7. GENERAL PLAN BUILDOUT CONDITIONS

This chapter presents the results of the level of service calculations under General Plan Buildout Conditions. General Plan Buildout Conditions are defined as traffic volumes estimated for buildout of the City of Morgan Hill General Plan (Year 2025) plus traffic associated with the proposed project. The current General Plan includes a portion (approximately 350,000 s.f.) of the proposed project for this area of the city. Therefore, traffic generated from an additional 300,000 s.f. of retail space was added to the General Plan volumes to include full buildout of the proposed project. This scenario analyzes traffic operations under 2025 General Plan Conditions with the proposed General Plan Amendment to relocate the Cochrane Road-to-Burnett Avenue connection via the northern extension of DePaul Drive. The current General Plan includes the extension of DePaul Drive as the connection between these two roadways. The southern extension of DePaul Drive is planned to connect to Murphy Avenue according to the current General Plan. The proposed change would relocate this connection east (approximately 800 feet) to Mission View Drive. Figure 14 presents the proposed roadway network change. Analysis only conducted for eight study intersections that might be affected.

GENERAL PLAN BUILDOUT TRAFFIC ESTIMATES

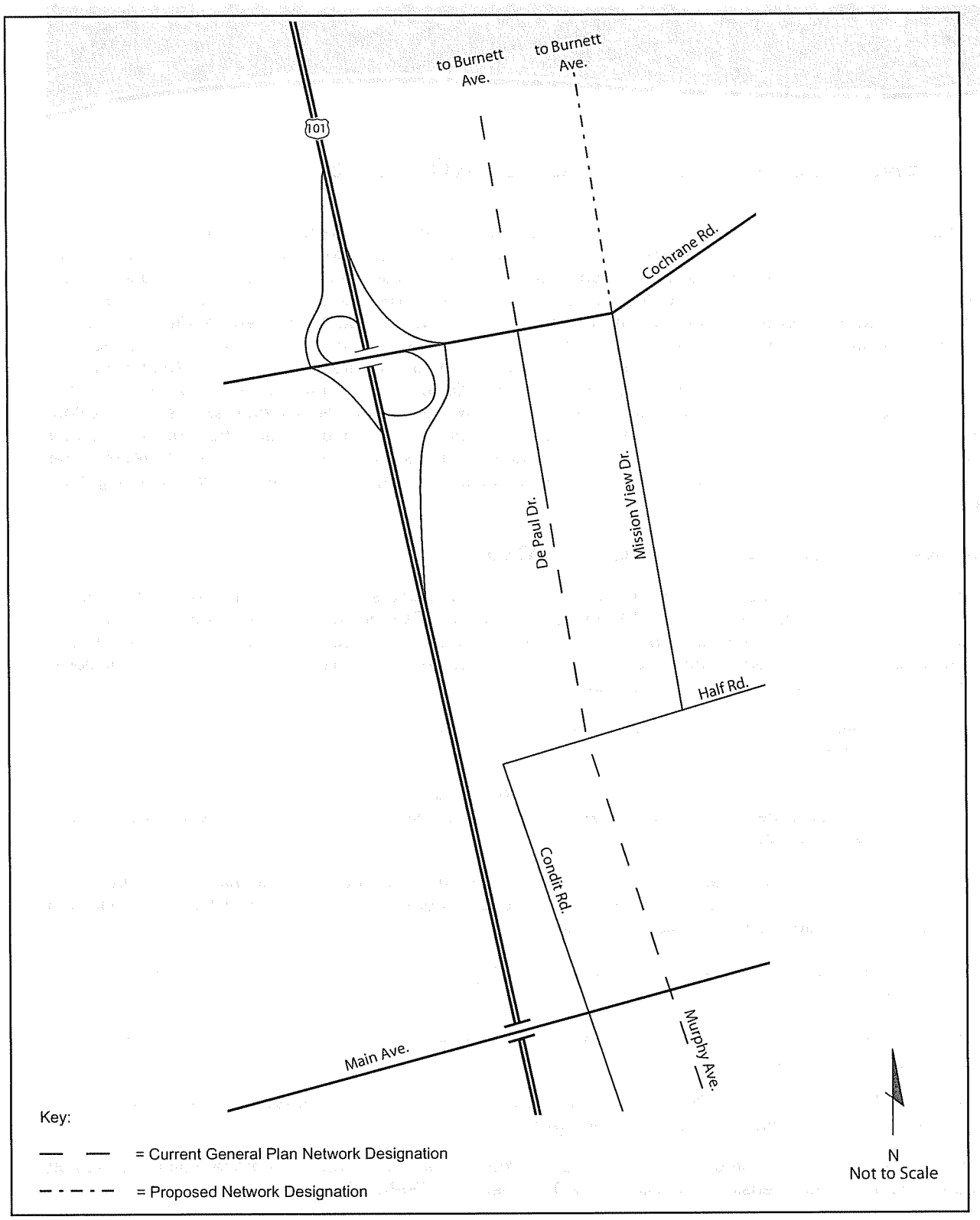
Peak-hour volumes for General Plan Buildout Conditions were estimated based on traffic forecasts from the City's traffic model for the City's General Plan update analysis. Fehr & Peers refined model land use and roadway network in the immediate vicinity of the project site and developed traffic forecasts for the AM and PM peak hours. The Saturday midday peak-hour was not modeled under General Plan Buildout Conditions, and therefore, was not analyzed for this scenario.

