PRELIMINARY DRAFT
INTERCHANGE JUSTIFICATION REPORT

I-75 and Everglades Boulevard
Collier County, Florida

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

EXECUTIVE SUMMARY

The overall study area for the I-75/Everglades Boulevard Interchange Justification Report (IJR) is bounded by I-75 on the west and south, SR 29 on the east, and Immokalee Road/Oil Well Road on the north. Much of this area is identified as Golden Gate Estates. The study area has poor access with respect to both I-75 as well as to the western portion of Collier County and the City of Naples. This is primarily due to the large distance between the existing CR 951 and SR 29 interchanges (i.e., over 21 miles) and the limited roadways available for use in accessing I-75. These conditions result in lengthy and circuitous travel paths being incurred by many of the study area residents as they travel to and from I-75.

The need for an interchange at Everglades Boulevard has been a point of discussion dating back to the 1970's when SR 84 was chosen as the alignment for the extension of I-75 across the Everglades to Ft. Lauderdale. Prior to the completion of I-75 as a limited-access interstate highway in 1992, local access to SR 84 was provided by three north/south facilities; Miller Boulevard, Everglades Boulevard and Desoto Boulevard. Currently, none of these roadways have access to I-75.

Collier County is projected to grow both in terms of population and employment over the next 30 years within the eastern portion of the County. The portion located east of CR 951 is projected to grow at a faster rate than the more heavily developed western portion. The study area is expected to grow over 50% by 2039, with commensurate increases in dwelling units and employment.

The lack of direct access to I-75 for the residents of the Golden Gate Estates area, coupled with the growth in population that is projected to occur in this area, has created a need for additional access to I-75. Consequently, Collier County is requesting that the Federal Highway Administration (FHWA) grant conditional approval for an additional access point (i.e., interchange) on I-75 at or in the vicinity of Everglades Boulevard. This proposed interchange will provide much needed access to the rapidly growing area east of CR 951 and north of I-75. This new access will provide increased capacity for residents traveling to and from the fastest growing portion of Collier County as well as for emergency response/evacuation purposes.

The proposed I-75/Everglades Boulevard interchange is currently included in the MPO's adopted 2035 Long Range Transportation Plan (LRTP) as a financially feasible transportation improvement. In addition, this project has had enough continuous local support that it was also included in the Collier MPO's 2030 Financially Feasible LRTP. The Board of County Commissioners has officially prioritized the interchange as the number one project on the county's federal legislative agenda for the past five years. The I-75/Everglades Boulevard interchange is consistent with Collier County's Comprehensive Plan and is also included in the Collier/Lee County MPO's Joint Regional Transportation Network. A total of over $64 million is allocated in the LRTP financially feasible plan for future phases of this project, including the PD&E study, design and construction of a new interchange.

Several alternative study area roadway improvements (not currently included in the Collier MPO's Financially Feasible LRTP) were also developed and evaluated as a part of this IJR. These improvements involved constructing new east/west roads parallel to and north of I-75 that extended from CR 951 to Everglades Boulevard. The results of these evaluations indicated that the alternative study area roadway improvements would result in some reductions in traffic for the existing study area roadways; however, the magnitude of these projected volume reductions was not sufficient to allow all of the study area roadways to operate below capacity. More importantly, these alternative roadway improvements would not increase the study area's accessibility to I-75 for travel to/from the east and would only offer modest reductions in travel distance/travel time for residents desiring to access I-75 for travel to/from the west.

The implementation of a new interchange is expected to improve the peak period traffic operations on the study area's primary roadways (i.e., CR 951, Immokalee Road and Golden Gate Boulevard). The Collier MPO's 2035 LRTP reflects significant County funding commitments to improve the local highway network within the study area to alleviate existing and future levels of traffic congestion. The sum total of the County's funding commitments for study area roadway improvements is approximately $106 million. This includes approximately $62 million for the widening of Golden Gate Boulevard from Wilson Boulevard to Desoto Boulevard. However, these local roadway improvements will not be sufficient to accommodate the projected traffic volumes over the next 25-30 years without the implementation of a new interchange.

On February 1, 1998, FHWA issued a notice of policy statement for Additional Interchanges to the Interstate System. This policy statement identified the eight requirements below that must be met before any new interchange on the interstate system can be approved:

1. The existing interchanges and/or local roads and streets in the corridor can neither provide the necessary access nor be improved to satisfactorily accommodate the design year traffic demands while at the same time providing the access intended by the interchange proposal.

2. All reasonable alternatives for design options, location, and transportation system management type improvements have been assessed and provided for if currently justified, or provisions for accommodating such facilities if a future need is identified.

3. The proposed access point does not have a significant adverse impact on the safety and operation of the interstate facility based on the analysis of the future traffic.

4. The proposed access connects to a public road only and will provide for all traffic movements. The proposed access will be designed to meet or exceed current standards for Federal-aid projects on the Interstate system.

5. The interchange proposal considers and is consistent with local and regional land use and transportation plans.

6. In areas where the potential exists for future or multiple interchange additions; all requests for new access are supported by a comprehensive interstate network study.

7. The request for new access generated by new or expanded development demonstrates appropriate coordination between the development and related or otherwise required transportation system improvements.

8. The request for new access contains information relative to the planning requirements and the status of environmental processing of the proposal.

The IJR documents how the new interchange proposed for I-75 meets the requirements set forth in this policy. Based on the information provided in this IJR, Collier County is requesting approval of a new interchange to be located on I-75 between the existing SR 29 and CR 951 interchanges, conditional to the successful completion of a Project Development and Environment (PD&E) study that culminates with Location Design and Concept Approval (LDCA) from FHWA.

1.0 INTRODUCTION

1.1 Study Area

Interstate 75 (I-75) is a limited access freeway that traverses the entire eastern portion of Collier County. Currently, access to and from I-75 in Collier County is provided at five existing interchanges. The interchanges are located at SR 29 (Exit No. 80), Collier Boulevard/CR 951 (Exit No. 101), Golden Gate Parkway (Exit No. 105), Pine Ridge Road (Exit No. 107), and Immokalee Road (Exit No. 111). From the Collier/Broward County line westward to CR 951, I-75 follows an east/west alignment. Between CR 951 and Golden Gate Parkway, the alignment shifts and I-75 follows a north/south orientation throughout the remaining portion of Collier County. The portion of I-75 from the Collier/Broward County line to approximately 1.2 miles east of the Collier Boulevard interchange is a limited access toll freeway known as "Alligator Alley".

The portion of Collier County located east and north of I-75 is generally referred to as the Golden Gate Area and consists of over 100,000 acres of land. Within this area is a 175-square mile area designated as Golden Gate Estates that consists primarily of platted single family lots varying in size from approximately one to five acres. This area was platted in the 1950's and 1960s. Golden Gate Estates includes areas designated as Neighborhood Commercial to provide for local residential services. Although these areas of commercial and professional services are not yet fully developed, their intent is not to provide for regional commercial or service needs.

The overall study area for the I-75/Everglades Boulevard Interchange Justification Report (IJR) is bounded by I-75 on the west and south, SR 29 on the east, and Immokalee Road/Oil Well Road on the north. Figure 1-1 illustrates the I-75/Everglades Boulevard IJR study area and the boundaries of the Golden Gate Estates.

1.2 Purpose of Project

Access to downtown Naples and the urbanized portions of Collier County west of I-75 from the Golden Gate Estates area is extremely limited. The majority of the Estates area traffic travels west on Golden Gate Boulevard to CR 951. From there traffic either flows north to Immokalee Road and Vanderbilt Beach Road or south to Pine Ridge Road, Golden Gate Parkway, or SR 84. Travel between the Golden Gate Estates area and Lee County via I-75 is also extremely limited. Only those residents living in the vicinity of Immokalee Road have direct access to I-75. All of the residents currently using Golden Gate Boulevard are required to travel on a portion of CR 951 to access I-75 either via Golden Gate Parkway, Pine Ridge Road, or Immokalee Road.

The only two north/south roadways in the study area that have interchanges with I-75 are SR 29 and CR 951. The I-75/SR 29 interchange is located in the easternmost portion of Collier County approximately 21 miles east of the I-75/CR 951 interchange. Due to the large distance between SR 29 and the Golden Gate Estates and the lack of any direct connections, SR 29 (and the I-75/SR 29 interchange) provides very poor access to this area. Consequently, a majority of the Golden Gate Estates residents that are destined for locations east of Collier County (i.e., Broward or Dade County) actually travel west on Golden Gate Boulevard and then south on CR 951 to access the I-75/CR 951 interchange.

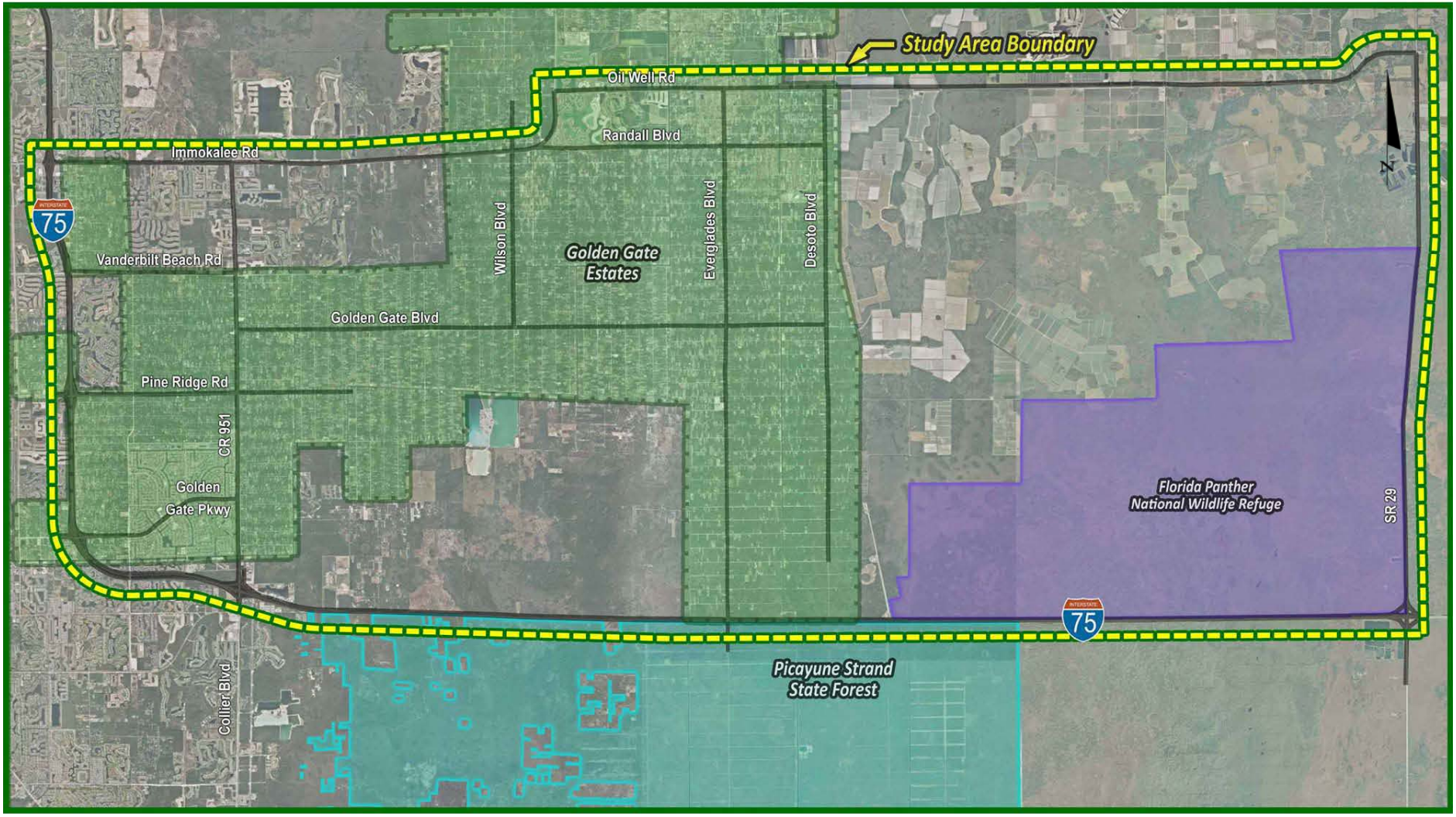


Figure 1-1: Overall Study Area

The lack of direct access to I-75 for the residents of the Golden Gate Estates area, coupled with the growth in population that is projected to occur in this area, has created a need for additional access to I-75. Consequently, Collier County is requesting that the Federal Highway Administration (FHWA) grant conditional approval for an additional access point (i.e., interchange) on I-75 at or in the vicinity of Everglades Boulevard. This proposed interchange will provide much needed access to the rapidly growing area east of CR 951 and north of I-75. This new access will provide increased capacity for residents traveling to and from the fastest growing portion of Collier County as well as for emergency response/evacuation purposes. The purpose of this IJR is to document the need for new access on I-75 as well as the impacts that a new interchange is expected to have on the Interstate system.

1.3 Project Location

Two potential locations for a new interchange on I-75 are documented in this IJR. The first location is at Everglades Boulevard while the second location is at Desoto Boulevard. Both of these locations are east of the existing CR 951 interchange and west of the existing SR 29 interchange. The immediate area around both locations for the proposed interchange has historically been identified as rural. The rural area classification is based on the census data in accordance with Florida Statute 334.03.

Interchange spacing is defined in the FDOT Interchange Handbook - Technical Resource Document One, as the distance from the centerline of a proposed interchange to the centerlines of the cross streets at the upstream and downstream interchanges. In rural areas, a new interchange would require a spacing of at least six miles from adjacent interchanges.

The distance between the SR 29 interchange (Exit No. 80) and the CR 951 interchange (Exit 101) is approximately 21 miles. Based on the straight line diagrams obtained from the FDOT, the existing Everglades Boulevard overpass is located at County milepost 41.5, while SR 29 and CR 951 are located at County milepost 29.2 and milepost 50.4, respectively. Consequently, the existing Everglades Boulevard overpass is located approximately 12.3 miles west of SR 29 and 8.9 miles east of CR 951. Desoto Boulevard is located approximately 1.8 miles to the east of Everglades Boulevard and does not currently cross over I-75. If a new interchange were to be constructed at Desoto Boulevard, the interchange would be located approximately 10.5 miles to the west of SR 29 and approximately 10.7 miles to the east of CR 951. The implementation of a new interchange on I-75 at either of these locations would exceed the FDOT's minimum interchange spacing criteria for a rural area. All interchange spacing described above is illustrated in Figure 1-2.

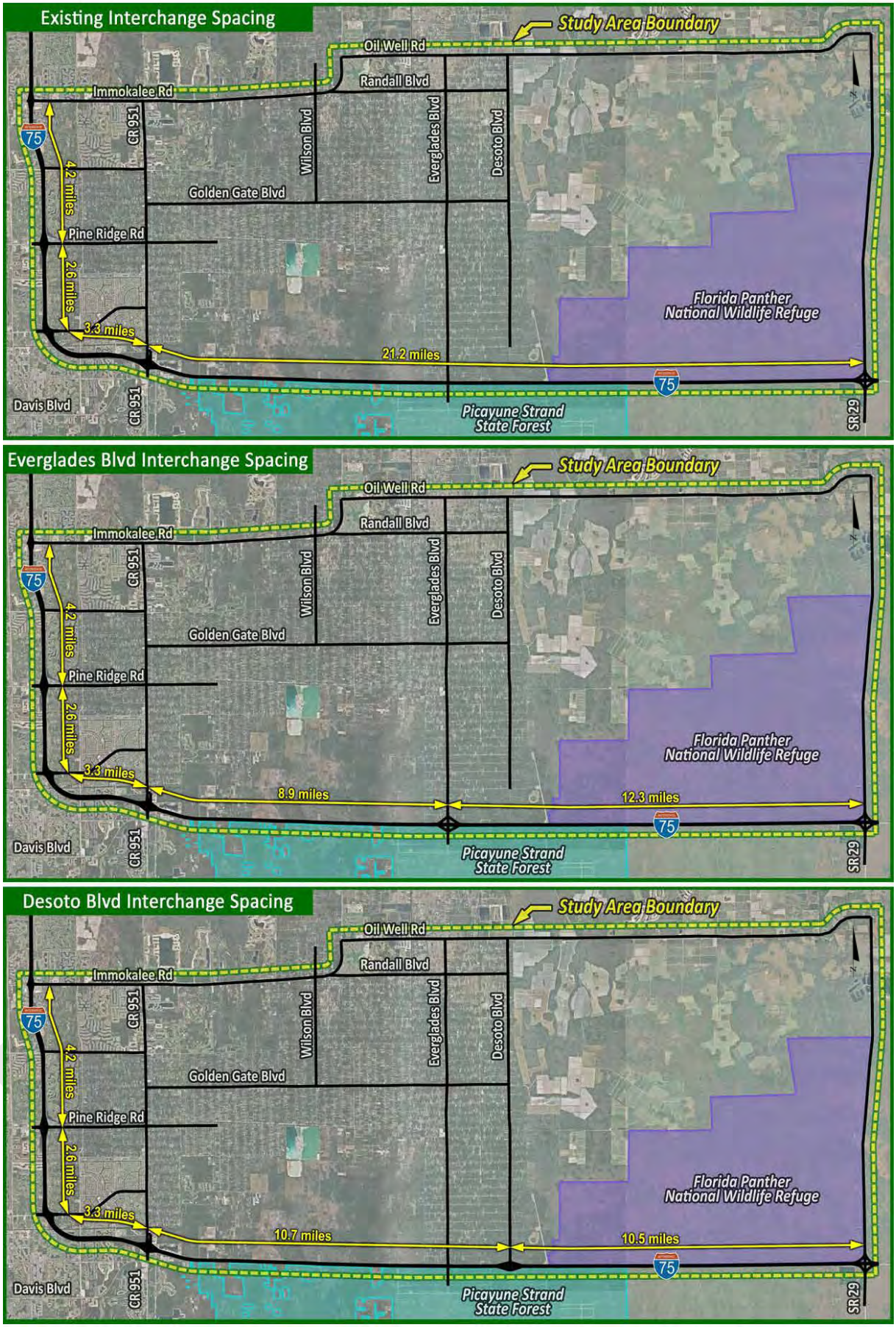


Figure 1-2: Interchange Spacing

2.0 IJR STUDY METHODOLOGY

The methodology used to conduct this IJR is documented in the approved Methodology Letter of Understanding (MLOU), dated September 2010. A copy of the MLOU is provided in Appendix A. The future analysis years for this IJR are 2019 (opening year), 2029 (interim year) and 2039 (design year). These future years were established based on direction provided by the FDOT Central Office and FHWA during a District One Interchange Review Committee (DIRC) meeting held on October 29, 2009. The area of influence with respect to I-75 was defined to be the portion of I-75 from the SR 29 interchange to the Golden Gate Parkway interchange.

3.0 EXISTING CONDITIONS

3.1 Existing Land Use Characteristics

The study area is comprised of a variety of land uses including residential, commercial, office, municipal, mining operations, agricultural, and conservation. The area located east of CR 951 and north of I-75 (i.e., the Golden Gate Estates area) is almost entirely comprised of platted residential lots ranging in size from one to five acres. The Golden Gate Estates area includes several small areas that are designated as Neighborhood Commercial Centers. These areas are located at intersections but are not yet fully developed. The purpose of these areas is to provide for neighborhood-level commercial and professional services (e.g., convenience stores/gas stations, doctor/dentist offices, dry cleaners, fast food restaurants, etc.) – not regional-level needs.

In addition to the platted portions of the Golden Gate Estates area, the areas located to the east of Desoto Boulevard are known as the Collier County Rural and Agricultural Area Assessment Stewardship Overlay and the Big Cypress Area of Critical State Concern (ACSC). Although large portions of the Stewardship Overlay are open to development, the Big Cypress ACSC is extremely limited to development. These limitations are imposed as a result of the environmental sensitivity of the land contained within the Big Cypress ACSC. Included in this area are the Florida Panther National Wildlife Refuge, Fakahatchee Strand State Preserve, Big Cypress National Preserve and Picayune Strand State Forest The North Belle Meade Natural Resource Protection Area (NRPA) is located to the north of I-75 and just west of Everglades Boulevard. The remaining portion of the study area is primarily agricultural in nature.

There are also several public facilities located within the study area and these include the following:

- Collier County Landfill (located to the east of CR 951 and just north of I-75);
- Collier County Water Treatment Plant (located to the east of White Lake Boulevard and south of City Gate Boulevard);
- Collier County Tax Collector's Office (located in the southeast quadrant of the Golden Gate Boulevard/Wilson Boulevard intersection);
- Max A. Hasse, Jr. Community Park (located to the east of CR 951 on Golden Gate Boulevard);
- Big Cypress Elementary School (located to the east of CR 951 on Golden Gate Boulevard);
- Sabal Palm Elementary School and Cypress Palm Middle School (located between Everglades Boulevard and Desoto Boulevard south of Randall Boulevard);
- Palmetto Elementary School (located to the west of Everglades Boulevard on 10th Avenue SE)
- Collier County Fire Station No. 71 and EMS Station No. 17 (located between CR 951 and Wilson Boulevard on Golden Gate Boulevard); and
- Big Corkscrew Fire Station No. 10 (located just east of Wilson Boulevard on Immokalee Road).

There is also a quarry located just south of the existing southern terminus of Wilson Boulevard and a Division of Forestry fire tower located to the west of Everglades Boulevard on Benton Road.

3.2 Existing Roadway Network

I-75 is a four-lane divided limited access freeway from the Collier/Broward County line westward to the Golden Gate Parkway interchange and a six-lane divided limited access freeway from the Golden Gate Parkway interchange northward to the Lee/Collier County line.

SR 29 is a two-lane undivided north/south arterial that extends from south of I-75 northward through the town of Immokalee and across the Collier/Hendry County line. Collier Boulevard is a north/south divided arterial that extends from Marco Island northward to Immokalee Road. The portion of Collier Boulevard between SR 84 (the intersection located just south of the I-75 interchange) and the north side of the interchange is designated as SR 951 while the remaining portions within the study area are designated as CR 951. Throughout the remaining portion of this document this roadway will be referred to as CR 951. Within the study area, CR 951 is a four-lane divided arterial.

There are only two other continuous north/south roadways that extend throughout most of the study area and these are Everglades Boulevard and Desoto Boulevard. Both of these facilities are two-lane undivided roadways. Everglades Boulevard extends from south of I-75 to Immokalee Road and crosses over I-75. Everglades Boulevard serves as the entrance to the Picayune Strand State Forest and terminates within the State Forest. Desoto Boulevard extends from just north of I-75 to Oil Well Road. A portion of Desoto Boulevard also exists south of I-75, however, this roadway does not cross over I-75 (i.e., there is no existing overpass). The distance between Everglades Boulevard and Desoto Boulevard is approximately 1.8 miles. Wilson Boulevard is a two-lane undivided north/south roadway that extends from approximately 1.1 miles south of Golden Gate Boulevard to approximately 1.1 miles north of Immokalee Road.

There are only three continuous east/west roadways that extend throughout a majority of the study area. Immokalee Road (CR 846), located at the northern boundary of the study area, extends from west of I-75 to east of SR 29. Just to the west of Camp Keais Road, this east/west roadway turns northward and is designated as South 1st Street (although this portion of the roadway is also still designated as CR 846). This roadway intersects SR 29 in the town of Immokalee. Within the study area, Immokalee Road is a six-lane divided roadway from just east of I-75 to Oil Well Road (CR 858) and then transitions to a two-lane undivided roadway. Oil Well Road extends from Immokalee Road to east of SR 29. The portion between Immokalee Road and Everglades Boulevard is a four-lane divided roadway. Golden Gate Boulevard is located in the middle of the study area and extends eastward from CR 951 to just east of Desoto Boulevard. Golden Gate Boulevard is a four-lane divided roadway from CR 951 to Wilson Boulevard and a two-lane undivided roadway from Wilson Boulevard to just east of Desoto Boulevard. Pine Ridge Road (CR 896) extends from west of I-75 to CR 951. Pine Ridge Road is a six-lane divided roadway from west of I-75 to Logan Boulevard and a four-lane divided roadway from Logan Boulevard to CR 951. On the east side of CR 951 this roadway is called White Boulevard (although this portion of the roadway is also designated as CR 896) and exists as a two-lane undivided roadway for approximately 2.2 miles. Golden Gate Parkway (CR 886) extends from west of I-75 to CR 951. This facility is a six-lane divided arterial from west of I-75 to Santa Barbara Boulevard and a four-lane divided arterial from Santa Barbara Boulevard to CR 951. The study area roadway laneage is graphically illustrated in Figure 3-1.

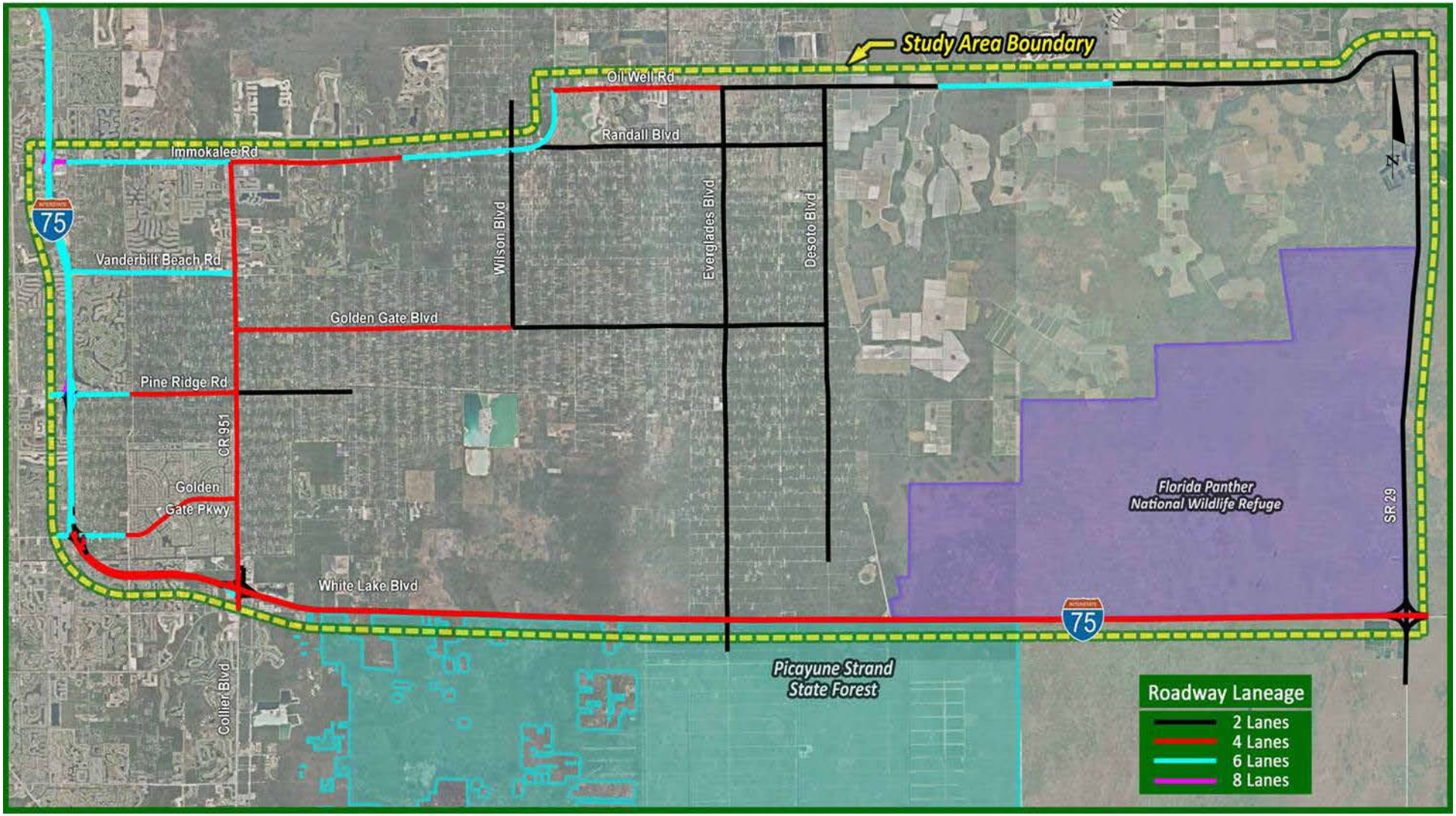


Figure 3-1: Study Area Roadway Laneage

3.3 Existing Interchange and Intersection Geometrics

The existing I-75/SR 29 interchange is a rural diamond interchange configuration with single lane ramps in all four quadrants. Both of the SR 29 ramp terminal intersections are unsignalized and the left-turn movements from the I-75 off-ramps onto SR 29 are stop sign controlled. The distance between the two ramp terminal intersections is approximately 0.41 miles. Separate left-turn lanes are provided on SR 29 for the left-turn movements onto the I-75 on-ramps while separate right-turn ramp roadways are also provided in all four quadrants. There are no cross street intersections located within a reasonable distance from the SR 29 ramp terminal intersections. The closest cross street on SR 29 north of I-75 is an unsignalized entrance to the Big Cypress National Preserve and this entrance is located approximately 4.1 miles north of the interchange. The closest cross street on SR 29 south of I-75 is CR 837 and this unsignalized intersection is located approximately 12.8 miles south of the interchange. The existing I-75/SR 29 interchange ramp terminal intersection geometrics are schematically illustrated in Figure 3-2.

The existing I-75/CR 951 interchange is a diamond interchange configuration with single lane ramps in all four quadrants. Both of the CR 951 ramp terminal intersections are signalized Dual left-turn lanes are provided for the northbound CR 951–to–westbound I-75 signal controlled on-ramp movement while dual right-turn lanes are provided for the eastbound I-75–to–southbound CR 951 off-ramp movement which is also signal controlled. Single left-turn and right-turn lanes are provided for all of the other interchange movements. Separate right-turn ramp roadways are provided in the southeast, northeast and northwest quadrants of the interchange. There are two intersections located within one-half mile of the ramp terminal intersections. The SR 84 intersection is located approximately 1,400 feet south of the eastbound I-75 ramp terminal intersection while the White Lake Boulevard/Magnolia Pond Drive intersection is located approximately 1,450 feet north of the westbound I-75 ramp terminal intersection. The existing I-75/CR 951 interchange ramp terminal intersection geometrics are also illustrated in Figure 3-2. It should be noted that in 2008 when the traffic counts were conducted, CR 951 was a four-lane divided roadway both north and south of SR 84. Since that time, the portion of CR 951 south of SR 84 was widened to a six-lane divided roadway.

The existing I-75/Golden Gate Parkway interchange is a partial cloverleaf interchange configuration. With one exception, single lane on- and off-ramps are currently provided for all of the movements at this interchange. The southbound I-75 off-ramp to Golden Gate Parkway is a two-lane off-ramp at the mainline gore area. It should be noted that in 2008 when the traffic counts were conducted, the I-75 mainline was a four-lane divided freeway (i.e., two lanes in each direction) north of Golden Gate Parkway. A loop ramp is provided in the southeast quadrant for the eastbound Golden Gate Parkway-to-northbound I-75 movement. This single lane loop ramp joins a single lane ramp that is provided for the westbound Golden Gate Parkway-to-northbound I-75 movement; however, these two lanes are transitioned to one lane prior to joining the I-75 mainline. Both of the Golden Gate Parkway ramp terminal intersections are signalized and the distance between these intersections is approximately 1,330 feet. Dual left-turn lanes are provided for the northbound I-75–to–westbound Golden Gate Parkway off-ramp movement while dual right-turn lanes are provided for the southbound I-75–to–westbound Golden Gate Parkway off-ramp movement. Single left-turn and right-turn lanes are provided for all of the other interchange movements. Separate right-turn ramp

roadways are provided in the southwest and northeast quadrants of the interchange. The northbound I-75-to-eastbound Golden Gate Parkway right-turn movement is also signal controlled. The closest signalized intersection to the east of the interchange (i.e., Santa Barbara Boulevard) is approximately 0.80 miles from the northbound I-75 off-ramp intersection. The existing I-75/Golden Gate Parkway interchange ramp terminal intersection geometrics are included in Figure 3-2.

3.4 Existing Everglades Boulevard Overpass/Temporary Access Ramps

In the fall of 2010, temporary access ramps to and from the west of I-75 were constructed at the Everglades Boulevard overpass to support the Picayune Strand Restoration Project (PSRP) being conducted by the South Florida Water Management District (SFWMD) and the U.S. Army Corps of Engineers (USACE) as part of the Comprehensive Everglades Restoration Plan (CERP). The one-lane temporary ramps are illustrated in Figure 3-3. These ramps were not designed in accordance with normal Interstate Highway standards that are applied to all interchange ramps that are used by the general public, but were instead designed and constructed in accordance with FDOT Standard Index No. 655 (i.e., Limited Access Temporary Opening). Fifty-foot turning radii are provided for both of these temporary ramps and only construction vehicles are allowed to use them during the construction of three pump stations required as a part of the PSRP. These ramps are gated and the security for these ramps is provided by a Construction Contractor designated by the SFWMD. Pursuant to the current permit, when the pump station construction is completed, these temporary ramps will be removed. The County is currently in the process of requesting that these ramps be allowed to remain after the restoration project is complete for emergency access conditions only. Currently, the closest signalized intersection on Everglades Boulevard is located at the intersection with Golden Gate Boulevard – approximately 5.5 miles north of the existing I-75 overpass. There are no signalized intersections on Everglades Boulevard south of the existing I-75 overpass.

3.5 Existing Traffic Volumes

A traffic count program was conducted throughout the study area during the eight-week period from March 4, 2008 to April 24, 2008. No traffic counts were conducted during the first week of April, however, due to the Collier County public schools being closed for “Spring Break”. The traffic count program consisted of the following:

- Seventy-two (72)-hour I-75 mainline counts;
- Seventy-two (72)-hour I-75 interchange ramp counts;
- Seventy-two (72)-hour intersection approach counts;
- Seventy-two (72)-hour vehicle classification counts; and
- Four (4)-hour intersection turning movement counts (from 7:00 am to 9:00 am and 4:00 pm to 6:00 pm)

The I-75 mainline counts were conducted for the segments located between the SR 29, CR 951, and Golden Gate Parkway interchanges while the 72-hour ramp counts were conducted at all 13 of the on- and off-ramps associated with these three existing interchanges. The 72-hour I-75 mainline and interchange ramp

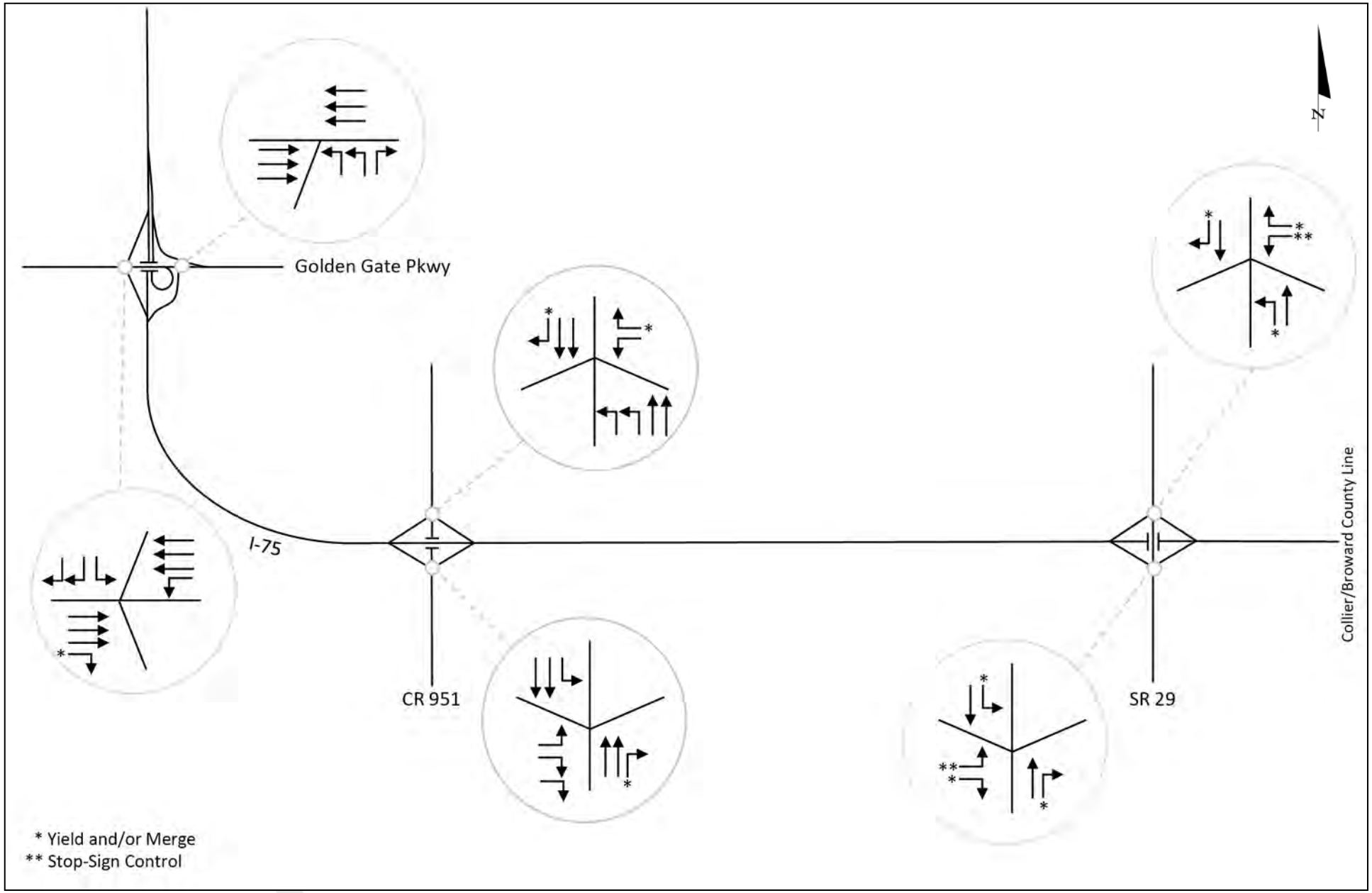


Figure 3-2: 2008 I-75 Ramp Terminal Intersection Laneage

Figure 3-3: Existing Everglades Boulevard Overpass/Temporary Access Ramps

volumes are listed in Tables 3-1 and 3-2, respectively. Tables 3-1 and 3-2 also contain the dates of the counts and the three-day average 24-hour volumes.

Table 3-1: 72-Hour I-75 Mainline Traffic Volumes

Location	Date	Direction	24-Hour Volume
Between SR 29 and CR 951	4/8/2008	NB	9,240
		SB	9,350
		Total	**18,590**
	4/9/2008	NB	9,698
		SB	9,724
		Total	**19,422**
	4/10/2008	NB	10,090
		SB	10,248
		Total	**20,338**
Average			**19,450**
Between CR 951 and Golden Gate Parkway	4/8/2008	NB	19,021
		SB	19,236
		Total	**38,257**
	4/9/2008	NB	19,362
		SB	19,696
		Total	**39,058**
	4/10/2008	NB	19,691
		SB	19,831
		Total	**39,522**
Average			**38,946**

The average 24-hour volumes were subsequently adjusted to obtain estimates of the Average Annual Daily Traffic (AADT) volumes. Weekly seasonal adjustment factors and axle adjustment factors were obtained from the 2008 Peak Season Factor Category Report and Weekly Axle Factor Category Report contained in the Florida Department of Transportation's (FDOT's) 2008 Florida Traffic Information DVD. Copies of these reports are provided in Appendix B. The 2008 AADT volumes resulting from the use of these adjustment factors are listed in Table 3-3. Table 3-3 also includes the 2008 AADT volumes obtained from the Florida Traffic Information (FTI) DVD. A review of the AADT volumes for the segment of I-75 between SR 29 and CR 951 indicates that the average 24-hour volume calculated from the raw traffic count data (19,450 vehicles/day) is only 2.0% higher than the AADT volume obtained from FDOT Count Station No. 0351 (19,000 vehicles/day). This traffic count station is a telemetered (i.e., permanent) count station located to the west of Everglades Boulevard at Milepost No. 41.52. In contrast, the AADT volume derived from the raw count data using the weekly and axle adjustment factors (15,900 vehicles/day) is 16.0% lower than the AADT volume obtained from the FDOT permanent count station. Consequently, an AADT volume of 19,000 vehicles/day was considered to be the most accurate volume for this segment of I-75.

Table 3-2: 72-Hour I-75 Interchange Ramp Traffic Volumes

Roadway	Location	Date	24 Hour Volume
I-75 WB Exit Ramp	At CR 951	4/8/2008	2,278
		4/9/2008	2,389
		4/10/2018	2,527
		Average	2,398
I-75 WB Entrance Ramp	From CR 951	4/8/2008	12,645
		4/9/2008	12,556
		4/10/2018	12,529
		Average	12,577
I-75 EB Exit Ramp	At CR 951	4/8/2008	12,578
		4/9/2008	12,846
		4/10/2018	12,951
		Average	12,792
I-75 EB Entrance Ramp	From CR 951	4/8/2008	2,129
		4/9/2008	2,245
		4/10/2018	2,328
		Average	2,234
I-75 NB Exit Ramp	At Golden Gate Parkway	4/8/2008	1,386
		4/9/2008	1,531
		4/10/2018	1,515
		Average	1,477
I-75 NB Entrance Ramp	From EB Golden Gate Parkway	4/8/2008	7,670
		4/9/2008	7,786
		4/10/2018	7,748
		Average	7,735
I-75 NB Entrance Ramp	From WB Golden Gate Parkway	4/8/2008	3,863
		4/9/2008	3,820
		4/10/2018	3,968
		Average	3,884
I-75 SB Exit Ramp	At Golden Gate Parkway	4/8/2008	12,042
		4/9/2008	12,079
		4/10/2018	12,021
		Average	12,047
I-75 SB Entrance Ramp	From Golden Gate Parkway	4/8/2008	1,469
		4/9/2008	1,586
		4/10/2018	1,480
		Average	1,512
I-75 WB Exit Ramp	At SR 29	4/8/2008	1,386
		4/9/2008	1,416
		4/10/2018	1,461
		Average	1,421

Table 3-2: 72-Hour I-75 Interchange Ramp Traffic Volumes (Continued)

Roadway	Location	Date	24 Hour Volume
I-75 WB Entrance Ramp	From SR 29	4/8/2008	681
		4/9/2008	597
		4/10/2018	659
		Average	646
I-75 EB Exit Ramp	At SR 29	4/8/2008	470
		4/9/2008	446
		4/10/2018	456
		Average	457
I-75 EB Entrance Ramp	From SR 29	4/8/2008	1,331
		4/9/2008	1,349
		4/10/2018	1,497
		Average	1,392

A review of the AADT volumes for the segment of I-75 between CR 951 and Golden Gate Parkway indicates that the average 24-hour volume calculated from the raw traffic count data (approximately 38,950 vehicles/day) is approximately 20.0% higher than the AADT volume obtained from FDOT Count Station No. 2000 (32,500 vehicles/day). This traffic count station is a portable count station (not a permanent one) located to the west/north of CR 951 at Milepost No. 50.80. In contrast, the AADT volume derived from the raw count data using the weekly and axle adjustment factors (29,800 vehicles/day) is approximately 8.0% lower than the AADT volume obtained from the FDOT count station.

A comparison of the AADT volumes on both sides of the CR 951 interchange indicates the following:

- Based on the average 24-hour volumes calculated from the raw count data, the daily traffic volume on the west side of the interchange is approximately 100% higher than the daily traffic volume on the east side of the interchange.
- Based on the AADT volumes obtained from the FDOT count stations, the daily traffic volume on the west side of the interchange is approximately 70% higher than the daily traffic on the east side of the interchange.

