5.14 TRANSPORTATION AND TRAFFIC

INTRODUCTION

This section describes the Project's effect on transportation and traffic. Information in this section is drawn from the *Transportation Impact Assessment* (TIA) prepared by Kittelson & Associates in August 2018 (see **Appendix D** of this Draft Environmental Impact Report (EIR)).

Scoping Issues Addressed

During the public scoping period for this Draft EIR, comments regarding transportation and traffic were received from individuals and Caltrans. Comments generally related to the following:

- Support of the Project as a local connection between Dublin and Livermore
- Requests for the Project to include bicycle and pedestrian facilities, and specifically that bike lanes be protected from vehicles
- Request that the Project include transit facilities (such as bus stops and park-and-ride areas) and transit service
- Request that the Project traffic analysis include key intersections, queuing impacts, and funding requirements for roadway and intersection improvements
- Concerns that the Project will increase local congestion in Dublin and Livermore, and encourage development in eastern Dublin
- Concern that Bay Area Rapid Transit System (BART) overflow parking could affect the Project
- Request that a vehicle miles traveled (VMT) analysis be completed for the Project

As discussed in **Chapter 3.0, Project Description** and below, the Project design includes pedestrian and bicycle facilities. The Project design anticipates future transit service along the roadway, and allows for future implementation of transit infrastructure such as bus stops and optimization of signal timing. The analysis below includes a level of service (LOS) evaluation of key intersections that could be impacted by the Project, and a queuing impact analysis is also provided. These analyses provide information on how the Project would effect congestion in the local area. Parking impacts are not discussed, as the Project would not create or remove parking, and would not indirectly increase demand for parking. Additionally, evaluation of parking impacts is not a requirement of California Environmental Quality Act (CEQA). A VMT analysis is provided for informational purposes in **Chapter 7.0, Other CEQA Considerations**.

REGULATORY SETTING

Federal

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) prohibits discrimination toward people with disabilities and guarantees that they have equal opportunity to participate in government programs and services. The ADA includes requirements pertaining to transportation infrastructure. The 2010 ADA Standards for Accessible Designs set minimum requirements for new and altered state and local government facilities, public accommodations, and commercial facilities. These standards apply to accessible walking routes, curb ramps, and other transportation facilities and require these facilities to be readily accessible and usable by individuals with disabilities.

State

California Complete Streets Act of 2008

This act requires circulation elements of local general plans to accommodate a multimodal transportation network that meets the needs of all users in a manner that is suitable to context of the jurisdiction. Users are defined to include all users of the transportation network, including pedestrians, bicyclists, transit riders, and drivers, along with specific groups of users such as persons with disabilities, seniors, and children.

Regional

Alameda County Transportation Commission Congestion Management Program

The Alameda County Transportation Commission (ACTC) manages the county's transportation sales tax and services as the county's congestion management agency. ACTC requires projects that generate more than 100 PM peak hour trips to analyze Project impacts to the Metropolitan Transportation System (MTS) roadways.

Local

City of Dublin

<u>City of Dublin General Plan</u>

The City of Dublin General Plan establishes the following guiding and implementing policies associated with transportation that are relevant to the Project:

Guiding Policy 5.2.2.A.1:	Design streets to (1) include sufficient capacity for projected traffic, (2) minimize congested conditions during peak hours of operation at intersections, (3) serve a variety of transportation modes including vehicles, bicycles, pedestrians and transit, and variety of users including people

	with disabilities, children, and seniors, (4) provide continuity with existing streets, and (5) allow convenient access to planned land uses.
Guiding Policy 5.2.2.A.3:	The goals, policies, and implementation measures for street design in Section 10.8 of the Community Design and Sustainability Element should be consulted when new streets are being designed and/or existing streets are being modified.
Guiding Policy 5.2.2.A.4:	Reserve right-of-way and construct improvements necessary to allow streets to accommodate projected vehicular traffic with the least friction.
Guiding Policy 5.2.2.A.5:	The City shall consider the Tri-Valley Transportation Plan and Action Plan and the City of Dublin Complete Streets Policy when adopting or amending the Circulation Element of the General Plan, Specific Plans, Zoning Ordinances or the Capital Improvement Program.
Guiding Policy 5.2.2.A.6:	The City shall strive to phase development and roadway improvements so that the operating Level of Service (LOS) for intersections in Dublin does not exceed LOS D. However, intersections within the Downtown Dublin Specific Plan area (including the intersections of Dublin Boulevard/San Ramon Road and Village Parkway/Interstate 680 onramp) are excluded from this requirement and may operate at LOS E or worse as long as the safety for pedestrians and bicyclists is maintained and impacts to transit travel speeds are minimized.
Guiding Policy 5.2.2.A.7:	The City will comply with all provisions of the Alameda County Congestion Management Program and will review proposed development projects to ensure compliance with this Program.
Implementing Policy 5.2.2.B.1:	Design streets according to the forecasted demand and maximum design speeds listed above, and to the detailed standards set forth in the City of Dublin's Street Design Standards and Standard Plans which are maintained by the Public Works Department, as well as the listed Additional Policies.

Implementing Policy 5.2.2.B.2:	Design and construct all roads in the City's circulation network as defined in Figure 5-1 [Exhibit 3.6-4a] as well as bicycle and pedestrian networks as defined in the City of Dublin Bicycle and Pedestrian Master Plan.
Guiding Policy 5.2.3.A.1:	Provide an integrated multi-modal circulation system that provides efficient vehicular circulation while providing a design that allows safe and convenient travel along and across streets for all users, including pedestrians, bicyclists, persons with disabilities, seniors, children, youth, and families; and encourages pedestrian, bicycle, transit, and other non-automobile transportation alternatives.
Implementing Policy 5.2.3.B.1:	Provide continuity with existing streets, include sufficient capacity for projected traffic, and allow convenient access to planned land uses.
Implementing Policy 5.2.3.B.2:	Require the following major circulation improvements in the Eastern Extended Planning Area: a. Provide for the extension of Dublin Boulevard from Fallon Road to North Canyons Parkway and for the construction of other streets designed in accordance with the City of Dublin's Designs Standards and Standard Plans and in compliance with Figure 5-1.
Implementing Policy 5.2.3.B.3:	Provide potential for additional future roadway connections linking existing Dublin to the Eastern Extended Planning Area.
Guiding Policy 5.3.1.A.1:	Support improved local transit as essential to a quality urban environment, particularly for residents who do not drive.
Guiding Policy 5.3.1.A.2:	Support the development of a community that facilitates and encourages the use of local and regional transit systems.
Implementing Policy 5.3.1.B.2:	Require dedication of land and the construction of improvements to support the use of public transit in the community. Improvements could consist of bus turnouts, shelters, benches, real time arrival information, and other facilities that may be appropriate.
Implementing Policy 5.3.1.B.4:	Capitalize on opportunities to connect into and enhance ridership on regional transit systems including BART, LAVTA and any future light rail systems.

Guiding Policy 5.4.3.A.1:	Plan for all users by creating and maintaining Complete Streets that provide safe, comfortable, and convenient travel along and across streets (including streets, roads, highways, bridges, and other portions of the transportation system) through a comprehensive, integrated transportation network that meets the requirements of currently adopted transportation plans and serves all categories of users.
Guiding Policy 5.4.3.A.3:	Make Complete Streets practices a routine part of everyday operations, approach every relevant project, program, and practice as an opportunity to improve streets and the transportation network for all categories of users in accordance with the City of Dublin's Complete Streets Policy.
Guiding Policy 5.4.3.A.4:	Complete Streets infrastructure sufficient to enable reasonably safe travel along and across the right of way for each category of users adhering to local conditions and needs will be incorporated into all planning, funding, design, approval, and implementation processes for all projects.
Guiding Policy 5.4.3.A.5:	Work with other jurisdictions in partnering to create a truly multi-modal transportation infrastructure within and across the City.
Guiding Policy 5.5.1.A.1:	Provide safe, continuous, comfortable and convenient bikeways throughout the City.
Guiding Policy 5.5.1.A.3:	Enhance the multi-modal circulation network to better accommodate alternative transportation choices including BART, bus, bicycle, and pedestrian transportation.
Implementing Policy 5.5.1.B.1:	Complete the bikeways systems illustrated on Figures 5-3a and 5-3b.
Implementing Policy 5.7.1.B.2:	Implement the Eastern Dublin Scenic Corridors Policies and Standards for projects within the Eastern Extended Planning Area.

Eastern Dublin Specific Plan

The Eastern Dublin Specific Plan (EDSP) contains the following goals and policies relevant to the Project:

Goal: To provide a circulation system for eastern Dublin that is convenient and efficient, and encourages the use of alternative modes of transportation as a means of improving community character and reducing environmental impacts.

Policy 5-2: Require all development to provide a balanced orientation toward pedestrian, bicycle, and automobile circulation.

Policy 5-3: Plan development in eastern Dublin to maintain Level of Service D or better as the average intersection level of service at all intersections within the Specific Plan area during AM, PM and midday peak periods. The average intersection level of service is defined as the hourly average.

Goal: To establish a vehicle circulation system which provides sufficient capacity for projected traffic and allows convenient access to land uses, while maintaining a neighborhood scale to the residential street system.

Policy 5-4: Provide four, six and eight lane arterial streets to carry major community and sub-regional traffic through the Specific Plan area.

Goal: To maximize opportunities for travel by public transit.

Goal: To provide a safe and convenient pedestrian circulation system in eastern Dublin, designed for functional and recreational needs.

Goal: To provide opportunities for safe, continuous, comfortable and convenient bikeways in eastern Dublin.

Policy 5-17: Establish a bicycle circulation system which helps to serve the need for non-motorized transportation and recreation in eastern Dublin that is consistent with the Dublin Bicycle and Pedestrian Master Plan.

2014 City of Dublin Bicycle and Pedestrian Master Plan

The *2014 City of Dublin Bicycle and Pedestrian Master Plan* combines an update to the *2007 Dublin Bikeways Master Plan* and Dublin's first pedestrian master plan into a comprehensive document. The plan includes policies, network plans, prioritized project lists, support programs, and best practice design guidelines for bicycling and walking in Dublin.[1] This document identifies the Dublin Boulevard Corridor as providing Class II Bicycle Lanes[2] along the extension of Dublin Boulevard between Fallon Road and North Canyons Parkway.

Alameda County

Alameda County General Plan, East County Area Plan

The East County Area Plan includes the future extension of Dublin Boulevard from eastern Dublin to Livermore at North Canyons Parkway. The Transportation section of the East County Area Plan includes goals and policies relevant to the Project. These include:

[1] City of Dublin. 2014. Bicycle and Pedestrian Master Plan.
[2] Class II bicycle lanes provide a striped lane for one-way bike travel on a street or highway.

Policy 176: The County shall allow development and expansion of transportation facilities (e.g., streets and highways, public transit, bicycle and pedestrian paths, airports, etc.) in appropriate locations inside and outside the Urban Growth Boundary consistent with the policies and Land Use Diagram of the East County Area Plan.

Policy 188: The County shall promote the use of transit, ridesharing, bicycling, and walking, through land use planning as well as transportation funding decisions.

Policy 195: The County shall design and locate intercity arterials to minimize impacts on adjacent uses and provide adequate local access to encourage local trips and reduce dependence on freeways. The County shall provide for street rights-of-way that are large enough to accommodate landscaping and street furniture such as bus shelters and light standards to maximize attractiveness to pedestrians, and where appropriate, to accommodate transit corridors.

Policy 201: The County shall promote (1) trunkline transit service to serve local trips between regional job centers, major shopping areas, Las Positas College, major recreational destinations, South Livermore Wine Country, the North Livermore Intensive Agriculture Area, and East Dublin BART, and (2) feeder transit service between East Dublin BART stations and major East County job centers to facilitate commuting from west Alameda County.

Policy 211: The County shall create and maintain a safe, convenient, and effective bicycle system that maximizes bicycle use.

Policy 212: The County shall create and maintain a safe and convenient pedestrian system that links residential, commercial, and recreational uses and encourages walking as an alternative to driving.

Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas

The *2012 Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas* provides a vision for bicycling and walking in the County as important alternative transportation modes.[3] The plan also identifies implementable projects that will contribute to a more bicycle- and pedestrian-friendly environment in unincorporated areas. This document identifies Class II bike lanes on Dublin Boulevard between Tassajara and Fallon Roads (partially completed), with a proposed extension of Dublin Boulevard between Fallon Road and Doolan Road, connecting in Livermore to Class II bike lanes on North Canyon Parkway.

As of December 2018, the Alameda County Public Works Agency is updating the *Bicycle and Pedestrian Master Plan*.[4] This updated plan will develop strategies to improve bicycle and

[3] Alameda County Public Works Agency. 2012. Bicycle and Pedestrian Master Plan.

[4] Alameda County Public Works Agency. 2018. Bicycle and Pedestrian Master Plan. https://www.acpwa.org/pas/bicycle-and-pedestrian-master-plan. Accessed: December 6, 2018.

pedestrian safety; increase access to work, school, shopping, recreation, and transit; and facilitate more walking and biking in unincorporated areas.

City of Livermore

City of Livermore General Plan

The Circulation element of Livermore's General Plan provides the policy framework for regulation and development of transportation systems in Livermore. It includes goals and policies for increasing multi-modal infrastructure, such as Complete Streets, throughout Livermore. The Circulation element includes policies focused on coordination across local jurisdictions, other agencies, and transit service providers to increase connectivity and multi-modal infrastructure across jurisdictions. The Circulation element also lists the Project as a planned roadway extension.

