Appendix D

Transportation Analysis

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Cochrane Commons Mixed-Use Development

Transportation Analysis

Prepared for:

City of Morgan Hill

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Executive Summary

This report presents the results of the Transportation Analysis (TA) conducted for the proposed Cochrane Commons Mixed-Use Development in Morgan Hill, California. The project site is located along the north side of Cochrane Road between Mission View Drive and De Paul Drive.

Project Description

The proposed project site is part of a larger commercial development site that was approved for 590,100 square feet (s.f.) of retail space, a 12-pump gas station, and a 14-screen movie theater. A Traffic Impact Analysis (TIA) for the approved development was completed in 2005. Since the approval, 303,608 s.f. of retail space has been constructed along with the gas station. In 2016, as part of the City's update of its General Plan (*Morgan Hill 2035 General Plan,* adopted July 27, 2016), the land use designation on a portion of the undeveloped project site was changed from commercial to mixed-use flex. The mixed-use flex designation allows for a variety of both commercial and residential uses.

The project as now proposed on the remaining undeveloped portion of the site will consist of a mixed-use development that includes up to 498 townhomes/apartments, up to 140,000 s.f. of retail space, and a potential 150-room hotel in lieu of either a portion of the retail square footage or a portion of the residential unit count. To allow for future development flexibility, this analysis evaluates a "worst-case" development scenario in which the hotel uses are considered in addition to the maximum retail, with no reduction in corresponding retail or residential uses. The proposed project also will require a change in the General Plan designation from Commercial to Mixed Use Flex for the remaining portions of the project site that are not currently designated as such. The revised General Plan designation will provide consistency throughout the remaining project site, will be compatible with the amended PUD, and allow for the appropriate mix and integration of uses for the proposed project.

Access to the project site is proposed via a new right-turn only driveway along Cochrane Road as well as the existing signalized Cochrane Road/De Paul Drive intersection. Four driveways also are proposed along Mission View Drive.

Scope of Study

The TA consists of a California Environmental Quality Act (CEQA) required vehicle-miles-traveled (VMT) analysis. The CEQA VMT impact analysis was completed using the Valley Transportation Authority's (VTA) VMT tool and Travel Demand Forecasting (TDF) Model. The City of Morgan Hill is currently developing the framework for new transportation policies based on VMT as the primary measure of transportation impacts. The new policies will replace the City's current transportation policies that are based on levels of service per the Morgan Hill 2035 General Plan. However, since the City has not formally adopted its own city-specific VMT policies, this study utilizes VMT analysis

methodology and impact thresholds recommended in the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018. The traffic operations analysis also includes an evaluation of the effects of the project on other transportation issues relating to queuing, on-site access, on-site circulation, parking, pedestrian, bicycle, and transit facilities, freeway segments, and related safety elements in the immediate area of the project

A supplemental traffic operations analysis, provided in a separate report, also was completed to demonstrate the project's consistency with the *Morgan Hill 2035 General Plan* goals and policies. The traffic operations analysis supplements the CEQA required VMT analysis. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

CEQA VMT Analysis

Residential VMT

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT for residential uses in the project vicinity is 31.68 VMT per capita. The results also indicate that the project is projected to generate VMT per capita (28.51), which would exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the residential component of the project would result in an impact on the transportation system based on OPR's VMT impact criteria.

Retail VMT

The model results show that the retail component of the project would cause a net decrease of 4,354 VMT per day. The work trips would result in 1,231 fewer daily VMT and the shopping trips would account for a decrease of 3,123 daily VMT. Therefore, the proposed retail uses of the project would not result in an impact on the transportation system based on OPR's recommended VMT impact criteria.

Hotel VMT

For mixed-use projects, OPR allows lead agencies to evaluate only the project's dominant use. Since the proposed residential and retail components of the project would be the dominant land use (both residential and retail uses would generate a much greater number of daily trips when compared with the proposed hotel uses), the CEQA impact evaluation for the project is based only on the residential and retail components of the project.

VMT Impacts and Mitigation

Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 27% reduction (28.51 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant levels. However, per the VMT tool, the maximum reduction possible is 25.34. Further reductions in VMT are not likely feasible for residential projects due to the limited alternative modes of transportation and supporting employment land uses within the City.

The project's VMT per capita could be reduced to 25.34 with the implementation of the following Travel Demand Management (TDM) strategies, however, the reduced VMT per capita would still be greater than the OPR's recommended impact threshold of 20.94 VMT per capita.

- TP01 – School Pool Programs: Organize a program that matches families in carpools for school pick-up and drop-off of all households from the project. Organizing a school pool program helps match parents who transport students to schools without a busing program, including private

schools, charter schools, and neighborhood schools where students cannot walk or bike. The school pool program would be open to all families in the development. School pools reduce the total number of vehicle trips traveling to and from schools, thereby reducing VMT. **and**

- TP07 – Subsidized of Discounted Transit Programs: Provide fully (100%) subsidized transit passes for all project residents. Providing subsidies for transit use encourages people to use transit rather than driving, thereby reducing VMT. **and**
- TP14 – Transit Service Expansion: The project subsidizes transit service through fees and contributions to the transit provider, thereby improving transit service to the project, resulting in increased use of transit and reduced VMT. **and**
- TP18 – Voluntary Travel Behavior Change Programs: Provide a program that targets individual attitudes towards travel and providing tools for individuals to analyze and alter their travel behavior with 100% expected resident participation. These programs include mass communication campaigns and travel feedback programs, such as travel diaries or feedback on calories burned from activities and travel. This strategy encourages the use of shared ride modes, transit, walking, and biking, thereby reducing VMT.

OPR's recommended 15% below existing VMT impact threshold encourages developments in transit-rich, highly mixed-use areas to implement design features and trip reduction measures to take advantage of existing multi-model infrastructure and land use mixes in reducing trip making and/or trip lengths. However, many communities such as Morgan Hill have very limited multi-modal transportation infrastructure and lack a mix of complementary land uses. The lack of employment in these communities along with minimal transit options results in a greater number and longer commute trips. Therefore, it is highly unlikely that developments like the proposed project in these cities can achieve OPR's recommended 15% reduction in VMT. Therefore, absent of the City adopting its own City-specific VMT policies and impact thresholds, the proposed project's VMT impact must be deemed significant and unavoidable.

Other Transportation Issues

Site Access

Access to the project site is proposed via a new right-turn only driveway along Cochrane Road as well as the existing signalized Cochrane Road/De Paul Drive intersection. Four driveways also are proposed along Mission View Drive. The project would include frontage improvements along Mission View Drive to include curb, gutter and sidewalk along with the new access points.

On-Site Circulation

The site plan shows two primary internal access roadways running between De Paul Drive and Mission View Drive. Access to each of the proposed retail buildings, townhome units, apartment complexes, and parking areas will be provided by secondary roadways and drive aisles that connect to the primary access roadways and each of the site driveways. The straight nature of the primary internal roadways running between De Paul Drive and Mission View Drive could result in drivers traveling at greater speeds than recommended. Therefore, it may be desirable to implement speed-reducing measures along the internal roadways. These measures could include the installation of speed bumps/humps, bulb-outs at drive aisle intersections, and parking along the primary internal roadways.

Recommendation: Speed-reducing measures such as speed bumps/humps, bulb-outs at drive aisle intersections, and parking should be considered along the two primary internal access roadways

running between De Paul Drive and Mission View Drive. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

There are no dead-end aisles on site, except for those located within the townhome area, present allowing for continuous circulation within the project site. The dead-end aisles within the townhome area should not be problematic as the drive aisles provide access to only the private townhome garages.

Recommendation: Signage should be placed at the entrances to the townhouse drive aisles restricting access to residents only. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

Emergency Vehicle Access and Circulation

The internal roadways and drive aisles would need to be at least 20 feet wide to provide emergency vehicles (fire trucks) sufficient space to access each of the residential units, retail and hotel uses on-site. There are several dead-end drive aisles located within the townhome area that would not provide sufficient space for emergency vehicles to turn around. However, the dead-ends will be located along short segments of roadways. Thus, vehicles would be able to back out of the roadways.

Intersection Operations Analysis

The queuing analysis also indicates that the maximum vehicle queue for northbound left-turn movement at the Cochrane Road and Mission View Drive intersection currently exceeds the provided turn pocket storage space during the AM and PM peak hours under existing conditions.

The addition of project traffic is not projected to lengthen the projected queue during the AM peak hour. However, the addition of project traffic is projected to lengthen the projected queue by one vehicle or 25 feet during the PM peak hour under existing plus project conditions, which would exceed the existing storage capacity by 75 feet.

Recommendation: The northbound left-turn pocket can be lengthened by 250 feet to accommodate the projected queue during the AM peak hour. However, a second northbound left-turn lane is recommended to improve intersection operations. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

Project Driveway Operations

Based on the project trip generation and trip assignment, a maximum of 64 peak-hour left-turns into the project driveways are projected during the PM peak hour along Mission View Drive. Mission View Drive would have a minimal amount of traffic along the project's frontage, thus queuing and operational issues would not occur at the project driveways along Mission View Drive. However, a center striped median should be provided along Mission View Drive as part of the project site frontage improvements.

Recommendation: A center-striped median should be provided along Mission View Drive between Cochrane Road and the northern project site driveway. The current width of Mission View Drive along the project frontage is not adequate to provide left-turn pockets into the project driveways. Mission View Drive would need to be widened along its west side, along the project frontage to provide striped left-turn pockets into the project site as well as streets along the east side of Mission View Drive. The

recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

Parking

Based on Tables 18.72-2 and 18.72-3 of Section 18.72.030 of the Morgan Hill City Code, retail uses are required to provide one parking space per 250 s.f. and hotel uses are required to provide one parking space per guest room plus an additional space for every 10 rooms. Based on these requirements, the project will be required to provide 560 parking spaces for the proposed 140,000 s.f. of retail space and 165 parking spaces for the proposed 150-room hotel.

The townhomes are required to provide two covered parking spaces per unit, and the required parking spaces for the multi-family apartments are dependent upon the number of bedrooms in each unit. Since the breakdown of the townhomes vs. apartments and the number of bedrooms in each apartment unit are not available, the required parking spaces for residential uses cannot be determined.

Transit, Pedestrian, and Bicycle Analysis

Project's Effect on Pedestrian Facilities

It can be expected that new pedestrian traffic would be generated by the proposed project. The project

site is located within walking distance from other residential and commercial uses along Cochrane Road both east and west of US 101.

Controlled crossings at the intersections of Cochrane Road with Mission View Drive and De Paul Drive would provide a connection between the project site and the pedestrian generators in the project vicinity mentioned above.

The project would provide sidewalks along its entire frontages along Mission View Drive and result in a continuous connection to the existing sidewalks on the north side of Cochrane Road to provide a safe connection between the project site and other surrounding land uses in the area.