Table 3-3 also indicates that a majority of the interchange ramp AADT volumes derived from the raw count data using the weekly and axle adjustment factors are closer to the AADT volumes obtained from the FDOT count stations than the average values calculated from the raw count data. Subtracting the FDOT count station volumes for the CR 951 interchange ramps to/from the east (4,200 vehicles/day) from the FDOT count station volume for the mainline east of this interchange (19,000 vehicles/day) yields an AADT volume of 14,800 vehicles/day. Adding the FDOT count station volumes for the CR 951 interchange ramps to/from the west (22,500 vehicles/day) to this value yields an AADT volume of 37,300 vehicles/day for the I-75 mainline segment west of CR 951. This AADT volume is much closer to the average 24-hour raw count value (38,950 vehicles/day) than the FDOT count station volume (32,500) for this location.

Table 3-3: 2008 I-75 Mainline and Interchange Ramp AADT Volumes

Location	Avg. 24-Hr Volume	SF [1]	AF [2]	Estimated AADT Volume [3]	FDOT AADT Volume [4]
Mainline Segment					
Between SR 29 and CR 951	19,450	0.92	0.89	15,900	19,000
Between CR 951 and Golden Gate Parkway	38,946	0.86	0.89	29,800	32,500
Interchange Ramp					
WB Off-Ramp to SR 29	1,421	0.92	0.85	1,100	1,100
WB On-Ramp to SR 29	646	0.92	0.85	500	600
EB Off-Ramp to SR 29	457	0.92	0.85	350	450
EB On-Ramp to SR 29	1,392	0.92	0.85	1,100	1,100
WB Off-Ramp to CR 951	2,398	0.86	0.98	2,000	2,200
WB On-Ramp to CR 951	12,577	0.86	0.98	10,600	11,000
EB Off-Ramp to CR 951	12,792	0.86	0.98	10,800	11,500
EB On-Ramp to CR 951	2,234	0.86	0.98	1,900	2,000
NB Off-Ramp to Golden Gate Pkwy	1,477	0.86	0.98	1,250	N/A
NB On-Ramp from EB Golden Gate Pkwy	7,735	0.86	0.98	6,500	N/A
NB On-Ramp from WB Golden Gate Pkwy	3,884	0.86	0.98	3,300	N/A
SB Off-Ramp to Golden Gate Pkwy	12,047	0.86	0.98	10,200	N/A
SB On-Ramp to Golden Gate Pkwy	1,512	0.86	0.98	1,300	N/A

[1] Weekly Seasonal Adjustment Factor

[2] Axle Adjustment Factor

[3] Estimated AADT = Average 24-Hour Volume x SF x AF

[4] FDOT AADT Volume Obtained From 2008 Florida Traffic Information DVD

Given the significantly higher volumes on the CR 951 ramps to/from the west (as compared to the ramps to/from the east) that are reflected in both the counts conducted for this study as well as in the FDOT data, the FDOT volume of 32,500 vehicles/day for the I-75 mainline west of CR 951 was not viewed as being reasonable. Consequently, the 2008 AADT volume for this segment was derived using the following procedure:

- First, the CR 951 interchange ramp AADT volumes obtained by applying the weekly and axle adjustment factors to the raw count data were averaged with the FDOT count station AADT volumes.
- Second, the "averaged" ramp volumes were subtracted from and added to the I-75 mainline volume east of the CR 951 interchange.

This process yielded a final 2008 AADT volume of 37,000 vehicles/day for the mainline segment between CR 951 and Golden Gate Parkway.

Table 3-3 also indicates that the AADT volumes for the on/off-ramps to and from the east (and south) are significantly lower than the AADT volumes for the on/off-ramps to and from the west (and north) at both the CR 951 and Golden Gate Parkway interchanges. At the SR 29 interchange, the AADT volumes on the ramps to and from the east are higher than the AADT volumes on the ramps to and from the west; however, the magnitude of the volume difference is not as large. The travel routes used by the study area residents to access I-75 for westbound and eastbound travel are consistent with the AADT volume relationships exhibited by the on/off-ramps at these three interchanges. Figure 3-4 graphically depicts the 2008 I-75 mainline and interchange ramp AADT volumes.

The 72-hour intersection approach counts and four (4)-hour intersection turning movement counts were conducted at 11 signalized intersections and two unsignalized intersections (i.e., the I-75/SR 29 interchange ramp terminal intersections). Heavy vehicles (i.e., trucks and buses) and pedestrians were also counted as a part of the turning movement counts. The 72-hour intersection approach counts are summarized in Appendix B along with the dates of the counts and the three-day average 24-hour volumes The average 24-hour intersection approach volumes were multiplied by two to obtain an estimate of the average 24-hour two-way volumes and then converted to AADT volumes using weekly seasonal adjustment factors and axle adjustment factors obtained from the 2008 Peak Season Factor Category Report and Weekly Axle Factor Category Report. The 2008 AADT volumes for the other study area roadways are listed in Table 3-4.

Figure 3-5 illustrates the a.m. and p.m. peak hour volumes for the I-75 mainline and interchange on/off-ramps. As stated earlier, the ratio of the AADT volume from the FDOT permanent count station and the average 24-hour volume for the mainline segment between SR 29 and CR 951 was 1.02; therefore; the mainline counts were approximately 2.0% higher than the permanent count station AADT volume. Since the permanent count station volume was used for this segment, in essence the average 24-hour count volume was multiplied by an "adjustment factor" equal to 0.98. This same adjustment factor was used to multiply the average 24-hour a.m. and p.m. peak hour volumes obtained from the count program for the mainline

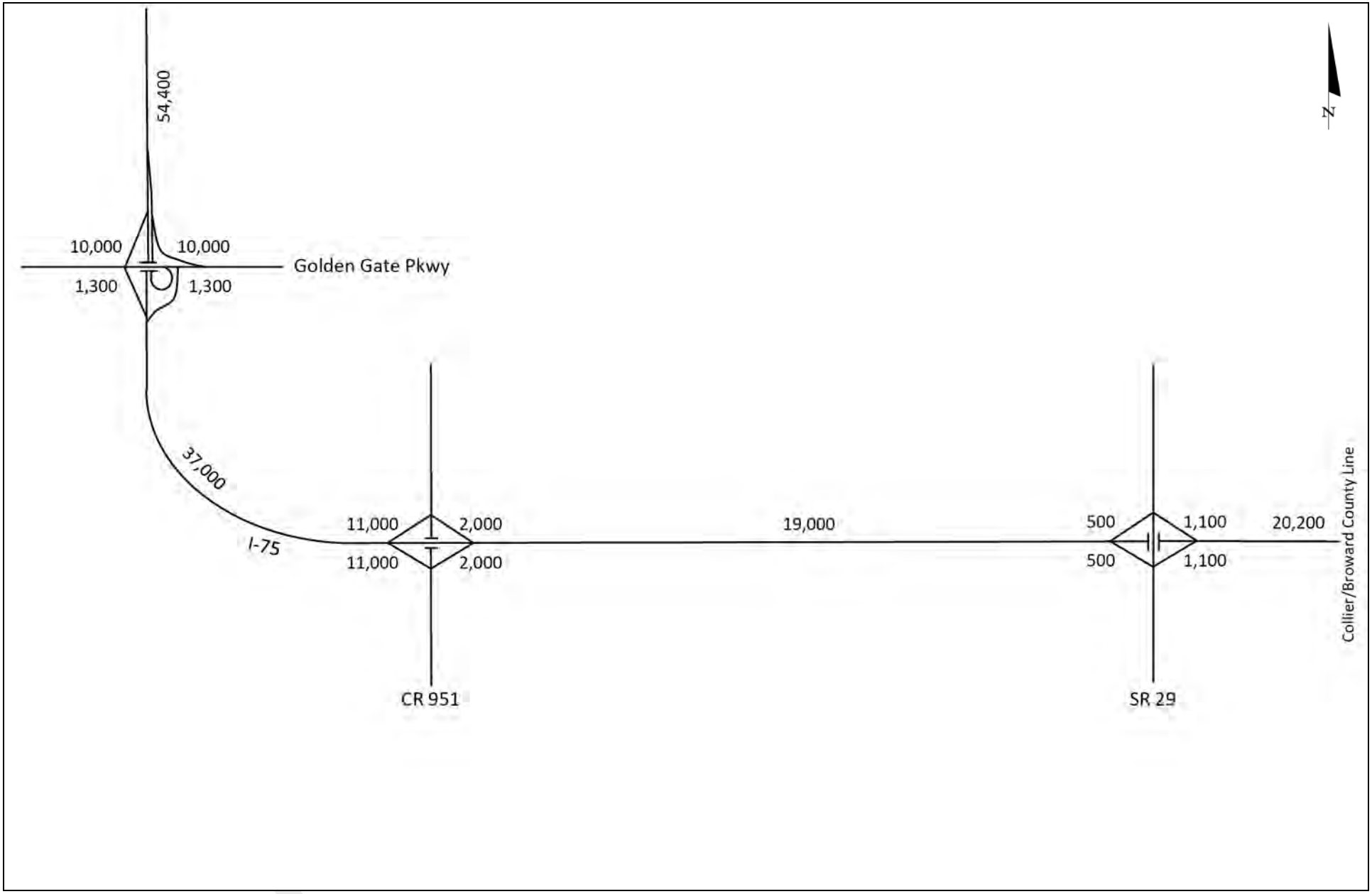


Figure 3-4: 2008 I-75 Mainline Two-Way and Ramp AADT Volumes

Table 3-4: 2008 AADT Volumes for Other Study Area Roadways

Roadway	Location	Avg. 24-Hr Dir. Volume	Avg 24-Hr 2-Way Volume	SF [1]	AF [2]	Estimated AADT Volume [3]	Rounded AADT
Beck Blvd	East of CR 951	3,200	6,400	0.91	0.94	5,475	5,500
City Gate Blvd	East of CR 951	802	1,604	0.87	0.94	1,312	1,300
CR 951	North of City Gate Blvd	12,447	24,894	0.87	0.97	21,008	21,000
	South of City Gate Blvd	11,834	23,668	0.87	0.97	19,973	20,000
	North of Golden Gate Blvd	9,130	18,260	0.82	0.97	14,524	14,500
	South of Golden Gate Blvd	15,691	31,382	0.82	0.97	24,961	25,000
	North of Golden Gate Pkwy	15,586	31,172	0.78	0.97	23,585	23,600
	South of Golden Gate Pkwy	16,609	33,218	0.78	0.97	25,133	25,100
	North of I-75 NB Ramps	13,623	27,246	0.87	0.97	22,993	23,000
	South of I-75 SB Ramps	24,222	48,444	0.87	0.97	40,882	40,900
	South of Immokalee Road	8,998	17,996	0.82	0.97	14,314	14,300
	North of Magnolia Pond/White Lake	12,093	24,186	0.88	0.97	20,645	20,600
	South of Magnolia Pond/White Lake	13,450	26,900	0.88	0.97	22,962	23,000
	North of Pine Ridge Road	16,904	33,808	0.78	0.97	25,579	25,600
	South of Pine Ridge Road	14,812	29,624	0.78	0.97	22,414	22,400
	South of SR 84 (Davis Boulevard)	18,921	37,842	0.78	0.97	28,631	28,600
	North of SR 84 (Davis Boulevard)	24,644	49,288	0.92	0.97	43,985	44,000
Everglades Boulevard	North of Golden Gate Boulevard	3,307	6,614	0.84	0.94	5,222	5,200
	South of Golden Gate Boulevard	3,137	6,274	0.84	0.94	4,954	4,950

[1] Weekly Seasonal Adjustment Factor

[2] Axle Adjustment Factor

[3] Estimated AADT Volume = Average 24-Hour 2-Way Volume x SF x AF

Table 3-4: 2008 AADT Volumes for Other Study Area Roadways (Continued)

Roadway	Location	Avg. 24-Hr Dir. Volume	Avg 24-Hr 2-Way Volume	SF [1]	AF [2]	Estimated AADT Volume [3]	Rounded AADT
Golden Gate Boulevard	East of CR 951	14,584	29,168	0.84	0.94	23,031	23,000
	East of Everglades Boulevard	1,654	3,308	0.84	0.94	2,612	2,600
	West of Everglades Boulevard	5,885	11,770	0.84	0.94	9,294	9,300
	East of Wilson Boulevard	8,583	17,166	0.84	0.94	13,554	13,550
	West of Wilson Boulevard	11,178	22,356	0.84	0.94	17,652	17,650
Golden Gate Parkway	West of CR 951	8,620	17,240	0.82	0.94	13,289	13,300
	East of I-75 NB Ramps	15,488	30,976	0.87	0.94	25,332	25,300
Magnolia Pond Drive	West of CR 951	2,034	4,068	0.88	0.94	3,365	3,400
Pine Ridge Road	West of CR 951	11,907	23,814	0.82	0.94	18,356	18,350
SR 29	North of I-75 NB Ramps	1,894	3,788	0.88	0.87	2,900	2,900
	South of I-75 SB Ramps	980	1,960	0.88	0.83	1,432	1,400
SR 84	West of CR 951	11,435	22,870	0.91	0.98	20,395	20,400
White Lakes Boulevard	East of CR 951	2,074	4,148	0.88	0.94	3,431	3,400
White Boulevard	East of CR 951	6,467	12,934	0.82	0.94	9,970	10,000
Wilson Boulevard	North of Golden Gate Boulevard	4,178	8,356	0.84	0.94	6,598	6,600

[1] Weekly Seasonal Adjustment Factor

[2] Axle Adjustment Factor

[3] Estimated AADT Volume = Average 24-Hour 2-Way Volume x SF x AF

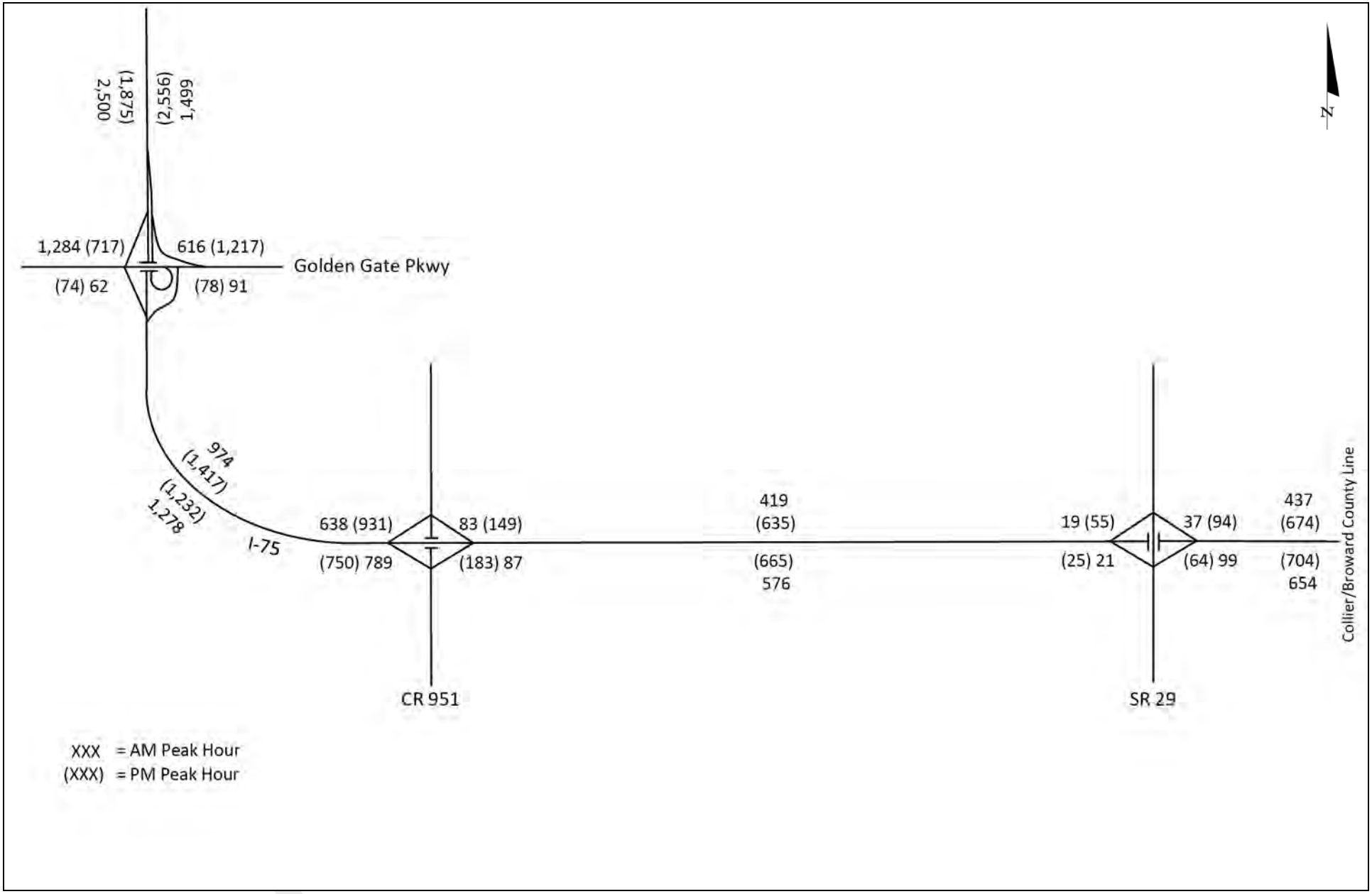


Figure 3-5: 2008 I-75 Mainline and Ramp Peak Hour Volumes

segment between SR 29 and CR 951. The a.m. and p.m. peak hour ramp volumes for the SR 29, CR 951 and Golden Gate Parkway interchanges obtained from the peak hour turning movement counts were multiplied by the weekly adjustment factors obtained from the 2008 Peak Season Factor Category Report. These adjusted peak hour ramp volumes were subsequently added and subtracted from the mainline segment peak hour volumes (between SR 29 and CR 951) to obtain the peak hour volumes for the other mainline segments.

Figure 3-6 depicts the 2008 am and pm peak hour turning movement volumes for the I-75 ramp terminal intersections. The peak hour volumes illustrated on Figure 3-6 represent the actual volumes counted during the highest four consecutive 15-minute intervals that occurred over the two-hour am and pm peak periods adjusted by the weekly seasonal factors. The 2008 traffic count data is contained in Appendix B.

3.6 Existing Traffic Characteristics

Existing traffic characteristics for the I-75 mainline were calculated using the unadjusted traffic count data. These characteristics included the peak hour-to-daily volume ratios (i.e., the percentage of the daily volume that occurs during the peak hour) and the directional distributions (i.e., the percentage of the two-way peak hour volume that occurs in the peak direction).

The existing peak hour-to-daily volume ratios for the I-75 mainline segments where traffic counts were conducted are listed in Table 3-5. The peak hour-to-daily volume ratios range from 5.1% to 6.5% during the time period between 7:00 am and 9:00 am and from 6.4% to 7.4% during the time period between 4:00 pm and 6:00 pm. The segment located between SR 29 and CR 951 experienced lower peak hour-to-daily volume ratios than the segment located between CR 951 and Golden Gate Parkway during each of the three days. The overall average peak hour-to-daily volume ratios are 5.8% between 7:00 am and 9:00 am and 7.0% between 4:00 pm and 6:00 pm.

A review of the hourly traffic volumes indicated that the highest four consecutive 15-minute periods almost always occurred during the hours between 10:00 am and 4:00 pm. Table 3-5 also contains the peak hour-to-daily volume ratios for the highest four consecutive 15-minute periods that occurred anytime between 7:00 am and 6:00 pm. This ratio ranged from 6.6% to 7.0% for the segment between SR 29 and CR 951 and from 7.4% to 8.0% for the segment between CR 951 and Golden Gate Parkway.

The existing peak hour directional distributions for the I-75 mainline segments are also listed in Table 3-5. The directional distributions range from 53.2% to 59.2% during the time period between 7:00 am and 9:00 am and from 52.1% to 56.0% during the time period between 4:00 pm and 6:00 pm. The average directional distribution between 7:00 am and 9:00 am is 56.5% while the average directional distribution between 4:00 pm and 6:00 pm is 54.0%. Both of these values are slightly higher than the overall average directional distribution that occurs during the absolute highest four consecutive 15-minute periods of the day (52.9%). It should also be noted that the differences between the peak and off-peak direction volumes are relatively small with most differences being less than 250 vehicles/hour.

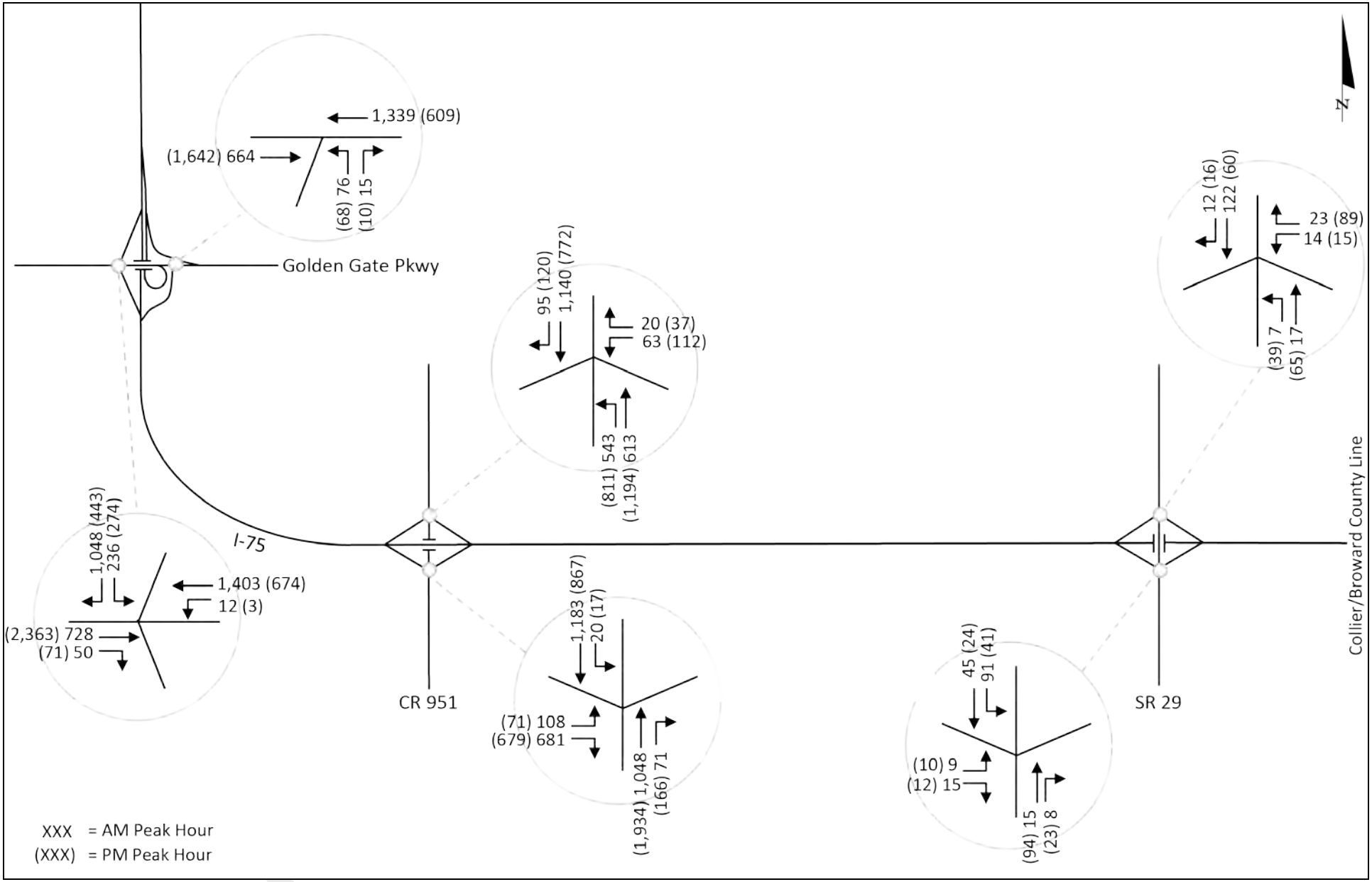


Figure 3-6: 2008 I-75 Ramp Terminal Intersection Peak Hour Volumes

Table 3-5: 2008 I-75 Mainline Volumes and Traffic Characteristics

Location	Date	Direction	24-Hour	7:00 AM to 9:00 AM [1]			4:00 PM to 6:00 PM [2]			7:00 AM to 6:00 PM [3]		
			Volume	Volume	K-Factor	D-Factor	Volume	K-Factor	D-Factor	Volume	K-Factor	D-Factor
Between SR 29 and CR 951	4/8/2008	NB	9,240	417			630			642		
		SB	9,350	605			556			583		
		Total	**18,590**	**1,022**	**5.5%**	**59.2%**	**1,186**	**6.4%**	**53.1%**	**1,225**	**6.6%**	**52.4%**
	4/9/2008	NB	9,698	437			739			637		
		SB	9,724	545			581			702		
		Total	**19,422**	**982**	**5.1%**	**55.5%**	**1,320**	**6.8%**	**56.0%**	**1,339**	**6.9%**	**52.4%**
	4/10/2008	NB	10,090	431			753			665		
		SB	10,248	614			661			753		
		Total	**20,338**	**1,045**	**5.1%**	**58.8%**	**1,414**	**7.0%**	**53.3%**	**1,418**	**7.0%**	**53.1%**
Between CR 951 and Golden Gate Parkway	4/8/2008	NB	19,021	1,099			1,460			1,491		
		SB	19,236	1,374			1,217			1,305		
		Total	**38,257**	**2,473**	**6.5%**	**55.6%**	**2,677**	**7.0%**	**54.5%**	**2,796**	**7.9%**	**53.3%**
	4/9/2008	NB	19,362	1,181			1,525			1,549		
		SB	19,696	1,340			1,241			1,330		
		Total	**39,058**	**2,521**	**6.5%**	**53.2%**	**2,766**	**7.1%**	**55.1%**	**2,879**	**8.0%**	**53.8%**
	4/10/2008	NB	19,691	1,074			1,514			1,514		
		SB	19,831	1,405			1,392			1,392		
		Total	**39,522**	**2,479**	**6.3%**	**56.7%**	**2,906**	**7.4%**	**52.1%**	**2,906**	**7.4%**	**52.1%**
Average					**5.8%**	**56.5%**		**7.0%**	**54.0%**		**7.3%**	**52.9%**

[1] Highest four consecutive 15-minute periods between 7:00 AM and 9:00 AM

[2] Highest four consecutive 15-minute periods between 4:00 PM and 6:00 PM

[3] Highest four consecutive 15-minute periods between 7:00 AM and 6:00 PM

There are two telemetered permanent traffic count stations located on I-75 within Collier County. Count Station No. 0351 is located to the west of Everglades Boulevard (at Milepost No. 41.52) while Count Station No. 0191 is located 0.5 miles north of Pine Ridge Road (at Milepost No. 57.62). The Florida Department of Transportation's 2008 Annual Average Daily Traffic Report for Collier County was obtained and the peak hour-to-daily volume ratios and the directional distributions recorded at these two permanent count station locations were reviewed. The peak hour-to-daily volume ratios for the 30th-highest hour of the year (i.e., the K_{30}-factors) are 12.35% west of Everglades Boulevard and 9.07% north of Pine Ridge Road. The average of these two values is approximately 10.7%. The directional distribution factors for the 30th-highest hour of the year (i.e., the D_{30}-factors) are 53.11% west of Everglades Boulevard and 55.79% north of Pine Ridge Road. The average of these two values is approximately 54.5%. The 24-hour heavy vehicle percentages associated with these two count stations are 11.23 % west of Everglades Boulevard and 13.09% north of Pine Ridge Road resulting in an average value of approximately 12.2%.

Seventy-two (72)-hour vehicle classification counts were conducted at the following locations:

- CR 951 between Pine Ridge Road and Golden Gate Boulevard;
- Everglades Boulevard north of Golden Gate Boulevard;
- Golden Gate Boulevard west of 5th Street SW;
- Golden Gate Parkway west of Santa Barbara Boulevard;
- Immokalee Road west of Wilson Boulevard;
- Pine Ridge Road west of Logan Boulevard; and
- SR 29 south of Oil Well Road.

The 72-hour vehicle classification count data is summarized in Table 3-6.

Travel time/travel speed data was obtained for the I-75 mainline between the SR 29 and Golden Gate Parkway interchanges over a three-day period from April 8, 2008 to April 10, 2008. The travel time/travel speed runs were conducted from 7:00 am to 9:00 am and from 4:00 pm to 6:00 pm. Three travel time/travel speed "runs" were able to be conducted in both the northbound and southbound travel directions for each of the three days during each of these two hour time periods.

The am peak hour travel speeds for the northbound direction ranged between 70.8 mph and 76.1 mph with an average value of 73.5 mph. The pm peak hour travel speeds for this same direction ranged between 71.8 mph and 74.3 mph with an average value of 73.2 mph. In the southbound direction, the am peak hour travel speeds varied between 68.9 mph and 74.4 mph with an average value of 70.9 mph. The pm peak hour travel speeds for the southbound direction varied between 70.0 mph and 73.5 mph with an average value of 71.6 mph.

Table 3-6: Seventy-Two (72) Hour Vehicle Classification Count Data

Roadway	Location	Date	24 Hour			AM Peak Hour			PM Peak Hour		
			Total Volume	Heavy Vehicle Volume	Heavy Vehicle Percentage	Total Volume	Heavy Vehicle Volume	Heavy Vehicle Percentage	Total Volume	Heavy Vehicle Volume	Heavy Vehicle Percentage
CR 951	Between Pine Ridge Rd & Golden Gate Blvd.	4/8/2008	30,055	2,104	7%	2,220	178	8%	2,816	136	5%
		4/9/2008	30,015	2,012	7%	2,099	156	7%	2,830	160	6%
		4/10/2008	29,829	2,019	7%	2,213	167	8%	2,763	144	5%
		Average	29,966	2,045	7%	2,177	167	8%	2,803	147	5%
Everglades Blvd	North of Golden Gate Blvd	3/25/2008	6,526	781	12%	596	89	15%	547	47	9%
		3/26/2008	6,394	608	10%	582	62	11%	562	41	7%
		3/27/2008	6,530	765	12%	588	85	14%	541	49	9%
		Average	6,483	718	11%	589	79	13%	550	46	8%
Golden Gate Boulevard	West of 5th Street SW	4/15/2008	22,272	2,187	10%	1,898	181	10%	2,060	158	8%
		4/16/2008	22,725	2,341	10%	1,919	227	12%	2,145	150	7%
		4/17/2008	22,116	2,407	11%	1,947	200	10%	2,105	180	9%
		Average	22,371	2,312	10%	1,921	203	11%	2,103	163	8%
Golden Gate Parkway	West of Santa Barabara Blvd	4/22/2008	28,973	1,371	5%	2,431	99	4%	2,509	92	4%
		4/23/2008	28,664	1,685	6%	2,424	99	4%	2,568	74	3%
		4/24/2008	28,757	1,347	5%	2,479	107	4%	2,583	83	3%
		Average	28,798	1,468	5%	2,445	102	4%	2,553	83	3%
Immokalee Road	West of Wilson Blvd	4/22/2008	21,305	1,671	8%	1,788	144	8%	1,871	107	6%
		4/23/2008	21,631	1,687	8%	1,854	173	9%	1,764	110	6%
		4/24/2008	21,436	1,719	8%	1,765	143	8%	1,853	88	5%
		Average	21,457	1,692	8%	1,802	153	9%	1,829	102	6%
Pine Ridge Road	West of Logan Blvd	4/15/2008	39,468	1,947	5%	3,115	212	7%	3,627	146	4%
		4/16/2008	39,449	1,986	5%	3,110	219	7%	3,720	145	4%
		4/17/2008	39,769	2,027	5%	3,250	206	6%	3,633	155	4%
		Average	39,562	1,987	5%	3,158	212	7%	3,660	149	4%
SR 29	South of Oil Well Rd	4/8/2008	3,170	871	27%	223	62	28%	235	66	28%
		4/9/2008	3,065	805	26%	190	45	24%	251	65	26%
		4/10/2008	3,314	825	25%	193	44	23%	227	59	26%
		Average	3,183	834	26%	202	50	25%	238	63	27%

Vehicle queue lengths were manually recorded during the am and pm peak hours for the six I-75 off-ramps at the SR 29, CR 951, and Golden Gate Parkway interchanges. The number of queued vehicles present at the beginning of the off-ramp green phase was recorded separately for each of the individual ramp lanes (i.e., left-turn and right-turn lanes) at the CR 951 and Golden Gate Parkway interchanges. These observations were recorded for each signal cycle that occurred between 7:00 am and 9:00 am and between 4:00 pm and 6:00 pm. A slightly different method was used at the SR 29 off-ramps since both of the ramp terminal intersections are unsignalized. The maximum number of queued vehicles that were observed during each 15-minute interval was recorded separately for both the left-turn and right-turn lanes on the SR 29 off-ramps.

Table 3-7 provides a summary of the off-ramp queue length data. Both the average queue lengths and the maximum queue lengths observed during the two hour a.m. and p.m. periods are listed in Table 3-7. A review of this information indicates that a majority of the off-ramp queues (both the average values and the maximum values) were less than 10 vehicles. Vehicle queues greater than 20 vehicles/lane were, however, observed during multiple signal cycles at two southbound off-ramps.

3.7 Existing Traffic Operations

The existing conditions level of service analyses were conducted using the Highway Capacity Software (HCS). The I-75 mainline segment level of service analysis was conducted using a base free-flow speed of 75.0 miles/hour and a peak hour heavy vehicle percentage of 6.0%. Two different driver population factors (f_p) were used. The default driver population factor of 1.00 was used for the portion of I-75 between CR 951 and Golden Gate Parkway, while a driver population factor equal to 0.90 was used for the portion of I-75 between SR 29 and CR 951. This lower value was used to reflect the fact that this portion of I-75 would be expected to have a higher number of occasional drivers (i.e., non-weekday commuters) since a majority of the traffic traveling on I-75 east of CR 951 is destined for Ft. Lauderdale and Miami. A Peak Hour Factor (PHF) of 0.90 was also used to conduct the analyses.

Table 3-8 summarizes the I-75 mainline segment peak hour levels of service for the year 2008. The portion of I-75 from east of SR 29 to Golden Gate Parkway was operating at Level of Service (LOS) A during both the a.m. and p.m. peak hours. North of Golden Gate Parkway, the I-75 mainline was operating at LOS C or better. Table 3-9 summarizes the I-75 ramp merge/diverge area levels of service for 2008. All of the merge/diverge areas were operating at LOS B or better during both peak hours. Table 3-10 summarizes the I-75 ramp terminal intersection levels of service. The unsignalized left-turn movements at the SR 29 interchange were all operating at LOS B or better during both peak hours. The four signalized ramp terminal intersections at the CR 951 and Golden Gate Parkway interchanges were operating at Level of Service C or better overall during both peak hours. The 2008 HCS analysis summary sheets are provided in Appendix C.

Table 3-7: 2008 I-75 Off-Ramp Queue Length Summary

Off-Ramp	Direction	Lane	AM Peak Hour		PM Peak Hour	
			Maximum No. of Vehicles	Average No. of Vehicles	Maximum No. of Vehicles	Average No. of Vehicles
SR 29	Northbound	Left-Turn	3	1	1	1
		Right-Turn	0	0	2	<1
	Southbound	Left-Turn	1	1	2	1
		Right-Turn	0	0	0	0
CR 951	Northbound	Left-Turn	9	3	10	6
		Right-Turn	1	0	1	0
	Southbound	Left-Turn	11	5	7	3
		Right-Turn [(1)]	>20	13	>20	12
		Right-Turn [(2)]	>25	14	>25	14
Golden Gate Parkway	Northbound	Left-Turn [(1)]	4	2	5	2
		Left-Turn [(2)]	3	1	4	1
		Right-Turn	2	0	1	0
	Southbound	Left-Turn	14	6	22	9
		Right-Turn [(1)]	>20	10	3	1
		Right-Turn [(2)]	>25	9	5	1

[(1)] Inside Turn-Lane

[(2)] Outside Turn-Lane

Table 3-8: 2008 I-75 Mainline Segment Levels of Service

Segment		Direction	Directional Volume (in veh/hr)	Density (in pc/mi/ln)	Level of Service
From	To				
AM Peak Hour					
East of SR 29	SR 29	WB	437	3.7	A
		EB	654	5.5	A
SR 29	CR 951	WB	419	3.5	A
		EB	576	4.9	A
CR 951	Golden Gate Pkwy	NB	974	7.4	A
		SB	1,278	9.7	A
Golden Gate Pkwy	North of Golden Gate Pkwy	NB	1,499	11.4	B
		SB	2,500	19.2	C
PM Peak Hour					
East of SR 29	SR 29	WB	674	5.7	A
		EB	704	6.0	A
SR 29	CR 951	WB	635	5.4	A
		EB	665	5.6	A
CR 951	Golden Gate Pkwy	NB	1,417	10.8	A
		SB	1,232	9.4	A
Golden Gate Pkwy	North of Golden Gate Pkwy	NB	2,556	19.7	C
		SB	1,875	14.3	B

Table 3-9: 2008 I-75 Interchange Ramp Merge/Diverge Area Levels of Service

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume	Density	LOS	Freeway Volume	Ramp Volume	Density	LOS
SR 29	EB Off	576	21	8.7	A	665	25	9.7	A
	EB On	555	99	8.5	A	640	64	9.0	A
	WB Off	437	37	7.1	A	674	94	9.7	A
	WB On	400	19	7.0	A	580	55	9.2	A
CR 951	EB Off	1,278	789	15.0	B	1,232	750	14.6	B
	EB On	489	87	8.2	A	482	183	9.1	A
	WB Off	419	83	6.9	A	635	149	9.2	A
	WB On	336	638	11.4	B	486	931	15.2	B
Golden Gate Pkwy	NB Off	974	91	8.7	A	1,417	78	11.7	B
	NB On	883	616	11.6	B	1,339	1,217	19.0	B
	SB Off	2,500	1,284 (1)	1.9	A	1,875	717 (1)	<1.0	A
	SB On	1,216	62	13.4	B	1,158	74	13.0	B

Table 3-10: Existing Year (2008) I-75 Ramp Terminal Intersection Levels of Service

Intersection	Movement	No. of Lanes	AM Peak Hour			PM Peak Hour		
			V/C Ratio	Avg. Delay	LOS	V/C Ratio	Avg. Delay	LOS
SR 29 WB On/Off-Ramps [1]	WB LT	1	0.02	10.0	B	0.01	10.1	B
	NB LT	1	0.01	7.8	A	0.03	7.5	A
SR 29 EB On/Off-Ramps [1]	EB LT	1	0.02	11.3	B	0.02	10.1	B
	SB LT	1	0.08	7.7	A	0.03	7.6	A
CR 951 WB On/Off-Ramps	WB LT	1	0.40	45.1	D	0.59	57.9	E
	NB LT	2	0.74	40.6	D	0.70	31.1	C
	NB TH	2	0.27	1.0	A	0.49	1.4	A
	SB TH	2	0.80	13.9	B	0.65	34.1	C
	OVERALL	-	0.72	17.8	B	0.66	20.5	C
CR 951 EB On/Off-Ramps	EB LT	1	0.54	47.5	D	0.38	53.9	D
	EB RT	2	0.71	29.5	C	0.58	25.4	C
	NB TH	2	0.55	1.8	A	0.90	3.3	A
	SB LT	1	0.15	46.5	D	0.13	56.4	E
	SB TH	2	0.81	10.5	B	0.61	6.7	A
	OVERALL	-	0.73	13.3	B	0.76	9.7	A
Golden Gate Pkwy NB On/Off-Ramps	WB TH	3	0.52	8.2	A	0.26	6.7	A
	EB TH	3	0.26	6.7	A	0.65	9.5	A
	NB LT	2	0.13	17.5	B	0.13	17.5	B
	NB RT	1	0.05	17.2	B	0.04	17.1	B
	OVERALL	-	0.40	8.2	A	0.49	9.1	A
Golden Gate Pkwy SB On/Off-Ramps	WB LT	1	0.05	14.0	B	0.69	16.9	B
	WB TH	3	0.69	19.7	B	0.69	5.2	A
	EB TH	3	0.56	26.0	C	0.92	24.5	C
	SB LT	1	0.35	17.0	B	0.91	65.3	E
	SB RT	2	0.91	33.9	C	0.77	43.6	D
	OVERALL	-	0.80	25.0	C	0.84	25.9	C

[1] Unsignalized Intersection

4.0 NEED FOR PROJECT

4.1 Access

The need for an interchange at Everglades Boulevard has been a point of discussion dating back to the 1970's when SR 84 was chosen as the alignment for the extension of I-75 across the Everglades to Ft. Lauderdale. Prior to the completion of I-75 as a limited-access interstate highway in 1992, local access to SR 84 was provided by three north/south facilities; Miller Boulevard, Everglades Boulevard and Desoto Boulevard. Currently, none of these roadways have access to I-75.

The area located within and adjacent to the Golden Gate Estates has poor access with respect to both I-75 as well as to the western portion of Collier County and the City of Naples. This is primarily due to the large distance between the existing CR 951 and SR 29 interchanges (i.e., over 21 miles) and the limited roadways available for use in accessing I-75. These conditions result in lengthy and circuitous travel paths being incurred by many of the study area residents as they travel to and from I-75.

Currently, there is only one east/west roadway (i.e., Oil Well Road) that provides access to SR 29 within the study area and this roadway is located in the northernmost portion of the study area. The SR 29/Oil Well Road intersection is located approximately 10.3 miles north of the I-75/SR 29 interchange and the Everglades Boulevard/Oil Well Road intersection is located approximately 12.8 miles west of the SR 29/Oil Well Road intersection. Golden Gate Boulevard is located approximately 4.3 miles south of Oil Well Road. Consequently, study area residents living along Everglades Boulevard south of Golden Gate Boulevard, must travel over 27 miles to access the I-75/SR 29 interchange.

Similarly, there are only two east/west roadways within the study area (Golden Gate Boulevard and Immokalee Road) that provide access to the other four existing I-75 interchanges. Immokalee Road provides direct access to I-75; however, this roadway is located at the northern boundary of the study area. Golden Gate Boulevard provides access indirectly to I-75 since it does not connect to I-75 but does connect to CR 951. The Everglades Boulevard/Golden Gate Boulevard intersection is located approximately 8.9 miles east of the CR 951/Golden Gate Boulevard intersection while the CR 951/Golden Gate Boulevard intersection is located approximately 4.7 miles north of the I-75/CR 951 interchange. Consequently, study area residents living along Everglades Boulevard south of Golden Gate Boulevard, must travel over 14 miles to access the I-75/CR 951 interchange.

4.2 Future Growth

Collier County is projected to grow both in terms of population and employment over the next 30 years within the eastern portion of the County. The portion located east of CR 951 is projected to grow at a faster rate than the more heavily developed western portion. Table 4-1 provides a summary of the population and employment data for Collier County for the years 2000 and 2007. These values are provided for both the entire County as well as the IJR study area. In the year 2000, the population of Collier County was approximately 246,600 and the total employment was approximately 144,300. By the year 2007, the Countywide population had increased to approximately 334,200 (a 35.5% increase) while the Countywide

Table 4-1: 2000-2007 Land Use Comparison

Land Use	Total	Increase	Yearly Growth Rate
Year 2000 Countywide			
Dwelling Units	144,531	-	-
Population	246,589	-	-
Employment	144,295	-	-
Year 2007 Countywide			
Dwelling Units	195,908	51,377	5.08 %
Population	334,234	87,645	5.08 %
Employment	166,867	22,572	2.23 %
Year 2000 Study Area			
Dwelling Units	6,685	-	-
Population	19,375	-	-
Employment	4,771	-	-
Year 2007 Study Area			
Dwelling Units	12,015	5,330	11.39 %
Population	34,460	15,085	11.12 %
Employment	5,828	1,057	3.16 %

employment had increased to approximately 166,900 (a 15.6% increase). These represent average yearly growth rates of approximately 5.1% per year and 2.2% per year, respectively. In contrast, the 2000 population and employment for the study area was approximately 19,400 and 4,800, respectively. By the year 2007, the study area population had increased to approximately 34,500 (a 77.8% increase) while the Countywide employment had increased to approximately 5,800 (a 21.0% increase). These represent average yearly growth rates of approximately 11.1% per year and 3.2% per year, respectively.

