

## 4.13 TRANSPORTATION/TRAFFIC

This EIR section analyzes the potential for adverse impacts on existing transportation and traffic conditions resulting from implementation of one of the proposed General Plan Amendment (GPA) and Zoning Text Amendment (ZTA) Options, referred to as the proposed project. The proposed project contains two Options: GPA/ZTA Option 1 (Option 1) and GPA/ZTA Option 2 (Option 2). The Initial Study/Notice of Preparation (IS/NOP [Appendix A]) identified the potential for impacts associated with the following: (1) increased number of vehicle trips and traffic congestion; (2) exceeding established levels of service of the county congestion management agency; (3) increased hazards due to design features; (4) parking capacity; (5) changes in air traffic patterns as a result of the proposed project; (6) provision of emergency access; and, (7) the potential for the proposed project to conflict with adopted policies supporting alternative transportation and emergency access.

Data used to prepare this section were taken from the City's General Plan Circulation Element and *The Village at Bella Terra Traffic Study* prepared by Austin-Foust Associates for the project site (Appendix H). Full bibliographic entries for all reference materials are provided in Section 4.13.5 (References), at the end of this section.

All comments received in response to the Initial Study/Notice of Preparation (IS/NOP) circulated for the proposed project were taken into consideration during preparation of this EIR, and if relevant, have been addressed in this section or others within this document.

### 4.13.1 Environmental Setting

This section provides an assessment of existing conditions in/around the project study area, including a description of the existing street and highway system, traffic volumes on these facilities, and operating conditions at selected intersections.

#### ■ Regional Highway and Street Network

##### *Freeways*

Regional and inter-regional access for the City of Huntington Beach is provided by a system of freeways, and major and local arterials. The San Diego Freeway (I-405) is the major north/south freeway that provides regional access to the City. The project site is bounded by Center Avenue to the north, Edinger Avenue to the south, the existing Bella Terra Mall (Phase I) to the east, and the Union Pacific Railroad (UPRR) right-of-way and commercial properties to the west. Center Avenue extends east and intersects the I-405 southbound ramps. Beach Boulevard, also known as State Route 39 located east of the project site also intersects Center Avenue. Beach Boulevard has been designated as a "Smart Street Corridor" by the Orange County Transportation Authority (OCTA) (Circulation Element 1996).

### *Local Access*

Arterial roadways in the vicinity of the project site include Beach Boulevard, Center Avenue, and Edinger Avenue. The key local streets serving the project site are described below:

- **Beach Boulevard** is the City's major north/south roadway that connects I-405 to the beach. It is an eight-lane divided roadway that is designated by the City of Huntington Beach General Plan Circulation Element as a principal arterial street. Beach Boulevard would provide primary access to Center Avenue and Edinger Avenue.
- **Center Avenue** is currently an east/west secondary roadway consisting of a four-lane undivided roadway immediately north of the project site and is designated by the City of Huntington Beach General Plan Circulation Element as a collector arterial street. An existing access driveway along Center Avenue would provide access/egress to the residential component or commercial component of the project site.
- **Edinger Avenue** is a major east/west six-lane divided roadway located immediately south of the project site and is designated by the City of Huntington Beach General Plan Circulation Element as a major arterial street. An existing access driveway along Edinger Avenue would provide access/egress to the commercial parking component. In addition, a new right in/right out driveway for loading and access to residential parking structures would also be located along Edinger Avenue at the westerly property line.

### *Existing Traffic Volumes*

The traffic impact analysis evaluated intersection operations at twenty intersections in the vicinity of the project site:

- Goldenwest Street at Bolsa Avenue
- Goldenwest Street at McFadden Avenue
- Gothard Street at McFadden Avenue
- Gothard Street at Center Avenue
- I-405 Southbound Ramps at Center Avenue
- Beach Boulevard at Center Avenue
- Goldenwest Street at Edinger Avenue
- Gothard Street at Edinger Avenue
- Beach Boulevard at Edinger Avenue
- Newland Street at Edinger Avenue
- Gothard Street at Heil Avenue
- Beach Boulevard at Heil Avenue
- Newland Street at Heil Avenue
- Gothard Street at Warner Avenue
- Beach Boulevard at Warner Avenue
- Newland Street at Warner Avenue
- Beach Boulevard at McFadden Avenue
- Beach Boulevard at Bolsa Avenue
- Beach Boulevard at Hazard Avenue
- Magnolia Street at Edinger Avenue

Figure 4.13-1 (Existing Circulation System) presents the existing through lanes for study area roadways and intersection lane configurations in the project area.

Existing average daily traffic (ADT) on arterial roadways in the study area is shown on Figure 4.13-2 (Existing Study Area ADT Volumes). Of the arterial roadways located in the immediate vicinity of the project site, Beach Boulevard experiences the highest volumes (approximately 79,000 ADT), while Center Avenue and Edinger Avenue experience volumes of 10,000 ADT and 30,000 ADT, respectively. Other roadway segments carrying more than 15,000 ADT in the study area include Gothard Street and McFadden Avenue.

It should be noted that, for the purposes of this analysis, inclusive of existing conditions, performance criteria used for evaluating volumes and capacities on the City street system are based on peak hour intersection volumes. Using peak hour intersection turn movement volumes and the intersection lane geometry, intersection capacity utilization (ICU) values are calculated for each of the AM and PM peak hours. The ICU values represent volume/capacity (V/C) ratios for these times periods, and thereby provide a suitable measure of system performance. For Caltrans intersections average vehicle delay calculations are also made using the Highway Capacity Manual (HCM) methodology (i.e., both ICU values and average delay are calculated for these intersections) HCM methodology estimates the average total delay for each of the traffic movements and determines the LOS for each movement. The overall average delay is measured in seconds per vehicle, and LOS is then calculated for the entire intersection both ICU values and average delay are calculated for these intersections.

Traffic levels of service are designated “A” through “F,” with LOS A representing free flow conditions and LOS F representing severe traffic conditions. Acceptable LOS is LOS “D” (ICU not to exceed 0.90) as defined by City of Huntington Beach Traffic Study Guidelines (1996), whereas the performance standard for Orange County Congestion Management Program Intersections is LOS E, (ICU not to exceed 1.0). There are two CMP intersections located in the study area; Beach Boulevard at Edinger Avenue, and Beach Boulevard at Warner Avenue. Although LOS E is acceptable for CMP purposes at these locations, the City performance standard of LOS “D” is typically used in traffic analysis application.

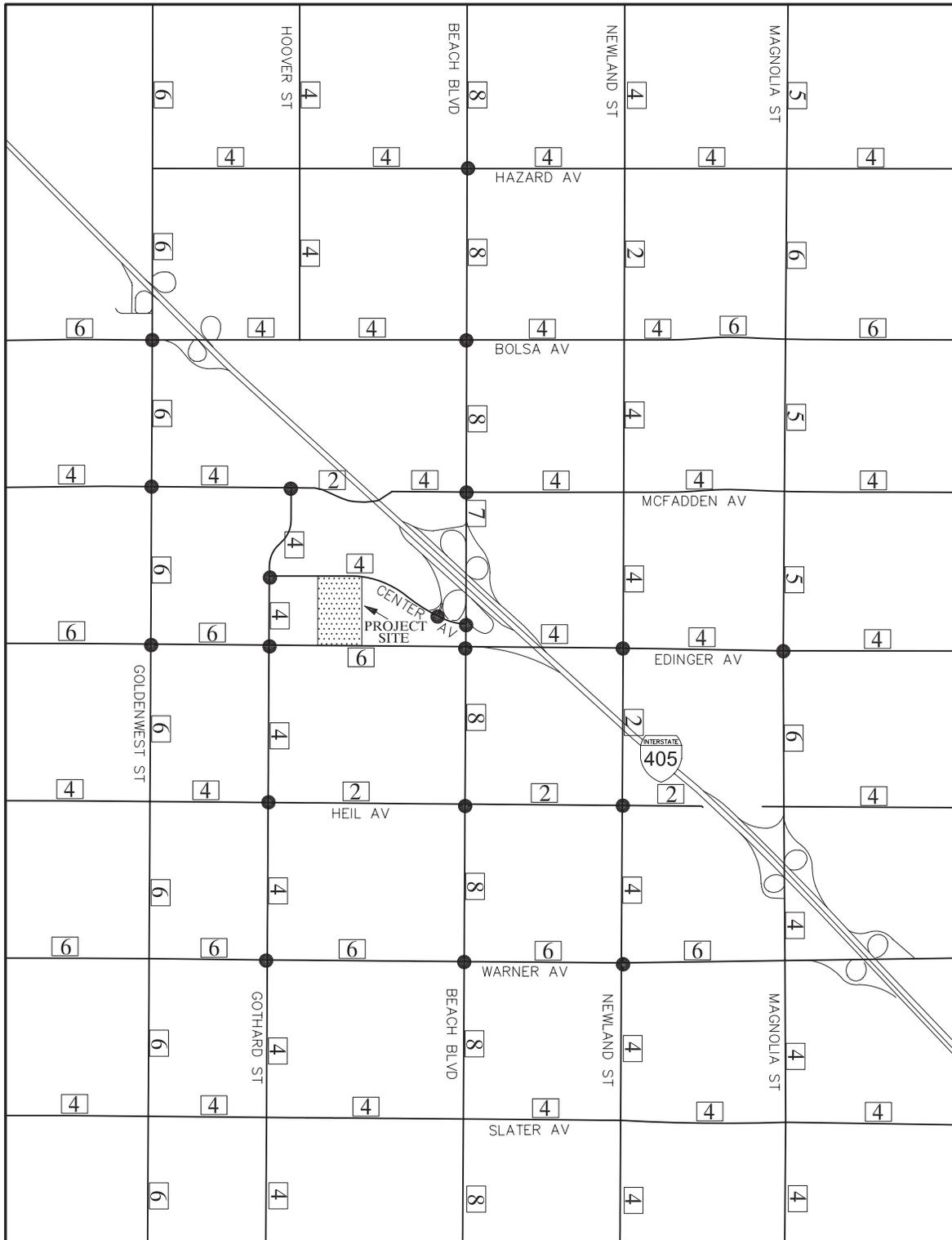
In terms of freeway interchange ramps, the analysis is based on peak hour V/C ratios, with capacity being a function of the particular operating characteristics of each ramp. LOS “E” (peak hour V/C less than or equal to 1.00) is an acceptable level of service for freeway ramps.

Figure 4.13-3 (Existing AM Peak Hour Traffic Volumes) depicts the existing AM peak hour traffic volumes and Figure 4.13-4 (Existing PM Peak Hour Traffic Volumes) depicts the existing PM peak hour traffic volumes. The results of the existing intersection analysis are summarized in Table 4.13-1 (Existing [2006] Level of Service Summary) which includes the existing level of service summary for both ICU and HCM methodologies.

Table 4.13-1 Existing (2006) Level of Service Summary

INTERSECTION CAPACITY UTILIZATION (ICU)				
Location	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
Goldenwest Street at Bolsa Avenue	0.64	B	0.86	D
Goldenwest Street at McFadden Avenue	0.68	B	0.72	C
Gothard Street at McFadden Avenue	0.48	A	0.51	A
Gothard Street at Center Avenue	0.28	A	0.47	A
I-405 SB Ramps at Center Avenue	0.40	A	0.75	C
Beach Boulevard at Center Avenue	0.67	B	0.68	B
Goldenwest Street at Edinger Avenue	0.62	B	0.60	A
Gothard Street at Edinger Avenue	0.47	A	0.57	A
Beach Boulevard at Edinger Avenue	0.71	C	0.88	D
Newland Street at Edinger Avenue	0.71	C	0.62	B
Gothard Street at Heil Avenue	0.56	A	0.62	B
Beach Boulevard at Heil Avenue	0.78	C	0.80	C
Newland Street at Heil Avenue	0.51	A	0.46	A
Gothard Street at Warner Avenue	0.56	A	0.77	C
Beach Boulevard at Warner Avenue	0.69	B	0.89	D
Newland Street at Warner Avenue	0.81	D	0.87	D
Beach Boulevard at McFadden Avenue	0.78	C	0.81	D
Beach Boulevard at Bolsa Avenue	0.81	D	0.79	C
Beach Boulevard at Hazard Avenue	0.64	B	0.70	B
Magnolia Street and Edinger Avenue	0.78	C	0.67	B
HIGHWAY CAPACITY MANUAL (HCM) DELAY (CALTRANS INTERSECTIONS)				
Location	AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS
I-405 SB Ramps at Center Avenue	30.9	C	35.0	C
Beach Boulevard at Center Avenue	9.7	A	18.5	B
Beach Boulevard at Edinger Avenue	58.0	E	57.7	E
Beach Boulevard at Heil Avenue	22.3	C	15.9	B
Beach Boulevard at Warner Avenue	50.0	D	42.1	D
Beach Boulevard at McFadden Avenue	33.6	C	31.5	C
Beach Boulevard at Bolsa Avenue	38.7	D	32.3	C
Beach Boulevard at Hazard Avenue	22.7	C	26.9	C

SOURCE: Austin-Foust Associates Inc. City of Huntington Beach Bella Terra Traffic Analysis. July 2008. pg 2-6



**Legend**

- X Midblock Lanes
- Signalized Intersection analyzed in the traffic study



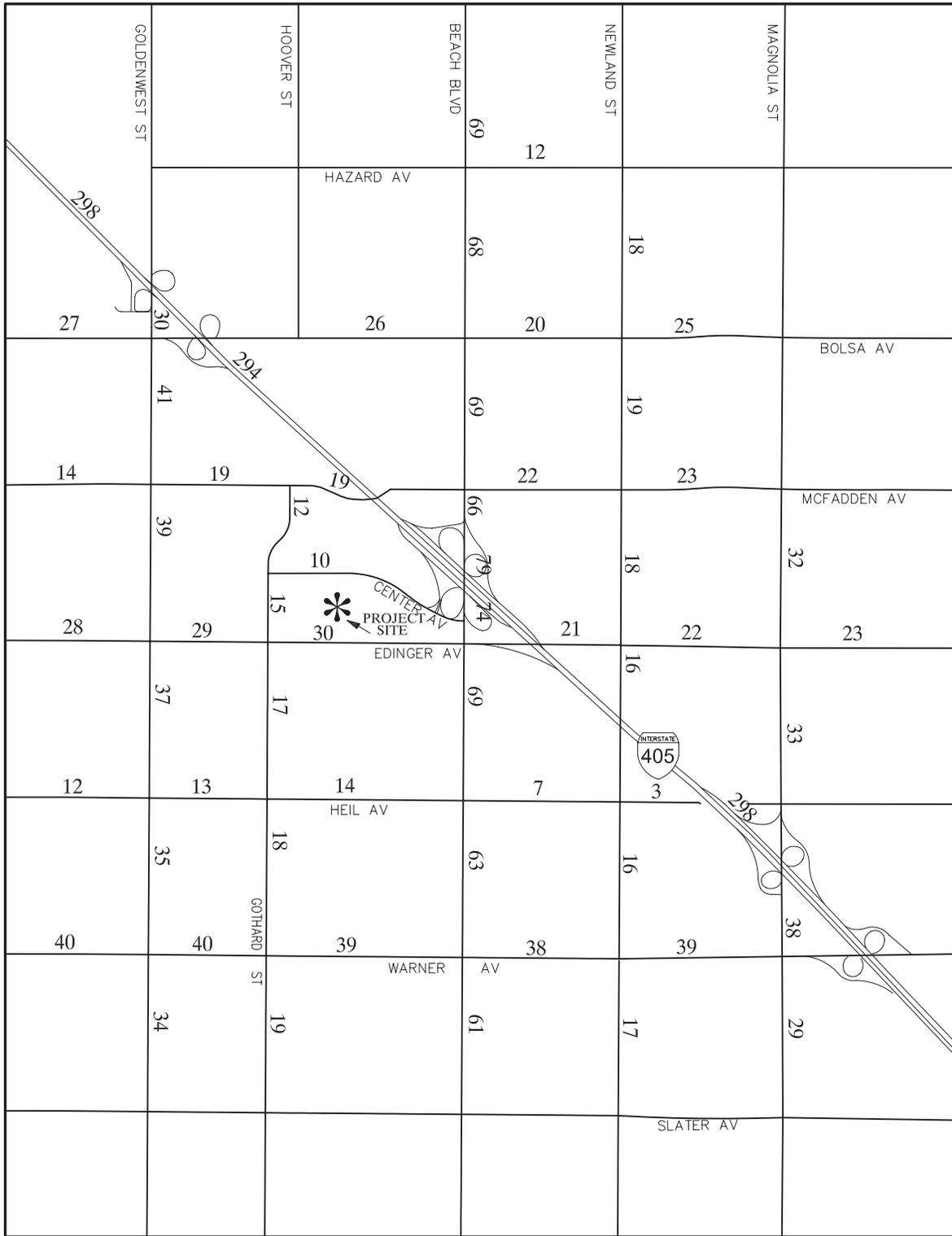
Source: Austin-Foust Associates, Inc., 2008.