Bicycle Facilities

Project's Effect on Bicycle Facilities

The proposed project could increase the demand on bicycle facilities in the vicinity of the project site. Assuming bicycle trips would comprise no more than one percent of the total project-generated trips, the project could generate up to eight new bicycle trips during each of the peak hours. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site.

Transit Services

Project's Effect on Transit Services

Since there is currently only one local bus route (Route 87) serving the City of Morgan Hill, the use of public transportation by residents of the proposed project would be limited. Nevertheless, assuming an estimated three percent transit mode share, which is probably the highest that could be expected for the project, equates to approximately no more than 24 new transit riders during each of the peak hours.

Recommendation: With the development of the project, as well as other ongoing residential development along Cochrane Road in the vicinity of the project site, there will be an opportunity for VTA to expand the existing service area to this part of the City, which is currently underserved. A bus stop could be provided along the project site frontage along Mission View Drive to serve the project site and adjacent residential neighborhoods. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

1. Introduction

This report presents the results of the Transportation Analysis (TA) conducted for the proposed Cochrane Commons Mixed-Use Development in Morgan Hill, California. The project site is located along the north side of Cochrane Road between Mission View Drive and De Paul Drive. The project site location and the surrounding study area are shown in Figure 1.

Project Description

The proposed project site is part of a larger commercial development site that was approved for 590,100 square feet (s.f.) of retail space, a 12-pump gas station, and a 14-screen movie theater. A Traffic Impact Analysis (TIA) for the approved development was completed in 2005. Since the approval, 303,608 s.f. of retail space has been constructed along with the gas station. In 2016, as part of the City's update of its General Plan (*Morgan Hill 2035 General Plan,* adopted July 27, 2016), the land use designation on a portion of the undeveloped project site was changed from commercial to mixed-use flex. The mixed-use flex designation allows for a variety of both commercial and residential uses.

The project as now proposed on the remaining undeveloped portion of the site will consist of a mixed-use development that includes up to 498 townhomes/apartments, up to 140,000 s.f. of retail space, and a potential 150-room hotel in lieu of either a portion of the retail square footage or a portion of the residential unit count. To allow for future development flexibility, this analysis evaluates a "worst-case" development scenario in which the hotel uses are considered in addition to the maximum retail, with no reduction in corresponding retail or residential uses. The proposed project also will require a change in the General Plan designation from Commercial to Mixed Use Flex for the remaining portions of the project site that are not currently designated as such. The revised General Plan designation will provide consistency throughout the remaining project site, will be compatible with the amended PUD, and allow for the appropriate mix and integration of uses for the proposed project.

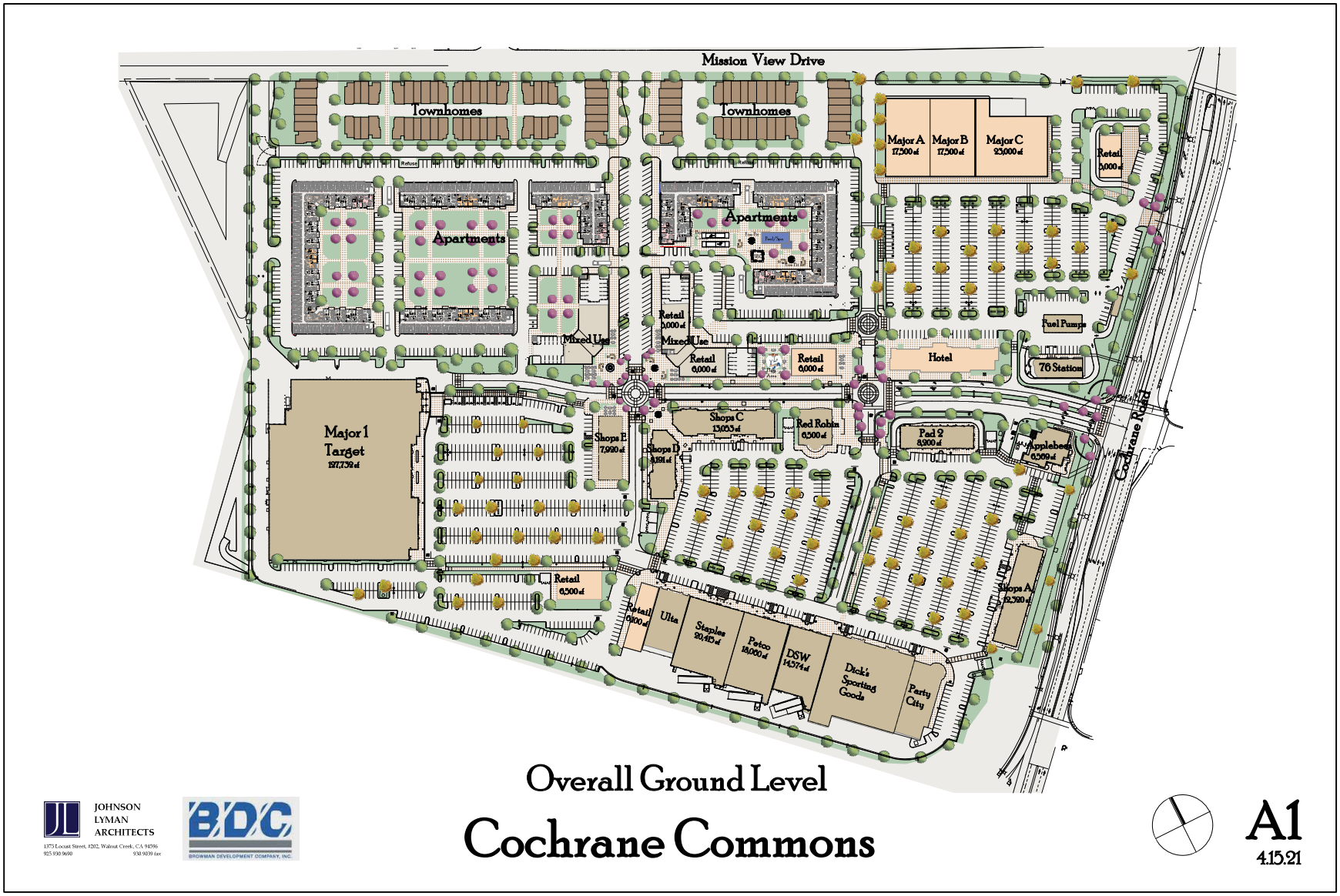
Access to the project site is proposed via a new right-turn only driveway along Cochrane Road as well as the existing signalized Cochrane Road/De Paul Drive intersection. Four driveways also are proposed along Mission View Drive. The project site plan is shown in Figure 2.

Scope of Study

The TA consists of a California Environmental Quality Act (CEQA) required vehicle-miles-traveled (VMT) analysis. The TA also includes an evaluation of the effects of the project on other transportation issues relating to queuing, on-site access, on-site circulation, parking, pedestrian, bicycle, and transit facilities, and related safety elements in the immediate area of the project.

Figure 1
Project Site Location

Figure 2
Project Site Plan



Historically, traffic impact analysis has utilized vehicular delay to identify traffic impacts and potential roadway improvements to relieve traffic congestion that may result due to proposed/planned growth. However, with the adoption of Senate Bill (SB) 743 legislation, public agencies are required (effective July 2020) to base transportation impacts on Vehicle-Miles-Traveled (VMT) rather than level of service that typically uses delay as its metric. The change in measurement is intended to better evaluate the effects on the state's goals for climate change and multi-modal transportation. Therefore, to adhere to the state's legislation, all new development projects are required to analyze transportation impacts using the VMT metric.

The CEQA VMT impact analysis was completed using the Valley Transportation Authority's (VTA) VMT tool and Travel Demand Forecasting (TDF) Model. The City of Morgan Hill is currently developing the framework for new transportation policies based on VMT as the primary measure of transportation impacts. The new policies will replace the City's current transportation policies that are based on levels of service per the Morgan Hill 2035 General Plan. However, since the City has not formally adopted its own city-specific VMT policies, this study utilizes VMT analysis methodology and impact thresholds recommended in the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018.

Report Organization

The remainder of this report is divided into three chapters. Chapter 2 describes existing conditions in terms of the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 presents the CEQA VMT analysis. Chapter 4 presents the analysis of other transportation-related issues, including site access. Chapter 5 presents the conclusions of the transportation analysis.

2. Existing Transportation System

This chapter describes the existing transportation system within the project area. It describes transportation facilities for all of the major transportation facilities in the vicinity of the site, including the roadway network, transit service, and bicycle and pedestrian facilities.

Existing Roadway Network

Regional access to the project site is provided via US 101. Local access to the site is provided by Cochrane Road, De Paul Drive, Half Road, Mission View Drive, Main Avenue, and Condit Road. These facilities are described below.

US 101 is a north-south freeway extending northward to San Francisco and southward through Gilroy. US 101 is an eight-lane freeway (three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction) north of Cochrane Road. South of Cochrane Road, it is a six-lane freeway with no HOV lanes. Access to and from the project site is provided via its interchange at Cochrane Road.

Cochrane Road is designated as an arterial in the project vicinity per the City of Morgan Hill 2035 General Plan and is an east-west divided roadway that runs from Monterey Road to Malaguerra Avenue, east of US 101. Currently, Cochrane Road is a four-lane road between Monterey Road and Cochrane Circle. Between Cochrane Circle and US 101, Cochrane Road widens to three lanes eastbound and two lanes westbound, then narrows back to four lanes east of US 101, and to two lanes east of Mission View Drive. Cochrane Road has posted speed limits of 40 and 45 miles per hour (mph). Access to the project site is provided via its intersections with De Paul Drive, Mission View Drive, and one driveway just west of Mission View Drive.

De Paul Drive is designated as a local street per the City of Morgan Hill 2035 General Plan and is a north-south undivided roadway that intersects Cochrane Road approximately 700 feet east of the US-101 northbound ramps intersection and runs approximately 1,500 feet north and 1,000 feet south of Cochrane Road. Direct access to the project site would be provided via driveways along De Paul Drive north of Cochrane Road.

Half Road is designated as a collector per the City of Morgan Hill 2035 General Plan and is an east-west undivided roadway that runs from Condit Road to Cochrane Road. Half Road has a posted speed limit of 35 miles per hour (mph). Access to the project site is provided via its intersection with Mission View Drive.

Mission View Drive is designated as a collector per the City of Morgan Hill 2035 General Plan and is a north-south two-lane undivided roadway that runs south from Eagle View Drive to Half Road. In the vicinity of the project site, Mission View Drive has a posted speed limit of 40 miles per hour (mph). Mission View Drive runs along the project's eastern frontage. Direct Access to the project site would be provided via driveways along Mission View Drive.

Main Avenue is designated as an arterial per the City of Morgan Hill 2035 General Plan and is a two-lane roadway that runs eastward from its intersection with DeWitt Avenue to Coyote Road at the base of the eastern foothills. The roadway has an overcrossing of US 101, however, no access to US 101 is provided. Access to the project site is provided via its intersection with Condit Road.