Table 4-2 indicates that by the year 2019, the Collier MPO's Countywide population and employment totals are projected to be approximately 407,100 and 200,000, respectively. Compared to the 2007 values, this represents a population increase of approximately 72,800 (a 1.8% annual growth rate) and an employment increase of approximately 33,100 (a 1.7% annual growth rate). In contrast, the 2019 study area population and employment is projected to increase to approximately 51,500 and 13,200, respectively. This represents a study area population increase of approximately 17,000 (a 4.1% annual growth rate) and an employment increase of approximately 7,400 (a 10.5% annual growth rate).

Table 4-3 indicates that between 2019 and 2039, the Countywide population and employment totals are projected to increase to approximately 542,500 and 269,900, respectively. This represents a population increase of approximately 135,400 (a 1.7% annual growth rate) and an employment increase of approximately 69,900 (a 1.8% annual growth rate). By the year 2039, the study area population and employment is projected to increase to approximately 77,600 and 24,650, respectively. This represents a study area population increase of approximately 26,100 (a 2.5% annual growth rate) and an employment increase of approximately 11,450 (a 4.3% annual growth rate).

Table 4-2: 2007-2019 Land Use Comparison

Land Use	Total	Increase	Yearly Growth Rate
Year 2007 Countywide			
Dwelling Units	195,908	-	-
Population	334,234	-	-
Employment	166,867	-	-
Year 2019 Countywide			
Dwelling Units	232,654	36,746	1.56 %
Population	407,055	72,821	1.82 %
Employment	199,990	33,123	1.65 %
Year 2007 Study Area			
Dwelling Units	12,015	-	-
Population	34,460	-	-
Employment	5,828	-	-
Year 2019 Study Area			
Dwelling Units	19,300	7,285	5.05 %
Population	51,500	17,040	4.12 %
Employment	13,200	7,372	10.54 %

Table 4-3: 2019-2039 Land Use Comparison

Land Use	Total	Increase	Yearly Growth Rate
Year 2019 Countywide			
Dwelling Units	232,654	-	-
Population	407,055	-	-
Employment	199,990	-	-
Year 2039 Countywide			
Dwelling Units	301,357	68,703	1.48 %
Population	542,463	135,408	1.66 %
Employment	269,933	69,943	1.75 %
Year 2019 Study Area			
Dwelling Units	19,300	-	-
Population	51,500	-	-
Employment	13,200	-	-
Year 2039 Study Area			
Dwelling Units	34,400	15,100	3.91 %
Population	77,600	26,100	2.53 %
Employment	24,650	11,450	4.34 %

Figures 4-1, 4-2 and 4-3 graphically illustrate the spatial distribution of the projected growth in dwelling units, population and employment (expressed as percentages) for the 10-year period between 2019 and 2029. These figures illustrate the percentage growth for each individual Traffic Analysis Zone contained within the study area. Similarly, Figures 4-4, 4-5 and 4-6 graphically illustrate the spatial distribution of the projected growth in study area dwelling units, population and employment for the 10-year period between 2029 and 2039.

By the year 2039, approximately 14.3% of the total County population is projected to live within the study area. In addition, approximately 9.1% of the total County employment is projected to be located within the study area. As discussed earlier in this section, the study area's current access to I-75 is extremely limited and circuitous in nature. The magnitude of the growth in study area population and employment that is projected to occur over the next 30 years will make it even more difficult for residents and employees to access I-75 in the future if a new interchange is not implemented between SR 29 and CR 951.

4.3 Study Area Mobility/Travel Time Reductions

The 21-mile separation between the SR 29 and CR 951 interchanges results in extremely long and circuitous trips having to be made by study area residents when accessing I-75. The projected future growth in study area population and employment is expected to increase the travel times for study area residents. These increased travel times will not only be experienced by residents who use I-75 for a portion of their trips, but also by residents who do not. This is because both interstate and non-interstate-bound vehicles will be traveling in the same direction on the same roadways. This increased level of congestion will result in increased levels of vehicle emissions throughout the study area.

4.4 Evacuation/Emergency Response

It has long been recognized by local authorities that the eastern end of the Golden Gate Estates area lacks adequate means of emergency egress. Emergency evacuation to the west/north would require traveling north on Everglades Boulevard (or Desoto Boulevard), west on Golden Gate Boulevard and dispersing to access I-75 at CR 951, Golden Gate Parkway, Pine Ridge Road and Immokalee Road. In the event of an emergency evacuation to the east the route is far more circuitous, requiring residents to travel north on Everglades Boulevard (or Desoto Boulevard), east on Oil Well Road, and south on SR 29 to I-75. In the event that a natural disaster (i.e., wildfire) occurs south of Golden Gate Boulevard, some study area residents would be trapped.

The majority of the project area is served by the Golden Gate Fire Control and Rescue District (GGFD). Access to I-75 is limited to the CR 951 interchange, which is located at the western edge of this 125 square-mile fire district. On July 13, 2011, the GGFD Commissioners provided a letter of support for a new interchange to be constructed between the current access points at CR 951 and SR 29. In that letter, the commissioners stated that, "Such access would provide safe passage for residents seeking to leave the area in the event of severe storms, wildland fire, or other circumstances that might necessitate mass evacuation

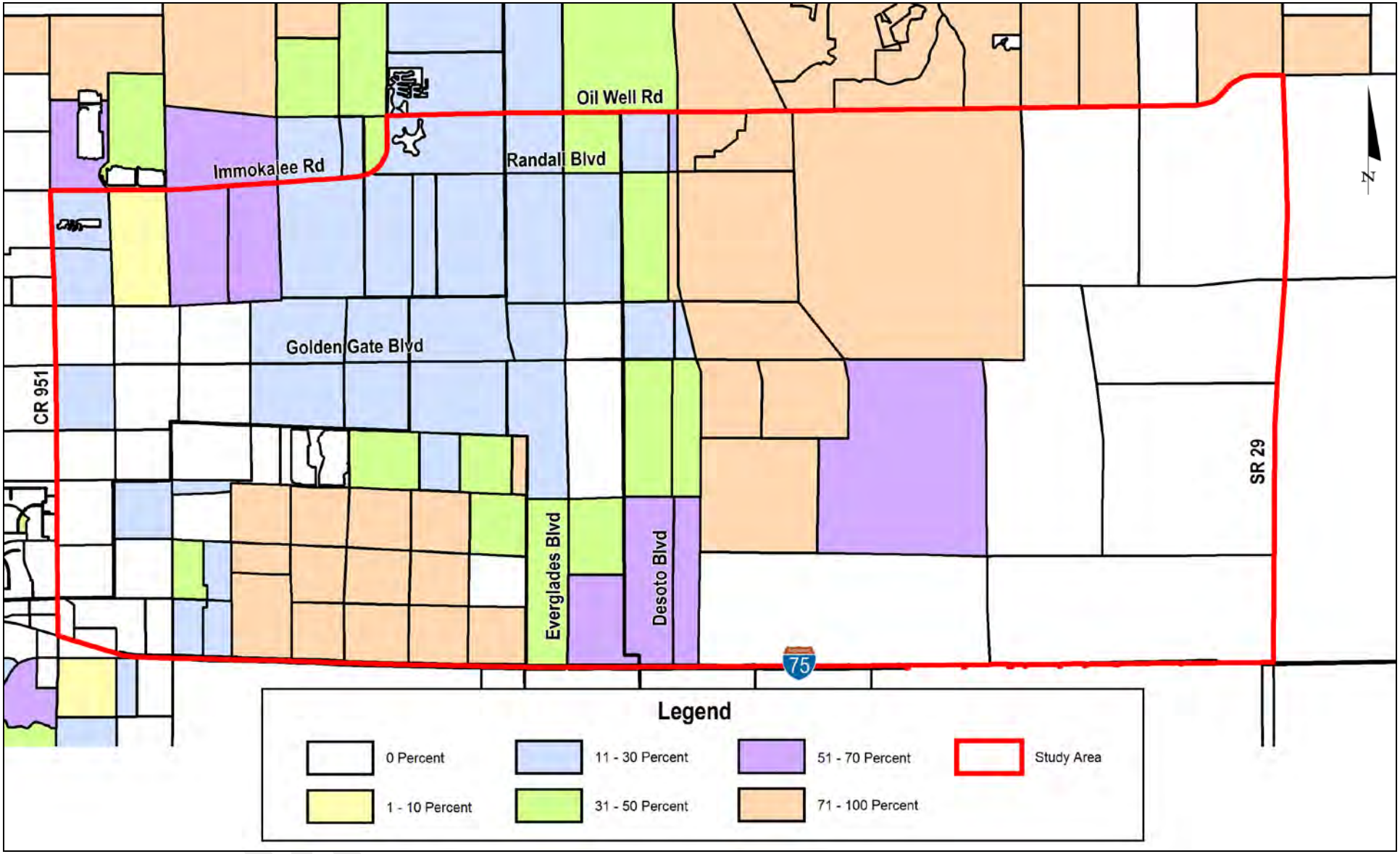


Figure 4-1: Projected Increases in Study Area Dwelling Units (2019 to 2029)

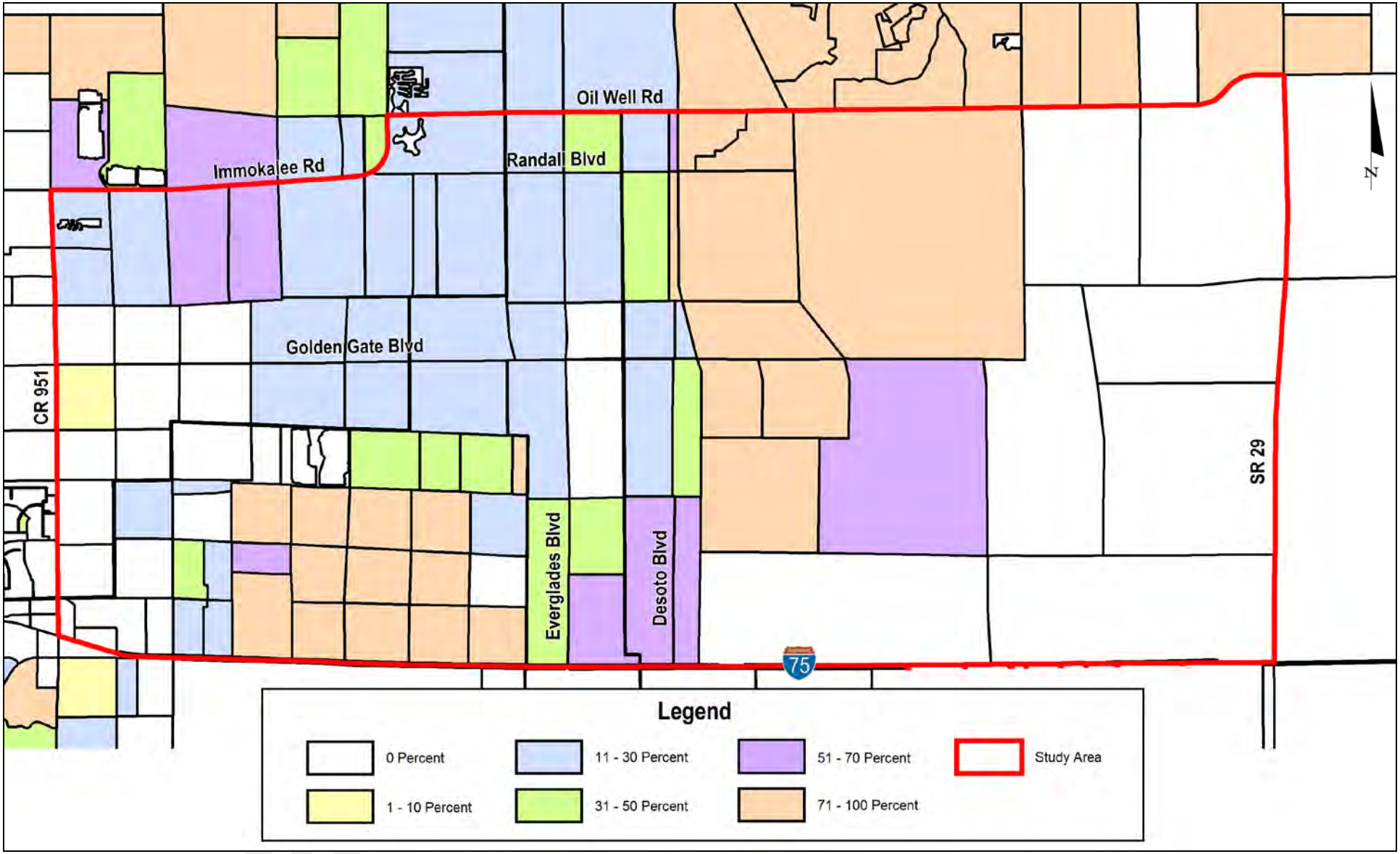


Figure 4-2: Projected Increases in Study Area Population (2019 to 2029)

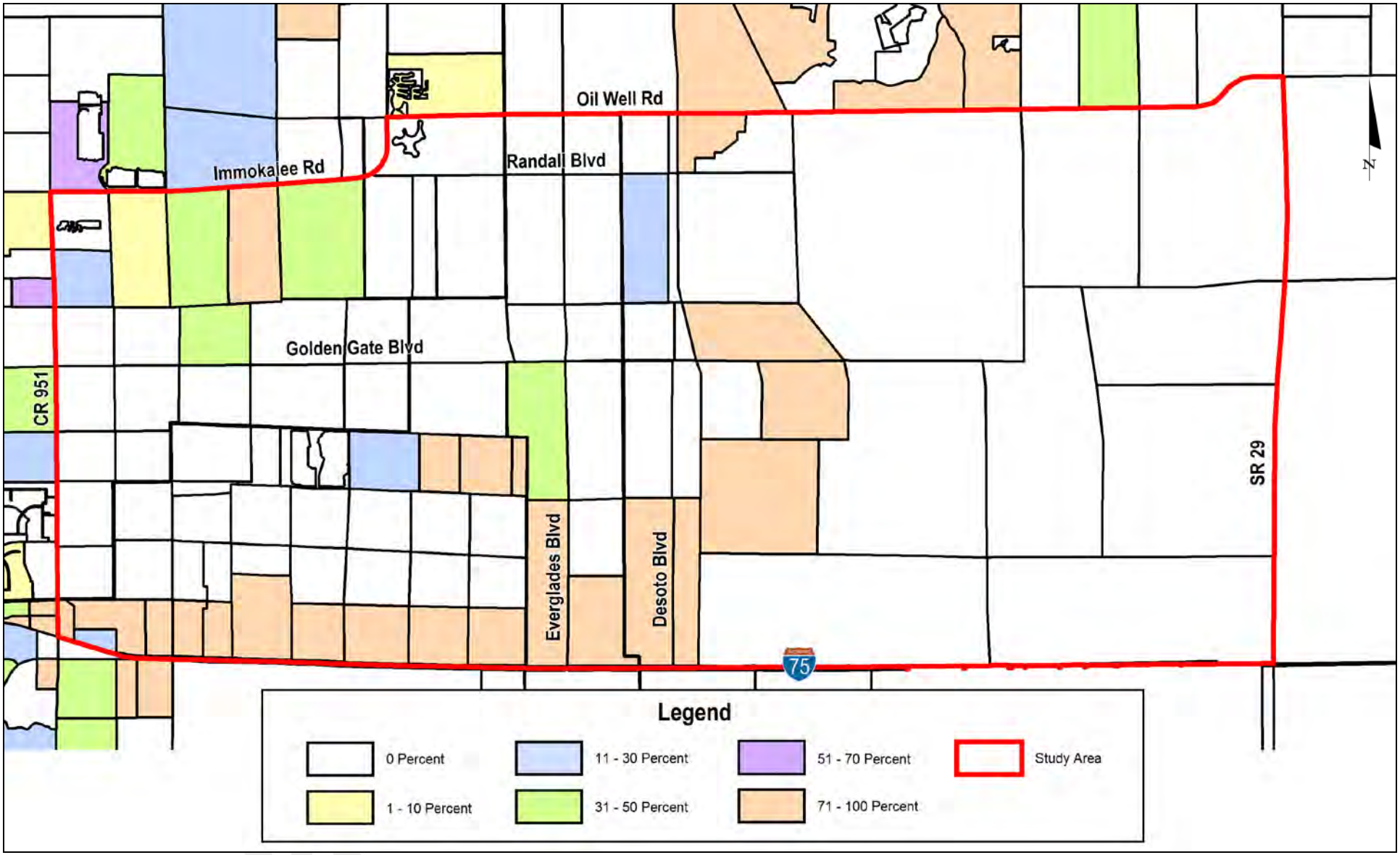


Figure 4-3: Projected Increases in Study Area Employment (2019 to 2029)

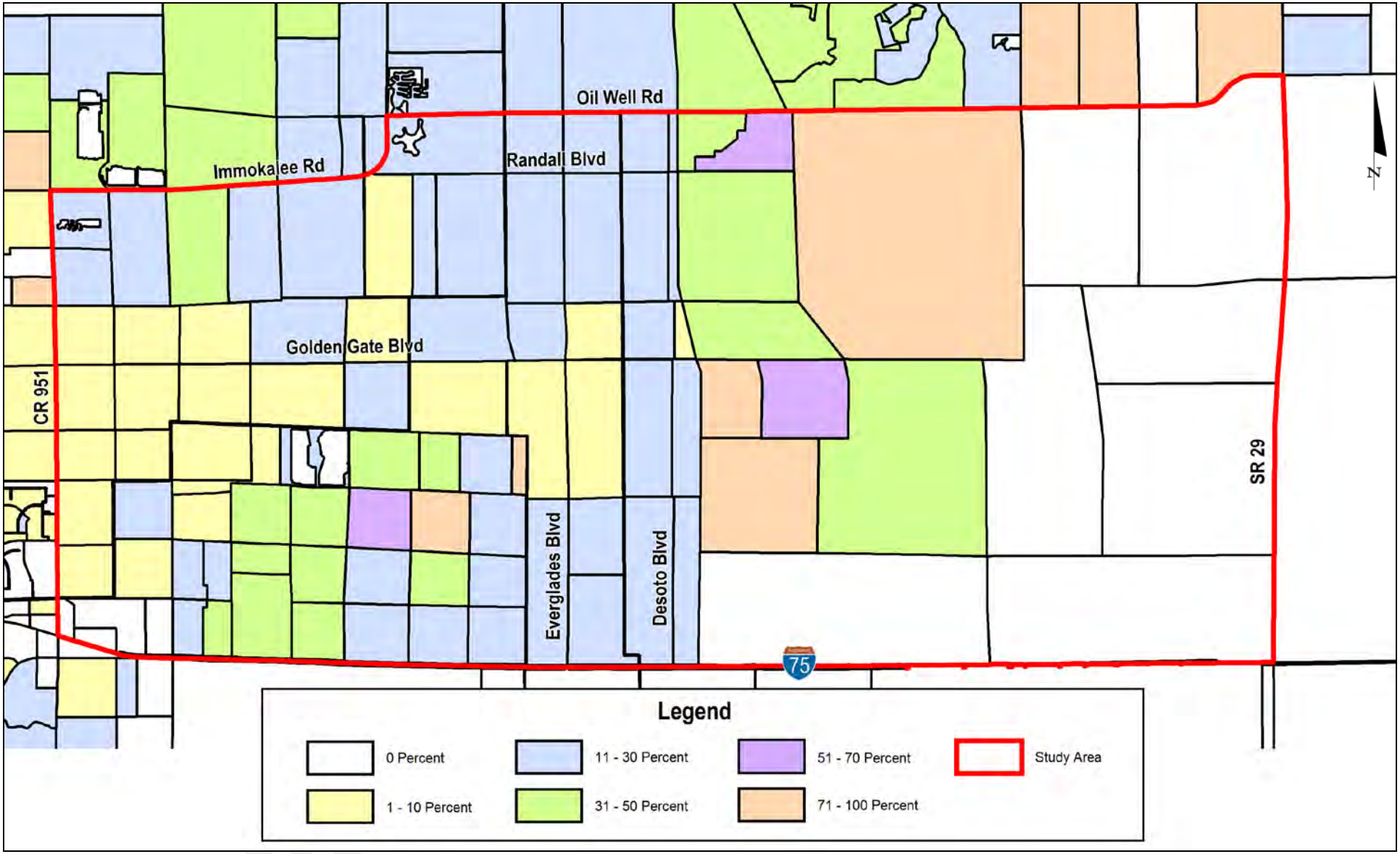


Figure 4-4: Projected Increases in Study Area Dwelling Units (2029 to 2039)

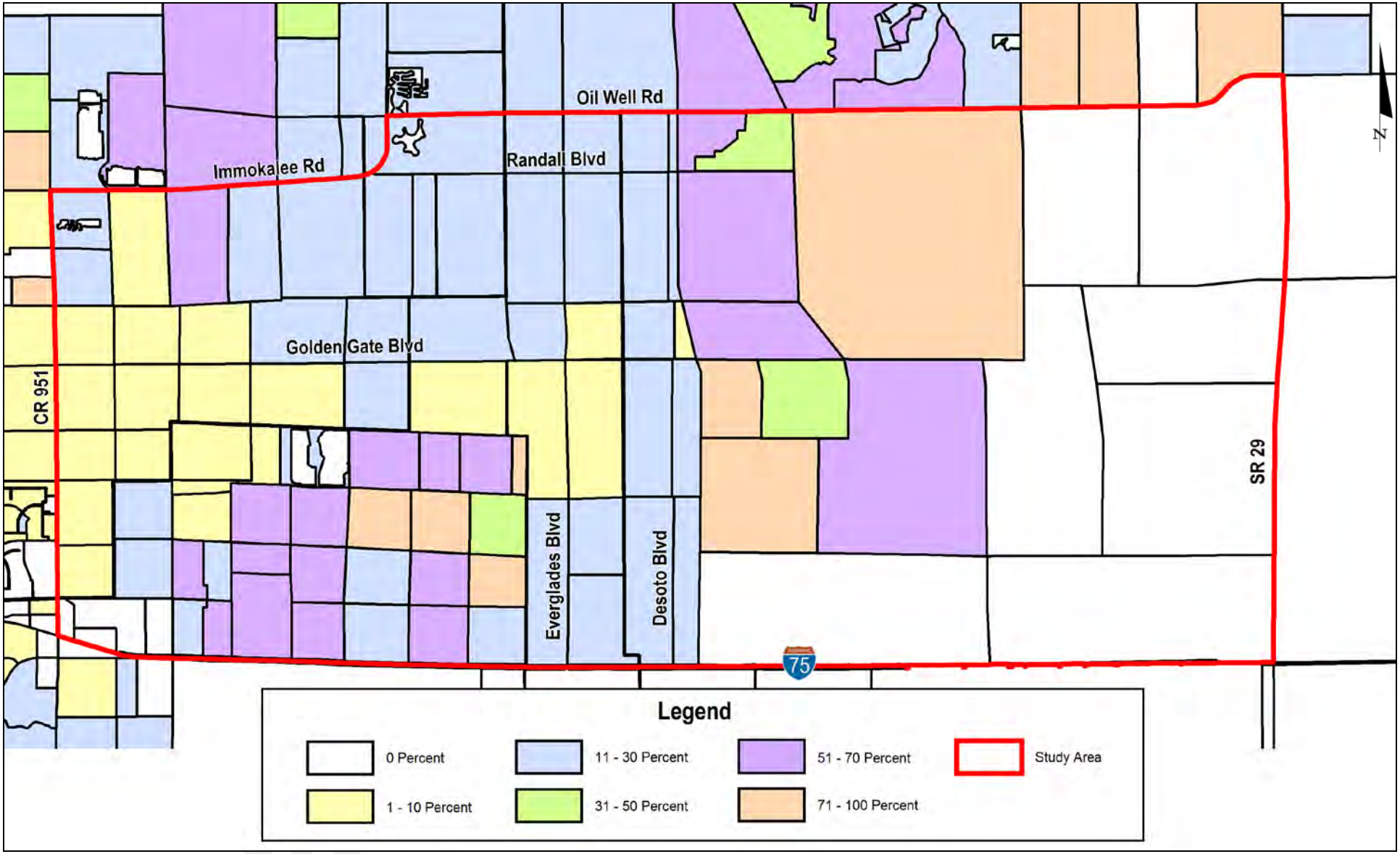


Figure 4-5: Projected Increases in Study Area Population (2029 to 2039)

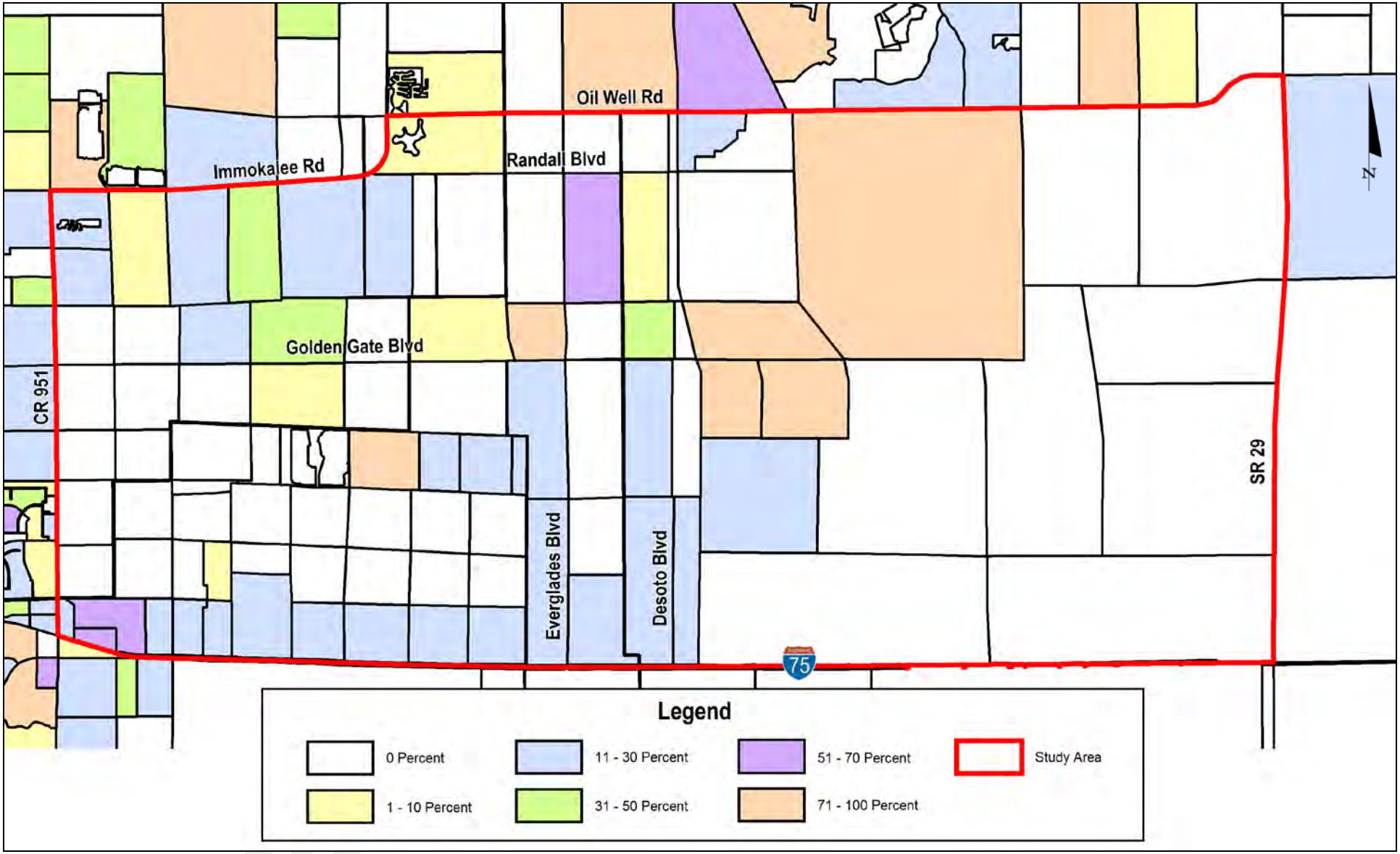


Figure 4-6: Projected Increases in Study Area Employment (2029 to 2039)

by residents. A new interchange constructed on I-75 in the study area, between established exits 80 and 101, would provide this kind of egress, as well as providing response onto the Interstate for that portion served by the Golden Gate Fire Control District." In addition to the GGFD, there are three other fire districts that have boundaries that are within 2 miles of I-75 within the project area. These include the Big Corkscrew Island Fire Control District, Ochopee Fire Control District and the East Naples Fire Control District. Each has expressed its support for a new interchange, and highlighted additional beneficial elements, including reduced transport times for victims of vehicle accidents, trauma injuries and hunting accidents as well as mutual aid between these fire districts. Copies of the letters of support from the fire control districts are provided in Appendix D.

A recent example of these critical concerns occurred in early 2011 when a wildfire cut off access to Golden Gate Boulevard for residents living on Everglades Boulevard south of this road. Many residents evacuated to the south and were confined to a small area adjacent to I-75 with no way out. Fortunately, the fire was contained, but had it spread south these residents would have been trapped. This recent wildfire and the ensuing evacuation problems caused by inadequate access to I-75, clearly demonstrates the safety need for an additional interchange between CR 951 and SR 29.

5.0 ALTERNATIVES CONSIDERED

Six different alternatives were considered with this IJR and are described in detail below.

5.1 Alternative 1 (No-Build Alternative)

This alternative does not include any additional roadway improvements (i.e., roadway segment widening or new roadways/roadway extensions) beyond those contained in the Collier MPO's 2035 Financially Feasible Long Range Transportation Plan (LRTP). This alternative represents the "No-Build" Alternative. **It should be noted that since the Collier MPO's 2035 Financially Feasible LRTP includes a new interchange at Everglades Boulevard; this improvement was removed from this alternative.**

5.2 Alternative 2 (Transportation Systems Management Alternative)

This alternative is the Transportation Systems Management (TSM) alternative. As was previously discussed in Section 4.0 of this report, the existing I-75 interchanges do not effectively serve the demand for access to and from the Golden Gate Estates. The geographic location of these interchanges and the 21-mile separation between the SR 29 and CR 951 interchanges does not allow these interchanges to satisfactorily provide the needed access – both with respect to daily commuting as well as emergency evacuation/response situations. Although a TSM alternative could offer travelers some reduction in travel times through improved signal timing/coordination, TSM-type improvements will not provide any additional accessibility for the study area nor reduce the long trip lengths that study area residents currently have when traveling to/from I-75.

Collier County has already implemented some Congestion Management Systems/Intelligent Transportation Systems at various locations within the county and has plans to increase these capabilities in the near future. In FDOT Fiscal Year 2012/2013, the Collier County Traffic Operations Department (through Local Agency Program (LAP) funds) will be expanding their existing 60-mile ITS fiber optic system by approximately 15 miles to monitor and control additional traffic signals from their Traffic Management Center (TMC). In addition, in FDOT Fiscal Year 2013/2014, the County's Traffic Operations Department (once again through LAP funding) will be receiving 25 arterial monitoring cameras to assist the County's TMC in traffic surveillance and incident management making the operations of the TMC more efficient. Another 50 additional monitoring cameras will be added through the LAP process over the next four to five years.

Collier County is also planning on implementing a "real time" travel time assessment project. This project will involve anonymous wireless address matching accomplished through the use of vehicles equipped with enabled Bluetooth networking devices, including cellular phones, mobile GPS systems, telephone headsets and in-vehicle navigation and hands-free systems. Roadside readers will sense the addresses emitted by these enabled devices as the vehicles pass the reader stations and transmit the time and location of the device to a host processing system at the County's TMC. As these enabled devices are detected at successive reader locations, the host system will merge travel time readings to calculate average travel times and speeds for a given roadway segment. This data will then be displayed on an aerial map and used to evaluate the impact of traffic signal retiming and ITS implementations. This project has been approved for LAP funds

which should be available in the next four to five years depending upon funding levels. However, the initial implementation of this project will occur in the western portion of the County where the highest levels of traffic congestion currently exist. The limited amount of financial resources that will be available for these types of congestion management systems, makes it unlikely that any ITS deployment will occur in the eastern portion of the County in the foreseeable future. Collier County realizes that Transportation Systems Management improvements are needed and is fully committed to expanding these types of improvements; however, these types of improvements are needed in addition to a new interchange – not in lieu of a new interchange.

5.3 Alternative 3A (Green Boulevard Extension Alternative)

This alternative includes all of the improvements associated with Alternative 1. In addition, an eastern extension of Green Boulevard from CR 951 over to Everglades Boulevard is also included in Alternative 3A. This improvement is not included in the Collier MPO's 2035 Financially Feasible LRTP but is currently included in the Collier MPO's 2035 Needs Plan. This additional improvement is graphically illustrated in Figure 5-1.

5.4 Alternative 3B (White Lake Boulevard Extension Alternative)

This alternative includes all of the improvements associated with Alternative 1. In addition, Alternative 3B includes a widening of White Lake Boulevard/Landfill Boulevard from CR 951 to Blackburn Road and an extension of Blackburn Road from Landfill Boulevard over to Everglades Boulevard. This improvement is not included in either the Collier MPO's 2035 Financially Feasible LRTP or the 2035 Needs Plan. This additional improvement is also graphically illustrated in Figure 5-1.

5.5 Alternative 4 (Everglades Boulevard Interchange Alternative)

This alternative includes all of the improvements associated with Alternative 1 along with a new interchange at Everglades Boulevard. This additional improvement is graphically illustrated in Figure 5-2.

5.6 Alternative 5 (Desoto Boulevard Interchange Alternative)

This alternative includes all of the improvements associated with Alternative 1 along with a new interchange at Desoto Boulevard. This additional improvement is also graphically illustrated in Figure 5-2.

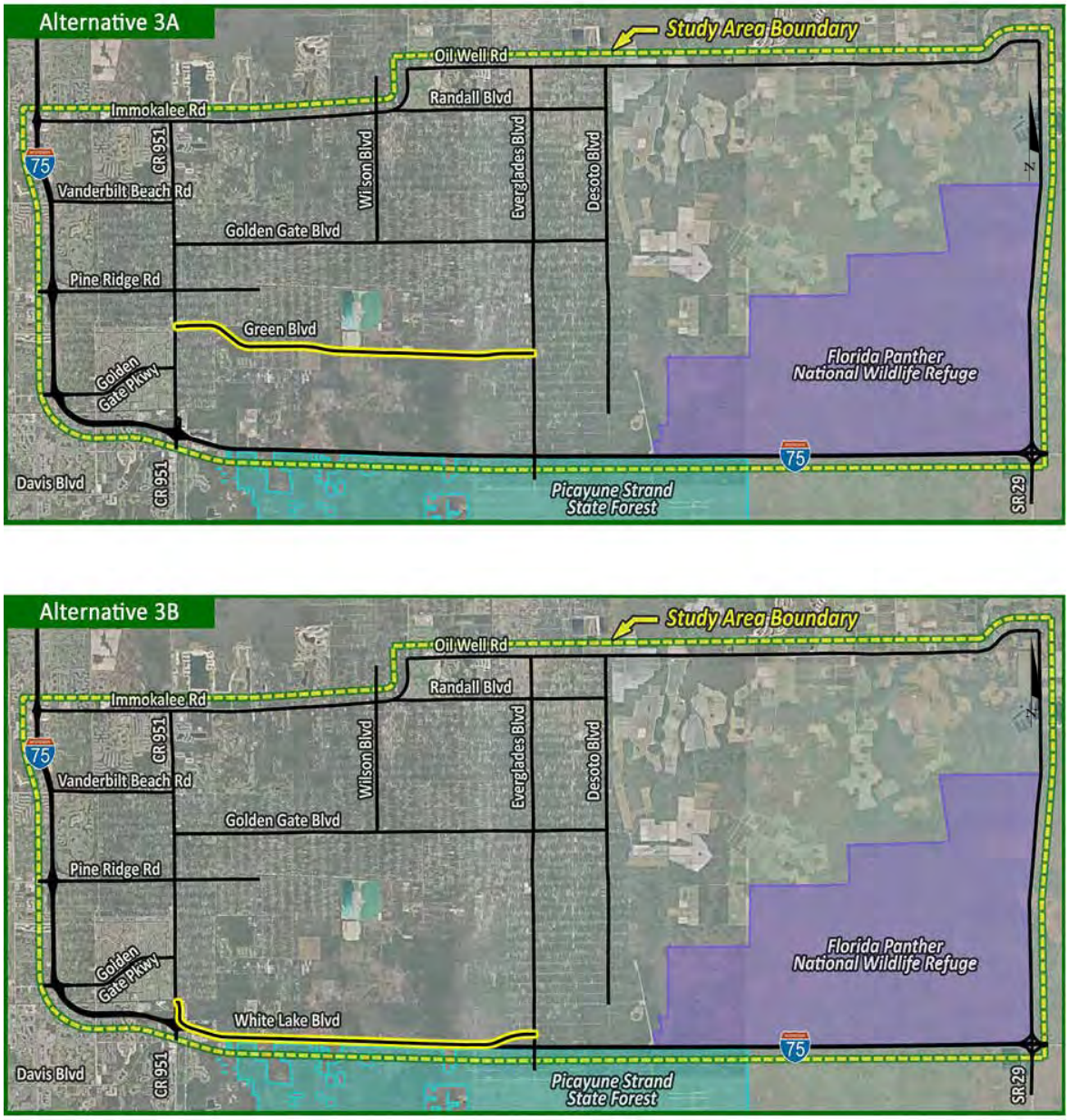


Figure 5-1: Green Boulevard Extension and White Lake Boulevard Extension Improvements

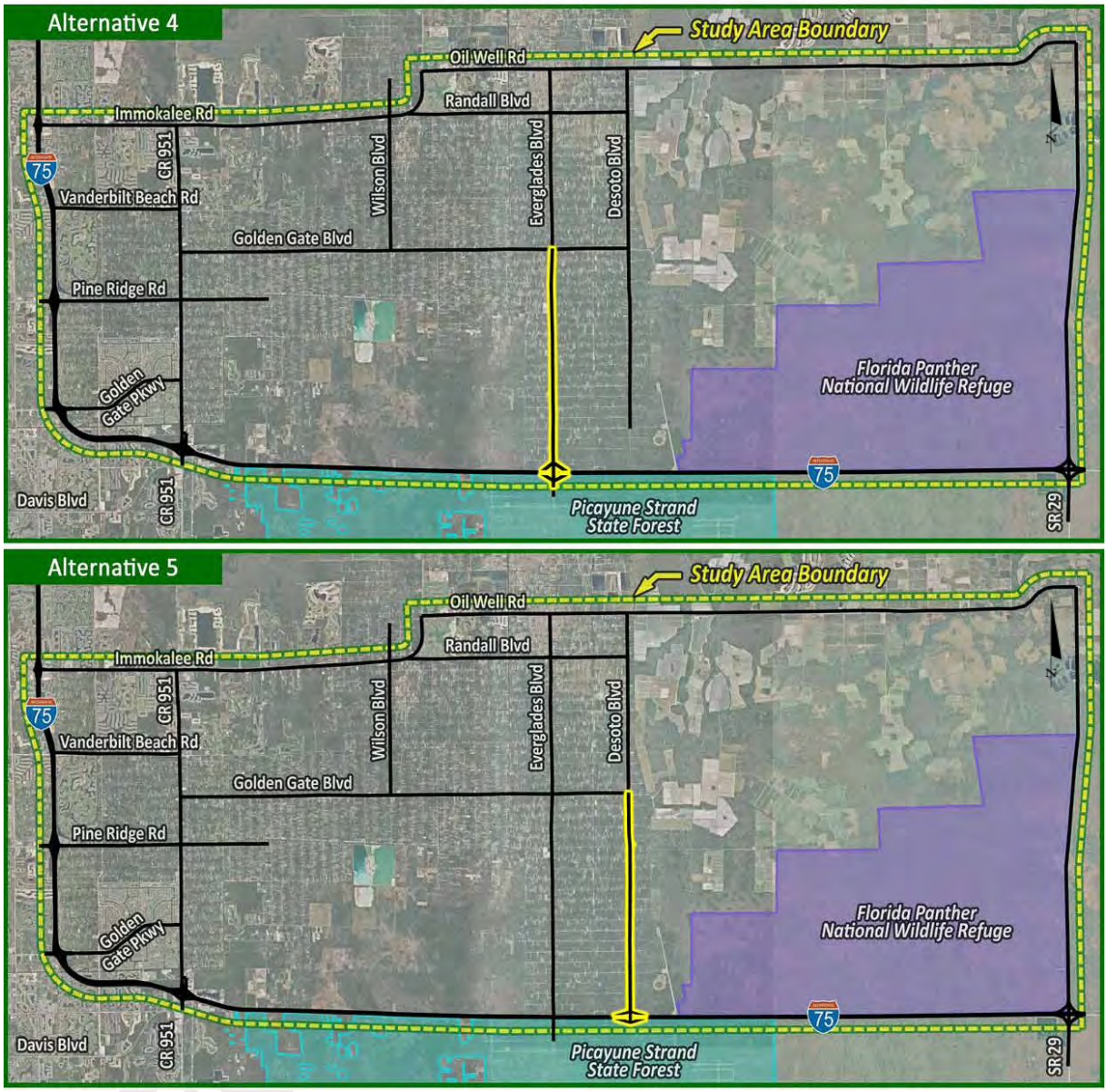


Figure 5-2: Everglades Boulevard and Desoto Boulevard Interchange Improvements

6.0 FUTURE YEAR TRAVEL DEMAND

6.1 Travel Demand Modeling

The IJR travel demand modeling was conducted using a validated subarea model that was developed and provided by FDOT District One. This subarea model was based on the Collier MPO's currently adopted 2007 validated model and 2035 Financially Feasible LRTP models and was specifically developed by District One for both the I-75/Everglades Boulevard IJR and the I-75/SR 951 PD&E Study. Although the Collier MPO's travel demand model includes all of Lee County, the subarea validation conducted by District One only focused on the IJR study area.

The travel demand modeling was conducted for an opening year (2019), an interim year (2029) and a design year (2039). Land use data forecasts were developed for the opening year (2019) and interim year (2029) by interpolating between the 2007 and 2035 land use datasets developed previously by the Collier MPO. The 2039 land use dataset was extrapolated using the 2029 and 2035 land use data.

The 2019 roadway network was based on the Collier MPO's currently adopted 2015 Existing plus Committed (E+C) network. One additional roadway improvement was added the 2019 roadway network. The six-laning of the portion of CR 951 from the Golden Gate Canal to Green Boulevard is included in the Collier MPO's Financially Feasible LRTP as a 2016-2020 improvement**.** Since this roadway improvement is planned to occur after 2015, it was not contained in the Collier MPO's E+C network. However, since it is planned to occur sometime between 2016 and 2020 it was included in the 2019 model network. No widening of either Everglades Boulevard or Desoto Boulevard was included in any of the 2019 travel demand model alternatives. Both the Green Boulevard Extension and the White Lake Boulevard Extension were coded as two-lane roadways in the 2019 travel demand model. The 2019 roadway networks used to conduct the travel demand modeling for Alternatives 1, 3A and 3B are graphically illustrated in Figure 6-1. The 2019 roadway networks used to conduct the travel demand modeling for Alternatives 4 and 5 are graphically illustrated in Figure 6-2.