**FIGURE 4.13-1**  
**Existing Circulation System**



OD2138300

The Village at Bella Terra



NORTH  
NOT TO SCALE

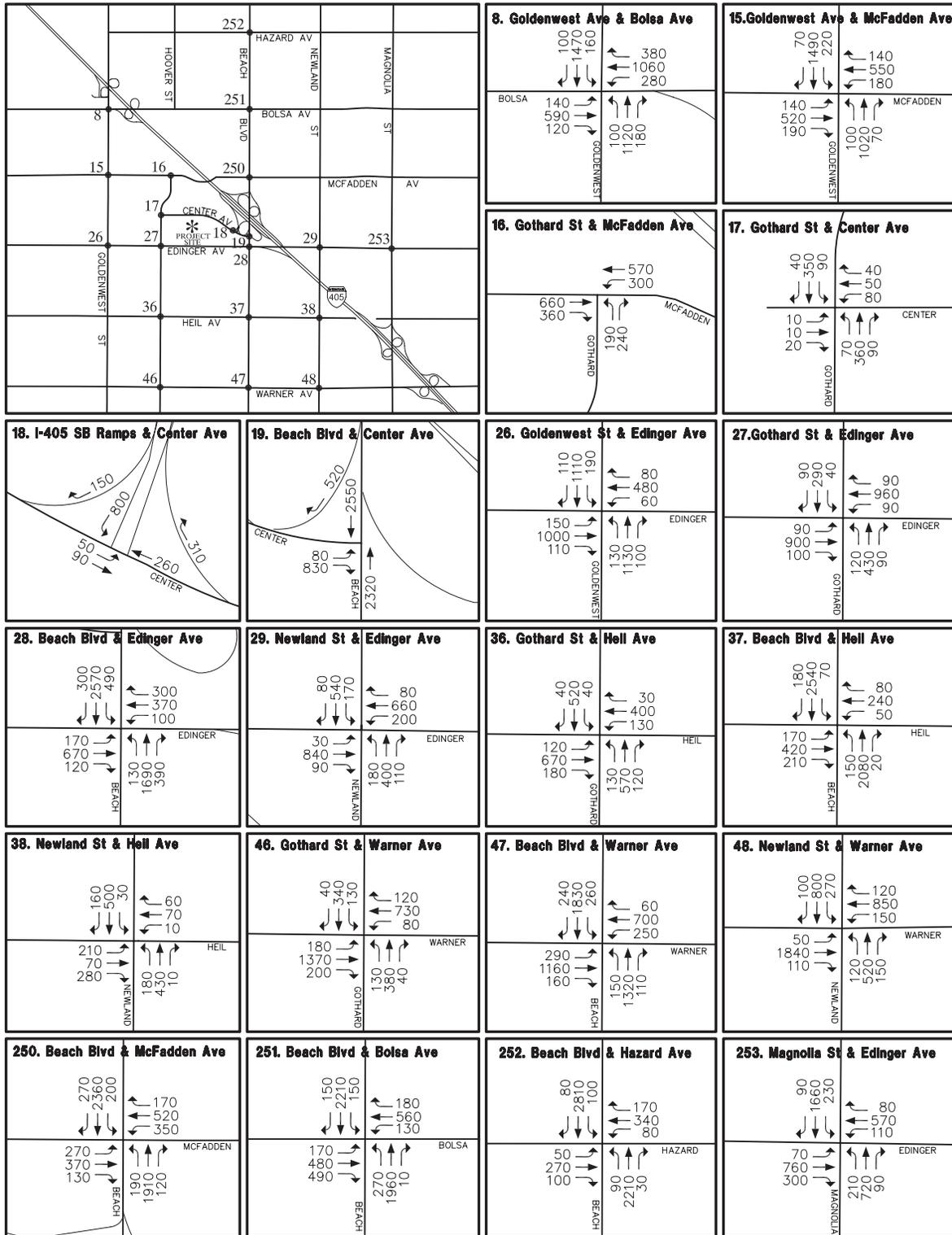
Source: Austin-Foust Associates, Inc., 2008.

FIGURE 4.13-2  
Existing Study Area ADT Volumes

OD2138300

The Village at Bella Terra





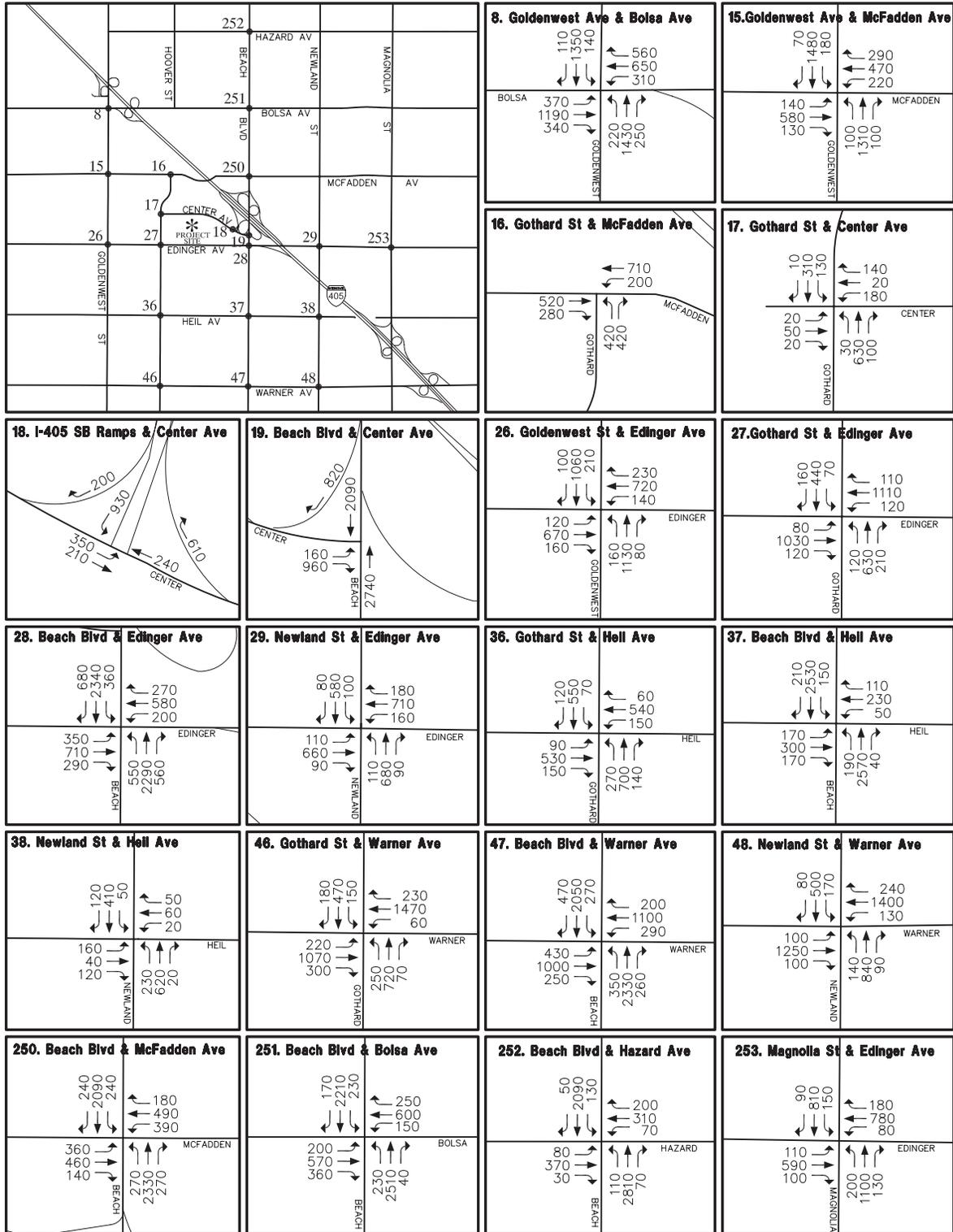
Source: Austin-Foust Associates, Inc., 2008.

**FIGURE 4.13-3**  
**Existing AM Peak Hour Traffic Volumes**

OD2138300

The Village at Bella Terra





Source: Austin-Foust Associates, Inc., 2008.



**FIGURE 4.13-4**  
**Existing PM Peak Hour Traffic Volumes**

OD2138300

The Village at Bella Terra

Table 4.13-1 (Existing [2006] Level of Service Summary) above, shows all intersections to be operating at LOS D or better with the exception of Beach Boulevard at Edinger Avenue during the AM and PM peak hours. While the theoretical ICU indicates LOS D, the operational LOS is E, as indicated by the HCM results. This is due to eastbound and northbound lane utilization being less than optimum. The eastbound traffic is concentrated in the right lane in preparation for accessing the I-405 southbound freeway ramp. The northbound traffic merges from four lanes to three through lanes just prior to the intersection (the fourth lane becomes a right turn lane). This merge plus local driveway traffic weaving against traffic in the right turn lane causes flow rates to deteriorate such that queuing occurs at peak times.

Existing conditions on the freeway ramps that would be affected by the proposed project are summarized in Table 4.13-2 (Existing [2006] Freeway Ramp V/C Summary), using HCM methodology. The I-405 northbound loop ramp from Beach Boulevard exceeds the LOS E threshold ( $V/C > 1.0$ ) in both the AM and PM peak hours.

Location	AM Peak Hour			PM Peak Hour		
	Capacity	Volume	V/C	Capacity	Volume	V/C
I-405/Beach Boulevard NB loop on-ramp (from NB Beach Boulevard)	900	1,240	1.38	900	1,510	1.68
I-405/Beach Boulevard NB loop off-ramp (to SB Beach Boulevard)	1,200	690	0.58	1,200	880	0.73
I-405/Beach Boulevard SB on-ramp at Center Avenue	1,800	360	0.20	1,800	960	0.53
I-405/Beach Boulevard SB off-ramp at Center Avenue	1,500	950	0.63	1,500	1,130	0.75
I-405/Edinger Avenue SB direct on-ramp	1,080	570	0.53	1,080	570	0.53

SOURCE: Austin-Foust Associates Inc. City of Huntington Beach Bella Terra Traffic Analysis. July 2008. pg 2-9

### ***Future Conditions***

MPAH classifies the arterial streets within the study area circulation system as follows:

- Primary Street (four-lane, divided roadway, can accommodate 20,000 to 30,000 ADT)
  - > Edinger Avenue
  - > Goldenwest Street
- Major Streets (six-lane divided roadway, can accommodate 30,000 to 45,000 ADT)
  - > Warner Avenue
  - > Bolsa Avenue
- Smart Street (eight-lanes, uses traffic control methods to maximize capacity)
  - > Beach Boulevard
- Secondary Streets (four-lane undivided, accommodates 10,000 to 20,000 ADT)
  - > All other roadway segments within the study area

Study area roadway segments not currently built to their full MPAH standard are listed in Table 4.13-3 (Roadway Future Conditions).

<b>Table 4.13-3 Roadway Future Conditions</b>			
<i>Roadway</i>	<i>Segment</i>	<i>MPAH</i>	<i>Existing</i>
McFadden Avenue	Goldenwest Street to Beach Boulevard	4-lane secondary arterial	2 lane roadway over I-405
Gothard Street	Hoover Street to McFadden Avenue	4-lane secondary arterial	Not built
Heil Avenue	Gothard Street to Newland Avenue	4-lane secondary arterial	2 lane roadway

Neither McFadden Avenue nor Gothard Street has current funding commitments for constructing the roadways to MPAH standards (widening in the case of McFadden Avenue and construction in the case of Gothard Street). The funding for the widening of Heil Avenue from Gothard Street to Beach Boulevard has been obtained and is considered part of the committed roadway system. As identified in Table 3-3 (Cumulative Projects) in Chapter 3 (Project Description), construction of the Heil Avenue street improvements is anticipated to begin in Fall 2008. Additionally, improvements at the intersection of Beach Boulevard and Edinger Avenue would include a second westbound turn lane to be considered part of the committed roadway system.

**■ Transit Service**

The OCTA Golden West Transit Center is located approximately 700 feet northwest of the project site and provides a convenient location for students, residents, and customers to utilize public transit. The UPRR right-of-way located adjacent to, and west of, the project site currently serves to facilitate goods movement on an irregular basis. While interest has been expressed in potential future rail transit uses for the UPRR, no current plans have been formulated, and no studies are currently being carried out to assess the feasibility of this type of use near the project site (Austin-Foust 2008).

**4.13.2 Regulatory Framework**

**■ Federal**

There are no federal transportation regulations applicable to the proposed project.

**■ State**

***Statewide Transportation Improvement Program (STIP)***

The California Department of Transportation (Caltrans) administers transportation programming. Transportation programming is the public decision-making process that sets priorities and funds projects envisioned in long-range transportation plans. It commits expected revenues over a multi-year period to transportation projects. The STIP is a multi-year capital improvement program of transportation projects

on and off the State Highway System, funded with revenues from the State Highway Account and other funding sources.

## ■ Regional

### *Regional Comprehensive Plan and Guide*

The Southern California Association of Governments (SCAG), which is the designated Metropolitan Planning Organization for six Southern California counties (Ventura, Orange, San Bernardino, Riverside, Imperial, and Los Angeles), is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. SCAG has prepared the RCPG in conjunction with its constituent members and other regional planning agencies. The RCPG is intended to serve as a framework to guide decision-making with respect to the growth and changes that can be anticipated in the region through the year 2015. The Plan consists of five core chapters that contain goals, policies, implementation strategies, and technical data that support three overarching objectives for the region, including (1) improving the standard of living for all, (2) improving the quality of life for all, and (3) enhancing equity and access to government. Local governments are required to use the RCPG as the basis for their own plans and are required to discuss the consistency of projects of regional significance with the RCPG. Refer to the discussion in Section 4.8 (Land Use).

### *Orange County Congestion Management Plan*

The Orange County Congestion Management Plan (CMP) requires that a traffic impact analysis be conducted for any project generating 2,400 or more daily trips, or 1,600 or more daily trips for projects that directly access the CMP Highway System (HS). Per the CMP guidelines, this number is based on the desire to analyze any impacts that will be three percent or more of the existing CMP highway system facilities' capacity. The CMPHS includes specific roadways, which include State Highways and Super Streets, which are now known as Smart Streets, and CMP arterial monitoring locations/intersections. There are two CMP intersections that were evaluated within the traffic study area for the proposed project, which include:

- Beach Boulevard at Edinger Avenue
- Beach Boulevard at Warner Avenue

Therefore, the CMP traffic impact analysis (TIA) requirements relate to the potential impacts only on the specified CMPHS Intersections.

### *Orange County Growth Management Plan*

In August 1988, Orange County adopted a Growth Management Plan, which presents a conceptual framework for coordinating traffic facilities and public facilities and services with new development. The Growth Management Plan also spawned several plans and programs, including the Development Monitoring Program, which evaluates the extent of new development and compliance with phasing requirements, and the Facilities Implementation Plans, which evaluate public facility needs and propose financing mechanisms.

The most comprehensive legislation affecting growth management is Measure M, approved by the County voters in November, 1990, and re-approved in 2006. The measure requires each jurisdiction in the County to adopt a Growth Management Element with specific contents and guidelines.

## ■ Local

### *City of Huntington Beach General Plan Circulation Element*

The General Plan includes the Circulation Element within the Infrastructure and Community Services Chapter. The identified traffic-way network is designed to serve the future land use pattern and intensities of the General Plan. The Circulation Element also includes policies and programs to enhance the efficiency of the transportation system and to promote use of alternative modes. It recognizes that the automobile will continue to be the most frequently used mode of transportation in the foreseeable future, but it emphasizes transit, neighborhood quality, and bicycle/pedestrian safety. Relevant goals and policies are identified below.

**Goal CE 1** Provide a balanced transportation system that supports the policies of the General Plan and facilitates the safe and efficient movement of people and goods throughout the City while providing a balance between economic development and the preservation of residential neighborhoods, and minimizing environmental impacts.

**Objective CE 1.2** Ensure adequate capacity for the City’s circulation needs while minimizing significant negative environmental impacts.

**Policy CE 1.2.1** Enhance circulation system standards for roadway and intersection classifications, right-of-way width, pavement width, design speed, capacity and associated features such as medians and bicycle lanes.

**Policy CE 1.2.2** Develop a circulation system that capitalizes on significant environmental features of the City as identified in the Urban Design and Environmental Resources and Conservation Elements.

**Goal CE 2** Provide a circulation system which supports existing, approved and planned land uses throughout the City while maintaining a desired level of service on all streets and at all intersections.

**Objective CE 2.1** Comply with City’s performance standards for acceptable levels of service.

**Policy CE 2.1.1** Maintain a city-wide level of service (LOS) not to exceed LOS “D” for intersections during the peak hours.

- Police CE 2.1.3** Identify and improve roadways and intersections that are approaching, or have reached, unacceptable levels of service.
- Objective CE 2.3** Ensure that the location, intensity and timing of new development is consistent with the provision of adequate transportation infrastructure and standards as defined in the Land Use Element.
- Policy CE 2.3.1** Require development projects to mitigate off-site traffic impacts and pedestrian, bicycle, and vehicular conflicts to the maximum extent feasible.
- Policy CE 2.3.2** Limit driveway access points and require adequate driveway widths onto arterial roadways and require driveways be located to ensure the smooth and efficient flow of vehicles, bicycles, and pedestrians.
- Policy CE 2.3.4** Require that new development mitigate its impact on City streets, including but not limited to, pedestrian, bicycle, and vehicular conflicts, to maintain adequate levels of service.
- Objective CE 3.2** Encourage new development that promotes and expands the use of transit services.
- Policy CE 3.2.1** Require developers to include transit facilities, such as park-and-ride sites, bus benches, shelters, pads, or turn-outs in their development plans, where feasible as specified in the City's TDM ordinance.
- Goal CE 4** Encourage and develop a transportation demand management (TDM) system to assist in mitigating traffic impacts and in maintaining a desired level of service on the circulation system.
- Objective CE 4.1** Pursue transportation management strategies that can maximize vehicle occupancy, minimize average trip length, and reduce the number of vehicle trips.
- Policy CE 4.1.3** Encourage the use of multiple-occupancy vehicle programs for shopping and other uses to reduce mid-day traffic.
- Goal CE 5** Provide sufficient, well-designed, and convenient on and off-street parking facilities throughout the City.

**Objective CE 5.1** Balance the supply with the demand for parking.

**Policy CE 5.1.1** Maintain an adequate supply of parking that supports present level of demand and allow for the expected increase in private transportation use.