City of Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan

The Livermore Bicycle, Pedestrian, and Trails Active Transportation Plan contains policies and strategies to help Livermore realize a safer, more comfortable active transportation environment with a thriving walking and biking culture. Livermore's major arterial streets carry multiple lanes of high speed vehicle traffic, creating high stress corridors and crossings for bicyclists and pedestrians. The Active Transportation Plan prioritizes projects that will create safer and more convenient routes for bicyclists and pedestrians. This document reflects the City of Dublin's planned extension of Dublin Boulevard and identifies proposed bicycle, pedestrian, and trail network improvements. The following policies are relevant to the Project:

Policy 1.1 Develop and implement projects and improvements to address bicycle and pedestrian safety

Policy 1.5 Establish safe crossings of barriers including high volume roadways, freeway interchanges, railroads, arroyos, and other barriers

EXISTING CONDITIONS

Information in this section is based on the TIA (see **Appendix D** of this Draft EIR) approved in August 2018. The study area for transportation and traffic includes local intersections in Dublin, Pleasanton, and Livermore which could be affected by the Project, shown in **Figure 5.14-1.**

Roadway System

The Project site is located north of Interstate 580 (I-580) between Fallon Road and Doolan Road. Roadway facilities of note in the study area include:

- **I-580.** I-580 is part of the interstate freeway system and extends in an east/west direction from San Rafael in the west to Tracy in the east. Near Dublin, I-580 forms the southern city boundary with four to five lanes in each direction. Express Lanes are available in the Project vicinity Monday through Friday 5:00 a.m. to 8:00 p.m. in both the eastbound and westbound directions. There are two eastbound express lanes from Hacienda Drive to Greenville Road

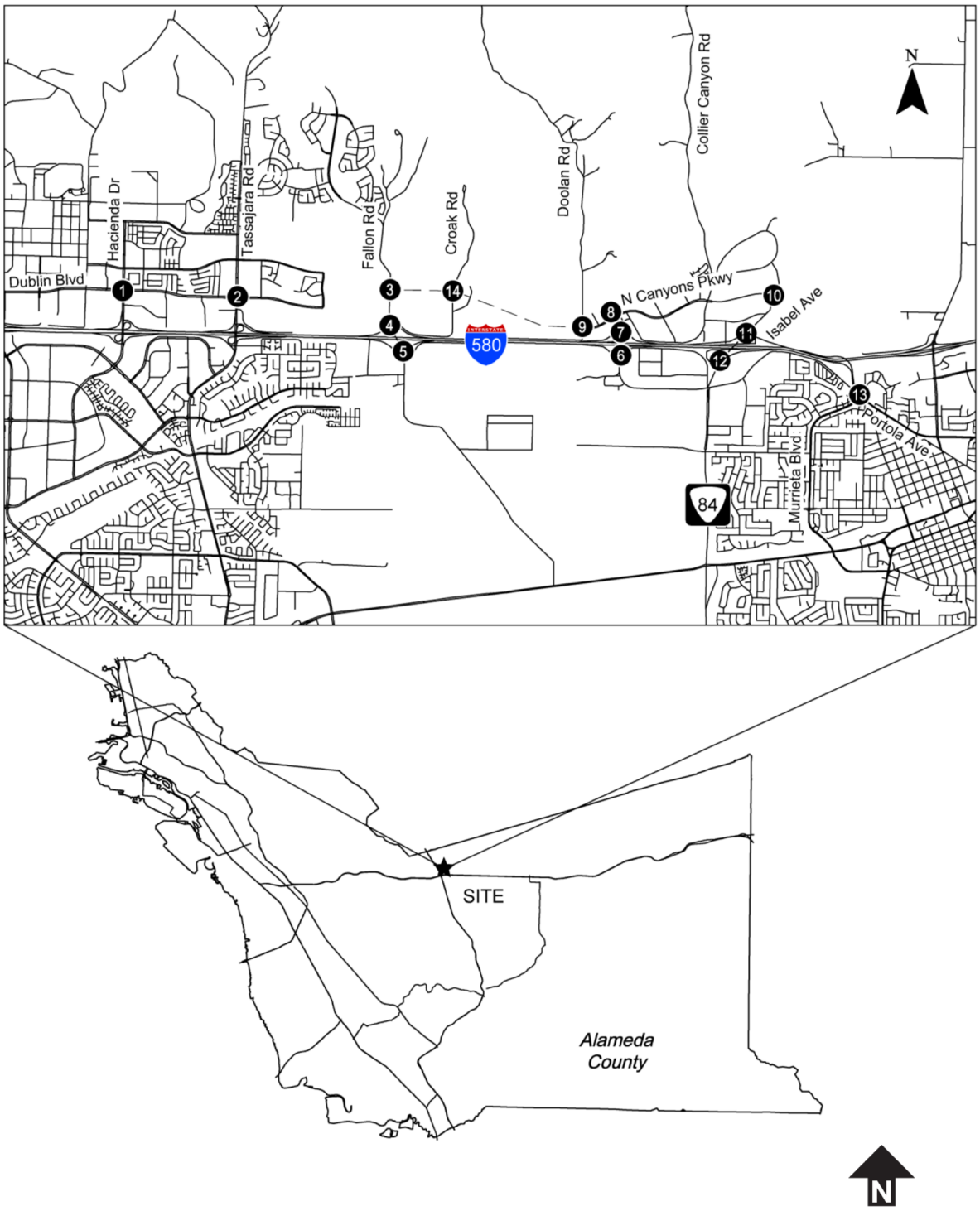
and one westbound lane from Greenville Road to west of the I-580/Interstate 680 (I-680) interchange. Carpools can use the lanes for free while solo drivers are able to use them by paying a toll. All drivers, even carpools, motorcycles, and clean-air vehicles, must use a FasTrak toll tag. I-580 is most directly accessible to the Project via the Fallon Road and Airway Boulevard interchanges.

- **I-680.** I-680 is a north/south designated scenic highway that is part of the interstate freeway system connecting San José to Interstate 80 (I-80) near Fairfield. This facility traverses Dublin with an interchange at I-580 in western Dublin, as well as on- and off-ramps near Dublin Boulevard. South of I-580 it is a six-lane freeway, and north of I-580 it generally provides eight lanes, including Express Lanes that were completed in Fall 2017, which adhere to the same hours and rules as those on I-580. The northbound express lane begins at Alcosta Boulevard and ends at Livorna Road near the State Route 24 interchange. The southbound lane begins at Rudgear Road and ends at Alcosta Boulevard.

- **Dublin Boulevard.** Dublin Boulevard is an east-west principal arterial roadway that extends from west of San Ramon Road to its current terminus at Fallon Road. Dublin's General Plan envisions the Project by extending Dublin Boulevard to North Canyons Parkway in Livermore. Existing Dublin Boulevard is generally a four- to six-lane facility with a landscaped median. No on-street parking is permitted. Bicycle lanes and sidewalks are provided on portions of Dublin Boulevard.

- **Fallon Road.** Fallon Road is a north-south minor arterial roadway that connects I-580 to Tassajara Road. It currently provides two travel lanes in each direction between I-580 and Central Parkway. This segment is ultimately planned to provide three lanes in each direction. Fallon Road is being upgraded as development occurs on parcels fronting the roadway and will ultimately provide sidewalks and bicycle facilities along its length.

- **North Canyons Parkway.** North Canyons Parkway is an east-west arterial roadway north of I-580. This arterial is primarily a four-lane divided roadway with left turn pockets where applicable. The street currently terminates at Doolan Road to the west and connects to Portola Avenue to the east.



Study Intersections Figure **5.14-1**

Source: Kittelson & Associates, 2018

- **Portola Avenue.** Portola Avenue is a major east-west arterial roadway in Livermore that operates north of downtown. South of I-580, this arterial is primarily a four-lane divided roadway with left turn pockets where applicable. North of I-580, this roadway varies from two lanes to six lanes. Portola Avenue connects several neighborhoods and businesses and provides direct connection to other major arterial roadways throughout northern Livermore. In 2012, as the final component of the Isabel/I-580 Interchange project, Portola Avenue was extended over I-580 to connect with North Canyons Parkway near Las Positas College, north of the Isabel Station site.

- **Isabel Avenue.** Isabel Avenue is a north-south arterial roadway, a portion of which is also designated as State Route 84 (SR-84). Isabel Avenue typically carries heavy commuter traffic along western Livermore. The arterial roadway traverses the entire length of Livermore, provides direct access to I-580, and connects several neighborhoods and commercial areas in western Livermore. Isabel Avenue provides two travel lanes in each direction near I-580 and reduces to one travel lane in each direction south of Jack London Boulevard, with left turn pockets at key locations. The roadway has two lanes with a painted median at major intersection locations. The SR-84 Expressway Widening project, currently under construction and due for completion in 2018, will upgrade Isabel Avenue to expressway standards. Upon completion, Isabel Avenue will feature three lanes in each direction between Jack London Boulevard and Stanley Boulevard and two lanes in each direction between Stanley Boulevard and Ruby Hill Drive. Isabel Avenue would provide access to the proposed Isabel transit station facilities north and south of I-580.

- **Murrieta Boulevard.** Murrieta Boulevard a north-south arterial roadway in western Livermore, and includes two lanes in each direction, with a raised median and left turn pockets at most intersections. The street connects to Portola Avenue in the north and Fourth Street in the south. The roadway provides access to I-580 from western Livermore.

Transit Services

Transit service in the area is provided by Wheels (Livermore-Amador Valley Transit Authority), The County Connection, the BART, and Altamont Commuter Express (ACE).

- Wheels provides fixed-route and paratransit service throughout Dublin, Pleasanton, and Livermore, and provides connections to other transit service providers. Wheels buses connect major destinations within the Dublin, Pleasanton and Livermore, including downtown areas, employment centers, and transit hubs such as BART and ACE stations. Wheels provides shuttle services between the ACE stations and major employment and residential areas in Pleasanton and Livermore. Wheels bus schedules are also coordinated with ACE and BART trains during peak commute hours.

- The County Connection provides transit service connecting destinations in Contra Costa County to the Tri-Valley area, including service from the East Dublin/Pleasanton BART station to the San Ramon Transit Center and Bishop Ranch Business Park. There is also a

route that connects the Walnut Creek BART station to the Downtown Pleasanton ACE station.

- BART provides regional transportation connections to much of the Bay Area and the Dublin/Pleasanton line provides direct access to San Francisco, with several stops in Oakland where connections may be made to other lines. The closest BART station is the Dublin/Pleasanton Station located approximately 3.5 miles west of the intersection of Fallon Road and Dublin Boulevard. BART train frequency ranges between 15 and 20 minutes from approximately 5:00 a.m. to 12:00 a.m. Based on 2015 data from BART, approximately 8,000 passengers per day enter and exit the BART system at the Dublin/Pleasanton station.
- ACE operates weekday train service between Stockton and San José with Tri-Valley stops in downtown Pleasanton and Livermore. During the morning commute period, only westbound service from San Joaquin County to San José is provided, while only eastbound service is provided in the evening commute period. There are four morning trains through Pleasanton between 5:33 a.m. and 8:18 a.m., and four evening trains between 4:28 p.m. and 7:31 p.m. Travel time from Stockton to Pleasanton is approximately one hour and fifteen minutes, while travel time from the Tri-Valley to San José is approximately one hour. ACE trains carry approximately 4,000 passengers on a typical weekday, with approximately 600 passengers boarding the ACE system at the downtown Pleasanton Station on a typical weekday.

Bicycle and Pedestrian Facilities

City of Dublin

While Dublin Boulevard and Fallon Road are designated as streets with bike lanes on Dublin's Bike Lanes and Trails Map, no striping or dedicated bike lanes currently exist on these roadways near the Project. Pedestrian facilities include sidewalks, pathways, crosswalks, and pedestrian signals. Sidewalks are provided along most roadways in Dublin where land uses have been developed adjacent to the roadway. Roadways near the Project with undeveloped parcels do not currently provide sidewalks.

Alameda County

The County portions of the transportation study area are generally undeveloped, and Collier Canyon Road is the only roadway within the County in this area. This segment of Collier Canyon Road does not provide formal bicycle or pedestrian facilities.

City of Livermore

According to the Livermore General Plan Circulation element, Livermore provides or plans to provide Class I Bike Lanes on North Canyons Parkway and Doolan Road. Sidewalks are also provided on the north side of this roadway segment.

Study Intersections

The transportation study area, determined in consultation between Dublin, Livermore, and the County, includes thirteen intersections that exist today and one intersection that would exist once the Project is implemented (shown in **Figure 5.14-1**). This impact analysis does not include any freeway analyses because the Project is a transportation improvement for arterial streets rather than a change in land uses which may attract new trips. Similarly, this Draft EIR does not include the analysis of any Congestion Management Program (CMP) facilities because the Project would not generate more than 100 PM peak hour trips. The study intersections include:

1. Hacienda Drive and Dublin Boulevard (Dublin, CA)
2. Tassajara Road and Dublin Boulevard (Dublin, CA)
3. Fallon Road and Dublin Boulevard (Dublin, CA)
4. Fallon Road and I-580 WB Ramps (Dublin, CA)
5. El Charro Road and I-580 EB Ramps (Pleasanton, CA)
6. Airway Boulevard and I-580 EB Ramps (Livermore, CA)
7. Airway Boulevard and I-580 WB Ramps (Livermore, CA)
8. Airway Boulevard and North Canyons Parkway (Livermore, CA)
9. Doolan Road and North Canyons Parkway (Livermore, CA)
10. Isabel Avenue and Portola Avenue (Livermore, CA)
11. Isabel Avenue and I-580 WB Ramps (Livermore, CA)
12. Isabel Avenue and I-580 EB Ramps (Livermore, CA)
13. Murrieta Boulevard and Portola Avenue (Livermore, CA)
14. Croak Road and Dublin Boulevard Extension (Future) (Dublin, CA)

Methodology

The impacts of the Project were evaluated by comparing the findings of the delay and LOS under the following scenarios:

- Existing and Existing Plus Project (2017)
- Opening Year and Opening Year Plus Project (2025)
- Cumulative Year and Cumulative Year Plus Project (2040)

Level of Service and Measures of Effectiveness

LOS describes the operating conditions experienced by users of a transportation facility, measured best to worst from A to F. LOS is a qualitative measure that considers roadway speed, travel time, traffic interruptions, freedom to maneuver, driving comfort, and convenience. LOS A through LOS E represents traffic volumes below roadway capacity, while LOS F represents traffic volumes that exceed roadway capacity. However, LOS E through F represents roadway congestion where delays are substantial. The TIA (see **Appendix D** of this Draft EIR) includes intersection analyses using the following methodologies, summarized in **Table 5.14-1**:

- Signalized intersection. The TIA calculates a weighted average control delay in seconds per vehicle at a signalized intersection and assigns a LOS designation based upon the delay.
- Unsignalized intersection. The TIA calculates a weighted average control delay in seconds per vehicle for each controlled intersection leg and for the intersection. A LOS designation for all-way stop-controlled intersections is based upon the weighted average control delay for all intersection legs, like the LOS designation for signalized intersections. For two-way stop-controlled intersections, the LOS for the worst approach is used as the LOS performance measure.

Table 5.14-4 Intersections Level of Service Definitions

Signalized Intersection			Unsignalized Intersection
Average Delay Per Vehicle (Seconds)	**LOS**	**Description of Traffic Conditions**	**Average Delay Per Vehicle (Seconds)**
≤10.0	A	Free flowing. Most vehicles do not have to stop.	≤10.0
>10.0 and ≤20.0	B	Minimal delays. Some vehicles must stop, although waits are not bothersome.	>10.0 and ≤ 15.0
>20.0 and ≤35.0	C	Acceptable delays. Significant numbers of vehicles must stop because of steady, high traffic volumes. Still, many pass without stopping.	>15.0 and ≤25.0
>35.0 and ≤55.0	D	Tolerable delays. Many vehicles must stop. Drivers are aware of heavier traffic. Cars may have to wait through more than one red light. Queues begin to form, often on more than one approach.	>25.0 and ≤35.0
>55.0 and ≤80.0	E	Significant delays. Cars may have to wait through more than one red light. Long queues form, sometimes on several approaches.	>35.0 and ≤50.0
>80.0	F	Excessive delays. Intersection is jammed. Many cars must wait through more than one red light, or more than 60 seconds. Traffic may back up into "up-stream" intersections.	>50.0

Source: Kittleson & Associates, Inc., 2018

Forecasted Traffic Modeling

As the Project is anticipated to have a regional impact, the TIA utilized the ACTC Countywide traffic model, accounting for specific updates within the transportation study area from the EDSP. The most recent version of the ACTC countywide model uses land use assumptions from the Association of Bay Area Governments (ABAG) Plan Bay Area projections, which uses a 2013 base year, a 2025 interim year, and a 2040 long-range (cumulative) year. However, 2017 represents the existing year at the writing of the TIA. Interpolating the land use projections between the 2013 base year model and the interim 2025 model derived the 2017 scenario. Interpolating the land use to 2017 makes the land use consistent with the existing conditions counts collected in 2017. The TIA used the 2017, 2025, and 2040 conditions to conduct the Project's transportation analysis.