The 2029 and 2039 roadway networks were based on the MPO's currently adopted 2035 Financially Feasible LRTP model network. The 2029 model network included the 2019 network with the following additional network improvements:

- Widening of Oil Well Road to six-lanes from Everglades Boulevard to Oil Well Grade Road (Cost Feasible Plan 2026-2030)
- Widening of US 41/Tamiami Trail to six-lanes from Collier Boulevard (CR 951) to Greenway Road (Cost Feasible Plan 2026-2030)
- Widening of Santa Barbara Boulevard to six-lanes from Painted Leaf Lane to Green Boulevard (Cost Feasible Plan 2026-2030)

The 2039 model network also included the four-laning of Golden Gate Boulevard from Wilson Boulevard to Desoto Boulevard.

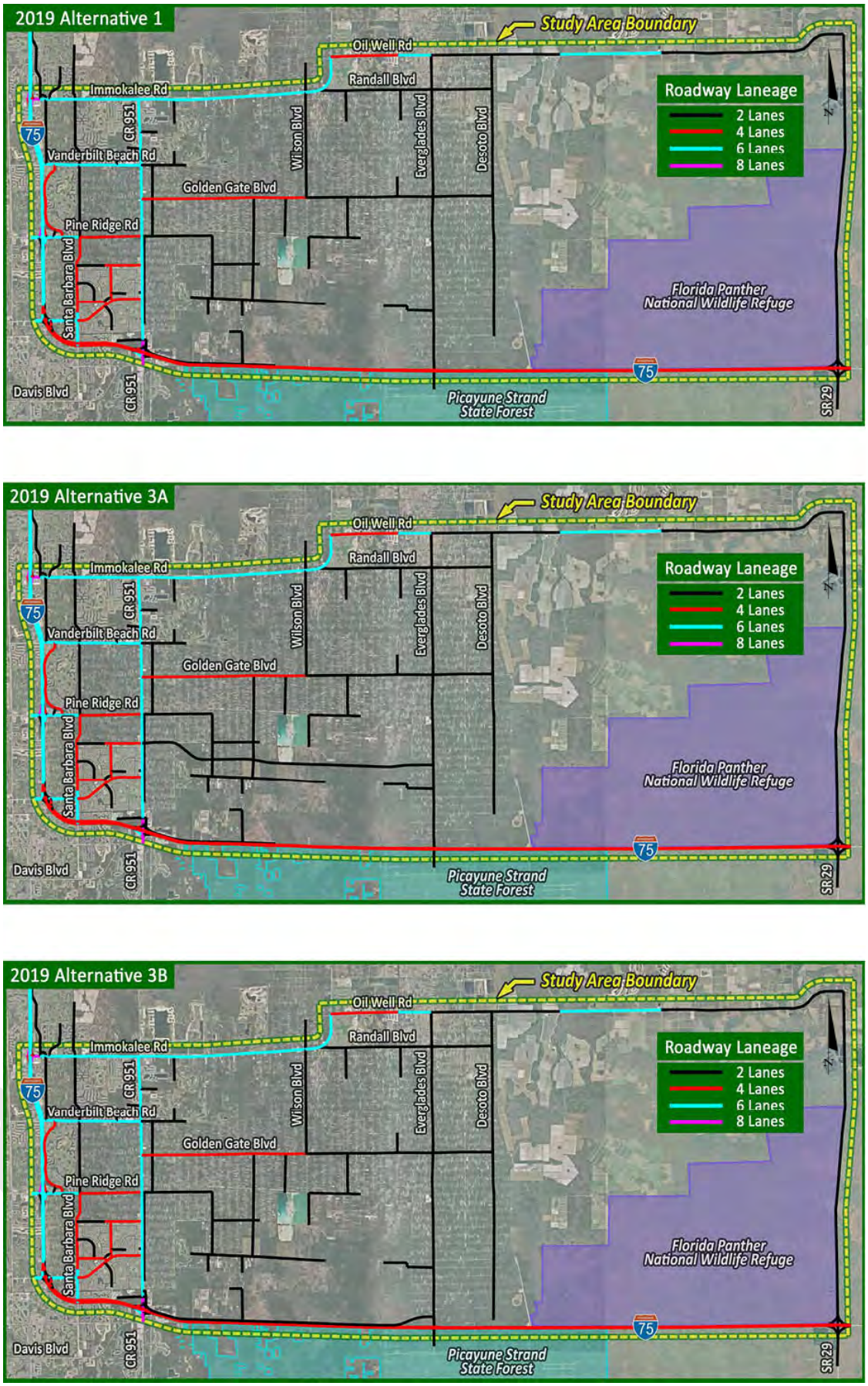
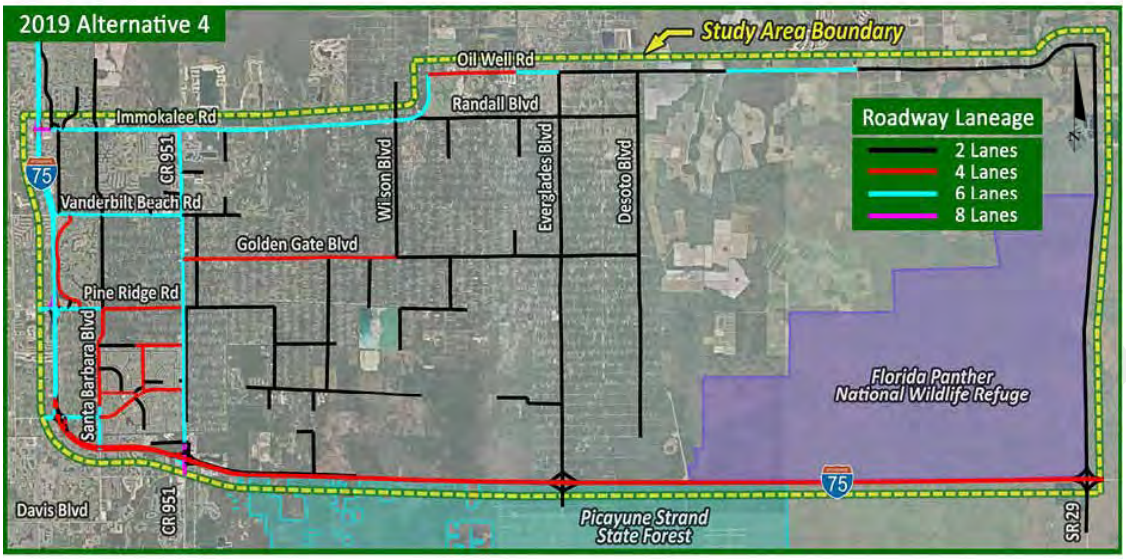


Figure 6-1: Opening Year (2019) Roadway Networks - Alternatives 1, 3A, and 3B



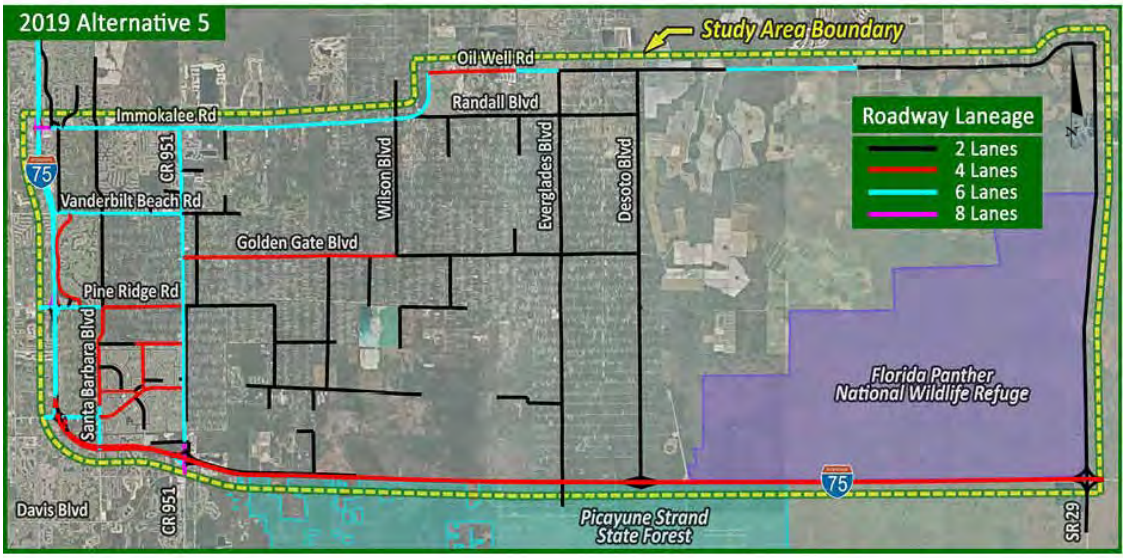


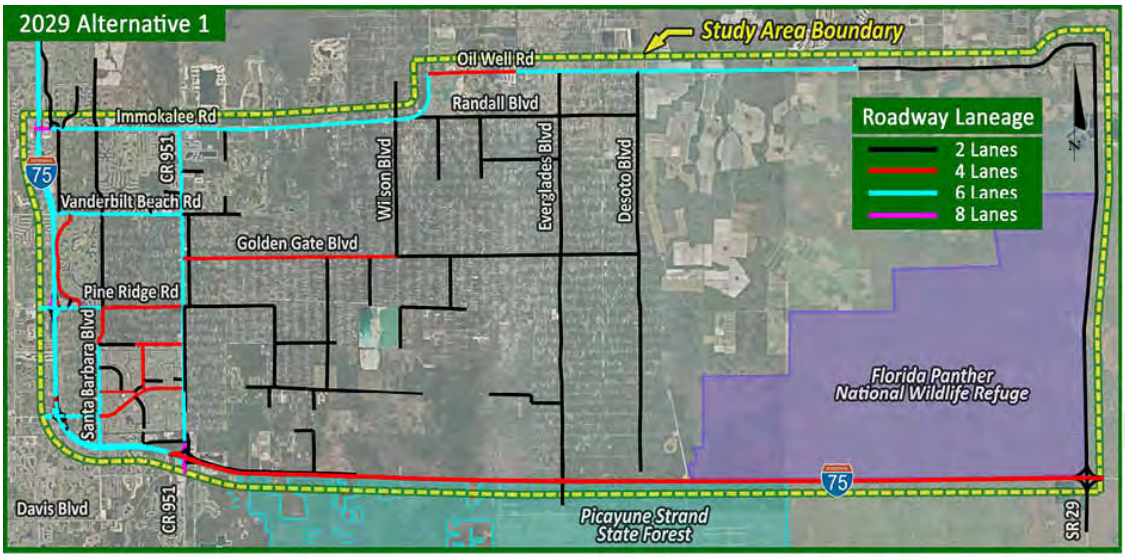
Figure 6-2: Opening Year (2019) Roadway Networks - Alternatives 4 and 5

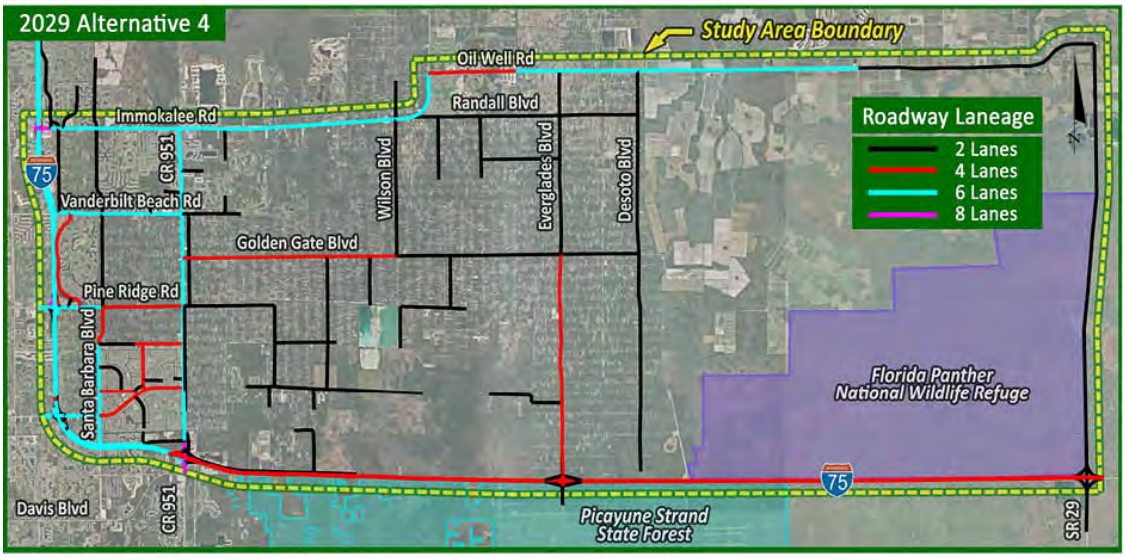
One additional roadway improvement that is not currently included in the Collier MPO's 2035 Financially Feasible LRTP was also included in the 2029 and 2039 IJR travel demand model roadway networks. This improvement consisted of the six-laning of I-75 from the CR 951 interchange to the Golden Gate Parkway interchange. This improvement was added to the 2029 and 2039 travel demand model networks at the direction of FDOT District One in recognition of the fact that the final design for the six-laning of this portion of I-75 is scheduled to start in 2012 with right-of-way acquisition anticipated to occur in 2019. The 2019 travel demand model network assumed that the existing four-lane segment of I-75 between CR 951 and Golden Gate Parkway would be present in 2019.

The 2029 and 2039 travel demand modeling assumed that Everglades Boulevard would only be widened to four lanes from I-75 to Golden Gate Boulevard if a new interchange was located at Everglades Boulevard (Alternative 4). Similarly, the 2039 travel demand modeling assumed that Desoto Boulevard would only be widened to four lanes from I-75 to Golden Gate Boulevard if a new interchange was located at Desoto Boulevard (Alternative 5). Both the Green Boulevard Extension and the White Lake Boulevard Extension were coded as four-lane roadways in the 2039 travel demand model networks. The 2029 travel demand model networks used for Alternatives 1, 4 and 5 are graphically illustrated in Figure 6-3. The 2039 travel demand model networks used for Alternatives 1, 3A and 3B are graphically illustrated in Figure 6-4, while the 2039 travel demand model networks used for Alternatives 4 and 5 are graphically illustrated in Figure 6-5.

It should also be noted that the Collier MPO's travel demand model does not include the existing portion of Everglades Boulevard that is located south of I-75 because this roadway is a "dead-end" road that serves as the primary entrance to the Picayune Strand State Forest and there are no existing residential or commercial land uses within the Picayune Strand State Forest. In addition, no future residential or commercial development will be allowed to occur within this area. Therefore, in Alternatives 1, 3A, 3B and 5, the southern terminus of Everglades Boulevard is located just north of I-75. In Alternative 4, the southern terminus of Everglades Boulevard is located on the south side of the new interchange. As stated earlier in this report, Desoto Boulevard does not currently cross over I-75. Consequently, in Alternatives 1, 3A, 3B and 4, the southern terminus of Desoto Boulevard is located north of I-75. In Alternative 5, the southern terminus of Desoto Boulevard is located on the south side of the new interchange.

The travel demand model output for the different alternatives was compared to assess the reasonableness of the results. Select link trace assignments were conducted for various roadway links and the travel paths projected by the model were also reviewed for reasonableness. These reviews indicated that several unrealistic travel patterns were projected to occur with Alternative 1. Another travel demand model run was subsequently conducted for Alternative 1 using the Origin/Destination (O/D) trip table that was previously generated by the model for Alternative 4. A review of the select link trace assignments conducted for this model run indicated that the travel paths were reasonable. Consequently, it was determined that the sensitivity of the model's O/D trip table to changes in distance was too high. Although the total number of discretionary trips (e.g., shopping trips, social/recreation trips) made between a given origin and destination can vary depending on the magnitude of the spatial separation between the origin and destination, the total





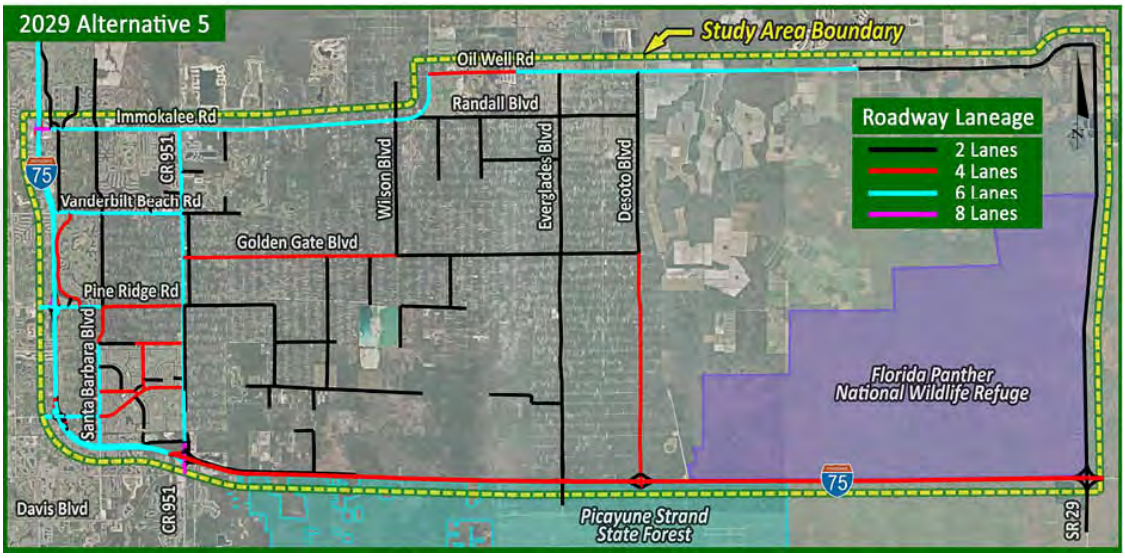


Figure 6-3: Interim Year (2029) Roadway Networks - Alternatives 1, 4, and 5

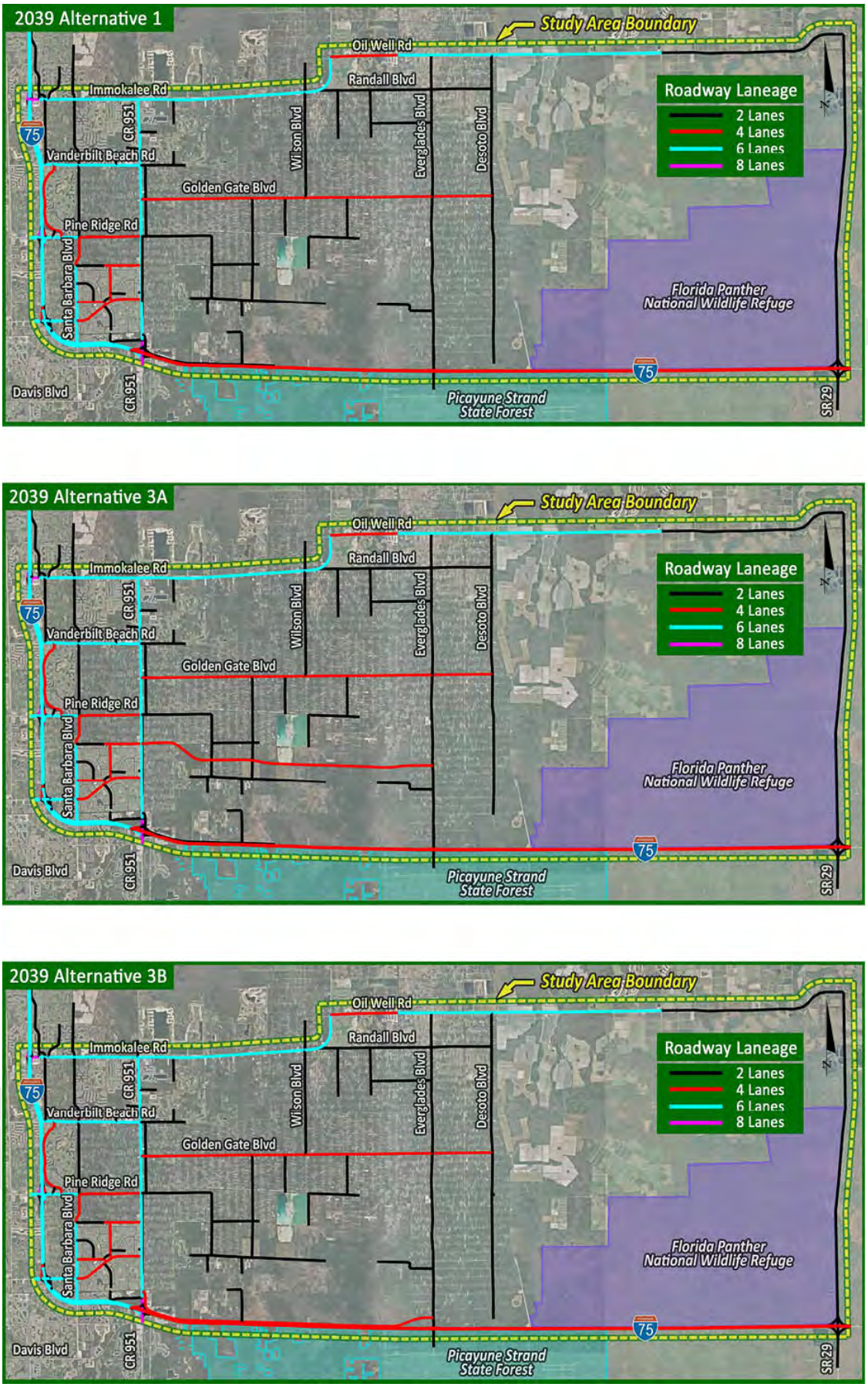


Figure 6-4: Design Year (2039) Roadway Networks - Alternatives 1, 3A, and 3B

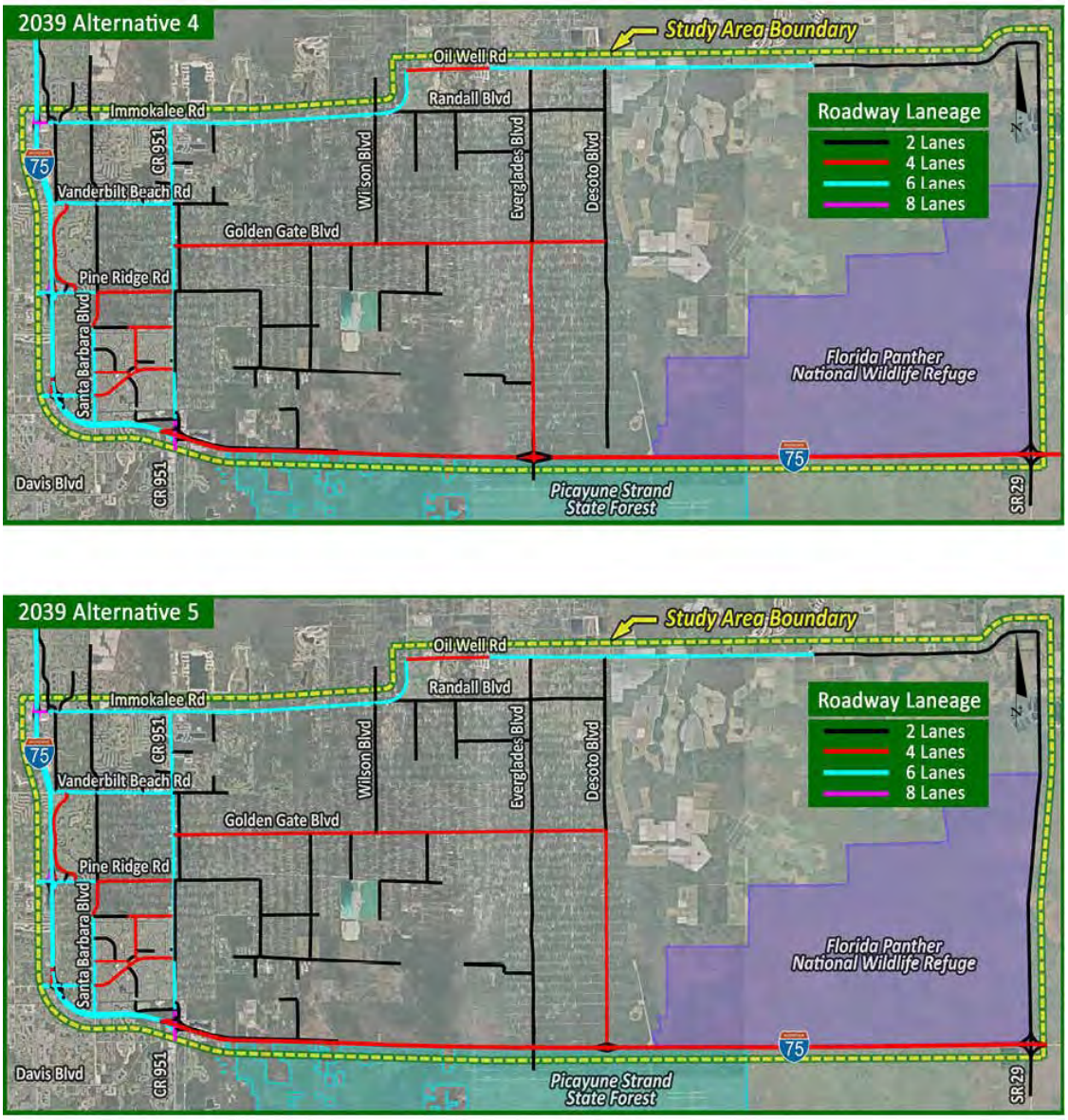


Figure 6-5: Design Year (2039) Roadway Networks - Alternative 4 and 5

number of non-discretionary trips (e.g., work trips) made between a given origin and destination should remain relatively constant for a given number of dwelling units and employees. This issue was discussed with FDOT and it was agreed that the Alternative 4 O/D trip table would be used with all of the alternatives.

6.2 Annual Average Daily Traffic (AADT) Volumes

The Peak Season Weekday Average Daily Traffic (PSWADT) volumes obtained from each of the alternative model runs were converted to AADT volumes using the appropriate Model Output Conversion Factors (MOCF's). The MOCF's were obtained from the Florida Department of Transportation's Florida Traffic Information website. The MOCF's used for the study area are 0.92 (for I-75), 0.91 (for SR 29) and 0.88 (for all other roadways).

The future year AADT volumes projected for the I-75 mainline and interchange ramps with Alternative 1 were compared to the 2008 AADT volumes and this comparison is summarized in Table 6-1. This table illustrates that between 2008 and 2019, the AADT volume on I-75 between SR 29 and CR 951 is projected to increase by 7,900 vehicles/day. This rate of increase is approximately 720 vehicles/year (3.7%/year) assuming a linear rate of increase. The AADT volume between CR 951 and Golden Gate Parkway is projected to increase by 17,000 vehicles/day during this same 11-year period. The rate of growth in the AADT volume for this portion of the I-75 mainline is approximately 1,550 vehicles/year (4.2%/year). From 2000 to 2008, the I-75 mainline volume between SR 29 and CR 951 increased from 15,700 to 19,000 vehicles/day (a rate of approximately 410 vehicles per year or 2.1%/year) and the I-75 mainline volume between CR 951 and Golden Gate Parkway increased from 28,500 to 37,000 (a rate of approximately 1,060 vehicles/year or 3.7%/year). The higher rates of increase for these segments between 2008 and 2019 is due to the large amount of future land use (especially employment) projected to occur in the vicinity of the CR 951 interchange by the year 2019. Table 6-1 also indicates that the I-75 mainline volume between SR 29 and CR 951 is projected to increase at a rate of 760 vehicles/year (2.8%/year) between 2019 and 2039, while the rate of growth for the AADT volume on the portion of the I-75 mainline between CR 951 and Golden Gate Parkway over this same time period is approximately 1,500 vehicles/year (2.8%/year).

Table 6-1 indicates that the largest increases in ramp AADT volumes between 2008 and 2039 are projected to occur for the CR 951 ramps to/from the west, Golden Gate Parkway ramps to/from the north, and SR 29 ramps to/from the west. The CR 951 ramps to/from the east are projected to experience the smallest amount of future growth between 2008 and 2039 (approximately 500 vehicles/day over this 30-year period).

It should be noted that a majority of the existing land uses located in the southeast and southwest quadrants of the CR 951 interchange are either gas stations/convenience stores or restaurants. A large amount of these facilities patrons are travelers who are driving from the west coast of Florida to the east coast of Florida (and vice-versa) via Alligator Alley. Since these facilities are not available on Alligator Alley and the length of the Alley is approximately 76 miles, many travelers exit I-75 via the eastbound or westbound off-ramp, visit these facilities, and the re-enter I-75 via the eastbound or westbound on-ramp.

Table 6-1: AADT Volume Comparison

Location	2008	Alternative 1		
		2019	2029	2039
Mainline Segment				
Between SR 29 and CR 951	19,000	26,900	32,400	42,100
Between CR 951 and Golden Gate Parkway	37,000	54,000	68,100	84,500
Interchange Ramp				
WB Off-Ramp to SR 29	1,100	2,200	3,000	3,300
WB On-Ramp to SR 29	500	3,400	4,450	7,200
EB Off-Ramp to SR 29	500	3,400	4,450	7,200
EB On-Ramp to SR 29	1,100	2,200	3,000	3,300
WB Off-Ramp to SR 951	2,000	1,850	1,900	2,500
WB On-Ramp to SR 951	11,000	15,400	19,750	23,700
EB Off-Ramp to SR 951	11,000	15,400	19,750	23,700
EB On-Ramp to SR 951	2,000	1,850	1,900	2,500
NB Off-Ramp to Golden Gate Pkwy	1,300	3,400	3,950	5,200
NB On-Ramp to Golden Gate Pkwy	10,000	16,700	17,000	18,800
SB Off-Ramp to Golden Gate Pkwy	10,000	16,700	17,000	18,800
SB On-Ramp to Golden Gate Pkwy	1,300	3,400	3,950	5,200

Consequently, a portion of the "through" trips on I-75 that exit/enter Collier County are not accounted for in the mainline volume on I-75 in the "middle" of the CR 951 interchange. This results in a situation where the on- and off-ramp volumes at this interchange are higher than what would normally be expected to occur because a larger percentage of these ramp volumes are actually mainline through volumes. Since the travel demand model is not able to account for this type of situation; the true magnitude of the ramp volumes at the CR 951 interchange are probably underestimated. Even if it was assumed that only 2.0 % of the 2008 I-75 mainline volume west of the CR 951 interchange exited and re-entered I-75 at this interchange, the 2019 AADT volumes projected for the ramps to/from the east would represent a 10.0% increase in volume compared to the "true" (i.e., non-through trip) 2008 on/off-ramp volumes.

A cordon line was established to quantify the total amount of daily traffic that was projected to travel into and out of the study area and to ensure that this daily volume was a constant value regardless of the specific roadway improvements within the study area. The cordon line boundary is graphically illustrated in Figure 6-6. Tables 6-2 and 6-3 provide comparisons of the 2019 and 2039 cordon line volumes for all five alternatives. In addition, these tables also include the average study area cordon line volumes. A review of the cordon line volumes indicates that on average, approximately 298,100 vehicles/day are projected to enter/exit the study area in 2019. By the year 2039, approximately 443,800 vehicles/day are projected to enter/exit the study area. Consequently, the total daily volume entering/exiting the study area is projected to increase by approximately 145,700 vehicles/day (49%) over this 20-year time period. This represents an annual traffic growth rate of almost 2.5% per year. Tables 6-2 and 6-3 also indicate that only minor differences in the total cordon line volumes are projected to occur with the various alternatives.

Several north/south and east/west screenlines were also established within the overall study area to determine the impact that each of the potential additional study area improvements was projected to have on east/west and north/south travel, respectively. Tables 6-2 and 6-3 also provide comparisons of the 2019 and 2039 screenline volumes for all five alternatives. Although these tables indicate that there are some differences in the north/south and east/west screenline volumes for the five alternatives; these differences (when compared to the average screenline volumes) are all less than ± 11.0 percent. The most significant fluctuation in screenline volume is projected to occur at the east/west screenline located south of Golden Gate Boulevard. This is to be expected because the additional roadway network improvements (either new east/west roadway connections or new interchanges) are all located south of Golden Gate Boulevard. Alternative 5 is projected to have a higher volume than the other four alternatives for the screenline located between Everglades Boulevard and Desoto Boulevard. This is because the trips with origins located to the west of Desoto Boulevard that use the Desoto Boulevard interchange to access westbound I-75 cross the screenline twice.

6.2.1 Opening Year (2019)

The opening year (2019) AADT volumes projected for the I-75 mainline segments from east of the SR 29 interchange to north of the Golden Gate Parkway interchange are illustrated in Table 6-4. This table indicates that the I-75 mainline volumes are basically the same for Alternatives 1, 3A and 3B. Table 6-4 also indicates that the Everglades Boulevard interchange is projected to increase the I-75 mainline volume by

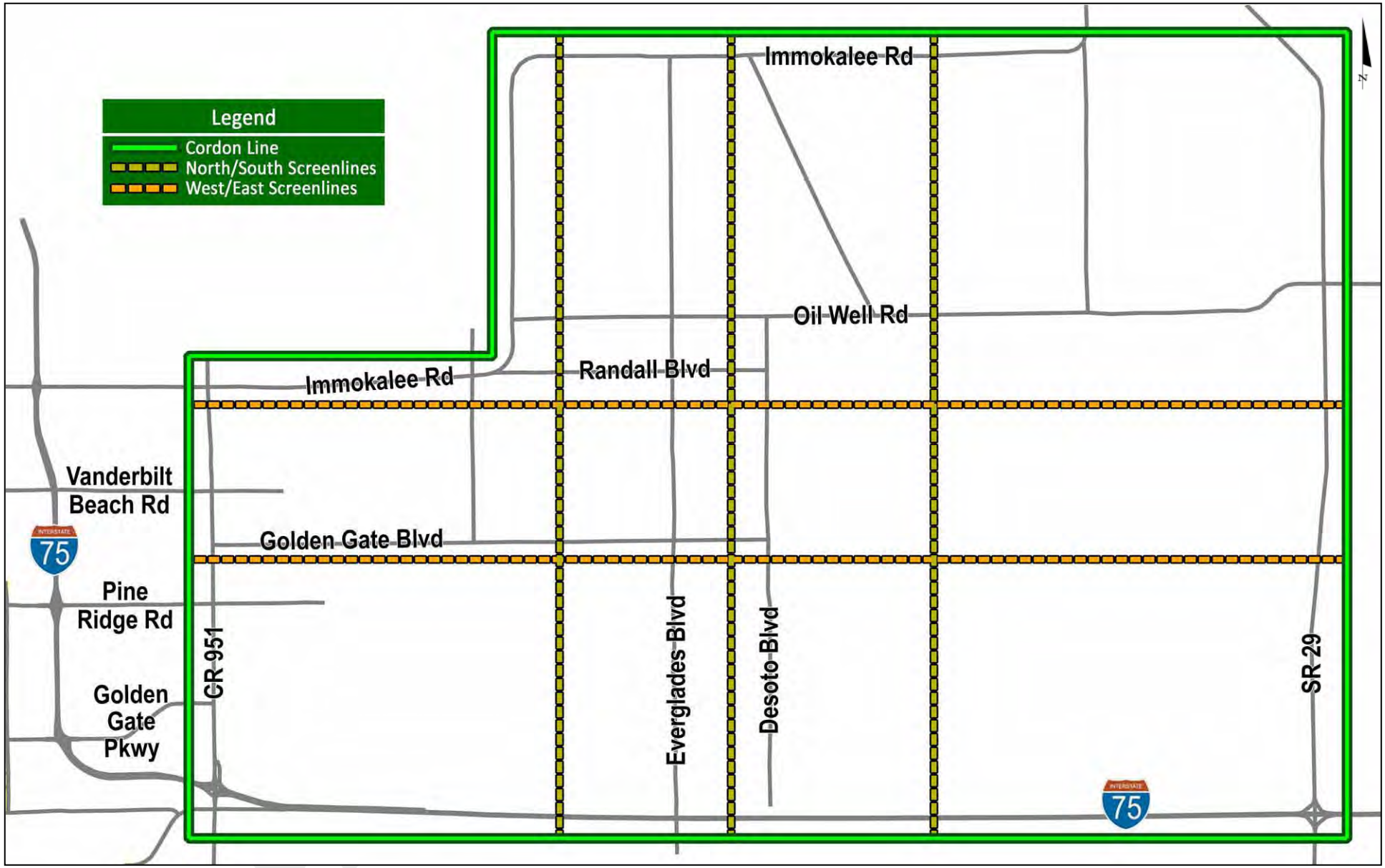


Figure 6-6: Cordon Line and Screenlines

Table 6-2: Opening Year (2019) Screenline and Cordon Line Volume Comparison

Location	2019 AADT Volumes					
	Alternative 1	Alternative 3A	Alternative 3B	Alternative 4	Alternative 5	Average
East-West Screenlines						
South of Immokalee Rd/Randall Blvd	64,673	62,522	63,942	59,634	60,542	62,263
South of Golden Gate Blvd	67,102	60,512	66,242	61,045	69,756	64,931
North/South Screenlines						
Between Wilson Blvd & Everglades Blvd	82,375	85,340	86,301	85,094	85,011	84,824
Between Everglades Blvd & Desoto Blvd	65,036	64,701	64,716	65,729	73,241	66,685
Between Desoto Blvd & SR 29	48,561	48,605	48,626	48,672	48,682	48,629
Study Area Cordon Line	**298,166**	**298,283**	**297,521**	**298,113**	**298,609**	**298,138**

Table 6-3: Design Year (2039) Screenline and Cordon Line Volume Comparison

Location	2039 AADT Volumes					
	Alternative 1	Alternative 3A	Alternative 3B	Alternative 4	Alternative 5	Average
East/West Screenlines						
South of Immokalee Rd/Randall Blvd	107,043	97,209	99,208	95,576	97,451	99,297
South of Golden Gate Blvd	122,953	98,146	106,403	106,726	117,669	110,379
North/South Screenlines						
Between Wilson Blvd & Everglades Blvd	144,880	148,722	150,902	149,098	148,842	148,489
Between Everglades Blvd & Desoto Blvd	117,777	118,011	117,937	119,177	134,016	121,384
Between Desoto Blvd & SR 29	88,570	88,658	88,652	88,670	88,725	88,655
Study Area Cordon Line	443,560	444,415	443,083	443,761	444,328	443,829

Table 6-4: Opening Year (2019) I-75 Mainline AADT Volume Comparison

I-75 Mainline Segment	Alternative 1	Alternative 3A	Alternative 3B	Alternative 4	Alternative 5
Between Broward County Line and SR 29	24,600	24,600	24,600	24,600	24,600
Between SR 29 and Everglades Blvd/Desoto Blvd	27,000	27,100	26,900	28,400	28,600
Between Everglades Blvd/Desoto Blvd and CR 951	27,000	27,100	26,900	37,100	35,700
Between CR 951 and Golden Gate Pkwy	54,100	54,000	54,200	57,500	57,100
Between Golden Gate Pkwy and Pine Ridge Rd	80,700	80,800	79,200	80,700	81,700

approximately 10,100 vpd between Everglades Boulevard and CR 951 and by approximately 3,400 vpd between CR 951 and Golden Gate Parkway. If the new interchange is located at Desoto Boulevard, the I-75 mainline volume is projected to increase by approximately 8,700 vpd between Desoto Boulevard and CR 951 and by approximately 3,000 vpd between CR 951 and Golden Gate Parkway. North of the Golden Gate Parkway interchange, the I-75 mainline volumes are essentially the same for all five alternatives with the maximum difference being approximately 3.0%.

The opening year (2019) AADT volumes projected for the I-75 interchange ramps are illustrated in Figures 6-7 through 6-11. Figures 6-7, 6-8 and 6-9 indicate that relatively minor differences in ramp volumes are projected to occur for Alternatives 1, 3A and 3B. Figures 6-10 and 6-11 indicate that a new interchange is expected to increase the AADT volumes on the CR 951 ramps to/from the east and the Golden Gate Parkway ramps to/from the south. A comparison of Figures 6-7 and 6-10 indicates that the Everglades Boulevard interchange is projected to increase the AADT volumes on the CR 951 ramps to/from the east from 1,850 vehicles/day (each direction) to 4,900 vehicles/day. The Everglades Boulevard interchange is also projected to increase the AADT volumes on the Golden Gate Parkway ramps to/from the south from 3,400 vehicles/day (each direction) to 4,500 vehicles/day. A comparison of Figures 6-7 and 6-11 indicates that the Desoto Boulevard interchange is projected to increase the AADT volumes on the CR 951 ramps to/from the east from 1,850 vehicles/day to 4,450 vehicles/day. The Desoto Boulevard interchange is also projected to increase the AADT volumes on the Golden Gate Parkway ramps to/from the south from 3,400 vehicles/day (each direction) to 4,350 vehicles/day. A new interchange is also expected to reduce the AADT volumes on the SR 29 ramps to/from the east and on the Golden Gate Parkway ramps to/from the north; however, the magnitude of these reductions are less than or equal to 650 vehicles/day each direction.

6.2.2 Design Year (2039)

The design year (2039) AADT volumes projected for the I-75 mainline segments from east of the SR 29 interchange to north of the Golden Gate Parkway interchange are illustrated in Table 6-5. Once again, the I-75 mainline volumes are basically the same for Alternatives 1, 3A and 3B. Table 6-5 also indicates that the Everglades Boulevard interchange is projected to increase the I-75 mainline volume by approximately 23,800 vehicles/day between Everglades Boulevard and CR 951 and by approximately 8,000 vehicles/day between CR 951 and Golden Gate Parkway. If the new interchange is located at Desoto Boulevard, the I-75 mainline volume is projected to increase by approximately 18,200 vehicles/day between Desoto Boulevard and CR 951 and by approximately 6,900 vehicles/day between CR 951 and Golden Gate Parkway. North of the Golden Gate Parkway interchange, the I-75 mainline volumes are essentially the same for all five alternatives with the maximum difference between alternatives being approximately 1.5%.