**Policy CE 5.1.2** Provide safe and convenient parking that has minimal impacts on the natural environment, the community image, and the quality of life.

**Goal CE 6** Provide a city-wide system of efficient and attractive pedestrian, equestrian, and waterway facilities for commuter, school, and recreational use.

**Objective CE 6.1** Promote the safety of bicyclists and pedestrians by adhering to Caltrans and City-wide standards.

**Policy CE 6.1.6** Maintain existing pedestrian facilities and require new development to provide pedestrian walkways and bicycle routes between developments, schools, and public facilities.

**Policy CE 6.1.7** Require new development to provide accessible facilities to the elderly and disabled.

**Policy CE 6.1.10** Implement appropriate traffic devices and operational programs throughout the community to ensure that conflicts between pedestrians, bicycles, and vehicles are minimized and safety enhanced.

***General Plan Growth Management Element***

The Growth Management Element of the Community Development Chapter of the City’s General Plan contains policies for the planning and provisions of traffic improvements, public services, and public facilities necessary for orderly growth and development in the City. In addition, the Element sets forth minimum standards and levels of service while identifying programs to ensure policy implementation, including phasing, funding, and monitoring.

**Goal 1** Reduce traffic congestion

**Goal 2** Ensure that adequate transportation and public facilities and public services are provided for existing and future residents of the City.

**Objective** Provide a transportation system that ensures safe and efficient movement of people and goods.

**Policy 5.3.4** Establish level of service (LOS) “D” as the minimum acceptable standard on arterial intersections except those intersections included on the Deficient Intersection List established by Public Works.

**Goal 3** Provide a circulation system that meets the service demands of planned development and minimizes congestion.

**Objective** Establish minimum standards for traffic circulation and provide a means to ensure that those standards are met and maintained.

**Policy 3.1.8** Promote traffic reduction strategies including alternate travel modes, alternate work hours, and a decrease in the number of vehicle trips throughout the city.

### Consistency Analysis

Future development under either Option 1 or Option 2 of the proposed project would be located between Center Avenue and Edinger Avenue, between Gothard Street and Beach Boulevard, east of the UPRR right-of-way and west of the existing Bella Terra Mall. Alternative modes of transportation would be accessible for both patrons of the commercial uses within the project site, as well residents of any future development. The OCTA transit center is located northwest of the project site (approximately 700 feet), across Center Avenue and provides a convenient location for future residents to make trips using transit. As Golden West College and the future The Ripcurl project are situated directly west of the project site, it is anticipated that future student residents of the development (under either Option) would walk to the College campus. Additionally, the existing Bella Terra Mall is located directly adjacent to the project site to the east and is also within walking distance of the project site. The walkability of the surrounding area, as well as the easy access to transit facilities would promote objectives relating to traffic reduction and increase reliance on alternative modes of transportation included in the Circulation Element and the Growth Management Element of the City’s General Plan.

As noted below under Impact 4.13-2 and Impact 4.13-3, most of the intersections within the study area would operate at acceptable levels of service. Of those intersections anticipated to operate at LOS E or worse, only one intersection would be significantly impacted by the project. The identified mitigation measure would reduce this impact to a less than significant level. Therefore, the proposed project would meet acceptable minimum standards as stated in Policy 5.3.4, and therefore, would not conflict with this policy.

Additionally, access to the project site would be provided via three access points from either Edinger Avenue or Center Avenue. Peak hour delays for exiting and entering vehicles would operate at acceptable levels and would therefore not conflict with Policy 2.3.2. As such, the proposed project would be considered consistent with the Goals and Policies of the Huntington Beach General Plan.

### 4.13.3 Project Impacts and Mitigation

#### ■ Analytic Method

The analysis in this section focuses on the nature and magnitude of the change in transportation and traffic patterns due to implementation of the proposed project. Future development under the proposed project would include either GPA/ZTA Option 1 (Option 1) or GPA/ZTA Option 2 (Option 2). Option 1 would include development of 713 residential units and 138,085 square feet (sf) of commercial space. Option 2 would include development of 538 residential units and 414,255 sf of commercial space. For the proposed project (see Table 4.13-7 [Project Trip Generation Summary]), Option 2 represents the worst-case scenario in terms of traffic-related impacts. Therefore, in order to present a reasonable worst-case analysis, the traffic analysis of the proposed project reflects the traffic volumes anticipated with implementation of Option 2 in accordance with Section 15151 of the State CEQA Guidelines. It is assumed that all traffic impacts for Option 1 would be similar to, although slightly less than, those identified for Option 2.

#### *Intersection Analysis*

As stated previously, ICU analysis has been performed at all study area intersections. ICU values are used to determine levels of service at study area intersection locations and provide a means to quantitatively estimate incremental traffic impacts. To calculate the ICU value for an intersection, the volume of traffic using the intersection is compared with the capacity of the intersection. The ICU is usually expressed as a decimal percent (e.g., 0.86). The decimal percent represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. The ICU-based LOS is defined below in Table 4.13-4 (ICU Level of Service).

<i>Level of Service</i>	<i>Intersection Capacity Utilization (ICU) Value</i>
A	0–0.60
B	0.61–0.70
C	0.71–0.80
D	0.81–0.90
E	0.91–1.00
F	> 1.00

SOURCE: Orange County Congestion Management Plan. November, 2003.

For Caltrans intersections (such as those along Beach Boulevard), the delay-based methodology contained in the HCM is also used. This methodology estimates the average total delay for each of the traffic movements and determines the LOS for each movement. The overall average delay is measured in seconds per vehicle, and LOS is then calculated for the entire intersection. The HCM-based LOS is defined below in Table 4.13-5 (Definitions of Level of Service for Intersections).

<b>Table 4.13-5 Definitions of Levels of Service for Intersections</b>		
<i>Level of Service (LOS)</i>	<i>Control Delay (in sec/vehicle)</i>	
	<i>Signalized Intersection*</i>	<i>Unsignalized Intersection</i>
A	0–10	0–10
B	10.1–20	10.1–15
C	20.1–35	15.1–25
D	35.1–55	25.1–35
E	55.1–80	35.1–50
F	80.1 or more	50.1 or more

\* Delay criteria from *Highway Capacity Manual (HCM)*, Transportation Research Board, Washington D.C., 1997.

The definitions of level of service for uninterrupted flow (flow unrestrained by the existence of traffic control devices) are:

- LOS “A” represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.
- LOS “B” is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
- LOS “C” is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes slightly affected by interactions with others in the traffic stream.
- LOS “D” represents high-density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
- LOS “E” represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.
- LOS “F” is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations.

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. As stated previously, the City of Huntington Beach Traffic Study Guidelines (1996) considers LOS D acceptable for intersections located within the City limits. Additionally, an intersection is impacted if the LOS is E or F and the ICU value changes by 0.01 or more.

### ***Project Traffic***

The traffic-related to the project has been calculated in accordance with the following accepted procedural steps:

- Trip Generation

■ Trip Distribution

These steps are described in detail below:

**Project Trip Generation**

Trip generation represents the amount of traffic attracted to and produced by a development. Basic trip generation rates for the proposed project’s land uses were taken from the Institute of Transportation Engineers’ (ITE) “Trip Generation” manual and then adjusted for local “capture trips” (walk trips to and from adjacent areas). The local trip capture is based on trip purpose and uses standard traffic modeling relationships to categorize the residential trips by purpose and then apply local capture proportions to each trip purpose. The residential internal and local trip capture percentages are included in Table 4.13-6 (Residential Internal/Local Trip Capture).

<b>Table 4.13-6 Residential Internal/Local Trip Capture</b>							
<i>Trip Purpose</i>	<i>AM Peak Hour</i>	<i>PM Peak Hour</i>	<i>ADT</i>	<i>Capture Rate</i>	<i>AM Capture</i>	<i>PM Capture</i>	<i>ADT Capture</i>
Home-Based Work and School	70%	57%	44%	10%	7.0%	5.7%	4.4%
Home-Based Shopping	2.0%	11%	13%	50%	1.0%	5.5%	6.5%
Home-Based Social/Recreation	6.0%	12%	15%	40%	2.4%	4.8%	6.0%
Home-Based Other	22%	20%	28%	5.0%	1.1%	1.0%	1.4%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>--</i>	<i>11.5%</i>	<i>17.0%</i>	<i>18.3%</i>

SOURCE: Austin-Foust Associates, Inc., City of Huntington Beach Bella Terra Traffic Analysis. July 2008. Pg. 3-4

The percentages by trip purpose are taken from the Huntington Beach Traffic Model (HBTM), and the capture rates are estimated as realistic interactions with a center the size of the existing Bella Terra Mall and the surrounding commercial and educational uses. The combined internal and local capture was also verified by examining trip interactions within the immediate area as estimated by the traffic model.

The project trip generation results are summarized in Table 4.13-7 (Project Trip Generation Summary). As shown, future development under either Option 1 or Option 2 of the proposed project would generate more AM peak hour trips, and less PM peak hour and daily trips, than trips generated under the current General Plan land use designations for the project site. Under future development of Option 2, the proposed project would generate approximately 6,918 new daily trips, of which 385 trips would be during the AM peak hour and 628 trips would be during the PM peak hour. Since future development under Option 2 of the proposed project would generate greater AM peak hour trips, PM peak hour trips, and daily trips than future development under Option 1, Option 2 has been used in the impact analysis for the proposed project. Further, projected traffic volumes under Option 2 would be less than what could occur if site buildout were to occur as allowed under the existing General Plan designation.

Table 4.13-7 Project Trip Generation Summary

Project Description	Amount	Peak Hour						ADT
		AM			PM			
		In	Out	Total	In	Out	Total	
<b>Existing (Bella Terra Mall [Phase I])</b>								
Existing Commercial	694,422 sf	306	195	501	1,080	1,169	2,249	23,933
Internal Capture		—	—	—	65	70	135	957
Pass-by Reduction		—	—	—	216	234	450	4,787
	<i>Subtotal</i>	<i>306</i>	<i>195</i>	<i>501</i>	<i>799</i>	<i>865</i>	<i>1,664</i>	<i>18,189</i>
Multiplex Theatres with Matinee	76,740 sf	0	0	0	297	263	560	3,067
Internal Capture		—	—	—	60	53	113	889
	<i>Subtotal</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>237</i>	<i>210</i>	<i>447</i>	<i>2,178</i>
	<b>Existing Trip Generation Total</b>	<b>306</b>	<b>195</b>	<b>501</b>	<b>1,036</b>	<b>1,075</b>	<b>2,111</b>	<b>20,367</b>
<b>Option 1</b>								
Bella Terra Residential	713 du	71	292	363	285	157	442	4,791
Bella Terra Commercial	138,085 sf	34	23	57	137	149	286	2,994
Internal Capture		14	14	28	57	57	114	1,341
Local Capture		5	20	25	11	6	17	192
Pass-by Reduction		7	5	12	27	30	57	599
	<b>Option 1 Project Trip Generation Total</b>	<b>79</b>	<b>276</b>	<b>355</b>	<b>327</b>	<b>213</b>	<b>540</b>	<b>5,653</b>
<b>Option 2</b>								
Bella Terra Residential	538 du	54	221	275	215	118	333	3,615
Bella Terra Hotel	165 rooms	56	36	92	51	46	97	1,348
Bella Terra Commercial	181,118 sf	45	29	74	178	194	372	3,890
Internal Capture		11	11	22	43	43	86	1,012
Local Capture		4	15	19	9	5	14	145
Pass-by Reduction		9	6	15	35	39	74	778
	<b>Option 2 Project Trip Generation Total</b>	<b>131</b>	<b>254</b>	<b>385</b>	<b>357</b>	<b>271</b>	<b>628</b>	<b>6,918</b>
<b>Current General Plan Designation</b>								
Residential	396 du	40	162	202	158	87	245	2,661
Commercial	345,213 sf	83	54	137	329	358	687	7,178
Internal Capture		8	8	16	32	32	64	745
Local Capture		3	11	14	6	3	9	106
Pass-by Reduction		16	11	27	66	71	137	1,436
	<b>Trip Generation Total (under existing GP)</b>	<b>96</b>	<b>186</b>	<b>282</b>	<b>383</b>	<b>339</b>	<b>722</b>	<b>7,552</b>

SOURCE: Austin-Foust Associates, Inc. City of Huntington Beach The Village at Bella Terra Traffic Study. July 2008. pg. 3-5 and 3-6

ADT = average daily traffic; du = dwelling unit; sf = square feet

Daily rates based on Institute of Transportation Engineers (ITE) peak to daily relationships for Community Centers

\*Trips based on ITE (7th Edition) General Commercial (820) rates with 50 percent reduction for local capture.

\*\* Trips based on ITE (7th Edition) Apartment (220) rates with local capture of 11 percent for the AM peak hour, 17 percent for PM peak hour and 18 percent for ADT.

## Project Trip Distribution

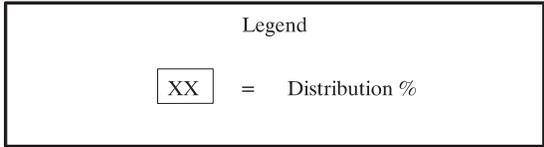
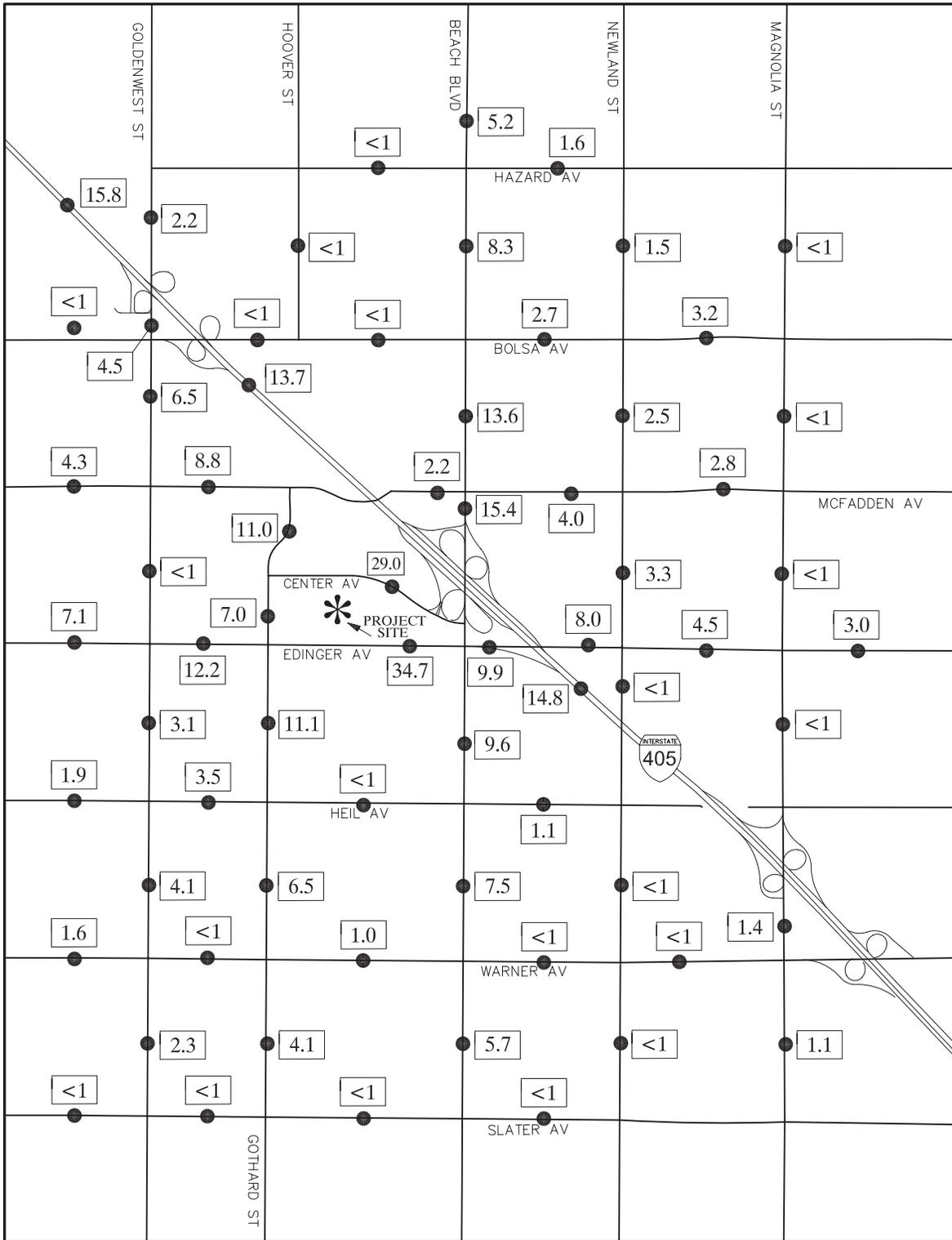
The trip distribution and assignment process represents the directional orientation of traffic to and from the project site. Trip distribution is influenced by existing travel patterns, the geographic location of the site, the location of residential areas, commercial and recreational opportunities, and the proximity of the regional freeway system. The geographic distribution of trips in the study area to and from the project site was estimated using regional distribution patterns derived from the HBTM. The resulting project trip distribution pattern is illustrated in Figure 4.13-5 (Project Trip Distribution), the pattern is based on the distribution of daily trips generated by the project as assigned to the study area street system. The distribution percentages illustrated in the figure are representative of the ADT volumes, and the directional distribution used for calculating peak hour project trip differs slightly on certain links compared to the ADT distribution. Project ADT trips on the study area circulation system are illustrated in Figure 4.13-6 (ADT Volumes Project Only) and the project peak hour trips at the study area intersections are shown for AM and PM peak hour conditions in Figure 4.13-7 (Project AM Peak Hour Traffic Volumes) and Figure 4.13-8 (Project PM Peak Hour Traffic Volumes), respectively.

