exhibits 4.12-12a and 4.12-12b show the peak-hour 2020 background traffic volumes. Exhibits 4.12-13a and 4.12-13b show the Year 2020 intersection geometries, which are based on the improvements



Source: DMJM HARRIS | AECOM, July 2007.

NORTH

Not to Scale

Michael Brandman Associates

Exhibit 4.12-12a
Year 2020 Without Project Traffic Volumes