The design year (2039) AADT volumes projected for the I-75 interchange ramps are illustrated in Figures 6-12 through 6-16. Figures 6-12, 6-13 and 6-14 indicate that once again, relatively minor differences in ramp volumes are projected to occur for Alternatives 1, 3A and 3B. A comparison of Figures 6-12 and 6-15 indicates that the Alternative 4 is projected to increase the AADT volumes on the CR 951 ramps to/from the east from 2,500 vehicles/day (each direction) to 9,800 vehicles/day. Alternative 4 is also projected to increase the AADT volumes on the Golden Gate Parkway ramps to/from the south from 5,200 vehicles/day

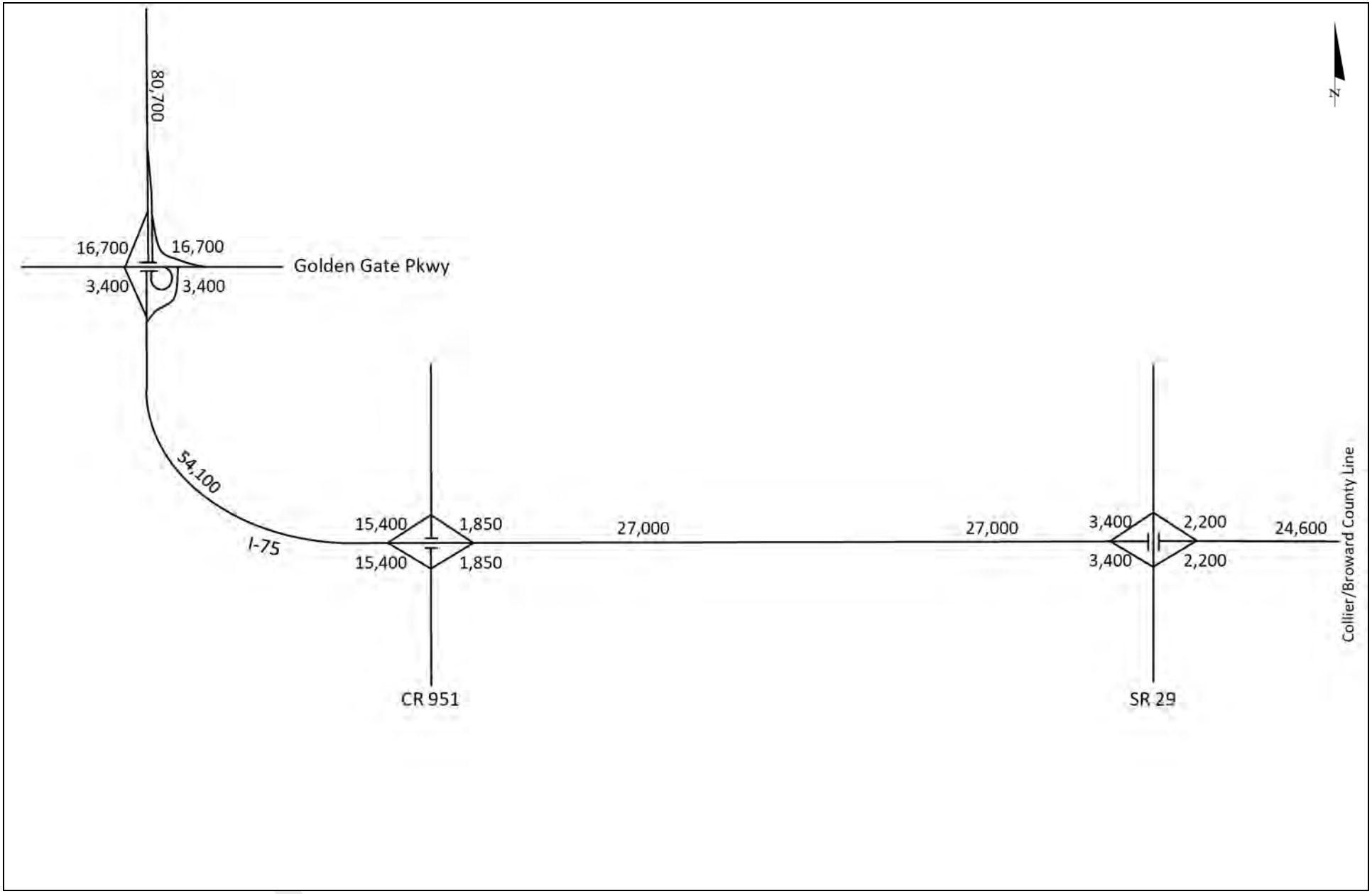


Figure 6-7: Opening Year (2019) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 1

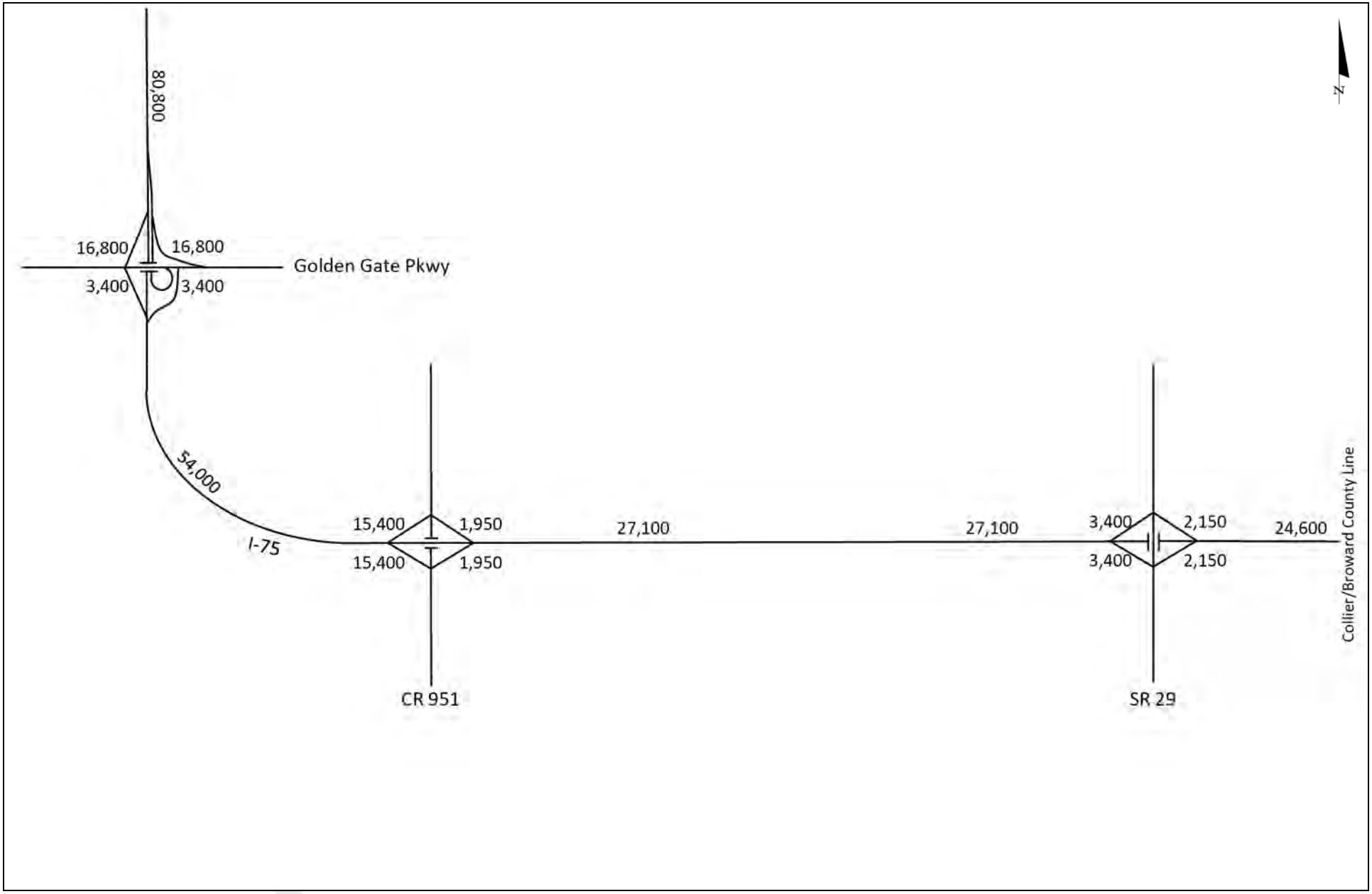


Figure 6-8: Opening Year (2019) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 3A

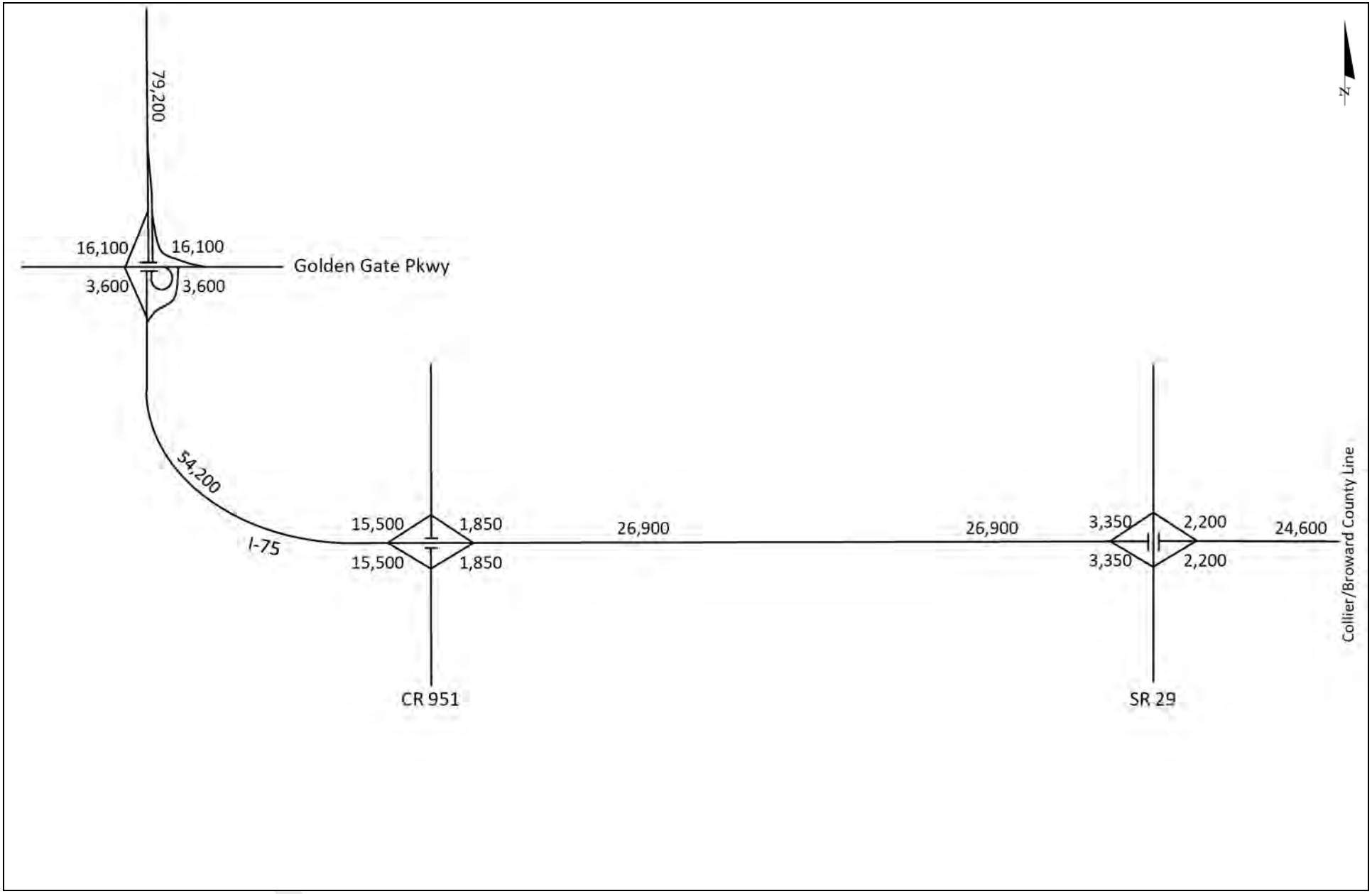


Figure 6-9: Opening Year (2019) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 3B

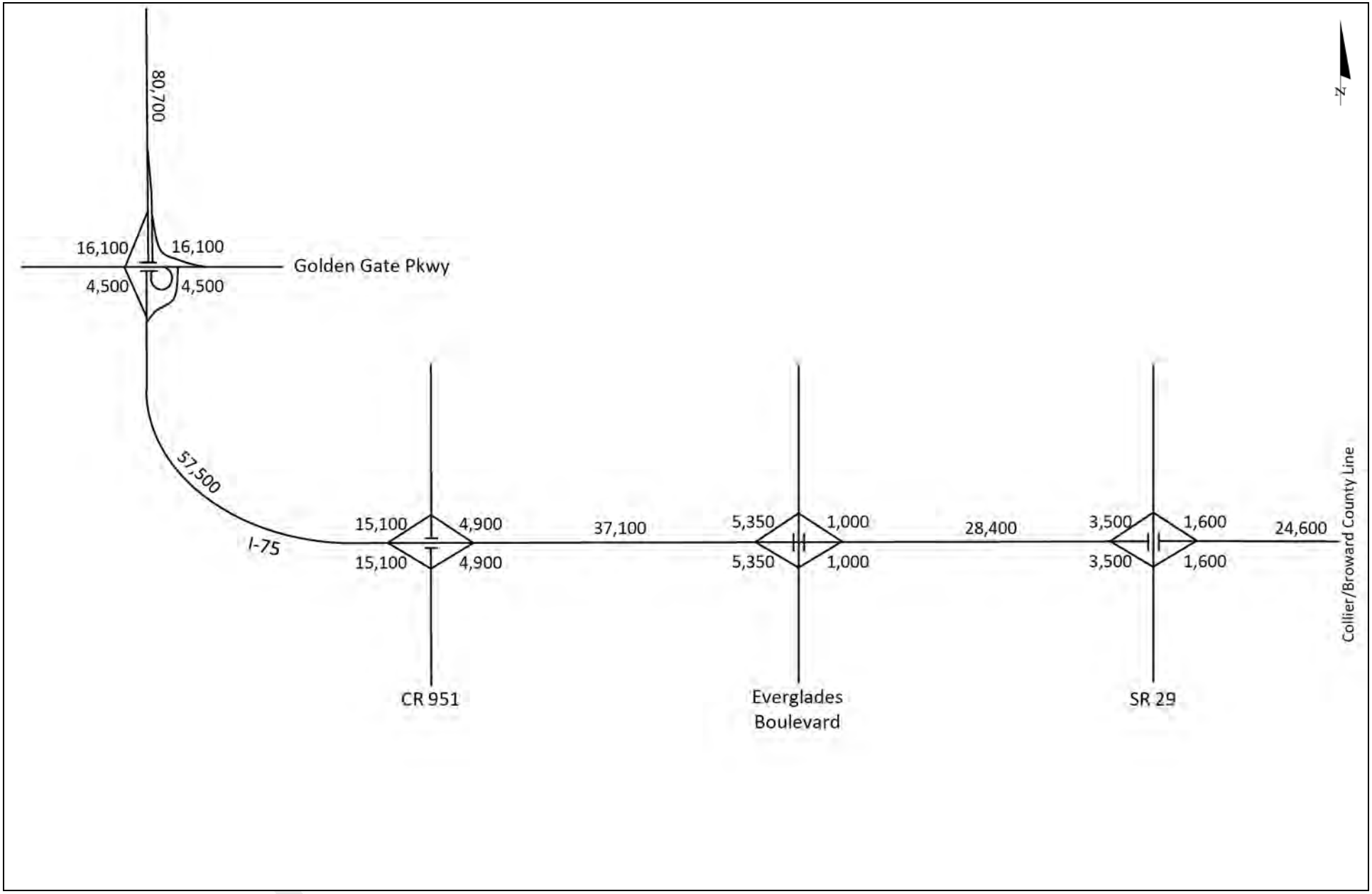


Figure 6-10: Opening Year (2019) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 4

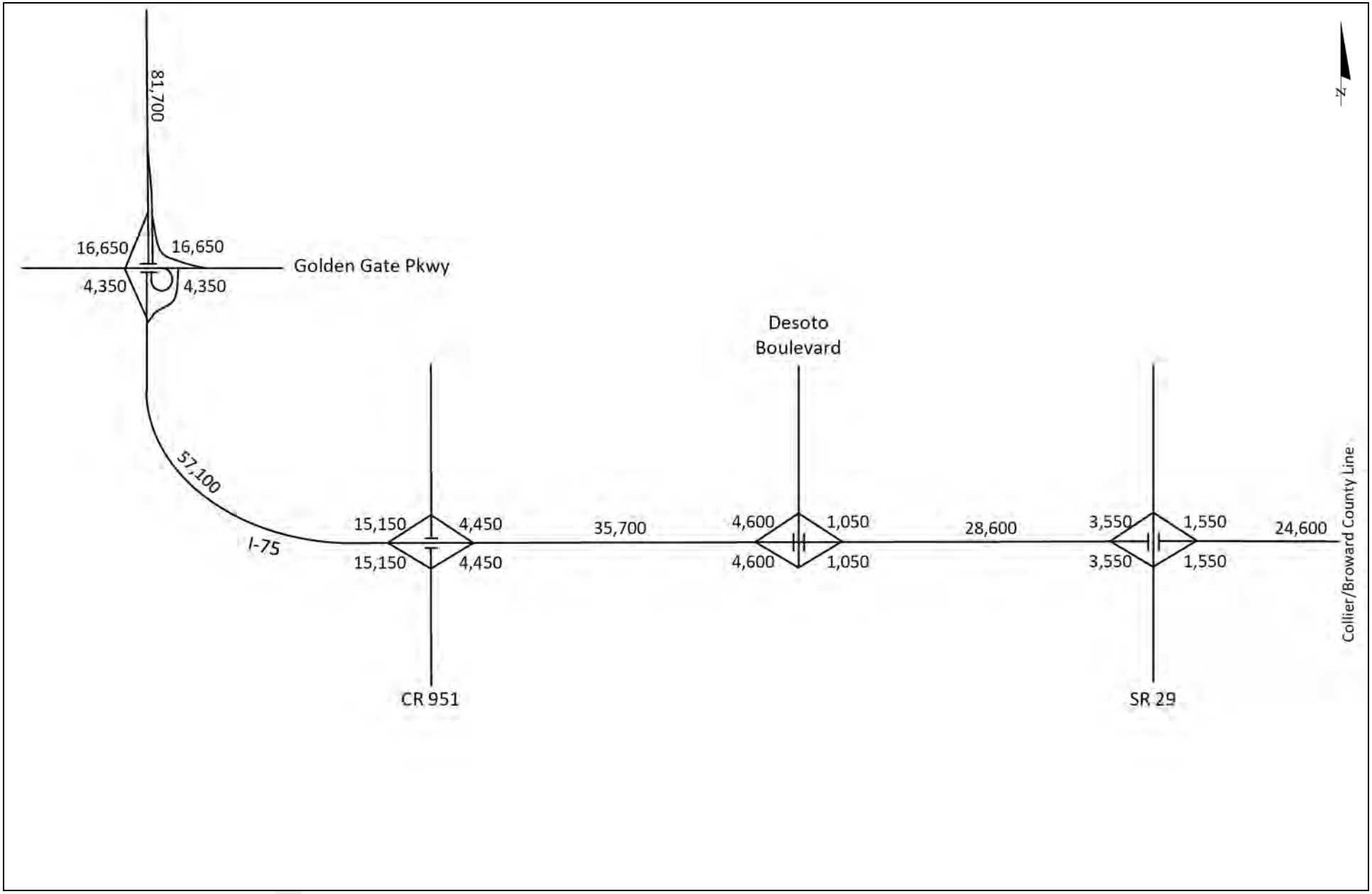


Figure 6-11: Opening Year (2019) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 5

Table 6-5: Design Year (2039) I-75 Mainline AADT Volume Comparison

I-75 Mainline Segment	Alternative 1	Alternative 3A	Alternative 3B	Alternative 4	Alternative 5
Between Broward County Line and SR 29	34,400	34,400	34,400	34,400	34,400
Between SR 29 and Everglades Blvd/Desoto Blvd	42,100	41,500	41,600	42,500	43,600
Between Everglades Blvd/Desoto Blvd and CR 951	42,100	41,500	41,600	65,900	60,300
Between CR 951 and Golden Gate Pkwy	84,500	84,000	86,000	92,500	91,400
Between Golden Gate Pkwy and Pine Ridge Rd	111,700	110,800	112,000	111,900	112,500

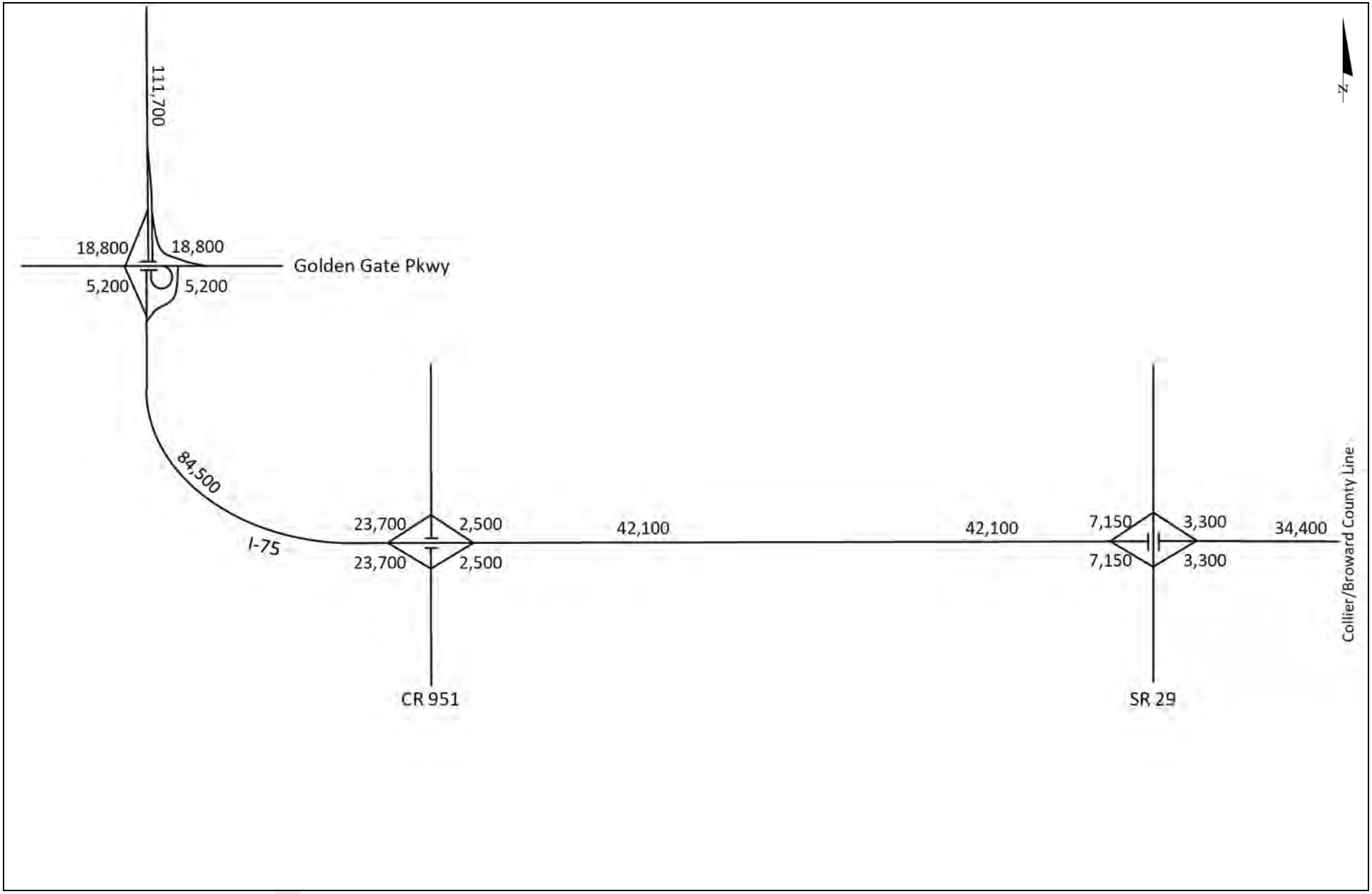


Figure 6-12: Design Year (2039) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 1

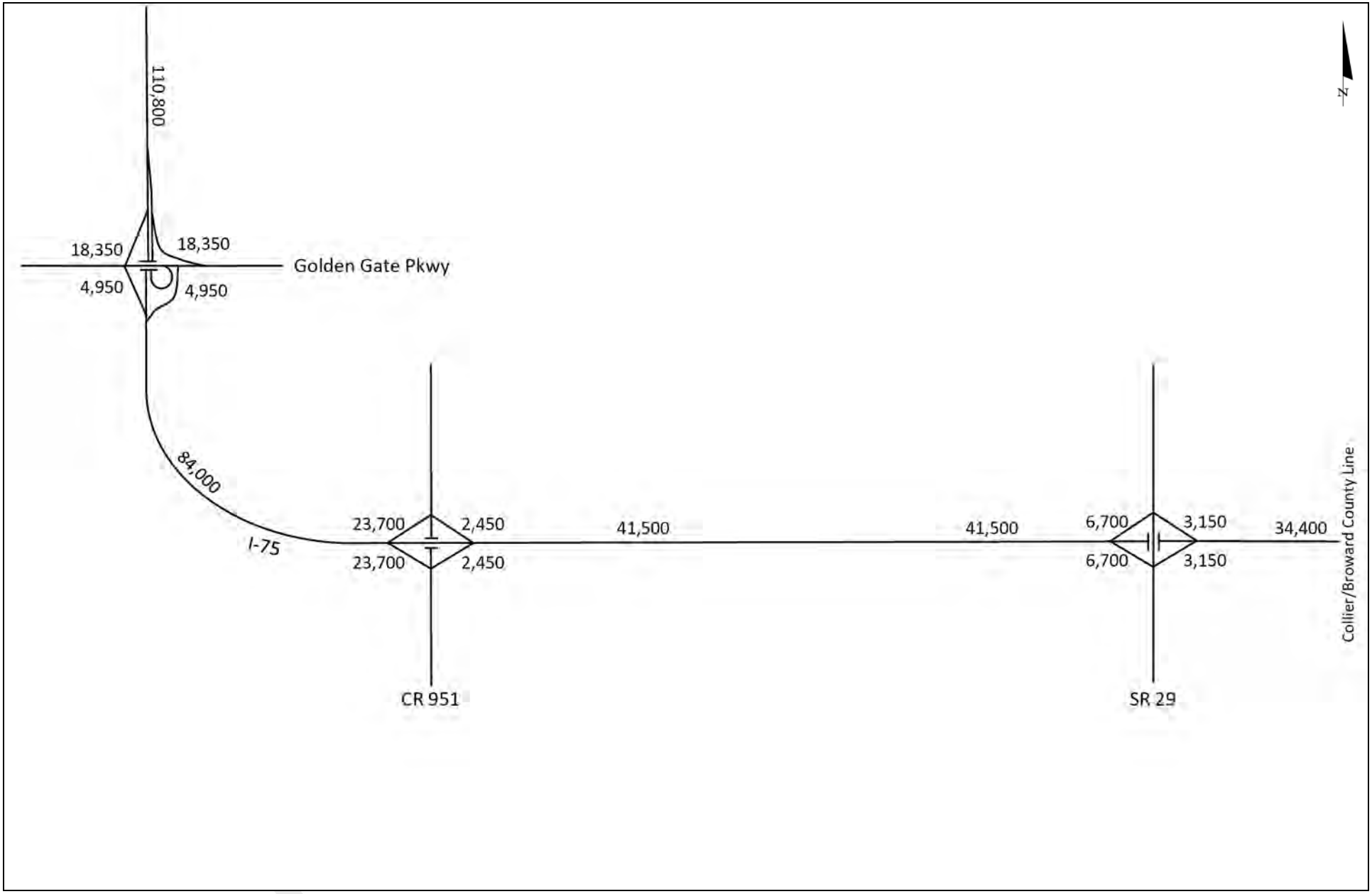


Figure 6-13: Design Year (2039) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 3A

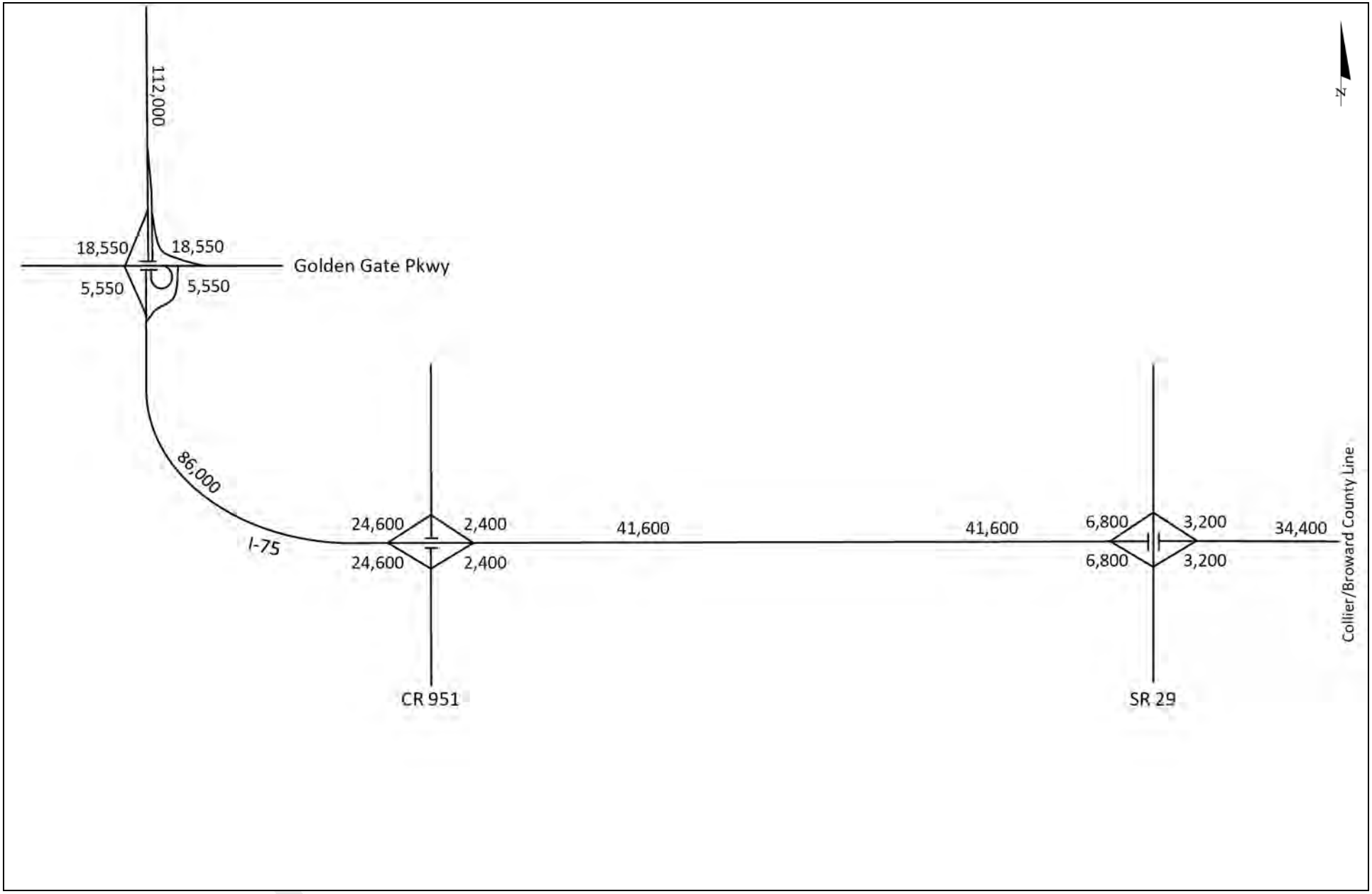


Figure 6-14: Design Year (2039) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 3B

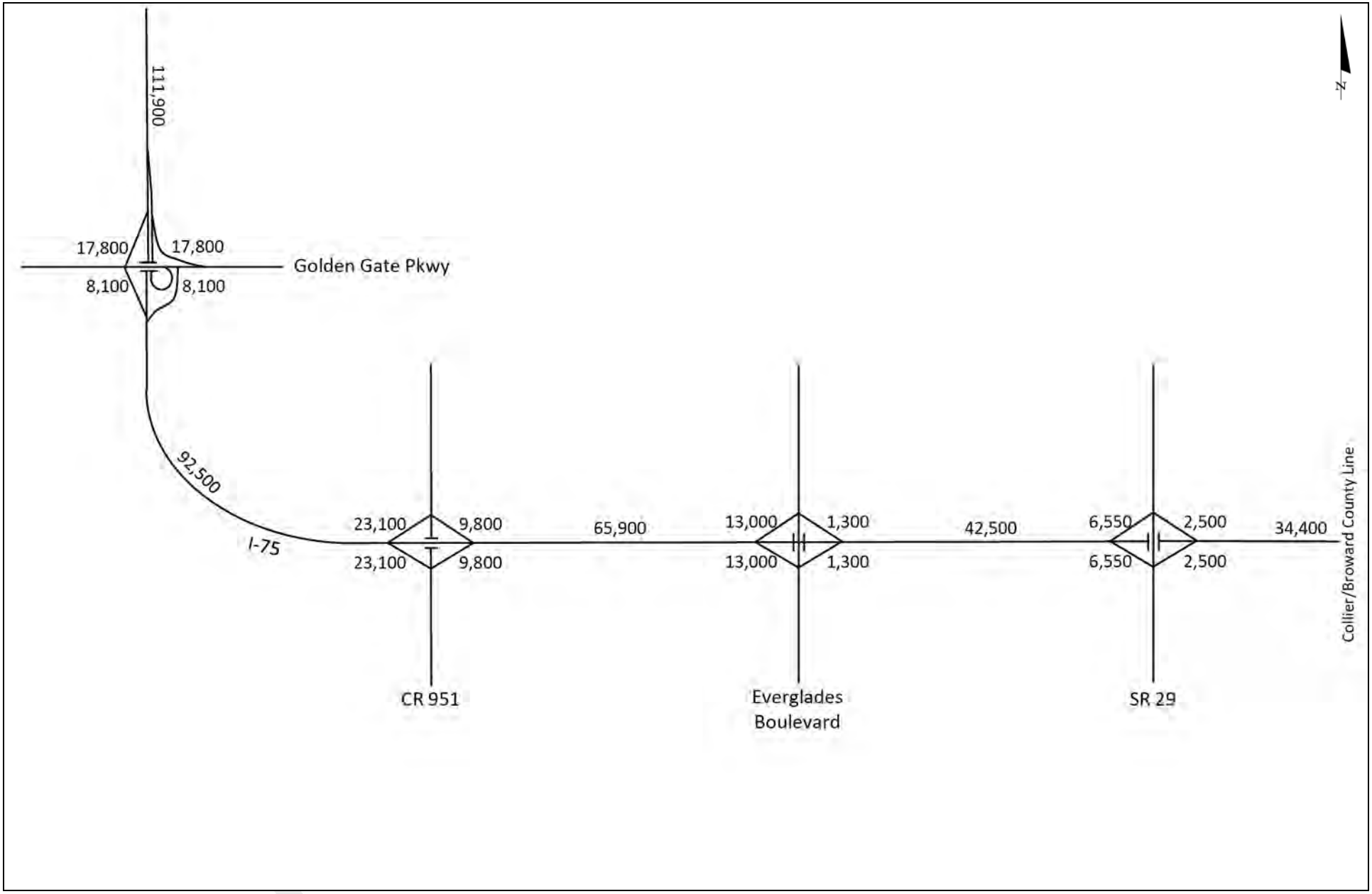


Figure 6-15: Design Year (2039) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 4

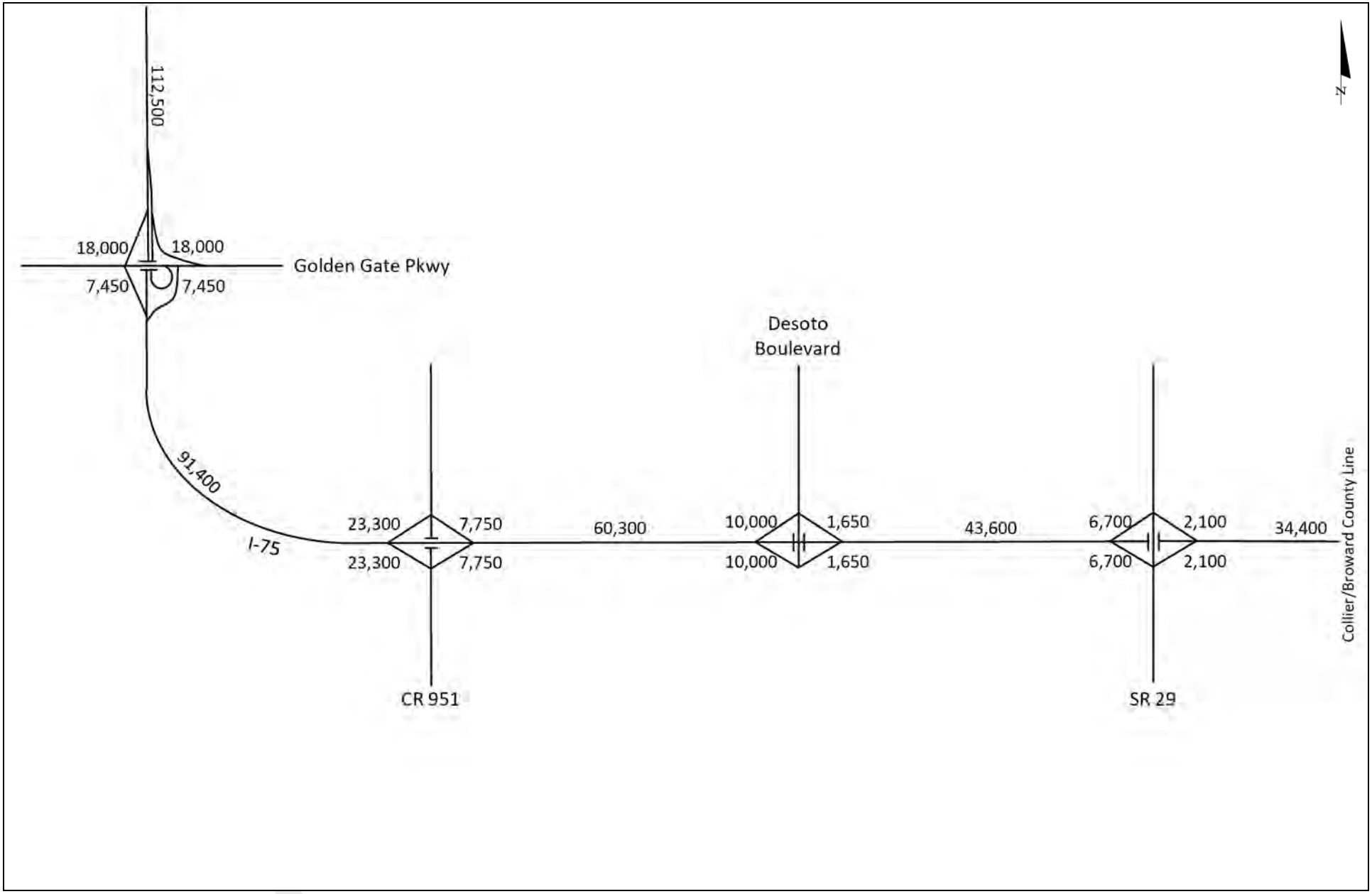


Figure 6-16: Design Year (2039) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 5

to 8,100 vehicles/day. A comparison of Figures 6-12 and 6-16 indicates that Alternative 5 is projected to increase the AADT volumes on the CR 951 ramps to/from the east from 2,500 vehicles/day) to 7,750 vehicles/day. Alternative 5 is also projected to increase the AADT volumes on the Golden Gate Parkway ramps to/from the south from 5,200 vehicles/day to 7,450 vehicles/day. A new interchange is also expected to reduce the AADT volumes on the SR 29 ramps to/from the east and on the Golden Gate Parkway ramps to/from the north. With Alternative 4, the magnitude of the daily volume reductions range from 600 vehicles/day (for the SR 29 ramps to/from the west and the CR 951 ramps to/from the west) to 1,000 vehicles/day (for the Golden Gate Parkway ramps to/from the north). With Alternative 5, the magnitude of the daily volume reductions ranges from 450 vehicles/day (for the CR 951 ramps to/from the west) to 1,200 vehicles/day (for the SR 29 ramps to/from the east).

In summary, the results of the opening year and design year travel demand modeling indicate that there is a demand for a new interchange on I-75 between CR 951 and SR 29. With Alternative 4, approximately 12,700 vehicles/day are projected to use the new interchange in 2019. In contrast, with Alternative 5, approximately 11,300 vehicles/day are projected to use the new interchange in 2019. The demand for new interstate access is projected to increase significantly between 2019 and 2039. With Alternative 4, approximately 28,600 vehicles/day are projected to use the new interchange in 2039, and with Alternative 5, approximately 23,300 vehicles/day are projected to use the new interchange in 2039.

6.2.3 Interim Year (2029)

The interim year (2029) AADT volumes projected for the I-75 mainline segments from east of the SR 29 interchange to north of the Golden Gate Parkway interchange are illustrated in Table 6-6. Since there were no significant differences in the 2019 or 2039 AADT volumes projected for I-75 for the three alternatives that do not include a new interchange, the 2029 travel demand modeling was only conducted for Alternatives 1, 4 and 5. With Alternative 4, the I-75 mainline volume is projected to increase by approximately 21,100 vehicles/day between Everglades Boulevard and CR 951 and by approximately 8,600 vehicles/day between CR 951 and Golden Gate Parkway. With Alternative 5, the I-75 mainline volume is projected to increase by approximately 17,200 vehicles/day between Desoto Boulevard and CR 951 and by approximately 6,400 vehicles/day between CR 951 and Golden Gate Parkway. Once again, north of the Golden Gate Parkway interchange, the I-75 mainline volumes are essentially the same for all three alternatives with the maximum difference between alternatives being approximately 3.0%.

The interim year (2029) AADT volumes projected for the I-75 interchange ramps are illustrated in Figures 6-17, 6-18 and 6-19. A comparison of Figures 6-17 and 6-18 indicates that Alternative 4 is projected to increase the AADT volumes on the CR 951 ramps to/from the east from 1,900 vehicles/day (each direction) to 7,700 vehicles/day. Alternative 4 is also projected to increase the AADT volumes on the Golden Gate Parkway ramps to/from the south from 3,950 vehicles/day to 6,200 vehicles/day. A comparison of Figures 6-17 and 6-19 indicates that Alternative 5 is projected to increase the AADT volumes on the CR 951 ramps to/from the east from 1,900 vehicles/day to 7,000 vehicles/day. Alternative 5 is also projected to increase the AADT volumes on the Golden Gate Parkway ramps to/from the south from 3,950 vehicles/day to 5,950 vehicles/day.