Condit Road is designated as a collector per the City of Morgan Hill 2035 General Plan and is a two-lane north-south roadway that extends from Half Road southward to Tennant Avenue. The posted speed limit on Condit Road is 45 mph. Access to the project site is provided via its transition to Half Road.

Existing Bicycle and Pedestrian Facilities

As defined by the Valley Transportation Authority (VTA), bicycle facilities include Class I bikeways (defined as off-street bike paths, which are shared with pedestrians and exclude general motor vehicle traffic), Class II bikeways (defined as striped bike lanes on street), and rated streets. The latter refers to streets frequently used by bicyclists, sharing the roadway with motor vehicles, and includes city-designated Class III bike routes. Rated streets include extreme caution (heavy traffic volumes with high traffic speeds), alert (moderate traffic volumes and speeds), and moderate (low traffic volumes and moderate to low traffic speeds). Class III bikeways only have signs to help guide bicyclists on recommended routes to certain locations.

In the project vicinity, bike lanes are currently provided along the extent of Cochrane Road and Mission View Drive north of Cochrane Road along the project's frontage. An unpaved bike path, the Madrone Channel Trail, runs along the east side of US 101, between Tennant Avenue and Cochrane Road.

The remaining bicycle facilities in the area are located beyond the immediate project vicinity. Bike lanes are currently provided along the following roadways:

- Main Avenue, between Live Oak High School and Peak Avenue;
- Dunne Avenue west of Gallop Drive;
- Hill Road between Dunne Avenue and Diana Avenue;
- Murphy Avenue between Dunne Avenue and Kelly Park Circle;
- Butterfield Boulevard, along its entire length;
- Sutter Boulevard, between Cochrane Road and Butterfield Boulevard;
- Central Avenue, between Butterfield Boulevard and its termination point west of US 101;
- Monterey Road, nearly its entire length within City of Morgan Hill limits, with the exception of the segment that runs through downtown between Dunne Avenue and Main Avenue;
- Tennant Avenue, between Condit Road and Olympic Drive
- Depot Street, along its entire length;
- Peak Avenue, between Dunne Avenue and Wright Avenue;
- Hale Avenue, between Main Avenue and north of the City of Morgan Hill.

Other bicycle facilities in the City include the following:

- A bike route on Monterey Road, between Dunne Avenue and Main Avenue;

- A paved bike path on the east side of Butterfield Boulevard, between San Pedro Avenue and Central Avenue.
- Along the west bank of Little Llagas Creek, extending from Watsonville Road north to Spring Avenue.

The existing bicycle facilities in the study area are presented graphically in Figure 3.

Pedestrian facilities in the study areas consist primarily of sidewalks, pedestrian push buttons, marked crosswalks, and signal heads at signalized intersections. Sidewalks are provided along at least one of the sides of the following roadways in the vicinity of the project site:

Cochrane Road – sidewalks are provided along the north side of the street between Butterfield Boulevard and White Moon Drive. Along the south side of the street, sidewalks are provided from Monterey Road just east of Mission View Drive with the exception of the segments between US 101 northbound ramps and De Paul Drive and a short segment west of Mission View Drive.

Mission View Drive – sidewalks are provided along the east side of the street between the northern end of Mission View Drive (at Eagle View Drive) until approximately 950 feet north of its intersection with Half Road. There are no sidewalks along the west side of Mission View Drive, with the exception of curb ramps located at the northwest and southwest corners of the Mission View Drive and Cochrane Road intersection.

Sidewalks are not provided on either side of De Paul Drive with the exception of the short segment near the existing Target store.

Existing Transit Service

Existing transit service to the study area is provided by the VTA and Caltrain. The transit services are described below and shown in Figure 4.

VTA Bus Services

The study area is served directly by one local bus (Local Bus Route 87). In addition, Rapid Route 568 operates along Cochrane Road west of US 101.

Local Bus Route 87 operates on Cochrane Road, Mission View Drive, and Half Road in the study area. It runs from Burnett Avenue to the Civic Center (Main and Dewitt) in Morgan Hill. Route 87 operates between 7:00 AM and 6:00 PM with approximately 60-minute headways in the AM and PM commute periods. The nearest Route 87 bus stops to the project site are located near the De Paul Drive and Cochrane Road intersection.

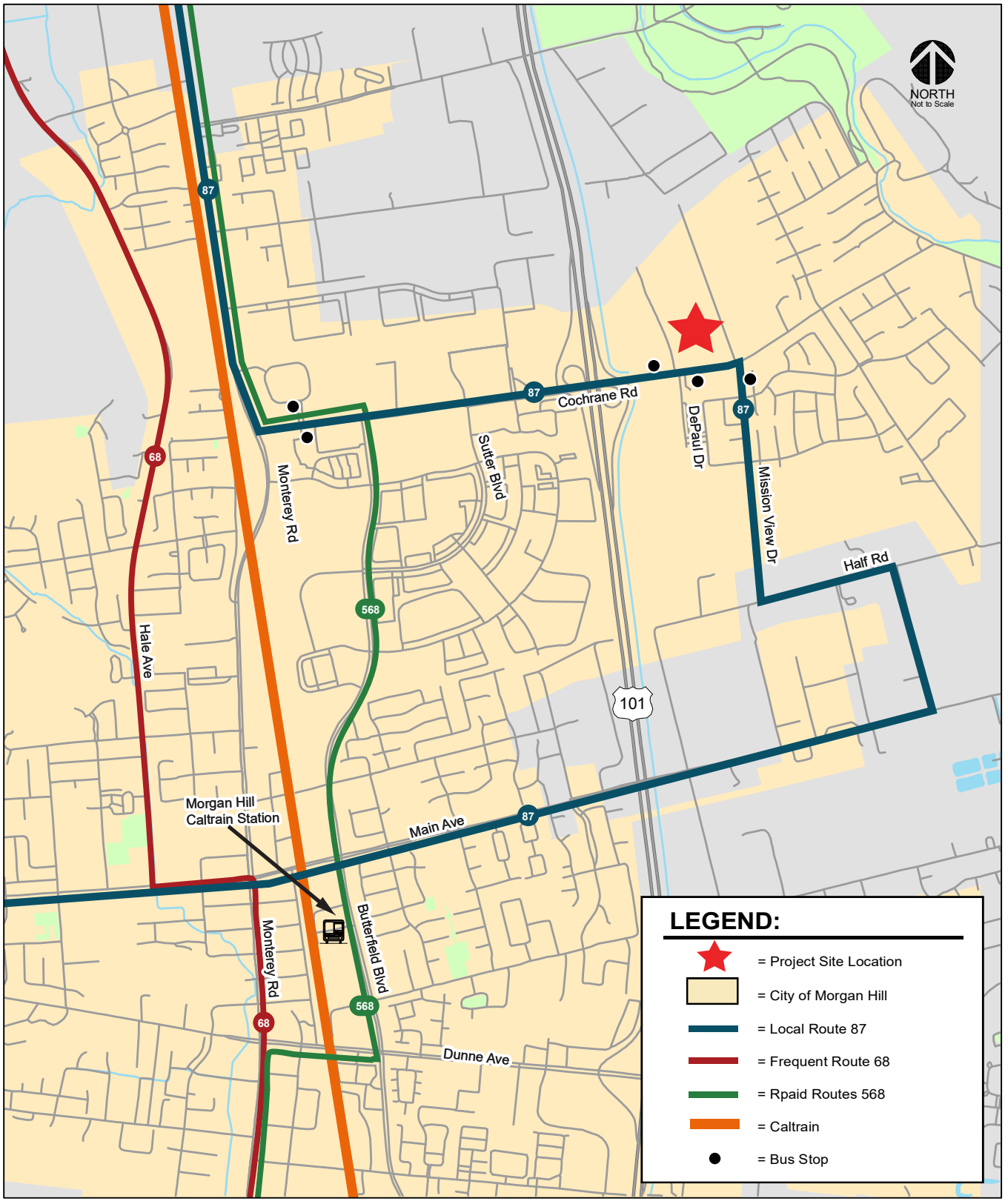
Rapid Route 568 operates on Butterfield Boulevard and Cochrane Road on its route between the Gilroy Transit Center and the San Jose Diridon Transit Center. Route 568 operates between 5:30 AM and 8:00 PM with approximately 30-minute headways in the peak commute periods. The nearest Route 568 bus stops to the project site are located near the Cochrane Circle and Cochrane Road intersection, approximately one mile west of the project site.

Caltrain

Commuter rail service between San Francisco and Gilroy is provided by Caltrain. The Morgan Hill Caltrain Station is located along Depot Street, with main access and parking off of Butterfield Boulevard, approximately 2.5 miles west of the project site. At the Morgan Hill Station, Caltrain provides only three northbound trains during the morning commute period with approximately 30-minute headways and only three southbound trains during the afternoon commute period with approximately 40- to 80-minute headways.

Figure 3
Existing Bicycle Facilities

Figure 4
Existing Transit Services



3. CEQA VMT Evaluation

This chapter provides an evaluation of the proposed project's effect on Vehicle Miles Traveled (VMT). Pursuant to Senate Bill (SB) 743, the California Environmental Quality Act (CEQA) 2019 Update Guidelines Section 15064.3, subdivision (b) states that VMT will be the metric in analyzing transportation impacts for land use projects for CEQA purposes.

VMT Evaluation Methodology

VMT is the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT measures the full distance of personal motorized vehicle trips with one end within the project. Typically, development projects that are farther from other, complementary land uses (such as a business park far from housing) and in areas without transit or active transportation infrastructure (bike lanes, sidewalks, etc.) generate more driving than development near complementary land uses with more robust transportation options. Therefore, developments located in a central business district with high density and diversity of complementary land uses and frequent transit services are expected to internalize trips and generate shorter and fewer vehicle trips than developments located in a suburban area with low density of residential developments and no transit serve in the project vicinity.

To determine whether a project would result in CEQA transportation impacts related to VMT, VTA has developed a VMT Evaluation Tool to streamline the analysis for development projects. However, the VMT tool is not capable of estimating VMT for non-residential or non-office/industrial uses. For non-residential or non-office projects, very large projects, or projects that can potentially shift travel patterns, a Travel Demand Forecasting (TDF) model must be used to determine project VMT. The VTA's VMT tool was used to estimate VMT for the residential uses proposed by the project. However, since the proposed project will include retail for which the VMT tool is not capable of estimating VMT, the VTA's Countywide TDF model was utilized to complete the VMT evaluation for the proposed retail uses.

VTA VMT Evaluation Tool

The VTA VMT Evaluation Tool provides a streamlined method to determine whether residential and office/industrial uses of a proposed development would result in CEQA transportation impacts related to VMT. The VMT tool identifies the existing average VMT per capita and VMT per employee for the project area based on the assessor's parcel number (APN) of a project. Based on the project location, type of development, project description, and proposed trip reduction measures, the evaluation tool

calculates the project VMT. Projects located in areas where the existing VMT is above the established threshold are referred to as being in "high-VMT areas". Projects in high-VMT areas are required to include a set of VMT reduction measures that would reduce the project VMT to the greatest extent possible.