### *Short-Range (2014) Conditions*

The short-range analysis period for the proposed project examines roadway conditions in 2014. It is expected that the project will be fully occupied by 2014. For the short-range analysis, background (no project) conditions are added to the project-only peak hour intersection volumes. This accounts for ambient growth, including development anticipated to occur in this short-range timeframe. It also addresses the Growth Management Plan (GMP) and the CMP needs for a short-range (five- to seven-year) time frame. Currently committed roadway improvements along Heil Avenue between Silver Lane and Beach Boulevard, and at the intersections of Beach Boulevard at Heil Avenue and Beach Boulevard at Edinger Avenue, have been assumed in both the short-range and long-range analysis.

Short-range with project ADT volumes are shown on Figure 4.13-9 (Year 2014 ADT Volumes). The highest study area volumes occur on Beach Boulevard and Edinger Avenue. AM and PM peak hour intersection volumes for 2014 no-project conditions are shown on Figure 4.13-10 (Year 2014 AM Peak Hour Traffic Volumes—No Project) and Figure 4.13-11 (Year 2014 PM Peak Hour Traffic Volumes—No Project), and Year 2014 with-project AM and PM peak hour intersection volumes are shown on Figure 4.13-12 (Year 2014 AM Peak Hour Traffic Volumes—With Project) and Figure 4.13-13 (Year 2014 PM Peak Hour Traffic Volumes—With Project), respectively.

A summary of 2014 traffic conditions with and without the proposed project is shown in Table 4.13-8 (2014 Level of Service Summary). As identified in Table 4.13-8, three study intersections (Goldenwest Street at Bolsa Avenue, Beach Boulevard at Edinger Avenue, and Beach Boulevard at Warner Avenue) under either Option 1 or Option 2 would operate at unacceptable LOS E during the PM peak hour. Furthermore, as identified, three intersections would operate at unacceptable LOS under short-range (2014) conditions.



Source: Austin-Foust Associates, Inc., 2008.

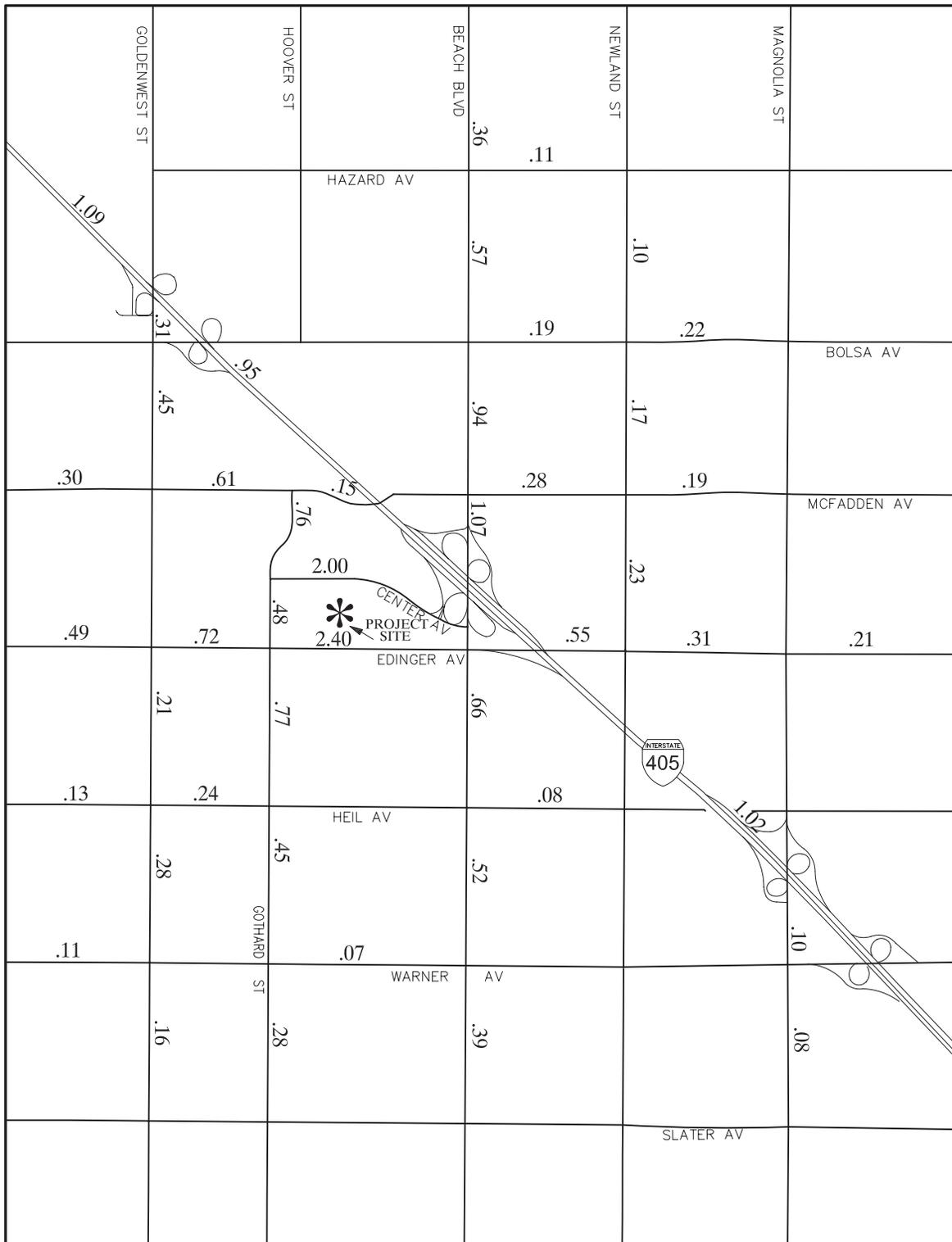
**FIGURE 4.13-5**  
**Project Trip Distribution**



OD2138300

The Village at Bella Terra

07010071CS1-0900



Legend  
 X.XX Project ADT (000s)  
 Less than .1 not shown



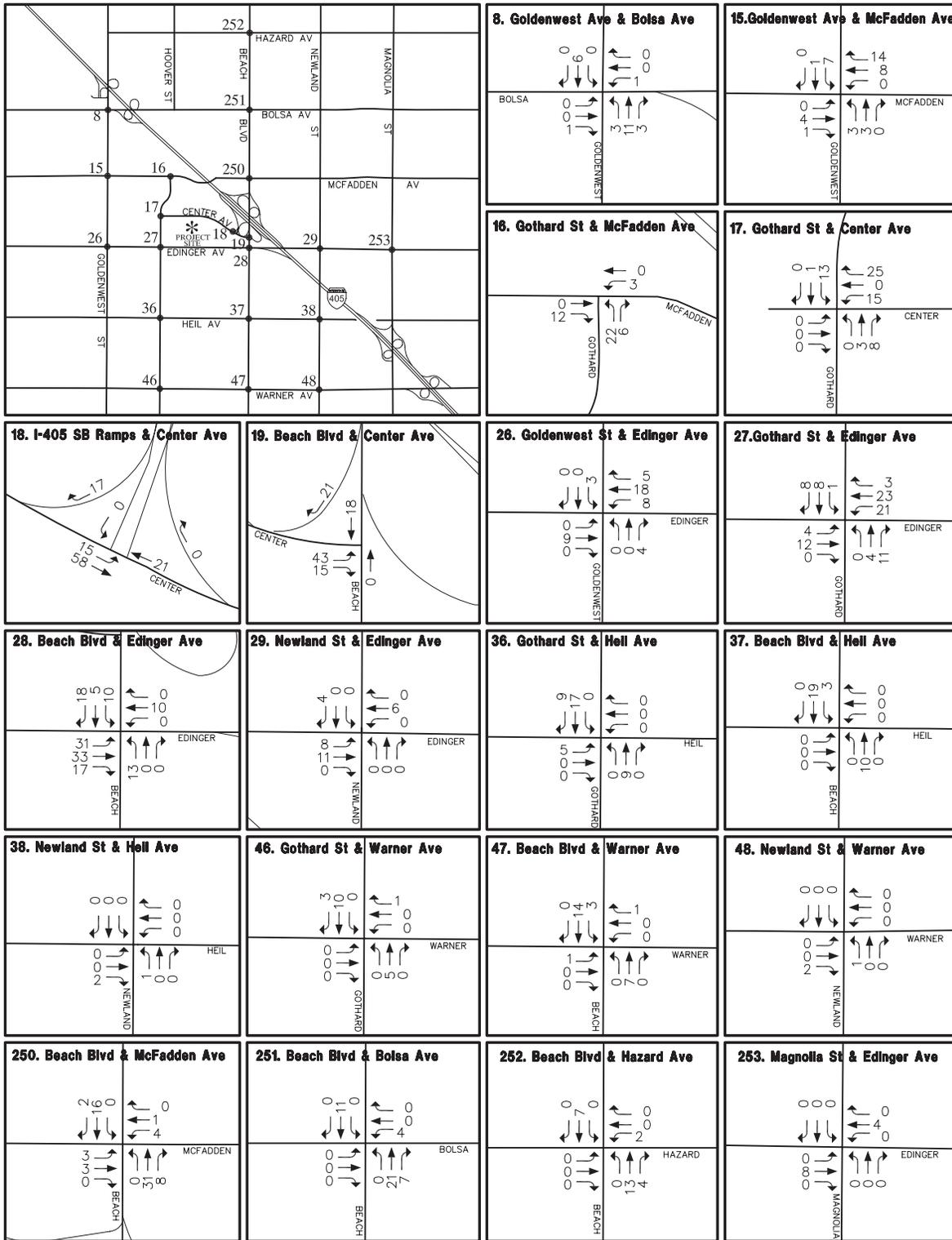
Source: Austin-Foust Associates, Inc., 2008.

FIGURE 4.13-6  
**ADT Volumes Project Only**



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The Village at Bella Terra



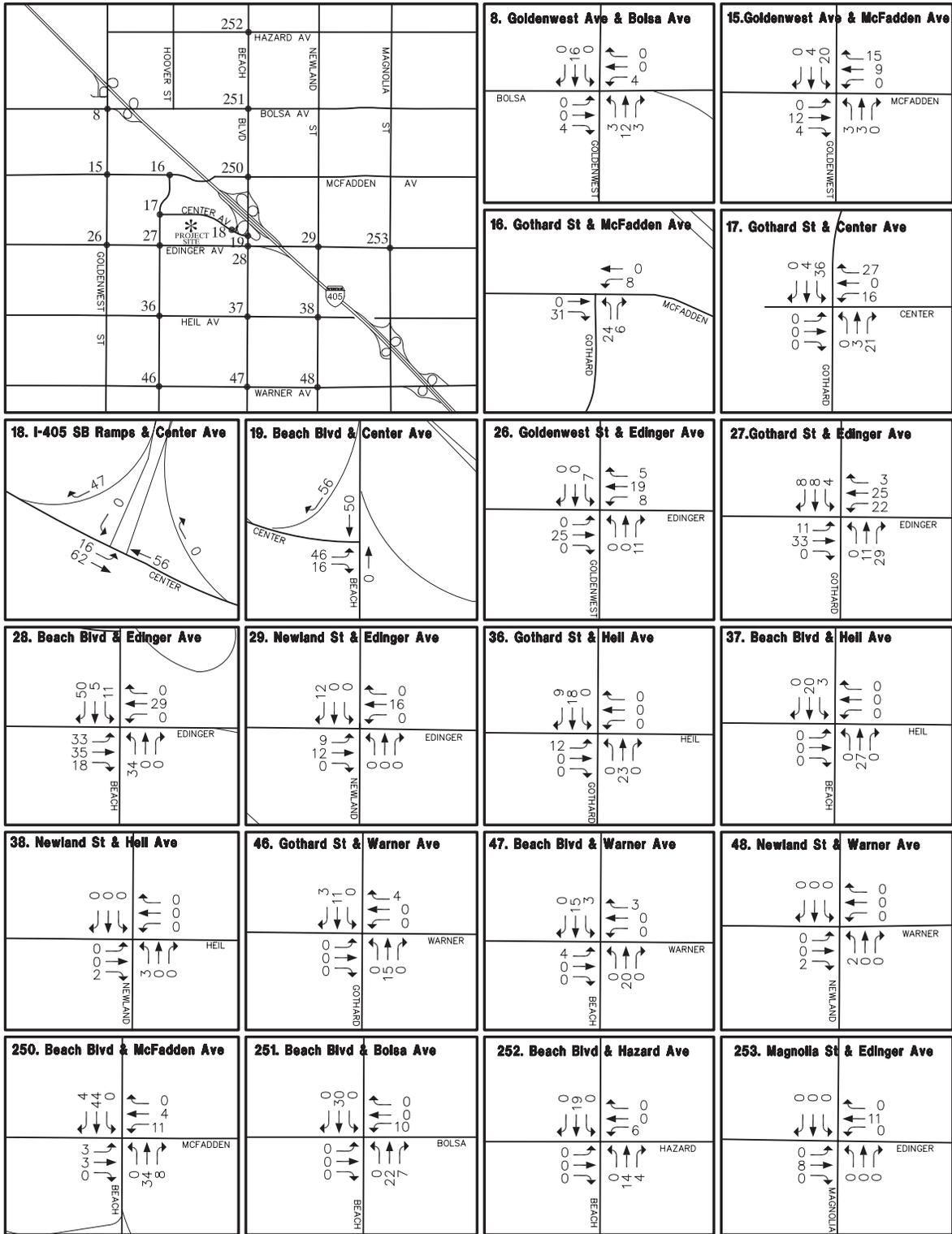
Source: Austin-Foust Associates, Inc., 2008.

**FIGURE 4.13-7**  
**Project AM Peak Hour Traffic Volumes**

OD2138300

The Village at Bella Terra





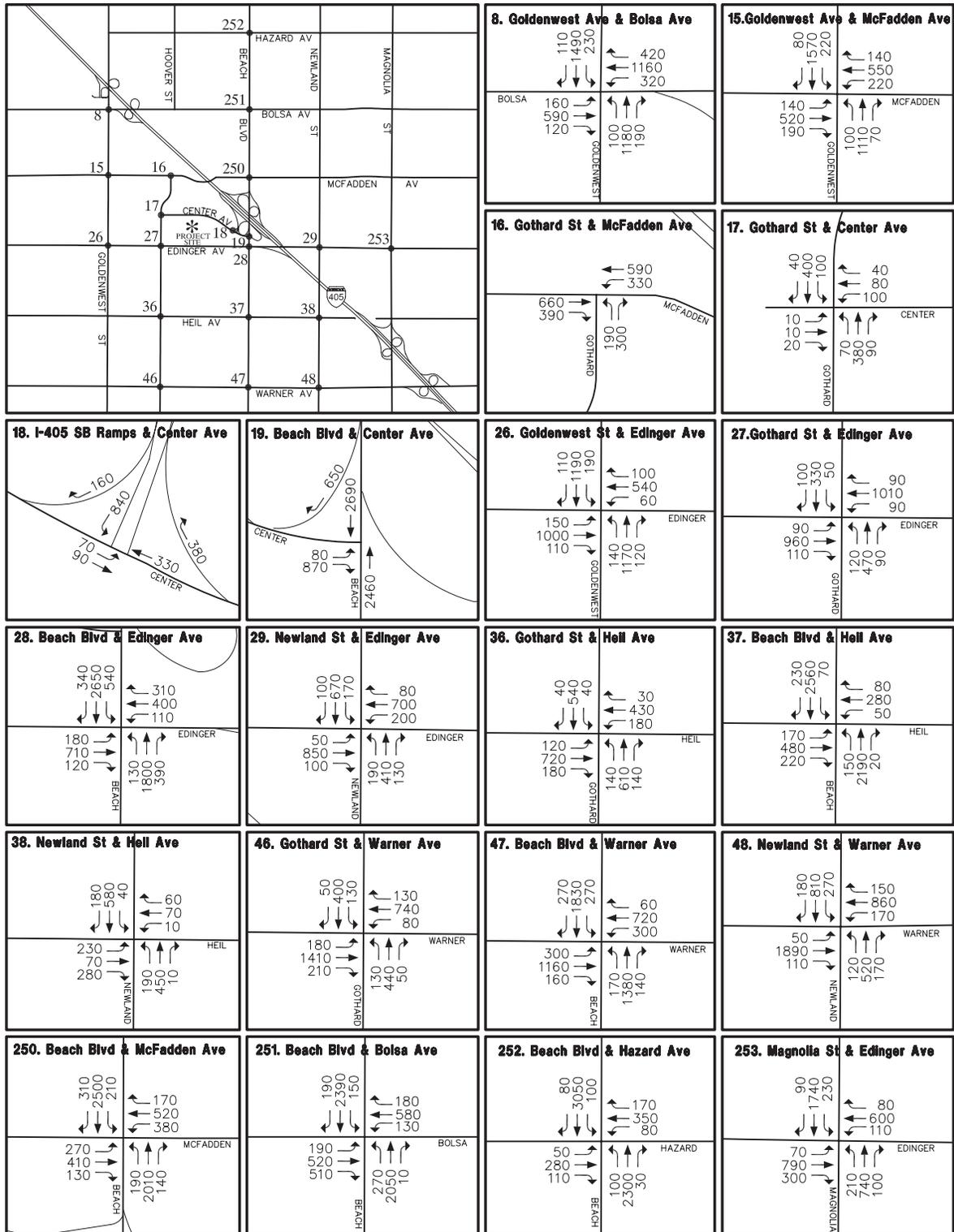
Source: Austin-Foust Associates, Inc., 2008.