Table 6-6: Interim Year (2029) I-75 Mainline AADT Volume Comparison

I-75 Mainline Segment	Alternative 1	Alternative 4	Alternative 5
Between Broward County Line and SR 29	29,400	29,400	29,400
Between SR 29 and Everglades Blvd/Desoto Blvd	32,400	33,600	34,200
Between Everglades Blvd/Desoto Blvd and CR 951	32,400	53,500	49,600
Between CR 951 and Golden Gate Pkwy	68,100	76,700	74,500
Between Golden Gate Pkwy and Pine Ridge Rd	94,200	97,100	95,700

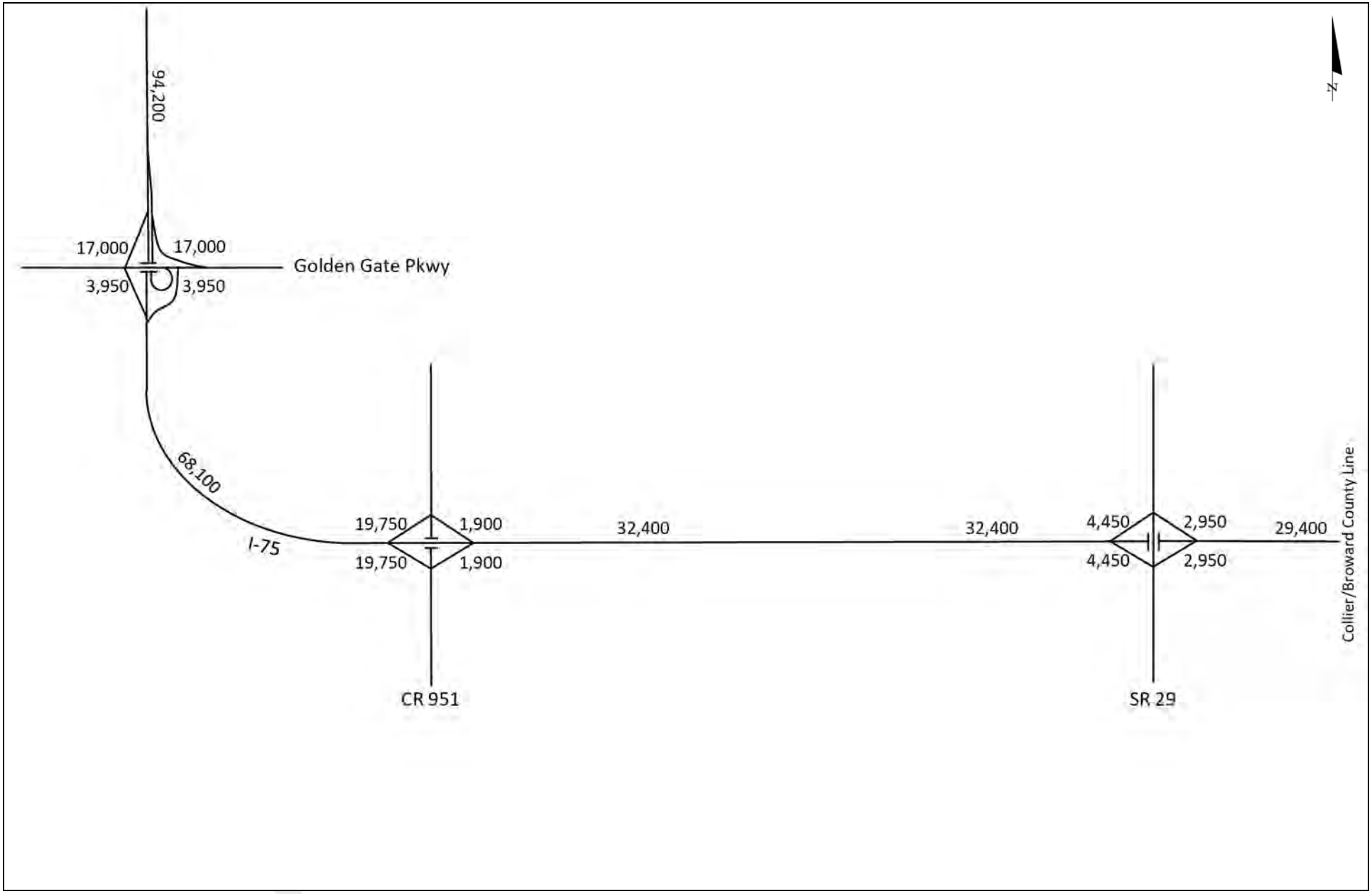


Figure 6-17: Interim Year (2029) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 1

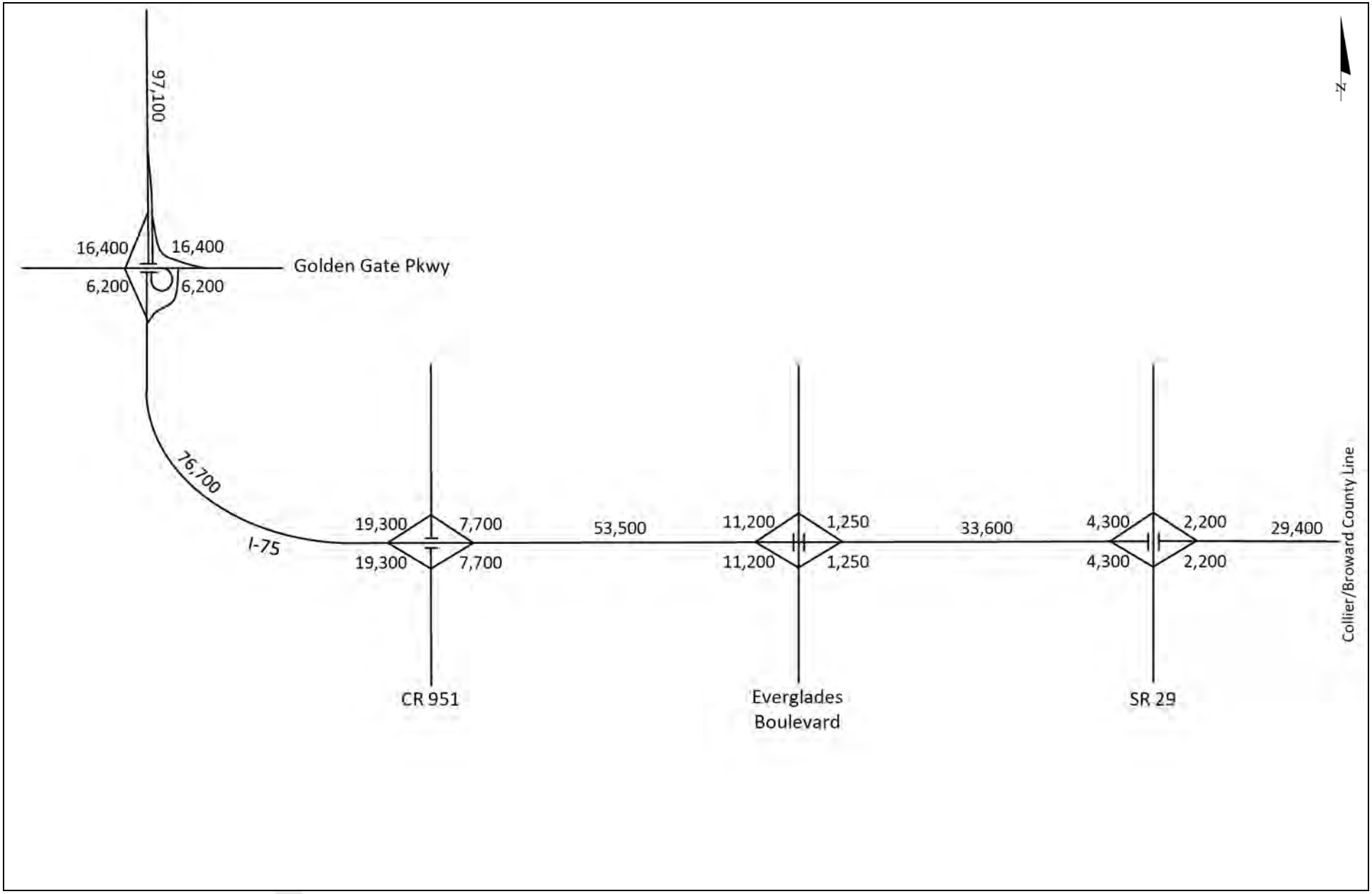


Figure 6-18: Interim Year (2029) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 4

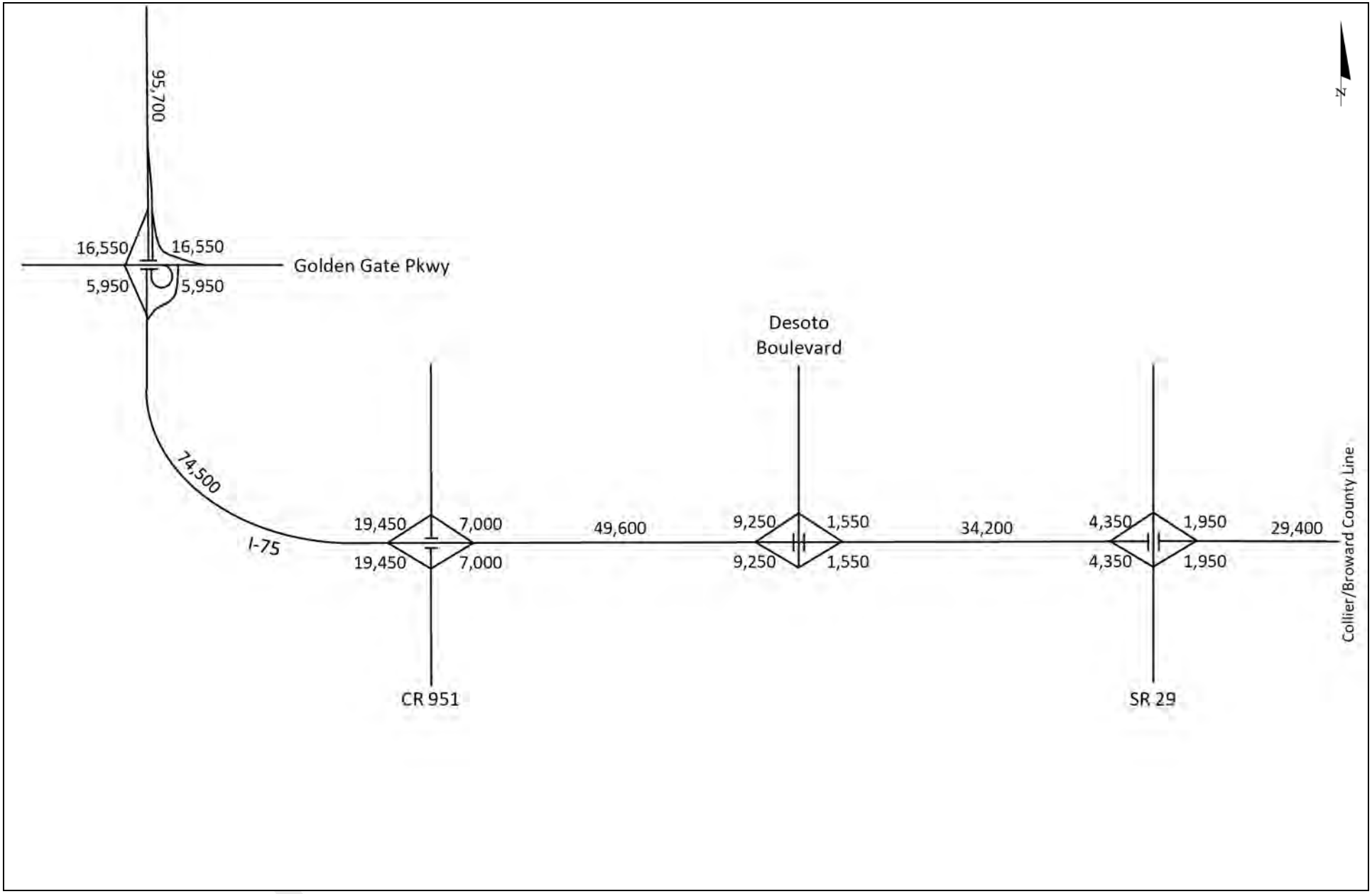


Figure 6-19: Interim Year (2029) I-75 Mainline (Two-Way) and Ramp AADT Volumes – Alternative 5

A new interchange is also expected to reduce the AADT volumes on the other ramps at the three existing interchanges. With Alternative 4, the magnitude of the daily volume reductions ranges from 150 vehicles/day (for the SR 29 ramps to/from the west) to 750 vehicles/day (for the SR 29 ramps to/from the east). With Alternative 5, the magnitude of the daily volume reductions range from 100 vehicles/day (for the SR 29 ramps to/from the west) to 1,000 vehicles/day (for the SR 29 ramps to/from the east).

It should be noted that a comparison of the 2029 and 2039 AADT volumes projected by the travel demand model for the Desoto Boulevard interchange ramps to/from the east, indicated that the 2039 volumes were projected to be slightly lower than the 2029 volumes. A similar review of the 2029 and 2039 AADT volumes projected by the travel demand model for the Everglades Boulevard interchange ramps to/from the east indicated that this same situation was not projected to occur (i.e., the 2039 ramp volumes were projected to be higher than the 2029 volumes). It was believed that the Desoto Boulevard ramps were likely being affected by the amount of future land use projected to occur between 2029 and 2039 in the area located east of Desoto Boulevard and north of Randall Boulevard. Although changes in travel patterns can occur over time as the spatial distribution and density of future land uses change, the slight decrease in the design year AADT volumes for the ramps on the east side of the Desoto Boulevard interchange did not seem reasonable.

Consequently, the 2039 AADT volumes on the ramps to/from the east were adjusted slightly. The ratio of the 2039 and 2029 AADT volumes projected for the Everglades Boulevard ramps to/from the east was calculated and then used to multiply the 2029 AADT volumes for the Desoto Boulevard ramps. The 2039 AADT volumes projected for the SR 29 ramps to/from the east were reduced by the same amount that was added to the Desoto Boulevard ramps. The magnitude of this adjustment was approximately 350 vehicles/day for each of the ramps. The design year volumes documented previously in Section 6.2.2 of this report for Alternative 5 reflect this slight adjustment.

The results of the interim year travel demand modeling indicate that by the year 2029, approximately 24,900 vpd are projected to use the Everglades Boulevard interchange while approximately 21,600 vpd are projected to use the Desoto Boulevard interchange. A comparison of the 2029 and 2039 AADT volumes for these interchanges indicates that most of the design year demand is projected to occur by 2029.

6.1 Peak Hour Traffic Volumes

The traffic characteristics factors that were included in the approved MLOU for the FDOT District One I-75/SR 951 Interchange Modification Report/PD&E Study were different for the east and west sides of the I-75/SR 951 interchange. A K_{30}-factor = 12.4% and a D_{30}-factor = 56.5% was recommended for use on the east side of the interchange while a K_{30}-factor = 9.4% and a D_{30}-factor = 53.6% was recommended for use on the west side of the interchange. According to the I-75/SR 951 MLOU, different factors were recommended based on the fact that I-75 is characterized as an urban principal arterial west of SR 951 and a rural principal arterial east of SR 951. A third set of factors (i.e., K_{30}-factor = 10.2% and D_{30}-factor = 56.0%) was recommended for use with SR 951.

Although the eastern portion of I-75 is located in the rural portion of Collier County and the western/northern portion of I-75 is located in the urbanized portion of Collier County, the implementation of using different K- and D-factors to derive the peak hour volumes on either side of an I-75/SR 951 interchange was problematic. The only way to accomplish this is to use two additional sets of K- and D-factors for the interchange ramps (i.e., one set of factors for the on-/off-ramps located on one side of the interchange and a second set of factors for the on-/off-ramps located on the other side of the interchange). In addition, the implementation of a new interchange on I-75 at either Everglades Boulevard or Desoto Boulevard will cause shifts in travel patterns that will result in increases/decreases in the adjacent interchange ramp volumes. If different K- and D-factors are used to derive the peak hour volumes for the adjacent interchanges east and west of the I-75/SR 951 interchange (including the new interchange), the true magnitude of the projected peak hour traffic diversions is difficult to determine.

Consequently, one K_{30}-factor and one D_{30}-factor were selected for use with all of the IJR study area interchanges. A K_{30}-factor of 11.0% and a D_{30}-factor of 56.0% were used to derive the future year a.m. and p.m. peak hour volumes. These values are both slightly higher than the averages of the rural and urban K- and D-factors documented in the I-75/SR 951 Interchange MLOU. The K_{30}-factor value of 11.0% is also approximately equal to the average of the K_{30}-factors recorded at the two I-75 telemetered (i.e., permanent) count stations located within Collier County. In addition, the D_{30}-factor value of 56.0% is only 1.0% lower than the average of the D_{30}-factors recorded at these two telemetered count stations.

The opening year (2019) peak hour volumes for the I-75 mainline and interchange ramps are graphically illustrated in Figures 6-20 through 6-24, while the design year (2039) peak hour volumes for the mainline and ramps are graphically illustrated in Figures 6-25 through 6-29. Figures 6-30 through 6-32 depict the interim year (2029) peak hour mainline and interchange ramp volumes. Since the primary future land use within the study area is projected to be residential, it was assumed that a majority of the future year traffic generated within the study area will leave the study area in the morning and return in the evening. Consequently, it was assumed that between SR 29 and Golden Gate Parkway, the peak travel directions were westbound/northbound in the a.m. peak hour and southbound/eastbound in the p.m. peak hour.

The future year peak hour volumes for the I-75 ramp terminal intersections were obtained using the following procedure. First, the daily turning movement volumes were obtained from the travel demand model and the daily volumes for reciprocal movements were averaged to obtain “balanced” volumes for these movements. Next, the balanced daily turning movement volumes were multiplied by the K_{30}-factor to obtain the two-way peak hour turning movement volumes. The peak direction peak hour turning movement volumes were then estimated by multiplying the two-way peak hour volumes by the D_{30}-factor. Lastly, the off-peak direction peak hour turning movement volumes were derived by subtracting the peak direction volumes from the two-way peak hour volumes.

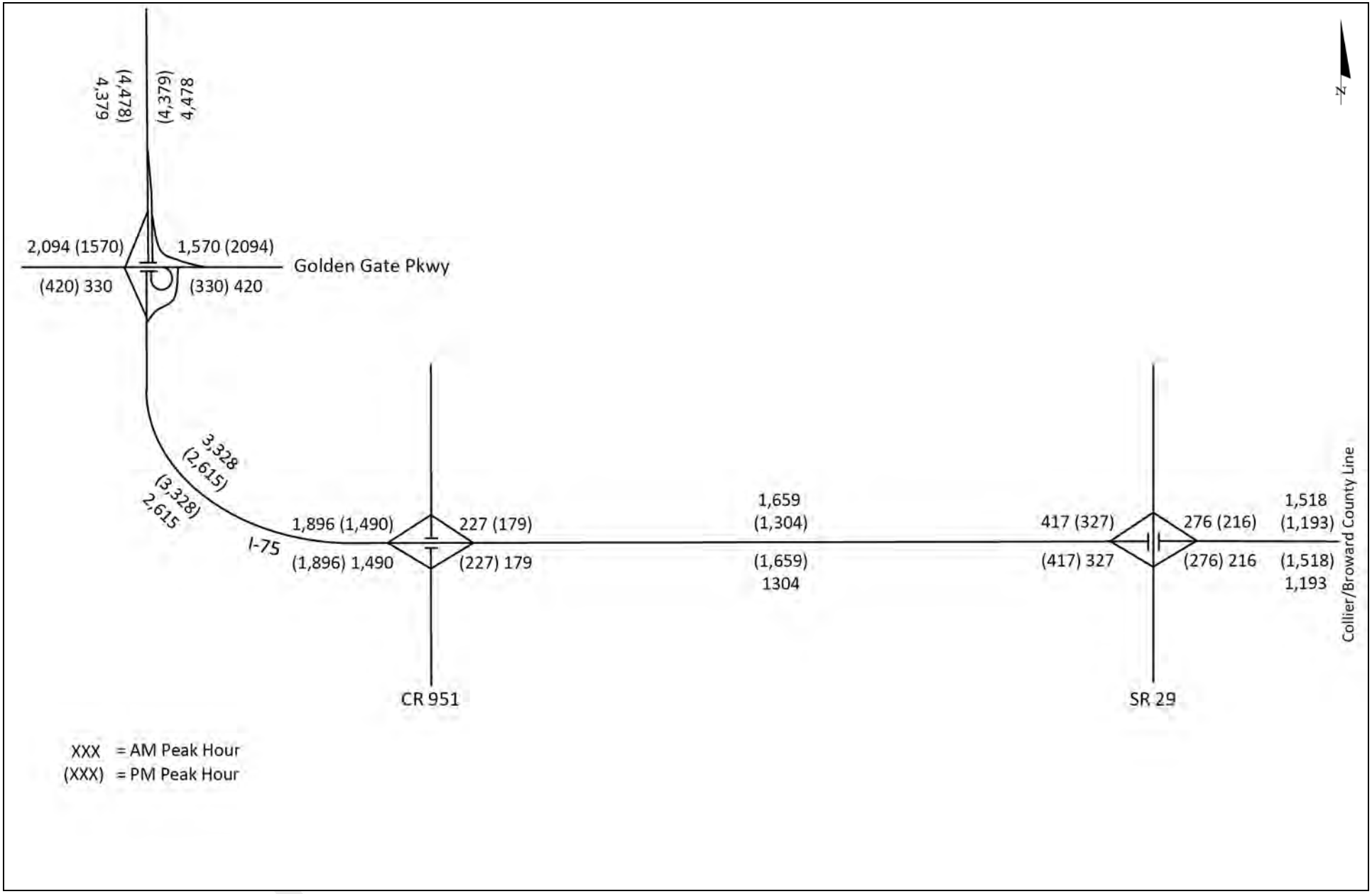


Figure 6-20: Opening Year (2019) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 1

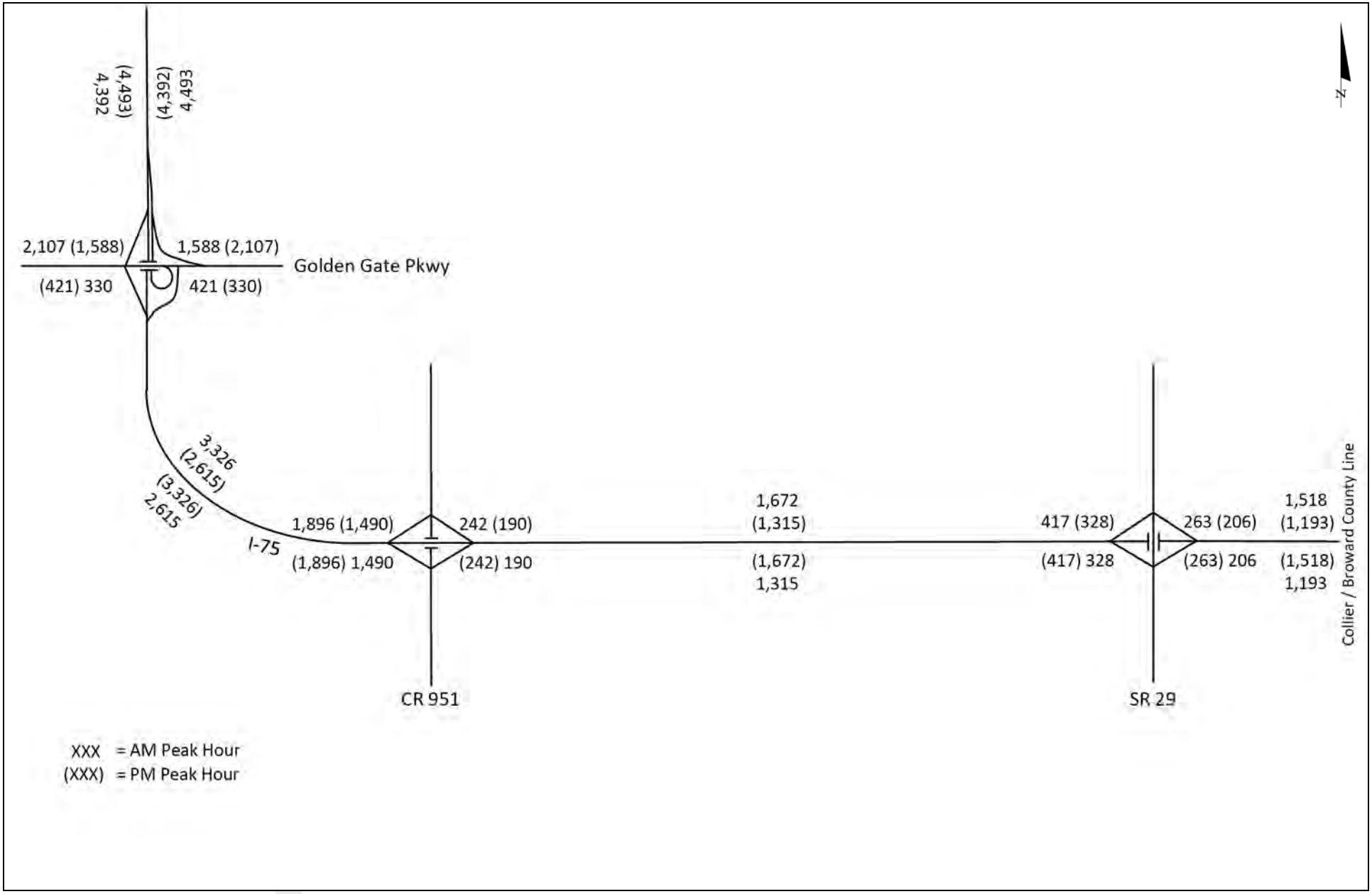


Figure 6-21: Opening Year (2019) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 3A

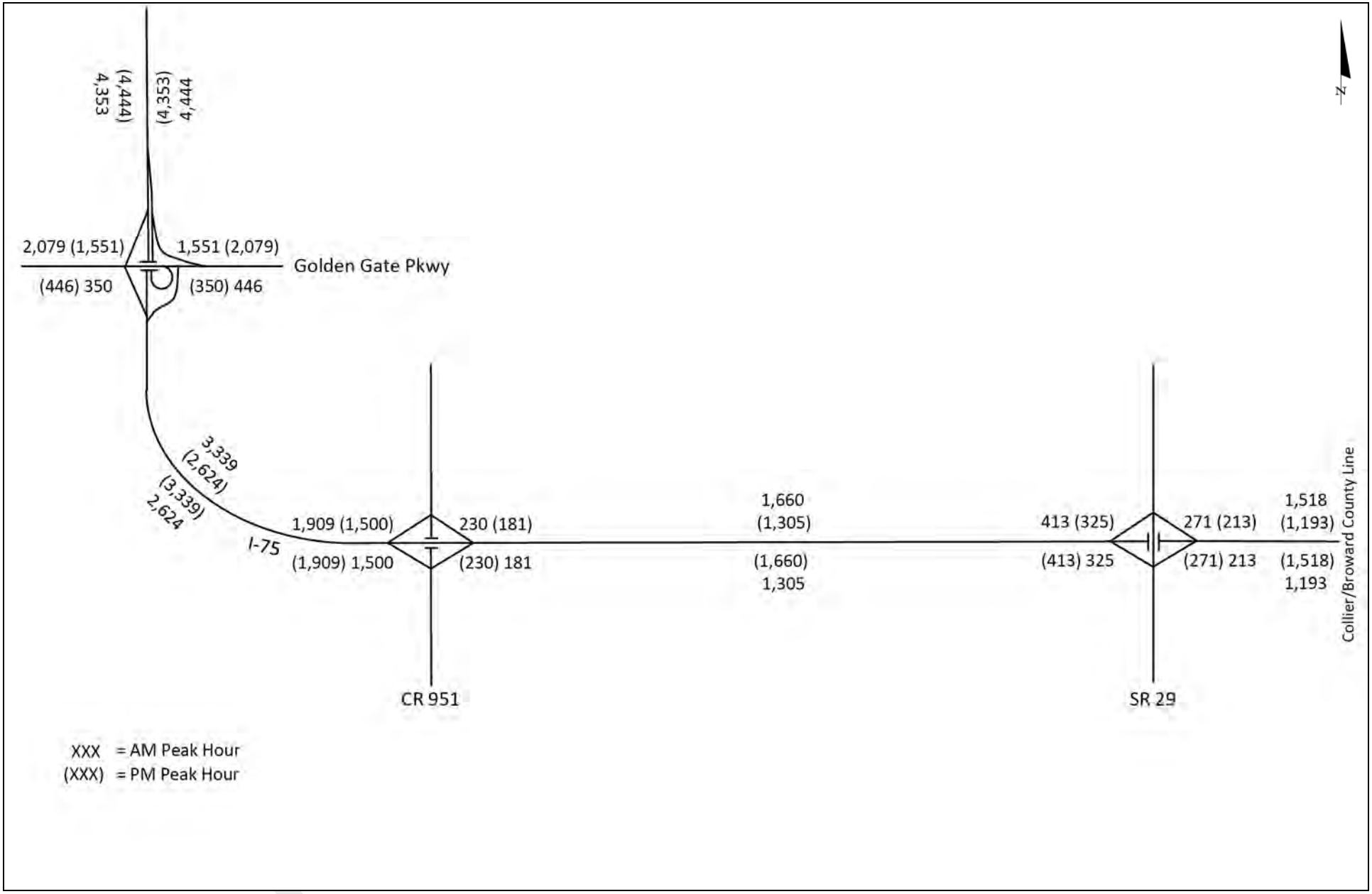


Figure 6-22: Opening Year (2019) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 3B

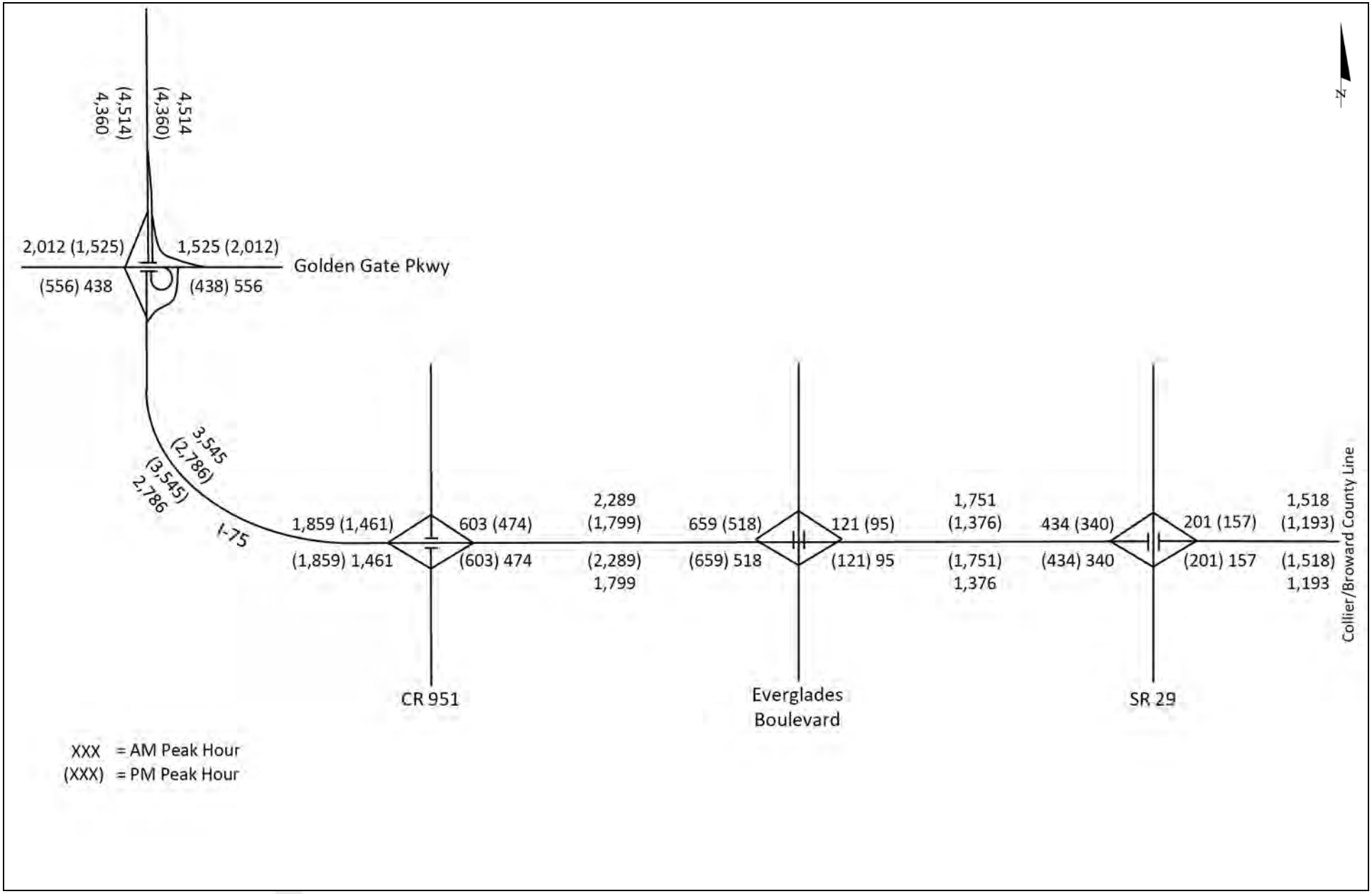


Figure 6-23: Opening Year (2019) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 4

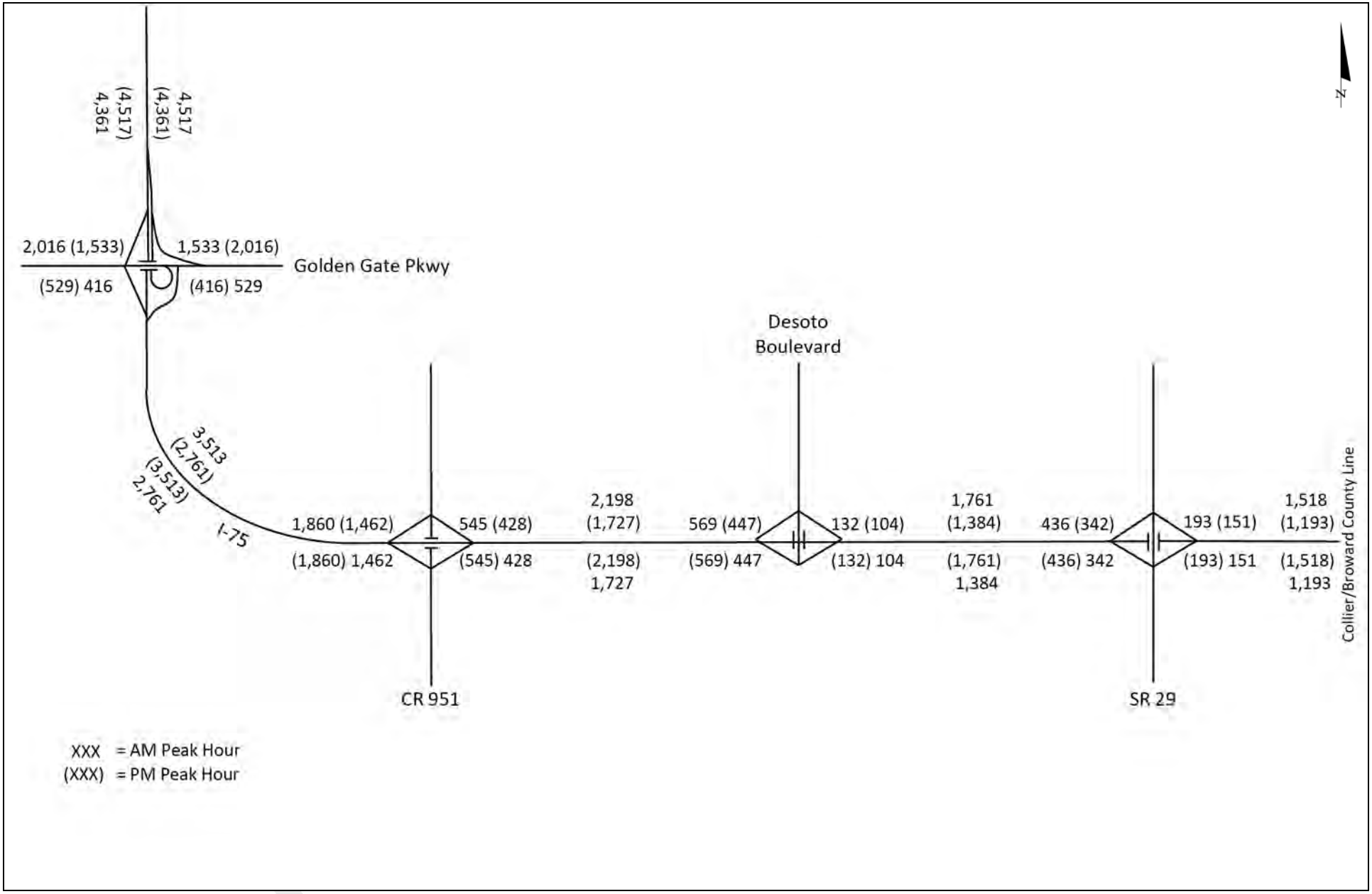


Figure 6-24: Opening Year (2019) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 5

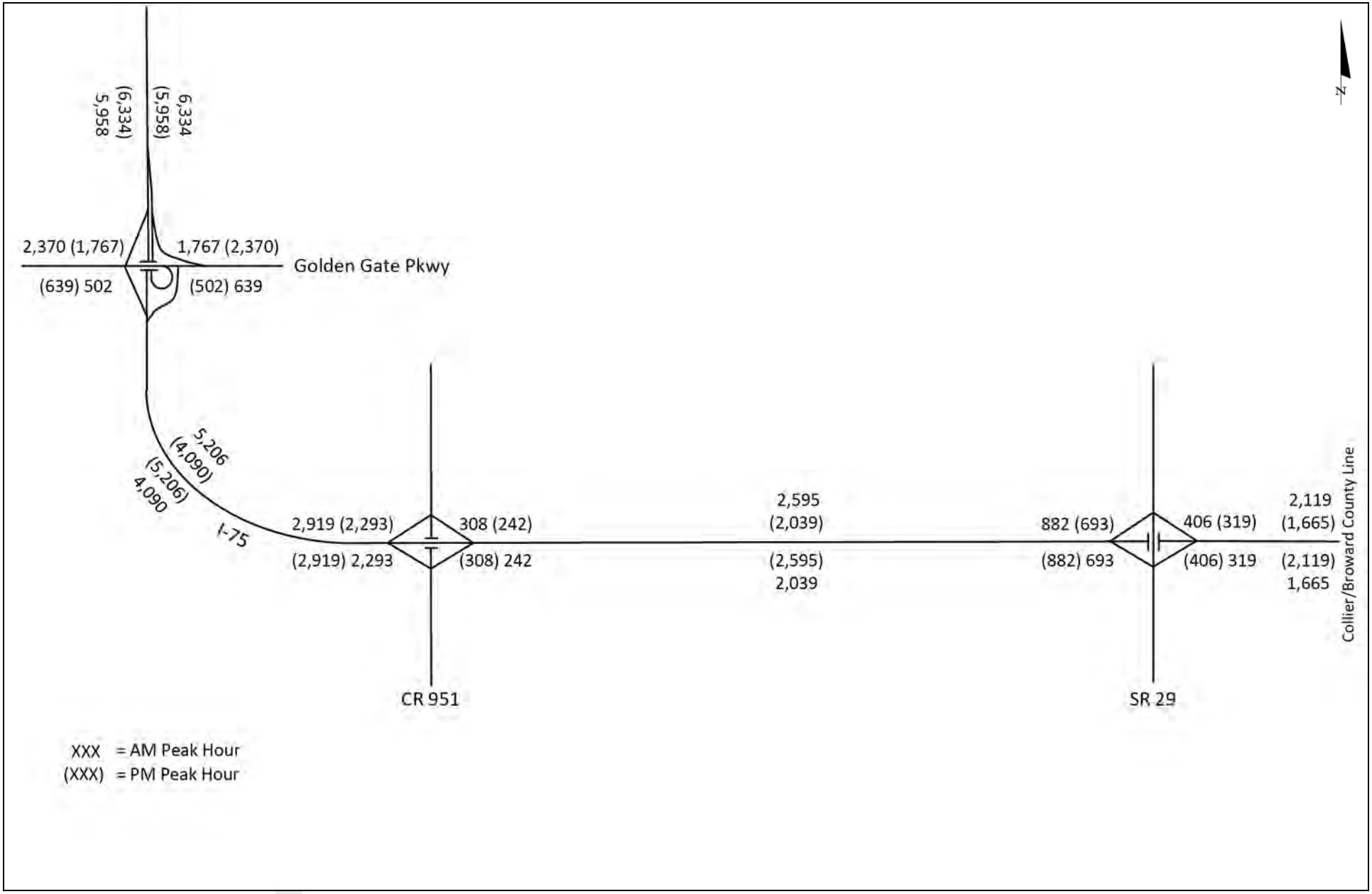


Figure 6-25: Design Year (2039) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 1

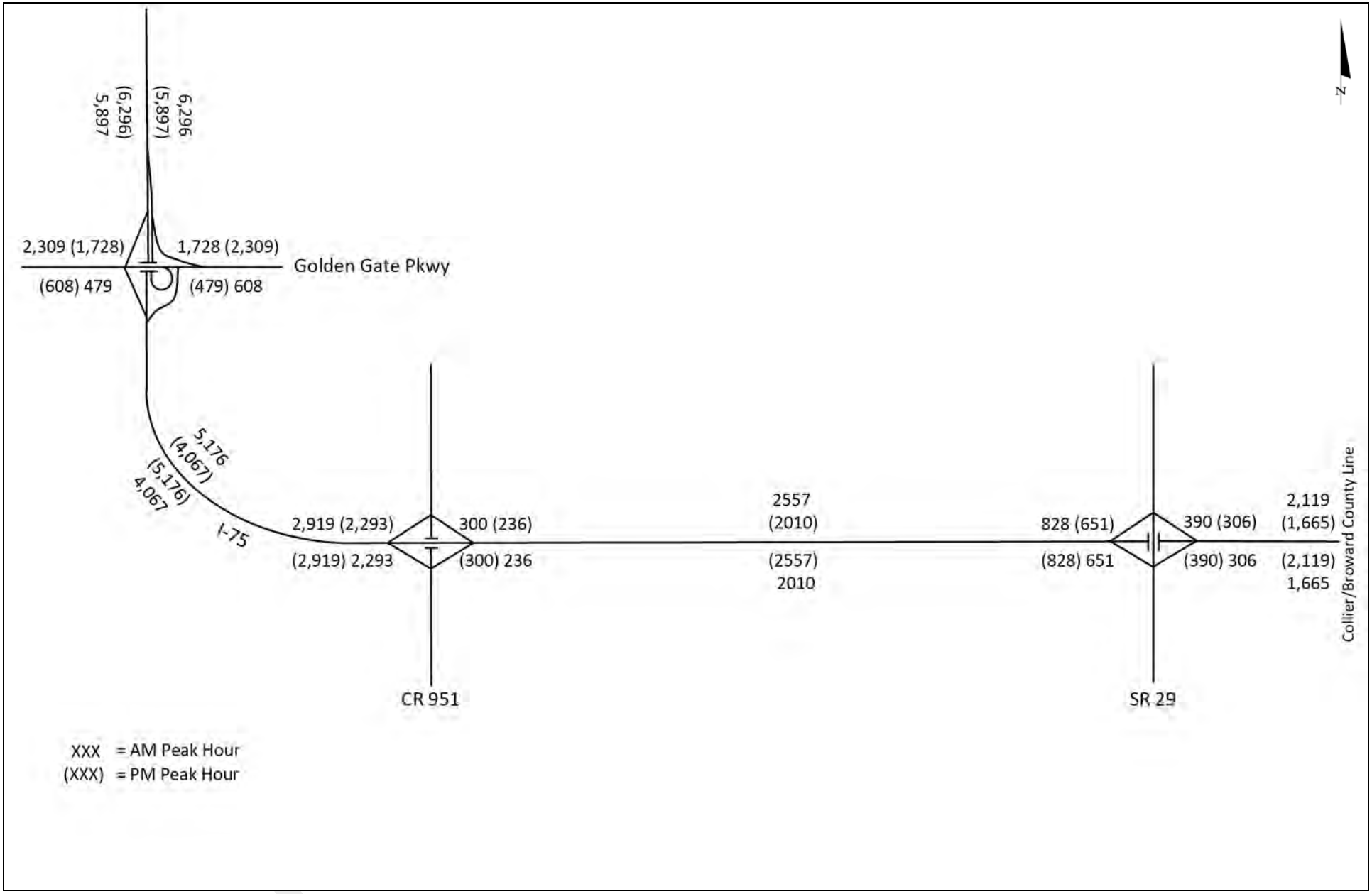


Figure 6-26: Design Year (2039) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 3A