VTA Countywide Travel Demand Forecasting Model

Hexagon utilized the VTA Countywide transportation model to complete the VMT evaluation for the proposed retail uses of the project. The VTA model can provide VMT projections for the County as well as cities within the County and is readily available and up to date in terms of regional land use and forecasting methodology. The VTA model is a mathematical representation of travel within Santa Clara County and is mainly composed of four components: 1) trip generation, 2) trip distribution, 3) mode choice, and 4) trip assignment. The model uses socioeconomic inputs (i.e. households, number of jobs, travel mode-share defaults) to estimate travel within Santa Clara County. Socioeconomic inputs are aggregated into geographic areas or traffic analysis zones (TAZs). There are 1,490 TAZs within the model to represent Santa Clara County. The City of Morgan Hill is represented by 34 TAZs.

VMT Policies and Impact Criteria

A project's VMT is compared to established thresholds of significance based on the project location and type of development. When assessing a residential project, the project's VMT is divided by the number of residents expected to occupy the project to determine the VMT per capita. When assessing an office or industrial project, the project's VMT is divided by the number of employees to determine the VMT per employee/job. Retail uses are assessed based on their effects on total VMT.

To adhere to the state's legislation, the City of Morgan Hill is currently developing the framework for new transportation policies based on the implementation of VMT as the primary measure of transportation impacts for CEQA purposes. The new policies will replace the City's current transportation policies that are based on levels of service. However, since the City has not formally adopted its own City-specific VMT policies, this study utilizes VMT analysis methodology and impact thresholds recommended in the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018. The impact criteria and thresholds used for the evaluation of the proposed project are described below.

Residential Use Impact Thresholds

As stated in the technical advisory, OPR recommends an impact threshold of 15% below the existing VMT levels for residential land uses. OPR allows the existing VMT to be measured as regional or citywide VMT per capita. Therefore, 15% below the citywide residential VMT per capita is used as the impact threshold for the evaluation of the residential uses of the project. The VTA's VMT Evaluation Tool indicates that the citywide average VMT per capita is currently 24.64. Therefore, the OPR recommended impact threshold of 15% below the citywide average VMT per capita equates to 20.94 VMT per capita.

Residential Impact Threshold: ***20.94 VMT per Capita***

Retail Use Impact Thresholds

The thresholds of significance for retail development projects, as recommended in the OPR technical advisory, are based on the existing regional average total VMT. However, the proposed retail uses are not reflective of larger regional retail development, such as large shopping centers, which would attract new trips from outside the general city limits. Rather, the proposed retail uses of the project will

redistribute trips that are currently made to other surrounding similar retail uses and result in shorter and fewer vehicular trips. Therefore, the total VMT for all existing retail development within selected TAZs of the TDF model, from which trips would be redistributed to the project site, serves as the baseline from which the retail uses of the project are evaluated. Per the technical advisory, projects that include retail uses are said to create a significant adverse impact on VMT when the project results in any increase in the total VMT.

Retail Impact Threshold: ***Any Increase in VMT***

Hotel Uses

For mixed-use projects, OPR allows lead agencies to evaluate only the project's dominant use. Since the proposed residential and retail components of the project would be the dominant land use (both residential and retail uses would generate a much greater number of daily trips when compared with the proposed hotel uses), the CEQA impact evaluation for the project is based only on the residential and retail components of the project.

VMT Evaluation

Residential VMT

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT for residential uses in the project vicinity is 31.68 VMT per capita. The results also indicate that the project is projected to generate VMT per capita (28.51), which would exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the residential component of the project would result in an impact on the transportation system based on OPR's VMT impact criteria.

The VTA VMT Evaluation Tool output sheets are shown in Figure 5 and also included in Appendix A.

Retail VMT

The VTA Travel Forecasting Model (VTA Model) was used to estimate VMT for the proposed retail use of the project site. The VTA Model was used since it can estimate the diversion of traffic and change in traffic patterns due to land use changes/additions like those proposed by the project. The retail uses of the proposed project are not reflective of larger regional retail development, such as large shopping centers, which would attract new trips from outside the City of Morgan Hill. Rather, the proposed retail use of the project will result in a redistribution +of trips that are currently made to other surrounding similar retail uses located outside the immediate project area and city limits. The underlying premise is that the proposed retail would not cause an increase in trips but rather result in a change in trip making because some people would shop at the proposed retail center instead of shopping at other nearby retail centers.

In order to estimate the impact on VMT for the proposed retail uses with the model, the project's 140,000 square feet of commercial building area was converted to 350 retail jobs, using a ratio of one retail job per 400 square feet. Hexagon has prepared a map of similar neighborhood shopping areas near the project site (see Figure 6). For the purpose of modeling VMT, some employees were assumed to leave their jobs at these nearby shopping centers and go to work at the proposed project site. In order to reflect this, retail jobs from TAZs 332, 336, and 348 were shifted to project TAZ 334. These job changes were made in the 2015 base year land use file. The VTA model was then run without and with the project. Daily VMT for work and shop trips, without and with the project, were calculated for the affected TAZs to estimate the change in daily VMT.

Figure 5
Residential VMT Analysis

Santa Clara Countywide VMT Evaluation Tool - Version 2 - Report

Valley Transportation Authority

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Metric 1:	Home-based VMT per Capita
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	24.64
VMT Threshold Description 1 / Threshold Value 1:	-15% / 20.94
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	31.68	28.51	25.34
Low VMT Screening Analysis	No (Fail)	No (Fail)	No (Fail)

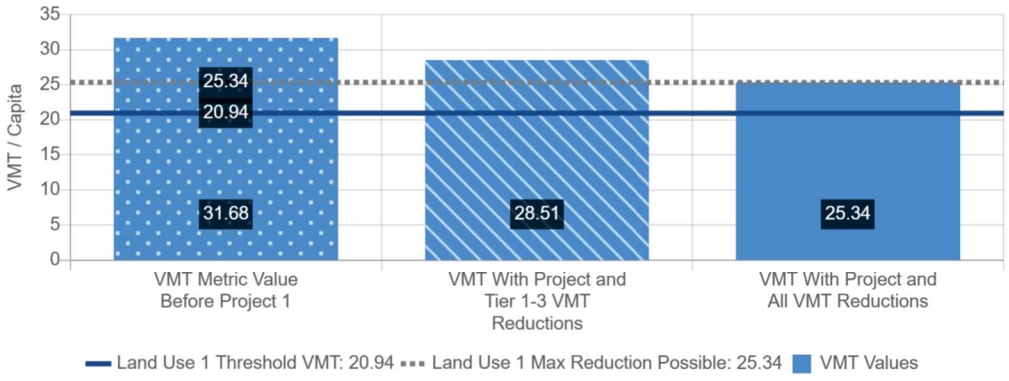
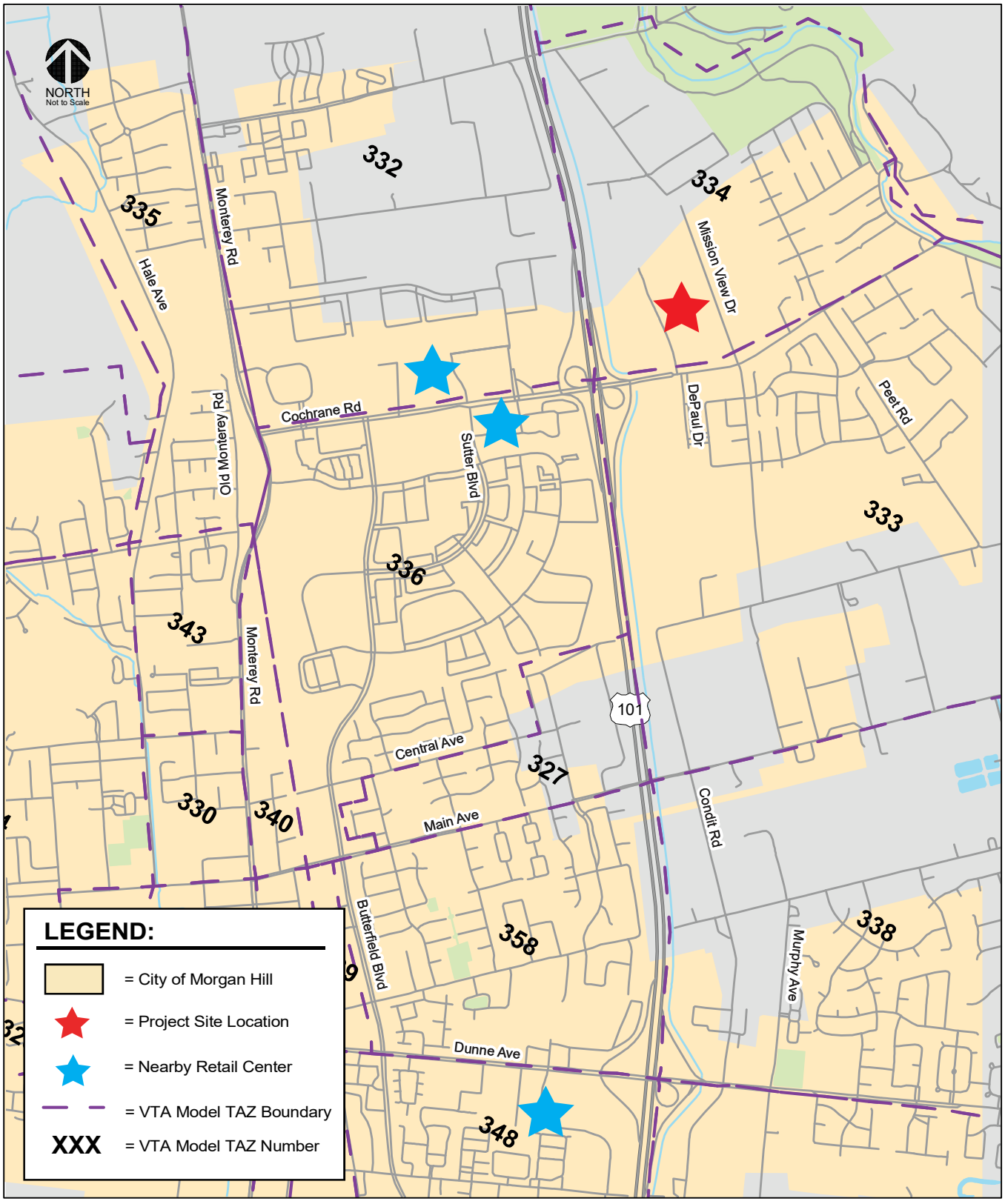


Figure 6
Similar Retail Centers in the Project Vicinity



The model results summarized in Table 1 show that the retail component of the project would cause a net decrease of 4,354 VMT per day. The work trips would result in 1,231 fewer daily VMT and the shopping trips would account for a decrease of 3,123 daily VMT. Therefore, the proposed retail uses of the project would not result in an impact on the transportation system based on OPR's recommended VMT impact criteria.