Existing Conditions (2017)

Land uses for 2017 are based on an interpolation of the land uses found in the 2013 model representing Plan Bay Area and the 2025 interim year model land uses described below. There are minimal land uses in the immediate study corridor, reflective of existing rural conditions.

2025 Conditions

Year 2025 represents the Project's projected opening year. Land uses for the 2025 modeling include Plan Bay Area up to 2025 for all regional areas. Dublin planned development for 2025 was confirmed with the Dublin and is consistent with Plan Bay Area. In addition, Phase 1 of the recently approved Kaiser Medical Center adjacent to Dublin Boulevard was assumed to be developed by 2025. Livermore assumptions were consistent with Livermore General Plan land uses for the Isabel Neighborhood area (phased to 2025 level) and Plan Bay Area elsewhere in Livermore. County land uses were consistent with Plan Bay Area for 2025 and assumed no growth in the immediate study area by 2025.

The 2025 No Project scenario estimates future traffic conditions for the Project's opening year (2025) without Project implementation, accounting for background traffic growth between 2017 and 2025 plus approved but not yet constructed changes to local land uses. This model also assumes no implementation of BART to Livermore Extension, thus providing a conservative traffic assumption with the highest amount of projected vehicle trips in the transportation study area. The 2025 Plus Project scenario adds the traffic circulation assumptions to the 2025 No Project traffic growth conditions.

2040 (Cumulative) Conditions

2040 represents the cumulative year for the Project. The following changes to the transportation network between existing (2017) and 2040 conditions were assumed implemented prior to the Project, based on planning documents and input from each jurisdiction:

- Widening of the Portola Avenue bridge over I-580 from one lane in each direction to two lanes in each direction.

- Tassajara Road and Dublin Boulevard improvements consistent with the Eastern Dublin Traffic Impact Fee (TIF).
- Fallon Road and Dublin Boulevard intersection improvements to be consistent with the EDSP.
- Fallon Road and I-580 Ramps Phase II interchange improvements, which will include three through lanes in the northbound and southbound directions.

The 2040 No Project scenario estimates future cumulative traffic conditions for the Project's design year (2040) without the Project, accounting for background traffic growth between existing conditions and 2040, plus approved but not yet constructed and occupied changes to local land uses. This model also assumes no implementation of BART to Livermore Extension, thus providing a conservative traffic assumption with the highest amount of projected vehicle trips in the transportation study area. The 2040 Plus Project scenario adds the traffic circulation assumptions to the 2040 No Project traffic growth conditions. A detailed discussion of 2040 land use assumptions is provided in **Chapter 4.0, Introduction to Environmental Analysis**, and in **Appendix D**.

Intersection Operations

Intersection Volumes and Lane Configurations

The TIA evaluated existing intersection operations for the highest one-hour volume during the weekday morning and evening peak periods. Intersection turn movement counts for the study intersections were collected for a typical weekday during the morning (AM) and evening (PM) peak periods. AM and PM peak-hour intersection turning movement counts were conducted on January 26, 2017 and February 14, 2017. A majority of the counts were obtained from recent nearby traffic impact studies. **Appendix D** includes the data collected during intersection turn movement counts. **Figure 5.14-2** depicts the existing AM and PM peak-hour turning movement volumes, lane configurations, and traffic control devices at the study intersections. **Figure 5.14-3** and **Figure5.14-4** depict the forecasted turning movement volumes, modeled lane configurations, and anticipated traffic control devices at study intersections in 2025 and 2040 without the Project.

Intersection Level of Service

Intersection turning movement volumes, lane configurations, and traffic control were used to calculate the levels of service at the study intersections for the AM and PM peak hours. **Table 5.14-2** shows the study intersection LOS results for Existing Conditions, 2025 No Project Conditions, and 2040 No Project Conditions, as summarized below:

- Existing Conditions - no intersections operate below the applicable LOS standard.
- 2025 No Project Conditions - no intersections would operate below the applicable LOS standard.

- 2040 No Project Conditions – The Airway Boulevard/North Canyons Parkway intersection would operate below the applicable LOS standard in the PM peak hour.

Queuing Analysis

Queuing analysis determines if intersection turn lane vehicle queues would affect traffic flow along the roadway segment leading to the turn lane. The 95th-percentile queue is the queue length (i.e. the length of a line of vehicles) that has only a 5 percent probability of exceeding the storage capacity of the turning lane during the analysis period. It is a useful parameter for determining the appropriate length of turn pockets and evaluating turn lane storage. An impact would be significant if the queue exceeds the storage capacity at the turn lane, causing vehicles to extend back into the through-lanes of the roadway segment. Field observations confirmed the extent of existing vehicle queues within the transportation study area. Queues within the transportation study area were contained within the available storage except at the following locations:

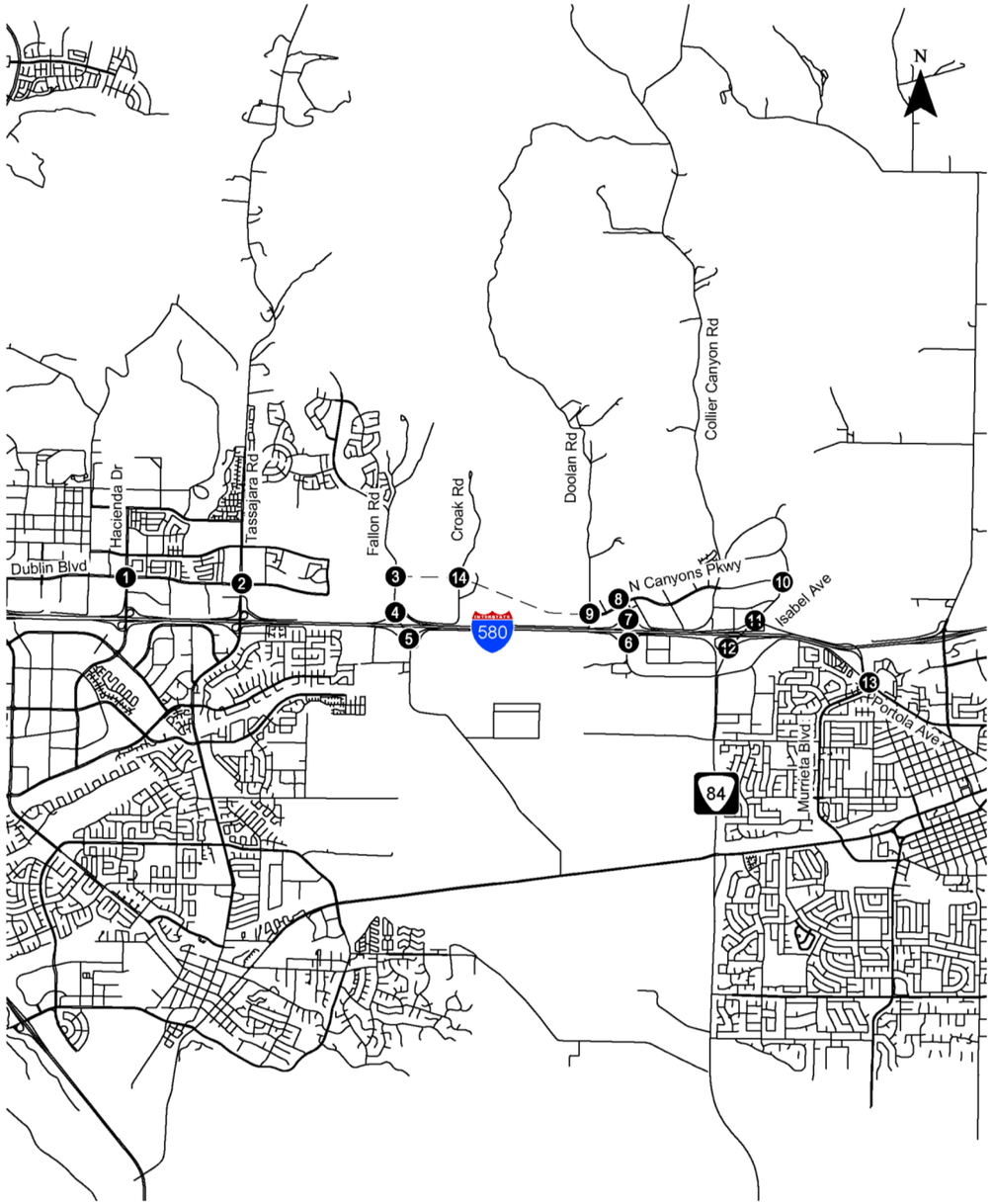
- Fallon Road and Dublin Boulevard – the estimated 95th percentile queue for the northbound left-turn is anticipated to exceed the available storage by about 39 feet or approximately two vehicles.

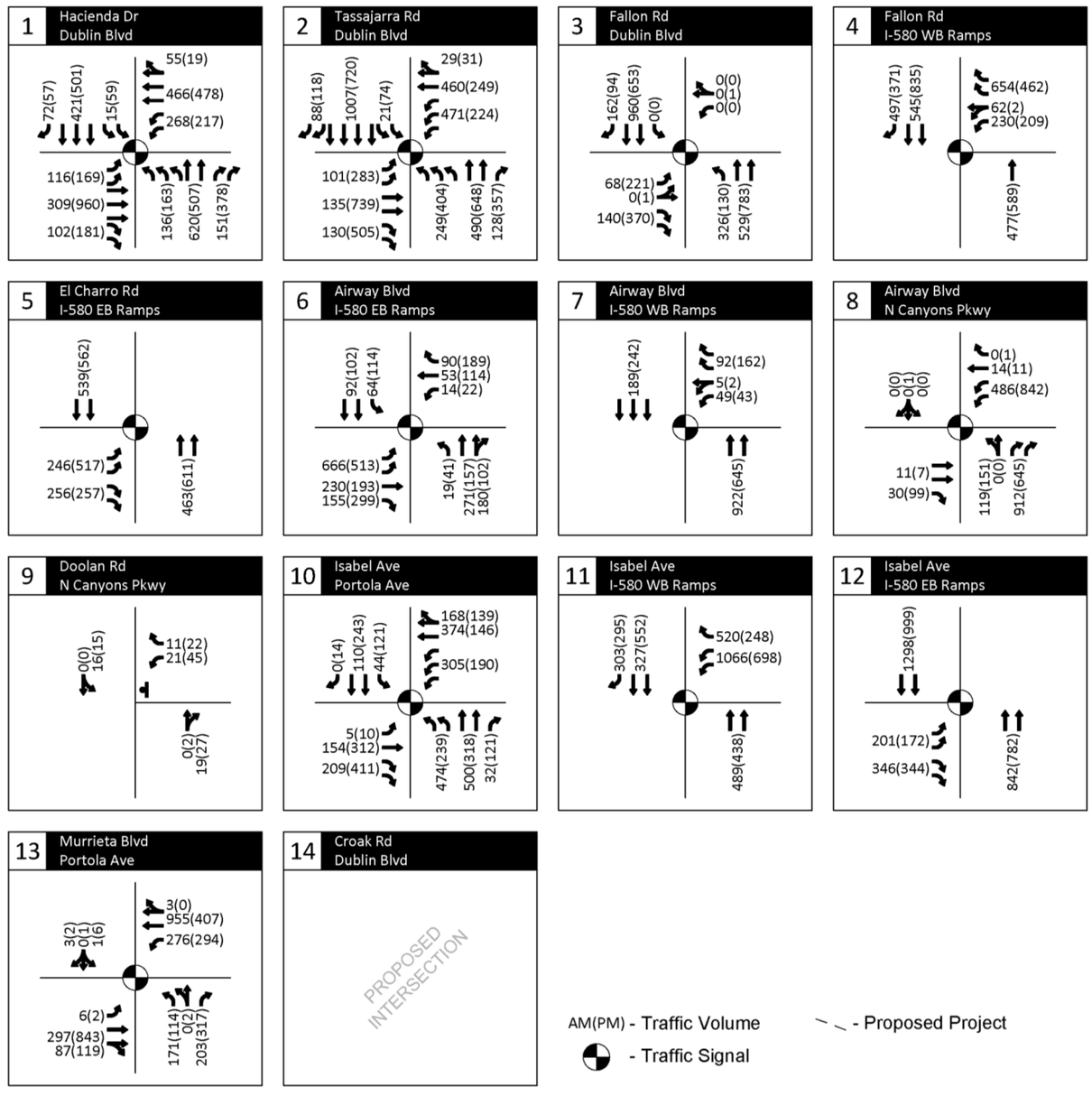
- Murrieta Boulevard and Portola Avenue – the 95th percentile queue for the eastbound through movement is expected to exceed the available storage between Murrieta Boulevard and East Airway Boulevard on Portola Avenue by 197 feet or about eight vehicles.

Table 5.14-5 Intersection Level of Service: Existing, 2025 No Project, 2040 No Project

ID#	Location	Hour	LOS Standard	Existing (2017)			2025 No Project			2040 No Project		
				V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Hacienda Drive & Dublin Boulevard	AM	D	0.52	24.3	C	0.54	25.2	C	0.56	26.3	C
		PM	D	0.58	29.0	C	0.59	30.4	C	0.64	33.0	C
2	Tassajara Road & Dublin Boulevard	AM	D	0.58	28.7	C	0.60	29.0	C	0.55	28.1	C
		PM	D	0.68	32.5	C	0.72	37.7	D	0.55	31.9	C
3	Fallon Road & Dublin Boulevard	AM	D	0.65	34.4	C	0.66	10.0	A	0.48	21.9	C
		PM	D	0.49	20.4	C	0.62	28.1	C	0.70	37.1	D
4	Fallon Road & I-580 WB Ramps	AM	D	0.54	10.8	B	0.66	10.0	A	0.66	9.8	A
		PM	D	0.57	10.2	B	0.64	10.6	B	0.65	10.2	B
5	El Charro Road & I-580 EB Ramps	AM	D	0.37	5.6	A	0.41	6.2	A	0.63	10.0	A
		PM	D	0.49	6.8	A	0.59	8.1	A	0.65	8.9	A
6	Airway Boulevard & I-580 EB Ramps	AM	E	0.5	32.1	C	0.54	32.2	C	0.54	31.7	C
		PM	E	0.42	32.9	C	0.46	32.8	C	0.62	34.9	C
7	Airway Boulevard & I-580 WB Ramps	AM	E	0.37	5.7	A	0.39	5.3	A	0.43	5.4	A
		PM	E	0.25	9.4	A	0.28	9.3	A	0.37	12.7	B
8	Airway Boulevard & N. Canyons Parkway	AM	E	0.37	45.7	D	0.37	48.6	D	0.41	57.3	E
		PM	E	0.47	59.2	E	0.48	73.6	E	0.58	94.2	**F**
9	Doolan Road & N. Canyons Parkway	AM	Mid-D	0.03	8.8	A	0.03	8.7	A	0.03	8.8	A
		PM	Mid-D	0.06	9.0	A	0.06	9.0	A	0.06	9.0	A
10	Isabel Avenue & Portola Avenue	AM	E	0.68	29.4	C	0.77	37.9	D	0.79	37.7	D
		PM	E	0.51	25.7	C	0.47	25.2	C	0.55	30.4	C
11	Isabel Avenue & I-580 WB Ramps	AM	E	0.81	18.3	B	0.83	18.7	B	0.94	31.6	C
		PM	E	0.61	11.9	B	0.73	17.9	B	0.70	12.2	B
12	Isabel Avenue & I-580 EB Ramps	AM	E	0.72	16.2	B	0.83	21.7	C	0.85	27.2	C
		PM	E	0.60	11.7	B	0.75	16.4	B	0.61	12.5	B
13	Murrieta Boulevard & Portola Avenue	AM	Mid-D	0.53	23.0	C	0.53	23.1	C	0.64	25.1	C
		PM	Mid-D	0.58	30.2	C	0.58	30.7	C	0.92	51.2	D
14	Dublin Boulevard Extension & Croak Road[1]	AM	D	-	-	-	-	-	-	-	-	-
		PM	D	-	-	-	-	-	-	-	-	-

Source: Kittelson & Associates, Inc. 2018
LOS findings in ***BOLD*** represent intersections operating below the applicable LOS standard
[1]This intersection is a direct result of the Project, and would not exist under No Project scenarios.