**FIGURE 4.13-8**  
**Project PM Peak Hour Traffic Volumes**

OD2138300

The Village at Bella Terra





NORTH  
NOT TO SCALE

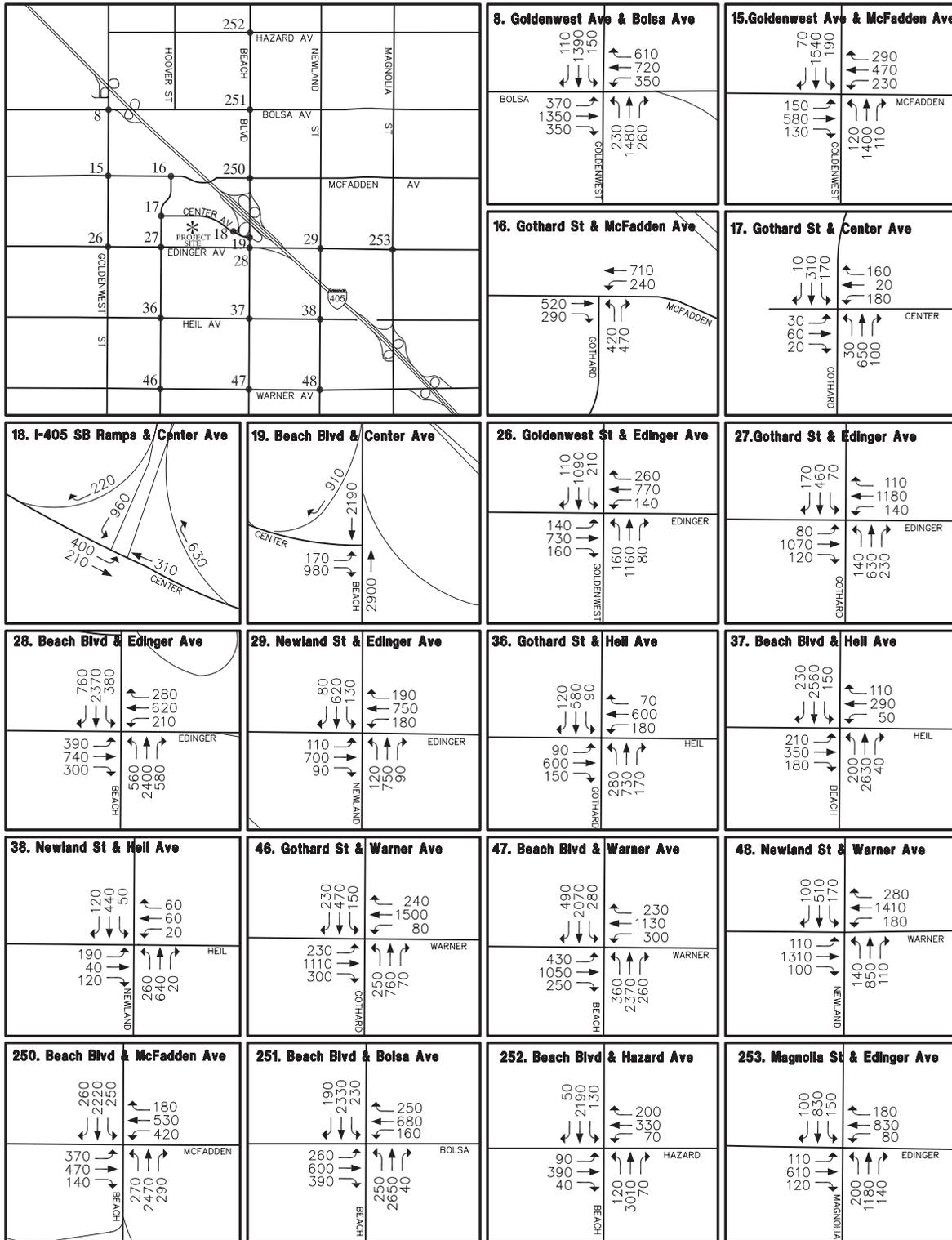
Source: Austin-Foust Associates, Inc., 2008.

**FIGURE 4.13-10**  
**Year 2014 AM Peak Hour Traffic Volumes – No Project**



OD2138300

The Village at Bella Terra



NORTH  
NOT TO SCALE

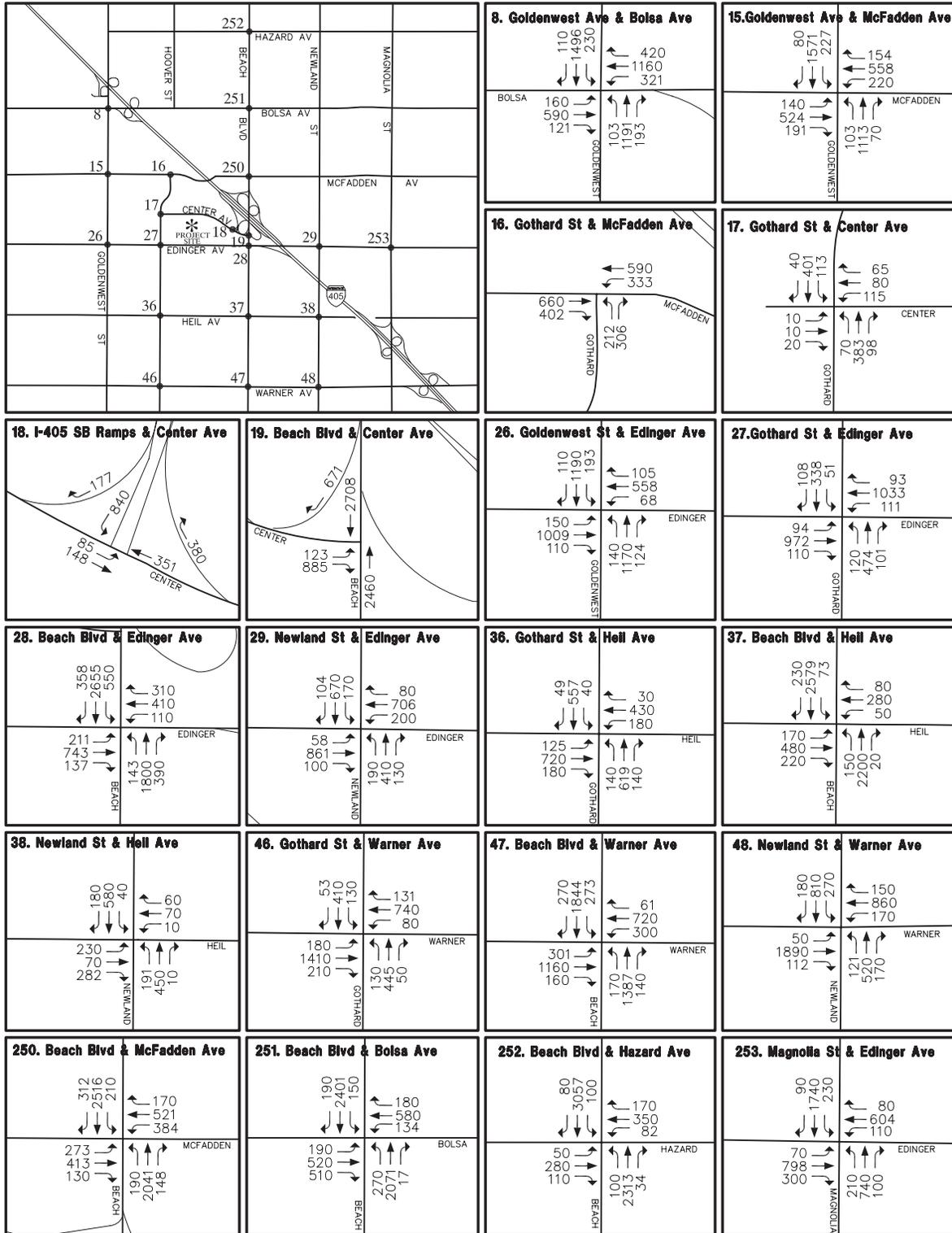
Source: Austin-Foust Associates, Inc., 2008.

**FIGURE 4.13-11**  
**Year 2014 PM Peak Hour Traffic Volumes – No Project**



OD2138300

The Village at Bella Terra



Source: Austin-Foust Associates, Inc., 2008.

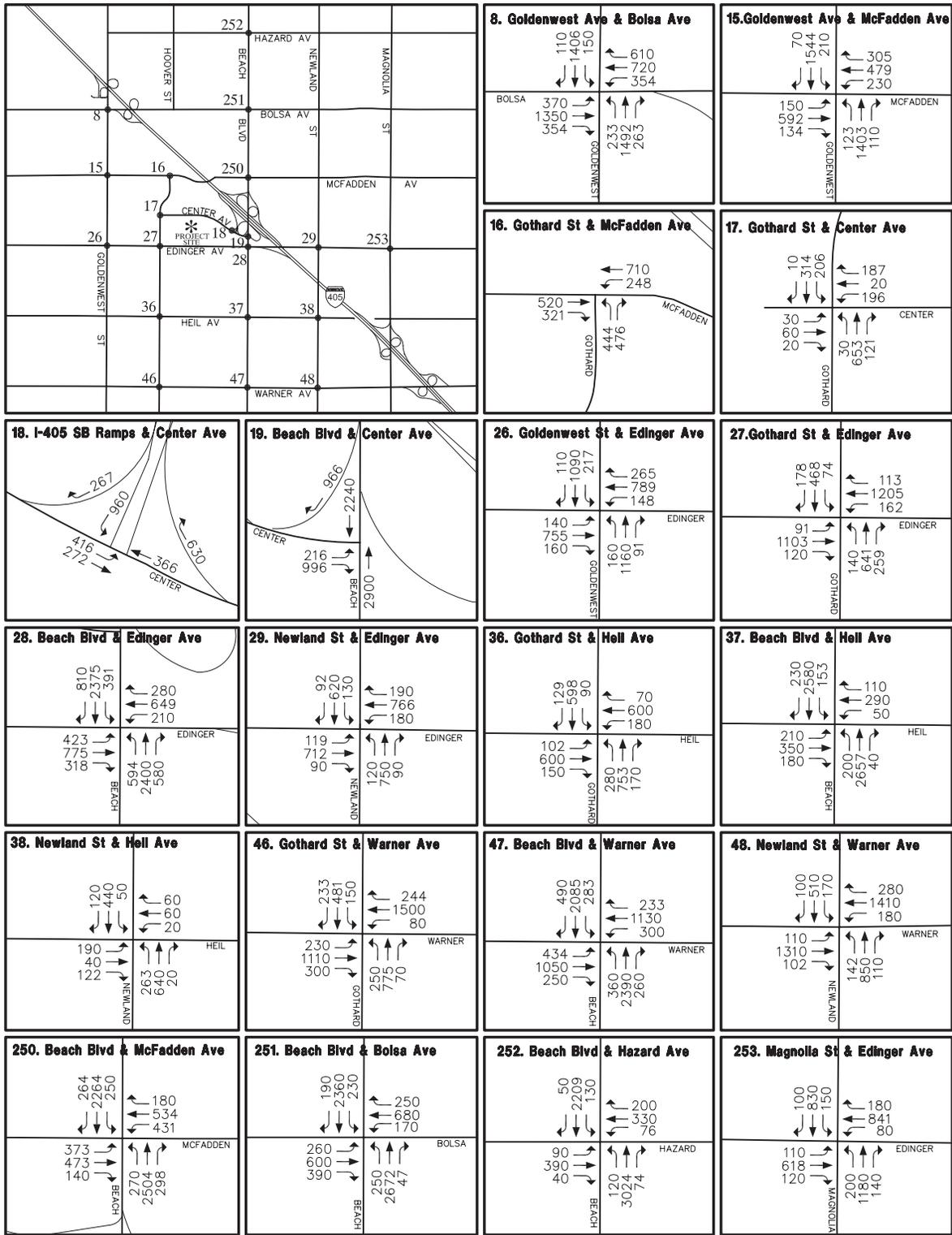


**FIGURE 4.13-12**  
**Year 2014 AM Peak Hour Traffic Volumes – With Project**



OD2138300

The Village at Bella Terra



Source: Austin-Foust Associates, Inc., 2008.



**FIGURE 4.13-13**  
**Year 2014 PM Peak Hour Traffic Volumes – With Project**

OD2138300

The Village at Bella Terra

**Table 4.13-8 2014 Intersection Level of Service Summary**

Location	No-Project				Option 2			
	AM		PM		AM		PM	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
<b>Intersection Capacity Utilization (ICU)</b>								
Goldenwest Street at Bolsa Avenue	0.74	C	0.91	E	0.74	C	0.91	E
Goldenwest Street at McFadden Avenue	0.71	C	0.75	C	0.71	C	0.76	C
Gothard Street at McFadden Avenue	0.52	A	0.55	A	0.54	A	0.55	A
Gothard Street at Center Avenue	0.30	A	0.50	A	0.32	A	0.53	A
I-405 SB Ramps at Center Avenue	0.44	A	0.80	C	0.45	A	0.80	C
Beach Boulevard at Center Avenue	0.71	C	0.71	C	0.71	C	0.72	C
Goldenwest Street at Edinger Avenue	0.63	B	0.63	B	0.63	B	0.65	B
Gothard Avenue at Edinger Avenue	0.49	A	0.58	A	0.50	A	0.60	A
Beach Boulevard at Edinger Avenue	0.73	C	0.92	E	0.74	C	0.95	E
Newland Street at Edinger Avenue	0.76	C	0.70	B	0.76	C	0.70	B
Gothard Street at Heil Avenue	0.61	B	0.67	B	0.61	B	0.68	B
Beach Boulevard at Heil Avenue	0.76	C	0.82	D	0.76	C	0.82	D
Newland Street at Heil Avenue	0.55	A	0.51	A	0.55	A	0.51	A
Gothard Street at Warner Avenue	0.59	A	0.79	C	0.59	A	0.80	C
Beach Boulevard at Warner Avenue	0.72	C	0.92	E	0.72	C	0.92	E
Newland Street at Warner Avenue	0.83	D	0.87	D	0.83	D	0.87	D
Beach Boulevard at McFadden Avenue	0.80	C	0.85	D	0.81	D	0.85	D
Beach Boulevard at Bolsa Avenue	0.85	D	0.87	D	0.85	D	0.87	D
Beach Boulevard at Hazard Avenue	0.69	B	0.73	C	0.69	B	0.74	C
Magnolia Street at Edinger Avenue	0.80	C	0.70	B	0.80	C	0.71	C

SOURCE: City of Huntington Beach Bella Terra Traffic Analysis. Austin-Foust, Inc. July, 2008. pg. 4-4

**Long-Range (2030) Conditions**

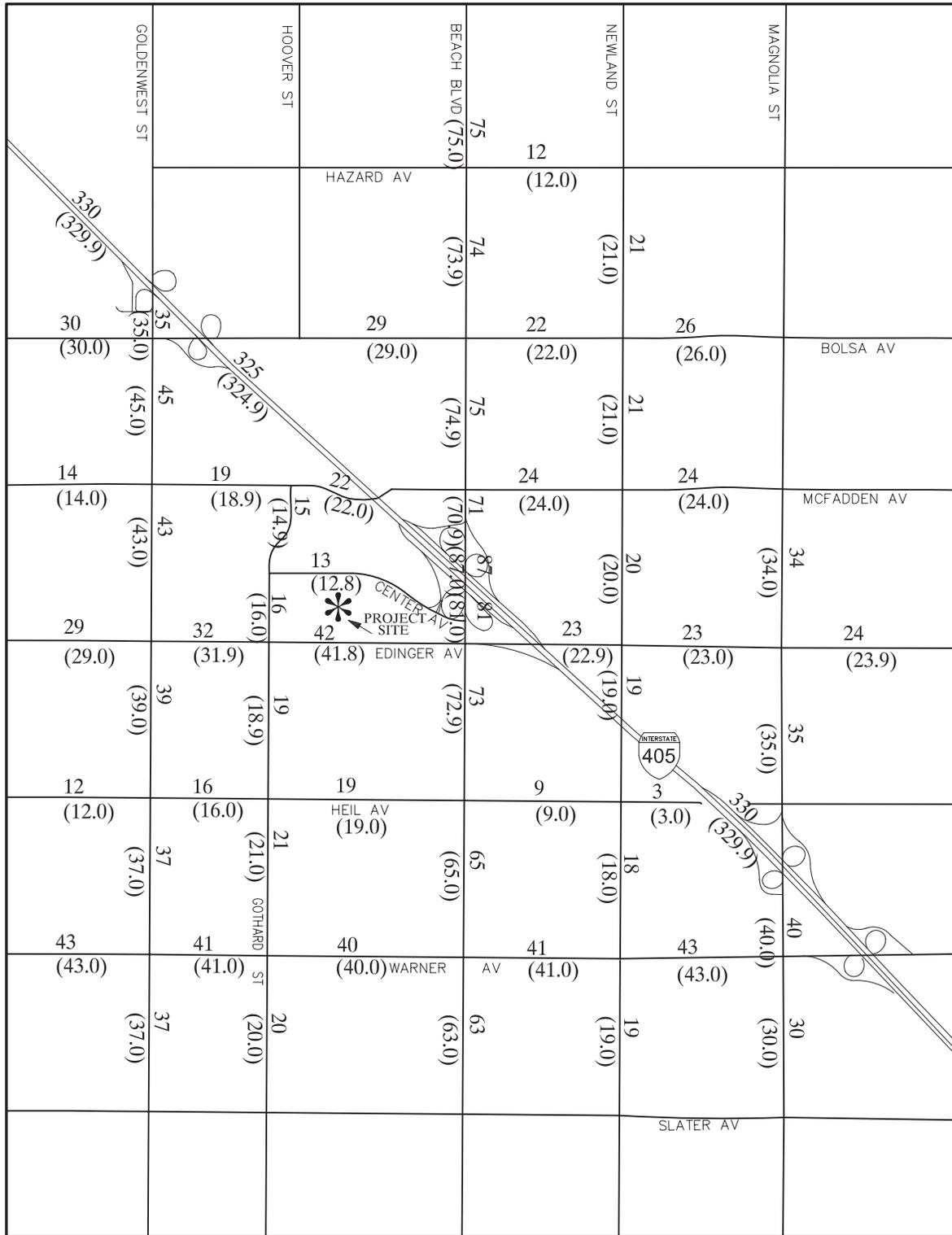
Year 2030 forecasts were produced using the HBTM. This is a subarea model derived from the Orange County Transportation Analysis Model (OCTAM), following the consistency guidelines established by OCTA. Future committed roadway improvements have been assumed in the long-range analysis. Year 2030 baseline conditions represent ADT volumes under build-out of the City’s General Plan and regional growth projections from OCTA. For the project site, the existing land uses are assumed as represented under the current zoning designations.