The total decrease of 4,354 in daily VMT for the retail center is largely caused by the addition of 498 housing units, which is part of the project. The close proximity of housing units near the retail center results in work and shopping opportunities nearby and would result in shorter trips for workers and retail customers.

Table 1
Retail VMT Analysis

VMT Analysis for TAZ's with Shifted Jobs	No Project	Project	Project - No Project
Home-Based Work VMT	161,830	160,599	-1,231
Home-Based Shop VMT	140,496	137,373	-3,123
Total VMT	302,326	297,972	**-4,354**

VMT Impacts and Mitigation

Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 27% reduction (28.51 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant levels. However, per the VMT tool, the maximum reduction possible is 25.34. Further reductions in VMT are not likely feasible for residential projects due to the limited alternative modes of transportation and supporting employment land uses within the City.

The project's VMT per capita could be reduced to 25.34 with the implementation of the following Travel Demand Management (TDM) strategies, however, the reduced VMT per capita would still be greater than the OPR's recommended impact threshold of 20.94 VMT per capita.

- TP01 – School Pool Programs: Organize a program that matches families in carpools for school pick-up and drop-off of all households from the project. Organizing a school pool program helps match parents who transport students to schools without a busing program, including private schools, charter schools, and neighborhood schools where students cannot walk or bike. The school pool program would be open to all families in the development. School pools reduce the total number of vehicle trips traveling to and from schools, thereby reducing VMT. **and**
- TP07 – Subsidized of Discounted Transit Programs: Provide fully (100%) subsidized transit passes for all project residents. Providing subsidies for transit use encourages people to use transit rather than driving, thereby reducing VMT. **and**
- TP14 – Transit Service Expansion: The project subsidizes transit service through fees and contributions to the transit provider, thereby improving transit service to the project, resulting in increased use of transit and reduced VMT. **and**
- TP18 – Voluntary Travel Behavior Change Programs: Provide a program that targets individual attitudes towards travel and providing tools for individuals to analyze and alter their travel behavior with 100% expected resident participation. These programs include mass

communication campaigns and travel feedback programs, such as travel diaries or feedback on calories burned from activities and travel. This strategy encourages the use of shared ride modes, transit, walking, and biking, thereby reducing VMT.

OPR's recommended 15% below existing VMT impact threshold encourages developments in transit-rich, highly mixed-use areas to implement design features and trip reduction measures to take advantage of existing multi-model infrastructure and land use mixes in reducing trip making and/or trip lengths. However, many communities such as Morgan Hill have very limited multi-modal transportation infrastructure and lack a mix of complementary land uses. The lack of employment in these communities along with minimal transit options results in a greater number and longer commute trips. Therefore, it is highly unlikely that developments like the proposed project in these cities can achieve OPR's recommended 15% reduction in VMT. Therefore, absent of the City adopting its own City-specific VMT policies and impact thresholds, the proposed project's VMT impact must be deemed significant and unavoidable.

4. Other Transportation Issues

This chapter presents an analysis of other transportation issues associated with the project site, including:

- Vehicular site access
- A review of required on-site parking
- On-site circulation
- Intersection operations analysis – vehicle queuing and left-turn pocket storage at intersections
- Potential impacts to bike, pedestrian and transit facilities

Unlike the level of service impact methodology, which is adopted by the City Council, the analyses in this chapter are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community. Any recommended transportation improvements identified as part of the review may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

Site Access and Circulation

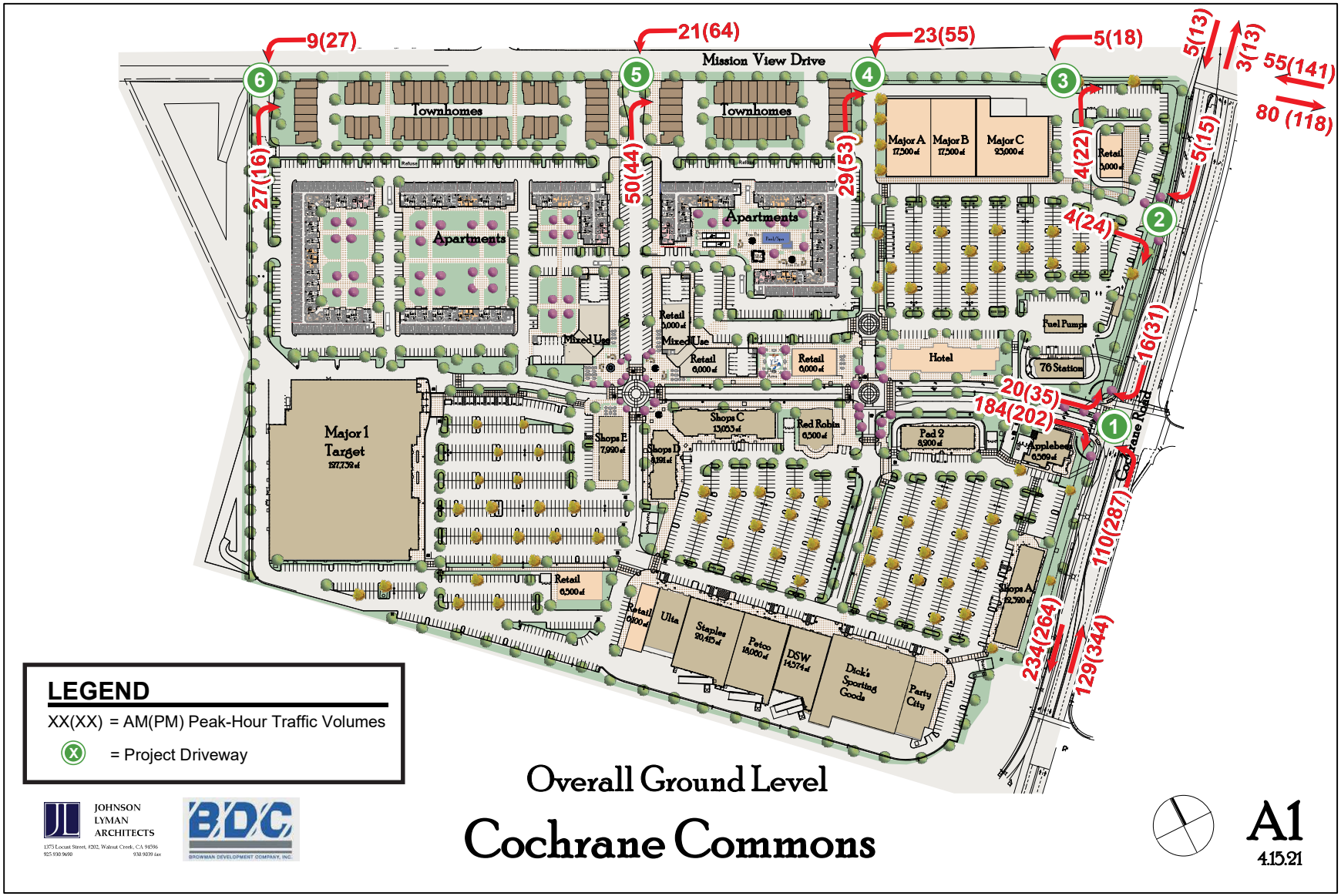
The site plan for the proposed project was reviewed to determine if adequate site access is provided and to identify any access and circulation issues that should be improved. This review was completed in accordance with generally accepted traffic engineering standards.

Site Access

Access to the project site is proposed via a new right-turn only driveway along Cochrane Road as well as the existing signalized Cochrane Road/De Paul Drive intersection. Four driveways also are proposed along Mission View Drive. The project would include frontage improvements along Mission View Drive to include curb, gutter and sidewalk along with the new access points. Project trips at each of the site access points are presented in Figure 7.

Based on the project trip generation and trip assignment, a maximum of 64 peak-hour left-turns into the project driveways are projected during the PM peak hour along Mission View Drive. Mission View Drive would have a minimal amount of traffic along the project's frontage, thus queuing and operational issues would not occur at the project driveways along Mission View Drive. However, a center striped median should be provided along Mission View Drive as part of the project site frontage improvements.

Figure 7
Proposed Project Trips at Site Access Points



Recommendation: A center-striped median should be provided along Mission View Drive between Cochrane Road and the northern project site driveway. The current width of Mission View Drive along the project frontage is not adequate to provide left-turn pockets into the project driveways. Mission View Drive would need to be widened along its west side, along the project frontage to provide striped left-turn pockets into the project site as well as streets along the east side of Mission View Drive. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

On-Site Circulation

The site plan shows two primary internal access roadways running between De Paul Drive and Mission View Drive. Access to each of the proposed retail buildings, townhome units, apartment complexes, and parking areas will be provided by secondary roadways and drive aisles that connect to the primary access roadways and each of the site driveways. The straight nature of the primary internal roadways running between De Paul Drive and Mission View Drive could result in drivers traveling at greater speeds than recommended. Therefore, it may be desirable to implement speed-reducing measures along the internal roadways. These measures could include the installation of speed bumps/humps, bulb-outs at drive aisle intersections, and parking along the primary internal roadways.

Recommendation: Speed-reducing measures such as speed bumps/humps, bulb-outs at drive aisle intersections, and parking should be considered along the two primary internal access roadways running between De Paul Drive and Mission View Drive. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

There are no dead-end aisles on site, except for those located within the townhome area, present allowing for continuous circulation within the project site. The dead-end aisles within the townhome area should not be problematic as the drive aisles provide access to only the private townhome garages.

Recommendation: Signage should be placed at the entrances to the townhouse drive aisles restricting access to residents only. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

The site plan is conceptual only and does not show detail in regard to widths of the internal access roadways and drive aisles. The project site should be designed following City of Morgan Hill design standards and provide adequate width and turn-radii at and along all drive/parking aisles to allow for two-way circulation and adequate circulation of larger vehicles (such as emergency trucks, garbage trucks, and delivery trucks) throughout the project site. Adhering to the City of Morgan Hill standards and requirements, and implementing the above recommendations, the proposed site access points and layout of the surface parking areas would be adequate to accommodate the circulation of both passenger and emergency vehicles.

Emergency Vehicle Access and Circulation

The internal roadways and drive aisles would need to be at least 20 feet wide to provide emergency vehicles (fire trucks) sufficient space to access each of the residential units, retail and hotel uses on-site. There are several dead-end drive aisles located within the townhome area that would not provide sufficient space for emergency vehicles to turn around. However, the dead-ends will be located along short segments of roadways. Thus, vehicles would be able to back out of the roadways.