The following major roadway improvements and descriptions are assumed to be completed under the General Plan Buildout scenario:

- Cochrane Road is assumed to be widened to six lanes from Mission View Drive to Monterey Highway. Cochrane Road is designated as an arterial from Monterey Road to Peet Road where it becomes a collector.
- DePaul Drive is assumed to be extended to the south. This extension will link DePaul Drive with Murphy Avenue. The DePaul Drive/Murphy Avenue extension is designated to be an arterial from Cochrane Road south to E. Middle Avenue.
- Butterfield Boulevard is expected to be extended from its current terminus at Cochrane Road north to its intersection with Madrone Parkway.
- Main Avenue, Dunne Avenue, and Tennant Avenue are all designated east-west arterials for the majority of their respective lengths.
- Half Road, between Condit Road and Peet Road and Condit Road, between Half Road and Tenant Avenue are designated as collector roadways.

The proposed General Plan Amendment assumes that the connection between Cochrane Road and Burnett Avenue is made via the extension of Mission View Drive instead of DePaul Drive.

The AM and PM peak-hour traffic forecasts were obtained for base year (1997) and general plan buildout year (2025) conditions. Roadway segment traffic forecasts were used to factor existing AM and PM peak-hour intersection traffic volumes using an adjustment technique called the Furness process. The final volumes