The project volumes reflect the trip generation differences between the current General Plan designations and future development under Option 2 of the proposed project. “Year 2030 With-Project” ADT volumes are shown in Figure 4.13-14 (Year 2030 ADT Volumes). The “Year 2030 No-Project” AM and PM peak hour intersection volumes are illustrated in Figure 4.13-15 (Year 2030 AM Peak Hour

Traffic Volumes—No Project) and Figure 4.13-16 (Year 2030 PM Peak Hour Traffic Volumes—No Project), respectively. The “Year 2030 With-Project” AM and PM peak hour intersection volumes are shown in Figure 4.13-17 (Year 2030 AM Peak Hour Traffic Volumes—With-Project) and Figure 4.13-18 (Year 2030 PM Peak Hour Traffic Volumes—With Project), respectively. As shown in Table 4.13-9 (2030 Intersection Level of Service Summary), seven intersections show long-range deficiencies (ICU greater than 0.90). Year 2030 ICU values are summarized on Table 4.13-9.

Location	No-Project				Option 2			
	AM		PM		AM		PM	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
<b>Intersection Capacity Utilization (ICU)</b>								
Goldenwest Street at Bolsa Avenue	0.90	D	1.02	F	0.90	D	1.02	F
Goldenwest Street at McFadden Avenue	0.82	D	0.81	D	0.83	D	0.81	D
Gothard Street at McFadden Avenue	0.67	B	0.64	B	0.67	B	0.64	B
Gothard Street at Center Avenue	0.36	A	0.57	A	0.36	A	0.57	A
I-405 SB Ramps at Center Avenue	0.55	A	0.90	D	0.55	A	0.90	D
Beach Boulevard at Center Avenue	0.78	C	0.77	C	0.78	C	0.77	C
Goldenwest Street at Edinger Avenue	0.66	B	0.70	B	0.66	B	0.70	B
Gothard Avenue at Edinger Avenue	0.55	A	0.64	B	0.55	A	0.64	B
Beach Boulevard at Edinger Avenue	0.86	D	1.05	F	0.86	D	1.05	F
Newland Street at Edinger Avenue	0.87	D	0.80	C	0.87	D	0.80	C
Gothard Street at Heil Avenue	0.73	C	0.78	C	0.73	C	0.78	C
Beach Boulevard at Heil Avenue	0.83	D	0.95	E	0.83	D	0.95	E
Newland Street at Heil Avenue	0.63	B	0.63	B	0.63	B	0.63	B
Gothard Street at Warner Avenue	0.65	B	0.84	D	0.65	B	0.84	D
Beach Boulevard at Warner Avenue	0.78	C	0.96	E	0.78	C	0.96	E
Newland Street at Warner Avenue	0.88	D	0.92	E	0.88	D	0.92	E
Beach Boulevard at McFadden Avenue	0.91	E	0.95	E	0.91	E	0.95	E
Beach Boulevard at Bolsa Avenue	0.96	E	1.06	F	0.96	E	1.05	F
Beach Boulevard at Hazard Avenue	0.80	C	0.83	D	0.80	C	0.83	D
Magnolia Street at Edinger Avenue	0.88	D	0.78	C	0.88	D	0.78	C

SOURCE: Austin-Foust, Inc. City of Huntington Beach Bella Terra Traffic Analysis. July 2008. pg. 4-11



Legend

XX	General Plan ADT (000s)
(Y.Y)	With-Project ADT (000s)



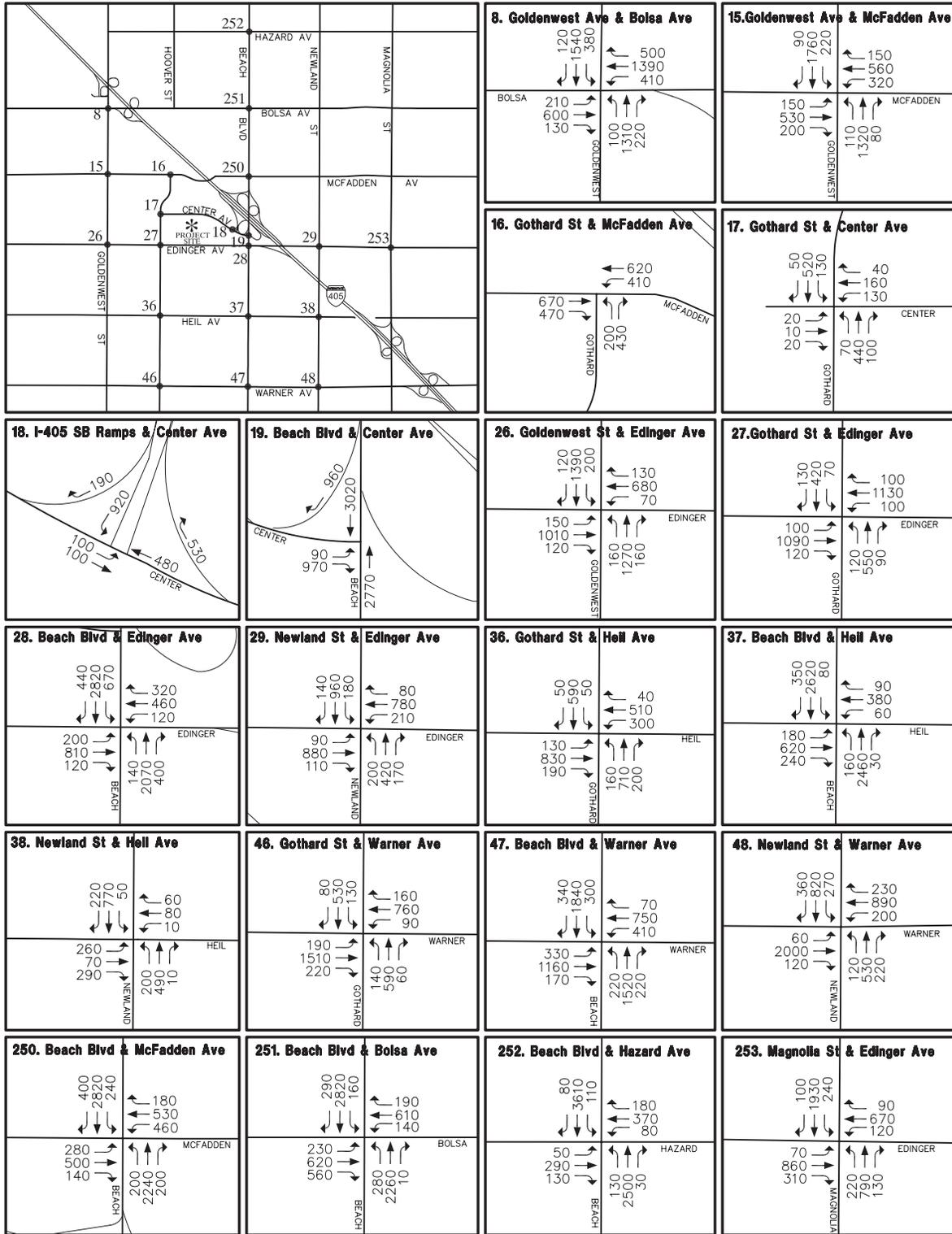
Source: Austin-Foust Associates, Inc., 2008.

**FIGURE 4.13-14**  
**Year 2030 ADT Volumes**



OD2138300

The Village at Bella Terra



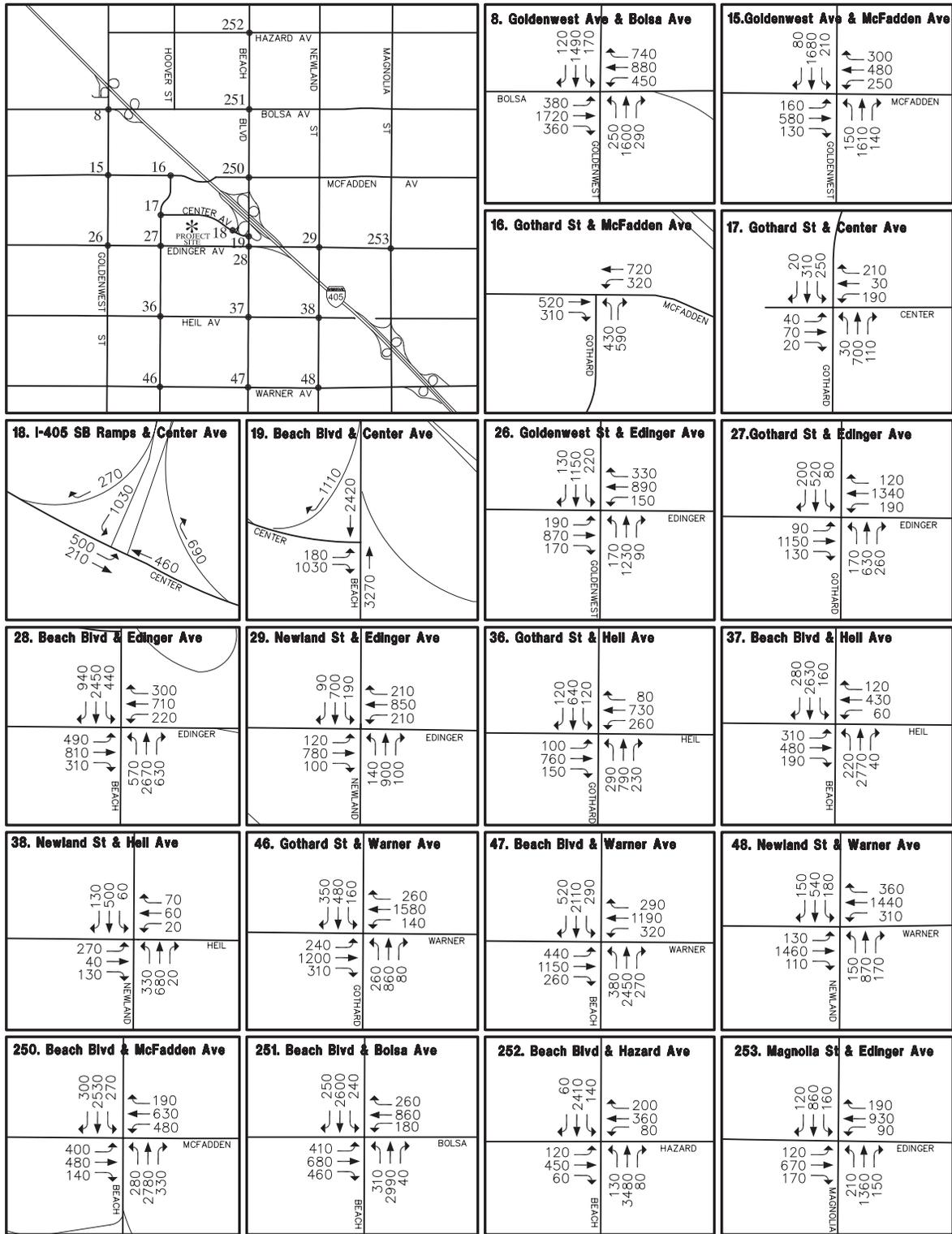
NORTH  
NOT TO SCALE

Source: Austin-Foust Associates, Inc., 2008.

FIGURE 4.13-15  
Year 2030 AM Peak Hour Traffic Volumes – No Project

OD2138300

The Village at Bella Terra



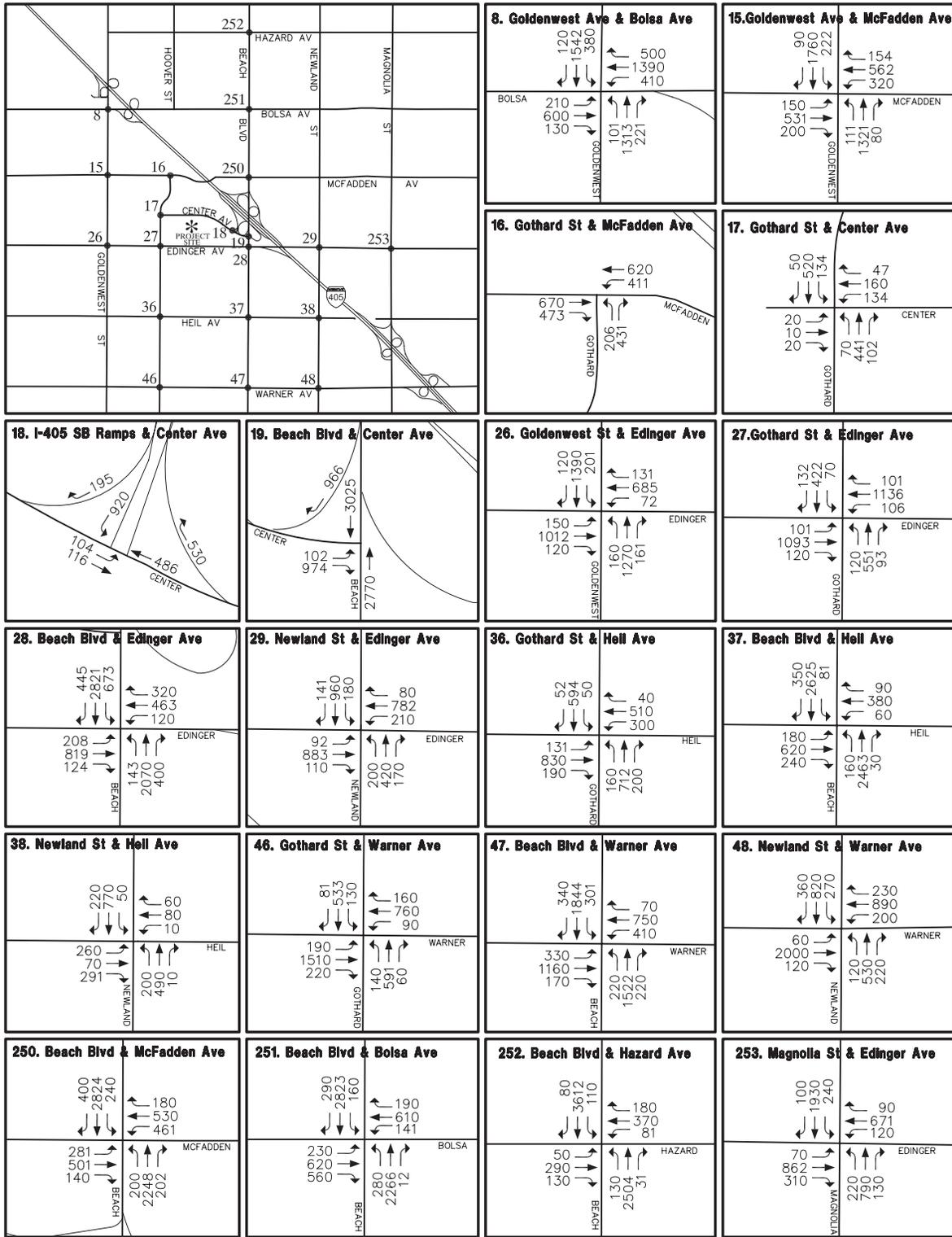
Source: Austin-Foust Associates, Inc., 2008.