Intersection Operations Analysis

The analysis of the intersection level of service was supplemented with an analysis of intersection operations for selected intersections where the project would add a significant number of left-turning vehicles. The operations analysis is based on vehicle queuing for high-demand left-turn movements at intersections. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-(\lambda)}}{n!}$$

Where:
P (x=n) = probability of "n" vehicles in queue per lane
n = number of vehicles in the queue per lane
λ = average number of vehicles in the queue per lane (vehicles per hour per lane/signal cycles per hour)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile number of queued vehicles per cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated 95th percentile queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future left-turn storage requirements at intersections. The 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles. Likewise, a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during the peak hour for a signal with a 60-second cycle length).

Therefore, left-turn storage pocket designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time. The 95th percentile queue length is also known as the "design queue length".

The vehicle queue estimates and a tabulated summary of the findings are provided in Table 2. The vehicular queuing analysis (Poisson probability calculations) is included in Appendix B.

Mission View Drive and Cochrane Road

The queuing analysis indicates that the estimated 95th vehicle queue for northbound left-turn movement at the Cochrane Road and Mission View Drive intersection currently exceeds the provided turn pocket storage space during the AM and PM peak hours under existing conditions.

The northbound left-turn pocket currently provides approximately 100 feet of vehicle storage, which can accommodate approximately 4 vehicles. The estimated 95th percentile vehicle queues for the northbound left-turn movement currently are approximately 14 and 6 vehicles during the AM and PM peak hours under existing conditions, respectively.

The addition of project traffic is not projected to lengthen the projected queue during the AM peak hour. However, the addition of project traffic is projected to lengthen the projected queue by one vehicle or 25 feet during the PM peak hour under existing plus project conditions, which would exceed the existing storage capacity by 75 feet.

Recommendation: The northbound left-turn pocket can be lengthened by 250 feet to accommodate the projected queue during the AM peak hour. However, a second northbound left-turn lane is recommended to improve intersection operations. The recommended improvements may be included

Table 2
Vehicle Queuing Analysis

Measurement	Cochrane Road and DePaul Drive				Mission View Drive and Cochrane Road			
	Southbound Left		Eastbound Left		Eastbound Left		Northbound Left	
	AM	PM	AM	PM	AM	PM	AM	PM
Existing Conditions								
Cycle Length (sec)	60	60	60	60	60	60	60	60
Lanes	1	1	2	2	1	1	1	1
Volume (vph)	39	142	196	446	16	63	536	192
Volume (vphpl)	39	142	98	223	16	63	536	192
95th %. Queue (veh/ln.)	2	5	4	7	1	3	14	6
95th %. Queue (ft./ln)[1]	50	125	100	175	25	75	350	150
Storage (ft./ ln.)	450	450	275	275	225	225	100	100
Adequate (Y/N)	YES	YES	YES	YES	YES	YES	**NO**	**NO**
Existing Plus Proposed Project Conditions								
Cycle Length (sec)	60	60	60	60	60	60	60	60
Lanes	1	1	2	2	1	1	1	1
Volume (vph)	59	177	306	733	35	120	554	234
Volume (vphpl)	59	177	153	367	35	120	554	234
95th %. Queue (veh/ln.)	3	6	5	10	2	5	14	7
95th %. Queue (ft./ln)[1]	75	150	125	250	50	125	350	175
Storage (ft./ ln.)	450	450	275	275	225	225	100	100
Adequate (Y/N)	YES	YES	YES	YES	YES	YES	**NO**	**NO**

Notes:
[1] Assumes 25 feet per vehicle queued

as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

Project-generated traffic at other locations would be too low to have a measurable effect on queue lengths.

Parking

Based on Tables 18.72-2 and 18.72-3 of Section 18.72.030 of the Morgan Hill City Code, retail uses are required to provide one parking space per 250 s.f. and hotel uses are required to provide one parking space per guest room plus an additional space for every 10 rooms. Based on these requirements, the project will be required to provide 560 parking spaces for the proposed 140,000 s.f. of retail space and 165 parking spaces for the proposed 150-room hotel.

The townhomes are required to provide two covered parking spaces per unit, and the required parking spaces for the multi-family apartments are dependent upon the number of bedrooms in each unit. Since the breakdown of the townhomes vs. apartments and the number of bedrooms in each apartment unit are not available, the required parking spaces for residential uses cannot be determined.

Transit, Pedestrian, and Bicycle Analyses

Pedestrian Facilities

Sidewalks are provided along the east side of Mission View Drive and the north side of Cochrane Road in the immediate project area. However, sidewalks along the south side of Cochrane Road are intermittent, with no sidewalk currently provided between the US 101 northbound ramps and De Paul Drive, and a short segment west of Mission View Drive.

Project's Effect on Pedestrian Facilities

It can be expected that new pedestrian traffic would be generated by the proposed project. The project site is located within walking distance from other residential and commercial uses along Cochrane Road both east and west of US 101.

Controlled crossings at the intersections of Cochrane Road with Mission View Drive and De Paul Drive would provide a connection between the project site and the pedestrian generators in the project vicinity mentioned above.

The project would provide sidewalks along its entire frontages along Mission View Drive and result in a continuous connection to the existing sidewalks on the north side of Cochrane Road to provide a safe connection between the project site and other surrounding land uses in the area.

Bicycle Facilities

Bike lanes in the project vicinity are currently provided along the extent of Cochrane Road and Mission View Drive north of Cochrane Road along the project's frontage. An unpaved bike path, the Madrone Channel Trail, runs along the east side of US 101, between Tennant Avenue and Cochrane Road.

Project's Effect on Bicycle Facilities

The proposed project could increase the demand on bicycle facilities in the vicinity of the project site. Assuming bicycle trips would comprise no more than one percent of the total project-generated trips, the project could generate up to eight new bicycle trips during each of the peak hours. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site.

Transit Services

The project site is served by Local Route 87 with bus stops along Mission View Drive and Cochrane Road. In addition, Express Route 568 also provides service along Cochrane Road west of US 101. These two bus routes provide a connection to the Morgan Hill Caltrain Station located on the east side of Depot Street approximately 2.5 miles west of the project site. The Caltrain Station provides a connection to most transit lines serving Morgan Hill in addition to Caltrain.

Project's Effect on Transit Services

Since there is currently only one local bus route (Route 87) serving the City of Morgan Hill, the use of public transportation by residents of the proposed project would be limited. Nevertheless, assuming an estimated three percent transit mode share, which is probably the highest that could be expected for the project, equates to approximately no more than 24 new transit riders during each of the peak hours.

Recommendation: With the development of the project, as well as other ongoing residential development along Cochrane Road in the vicinity of the project site, there will be an opportunity for VTA to expand the existing service area to this part of the City, which is currently underserved. A bus stop could be provided along the project site frontage along Mission View Drive to serve the project site and adjacent residential neighborhoods. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

5. Conclusions

The potential impacts of the project were evaluated in accordance with the California Environmental Quality Act (CEQA) guidelines and the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

A supplemental traffic operations analysis, provided in a separate report, also was completed to demonstrate the project's consistency with the *Morgan Hill 2035 General Plan* goals and policies. The traffic operations analysis supplements the CEQA required VMT analysis. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

CEQA VMT Analysis

Residential VMT

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT for residential uses in the project vicinity is 31.68 VMT per capita. The results also indicate that the project is projected to generate VMT per capita (28.51), which would exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the residential component of the project would result in an impact on the transportation system based on OPR's VMT impact criteria.

Retail VMT

The model results show that the retail component of the project would cause a net decrease of 4,354 VMT per day. The work trips would result in 1,231 fewer daily VMT and the shopping trips would account for a decrease of 3,123 daily VMT. Therefore, the proposed retail uses of the project would not result in an impact on the transportation system based on OPR's recommended VMT impact criteria.

Hotel VMT

For mixed-use projects, OPR allows lead agencies to evaluate only the project's dominant use. Since the proposed residential and retail components of the project would be the dominant land use (both residential and retail uses would generate a much greater number of daily trips when compared with

the proposed hotel uses), the CEQA impact evaluation for the project is based only on the residential and retail components of the project.

VMT Impacts and Mitigation

Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 27% reduction (28.51 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant levels. However, per the VMT tool, the maximum reduction possible is 25.34. Further reductions in VMT are not likely feasible for residential projects due to the limited alternative modes of transportation and supporting employment land uses within the City.

The project's VMT per capita could be reduced to 25.34 with the implementation of the following Travel Demand Management (TDM) strategies, however, the reduced VMT per capita would still be greater than the OPR's recommended impact threshold of 20.94 VMT per capita.

- TP01 – School Pool Programs: Organize a program that matches families in carpools for school pick-up and drop-off of all households from the project. Organizing a school pool program helps match parents who transport students to schools without a busing program, including private schools, charter schools, and neighborhood schools where students cannot walk or bike. The school pool program would be open to all families in the development. School pools reduce the total number of vehicle trips traveling to and from schools, thereby reducing VMT. **and**
- TP07 – Subsidized of Discounted Transit Programs: Provide fully (100%) subsidized transit passes for all project residents. Providing subsidies for transit use encourages people to use transit rather than driving, thereby reducing VMT. **and**
- TP14 – Transit Service Expansion: The project subsidizes transit service through fees and contributions to the transit provider, thereby improving transit service to the project, resulting in increased use of transit and reduced VMT. **and**
- TP18 – Voluntary Travel Behavior Change Programs: Provide a program that targets individual attitudes towards travel and providing tools for individuals to analyze and alter their travel behavior with 100% expected resident participation. These programs include mass communication campaigns and travel feedback programs, such as travel diaries or feedback on calories burned from activities and travel. This strategy encourages the use of shared ride modes, transit, walking, and biking, thereby reducing VMT.

OPR's recommended 15% below existing VMT impact threshold encourages developments in transit-rich, highly mixed-use areas to implement design features and trip reduction measures to take advantage of existing multi-model infrastructure and land use mixes in reducing trip making and/or trip lengths. However, many communities such as Morgan Hill have very limited multi-modal transportation infrastructure and lack a mix of complementary land uses. The lack of employment in these communities along with minimal transit options results in a greater number and longer commute trips. Therefore, it is highly unlikely that developments like the proposed project in these cities can achieve OPR's recommended 15% reduction in VMT. Therefore, absent of the City adopting its own City-specific VMT policies and impact thresholds, the proposed project's VMT impact must be deemed significant and unavoidable.

Other Transportation Issues

Site Access

Access to the project site is proposed via a new right-turn only driveway along Cochrane Road as well as the existing signalized Cochrane Road/De Paul Drive intersection. Four driveways also are proposed along Mission View Drive. The project would include frontage improvements along Mission View Drive to include curb, gutter and sidewalk along with the new access points.

On-Site Circulation

The site plan shows two primary internal access roadways running between De Paul Drive and Mission View Drive. Access to each of the proposed retail buildings, townhome units, apartment complexes, and parking areas will be provided by secondary roadways and drive aisles that connect to the primary access roadways and each of the site driveways. The straight nature of the primary internal roadways running between De Paul Drive and Mission View Drive could result in drivers traveling at greater speeds than recommended. Therefore, it may be desirable to implement speed-reducing measures along the internal roadways. These measures could include the installation of speed bumps/humps, bulb-outs at drive aisle intersections, and parking along the primary internal roadways.