Existing Turn Volumes and Intersection Configurations (2017) Figure **5.14-2**

Source: Kittelson & Associates, 2018

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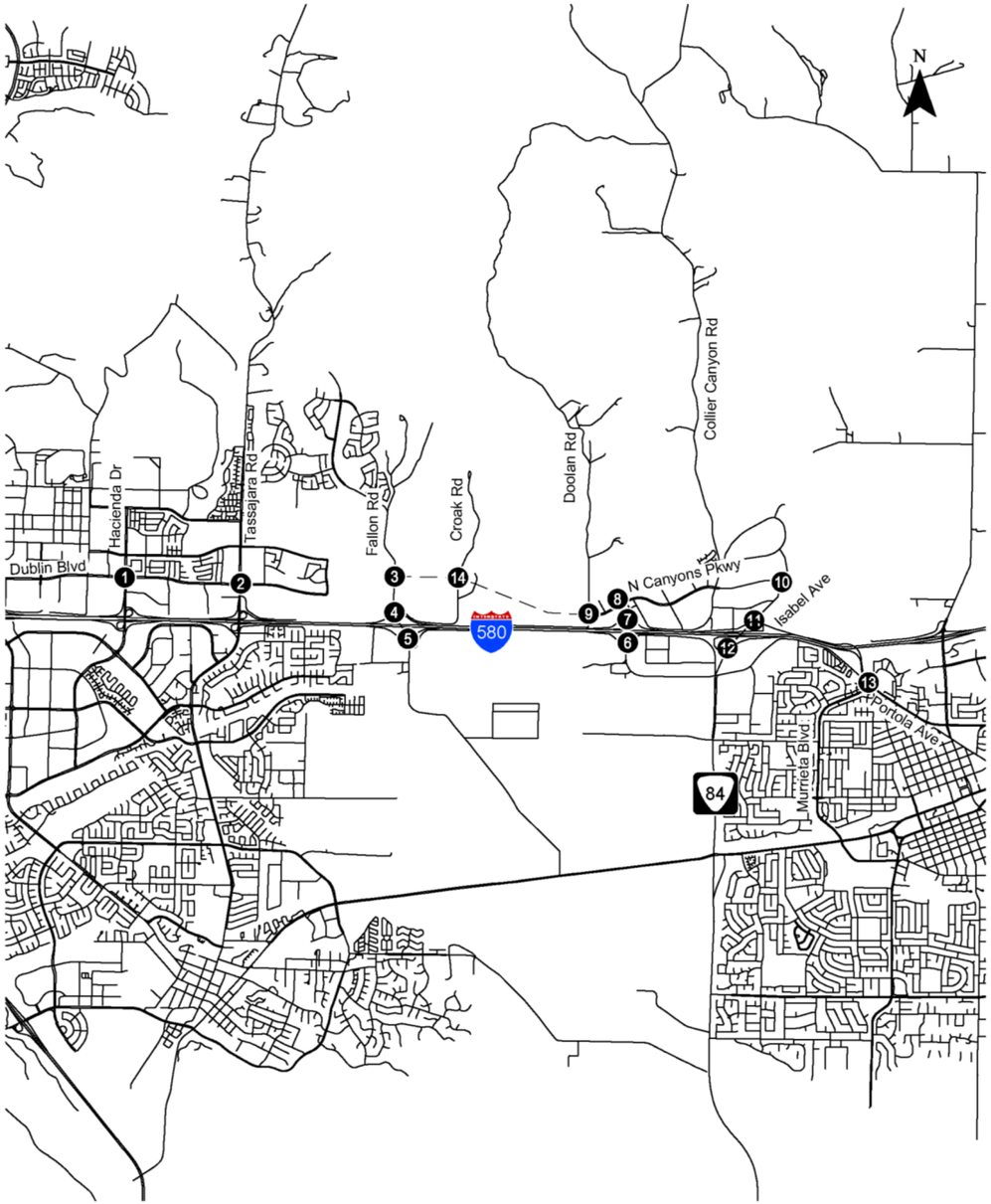

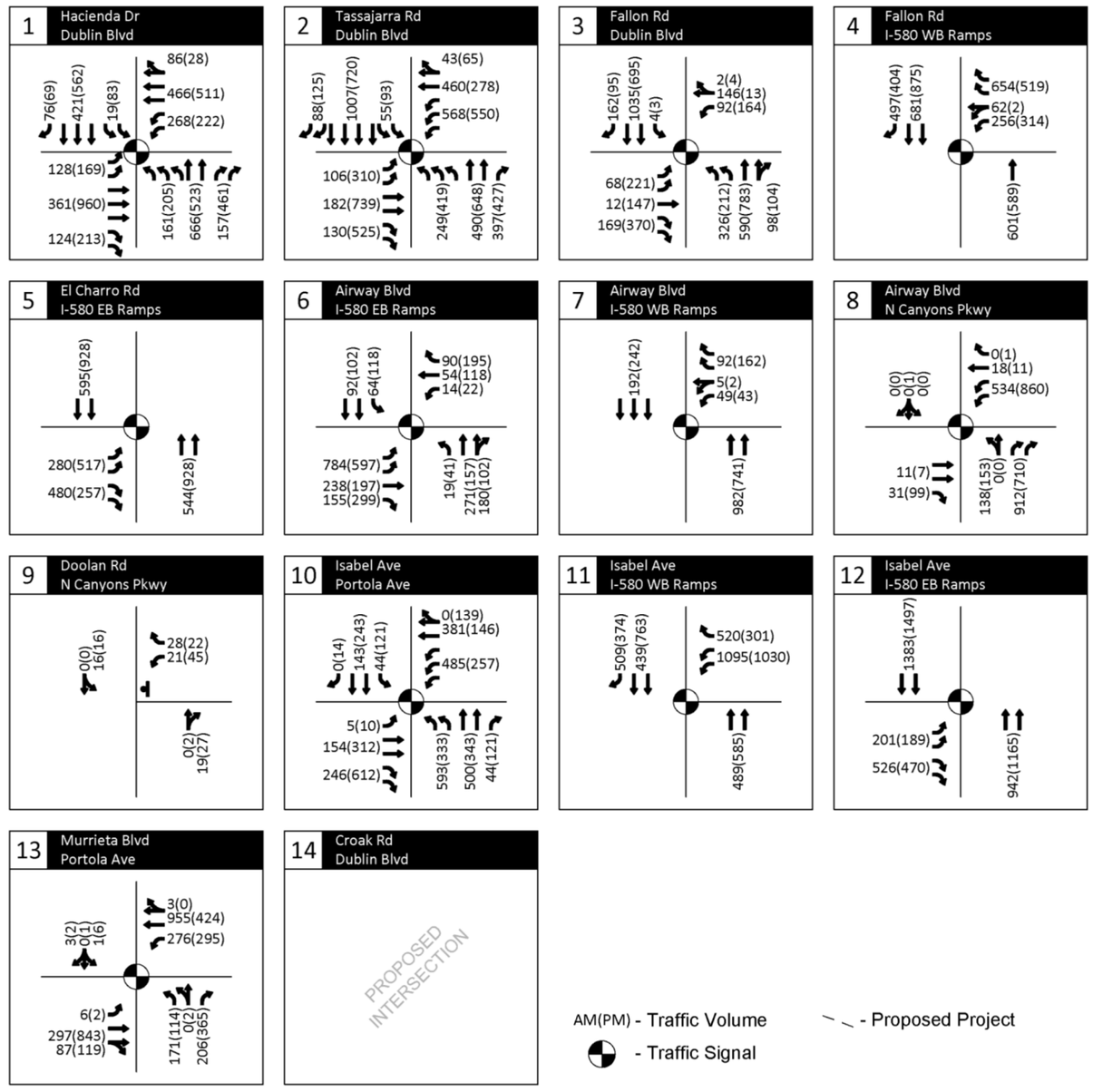

2025 Turn Volumes and Intersection Configurations Figure **5.14-3**

Source: Kittelson & Associates, 2018

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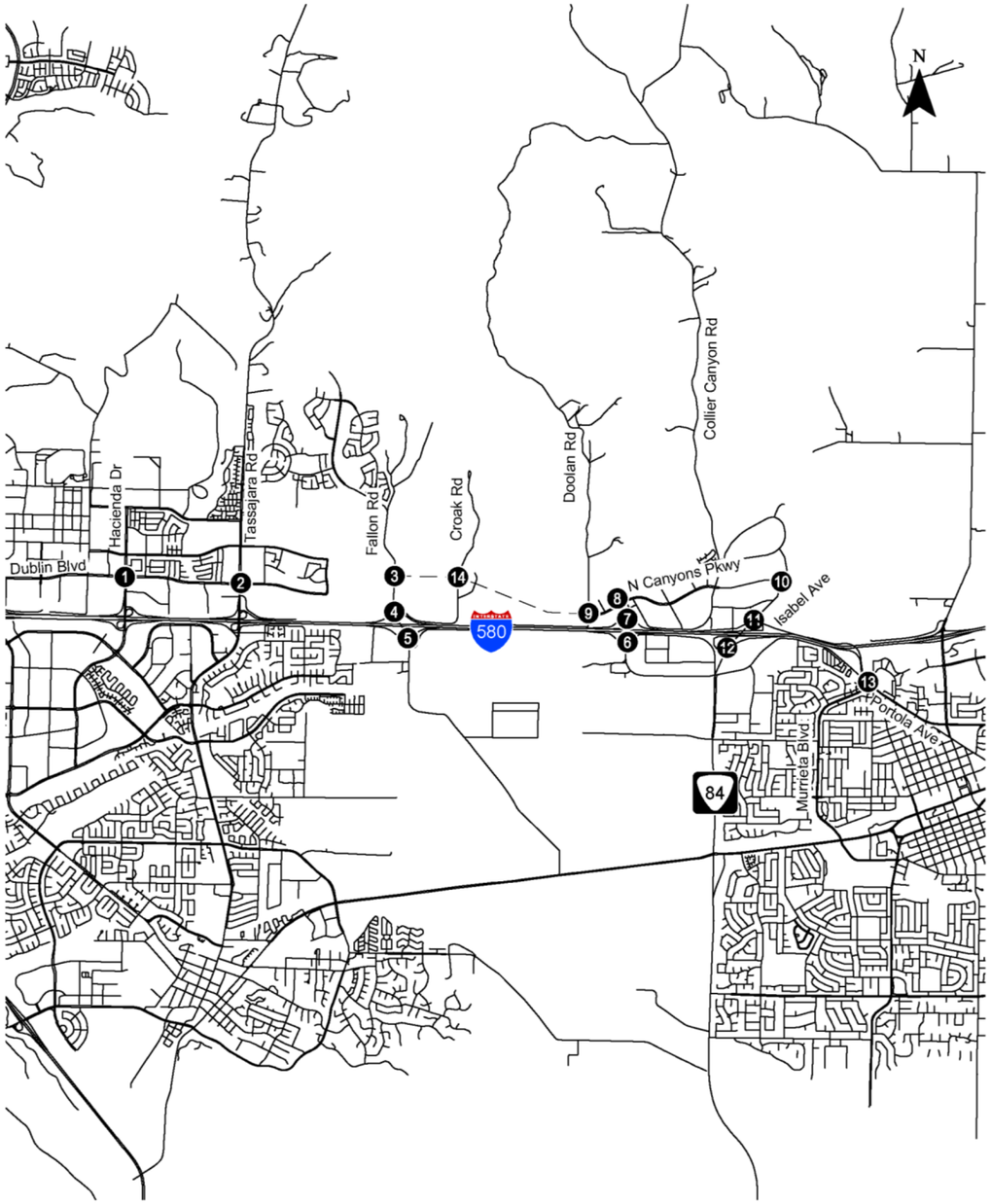

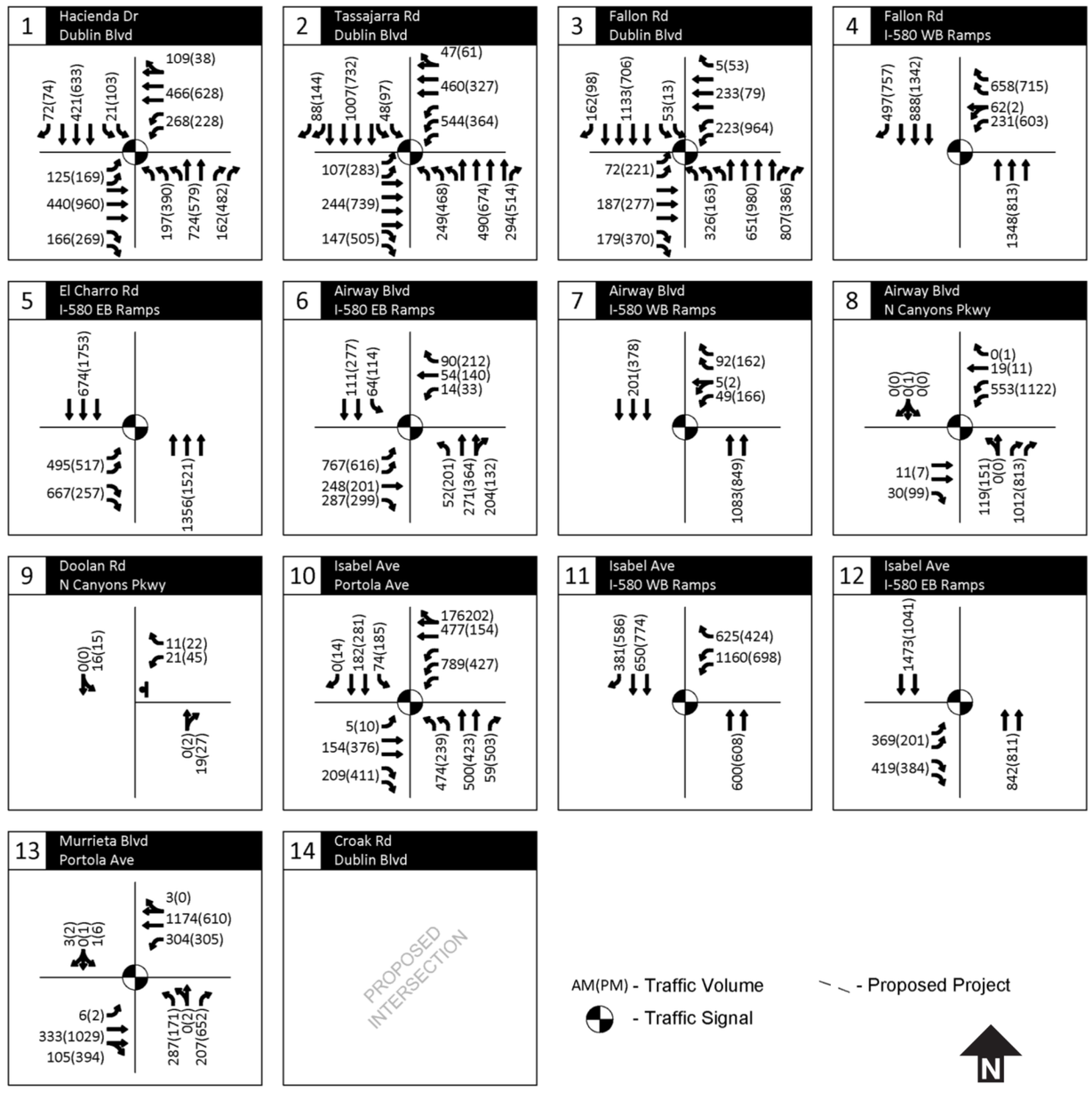

2040 Turn Volumes and Intersection Configurations Figure **5.14-4**

Source: Kittelson & Associates, 2018

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IMPACTS AND MITIGATION MEASURES

Significance Criteria

Determinations of significance for Project impacts are based on applicable policies, regulations, goals, and guidelines defined by Dublin, Pleasanton, Livermore, and Caltrans. The following criteria were used to identify significant off-site intersection impacts of the Project. The impact criteria used at each location depended on the location in which the facility resides.