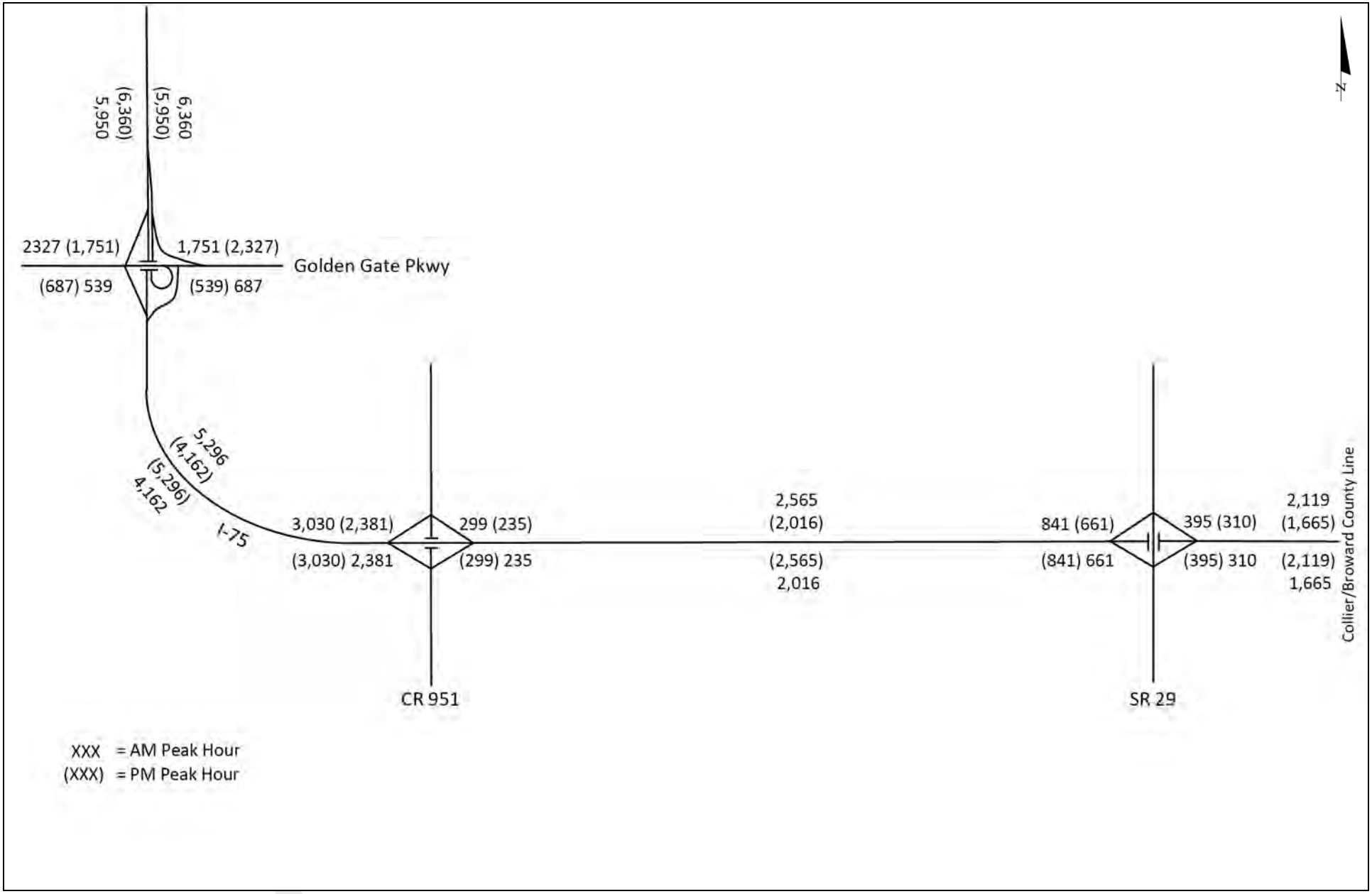


Figure 6-27: Design Year (2039) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 3B

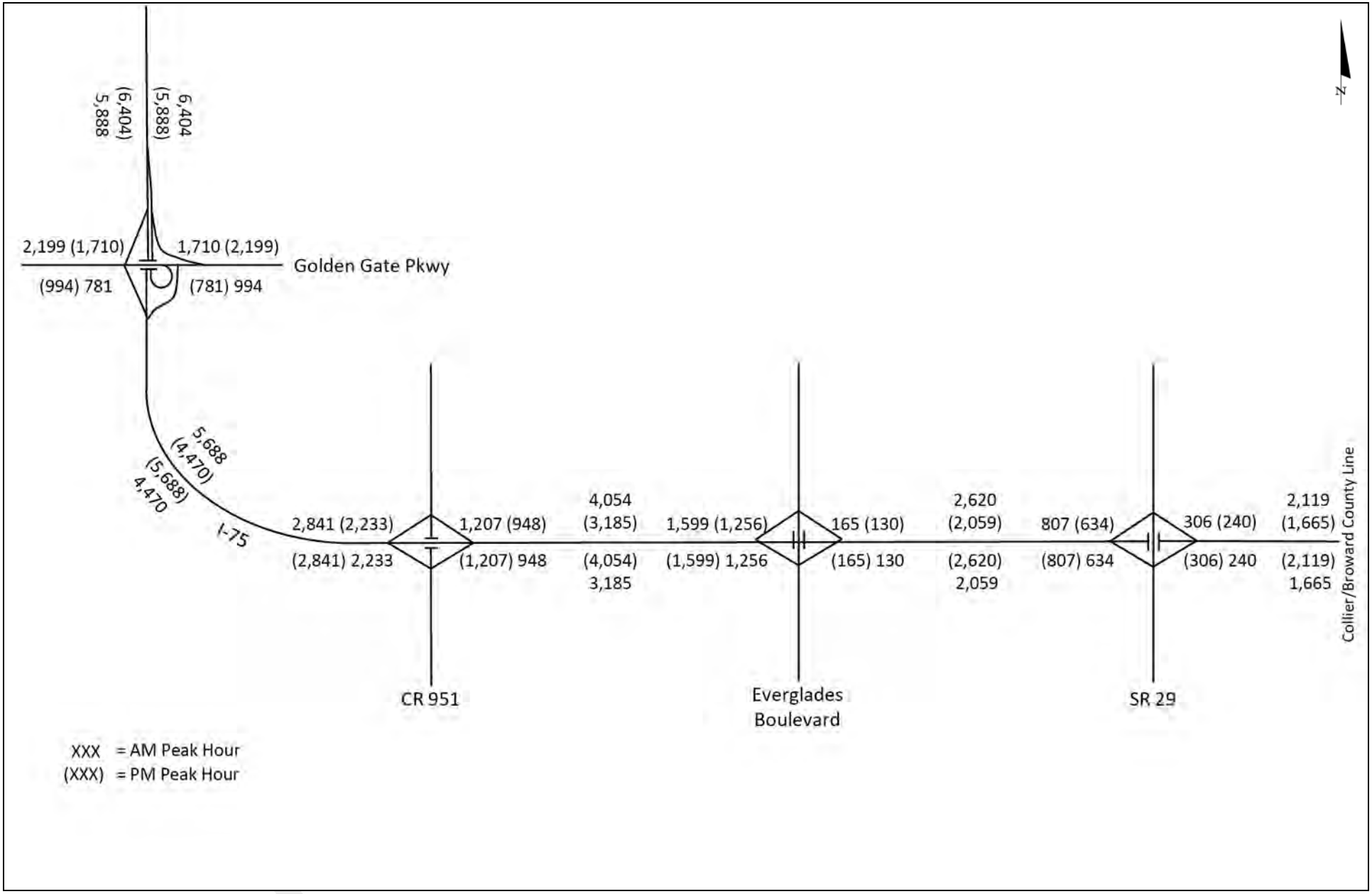


Figure 6-28: Design Year (2039) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 4

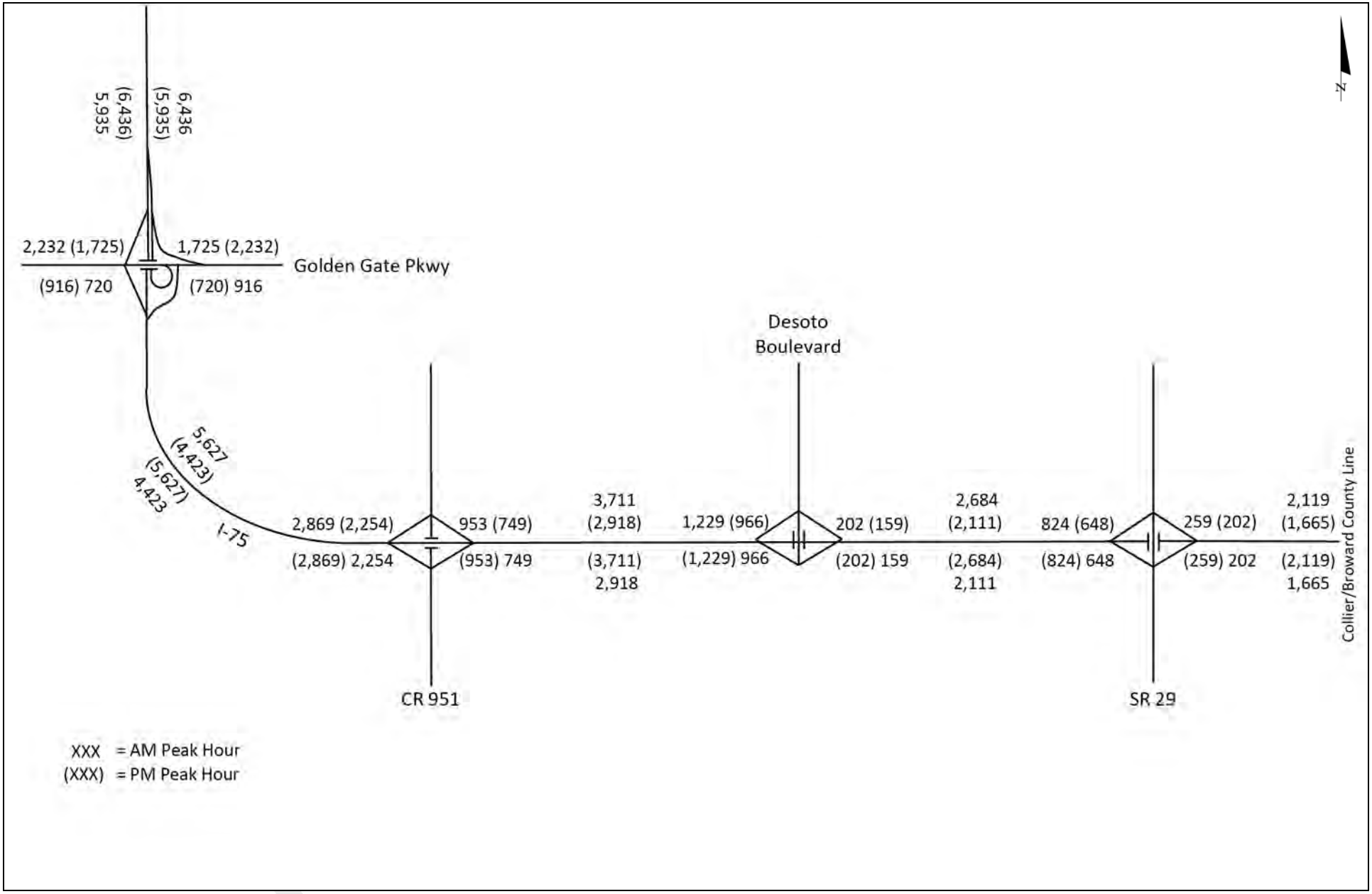


Figure 6-29: Design Year (2039) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 5

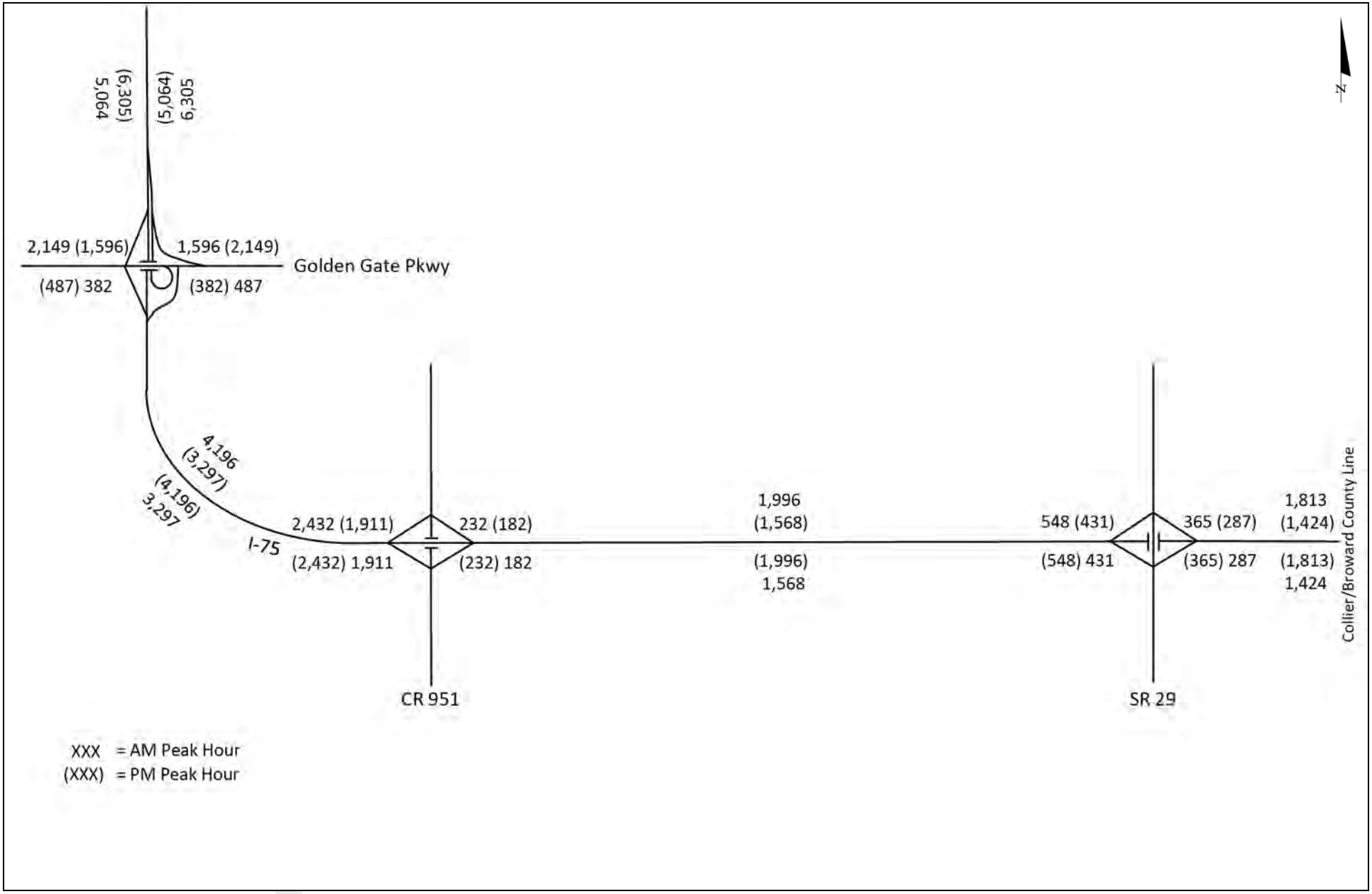


Figure 6-30: Interim Year (2029) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 1

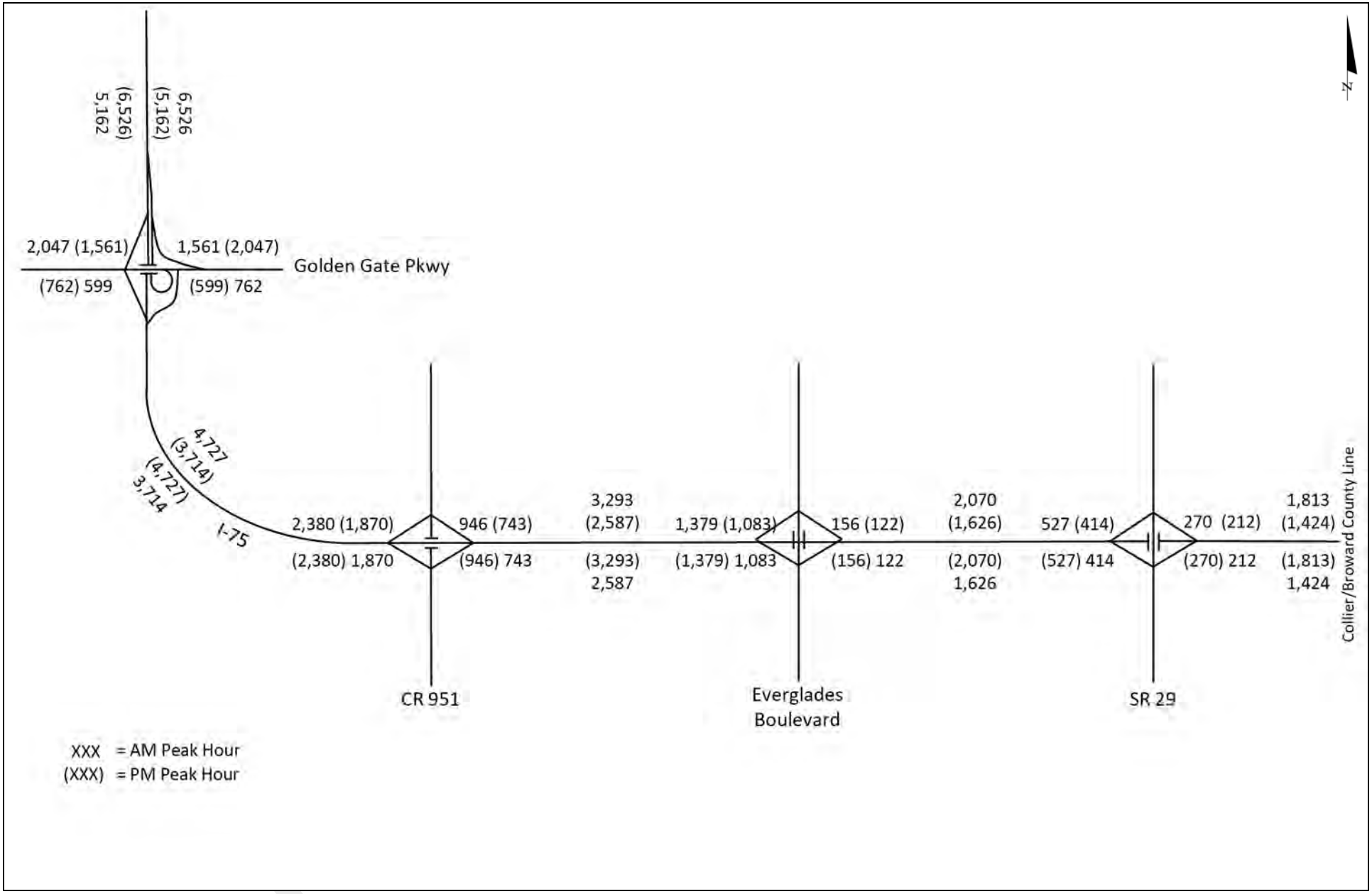


Figure 6-31: Interim Year (2029) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 4

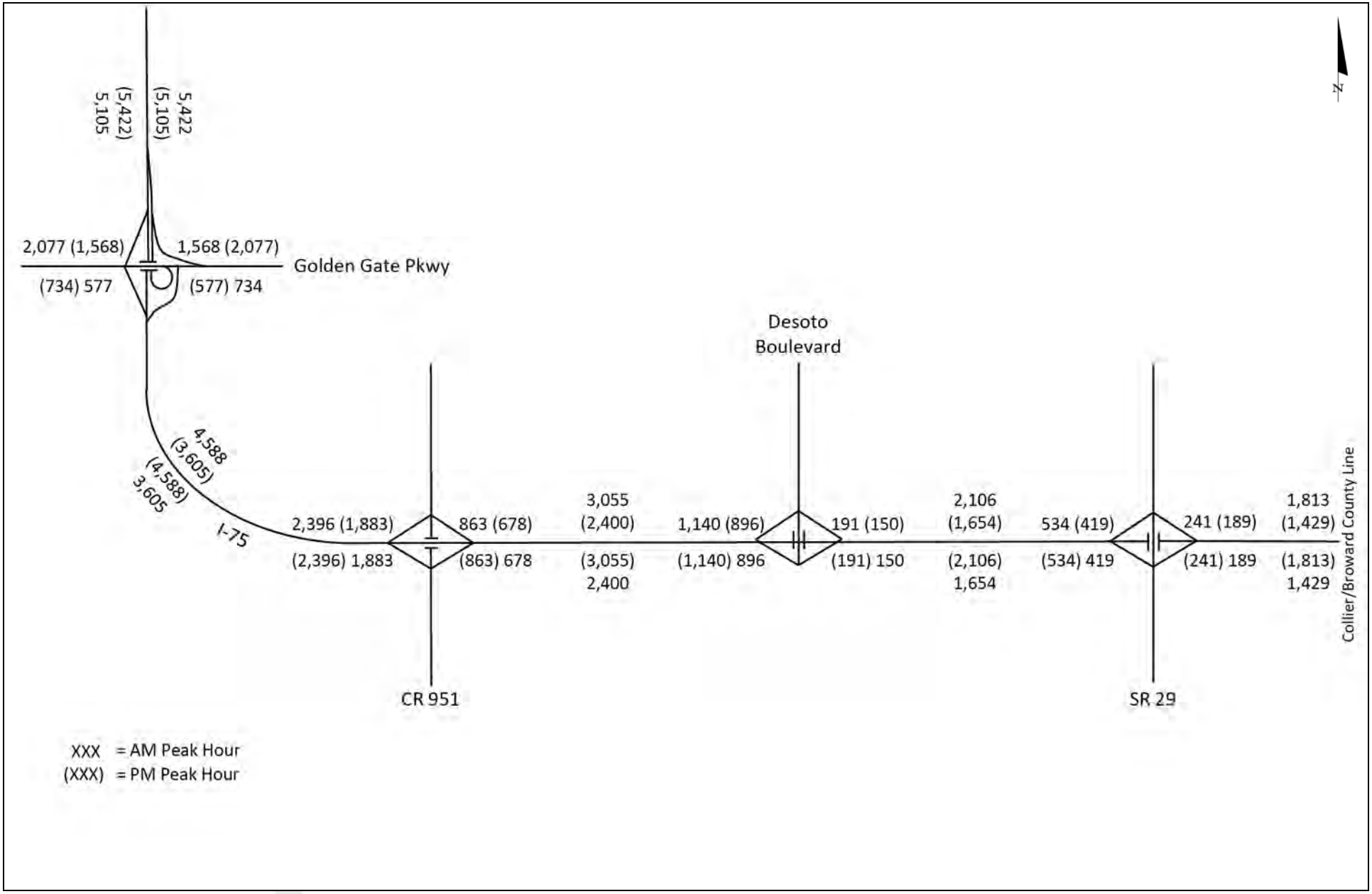


Figure 6-32: Interim Year (2029) I-75 Mainline and Ramp Peak Hour Volumes – Alternative 5

7.0 FUTURE YEAR I-75 TRAFFIC OPERATIONS

The future year peak hour levels of service for the I-75 mainline segments and interchange on/off-ramps were estimated using the HCS. The level of service analysis was conducted for the following interchanges:

- I-75/SR 29
- I-75/Everglades Boulevard or I-75/Desoto Boulevard (for Alternatives 4 and 5 only)
- I-75/CR 951
- I-75/Golden Gate Parkway

The I-75 mainline segment level of service analysis was conducted using a base free-flow speed of 75.0 miles/hour and a peak hour heavy vehicle percentage of 6.0%. Two different driver population factors (f_p) were used. A value of 1.00 was used for the portion of I-75 between CR 951 and Golden Gate Parkway. A driver population factor equal to 0.90 was used for the portion of I-75 between SR 29 and CR 951 (for the alternatives that did not include a new interchange) and also for the portion of I-75 between SR 29 and the new interchange for the two alternatives that include a new interchange (i.e., Alternatives 4 and 5). This value was used to reflect the fact that this portion of I-75 would be expected to have a higher number of occasional drivers Lastly, a driver population factor equal to 1.00 was used for the portion of I-75 between the new interchange and CR 951 (for Alternatives 4 and 5) to reflect the fact that the new interchange would primarily be serving commuters living in the Golden Gate Estates. A heavy vehicle percentage of 6.0% was used for all on/off-ramps except the SR 29 interchange ramps. A heavy vehicle percentage of 22.0% was used for the SR 29 on/off-ramps.

7.1 I-75 Mainline

7.1.1 Opening Year (2019)

Table 7-1 summarizes the peak direction I-75 mainline segment levels of service for the opening year (2019). The portion of I-75 from east of SR 29 to CR 951 is projected to operate at LOS B while the portion of I-75 from CR 951 to Golden Gate Parkway is projected to operate at LOS D for all five alternatives. The opening year HCS analyses for the I-75 mainline segments are provided in Appendix E.

7.1.2 Design Year (2039)

Table 7-2 summarizes the peak direction I-75 mainline segment levels of service for the design year (2039). The portion of I-75 east of SR 29 is still projected to operate at LOS B in the design year; however, the segment between SR 29 and CR 951 is projected to operate at LOS C if there is no new interchange on I-75. With Alternative 4, the segment between SR 29 and the new interchange is projected to operate at LOS C; however, the segment between the new interchange and CR 951 is projected to operate at LOS E. With Alternative 5, the segment between SR 29 and the new interchange is also projected to operate at LOS C while the segment between the new interchange and CR 951 is projected to operate at LOS D. The portion of I-75 between CR 951 and Golden Gate Parkway is projected to operate at LOS D for all five alternatives analyzed.

Table 7-1: Opening Year (2019) I-75 Mainline Segment Levels of Service

Segment		Alternative 1				Alternative 3A				Alternative 3B			
From	To	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS
East of SR 29	SR 29	2	1,518	12.9	B	2	1,518	12.9	B	2	1,518	12.9	B
SR 29	CR 951	2	1,659	14.1	B	2	1,672	14.2	B	2	1,660	14.1	B
SR 29	Desoto Blvd	-	-	-	-	-	-	-	-	-	-	-	-
SR 29	Everglades Blvd	-	-	-	-	-	-	-	-	-	-	-	-
Desoto Blvd	CR 951	-	-	-	-	-	-	-	-	-	-	-	-
Everglades Blvd	CR 951	-	-	-	-	-	-	-	-	-	-	-	-
CR 951	Golden Gate Pkwy	2	3,328	28.5	D	2	3,326	28.5	D	2	3,339	28.7	D
Golden Gate Pkwy	North of Golden Gate Pkwy	3	4,478	24.3	C	3	4,493	24.4	C	3	4,444	24.1	C

Segment		Alternative 4				Alternative 5			
From	To	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS
East of SR 29	SR 29	2	1,518	12.9	B	2	1,518	12.9	B
SR 29	CR 951	-	-	-	-	-	-	-	-
SR 29	Desoto Blvd	-	-	-	-	2	1,761	14.9	B
SR 29	Everglades Blvd	2	1,751	14.8	B	-	-	-	-
Desoto Blvd	CR 951	-	-	-	-	2	2,198	16.8	B
Everglades Blvd	CR 951	2	2,289	17.5	B	-	-	-	-
CR 951	Golden Gate Pkwy	2	3,545	31.5	D	2	3,513	31.0	D
Golden Gate Pkwy	North of Golden Gate Pkwy	3	4,514	24.6	C	3	4,517	24.6	C

veh/hr = Vehicles per Hour
pc/mi/ln = Passenger Cars per Mile per Lane

Table 7-2: Design Year (2039) I-75 Mainline Segment Levels of Service

Segment		Alternative 1				Alternative 3A				Alternative 3B			
From	To	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS
East of SR 29	SR 29	2	2,119	17.0	B	2	2,119	17.0	B	2	2,119	17.0	B
SR 29	CR 951	2	2,595	21.2	C	2	2,557	20.8	C	2	2,565	20.9	C
SR 29	Desoto Blvd	-	-	-	-	-	-	-	-	-	-	-	-
SR 29	Everglades Blvd	-	-	-	-	-	-	-	-	-	-	-	-
Desoto Blvd	CR 951	-	-	-	-	-	-	-	-	-	-	-	-
Everglades Blvd	CR 951	-	-	-	-	-	-	-	-	-	-	-	-
CR 951	Golden Gate Pkwy	3	5,206	27.7	D	3	5,176	27.4	D	3	5,296	28.4	D
Golden Gate Pkwy	North of Golden Gate Pkwy	3	6,334	39.7	E	3	6,296	39.1	E	3	6,360	40.1	E

Segment		Alternative 4				Alternative 5			
From	To	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS
East of SR 29	SR 29	2	2,119	17.0	B	2	2,119	17.0	B
SR 29	CR 951	-	-	-	-	-	-	-	-
SR 29	Desoto Blvd	-	-	-	-	2	2,684	22.1	C
SR 29	Everglades Blvd	2	2,620	21.4	C	-	-	-	-
Desoto Blvd	CR 951	-	-	-	-	2/3	3,711	30.1/17.9	D/B
Everglades Blvd	CR 951	2/3	4,054	35.9/19.7	E/C	-	-	-	-
CR 951	Golden Gate Pkwy	3	5,688	31.9	D	3	5,627	31.3	D
Golden Gate Pkwy	North of Golden Gate Pkwy	3	6,404	40.8	E	3	6,436	41.3	E

veh/hr = Vehicles per Hour
pc/mi/ln = Passenger Cars per Mile per Lane

As stated earlier, the proposed interchange is located in an area that is currently classified as a rural area. Based on Florida Rule 14-94 and the FDOT's current Level of Service Criteria, the I-75 mainline lanes would be required to operate at LOS B or better. In addition, FHWA Policy requires that the proposed interchange must not have any adverse affect on the operation or safety of the I-75 mainline and the I-75 mainline level of service must not degrade from its current level of service with the addition of the new interchange. Based on this criteria, the existing four-lane section of I-75 between SR 29 and CR 951 would need to be widened to six lanes to maintain LOS B in the design year (2039) even without the construction of a new interchange.

Although the area is currently classified as rural, the design year for this study is 2039. Based on the magnitude of the Collier MPO's 2039 population and employment projections, it is quite likely that the portion of the study area north of I-75 (but not including the interchange area itself) between Desoto Boulevard and CR 951 will be transitioning from a rural area to an urban area during the 20-year period from 2019 to 2039. Currently, LOS C is the minimum acceptable LOS standard for limited access facilities located in transitioning urban areas. If LOS C is used as the minimum LOS standard for locations outside the urban area boundary, an acceptable level of service is still projected to occur on the existing four-lane section of I-75 between SR 29 and CR 951 in the design year without the construction of a new interchange.

The implementation of a new interchange at either Everglades Boulevard or Desoto Boulevard would require that I-75 be widened to six lanes between the new interchange and CR 951 to avoid a degradation in the design year level of service. Table 7-2 summarizes the design year levels of service that would be expected to occur on I-75 between the new interchange and the CR 951 interchange with both the existing mainline laneage (two lanes in each direction) and the improved mainline laneage (three lanes in each direction). If one additional lane is provided in each direction between the Everglades Boulevard interchange and the CR 951 interchange, the peak direction level of service is projected to improve from LOS E to LOS C. If one additional lane is provided in each direction between the Desoto Boulevard interchange and the CR 951 interchange, the peak direction level of service is projected to improve from LOS D to LOS B. The design year HCS analyses for the I-75 mainline segments are provided in Appendix F.

7.1.3 Interim Year (2029)

Additional I-75 mainline segment level of service analyses were conducted for the interim year (2029) to determine if any degradation in mainline level of service was expected to occur within the first ten years after implementation of the proposed interchange. Since there are no significant differences in the future year traffic volumes projected for I-75 for the alternatives that do not include a new interchange, the interim year level of service analyses were only conducted for Alternatives 1, 4 and 5.

Table 7-3 summarizes the peak direction I-75 mainline segment levels of service for the interim year (2029). As was the case in the opening year (2019), LOS B conditions are projected to continue for the portion of I-75 from east of SR 29 to CR 951 in the interim year (2029) without a new interchange. This same level of service is projected to occur for the portion of I-75 between SR 29 and the new interchange for both interchange locations. However, the portion of I-75 between the new interchange and CR 951 is projected to operate at LOS C in the interim year (2029) for both interchange locations. These analysis results suggest

Table 7-3: Interim Year (2029) I-75 Mainline Segment Levels of Service

Segment		Alternative 1				Alternative 4				Alternative 5			
From	To	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS	No. of Directional Lanes	Peak Direction Volume (in veh/hr)	Peak Direction Density (in pc/mi/ln)	Peak Direction LOS
East of SR 29	SR 29	2	1,813	14.6	B	2	1,813	14.6	B	2	1,813	14.6	B
SR 29	CR 951	2	1,996	16.0	B	-	-	-	-	-	-	-	-
SR 29	Desoto Blvd	-	-	-	-	-	-	-	-	2	2,106	16.9	B
SR 29	Everglades Blvd	-	-	-	-	2	2,070	16.6	B	-	-	-	-
Desoto Blvd	CR 951	-	-	-	-	-	-	-	-	2	3,055	22.7	C
Everglades Blvd	CR 951	-	-	-	-	2	3,293	25.0	C	-	-	-	-
CR 951	Golden Gate Pkwy	3	4,196	21.2	C	3	4,727	24.3	C	3	4,588	23.5	C
Golden Gate Pkwy	North of Golden Gate Pkwy	3	5,305	28.4	D	3	5,526	30.3	D	3	5,422	29.4	D

veh/hr = Vehicles per Hour
pc/mi/ln = Passenger Cars per Mile per Lane

that the I-75 mainline will need to be widened from four lanes to six lanes by the year 2029 to maintain the same peak hour level of service that would be expected to occur without any new interchange. However, it should be noted that even without a new interchange, the level of service on the portion of I-75 between SR 29 and CR 951 is estimated to change from LOS B to LOS C by the year 2033. If LOS C is considered to be the minimum acceptable level of service for this portion of I-75, the six-laning of I-75 will not be needed until sometime between 2029 and 2039. If Alternative 4 is implemented, the need for six lanes is estimated to occur in the year 2031. If Alternative 5 is implemented, the need for six lanes is estimated to occur in the year 2034. The interim year HCS analyses for the I-75 mainline segments are provided in Appendix G.

7.2 I-75 Interchange Ramp Merge/Diverge Areas

7.2.1 Opening Year (2019)

With two exceptions, all of the I-75 interchange ramps that were analyzed in the opening year (2019) were assumed to be one-lane ramps. The southbound I-75 off-ramp to Golden Gate Parkway was analyzed as a two-lane ramp because a two-lane ramp currently exists today. The eastbound I-75 off-ramp to CR 951 was also analyzed as a two-lane ramp because the peak hour peak direction volume (2,170 passenger cars per hour) exceeds the approximate capacity of a single lane ramp with a free-flow speed between 40 and 50 mph (2,100 passenger cars per hour). Figure 7-1 graphically depicts the I-75 mainline and ramp laneage used to conduct the opening year (2019) merge/diverge area level of service analyses for Alternatives 1, 3A and 3B. Figures 7-2 and 7-3 graphically depict the I-75 mainline and ramp laneage used to conduct the merge/diverge area level of service analyses for Alternatives 4 and 5, respectively.

The opening year (2019) I-75 ramp merge/diverge area levels of service for the five alternatives analyzed are summarized in the following tables:

- Table 7-4 – Alternative 1
- Table 7-5 – Alternative 3A
- Table 7-6 – Alternative 3B
- Table 7-7 – Alternative 4
- Table 7-8 – Alternative 5

Tables 7-4, 7-5 and 7-6 indicate that with two exceptions, all of the ramp merge/diverge areas are projected to operate at LOS C or better during both peak hours with Alternatives 1, 3A and 3B. The two merge/diverge areas that are projected to operate at LOS D are the eastbound off-ramp to CR 951 in the p.m. peak hour and the westbound on-ramp from CR 951 in the a.m. peak hour. A comparison of these three tables indicates that there are no significant differences in the analysis results for Alternatives 1, 3A and 3B. This is to be expected since none of these alternatives include a new interchange on I-75 and, consequently only minor differences in peak hour volumes are projected to occur for the ramps.

Tables 7-7 and 7-8 indicate that with two exceptions, all of the ramp merge/diverge areas are also projected to operate at LOS C or better during both peak hours with Alternatives 4 and 5. The two merge/diverge areas that are projected to operate at LOS D are the eastbound off-ramp to CR 951 in the p.m. peak hour

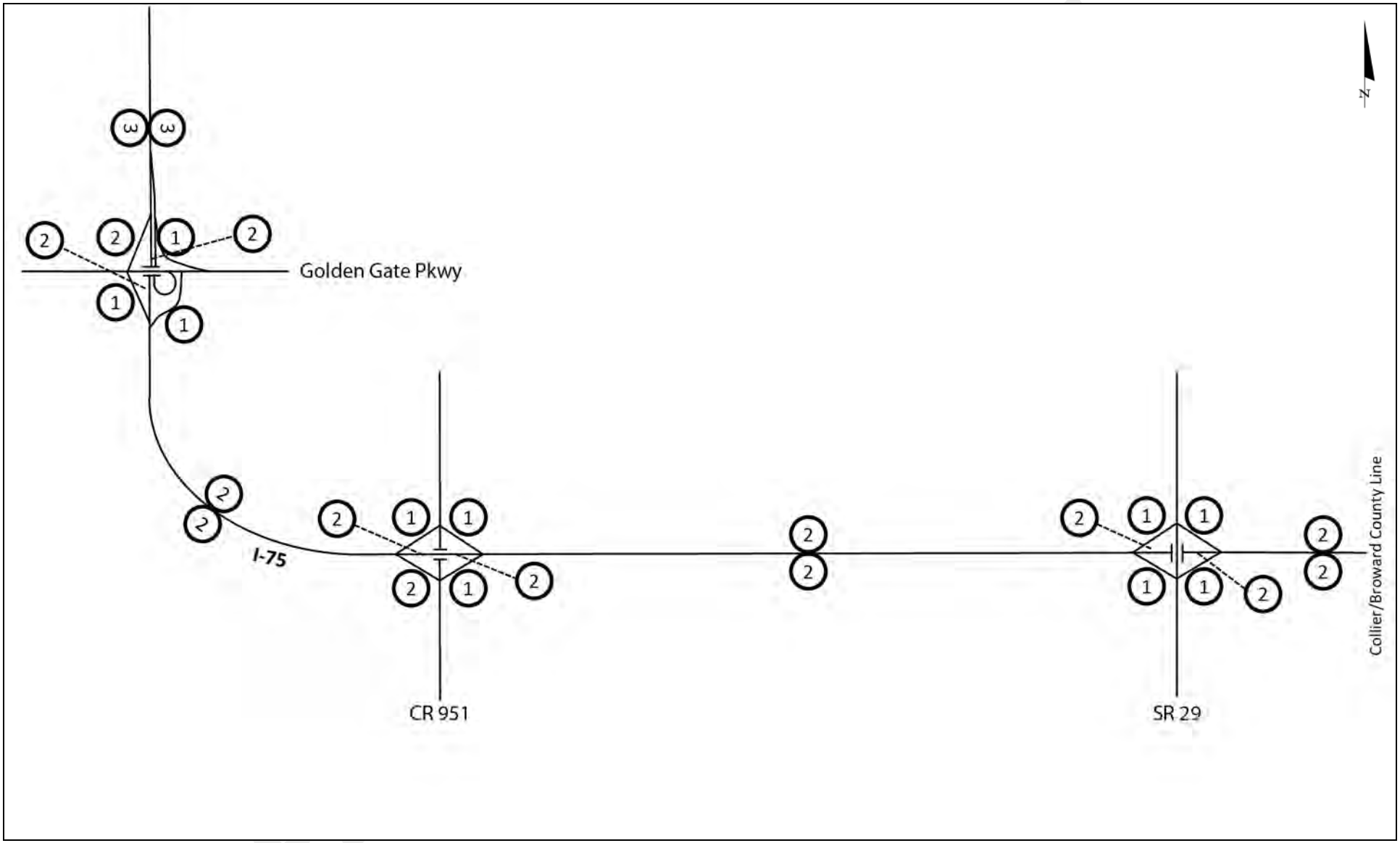


Figure 7-1: Opening Year (2019) I-75 Mainline and Ramp Laneage – Alternatives 1, 3A and 3B

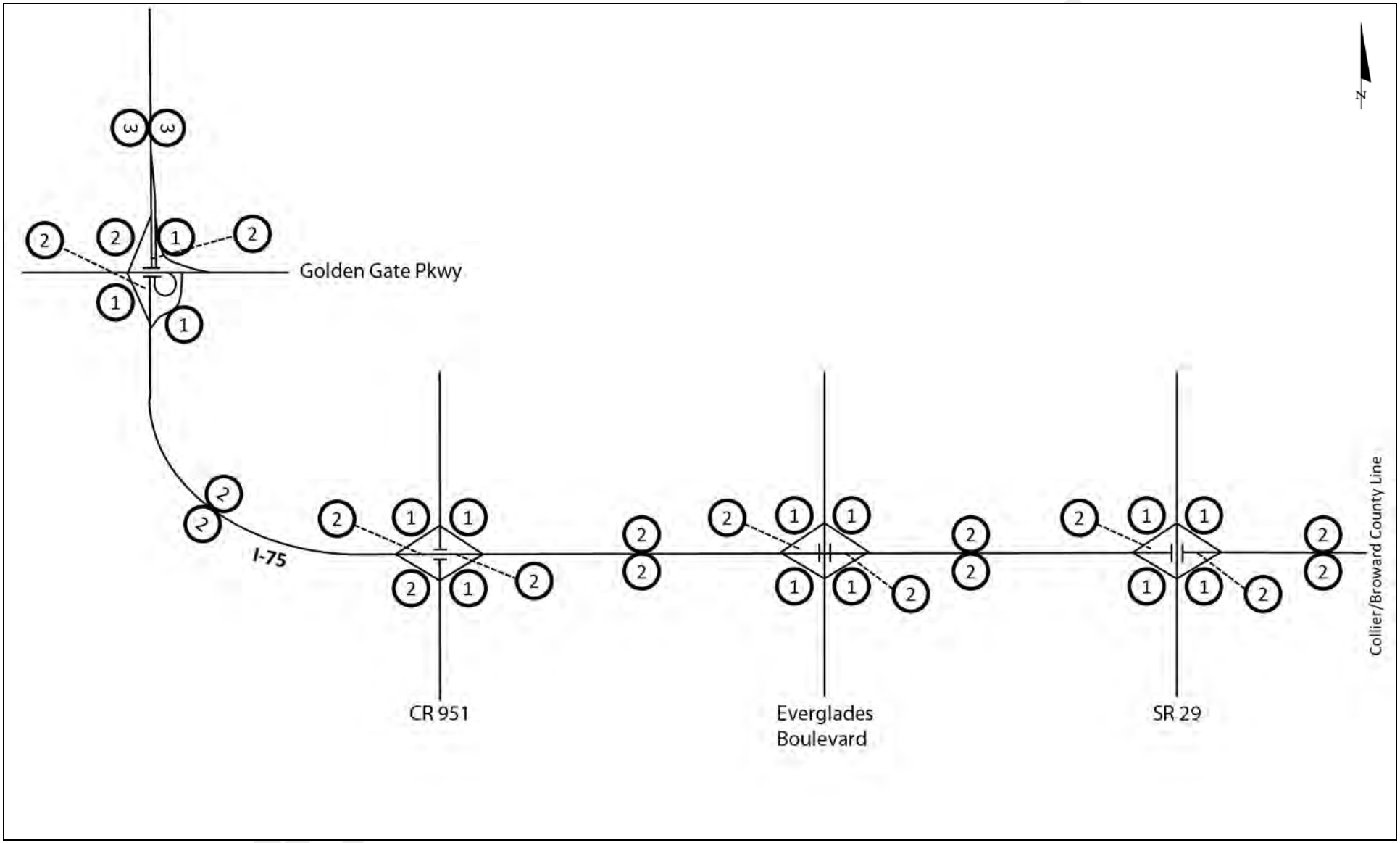


Figure 7-2: Opening Year (2019) I-75 Mainline and Ramp Laneage – Alternative 4

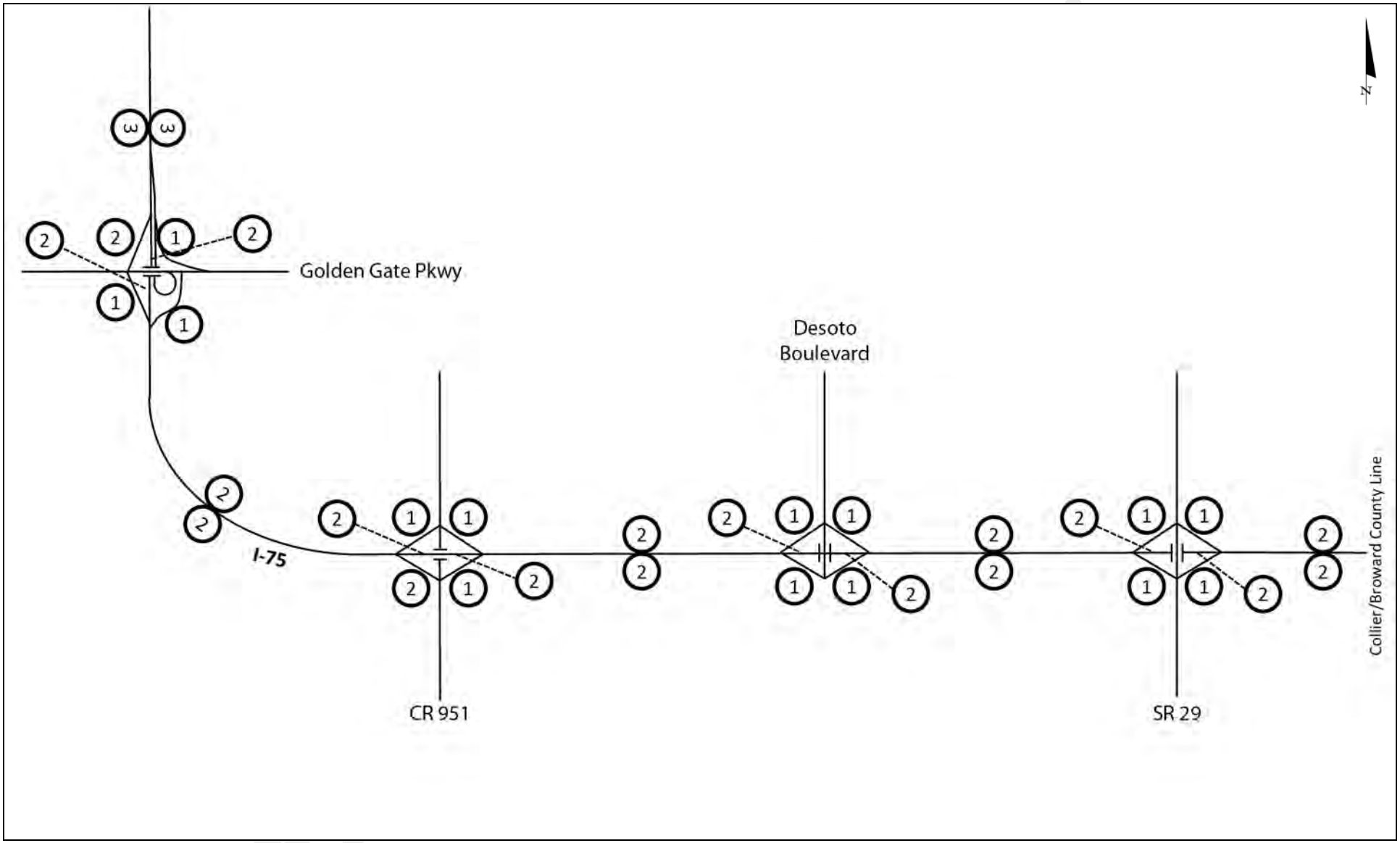


Figure 7-3: Opening Year (2019) I-75 Mainline and Ramp Laneage – Alternative 5

Table 7-4: Opening Year (2019) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 1