Recommendation: Speed-reducing measures such as speed bumps/humps, bulb-outs at drive aisle intersections, and parking should be considered along the two primary internal access roadways running between De Paul Drive and Mission View Drive. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

There are no dead-end aisles on site, except for those located within the townhome area, present allowing for continuous circulation within the project site. The dead-end aisles within the townhome area should not be problematic as the drive aisles provide access to only the private townhome garages.

Recommendation: Signage should be placed at the entrances to the townhouse drive aisles restricting access to residents only. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

Emergency Vehicle Access and Circulation

The internal roadways and drive aisles would need to be at least 20 feet wide to provide emergency vehicles (fire trucks) sufficient space to access each of the residential units, retail and hotel uses on-site. There are several dead-end drive aisles located within the townhome area that would not provide sufficient space for emergency vehicles to turn around. However, the dead-ends will be located along short segments of roadways. Thus, vehicles would be able to back out of the roadways.

Intersection Operations Analysis

The queuing analysis also indicates that the maximum vehicle queue for northbound left-turn movement at the Cochrane Road and Mission View Drive intersection currently exceeds the provided turn pocket storage space during the AM and PM peak hours under existing conditions.

The addition of project traffic is not projected to lengthen the projected queue during the AM peak hour. However, the addition of project traffic is projected to lengthen the projected queue by one vehicle or 25 feet during the PM peak hour under existing plus project conditions, which would exceed the existing storage capacity by 75 feet.

Recommendation: The northbound left-turn pocket can be lengthened by 250 feet to accommodate the projected queue during the AM peak hour. However, a second northbound left-turn lane is recommended to improve intersection operations. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

Project Driveway Operations

Based on the project trip generation and trip assignment, a maximum of 64 peak-hour left-turns into the project driveways are projected during the PM peak hour along Mission View Drive. Mission View Drive would have a minimal amount of traffic along the project's frontage, thus queuing and operational issues would not occur at the project driveways along Mission View Drive. However, a center striped median should be provided along Mission View Drive as part of the project site frontage improvements.

Recommendation: A center-striped median should be provided along Mission View Drive between Cochrane Road and the northern project site driveway. The current width of Mission View Drive along the project frontage is not adequate to provide left-turn pockets into the project driveways. Mission View Drive would need to be widened along its west side, along the project frontage to provide striped left-turn pockets into the project site as well as streets along the east side of Mission View Drive. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.

Parking

Based on Tables 18.72-2 and 18.72-3 of Section 18.72.030 of the Morgan Hill City Code, retail uses are required to provide one parking space per 250 s.f. and hotel uses are required to provide one parking space per guest room plus an additional space for every 10 rooms. Based on these requirements, the project will be required to provide 560 parking spaces for the proposed 140,000 s.f. of retail space and 165 parking spaces for the proposed 150-room hotel.

The townhomes are required to provide two covered parking spaces per unit, and the required parking spaces for the multi-family apartments are dependent upon the number of bedrooms in each unit. Since the breakdown of the townhomes vs. apartments and the number of bedrooms in each apartment unit are not available, the required parking spaces for residential uses cannot be determined.

Transit, Pedestrian, and Bicycle Analysis

Project's Effect on Pedestrian Facilities

It can be expected that new pedestrian traffic would be generated by the proposed project. The project site is located within walking distance from other residential and commercial uses along Cochrane Road both east and west of US 101.

Controlled crossings at the intersections of Cochrane Road with Mission View Drive and De Paul Drive would provide a connection between the project site and the pedestrian generators in the project vicinity mentioned above.

Cochrane Commons Mixed-Use Development

Technical Appendices

May 26, 2022

Appendix A

VTA VMT Evaluation Tool Output Sheets

Project Details

Timestamp of Analysis	May 26, 2022, 08:29:55 AM
Project Name	Cochrane Commons Mixed-Use Development
Project Description	498 townhomes/apartments, 140,000 s.f.of retail space, and a 150-room hotel

Project Location Map

Jurisdiction:

Morgan Hill

APN	TAZ
72837056	334
72837067	334
72837052	334
72837068	334
72837051	334
72837044	334
72837045	334
72837046	334
72837049	334
72837050	334

APN	TAZ
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72837041	334
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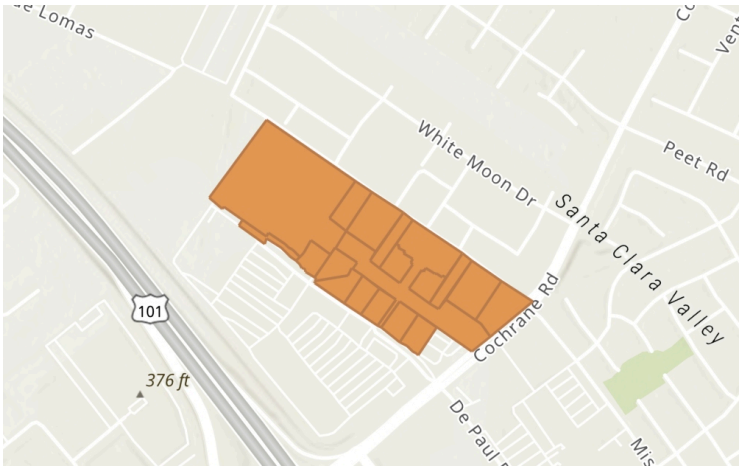
72837043	334



Analysis Details

Data Version	VTA Countywide Model December 2019
Analysis Methodology	Parcel Buffer Method
Baseline Year	2015

Project Land Use

Residential:

Single Family DU:	498
Multifamily DU:	
Total DUs:	498

Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

Residential Affordability (percent of all units):

Extremely Low Income:	0 %
Very Low Income:	0 %
Low Income:	0 %

Parking:

Motor Vehicle Parking:

Bicycle Parking:

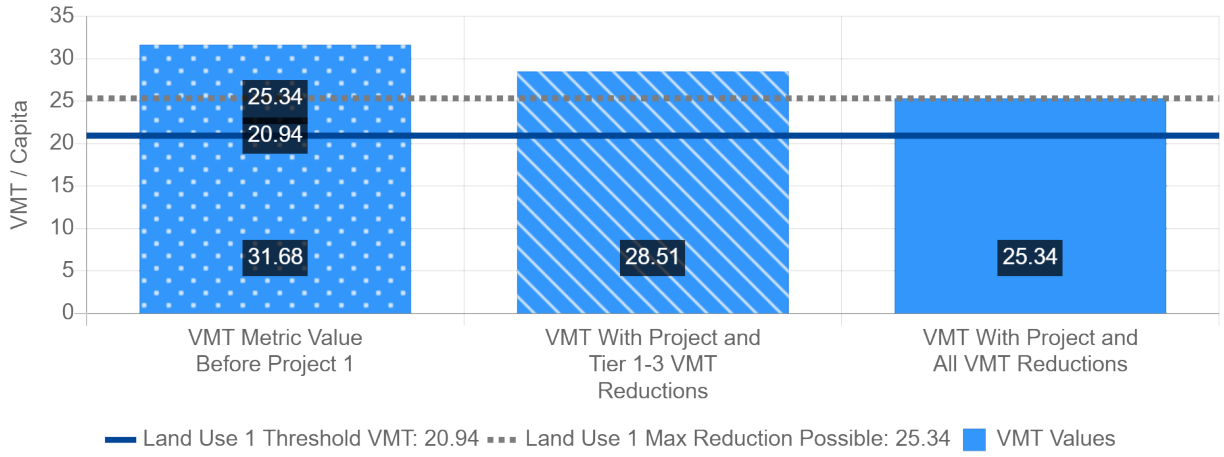
Proximity to Transit Screening

Inside a transit priority area? No (Fail)

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Metric 1:	Home-based VMT per Capita
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	24.64
VMT Threshold Description 1 / Threshold Value 1:	-15% / 20.94
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	31.68	28.51	25.34
Low VMT Screening Analysis	No (Fail)	No (Fail)	No (Fail)



Tier 1 Project Characteristics

PC01 Increase Residential Density

Existing Residential Density:	2.5
With Project Residential Density:	5.61

PC02 Increase Residential Diversity

Existing Residential Diversity Index:	0.53
With Project Residential Diversity Index:	0.33

PC03 Affordable Housing

PC04 Increase Employment Density

Existing Employment Density:	7.21
With Project Employment Density:	7.21

Tier 4 TDM Programs

TP01 School Pool Programs

School Pool Program Percent of Expected Participant Households:	100 %

TP07 Subsidized Transit Program

Percent of Transit Subsidy:	100 %

TP14 Transit Service Expansion

Percent Increase in Transit Frequency:	100 %
Percent of Routes Serving the Project with Upgrades:	100 %

TP18 Voluntary Travel Behavior Change Program

Percent of Behavior Program Participants :	100 %

Appendix B

Intersection Queuing Calculations

DePaul/Cochrane
SBT/L
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.7
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.4966	0.4966	0
0.3476	0.8442	1
0.1217	0.9659	2
0.0284	0.9942	3
0.0050	0.9992	4
0.0007	0.9999	5
0.0001	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
SBT/L
AM
Existing Plus Approved Project Conditions
Avg. Queue Per Lane in Veh= 1.0
Percentile = 95% 3

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.3679	0.3679	0
0.3679	0.7358	1
0.1839	0.9197	2
0.0613	0.9810	3
0.0153	0.9963	4
0.0031	0.9994	5
0.0005	0.9999	6
0.0001	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
SBT/L
AM
Existing Plus Proposed Project Conditions
Avg. Queue Per Lane in Veh= 1.0
Percentile = 95% 3

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.3679	0.3679	0
0.3679	0.7358	1
0.1839	0.9197	2
0.0613	0.9810	3
0.0153	0.9963	4
0.0031	0.9994	5
0.0005	0.9999	6
0.0001	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
SBT/L
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 2.4
Percentile = 95% 5

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0907	0.0907	0
0.2177	0.3084	1
0.2613	0.5697	2
0.2090	0.7787	3
0.1254	0.9041	4
0.0602	0.9643	5
0.0241	0.9884	6
0.0083	0.9967	7
0.0025	0.9991	8
0.0007	0.9998	9
0.0002	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
SBT/L
PM
Existing Plus Approved Project Conditions
Avg. Queue Per Lane in Veh= 4.4
Percentile = 95% 8

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0123	0.0123	0
0.0540	0.0663	1
0.1188	0.1851	2
0.1743	0.3594	3
0.1917	0.5512	4
0.1687	0.7199	5
0.1237	0.8436	6
0.0778	0.9214	7
0.0428	0.9642	8
0.0209	0.9851	9
0.0092	0.9943	10
0.0037	0.9980	11
0.0013	0.9993	12
0.0005	0.9998	13
0.0001	0.9999	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
SBT/L
PM
Existing Plus Proposed Project Conditions
Avg. Queue Per Lane in Veh= 3.0
Percentile = 95% 6