Summary of Significance Criteria:

A. Result in unacceptable LOS conditions at signalized or unsignalized intersections

B. Result in an impact to vehicle queuing

C. Impede existing or planned transit services

D. Impede pedestrian circulation, access, or safety

E. Impede the circulation, access, or safety of bicyclists or bicycle facilities

City of Dublin

Impacts to intersections residing within Dublin would be significant if the Project would result in the following:

- If a signalized study intersection is projected to operate within motor vehicle delay ranges associated with LOS D or better (average control delay equal to or less than 55 seconds per vehicle) without the project and the project is expected to cause the facility to operate at a LOS E or F.
- If at a signalized study intersection where the motor vehicle level of service is E, the project would cause an increase in the average delay for any of the critical movements of 6 seconds or more.
- If at signalized study intersection where the motor vehicle level of service is LOS F, the project would cause (a) the overall volume-to-capacity (V/C) ratio to increase 0.03 or more or (b) the critical movement V/C ratio to increase 0.05 or more.
- If the operations of an unsignalized study intersection is projected to decline with the addition of project traffic, and if the installation of a traffic signal based on the Manual on Uniform Traffic Control Devices Peak Hour Signal Warrant (Warrant 3) would be warranted.

- A queuing impact would be identified if:
    - The project traffic causes the 95th percentile queue in a turn pocket to extend beyond the turn pocket by more than 25 feet (i.e., the length of one vehicle) into adjacent traffic lanes that operate separately from the turn lane; or
    - If the 95th percentile queue already exceeds that turn pocket length under no project conditions, the project traffic lengthens the queue by more than 25 feet.

City of Pleasanton

Impacts to intersections residing within Pleasanton were considered significant if the Project would result in the following:

- If the addition of project traffic results in the deterioration of a signalized intersection from LOS D (or better) to LOS E or LOS F. There are a few exceptions to the LOS standard that includes the Pleasanton Gateway intersections. Gateway intersections include all ramp terminal intersections on I-580. For the Gateway intersections, the LOS standard could be below LOS D when no reasonable mitigation exists, or the necessary mitigation is contrary to other goals and policies of Pleasanton.
- If at a signalized intersection projected to operate at LOS E or F prior to the addition of project traffic the project adds 10 or more peak hour trips.
- A queuing impact would be identified if:
    - The project traffic causes the 95th percentile queue in a turn pocket to extend beyond the turn pocket by more than 25 feet (i.e., the length of one vehicle) into adjacent traffic lanes that operate separately from the turn lane; or if the 95th percentile queue already exceeds that turn pocket length under no project conditions, the project traffic lengthens the queue by more than 25 feet.

City of Livermore

Impacts to intersections residing within Livermore were considered significant if the Project would result in the following:

- If a signalized intersection is projected to operate within vehicle delay ranges associated with a mid-level LOS D or better (average control delay equal to or less than or equal to 45 seconds per vehicle) without the project and the project is expected to increase the delay for intersections outside of the Downtown Area or near freeway interchanges.
- If a signalized intersection located in the Downtown Area or near freeway interchanges is projected to operate within vehicle delay ranges associated with a LOS E or better (average control delay equal to or less than or equal to 80 seconds per vehicle) without the project and the project is expected to cause the facility to operate at LOS F. For this project, the

following Livermore intersections have an LOS E standard while the other Livermore locations have the mid-level LOS D standard:

- Airway Boulevard and I-580 EB Ramps
- Airway Boulevard and I-580 WB Ramps
- Airway Boulevard and N. Canyons Parkway
- Isabel Avenue and Portola Avenue
- Isabel Avenue and I-580 WB Ramps
- Isabel Avenue and I-580 EB Ramps

- If a signalized intersection is operating below the LOS standard under the No Project Conditions, the project would increase the average vehicle delay by more than 5 seconds per vehicle.
- A queuing impact would be identified if:
  - The project traffic causes the 95th percentile queue in a turn pocket to extend beyond the turn pocket by more than 25 feet (i.e., the length of one vehicle) into adjacent traffic lanes that operate separately from the turn lane; or
  - If the 95th percentile queue already exceeds that turn pocket length under no project conditions, the project traffic lengthens the queue by more than 25 feet.

Caltrans

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway facilities.[5] However, Caltrans recognizes that achieving LOS C/LOS D may not always be feasible. Therefore, the ramp terminal intersections operated by Caltrans will be assessed for significant impacts based on the criteria for the city in which they reside. There are no significance criteria related to freeway mainline segment performance. Because the Project is the construction of an arterial roadway that provides a parallel route, the Project would either only maintain or improve freeway performance. Therefore, in coordination with Caltrans it was determined that freeway mainline segments would not be studied.

Summary of Significance Criteria:

Transit

The primary policy goals of the transit agencies in the study area emphasize increasing ridership, improving access to BART, and reducing system inefficiencies. A significant impact would result if the Project were to directly impede any of the relevant transit agencies from implementing planned

[5] Caltrans. 2002. Guide for the Preparation of Traffic Studies.

improvements and/or their ability to meet these goals. Therefore, a significant impact would occur if the Project:

- Impeded connecting transit services from increasing ridership
- Impeded connecting transit services from improving their access to BART
- Impeded connecting transit services from reducing system inefficiencies

Bicyclists

There are no established qualitative criteria for the assessment of bicycle impacts. For this transportation analysis, an impact on bicycles would occur if the Project substantially impedes bicycle circulation, access, and safety or conflicts with a bicycle plan.

Pedestrians

There are no established qualitative criteria for the assessment of pedestrian impacts. For this transportation analysis, an impact on pedestrians would occur if the Project substantially impedes pedestrian circulation, access, and safety or conflicts with a pedestrian plan.

Impact Analysis

No Impact Summary

There are no "no impact" determinations for this topic.

Impacts of the Project

A. Result in unacceptable LOS conditions at signalized or unsignalized intersections

Construction

Impact TRAF-1.1: Project construction would result in a temporary increase in construction truck trips on local streets designated as truck routes and construction vehicle trips to and from the Project site. Project construction could require temporary closure of the Dublin Boulevard/Fallon Road intersection and the Doolan Road/North Canyons Parkway intersection, and temporary closure of Croak Road while a new intersection is constructed, necessitating detours. Construction truck, equipment, and vehicle trips, and intersection closures and detours could result in temporary congestion at local intersections in Dublin and Livermore. **(Less than Significant with Mitigation)**

Project construction would require construction vehicles and equipment to travel to and from the Project site using local roadways and highways. Additionally, Project construction would require the removal of up to 100,000 cubic yards of excavated soil. Soil would be removed using dump truck-style vehicles, which would travel along designated local truck routes in Dublin and Livermore before reaching I-580. Local truck routes are shown on **Figure 3-12** and **Figure 3-13**. These additional trips on the local roadway system could temporarily increase congestion at local intersections.

During construction of the Project, temporary closures may be required at the Dublin Boulevard/Fallon Road and Doolan Road/North Canyons Parkway intersections, along with the new Dublin Boulevard/Croak Road intersection. Given that Fallon Road and Doolan Road are both well-traveled local roadways that provide important north-south access in Dublin, Pleasanton, and Livermore, temporary intersection closure could result in congestion at these intersections or others in the local vicinity, as drivers divert onto other roadways to complete their trip. Similarly, Croak Road is an important local roadway used to access residential development north of the Project site. This could also present an issue for emergency vehicles and local delivery trucks.

Construction-period intersection congestion represents a potentially significant impact. **Mitigation Measure TRAF-1** requires preparation of a traffic management plan (TMP) that would be coordinated between all three jurisdictions (Dublin, the County, and Livermore) and Caltrans, as construction and detour traffic may require use of I-580. The TMP would delineate appropriate traffic management during construction to minimize intersection congestion, detour routes, notification plans for the public and emergency service providers, and the continuation of existing pedestrian and bicycle access at detour locations where it would be feasible and safe to do so. With implementation of this mitigation measure, temporary congestion at local intersections would be reduced and the impact would be less than significant.

Mitigation for Impact TRAF-1.1

> **Mitigation Measure TRAF-1:** A TMP shall be prepared during the design phase for the Project, in accordance with all local requirements. The TMP should address traffic impacts from staged construction, detours, and specific traffic handling concerns during construction of the Project, including multi-modal access. The objective of the TMP is to minimize the impacts that construction activities would have on the traveling public. Traffic management strategies that require action by the construction contractor should be presented in detail in the technical specifications of the bid contract, and should be considered part of the Project.
>
> In implementing the TMP, each jurisdiction should produce and disseminate press releases and other documents, as necessary, to adequately notify and inform motorists, pedestrians and cyclists, business community groups, local entities, emergency services, and elected officials of upcoming road closures and detours. This responsibility includes advance notification to local newspapers, television and radio stations, and emergency response providers. If agreed upon by Dublin, the County, and Livermore, Dublin as the lead agency may lead preparation and implementation of the TMP.

Existing Plus Project (2017)

Existing Plus Project conditions were analyzed to provide an estimation of transportation conditions if the Project were opened at the time of the existing counts (2017). Levels of service calculations were conducted to evaluate intersection operations under existing conditions with the addition of the Project. **Figure 5.14-5** shows the estimated Existing Plus Project traffic volumes and lane configurations without mitigation. The lane configurations depicted in this scenario show the

existing condition plus the Project for each intersection before mitigation has been incorporated. As shown in **Table 5.14-6**, the findings of the analysis indicate that the following intersections would degrade below the LOS standard for the intersection as a result of the Project:

- Fallon Road & Dublin Boulevard (#3)
- Airway Boulevard & N. Canyons Parkway (#8)

Table 5.14-6 Existing Plus Project Intersection Level of Service

ID#	Location	Hour	LOS Standard	Existing Plus Project		
				V/C	Delay	LOS
1	Hacienda Drive & Dublin Boulevard	AM	D	0.59	26.0	C
		PM	D	0.60	29.6	C
2	Tassajara Road & Dublin Boulevard	AM	D	0.67	33.1	C
		PM	D	0.72	34.1	C
3	Fallon Road & Dublin Boulevard	AM	D	***1.49***	***261.5***	***F***
		PM	D	0.74	33.5	C
4	Fallon Road & I-580 WB Ramps	AM	D	0.42	7.3	A
		PM	D	0.63	11.8	B
5	El Charro Road & I-580 EB Ramps	AM	D	0.37	5.6	A
		PM	D	0.50	7.0	A
6	Airway Boulevard & I-580 EB Ramps	AM	E	0.63	34.1	C
		PM	E	0.37	32.8	C
7	Airway Boulevard & I-580 WB Ramps	AM	E	0.64	19.0	B
		PM	E	0.17	9.8	A
8	Airway Boulevard & N. Canyons Parkway	AM	E	***1.01***	***88.9***	***F***
		PM	E	0.68	35.7	D
9	Doolan Road & N. Canyons Parkway	AM	Mid-D	0.48	12.5	B
		PM	Mid-D	0.34	14.9	B
10	Isabel Avenue & Portola Avenue	AM	E	0.73	29.5	C
		PM	E	0.47	24.7	C
11	Isabel Avenue & I-580 WB Ramps	AM	E	0.88	18.3	B
		PM	E	0.61	11.9	B
12	Isabel Avenue & I-580 EB Ramps	AM	E	0.71	16.2	B
		PM	E	0.59	11.2	B
13	Murrieta Boulevard & Portola Avenue	AM	Mid-D	0.57	21.8	C
		PM	Mid-D	0.63	29.9	C
14	Dublin Boulevard Extension & Croak Road[1]	AM	D	0.52	11.4	B
		PM	D	0.37	7.1	A

Source: Kittelson & Associates, Inc. 2018
LOS findings in ***BOLD*** represent intersections operating below the applicable LOS standard
[1]This intersection is a direct result of the Project, and would not exist under No Project scenarios.

Impact TRAF-1.2: The change in travel patterns resulting from the Project would result in unacceptable operations at the intersection of Fallon Road and Dublin Boulevard during the AM peak hour over existing conditions. **(Less than Significant with Mitigation)**

With implementation of the Project, this intersection would experience vehicles coming from and going to the new eastern leg of the intersection. The existing lane configurations do not provide enough capacity to handle the increased demand coming from the new westbound approach. The Project would cause the intersection to degrade from LOS C to LOS F in the AM peak hour as a result of increases in the number of vehicles using the new eastern leg of the intersection to access the Project. This is a potentially significant impact. Implementation of **Mitigation Measure TRAF-2** would improve the operation of this intersection to LOS D during the AM peak hour, reducing this impact to less than significant.

Mitigation for Impact TRAF-1.2

Mitigation Measure TRAF-2: Dublin is to implement the following geometric and signal timing improvements at the intersection of Dublin Boulevard/Fallon Road prior to the opening of the Dublin Boulevard Extension:

- Implement the mitigation measures described in the Kaiser Environmental Impact Report (EIR) which includes the construction of an additional left turn lane for both the northbound and eastbound approaches. This improvement is the obligation of Kaiser and the City shall build and seek reimbursement from Kaiser if not built by the time the Dublin Boulevard – North Canyons Parkway Extension Project is built.