**FIGURE 4.13-16**  
**Year 2030 PM Peak Hour Traffic Volumes – No Project**



OD2138300

The Village at Bella Terra



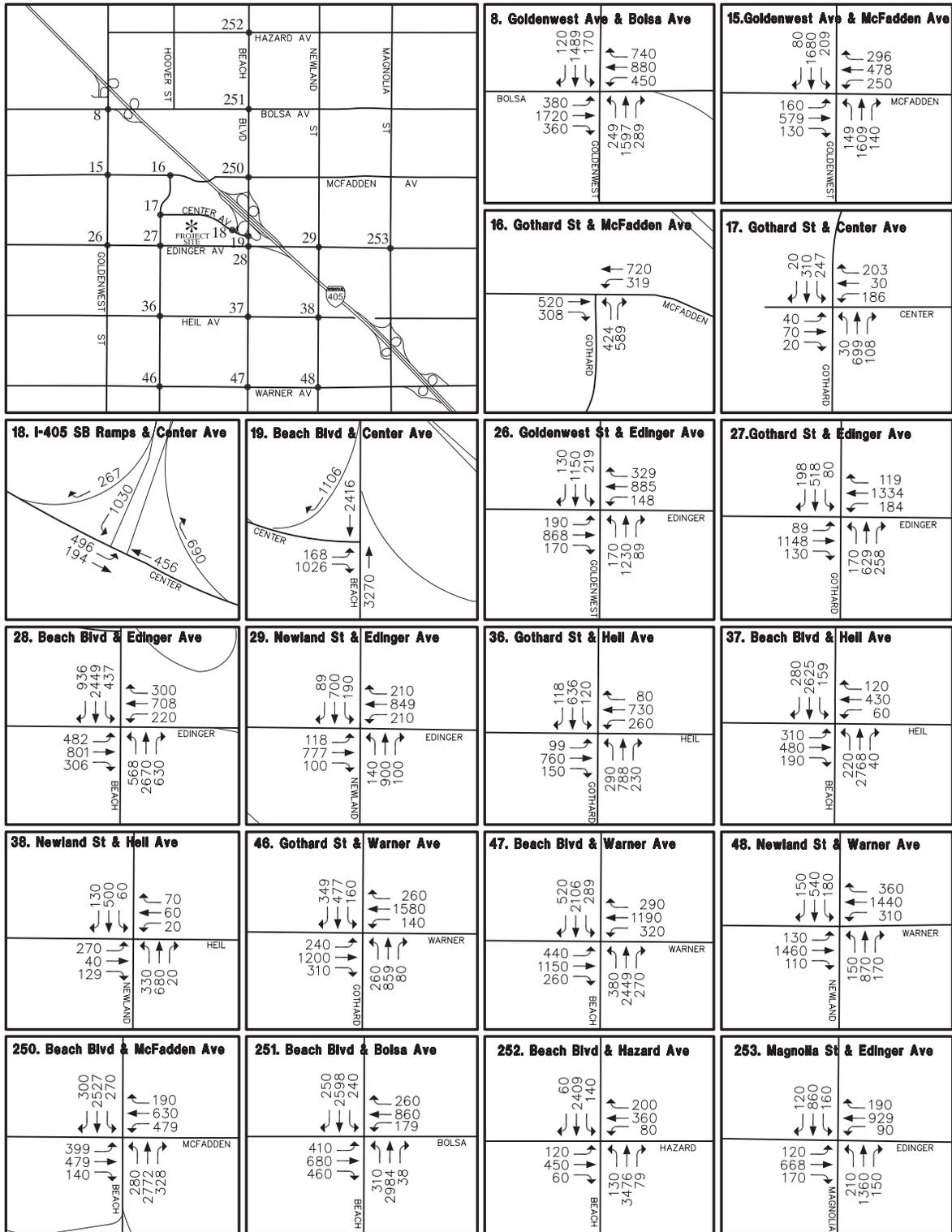
Source: Austin-Foust Associates, Inc., 2008.

**FIGURE 4.13-17**  
**Year 2030 AM Peak Hour Traffic Volumes – With Project**



OD2138300

The Village at Bella Terra



Source: Austin-Foust Associates, Inc., 2008.



**FIGURE 4.13-18**  
**Year 2030 PM Peak Hour Traffic Volumes – With Project**



OD2138300

The Village at Bella Terra

### Freeway Ramp Volumes

A summary of the 2014 and 2030 peak hour volumes and V/C ratios for freeway ramps that would be affected by the proposed project are summarized in Table 4.13-10 (Future Freeway Ramp V/C Summary—Option 2).

Table 4.13-10 Future Freeway Ramp V/C Summary—Option 2									
Location	Capacity	AM Peak Hour				PM Peak Hour			
		Total Volume	Total V/C	Project Volume	Project V/C*	Total Volume	Total V/C0	Project Volume	Project V/C*
<b>Year 2014</b>									
I-405/Beach Boulevard NB loop on-ramp (from NB Beach Boulevard)	900	1,333	1.48	35	0.04	1,609	1.79	37	0.04
I-405/Beach Boulevard NB loop off-ramp (to SB Beach Boulevard)	1,200	793	0.66	19	0.01	1,002	0.84	52	0.04
I-405/Beach Boulevard SB on-ramp at Center Avenue	1,800	465	0.26	15	0.01	1,046	0.58	16	0.01
I-405/Beach Boulevard SB off-ramp at Center Avenue	1,500	1,017	0.68	17	0.01	1,227	0.82	47	0.03
I-405/Edinger Avenue SB direct on-ramp	1,080	695	0.64	23	0.02	717	0.66	24	0.02
<b>Year 2030</b>									
I-405/Beach Boulevard NB loop on-ramp (from NB Beach Boulevard)	900	1,445	1.61	35	0.04	1,717	1.91	37	0.04
I-405/Beach Boulevard NB loop off-ramp (to SB Beach Boulevard)	1,200	869	0.72	19	0.02	1,052	0.88	52	0.04
I-405/Beach Boulevard SB on-ramp at Center Avenue	1,800	634	0.35	15	0.01	1,186	0.66	16	0.01
I-405/Beach Boulevard SB off-ramp at Center Avenue	1,500	1,115	0.74	17	0.01	1,297	0.87	47	0.03
I-405/Edinger Avenue SB direct on-ramp	1,080	885	0.82	23	0.02	770	0.71	24	0.02
SOURCE: Austin-Foust, Inc. City of Huntington Beach Bella Terra Traffic Analysis. July 2008. pg. 4-14 and 4-15									

### Caltrans Intersections

A LOS analysis was also performed for 2014 and 2030 conditions for the eight Caltrans intersections located in the study area using HCM methodology. The calculations were made using Synchro 6.0 software, and the intersections along Beach Boulevard were modeled as a network. The results are summarized in Table 4.13-11 (LOS Summary for Caltrans Intersections—Option 2) for Option 2 of the proposed project. It should be noted that Caltrans intersections for the Goldenwest Street interchange are not included. Only six project trips in the AM and eight project trips in the PM access the freeway of this location, and with such low volumes there would be no measurable impacts (for this reason the study area did not extend north of Bolsa Avenue).

**Table 4.13-11 LOS Summary for Caltrans Intersections—Option 2**

Location	2014				2030			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
I-405 SB Ramps at Center Avenue	32.8	C	38.4	D	31.3	C	45.8	D
Beach Boulevard at Center Avenue	16.4	B	18.9	B	20.0	B	21.6	C
Beach Boulevard at Edinger Avenue	66.0	E	59.1	E	61.9	E	68.0	E
Beach Boulevard at Heil Avenue	17.0	B	18.0	B	21.6	C	36.3	D
Beach Boulevard at Warner Avenue	34.1	C	53.4	D	38.0	D	62.4	E
Beach Boulevard at McFadden Avenue	31.5	C	40.8	D	41.1	D	55.1	E
Beach Boulevard at Bolsa Avenue	36.6	D	39.1	D	54.2	D	97.8	F
Beach Boulevard at Hazard Avenue	25.7	C	29.1	C	30.4	C	36.0	D

SOURCE: Austin-Foust, Inc. City of Huntington Beach Bella Terra Traffic Analysis. July 2008. pg. 4-16 and 4-17

### ■ Thresholds of Significance

The following thresholds of significance are based on Appendix G of the 2008 CEQA Guidelines. As stated previously, in order to present a reasonable worst-case analysis, the traffic analysis contained in this EIR examines the potential impacts that could occur with future development under Option 2 of the proposed project, which has the greatest number of vehicle trips generated during the AM and PM peak periods. Therefore, for the purposes of this EIR, implementation of the proposed project may result in a potentially significant impact if the proposed project would cause either of the following results:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (e.g., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in locations that results in substantial safety risks
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses
- Result in inadequate emergency access
- Result in inadequate parking capacity
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)

As stated previously and for the purposes of this analysis, an acceptable level of service (LOS) is LOS D as defined by City of Huntington Beach Circulation Element. Therefore, any intersection operating at

LOS E or F is considered deficient/unsatisfactory. In addition, an intersection is also considered impacted if the LOS is E or F and the ICU value changes by 0.01 or more.

## ■ Impacts and Mitigation

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

**Impact 4.13-1      Construction of either Option 1 or Option 2 of the proposed project would not cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system. This impact is *less than significant*.**

As per the Conceptual Plans submitted, construction of either Village Option A or Village Option B of the proposed project is anticipated to occur over approximately forty-one months beginning in January 2009. Project construction is anticipated to consist of five phases: (1) demolition, (2) excavation and shoring, (3) sub-grade construction, (4) pile driving, and (5) public improvements on Edinger Avenue and building construction, with building construction occurring over five additional phases. Demolition would involve the removal of an existing 190,100 sf retail building and an 18,600 sf auto repair building, both part of the former Montgomery Ward department store. The demolition phase is estimated to take three and a half months and would involve numerous truck trips to remove the existing building materials.

Grading is expected to generally consist of cut and fill operations. This work would require 11,860 cubic yards of soil to be imported and is anticipated to take two months to complete. After grading activities are completed, sub-grade construction and building construction would follow. It is anticipated that sub-grade construction would take four months to complete while building construction would take 35.5 months to complete. Grading is estimated to produce an estimated 15,350 cubic yards of cut and require 27,210 cubic yards of fill. As noted in Appendix B, up to eighteen roundtrips by trucks would be necessary per day to handle the material import/export needs of the proposed project during the two month grading period. It should be noted that the eighteen truck trips would only occur during grading activities; during the three and a half month demolition phase, sixteen roundtrips by trucks is estimated. Although no time-frame has been approved for the improvements to the intersection of Edinger Avenue and Beach Boulevard (see mitigation measure MM4.13-1), construction of these improvements could cause delays along both roadways. However, these improvements would be handled by the City, as the proposed project would be required to pay a fair share portion for the improvements. During construction of these public improvements, it is assumed that at least one lane in all directions would be open for the duration.

Construction traffic generally occurs prior to the peak period, consistent with the typical construction work day of 7:00 A.M. to 3:00 P.M. Furthermore, several arterial roadways in the project vicinity are designated truck routes in the City's General Plan Circulation Element. Specifically, Edinger Avenue,

Goldenwest Street, and Bolsa Avenue are designated truck routes and are easily accessible from the project site. Access to the I-405 freeway is available from Center Avenue, adjacent to and north of the project site. Easy access to State freeways would eliminate truck traffic on the surrounding arterial streets. Truck trips could occur along designated truck routes north and south of the project site to I-405, or south to the Pacific Coast Highway. Due to the relatively minor number of truck trips associated with construction of either Option 1 or Option 2 of the proposed project and due to the temporary nature of construction activities, truck trips due to import/export activities at the project site would not be anticipated to cause a substantial increase in traffic volumes and delays in the project area. As such, construction-related traffic impacts under future development of either Option 1 or Option 2 would be *less-than-significant*. No mitigation measures are required.

**Impact 4.13-2**      **Under Year 2014 conditions, operation of either Option 1 or Option 2 of the proposed project could cause an increase in traffic which is substantial in relation to the forecasted traffic load and capacity of the street system. This impact is *significant and unavoidable*.**

As shown in Table 4.13-7 (Project Trip Generation Summary), future development under Option 2 of the proposed project is projected to generate a total of approximately 6,918 average trips per day. During the AM peak hour the project is projected to generate approximately 385 vehicles per hour, while during the PM peak hour the project is projected to generate approximately 628 vehicles per hour.

### ***Intersection Analysis***

Operation of future development under Option 2 of the proposed project under 2014 conditions could result in an increase in traffic beyond existing conditions. As previously stated, a project impact is defined as a change in ICU of 0.01 or greater, where deficient traffic operations are projected to occur (i.e., LOS E or F). As indicated in Table 4.13-8 (2014 Level of Service Summary), three intersections are projected to operate at LOS E during the PM peak hours. However, as Table 4.13-8 shows, these three intersections (Goldenwest Street at Bolsa Avenue, Beach Boulevard at Edinger Avenue, and Beach Boulevard at Warner Avenue) are anticipated to operate at LOS E with or without future development under the proposed project.

For the intersections that are projected to operate at LOS E, it was determined that only the intersection of Beach Boulevard and Edinger Avenue would result in an ICU increase of 0.01 or more. For this intersection, the ICU would increase from 0.92 under 2014 No-Project PM conditions to 0.95 under 2014 With-Project PM conditions. The other two intersections identified as operating at LOS E in 2014 show no change in ICU between No-Project and With-Project conditions.

Therefore, future development under the proposed project could result in a potentially significant impact with respect to 2014 traffic conditions at Beach Boulevard and Edinger Avenue. However, implementation of the following mitigation measure would improve operations at the intersection of Beach Boulevard and Edinger Avenue to an acceptable level of service with future development under the proposed project.

*MM4.13-1 The Applicant shall provide funds on a fair share basis to the City of Huntington Beach to construct either an additional northbound through lane or an additional westbound through lane at the intersection of Beach Boulevard and Edinger Avenue.*

Only one of the identified improvements in mitigation measure MM4.13-1 would be required to reduce 2014 traffic at the intersection to a less than significant level. Implementation of mitigation measure **MM4.13-1** for future development under the proposed project would reduce potentially significant impacts to a less than significant level. Although the intersection would still operate at an LOS of E, the ICU value at this intersection would be identical to the ICU projected to occur at the intersection in 2014 without the project.

### **Regional Freeway System Analysis**

As identified in Table 4.13-10 (Future Freeway Ramp V/C Summary—Option 2), future development under the proposed project is projected to result in a deficiency at the I-405 northbound on-ramp from Beach Boulevard. In addition, an analysis was also conducted for the freeway weave sections which carry some project traffic, the freeway mainline sections in the vicinity of the project site, as well as the Beach Boulevard collector-distributor (CD) roads. The analysis uses 2030 forecasts and, therefore, is detailed under Impact 4.13-3. While 2014 information is not included in this analysis, the project contribution is the same for that year. The results are summarized in Tables 4.13-14 (2030 Level of Service—Freeway) and 4.13-15 (Beach Boulevard CD Roads). The proposed project would contribute traffic to deficiencies on I-405 (in both 2014 and 2030). In the absence of specific significance criteria from Caltrans, the addition of traffic to a projected deficiency is considered ***significant and unavoidable***.

### **Summary**

In light of the proposed improvement to the I-405 eastbound on-ramp, as well as the implementation of mitigation measure **MM4.13-1**, the impact to study area intersections from operation of future development under the proposed project on traffic load and capacity would be less than significant. However, because implementation of the proposed project would contribute to projected regional freeway deficiencies in 2014, this is considered an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system. Therefore, under 2014 conditions, this impact is considered ***significant and unavoidable***.

**Impact 4.13-3 Under Year 2030 Conditions, operation of either Option 1 or Option 2 of the proposed project could cause an increase in traffic that is substantial in relation to the forecasted traffic load and capacity of the street system. This impact is *significant and unavoidable*.**

As shown in Table 4.13-7 (Project Trip Generation Summary) and discussed under Impact 4.13-2 above, future development under Option 2 of the proposed project is projected to generate a total of approximately 6,918 average trips per day in 2014. During the AM peak hour the project is projected to generate approximately 385 vehicles per hour, while during the PM peak hour the project is projected to generate approximately 628 vehicles per hour.

### Intersection Analysis

Operation of future development under the proposed project under 2030 conditions would result in the following seven intersections operating at an unacceptable LOS:

- Goldenwest Street at Bolsa Avenue (LOS F, no-project/with-project)
- Beach Boulevard at Edinger Avenue (LOS F, no-project/with-project)
- Beach Boulevard at Heil Avenue (LOS E, no-project/with-project)
- Beach Boulevard at Warner Avenue (LOS E, no-project/with-project)
- Newland Street at Warner Avenue (LOS E, no-project/with-project)
- Beach Boulevard at McFadden Avenue (LOS E, no-project/with-project)
- Beach Boulevard at Bolsa Avenue (LOS F, no-project/with-project)

Although the traffic analyses prepared for future development under the proposed project does not indicate a difference in ICU between AM and PM peak hours for 2030 No-Project and With-Project conditions, the traffic analyses used a model to determine whether the ICU of the proposed project would result in a significant traffic impact. For the intersections at LOS E or F, a determination was made as to whether the project’s contribution amounted to one percent or more in accordance with the performance criteria for significant project impacts. This was conducted by summing the project traffic ICU contribution to each critical movement in the ICU calculation. The results of this calculation are shown below in Table 4.13-12 (ICU Contribution (2030)—Option 2). For more details please refer to Appendix H.

As shown in Table 4.13-12, future development under the proposed project would have a long-range (2030) significant impact at the intersection of Beach Boulevard and Edinger Avenue during the PM peak hour. When reviewing traffic conditions at this intersection, and overall contribution to traffic in the study area, the proposed project would result in a project ICU of 1.86 percent during the PM peak hour. As this is greater than a one percent increase, traffic conditions at this intersection would result in a significant impact.

<i>Location</i>	<i>AM/PM</i>	<i>Project ICU</i>
Goldenwest Street and Bolsa Avenue	PM	0.35%
Beach Boulevard and Edinger Avenue	PM	1.86%
Beach Boulevard and Heil Avenue	PM	0.29%
Beach Boulevard and Warner Avenue	PM	0.50%
Beach Boulevard and McFadden Avenue	AM	0.44%
Beach Boulevard and McFadden Avenue	PM	0.91%
Beach Boulevard and Bolsa Avenue	AM	0.16%
Beach Boulevard and Bolsa Avenue	PM	0.32%

SOURCE: Austin-Foust, Inc. City of Huntington Beach Bella Terra Traffic Analysis. July 2008. pg. 4-12

In order to reduce this impact to a less than significant level, the Applicant would be required to contribute towards both improvements identified in mitigation measure **MM4.13-1**. Since both the short-range and long-range impacts are cumulative (that is, the project contributes to the deficiency but does not cause the deficiency), implementation of mitigation measure **MM4.13-1** would occur on a fair share basis (refer to Appendix H for details).

### ***Regional Freeway System Analysis***

As shown in Table 4.13-10 (Future Freeway Ramp V/C Summary—Option 2), the project would have a significant impact to the northbound I-405 loop ramp from Beach Boulevard in 2030, similar to the conditions presented for year 2014. Worth noting is that the project has a significant V/C contribution to a future deficiency with and without the project.

In addition, a freeway system analysis was also performed for proposed project. The freeway impact criteria typically used in Orange County for projects such as this is the CMP threshold of more than three percent. This has been used in absence of any criteria formally specified by Caltrans for State Highway facilities. Project traffic on the adjacent I-405 Freeway is summarized in Table 4.13-13 (Peak Hour Traffic on I-405 Freeway).