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0498	0.0498	0
0.1494	0.1991	1
0.2240	0.4232	2
0.2240	0.6472	3
0.1680	0.8153	4
0.1008	0.9161	5
0.0504	0.9665	6
0.0216	0.9881	7
0.0081	0.9962	8
0.0027	0.9989	9
0.0008	0.9997	10
0.0002	0.9999	11
0.0001	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
EBL
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 1.6
Percentile = 95% 4

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.2019	0.2019	0
0.3230	0.5249	1
0.2584	0.7834	2
0.1378	0.9212	3
0.0551	0.9763	4
0.0176	0.9940	5
0.0047	0.9987	6
0.0011	0.9997	7
0.0002	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
EBL
AM
Existing Plus Approved Project Conditions
Avg. Queue Per Lane in Veh= 2.1
Percentile = 95% 5

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.1225	0.1225	0
0.2572	0.3796	1
0.2700	0.6496	2
0.1890	0.8386	3
0.0992	0.9379	4
0.0417	0.9796	5
0.0146	0.9941	6
0.0044	0.9985	7
0.0011	0.9997	8
0.0003	0.9999	9
0.0001	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
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0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
EBL
AM
Existing Plus Proposed Project Conditions
Avg. Queue Per Lane in Veh= 2.6
Percentile = 95% 5

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0743	0.0743	0
0.1931	0.2674	1
0.2510	0.5184	2
0.2176	0.7360	3
0.1414	0.8774	4
0.0735	0.9510	5
0.0319	0.9828	6
0.0118	0.9947	7
0.0038	0.9985	8
0.0011	0.9996	9
0.0003	0.9999	10
0.0001	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
EBL
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 3.7
Percentile = 95% 7

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0247	0.0247	0
0.0915	0.1162	1
0.1692	0.2854	2
0.2087	0.4942	3
0.1931	0.6872	4
0.1429	0.8301	5
0.0881	0.9182	6
0.0466	0.9648	7
0.0215	0.9863	8
0.0089	0.9952	9
0.0033	0.9984	10
0.0011	0.9995	11
0.0003	0.9999	12
0.0001	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
EBL
PM
Existing Plus Approved Project Conditions
Avg. Queue Per Lane in Veh= 5.3
Percentile = 95% 9

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0050	0.0050	0
0.0265	0.0314	1
0.0701	0.1016	2
0.1239	0.2254	3
0.1641	0.3895	4
0.1740	0.5635	5
0.1537	0.7171	6
0.1163	0.8335	7
0.0771	0.9106	8
0.0454	0.9559	9
0.0241	0.9800	10
0.0116	0.9916	11
0.0051	0.9967	12
0.0021	0.9988	13
0.0008	0.9996	14
0.0003	0.9999	15
0.0001	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
EBL
PM
Existing Plus Proposed Project Conditions
Avg. Queue Per Lane in Veh= 6.1
Percentile = 95% 10

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0022	0.0022	0
0.0137	0.0159	1
0.0417	0.0577	2
0.0848	0.1425	3
0.1294	0.2719	4
0.1579	0.4298	5
0.1605	0.5902	6
0.1399	0.7301	7
0.1066	0.8367	8
0.0723	0.9090	9
0.0441	0.9531	10
0.0244	0.9776	11
0.0124	0.9900	12
0.0058	0.9958	13
0.0025	0.9984	14
0.0010	0.9994	15
0.0004	0.9998	16
0.0001	0.9999	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
EBL
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.3
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.7408	0.7408	0
0.2222	0.9631	1
0.0333	0.9964	2
0.0033	0.9997	3
0.0003	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
EBL
AM
Existing Plus Approved Project Conditions
Avg. Queue Per Lane in Veh= 1.2
Percentile = 95% 3

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.3012	0.3012	0
0.3614	0.6626	1
0.2169	0.8795	2
0.0867	0.9662	3
0.0260	0.9923	4
0.0062	0.9985	5
0.0012	0.9997	6
0.0002	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
EBL
AM
Existing Plus Proposed Project Conditions
Avg. Queue Per Lane in Veh= 0.6
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.5488	0.5488	0
0.3293	0.8781	1
0.0988	0.9769	2
0.0198	0.9966	3
0.0030	0.9996	4
0.0004	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
EBL
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 1.1
Percentile = 95% 3

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.3329	0.3329	0
0.3662	0.6990	1
0.2014	0.9004	2
0.0738	0.9743	3
0.0203	0.9946	4
0.0045	0.9990	5
0.0008	0.9999	6
0.0001	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
EBL
PM
Existing Plus Approved Project Conditions
Avg. Queue Per Lane in Veh= 4.2
Percentile = 95% 8

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0150	0.0150	0
0.0630	0.0780	1
0.1323	0.2102	2
0.1852	0.3954	3
0.1944	0.5898	4
0.1633	0.7531	5
0.1143	0.8675	6
0.0686	0.9361	7
0.0360	0.9721	8
0.0168	0.9889	9
0.0071	0.9959	10
0.0027	0.9986	11
0.0009	0.9996	12
0.0003	0.9999	13
0.0001	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
EBL
PM
Existing Plus Proposed Project Conditions
Avg. Queue Per Lane in Veh= 2.0
Percentile = 95% 5

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.1353	0.1353	0
0.2707	0.4060	1
0.2707	0.6767	2
0.1804	0.8571	3
0.0902	0.9473	4
0.0361	0.9834	5
0.0120	0.9955	6
0.0034	0.9989	7
0.0009	0.9998	8
0.0002	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 8.9
Percentile = 95% 14

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0001	0.0001	0
0.0012	0.0014	1
0.0054	0.0068	2
0.0160	0.0228	3
0.0357	0.0584	4
0.0635	0.1219	5
0.0941	0.2160	6
0.1197	0.3357	7
0.1332	0.4689	8
0.1317	0.6006	9
0.1172	0.7178	10
0.0948	0.8126	11
0.0703	0.8829	12
0.0481	0.9311	13
0.0306	0.9617	14
0.0182	0.9798	15
0.0101	0.9899	16
0.0053	0.9952	17
0.0026	0.9978	18
0.0012	0.9991	19
0.0005	0.9996	20
0.0002	0.9998	21
0.0001	0.9999	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
AM
Existing Plus Approved Project Conditions
Avg. Queue Per Lane in Veh= 9.5
Percentile = 95% 15

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0001	0.0001	0
0.0007	0.0008	1
0.0034	0.0042	2
0.0107	0.0149	3
0.0254	0.0403	4
0.0483	0.0885	5
0.0764	0.1649	6
0.1037	0.2687	7
0.1232	0.3918	8
0.1300	0.5218	9
0.1235	0.6453	10
0.1067	0.7520	11
0.0844	0.8364	12
0.0617	0.8981	13
0.0419	0.9400	14
0.0265	0.9665	15
0.0157	0.9823	16
0.0088	0.9911	17
0.0046	0.9957	18
0.0023	0.9980	19
0.0011	0.9991	20
0.0005	0.9996	21
0.0002	0.9999	22
0.0001	0.9999	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
AM
Existing Plus Proposed Project Conditions
Avg. Queue Per Lane in Veh= 9.2
Percentile = 95% 14

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0001	0.0001	0
0.0009	0.0010	1
0.0043	0.0053	2
0.0131	0.0184	3
0.0302	0.0486	4
0.0555	0.1041	5
0.0851	0.1892	6
0.1118	0.3010	7
0.1286	0.4296	8
0.1315	0.5611	9
0.1210	0.6820	10
0.1012	0.7832	11
0.0776	0.8607	12
0.0549	0.9156	13
0.0361	0.9517	14
0.0221	0.9738	15
0.0127	0.9865	16
0.0069	0.9934	17
0.0035	0.9969	18
0.0017	0.9986	19
0.0008	0.9994	20
0.0003	0.9998	21
0.0001	0.9999	22
0.0001	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 3.2
Percentile = 95% 6

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0408	0.0408	0
0.1304	0.1712	1
0.2087	0.3799	2
0.2226	0.6025	3
0.1781	0.7806	4
0.1140	0.8946	5
0.0608	0.9554	6
0.0278	0.9832	7
0.0111	0.9943	8
0.0040	0.9982	9
0.0013	0.9995	10
0.0004	0.9999	11
0.0001	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
PM
Existing Plus Approved Project Conditions
Avg. Queue Per Lane in Veh= 5.0
Percentile = 95% 9

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0067	0.0067	0
0.0337	0.0404	1
0.0842	0.1247	2
0.1404	0.2650	3
0.1755	0.4405	4
0.1755	0.6160	5
0.1462	0.7622	6
0.1044	0.8666	7
0.0653	0.9319	8
0.0363	0.9682	9
0.0181	0.9863	10
0.0082	0.9945	11
0.0034	0.9980	12
0.0013	0.9993	13
0.0005	0.9998	14
0.0002	0.9999	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
PM
Existing Plus Proposed Project Conditions
Avg. Queue Per Lane in Veh= 3.9
Percentile = 95% 7

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0202	0.0202	0
0.0789	0.0992	1
0.1539	0.2531	2
0.2001	0.4532	3
0.1951	0.6484	4
0.1522	0.8006	5
0.0989	0.8995	6
0.0551	0.9546	7
0.0269	0.9815	8
0.0116	0.9931	9
0.0045	0.9977	10
0.0016	0.9993	11
0.0005	0.9998	12
0.0002	0.9999	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
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0.0000	1.0000	64
0.0000	1.0000	65

The project would provide sidewalks along its entire frontages along Mission View Drive and result in a continuous connection to the existing sidewalks on the north side of Cochrane Road to provide a safe connection between the project site and other surrounding land uses in the area.

Bicycle Facilities

Project's Effect on Bicycle Facilities

The proposed project could increase the demand on bicycle facilities in the vicinity of the project site. Assuming bicycle trips would comprise no more than one percent of the total project-generated trips, the project could generate up to eight new bicycle trips during each of the peak hours. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site.

Transit Services

Project's Effect on Transit Services

Since there is currently only one local bus route (Route 87) serving the City of Morgan Hill, the use of public transportation by residents of the proposed project would be limited. Nevertheless, assuming an estimated three percent transit mode share, which is probably the highest that could be expected for the project, equates to approximately no more than 24 new transit riders during each of the peak hours.

Recommendation: With the development of the project, as well as other ongoing residential development along Cochrane Road in the vicinity of the project site, there will be an opportunity for VTA to expand the existing service area to this part of the City, which is currently underserved. A bus stop could be provided along the project site frontage along Mission View Drive to serve the project site and adjacent residential neighborhoods. The recommended improvements may be included as part of the project's Conditions of Approval. However, the improvements are not required to mitigate project impacts per CEQA guidelines.