- In addition to the mitigations proposed for the Kaiser EIR, Dublin shall implement the following improvements:

    - Northbound – construct at least one northbound right turn lane resulting in the following final lane configuration: 2 left turns, 2 through, and one right turn lane

    - Eastbound – construct at least one more through lane resulting in the following final lane configuration: 2 left turns, 2 through, and 2 rights

    - Westbound – construct at least two additional through lanes resulting in the following lane configuration: 1 left turn, 2 through, and a shared through/right

    - Optimize the signal timing

Impact TRAF-1.3: The change in travel patterns resulting from the Project would result in unacceptable operations at the intersection of Airway Boulevard and North Canyons Parkway in Livermore during the AM peak hour over existing conditions. **(Significant and Unavoidable Impact)**

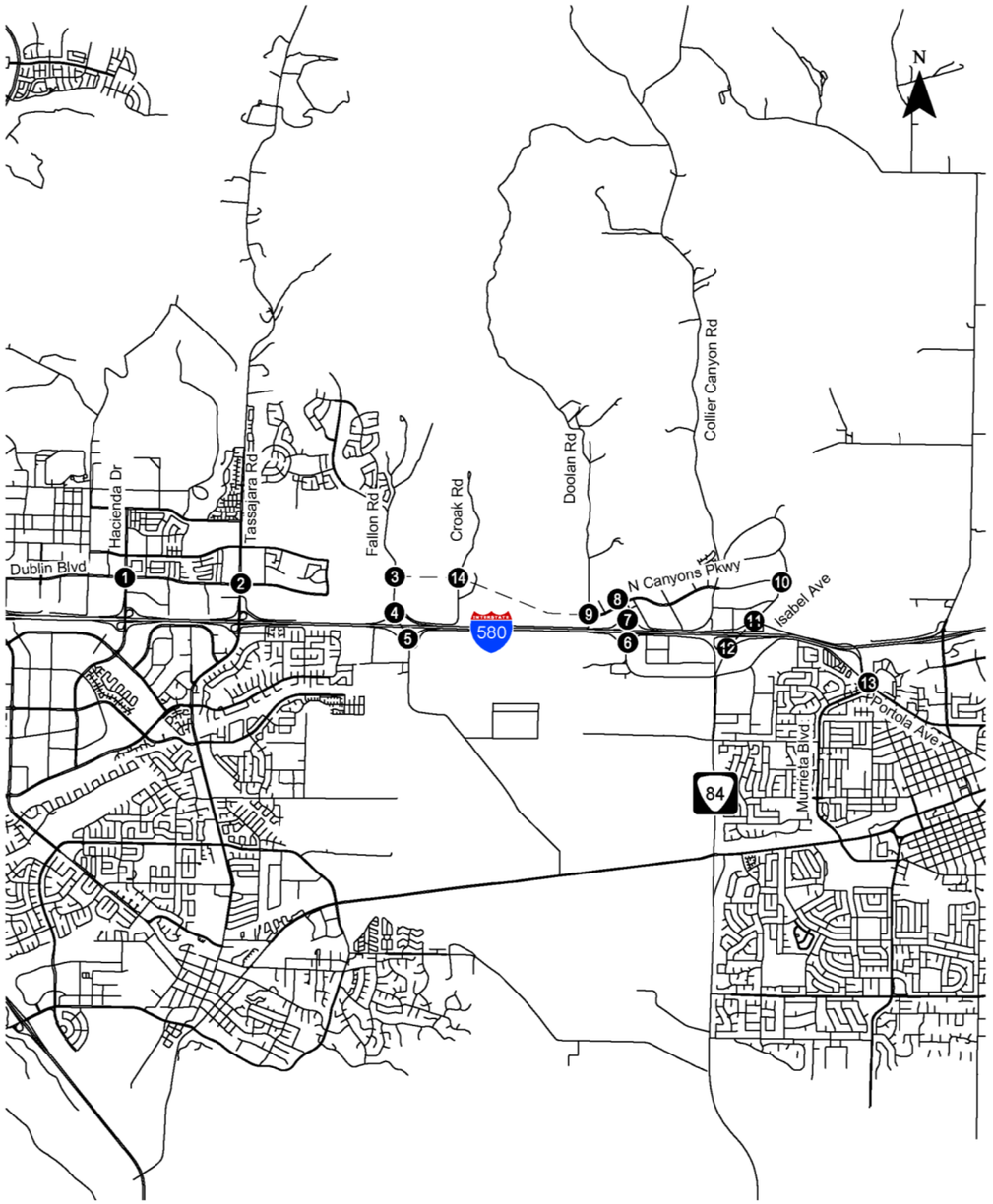
With implementation of the Project, this intersection would experience significant growth to the northbound left turn with the demand exceeding 800 vehicles per hour during the AM peak hour. The existing lane configuration of a single shared left and through lane for the northbound approach is insufficient to handle this demand. The Project would cause the LOS at this intersection to degrade from LOS D to LOS F in the AM peak hour due to an increase in northbound left turn traffic volumes. An intersection operation of LOS F would be below the LOS E standard for this intersection. This is a potentially significant impact.

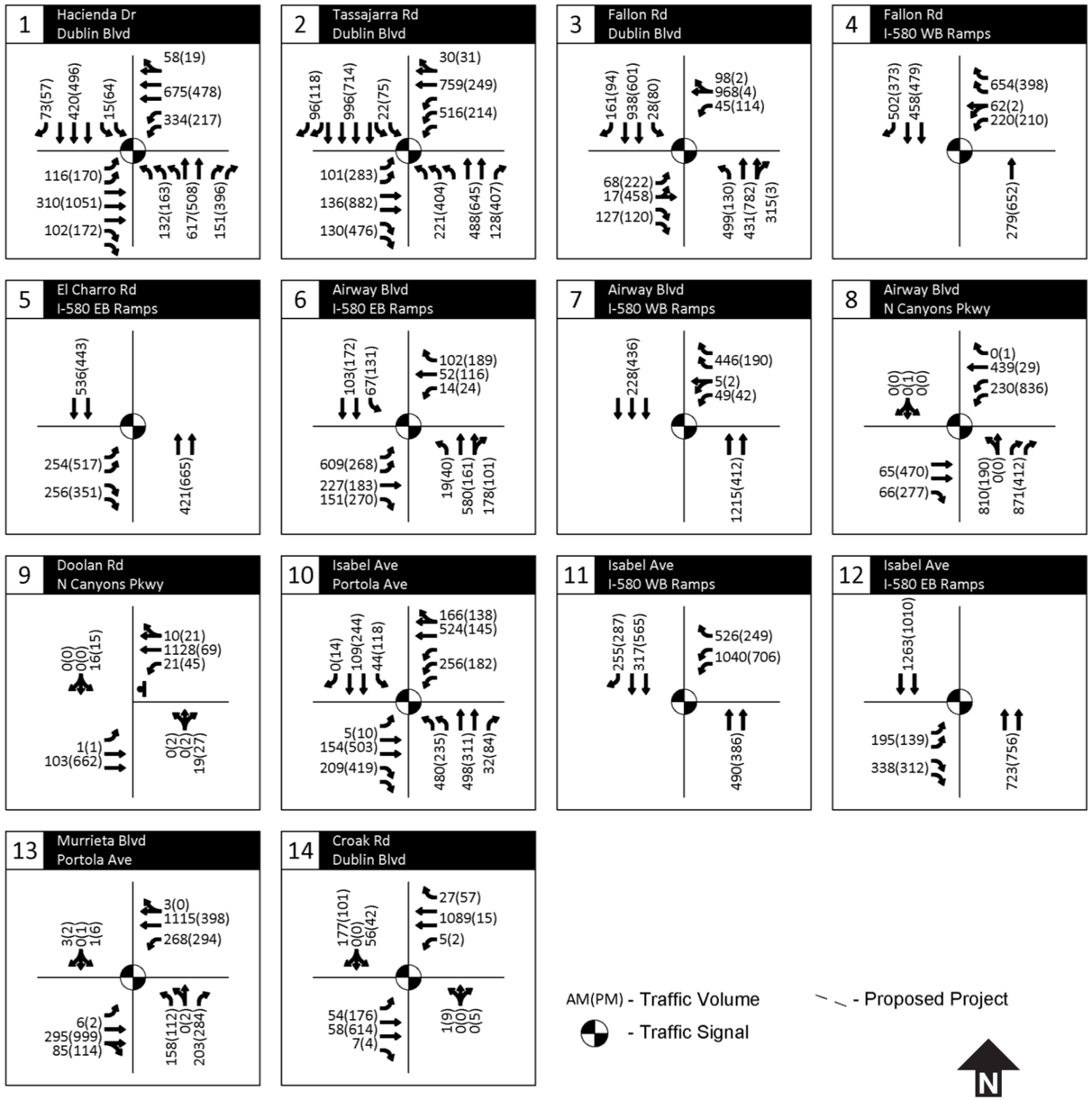
Implementation of **Mitigation Measure TRAF-3** would improve the operation of this intersection to LOS D during the AM peak hour. However, because the intersection is in Livermore, outside of Dublin's jurisdiction Dublin as the lead agency cannot guarantee the implementation and timing of the mitigation measure. Therefore, this impact would remain **significant and unavoidable**. Dublin, the County, and Livermore are coordinating on the Project to meet their General Plan's objectives including the planned extension of Dublin Boulevard. Dublin and Livermore currently have a funding Memorandum of Understanding (MOU) and are exploring a new cooperative agreement with Alameda County and the Alameda CTC to continue to work together to identify the funding and timing for this mitigation.

Mitigation for Impact TRAF-1.3

Mitigation Measure TRAF-3: The City of Livermore is to implement the following geometric and signal timing improvements at the intersection of Airway Boulevard and North Canyons Parkway prior to Project completion:

- Shift the median of Airway Boulevard one lane to the west reducing the southbound lanes from three to two and increasing the northbound lanes from three to four
- With the extra northbound lane, convert the northbound approach to Airway Boulevard and North Canyons Parkway to have an exclusive left, shared left/through, and two right turn lanes
- Add an additional westbound through lane resulting in two left turns, one exclusive through, and a shared through/right
- Optimize the signal timing





Existing Plus Project (2017) Turn Volumes and Intersection Configurations Figure **5.14-5**

Source: Kittelson & Associates, 2018

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2025 Conditions

2025 Plus Project conditions were analyzed to provide an estimation of anticipated conditions when the Project is operational (projected opening day). One local transportation network alteration is anticipated to occur between existing and 2025 conditions: construction of a second eastbound and a second northbound left turn lane at the intersection of Dublin Boulevard and Fallon Road, consistent with the improvements being implemented as a part of the Kaiser project. This improvement was also assumed to result in optimization of the signal timing plans to accommodate the new lanes. **Figure 5.14-6** shows the estimated 2025 Plus Project traffic volumes and lane configurations without mitigation. The lane configurations depicted in this scenario show the existing condition plus the Project for each intersection before mitigation has been incorporated. As shown in **Table 5.14-7**, two intersections would degrade below the applicable LOS standard under 2025 Plus Project conditions:

- Fallon Road and Dublin Boulevard (#3)
- Airway Boulevard and North Canyons Parkway (#8)

Table 5.14-7 2025 Plus Project Intersection Level of Service

ID#	Location	Hour	LOS Standard	2025 Plus Project		
				V/C	Delay	LOS
1	Hacienda Drive & Dublin Boulevard	AM	D	0.61	27.0	C
		PM	D	0.62	31.1	C
2	Tassajara Road & Dublin Boulevard	AM	D	0.68	33.3	C
		PM	D	0.76	39.7	D
3	Fallon Road & Dublin Boulevard	AM	D	***1.43***	***241.8***	***F***
		PM	D	***0.92***	***58.0***	***E***
4	Fallon Road & I-580 WB Ramps	AM	D	0.51	8.2	A
		PM	D	0.67	12.4	B
5	El Charro Road & I-580 EB Ramps	AM	D	0.41	6.2	A
		PM	D	0.59	8.1	A
6	Airway Boulevard & I-580 EB Ramps	AM	E	0.67	36.1	D
		PM	E	0.39	32.8	C
7	Airway Boulevard & I-580 WB Ramps	AM	E	0.67	19.1	B
		PM	E	0.20	9.2	A
8	Airway Boulevard & N. Canyons Parkway	AM	E	***1.03***	***93.8***	***F***
		PM	E	0.69	38.0	D
9	Doolan Road & N. Canyons Parkway	AM	Mid-D	0.49	12.4	B
		PM	Mid-D	0.34	14.9	B
10	Isabel Avenue & Portola Avenue	AM	E	0.81	38.1	D
		PM	E	0.53	26.1	C
11	Isabel Avenue & I-580 WB Ramps	AM	E	0.82	18.6	B

ID#	Location	Hour	LOS Standard	2025 Plus Project		
				V/C	Delay	LOS
		PM	E	0.74	17.5	B
12	Isabel Avenue & I-580 EB Ramps	AM	E	0.81	21.2	C
		PM	E	0.75	15.3	B
13	Murrieta Boulevard & Portola Avenue	AM	Mid-D	0.57	21.9	C
		PM	Mid-D	0.63	30.3	C
14	Dublin Boulevard Extension & Croak Road[1]	AM	D	0.57	12.2	B
		PM	D	0.39	7.8	A

Source: Kittelson & Associates, Inc. 2018
LOS findings in ***BOLD*** represent intersections operating below the applicable LOS standard
[1]This intersection is a direct result of the Project, and would not exist under No Project scenarios.