<i>Location</i>	<i>Direction</i>	<i>Total Volume</i>	<i>Project</i>	<i>(%)</i>
North of Goldenwest	AM NB	11,260	41	.36
North of Goldenwest	PM SB	11,430	55	.48
North of Beach	AM NB	11,620	35	.30
North of Beach	PM SB	11,770	47	.40
South of Beach	PM NB	12,940	52	.40
South of Beach	AM SB	12,740	38	.30

SOURCE: Austin-Foust, Inc., *City of Huntington Beach The Village at Bella Terra Traffic Study*. July 2008. Page 5-7.

The selected locations identified in Table 4.13-13 have the highest amount of project traffic, and as shown, do not meet the threshold of more than 3 percent.

At the request of Caltrans, an analysis was also conducted for the freeway weave sections which carry some project traffic, the freeway mainline sections in the vicinity of the project site, as well as the Beach Boulevard collector-distributor (CD) roads. The analysis uses 2030 forecasts, and indicates the amount of project traffic where applicable. While 2014 information is not included in this analysis, the project contribution is the same for that year, and the 2030 time frame shows worst-case conditions with regards to freeway conditions. The results are summarized in Tables 4.13-14 (2030 Level of Service—Freeway) and 4.13-15 (Beach Boulevard CD Roads).

Table 4.13-14 2030 Level of Service—Freeway								
	Southbound				Northbound			
	Mainline		Weave Section		Mainline		Weave Section	
	AM	PM	AM	PM	AM	PM	AM	PM
Between Westminster and Goldenwest Street								
	F(.16)	E(.48%)	F(.19)	F(.37%)	E(.36%)	F(.33%)	E(.60%)	F(.84%)
Between Goldenwest Street and Beach Street								
	F(.14)	E(.40%)	E(.81)	F(1.55%)	E(.30%)	F(.28%)	E(1.99%)	F(1.84%)
Between Beach Boulevard and Magnolia Street								
	F(.30%)	F(.33%)	F(1.70%)	F(1.13)	F(.17)	F(.40)	F(.94)	F(2.25%)

SOURCE: Austin-Foust, Inc., City of Huntington Beach The Village at Bella Terra Traffic Study. July 2008. Page 5-7.  
Numbers in parenthesis show percent of project traffic.

For the Beach Boulevard CD roads, the 2030 results are as follows:

Table 4.13-15 Beach Boulevard CD Roads				
	Southbound		Northbound	
	AM	PM	AM	PM
Volume/Capacity	.46	.87	1.31	1.53
Project V/C	.01	.01	.03	.05
Project Percent	1.8%	1.0%	2.3%	3.2%

SOURCE: Austin-Foust, Inc., City of Huntington Beach The Village at Bella Terra Traffic Study. July 2008. Page 5-8

A V/C ratio greater than 1.00 represents a deficiency, and hence, the northbound CD road is deficient in the AM and PM and the project adds a small amount of traffic to that condition. From the freeway information presented here, it can be seen that the project contributes to future deficiencies on the freeway mainline and the weaving sections in the vicinity of the project. It also contributes to a future deficiency on the northbound CD road. Since there are no significance criteria for these facilities, each of these impacts is considered significant. Mitigation measures would involve major regional improvements such as widening the freeway that are currently under evaluation as part of a Project Study Report/Project Development Support for the I-405 Freeway. However, the regional improvements are not currently funded at this time and are not feasible as part of the proposed project. Therefore, the addition of traffic to a projected deficiency on the I-405 in 2030 is considered *significant and unavoidable*.

**Summary**

With implementation of mitigation measure **MM4.13-1**, which would involve the construction of an additional northbound through lane along Beach Boulevard at Edinger Avenue or an additional westbound through lane on Edinger Avenue at Beach Boulevard, the long-term (2030) traffic intersection impacts generated by operation of the proposed project would be less than significant. However, because implementation of the proposed project would contribute to projected regional

freeway deficiencies in 2030, this is considered an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system. Therefore, under 2030 conditions, this impact is considered ***significant and unavoidable***.

Threshold	Would the proposed project exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?
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**Impact 4.13-4 Implementation of either Option 1 or Option 2 of the proposed project would not exceed standards established by the Orange County Transportation Authority. This impact is *less than significant*.**

OCTA is designated as the Congestion Management Agency (CMA) to oversee the Orange County CMP. The CMP Highway System (HS) includes specific roadways, which include State Highways and Smart Streets (formerly Super Streets), and CMP arterial monitoring locations/intersections. Two CMP intersections are located in the study area: 1 Beach Boulevard at Edinger Avenue, and 2) Beach Boulevard at Warner Avenue. CMP-designated intersections have a performance standard of LOS E or better (intersection capacity utilization (ICU) not to exceed 1.00), and a project is considered to have a significant impact if it contributes 0.01 or more to an ICU when the performance standard is exceeded.

As identified on page 5-8 of the Traffic Study (and identified in Table 4.13-8), 2014 ICU values for the proposed project show ICU values of 0.74 and 0.95 (AM and PM peak hours, respectively) for the intersection of Beach Boulevard and Edinger Avenue, and ICU values of 0.72 and 0.92 (AM and PM peak hours, respectively) for the intersection of Beach Boulevard and Warner Avenue. Neither CMP intersection shows ICU values that exceed the allowable CMP threshold of 1.00. Therefore, the proposed project would not result in CMP impacts. This impact would be ***less than significant***.

Threshold	Would the proposed project result in a change in air traffic patterns, including either an increase in traffic levels or a change in locations that results in substantial safety risks?
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**Impact 4.13-5 Implementation of either Option 1 or Option 2 of the proposed project would not result in a change in air traffic patterns. This impact is *less than significant*.**

The proposed project site is not located within 2 miles of a public or private use airport. The project site is not located within any airport land use plan and is not located within the flight path of the John Wayne Airport, the Joint Force Training Base at Los Alamitos, or the Fullerton Municipal Airport. Furthermore, future development under the proposed project would not result in a change to air traffic patterns in the City. Therefore, neither Option 1 nor Option 2 of the proposed project would be anticipated to result in changes to air traffic patterns. Due to the potential height of one of the elements of the Conceptual Plans for the Village Options (a 10-story residential or hotel tower), the construction of a helipad atop the 10-story structure may be required for access to the higher floors during emergencies (i.e., fire). This helipad would be used solely for emergency situations in which rescue personnel are unable to reach victims at the top of the tower. Should the Applicant pursue the ten story development, the proposed

project application would be required to be submitted through the City to the Orange County Airport Land Use Commission (ALUC) for review and action pursuant to Public Utilities Code Section 21661.5. The Conceptual Plan would also be required to comply with the State permit procedure provided by law and with all conditions of approval imposed or recommended by FAA, by the Orange County ALUC, and by the Caltrans Division of Aeronautics. As such and because the project site is not located within an airport land use plan, the proposed project, including the potential helipad that would be constructed under either Conceptual Plan Village Options, is not anticipated to result in a significant impact. Therefore, potential impacts to air traffic patterns would be considered *less than significant*.

Threshold	Would the proposed project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?
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**Impact 4.13-6      Implementation of either Option 1 or Option 2 of the proposed project would not substantially increase roadway hazards. This impact is *less than significant*.**

For the purposes of this analysis, hazards are defined as changes to circulation patterns that could result in unsafe driving or pedestrian conditions. Examples include inadequate vision or stopping distance, sharp roadway curves where there is an inability to see oncoming traffic, or vehicular/pedestrian traffic conflicts. As noted previously, future development under Option 1 or Option 2 of the proposed project would result in a mixed-use development in an area currently developed with commercial uses similar to those anticipated under the proposed project. Therefore, due to the type of use proposed, the proposed project is not anticipated to result in design features that would be considered incompatible with current circulation patterns.

Access to the project site would be provided along Edinger Avenue and Center Avenue. Internal circulation within the project site would be provided via two lanes, one lane traversing the site from east to west and another lane traversing the western border of the site from north to south. The lane traversing the western border of the project site would also double as an emergency access lane and would be constructed in accordance with applicable code requirements.

The UPRR right-of-way is located directly adjacent to the project site to the west. Although future development under Option 1 or Option 2 of the proposed project would introduce residential uses on the project site, implementation of either Option of the proposed project would reduce the potential for conflicts between future residents and/or visitors to the site and the adjacent railroad right-of-way through the incorporation of several site design features. For example, along the western boundary of the project site (adjacent to the fire lane), perimeter screening trees and a retaining wall would deter access towards the UPRR right-of-way. In addition, no direct access is proposed along the western boundary of the project site. Therefore, project-related impacts are considered *less-than-significant* with regards to hazards resulting from design features or incompatible uses.

However, the potential for roadway hazards can also occur as an inherent result of the placement of additional access points along public roadways and as a result of increased vehicle traffic at those access points. New intersections require adequate sight distance and intersection traffic control in order to

minimize potential hazards. In order to ensure the safe construction of project intersections, the proposed project would adhere to the following code requirements:

**CR4.13-1** *On-site traffic signing and striping shall be implemented in conjunction with detailed construction plans for the project site.*

**CR4.13-2** *Sight distance at each project access shall be reviewed with respect to standard City of Huntington Beach sight distance standards at the time of preparation of final grading, landscape and street improvement plans.*

Future development under Option 1 or Option 2 of the proposed project would have three general access points. The signalized intersection on Center Avenue (Huntington Village Lane) is one of several access points serving existing Bella Terra Mall traffic, as well as areas north of the project site. The access point on Edinger Avenue also serves existing Bella Terra Mall traffic and provides access to a shopping center on the south side of Edinger Avenue. The non-signalized location on Center Avenue is a T-intersection but with minimal existing traffic volumes. These same three access points have been assumed for either Option of the proposed project. A right-in, right-out access driveway would be constructed at the southwest corner of the project site along Edinger Avenue. No left turns would be permitted at this site since there is no median break for left-turns in and out. This driveway would not pose a hazard due to design. Peak hour delays for exiting and entering vehicles would operate at acceptable levels based on calculated delay values using HCM methodology. Access points to the project site would not be considered a design hazard with regards to daily operation of the intersections. Furthermore, adherence to code requirements **CR4.13-1** and **CR4.13-2** would ensure that potential impacts to roadway hazards remain *less than significant*.

Threshold	Would implementation of the proposed project result in inadequate emergency access?
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**Impact 4.13-7** **Implementation of either Option 1 or Option 2 of the proposed project would not result in inadequate emergency access. This impact is *less than significant*.**

Access to the project site (under either Option 1 or Option 2) would be provided from Edinger Avenue and Center Avenue, both of which are primary arterial streets. An emergency access lane accessed from any of the identified access points discussed under Impact 4.13-6 would be located along the western boundary of the project site. As part of standard development procedures, plans would be submitted to the City for review and approval to ensure that all new development has adequate emergency access, including turning radius, in compliance with existing regulations. Therefore, traffic generated under either Option 1 or Option 2 of the proposed project would not impede emergency access to and from adjacent and surrounding roadways. A *less-than-significant* impact would occur, especially after compliance with existing regulations.

Threshold	Would the proposed project result in inadequate parking capacity?
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**Impact 4.13-8**      **Implementation of either Option 1 or Option 2 of the proposed project would not result in inadequate parking capacity. This impact is *less than significant*.**

Parking needs for the proposed project would be adequately supplied for the project based on a shared parking analysis. The shared parking study would be based on the mix of uses, including the number of residential units, the amount of commercial square footage, and the types of commercial uses at the project site. Future development under Option 1 or Option 2 of the proposed project would meet the minimum requirements set forth for both the commercial and residential components of the proposed project. Therefore, it is assumed that either Option 1 or Option 2 would result in a less-than-significant impact with respect to parking capacity.

The basis for using this shared parking criteria stems from accumulated experience in parking demand characteristics, which indicates that a mixing of land uses (as proposed under the proposed project) results in an overall parking need that is less than the sum of the individual peak requirements for each land use. Shared Parking calculations recognize that different uses often experience individual peak parking demands at different times of day, or days of the week. When uses share a common parking footprint, the total number of spaces needed to support the collective whole is determined by adding parking profiles (by time of day or day of week), rather than individual peak ratios as represented in the City of Huntington Beach Zoning and Subdivision Ordinance.

Furthermore, as discussed in more detail under Impact 4.13-9 below, a primary objective of the proposed project is to promote alternative modes of transportation, specifically to promote an active pedestrian environment and the use of public transit. In consideration of the project site’s proximity to the OCTA transit center, Bella Terra Mall, and Golden West College, it is reasonable to assume that visitors and residents of the proposed development would require fewer parking spaces than anticipated under existing City ordinance requirements, as they would be using alternate modes of transportation (i.e., walking, public transit, etc.) to get to the Village at Bella Terra site. This impact is considered *less than significant*, and no mitigation is required.

Threshold	Would the proposed project conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?
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**Impact 4.13-9**      **Implementation of either Option 1 or Option 2 of the proposed project would not conflict with adopted policies supporting alternative transportation. This impact is *less than significant*.**

As discussed above, project implementation (under either Option 1 or Option 2) is anticipated to be consistent with local policies related to transportation, including the City of Huntington Beach General Plan Land Use and Transportation Elements. The proposed project would be located adjacent to, and west of, the existing Bella Terra Mall, between Center Avenue and Edinger Avenue. Alternative modes of transportation are accessible for both patrons of the commercial uses within the project site, as well as

residents of the future development. The OCTA-operated Golden West Transit Center is located northwest of the project site and provides a convenient location for residential trips to be made by transit. As Golden West College is located directly west of Gothard Street, and it is anticipated that students and/or faculty members of the College would walk or use other non-private vehicle modes (i.e., bicycle and transit) to support the proposed commercial uses. The walkability of the surrounding area, as well as the easy access to transit facilities would promote the use of mass transit and no-transit modes for residents and patrons alike.

In addition, the Golden West Transportation Center is the City's largest transit hub and serves six bus lines and provides transit access throughout northern Orange County. The location of the project in such close proximity to the transportation center hub would provide residents with a convenient means of alternative transportation. In addition, although not included as part of this analysis, the project could also benefit from future commuter rail service if it is established along the existing UPRR line.

This project would support Policy CE 6.1.6 of the Circulation Element of the City's General Plan, which requires new development to provide pedestrian walkways and bicycle routes between developments, schools, and public facilities. Due to project compatibility with adopted policies supporting alternative transportation, this impact would be *less than significant*. No mitigation measures are required.

#### 4.13.4 Cumulative Impacts

The cumulative analysis considers cumulative projects identified to occur within the vicinity of the project site, in addition to General Plan build-out conditions identified to Year 2030. The project-specific traffic analysis considers trips generated by cumulative projects in its development of future baseline conditions. Therefore, the cumulative impact analysis is incorporated into the Year 2014 analysis presented in Section 4.13.3. Additionally, the City of Huntington Beach is currently processing a development application for the existing College Country Center located adjacent to the project site to the west, at the corner of Gothard Street and Center Avenue referred to as The Ripcurl project. The proposal involves a General Plan Amendment (GPA) that would allow both residential and commercial uses at the site, which is currently zoned for commercial use only.

Trip generation comparisons carried out for the current General Plan and for The Ripcurl project indicate that The Ripcurl project would add approximately 1,700 daily trips to the street network in the immediate vicinity. The EIR for The Ripcurl project identified this as a significant and unavoidable impact to the intersection of the I-405 southbound ramps at Center Avenue, and a mitigation measure was identified accordingly. The analysis of this intersection for The Village at Bella Terra project shows a slight reduction in trips at this intersection (compared to the current General Plan). This reduction is sufficient to eliminate the impact caused by The Ripcurl project. Hence, as far as The Village at Bella Terra is concerned, there are no project impacts at this intersection.

As discussed under Impact 4.13-2 and Impact 4.13-3 above, future development of Option 1 or Option 2 of the proposed project would, in conjunction with cumulative traffic generated, result in a potentially significant impact at the intersection of Edinger Avenue and Beach Boulevard. However, mitigation measure **MM4.13-1** would require the Applicant to provide a fair share payment for

improvements to that intersection, which would include an additional northbound through lane along Beach Boulevard or an additional westbound through lane along Edinger Avenue. Although the significant impact at this intersection would be reduced to a less than significant level, because implementation of the proposed project would contribute to projected regional freeway deficiencies in both 2014 and 2030, this increase is considered substantial in relation to the forecasted traffic load and capacity of the street system. Therefore, the proposed project, in conjunction with The Ripcurl project and other cumulative projects in the area would result in a significant and unavoidable cumulative impact to area traffic. Consequently, because the proposed project would contribute traffic to the projected freeway deficiencies, the project's contribution is considerable. This is considered a ***significant and unavoidable*** cumulative impact.

In terms of parking impacts, it is assumed that neither Village Option A nor Village Option B would result in a cumulatively significant impact with respect to parking deficiencies. As discussed under Impact 4.13-8 above, future development under the proposed project would require the preparation of a parking study to determine the number of spaces that would be required to accommodate the future development. This parking study would be based on the mix of uses, including the number of residential units, the amount of commercial square footage, and the types of commercial uses at the project site. The projected number of parking spaces required for Village Option A and Village Option B were based solely on the Conceptual Plan. Therefore, it is assumed that either Village Option A or Village Option B would result in less-than-significant impacts with respect to parking capacity in the cumulative context. As a result, other related projects in the project vicinity are not anticipated to be negatively impacted by parking deficiencies at the project site. Therefore, future development of Village Option A or Village Option B of the proposed project would result in a ***less-than-significant*** cumulative parking impact.

#### 4.13.5 References

Austin-Foust Associates, Inc. 2008. *The Village at Bella Terra Traffic Study*, July.

California Department of Transportation (Caltrans). 2002. *Statewide Transit-Oriented Development Study*, September.

Huntington Beach, City of. 1996. *General Plan Circulation Element*, May 13.