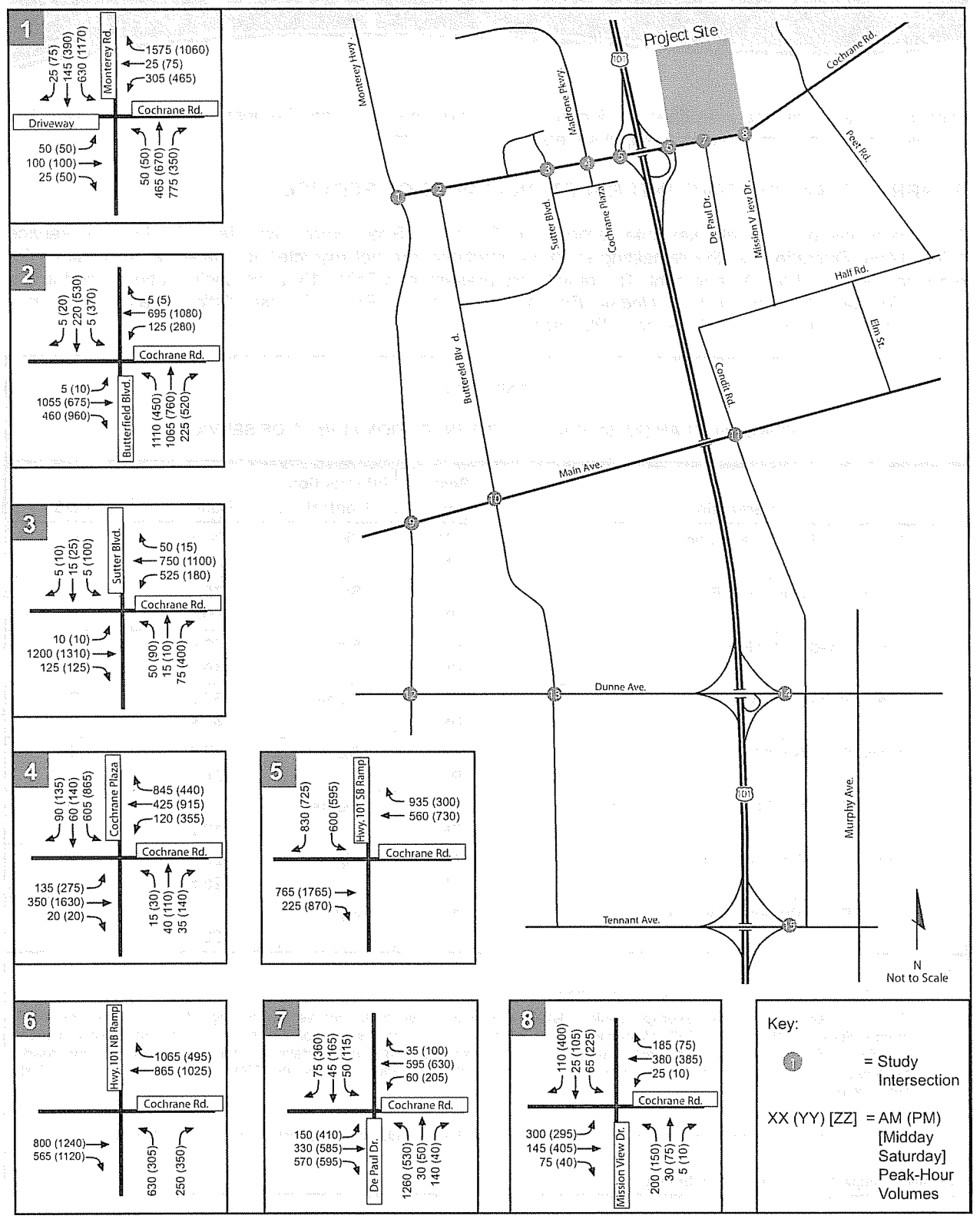
Cochrane Rd PUD

FEHR & PEERS
TRANSPORTATION CONSULTANTS

February 2005
SJ04-725

PROPOSED GENERAL PLAN AMENDMENT ROADWAY CONFIGURATION

Figure 13



Cochrane Rd PUD

FEHR & PEERS
TRANSPORTATION CONSULTANTS

May 2005
SJ04-725

2025 GENERAL PLAN VOLUME WITH PROPOSED AMENDMENT

Figure 15

used in the analysis are presented on Figure 15. An explanation of the Furness method along with the Furness turning movement volume output sheets are contained in Appendix G.

GENERAL PLAN BUILDOUT INTERSECTION LEVELS OF SERVICE

The operations of the eight key intersections on Cochrane Road were evaluated with level of service calculations. Operations at the remaining study intersections are not expected to change as a result of the proposed General Plan Amendment. The results are presented in Table 13. Lane configurations used in the City of Morgan Hill *General Plan Update Environmental Impact Report Transportation Analysis*, February 2001 were used under the 2025 General Plan scenario.

TABLE 13

GENERAL PLAN (2025) BUILDOUT INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour[1]	Intersection Control	Delay[2]	LOS[3]
1. Cochrane Road/Monterey Road	AM PM	Signal	34.3 36.4	C- D+
2. Cochrane Road/Butterfield Boulevard	AM PM	Signal	**76.8** **>100**	**E-** **F**
3. Cochrane Road/Sutter Boulevard	AM PM	Signal	20.9 19.8	C+ B-
4. Cochrane Road/Cochrane Plaza	AM PM	Signal	37.2 **42.9**	D+ **D**
5. Cochrane Road/Southbound US 101 Ramp	AM PM	Signal	17.4 24.2	B C
6. Cochrane Road/Northbound US 101 Ramp	AM PM	Signal	16.4 12.2	B B
7. Cochrane Road/DePaul Drive	AM PM	Signal	23.8 25.5	C C
8. Cochrane Road/Mission View Drive[4]	AM PM	Signal	25.0 22.5	C C+

Notes:

1 AM = Morning peak-hour, PM = Evening peak-hour.

2 Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections using methodology described in the *2000 Highway Capacity Manual,* with adjusted saturation flow rates to reflect Santa Clara County Conditions. For two-way stop controlled unsignalized intersections, total control delay for the worst movement/approach, expressed in seconds per vehicle, is presented. LOS calculations conducted using the TRAFFIX level of service analysis software package.

3 LOS = Level of service

4 Analyzed including the mitigation described under Project Conditions which includes construction of the north leg and signalization.

Significant impacts are designated in **bold** type.

The results indicate that the following two intersections are expected to operate at unacceptable levels under General Plan Buildout Conditions:

- Cochrane Road/Butterfield Boulevard (during both peak hours)
- Cochrane Road/Cochrane Plaza (PM peak hour)

The remaining intersections are projected to operate acceptably during the AM and PM peak hours. Although the project's peak trip generation occurs on Saturday, the combination of project traffic and other cumulative traffic is lower on weekends than during the weekday commute hours. Accordingly, weekend peak hour operations were not analyzed.

Intersections operating at unacceptable levels under General Plan Buildout Conditions will require modifications in order to operate acceptably. These modifications are discussed below:

Butterfield Boulevard/Cochrane Road

The current General Plan includes one left-turn lane, one through lane, and two right-turn lanes on the northbound approach at this intersection. For the intersection to operate at LOS D+ or better during the AM and PM peak hours, the intersection would need to provide two left-turn lanes, two through lanes, and one right-turn lane on the northbound approach and an eastbound free right-turn lane.

With these lane modifications, the intersection is expected to operate at LOS C- and LOS D+ during the AM and PM peak hours. It should be noted that during the PM peak hour, the cycle length for the intersection level of service calculation was optimized to achieve an acceptable level of service. The optimization was reducing the cycle length from 120 seconds to 115 seconds. Free right-turn lane would enhance vehicle capacity but would have deleterious effects to pedestrian movement.

Cochrane Road/Cochrane Plaza

The modification of the north leg from one left-turn lane, one shared left/through lane and one right-turn lane to provide two left-turn lanes, one through lane, and one separate right-turn lane is needed for the intersection to operate at an acceptable level (LOS D+) during the PM peak-hour under General Plan Buildout Conditions. It should be noted that during the PM peak hour, the cycle length for the intersection level of service calculation was optimized to achieve an acceptable level of service. The optimization was reducing the cycle length from 100 seconds to 90 seconds.

TECHNICAL APPENDICES