Impact TRAF-1.4: The change in travel patterns resulting from the Project would result in unacceptable operations at the intersection of Fallon Road and Dublin Boulevard during both the AM and PM peak hours under 2025 conditions. **(Less than Significant with Mitigation)**

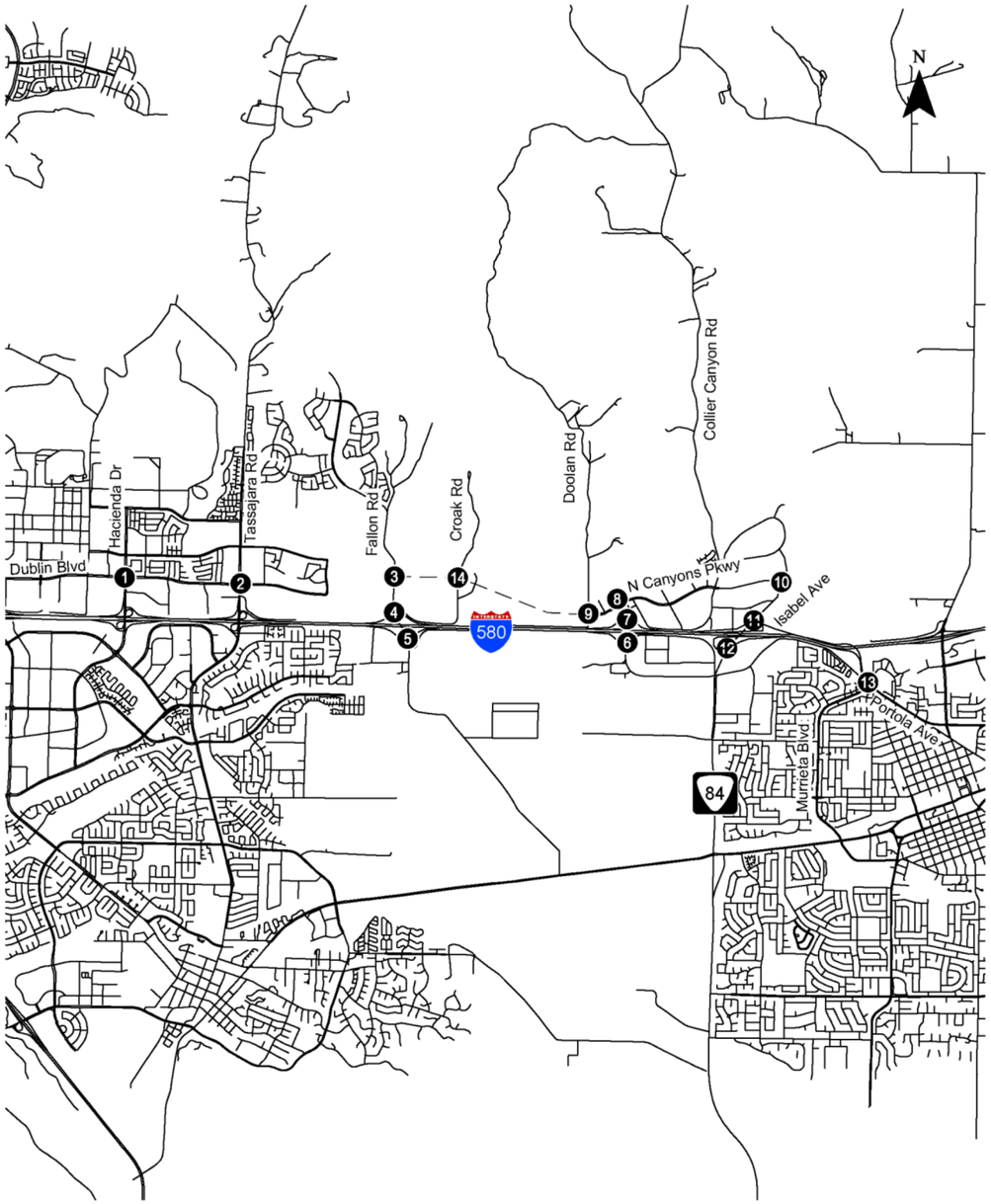
With implementation of the Project, this intersection would experience vehicles coming from and going to the new eastern leg of the intersection. The existing lane configurations do not provide enough capacity to handle the increased demand. The Project would cause the intersection to degrade from LOS C to LOS F in the AM peak hour and LOS C to LOS E in the PM peak hour. This is a potentially significant impact. Implementation of **Mitigation Measure TRAF-2** would improve the operation of this intersection to LOS D during both the AM and PM peak hours. Implementation of **Mitigation Measure TRAF-2** would reduce **Impact TRAF-1.3** to less than significant.

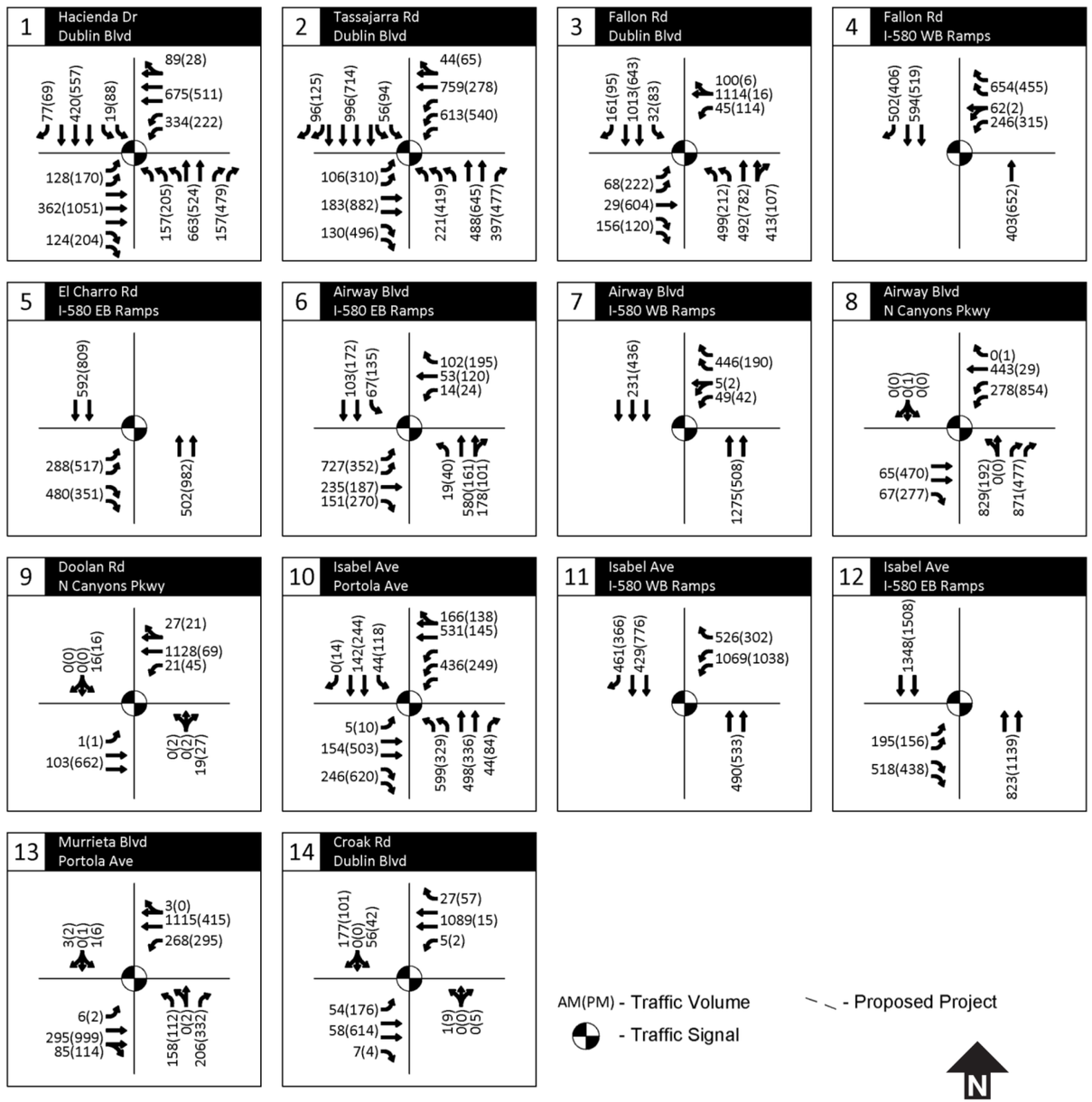
Mitigation for Impact TRAF-1.4

Mitigation Measure TRAF-2 (described above)

Impact TRAF-1.5: The change in travel patterns resulting from the Project would result in unacceptable operations at the intersection of Airway Boulevard and North Canyons Parkway during the AM peak hour under 2025 conditions. **(Significant and Unavoidable Impact)**

With implementation of the Project, this intersection would experience significant growth in the northbound left turn, with the demand exceeding 800 vehicles per hour during the AM peak hour. The existing lane configuration of a single shared lane for both left and through movements for the northbound approach is insufficient to handle this demand. The Project would cause the LOS to degrade from LOS D to LOS F in the AM peak hour, which is below the LOS E standard for this intersection. This is a potentially significant impact. Implementation of **Mitigation Measure TRAF-3** would improve the operation of this intersection to LOS D during the AM peak hour. However, as described under **Impact TRAF-1.3** above, Dublin as the lead agency cannot guarantee the implementation and timing of the mitigation measure, as it is outside the control and jurisdiction of the City. Therefore, this impact remains **significant and unavoidable**.





2025 Plus Project Turn Volumes and Intersection Configurations Figure **5.14-6**

Source: Kittelson & Associates, 2018

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Mitigation for Impact TRAF-1.5

Mitigation Measure TRAF-3 (described above)

2040 (Cumulative) Conditions

Cumulative conditions were analyzed to provide an estimation of anticipated conditions for the Project's design year of 2040. **Figure 5.14-7** shows the estimated 2040 Plus Project (Cumulative) traffic volumes and lane configurations without mitigation. The lane configurations depicted in this scenario show the existing condition plus the Project for each intersection before mitigation has been incorporated. As shown in **Table 5.14-8**, the following intersection would degrade below the LOS standard for the intersection for 2040 Plus Project (Cumulative) conditions:

- Airway Boulevard and North Canyons Parkway (#8)

Impact TRAF-1.6: The change in travel patterns resulting from the Project would result in unacceptable operations at the intersection of Airway Boulevard and North Canyons Parkway during the AM and PM peak hours under 2040 (cumulative) conditions. **(Significant and Unavoidable Impact)**

With implementation of the Project, this intersection would experience significant growth to the northbound left turn and westbound through movements in the cumulative scenario. The existing lane configuration of a single shared lane for both left and through movements for the northbound approach is insufficient to handle this demand. The Project would cause the LOS to degrade from LOS E to LOS F in the AM peak hour, which is below the LOS E standard for this intersection. The PM peak hour is also impacted with the Project causing the delay for this intersection already operating at a substandard LOS to increase the average vehicle delay by 5 seconds or more. This is a potentially significant impact.

Impact TRAF-1.6 would be reduced to a less-than-significant level through the implementation of **Mitigation Measure TRAF-3,** described above. Implementation of **Mitigation Measure TRAF-3** would improve the operation of this intersection to LOS C during the AM peak hour and LOS D during the PM peak hour. However, as described under **Impact TRAF-1.3** above, Dublin as the lead agency cannot guarantee the implementation and timing of the mitigation measure, as it is outside the control and jurisdiction of the City. Therefore, this impact remains **significant and unavoidable**.

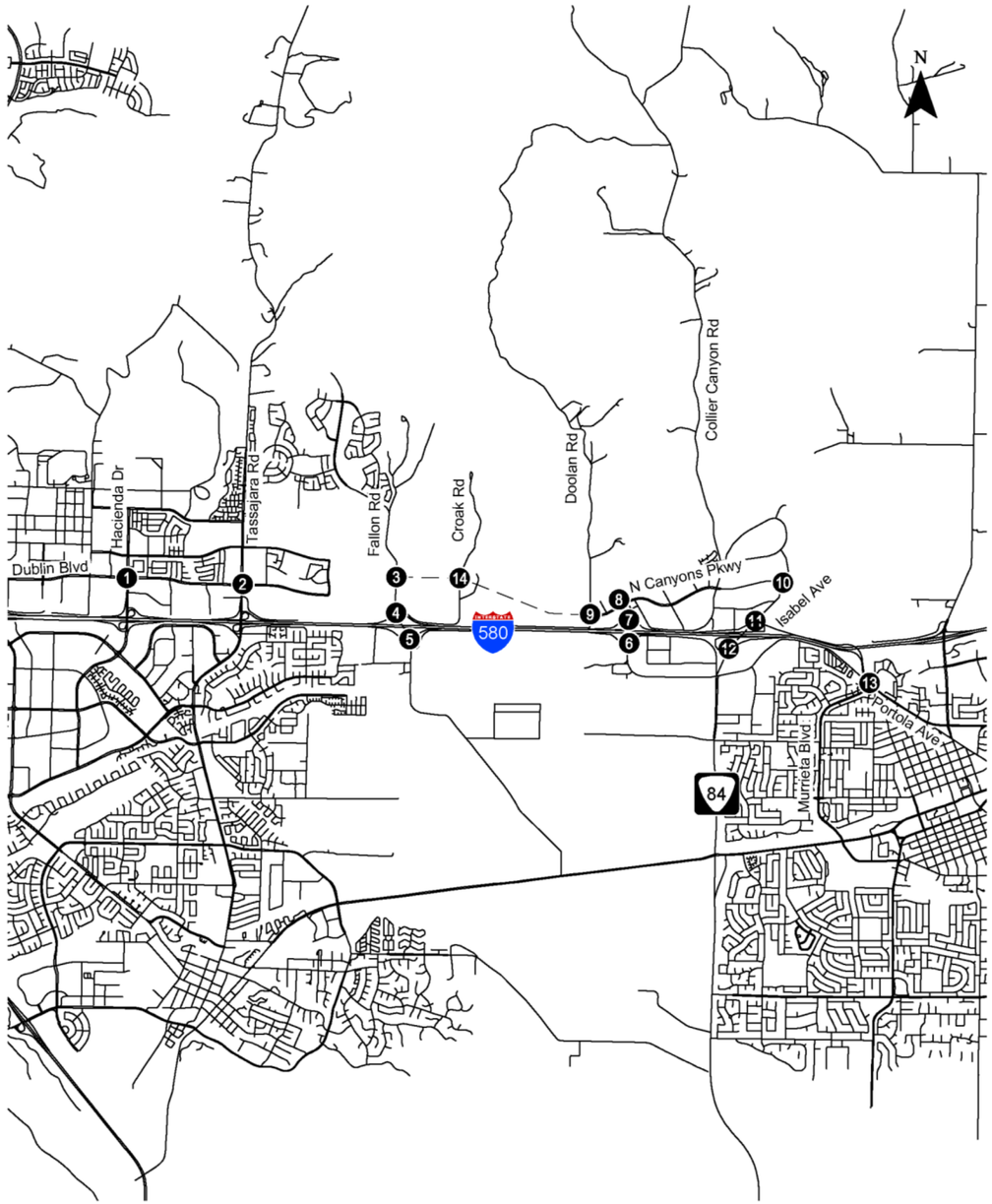
Mitigation for Impact TRAF-1.6

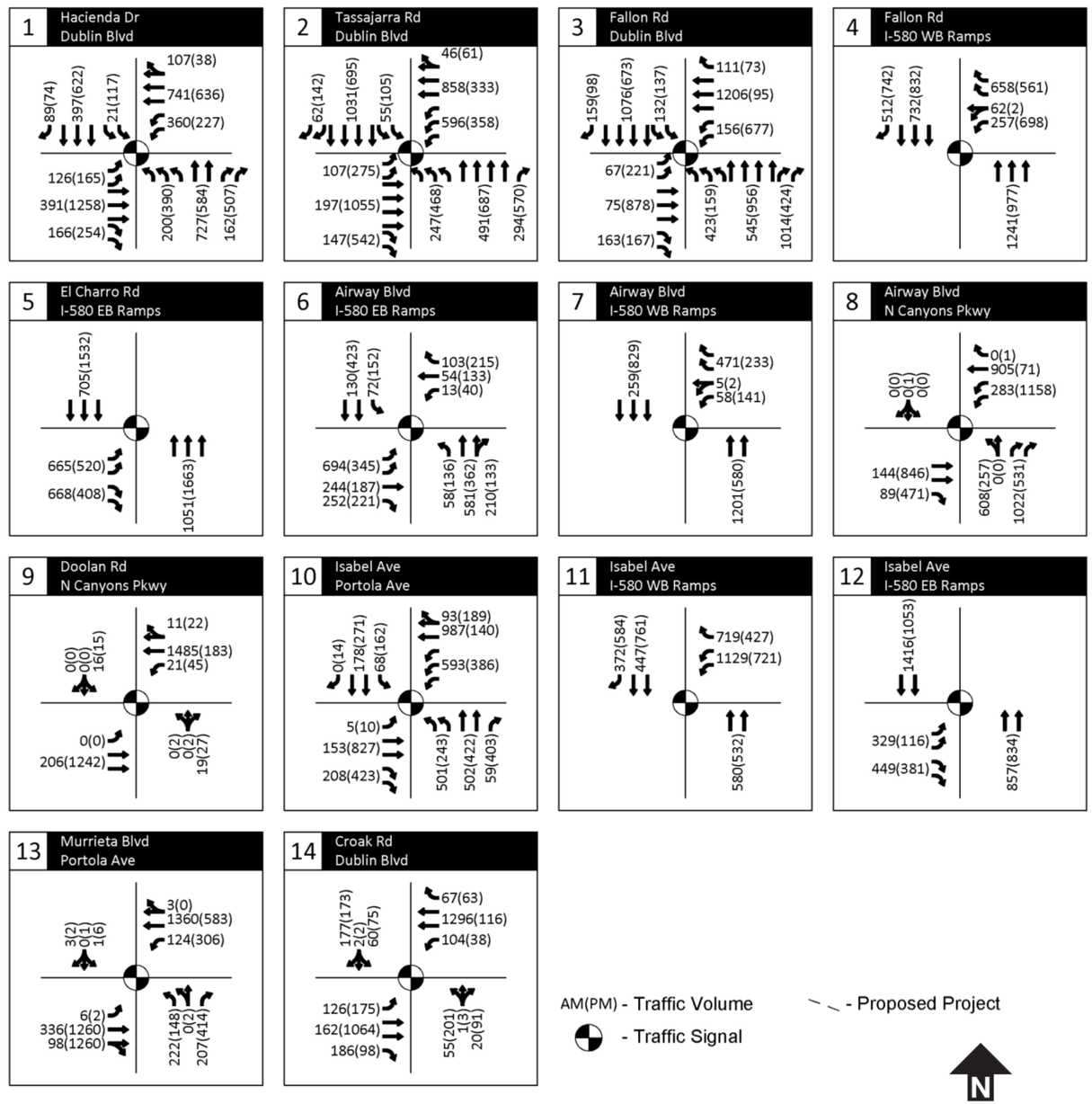
Mitigation Measure TRAF-3 (described above)

Table 5.14-8 2040 Plus Project Intersection Level of Service

ID#	Location	Hour	LOS Standard	2040 Plus Project		
				V/C	Delay	LOS
1	Hacienda Drive & Dublin Boulevard	AM	D	0.66	28.7	C
		PM	D	0.71	34.8	C
2	Tassajara Road & Dublin Boulevard	AM	D	0.63	31.2	C
		PM	D	0.65	34.2	C
3	Fallon Road & Dublin Boulevard	AM	D	0.70	28.5	C
		PM	D	0.74	41.0	D
4	Fallon Road & I-580 WB Ramps	AM	D	0.63	9.8	A
		PM	D	0.66	11.6	B
5	El Charro Road & I-580 EB Ramps	AM	D	0.58	9.3	A
		PM	D	0.62	9.1	A
6	Airway Boulevard & I-580 EB Ramps	AM	E	0.67	35.9	D
		PM	E	0.50	33.0	C
7	Airway Boulevard & I-580 WB Ramps	AM	E	0.65	17.8	B
		PM	E	0.27	10.5	B
8	Airway Boulevard & N. Canyons Parkway	AM	E	***1.20***	***85.3***	***F***
		PM	E	***1.02***	***105.9***	***F***
9	Doolan Road & N. Canyons Parkway	AM	Mid-D	0.59	3.8	A
		PM	Mid-D	0.55	7.5	A
10	Isabel Avenue & Portola Avenue	AM	E	0.93	44.0	D
		PM	E	0.68	33.3	C
11	Isabel Avenue & I-580 WB Ramps	AM	E	0.99	46.4	D
		PM	E	0.69	12.0	B
12	Isabel Avenue & I-580 EB Ramps	AM	E	0.83	24.5	C
		PM	E	0.61	11.5	B
13	Murrieta Boulevard & Portola Avenue	AM	Mid-D	0.62	19.3	B
		PM	Mid-D	0.78	32.9	C
14	Dublin Boulevard Extension & Croak Road[1]	AM	D	0.71	16.3	B
		PM	D	0.78	14.1	B

Source: Kittelson & Associates, Inc. 2018
LOS findings in ***BOLD*** represent intersections operating below the applicable LOS standard
1This intersection is a direct result of the Project, and would not exist under No Project scenarios.





2040 Plus Project (Cumulative) Turn Volumes and Intersection Configurations Figure **5.14-7**

Source: Kittelson & Associates, 2018

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B. Result in an impact to vehicle queuing

Existing Plus Project (2017)

To determine if the Project would cause queueing impacts, 95th percentile queue lengths were estimated for Existing Plus Project conditions. The findings for the 95th percentile queue length in the AM and PM peak hours for all intersections are detailed in **Appendix D** of this Draft EIR. Intersection movements where the Project would cause a turn pocket to exceed its available storage by more than 25 feet or increase a queue already exceeding the available turn pocket storage by more than 25 feet include:

- Fallon Road and Dublin Boulevard (#3)

Impact TRAF-2.1: The Project would result in the northbound left turn queue at the intersection of Fallon Road and Dublin Boulevard increasing in length by more than 25 feet (389 feet) during the AM peak hour. This turn queue already exceeds the available storage under existing conditions. **(Less than Significant with Mitigation)**

The existing lane configurations and signal timing do not provide enough capacity to serve the increased vehicle demand, which results in 95th percentile queue lengths for high demand movements. With implementation of the Project, the vehicle demand would increase at all approaches for this intersection. During the AM peak hour, the Project would cause the queue for the northbound left turn movement to increase from 419 feet to 808 feet resulting in the queue exceeding the available storage of 380 feet. This is a potentially significant impact. Implementation of **Mitigation Measure TRAF-2** would reduce the queue to 330 feet during the AM peak hour, allowing it to be contained within the available storage. This would be accomplished through the implementation of two left turn lanes at this approach, and moreover by increasing the capacity of the intersection to allow more vehicles to travel through efficiently. This mitigation measure would reduce this impact to less than significant.

Mitigation for Impact TRAF-2.1

Mitigation Measure TRAF-2 (described above)

2025 Conditions

To determine if the Project would cause queueing impacts at the Project's projected opening year, 95th percentile queue lengths were estimated for 2025 Plus Project conditions. The findings for the 95th percentile queue length in the AM and PM peak hours for all intersections are detailed in **Appendix D** of this Draft EIR. Intersection movements where the Project would cause a turn pocket to exceed its available storage by more than 25 feet or increase a queue already exceeding the available turn pocket storage by more than 25 feet include:

- Fallon Road and Dublin Boulevard (#3)

Impact TRAF-2.2: The Project would result in the southbound left turn queue at the intersection of Fallon Road and Dublin Boulevard exceeding the available turn pocket storage by more than 25 feet (67 feet) during the PM peak hour under 2025 conditions. **(Less than Significant with Mitigation)**

The existing lane configurations and signal timing do not provide enough capacity to keep the 95th percentile queue from exceeding the available storage at this intersection. With implementation of the Project, the southbound left turn demand to access the Project would increase substantially. During the PM peak hour, the Project would cause the queue for the southbound left turn movement to increase from 13 feet to 197 feet, resulting in the queue exceeding the available storage of 130 feet. This is a potentially significant impact. Implementation of **Mitigation Measure TRAF-2** would add additional lanes in the northbound, westbound, and eastbound directions at this intersection, resulting in more capacity at the intersection. This would allow for green lights in these directions to be shorter, as the intersection would allow more vehicles to pass through in a shorter amount of time. Lane modifications included in Mitigation Measure TRAF-2 would in turn allow the southbound left turn signal to have a longer green light, allowing more vehicles time to move through the intersection. This would indirectly relieve the queueing impact introduced by the Project by allowing the intersections to have more throughout. The queue would be reduced to 105 feet, allowing it to be contained within the available storage and reducing this impact to less than significant.

Mitigation for Impact TRAF-2.2

Mitigation Measure TRAF-2 (described above)

2040 (Cumulative) Conditions

Based on detailed information provided in **Appendix D**, the addition of Project traffic under the 2040 Plus Project (Cumulative) conditions would potentially result in vehicle queues exceeding the available storage, or would increase vehicle queues by more than 25 feet for movements where the queue already exceeds the available storage. Queuing impacts have been identified for the following intersections:

- Airway Boulevard and North Canyons Parkway (#8)
- Isabel Avenue and I-580 Westbound Ramps (#11)

Impact TRAF-2.3: The Project would result in the westbound queue at Airway Boulevard and North Canyons Parkway increasing by more than 25 feet (29 feet) during the PM peak hour under 2040 conditions. This turn queue already exceeds the available storage under existing conditions. **(Significant and Unavoidable Impact)**

With implementation of the Project, this intersection would experience significant growth in demand. The Project would cause the westbound left turn queue, which already exceeds the available turn pocket storage under existing conditions, to increase by more than 25 feet (29 feet) during the PM peak hour. The existing signal timing and lane configuration is inadequate to provide sufficient capacity to meet the demand for this movement in the 2040 Plus Project (Cumulative)

scenario, resulting in a potentially significant impact. Implementation of **Mitigation Measure TRAF-3** would reduce the westbound left turn queue to fit within the available turning storage. This would be accomplished by increasing the capacity of the intersection to allow more vehicles to travel through efficiently. However, as described under **Impact TRAF-1.2** above, Dublin as the lead agency cannot guarantee the implementation and timing of the mitigation measure, as it is outside the control and jurisdiction of the City. Therefore, this impact remains **significant and unavoidable**.

Mitigation for Impact TRAF-2.3

> **Mitigation Measure TRAF-3** (described above)

Impact TRAF-2.4: The Project would result in the westbound right turn at the intersection of Isabel Avenue and I-580 Westbound off-ramps exceeding the available turn pocket storage by more than 25 feet (58 feet) during the AM peak hour under 2040 conditions. **(Significant and Unavoidable Impact)**

With implementation of the Project, increased demand from vehicles exiting the freeway to access the Project would exceed the intersection's capacity for the westbound right turn movement. This would result in the right turn queue exceeding the available storage by 58 feet during the AM peak hour. This is a potentially significant impact. Implementation of **Mitigation Measure TRAF-4** would reduce the queue to 439 feet, allowing it to be contained within the available storage. However, this intersection is under the jurisdiction of Caltrans, and therefore Dublin cannot guarantee the implementation and timing of the mitigation measure, as it is outside the control and jurisdiction of the City. Therefore, this impact remains **significant and unavoidable**.

Mitigation for Impact TRAF-2.4

> **Mitigation Measure TRAF-4:** Caltrans is to optimize the traffic signal timing at Isabel Avenue and I-580 Westbound Ramps by the year 2035 to increase the green time for the westbound right turn movement.

C. Impede existing or planned transit services

The primary goals of transit service in the study area are to increase ridership, improve access to BART, and reduce system inefficiencies. The Project would provide a multimodal roadway connection between Dublin and Livermore on the north side of I-580. The extension of bus transit service along the Project from the current terminus of Dublin Boulevard at Fallon Road eastward to developable areas of eastern Dublin is planned for in the EDSP. The Project would allow for future bus transit access to BART from eastern Dublin land uses, and would encourage transit ridership in eastern Dublin by accommodating extension of existing bus service to a new area. The Project would also provide transit operators an alternative route and local connection between the two municipalities that avoids I-580, which is heavily congested during the peak commute periods. This

may improve transit travel times on routes utilizing the new connection, which may indirectly increase ridership through improved travel time (which would make transit more appealing to riders). Therefore, the Project would not impede existing or planned transit service. This impact is **less than significant**.

D. Impede pedestrian circulation, access, or safety

Under existing conditions, there is no pedestrian connectivity between Dublin and Livermore north of I-580. To travel between these municipalities, pedestrians must travel down Isabel Avenue and along Jack London Boulevard. The Project would provide a more direct and appealing pedestrian connection along the north side of I-580 connecting the Dublin Boulevard/Fallon Road intersection with the Doolan Road/North Canyons Parkway intersection in Livermore.

The Project design includes a dedicated sidewalk for pedestrians on one side and a multiuse trail on the other, where both bicyclists and pedestrians would share the pathway. By providing this connection, the Project would improve pedestrian circulation and access. The new sidewalk and multiuse trail have been designed to the latest applicable standards ensuring adequate separation between pedestrians and vehicle traffic. Pedestrian access to the new roadway facilities would be from the Dublin Boulevard/Fallon Road intersection and the Doolan Road/North Canyons Parkway intersection. These intersections do not currently include pedestrian crosswalks eastward across Fallon Road or westward across Doolan Road. However, the Project would include the addition of pedestrian signals and crosswalks, providing pedestrian access to the Project. Based on the above, the Project would not impede pedestrian access, circulation, or safety. This impact is **less than significant**.

E. Impede the circulation, access, or safety of bicyclists or bicycle facilities

The new connection would improve bicycle connectivity north of I-580 where there are no bicycle facilities today. The Project would implement a multiuse path along with bicycle lanes to facilitate the connection between eastern Dublin and Livermore. Access to these new facilities would occur via signalized intersections at Fallon Road and Doolan Road. As part of the Project, the signal timing at these intersections would be improved to provide sufficient green time to accommodate bicycle movements. Bicycle safety along the Project is addressed through the design of the bike lanes and multiuse path, which meets current standards providing sufficient separation between bicyclists and motor vehicle traffic. The Project is also consistent with the *2014 City of Dublin Bicycle and Pedestrian Master Plan*, the *2012 Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas*, and the *2018 City of Livermore Bicycle, Pedestrian, and Trails Active Transportation Master Plan* as it includes Class II bike lanes along the Project length. Therefore, the Project would not impede bicycle access, circulation, or safety, and this impact is **less than significant**.

CUMULATIVE IMPACTS

The cumulative setting for traffic is equivalent to the transportation study area evaluated above. The traffic study conducted for the Project utilized traffic volumes based on the ACTC Countywide Model (as modified to ensure that the model accurately reflected planned and funded land-use development and transportation Projects expected to be in place by 2025 and 2040). As such, the traffic study conducted for the Project analyzed cumulative conditions within the transportation study area. The 2040 Plus Project (Cumulative) scenario used in the above analysis reflects regional land use projections consistent with ABAG Projections, as well as roadway network improvements contained in Plan Bay Area 2040. Therefore, with implementation of the mitigation measures above, no cumulative impact would occur. However, Dublin as the lead agency cannot guarantee the implementation and timing of mitigation outside the control and jurisdiction of the City. Mitigation to reduce cumulative impacts would require improvements in Livermore and in areas under Caltrans' jurisdiction. Therefore, it has been conservatively determined that cumulative impacts to the intersection of Airway Boulevard and North Canyons Parkway and the intersection of Isabel Avenue and the I-580 Westbound off-ramps would occur.

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