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	1,304	327	16.7	B	1,659	417	20.6	C
	EB On	977	216	13.8	B	1,242	276	17.1	B
	WB Off	1,518	276	18.9	B	1,193	216	15.4	B
	WB On	1,242	417	19.4	B	977	327	15.8	B
CR 951	EB Off	2,615	1,490 [2]	21.0	C	3,328	1,896 [2]	28.0	D
	EB On	1,125	179	15.4	B	1,432	227	18.9	B
	WB Off	1,659	227	20.4	C	1,304	179	16.5	B
	WB On	1,432	1,896	31.8	D	1,125	1,490	25.6	C
Golden Gate Pkwy	NB Off	3,328	420	24.0	C	2,615	330	19.7	B
	NB On	2,908 [1]	1,570	24.0 [3]	C	2,285 [1]	2,094	18.6 [3]	C
		4,478 [4]	-	24.3 [5]	C	4,379 [4]	-	23.7 [5]	C
	SB Off	4,379 [1]	2,094 [2]	23.7 [3]	C	4,478 [1]	1,570 [2]	24.3 [3]	C
		2,285 [4]	-	18.6 [5]	C	2,908 [4]	-	24.0 [5]	C
	SB On	2,285	330	16.9	B	2,908	420	20.9	C

[1] Volume Upstream of Drop/Add Lane

[2] Two-Lane Ramp

[3] Density Upstream of Drop/Add Lane

[4] Volume Downstream of Drop/Add Lane

[5] Density Downstream of Drop/Add Lane

Table 7-5: Opening Year (2019) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 3A

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	1,315	328	16.8	B	1,672	417	20.7	C
	EB On	987	206	13.8	B	1,255	263	17.1	B
	WB Off	1,518	263	18.9	B	1,193	206	15.4	B
	WB On	1,255	417	19.5	B	987	328	16.0	B
CR 951	EB Off	2,615	1,490 [(2)]	21.0	C	3,326	1,896 [(2)]	28.0	C
	EB On	1,125	190	15.5	B	1,430	242	19.0	B
	WB Off	1,672	242	20.6	C	1,315	190	16.7	B
	WB On	1,430	1,896	31.8	D	1,125	1,490	25.6	C
Golden Gate Pkwy	NB Off	3,326	421	24.0	C	2,615	330	19.7	B
	NB On	2,905 [(1)]	1,588	23.9 [(3)]	C	2,285 [(1)]	2,107	18.6 [(3)]	C
		4,493 [(4)]	-	24.4 [(5)]	C	4,392 [(4)]	-	23.7 [(5)]	C
	SB Off	4,392 [(1)]	2,107 [(2)]	23.7 [(3)]	C	4,493 [(1)]	1,588 [(2)]	24.4 [(3)]	C
		2,285	-	18.6 [(5)]	C	2,905	-	23.9 [(5)]	C
	SB On	2,285	330	16.9	B	2,905	421	20.9	C

[(1)] Volume Upstream of Drop/Add Lane

[(2)] Two-Lane Ramp

[(3)] Density Upstream of Drop/Add Lane

[(4)] Volume Downstream of Drop/Add Lane

[(5)] Density Downstream of Drop/Add Lane

Table 7-6: Opening Year (2019) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 3B

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	1,305	325	16.7	B	1,660	413	20.6	C
	EB On	980	213	13.8	B	1,247	271	17.1	B
	WB Off	1,518	271	18.9	B	1,193	213	15.4	B
	WB On	1,247	413	19.4	B	980	325	15.9	B
CR 951	EB Off	2,624	1,500 [2]	21.1	C	3,339	1,909 [2]	28.1	D
	EB On	1,124	181	15.4	B	1,430	230	18.9	B
	WB Off	1,660	230	20.4	C	1,305	181	16.5	B
	WB On	1,430	1,909	31.9	D	1,124	1,500	25.7	C
Golden Gate Pkwy	NB Off	3,339	446	24.1	C	2,624	350	19.8	B
	NB On	2,893 [1]	1,551	23.8 [3]	C	2,274 [1]	2,079	18.5 [3]	C
		4,444 [4]	-	24.1 [5]	C	4,353 [4]	-	23.5 [5]	C
	SB Off	4,353 [1]	2,079 [2]	23.5 [3]	C	4,444 [1]	1,551 [2]	24.1 [3]	C
		2,274 [4]	-	18.5 [5]	C	2,893 [4]	-	23.8 [5]	C
	SB On	2,274	350	17.0	B	2,893	446	21.1	C

[1] Volume Upstream of Drop/Add Lane

[2] Two-Lane Ramp

[3] Density Upstream of Drop/Add Lane

[4] Volume Downstream of Drop/Add Lane

[5] Density Downstream of Drop/Add Lane

Table 7-7: Opening Year (2019) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 4

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	1,376	340	17.5	B	1,751	434	21.6	C
	EB On	1,036	157	13.8	B	1,317	201	17.0	B
	WB Off	1,518	201	18.9	B	1,193	157	15.4	B
	WB On	1,317	434	20.3	C	1,036	340	16.6	B
Everglades Blvd	EB Off	1,799	518	18.4	B	2,289	659	23.2	C
	EB On	1,281	95	11.5	B	1,630	121	15.3	B
	WB Off	1,751	121	19.8	B	1,376	95	15.7	B
	WB On	1,630	659	18.0	B	1,281	518	13.7	B
CR 951	EB Off	2,786	1,461 [(2)]	22.7	C	3,545	1,859 [(2)]	30.1	D
	EB On	1,325	474	18.4	B	1,686	603	22.7	C
	WB Off	2,289	603	24.8	C	1,799	474	20.0	B
	WB On	1,686	1,859	33.7	D	1,325	1,461	27.2	C
Golden Gate Pkwy	NB Off	3,345	556	25.4	C	2,786	438	21.0	C
	NB On	2,989 [(1)]	1,525	24.7 [(3)]	C	2,348 [(1)]	2,012	19.1 [(3)]	C
		4,514 [(4)]	-	24.6 [(5)]	C	4,360 [(4)]	-	23.5 [(5)]	C
	SB Off	4,360 [(1)]	2,012 [(2)]	23.5 [(3)]	C	4,514 [(1)]	1,525 [(2)]	24.6 [(3)]	C
		2,348 [(4)]	-	19.1 [(5)]	C	2,989 [(4)]	-	24.7 [(5)]	C
	SB On	2,348	438	18.1	B	2,989	556	22.5	C

[(1)] Volume Upstream of Drop/Add Lane

[(2)] Two-Lane Ramp

[(3)] Density Upstream of Drop/Add Lane

[(4)] Volume Downstream of Drop/Add Lane

[(5)] Density Downstream of Drop/Add Lane

Table 7-8: Opening Year (2019) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 5

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	1,384	342	17.6	B	1,761	436	21.7	C
	EB On	1,042	151	13.8	B	1,325	193	17.0	B
	WB Off	1,518	193	18.9	B	1,193	151	15.4	B
	WB On	1,325	436	20.4	C	1,042	342	16.7	B
Desoto Blvd	EB Off	1,727	447	17.6	B	2,198	569	22.3	C
	EB On	1,280	104	11.6	B	1,629	132	15.3	B
	WB Off	1,761	132	19.9	B	1,384	104	15.8	B
	WB On	1,629	569	17.3	B	1,280	447	13.1	B
CR 951	EB Off	2,761	1,462 [(2)]	22.4	C	3,513	1,860 [(2)]	29.8	D
	EB On	1,299	428	17.8	B	1,653	545	21.9	C
	WB Off	2,198	545	23.9	C	1,727	428	19.3	B
	WB On	1,653	1,860	33.4	D	1,299	1,462	26.9	C
Golden Gate Pkwy	NB Off	3,513	529	25.2	C	2,761	416	20.8	C
	NB On	2,984 [(1)]	1,533	24.7 [(3)]	C	2,345 [(1)]	2,016	19.0 [(3)]	C
		4,517 [(4)]	-	24.6 [(5)]	C	4,361 [(4)]	-	23.6 [(5)]	C
	SB Off	4,361 [(1)]	2,016 [(2)]	23.6 [(3)]	C	4,517 [(1)]	1,533 [(2)]	24.6 [(3)]	C
		2,345 [(4)]	-	19.0 [(5)]	C	2,984 [(4)]	-	24.7 [(5)]	C
	SB On	2,345	416	17.9	B	2,984	529	22.3	C

[(1)] Volume Upstream of Drop/Add Lane

[(2)] Two-Lane Ramp

[(3)] Density Upstream of Drop/Add Lane

[(4)] Volume Downstream of Drop/Add Lane

[(5)] Density Downstream of Drop/Add Lane

and the westbound on-ramp from CR 951 in the a.m. peak hour. These are the same locations that are projected to operate at LOS D with Alternatives 1, 3A and 3B. With one exception, all four of the I-75/Everglades Boulevard and I-75/Desoto Boulevard interchange ramp merge/diverge areas are projected to operate at LOS B during both peak hours. The eastbound I-75 off-ramp to Everglades Boulevard and the eastbound I-75 off-ramp to Desoto Boulevard are projected to operate at LOS C during the p.m. peak hour. Table 7-9 provides a comparative summary of the opening year levels of service for the ramp merge/diverge areas for all five alternatives. The opening year HCS analyses for the I-75 merge/diverge areas are provided in Appendix H.

7.2.2 Design Year (2039)

A majority of the I-75 interchange ramps that were analyzed in the design year (2039) were also assumed to be one-lane ramps. The only two-lane ramps that were analyzed in the design year were the southbound off-ramp to Golden Gate Parkway, the eastbound off-ramp to CR 951, and the westbound on-ramp from CR 951. Figure 7-4 graphically depicts the I-75 mainline and ramp laneage used to conduct the design year (2039) merge/diverge area level of service analyses for Alternatives 1, 3A and 3B. Figures 7-5 and 7-6 graphically depict the I-75 mainline and ramp laneage used to conduct the merge/diverge area level of service analyses for Alternatives 4 and 5, respectively.

The only difference in the design year (2039) laneage occurs in the portion of I-75 between the CR 951 ramps to and from the west and the Everglades Boulevard (or Desoto Boulevard) ramps to and from the west. This portion of I-75 was analyzed as a four-lane limited access facility for Alternatives 1, 3A and 3B and as a six-lane limited access facility for Alternatives 4 and 5. Consequently, different procedures were used to analyze the CR 951 ramps to and from the west and the Everglades Boulevard (or Desoto Boulevard) ramps to and from the west depending on the number of mainline lanes upstream and downstream of the ramps. For those locations where mainline lane drops or additions occur (either via a single lane on/off-ramp or a two-lane on/off-ramp), the mainline segments located upstream and downstream of the lane drops or additions were analyzed as basic freeway segments.

The design year (2039) I-75 interchange ramp merge/diverge area levels of service for the five alternatives analyzed are summarized in the following tables:

- Table 7-10 – Alternative 1
- Table 7-11 – Alternative 3A
- Table 7-12 – Alternative 3B
- Table 7-13 – Alternative 4
- Table 7-14 – Alternative 5

Tables 7-10, 7-11 and 7-12 indicate that a majority of the ramp merge/diverge areas at the SR 29 and CR 951 interchanges are projected to operate at LOS C or better during both peak hours with Alternatives 1, 3A and 3B. Several locations are projected to operate at LOS D with these three alternatives and these include the following:

Table 7-9: Opening Year (2019) I-75 Interchange Ramp Merge/Diverge Area Level of Service Summary

Interchange	Ramp	AM Peak Hour					PM Peak Hour				
		Alt. 1	Alt. 3A	Alt. 3B	Alt. 4	Alt. 5	Alt. 1	Alt. 3A	Alt. 3B	Alt. 4	Alt. 5
SR 29	EB Off	B	B	B	B	B	C	C	C	C	C
	EB On	B	B	B	B	B	B	B	B	B	B
	WB Off	B	B	B	B	B	B	B	B	B	B
	WB On	B	B	B	C	C	B	B	B	B	B
Everglades Blvd/Desoto Blvd	EB Off	-	-	-	B	B	-	-	-	C	C
	EB On	-	-	-	B	B	-	-	-	B	B
	WB Off	-	-	-	B	B	-	-	-	B	B
	WB On	-	-	-	B	B	-	-	-	B	B
CR 951	EB Off	C	C	C	C	C	D	C	D	D	D
	EB On	B	B	B	B	B	B	B	B	C	C
	WB Off	C	C	C	C	C	B	B	B	B	B
	WB On	D	D	D	D	D	C	C	C	C	C
Golden Gate Pkwy	NB Off	C	C	C	C	C	B	B	B	C	C
	NB On	C	C	C	C	C	C	C	C	C	C
	SB Off	C	C	C	C	C	C	C	C	C	C
	SB On	B	B	B	B	B	C	C	C	C	C

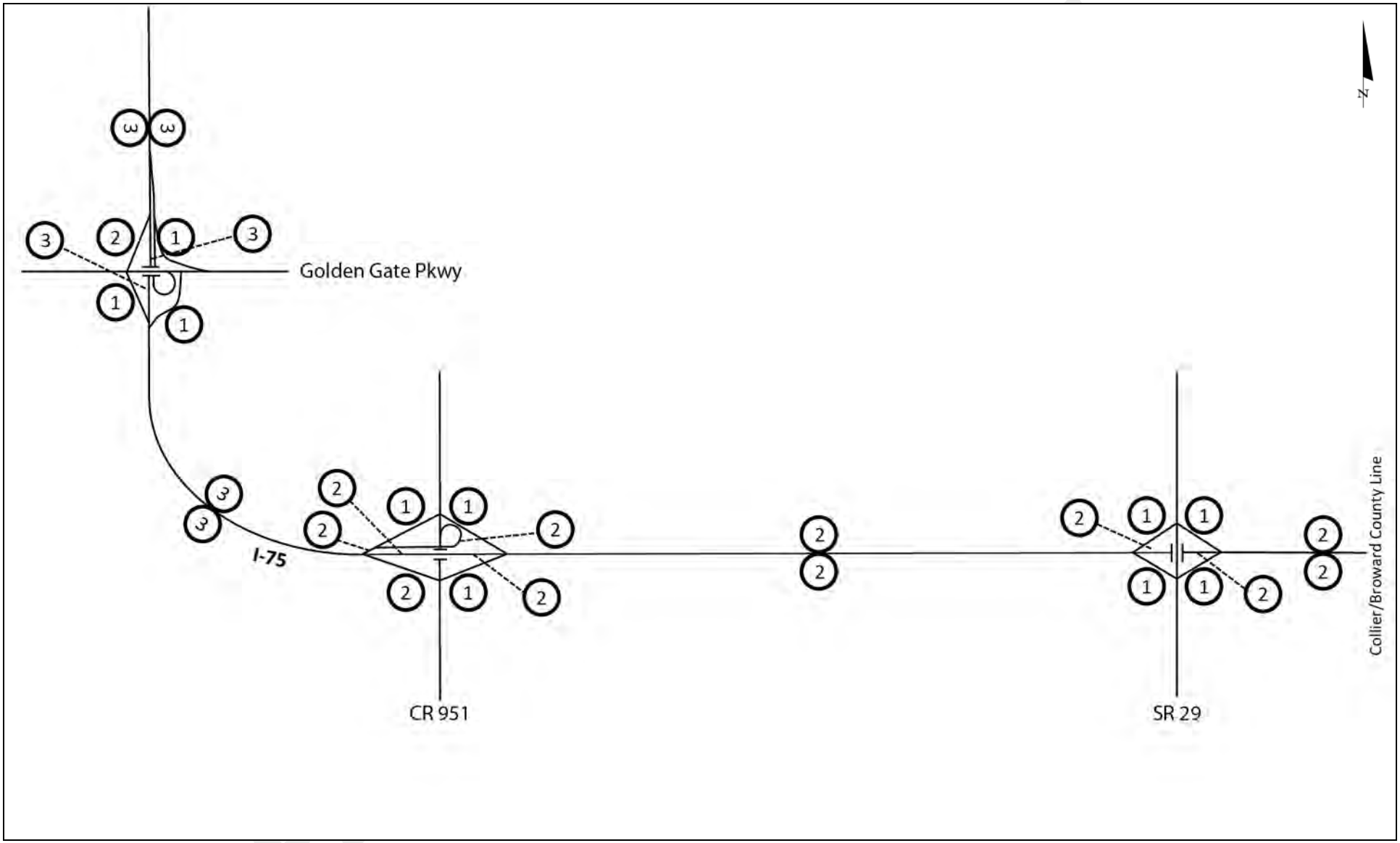


Figure 7-4: Design Year (2039) I-75 Mainline and Ramp Laneage – Alternatives 1, 3A and 3B

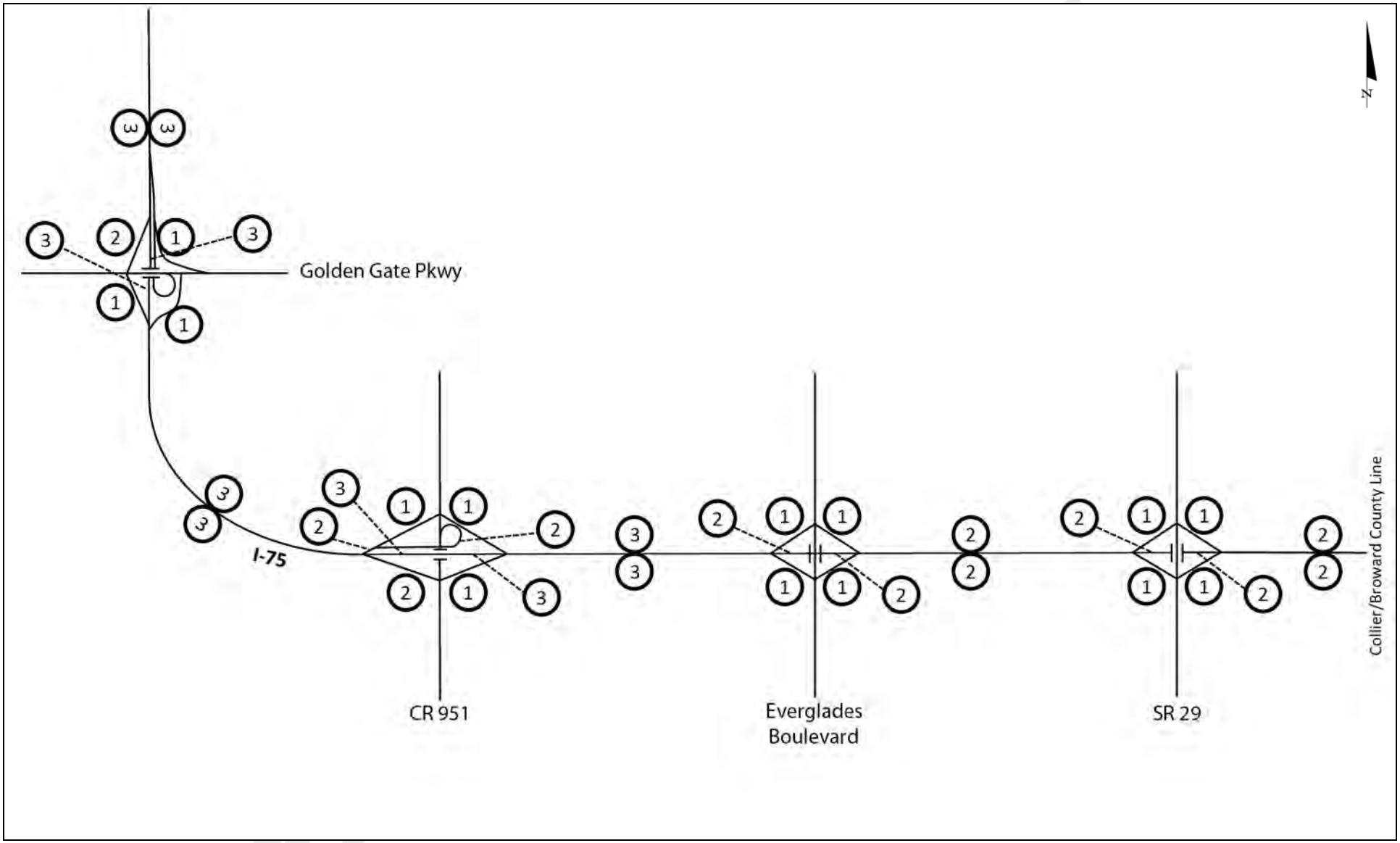


Figure 7-5: Design Year (2039) I-75 Mainline and Ramp Laneage – Alternative 4

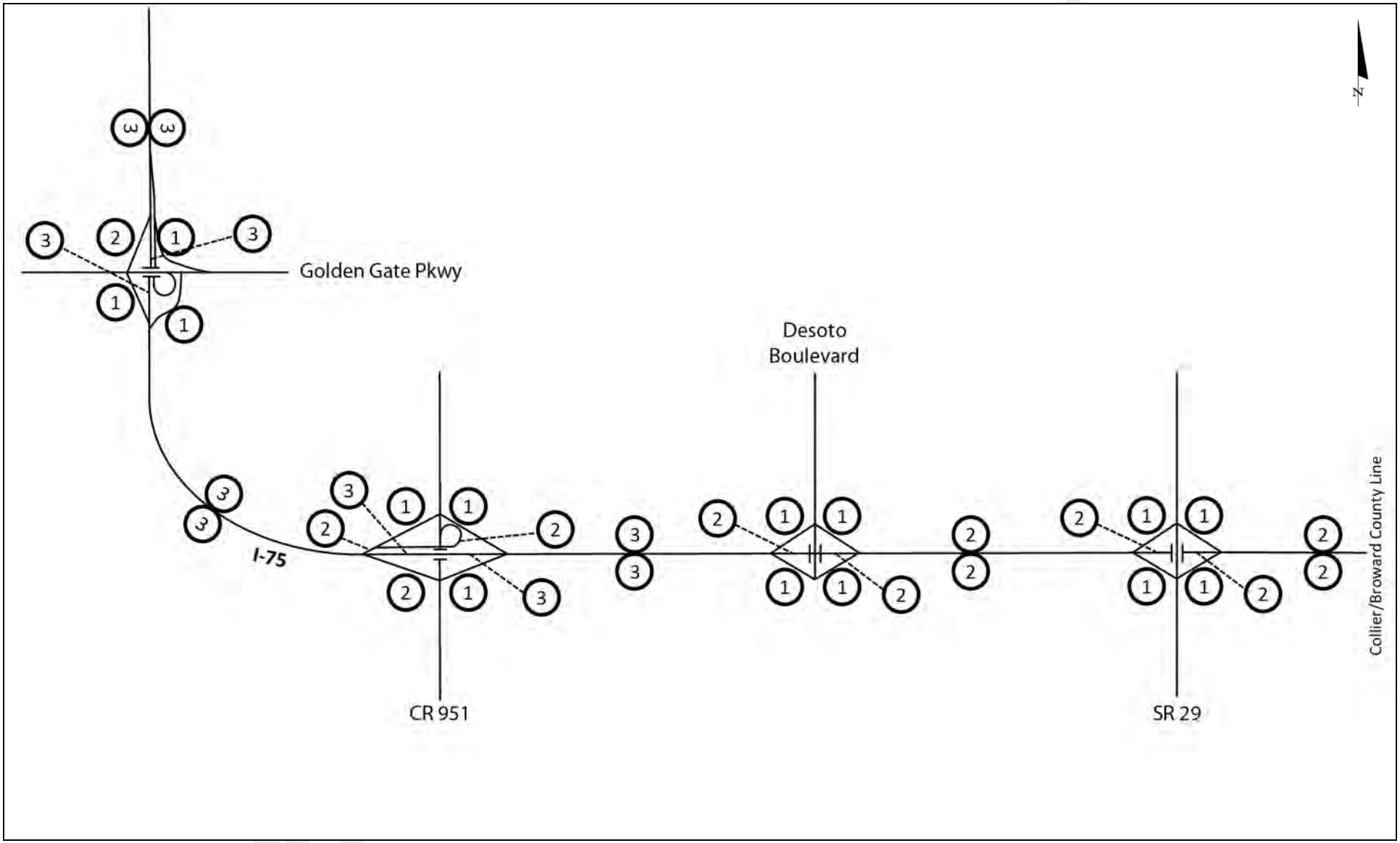


Figure 7-6: Design Year (2039) I-75 Mainline and Ramp Laneage – Alternative 5

Table 7-10: Design Year (2039) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 1

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	2,039	693	23.6	C	2,595	882	29.3	D
	EB On	1,346	319	17.6	B	1,713	406	21.9	C
	WB Off	2,119	406	24.3	C	1,665	319	19.6	B
	WB On	1,713	882	27.4	C	1,346	693	22.1	C
CR 951	EB Off	4,090 [1]	2,293 [2]	20.6 [3]	C	5,206 [1]	2,919 [2]	27.7 [3]	D
		1,797 [4]	-	15.3 [5]	B	2,287 [4]	-	19.6 [5]	C
	EB On	1,797	242	21.6	C	2,287	308	26.8	C
	WB Off	2,595	308	29.2	D	2,039	242	23.4	C
	WB On	2,287 [1]	2,919 [2]	19.6 [3]	C	1,797 [1]	2,293 [2]	15.3 [3]	B
		5,206 [4]	-	27.7 [5]	D	4,090 [4]	-	20.6 [5]	C
Golden Gate Pkwy	NB Off	5,206	639	32.4	D	4,090	502	27.0	C
	NB On	4,567	1,767	39.2	E	3,588	2,370	39.2	E
	SB Off	5,958	2,370	34.2	D	6,334	1,767	32.9	D
	SB On	3,588	502	24.0	C	4,567	639	30.0	D

[1] Volume Upstream of Two-Lane Ramp (Drop/Add Lane)

[2] Two-Lane Ramp (Drop/Add Lane)

[3] Density Upstream of Two-Lane Ramp (Drop/Add Lane)

[4] Volume Downstream of Two-Lane Ramp (Drop/Add Lane)

[5] Density Downstream of Two-Lane Ramp (Drop/Add Lane)

Table 7-11: Design Year (2039) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 3A

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	2,010	651	23.3	C	2,557	828	28.9	D
	EB On	1,359	306	17.6	B	1,729	390	21.9	C
	WB Off	2,119	390	24.3	C	1,665	306	19.6	B
	WB On	1,729	828	27.0	C	1,359	651	21.8	C
CR 951	EB Off	4,067 [1]	2,293 [2]	20.5 [3]	C	5,176 [1]	2919 [2]	27.4 [3]	D
		1,774 [4]	-	15.2 [5]	B	2,257 [4]	-	19.3 [5]	C
	EB On	1,774	236	21.3	C	2,257	300	26.4	C
	WB Off	2,557	300	28.8	D	2,010	236	23.1	C
	WB On	2,257 [1]	2,919 [2]	19.3 [3]	C	1,774 [1]	2293 [2]	15.2 [3]	B
		5,176 [4]	-	27.4 [5]	D	4,067 [4]	-	20.5 [5]	C
Golden Gate Pkwy	NB Off	5,176	608	32.2	D	4,067	479	26.9	C
	NB On	4,568	1,728	38.9	E	3,588	2,309	38.7	E
	SB Off	5,897	2,309	33.7	D	6,296	1,728	32.6	D
	SB On	3,588	479	23.8	C	4,568	608	29.8	D

[1] Volume Upstream of Two-Lane Ramp (Drop/Add Lane)

[2] Two-Lane Ramp (Drop/Add Lane)

[3] Density Upstream of Two-Lane Ramp (Drop/Add Lane)

[4] Volume Downstream of Two-Lane Ramp (Drop/Add Lane)

[5] Density Downstream of Two-Lane Ramp (Drop/Add Lane)

Table 7-12: Design Year (2039) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 3B

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	2,016	661	23.3	C	2,565	841	29.0	D
	EB On	1,355	310	17.6	B	1,724	395	21.9	C
	WB Off	2,119	395	24.3	C	1,665	310	19.6	B
	WB On	1,724	841	27.1	C	1,355	661	21.9	C
CR 951	EB Off	4,162 [1]	2,381 [2]	21.0 [3]	C	5,296 [1]	3,030 [2]	28.4 [3]	D
		1,781 [4]	-	13.7 [5]	B	2,266 [4]	-	17.4 [5]	B
	EB On	1,781	235	21.4	C	2,266	299	26.5	C
	WB Off	2,565	299	28.8	D	2,016	235	23.2	C
	WB On	2,266 [1]	3,030 [2]	17.4 [3]	B	1,781 [1]	2,381 [2]	13.7 [3]	B
		5,296 [4]	-	28.4 [5]	D	4,162 [4]	-	21.0 [5]	C
Golden Gate Pkwy	NB Off	5,296	687	32.9	D	4,162	539	27.4	C
	NB On	4,609	1,751	39.3	E	3,623	2,327	39.0	E
	SB Off	5,950	2,327	34.0	D	6,360	1,751	33.2	D
	SB On	3,623	539	24.5	C	4,609	687	30.6	D

[1] Volume Upstream of Two-Lane Ramp (Drop/Add Lane)

[2] Two-Lane Ramp (Drop/Add Lane)

[3] Density Upstream of Two-Lane Ramp (Drop/Add Lane)

[4] Volume Downstream of Two-Lane Ramp (Drop/Add Lane)

[5] Density Downstream of Two-Lane Ramp (Drop/Add Lane)

Table 7-13: Design Year (2039) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 4

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	2,059	634	23.8	C	2,620	807	29.6	D
	EB On	1,425	240	17.6	B	1,813	306	21.9	C
	WB Off	2,119	306	24.3	C	1,665	240	19.6	B
	WB On	1,813	807	27.6	C	1,425	634	22.3	C
Everglades Blvd	EB Off	3,185 [1]	1,256	15.3 [3]	B	4,054 [1]	1,599	19.7 [3]	C
		1,929 [4]	-	13.9 [5]	B	2,455 [4]		17.8 [5]	B
	EB On	1,929	130	17.2	B	2,455	165	23.8	C
	WB Off	2,620	165	27.8	C	2,059	130	22.0	C
	WB On	2,455 [1]	1,599	17.8 [3]	B	1,929 [1]	1,256	13.9 [3]	B
		4,054 [4]	-	19.7 [5]	C	3,185 [4]	-	15.3 [5]	B
CR 951	EB Off	4,470	2,233 [2]	16.5	B	5,688	2,841 [2]	24.7	C
	EB On	2,237	948	21.3	C	2,847	1,207	26.4	C
	WB Off	4,054	1,207	27.6	C	3,185	948	22.6	C
	WB On	2,847	2,841 [2]	26.2	C	2,237	2,233 [2]	18.4	B
Golden Gate Pkwy	NB Off	5,688	994	35.1	E	4,470	781	29.4	D
	NB On	4,694	1,710	39.4	E	3,689	2,199	38.3	E
	SB Off	5,888	2,199	33.1	D	6,404	1,710	33.6	D
	SB On	3,689	781	26.7	C	4,694	994	33.5	D

[1] Volume Upstream of Drop/Add Lane

[2] Two-Lane Ramp

[3] Density Upstream of Drop/Add Lane

[4] Volume Downstream of Drop/Add Lane

[5] Density Downstream of Drop/Add Lane

Table 7-14: Design Year (2039) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 5

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	2,111	648	24.3	C	2,684	824	30.2	D
	EB On	1,463	202	17.6	B	1,860	259	21.9	C
	WB Off	2,119	259	24.3	C	1,665	202	19.6	B
	WB On	1,860	824	28.2	D	1,463	648	22.8	C
Desoto Blvd	EB Off	2,918 [1]	966	14.1 [3]	B	3,711 [1]	1,229	17.9 [3]	B
		1,952 [4]	-	14.1 [5]	B	2,482 [4]	-	18.0 [5]	B
	EB On	1,952	159	17.7	B	2,482	202	23.1	C
	WB Off	2,684	202	28.5	D	2,111	159	22.5	C
	WB On	2,482 [1]	1,229	18.0 [3]	B	1,952 [1]	966	14.1 [3]	B
		3,711 [4]	-	17.9 [5]	B	2,918 [4]	-	14.1 [5]	B
CR 951	EB Off	4,423	2,254 [2]	16.4	B	5,627	2,869 [2]	24.6	C
	EB On	2,169	749	19.4	B	2,758	953	23.9	C
	WB Off	3,711	953	26.9	C	2,918	749	22.3	C
	WB On	2,758	2,869 [2]	26.0	C	2,169	2,254 [2]	18.2	B
Golden Gate Pkwy	NB Off	5,627	916	34.7	D	4,423	720	29.0	D
	NB On	4,711	1,725	39.6	E	3,703	2,232	38.6	E
	SB Off	5,935	2,232	33.4	D	6,436	1,725	33.9	D
	SB On	3,703	720	26.3	C	4,711	916	32.9	D

[1] Volume Upstream of Drop/Add Lane

[2] Two-Lane Ramp

[3] Density Upstream of Drop/Add Lane

[4] Volume Downstream of Drop/Add Lane

[5] Density Downstream of Drop/Add Lane

- Eastbound off-ramp to SR 29 (p.m. peak hour)
- Eastbound off-ramp to CR 951 (p.m. peak hour)
- Westbound off-ramp to CR 951 (a.m. peak hour)
- Westbound on-ramp from CR 951 (a.m. peak hour)

A majority of the merge/diverge areas at the Golden Gate Parkway interchange are projected to operate at LOS D or better during both peak hours. Only the northbound on-ramp is projected to operate at LOS E.

Once again, a comparison of these three tables indicates that there are no significant differences in the analysis results for Alternatives 1, 3A and 3B. As was stated earlier during the discussion of the 2019 analysis results, this is to be expected since none of these alternatives include a new interchange on I-75 and only minor differences in peak hour volumes are projected to occur for the ramps.

Table 7-13 summarizes the design year (2039) I-75 interchange ramp merge/diverge area levels of service for Alternative 4. With one exception, all of the ramp merge/diverge areas at the SR 29, CR 951 and Everglades Boulevard interchanges are projected to operate at LOS C or better during both peak hours. The only location at these three interchanges that is projected to operate below LOS C is the eastbound SR 29 off-ramp. This diverge area is projected to operate at LOS D during the p.m. peak hour. It should be noted that the merge/diverge analyses conducted for Alternative 4 assumed that three lanes would be provided in each direction on the portion of the I-75 mainline between the CR 951 and Everglades Boulevard interchanges based on the results of the mainline segment level of service analysis conducted for Alternative 4.

The northbound on-ramp at the Golden Gate Parkway interchange is projected to operate at LOS E during both peak hours with Alternative 4. This same condition is projected to occur for this ramp with Alternatives 1, 3A and 3B. The northbound off-ramp at this interchange is also projected to operate at LOS E during the a.m. peak hour with Alternative 4; however, the estimated density in the diverge area (35.1) passenger cars per mile per lane (pc/mi/ln) exceeds the maximum LOS D threshold by only 0.1 pc/mi/ln.

Table 7-14 summarizes the design year (2039) I-75 interchange ramp merge/diverge area levels of service for Alternative 5. A majority of the ramp merge/diverge areas at the SR 29, CR 951 and Desoto Boulevard interchanges are projected to operate at LOS C or better during both peak hours. The only locations at these three interchanges that are projected to operate at LOS D with Alternative 5 are the following:

- Eastbound off-ramp to SR 29 (p.m. peak hour)
- Westbound on-ramp from SR 29 (a.m. peak hour)
- Westbound off-ramp to Desoto Boulevard (a.m. peak hour)

A comparison of Tables 7-13 and 7-14 indicates that two merge/diverge areas are projected to have different levels of service in the a.m. peak hour. The westbound on-ramp from SR 29 and the westbound off-ramp to the new interchange are projected to operate at LOS C with Alternative 4 and LOS D with

Alternative 5. Although different levels of service are projected for these locations, the estimated merge/diverge area densities differ by less than 1.0 pc/mi/ln. The densities for these two westbound ramps with Alternative 4 are 27.6 pc/mi/ln and 27.8 pc/mi/ln. The densities for these two westbound ramps with Alternative 5 are 28.2 pc/mi/ln and 28.5 pc/mi/ln. Since the maximum LOS C merge/diverge area density is 28.0 pc/mi/ln;, the Alternative 4 ramps are just slightly below the maximum LOS C value while the Alternative 5 ramps are just slightly above this maximum value. In addition, the northbound off-ramp to Golden Gate Parkway is projected to operate at LOS D with Alternative 5 and LOS E with Alternative 4. Although different levels of service are projected for this ramp in the a.m. peak hour, the differences in the estimated merge/diverge area densities are only 0.4 pc/mi/ln. As stated earlier, the maximum LOS D merge/diverge area density is 35.0 pc/mi/ln. The diverge area density for this off-ramp is estimated to be 34.7 pc/mi/ln with Alternative 4 and 35.1 pc/mi/ln with Alternative 5. Table 7-15 provides a comparative summary of the design year levels of service for the ramp merge/diverge areas for all five alternatives. The design year HCS analyses for the I-75 merge/diverge areas are provided in Appendix I.

7.2.3 Interim Year (2029)

Additional I-75 interchange ramp merge/diverge area level of service analyses were conducted for the interim year (2029). As previously stated, there are no significant differences in the I-75 ramp volumes projected for the alternatives that do not include a new interchange, therefore, the interim year merge/diverge area level of service analyses were only conducted for Alternatives 1, 4 and 5. Figures 7-7, 7-8 and 7-9 graphically depict the I-75 mainline and ramp laneage used to conduct the interim year (2029) merge/diverge area level of service analyses for Alternatives 1, 4 and 5, respectively.

The interim year (2029) I-75 interchange ramp merge/diverge area levels of service for the three alternatives analyzed are summarized in the following tables:

- Table 7-16 - Alternative 1
- Table 7-17 - Alternative 4
- Table 7-18 - Alternative 5

Table 7-16 indicates that with two exceptions, all of the ramp merge/diverge areas are projected to operate at LOS C or better during both peak hours with Alternative 1. The Golden Gate Parkway northbound on-ramp is projected to operate at LOS D during both peak hours, while the southbound off-ramp is projected to operate at LOS D during the a.m. peak hour. Table 7-17 indicates that Alternative 4 is projected to result in several additional ramps operating at LOS D during one or both peak hours. These include the following:

- Eastbound off-ramp to Everglades Boulevard (p.m. peak hour)
- Eastbound on-ramp from CR 951 (p.m. peak hour)
- Westbound off-ramp to CR 951 (a.m. peak hour)
- Northbound off-ramp to Golden Gate Parkway (a.m. peak hour)
- Southbound off-ramp to Golden Gate Parkway (p.m. peak hour)

Table 7-15: Design Year (2039) I-75 Interchange Ramp Merge/Diverge Area Level of Service Summary

Interchange	Ramp	AM Peak Hour					PM Peak Hour				
		Alt. 1	Alt. 3A	Alt. 3B	Alt. 4	Alt. 5	Alt. 1	Alt. 3A	Alt. 3B	Alt. 4	Alt. 5
SR 29	EB Off	C	C	C	C	C	D	D	D	D	D
	EB On	B	B	B	B	B	C	C	C	C	C
	WB Off	C	C	C	C	C	B	B	B	B	B
	WB On	C	C	C	C	D	C	C	C	C	C
Everglades Blvd/Desoto Blvd	EB Off	-	-	-	B	B	-	-	-	C	B
	EB On	-	-	-	B	B	-	-	-	C	C
	WB Off	-	-	-	C	D	-	-	-	C	C
	WB On	-	-	-	C	B	-	-	-	B	B
CR 951	EB Off	C	C	C	B	B	D	D	D	C	C
	EB On	C	C	C	C	B	C	C	C	C	C
	WB Off	D	D	D	C	C	C	C	C	C	C
	WB On	D	D	D	C	C	C	C	C	B	B
Golden Gate Pkwy	NB Off	D	D	D	E	D	C	C	C	D	D
	NB On	E	E	E	E	E	E	E	E	E	E
	SB Off	D	D	D	D	D	D	D	D	D	D
	SB On	C	C	C	C	C	D	D	D	D	D

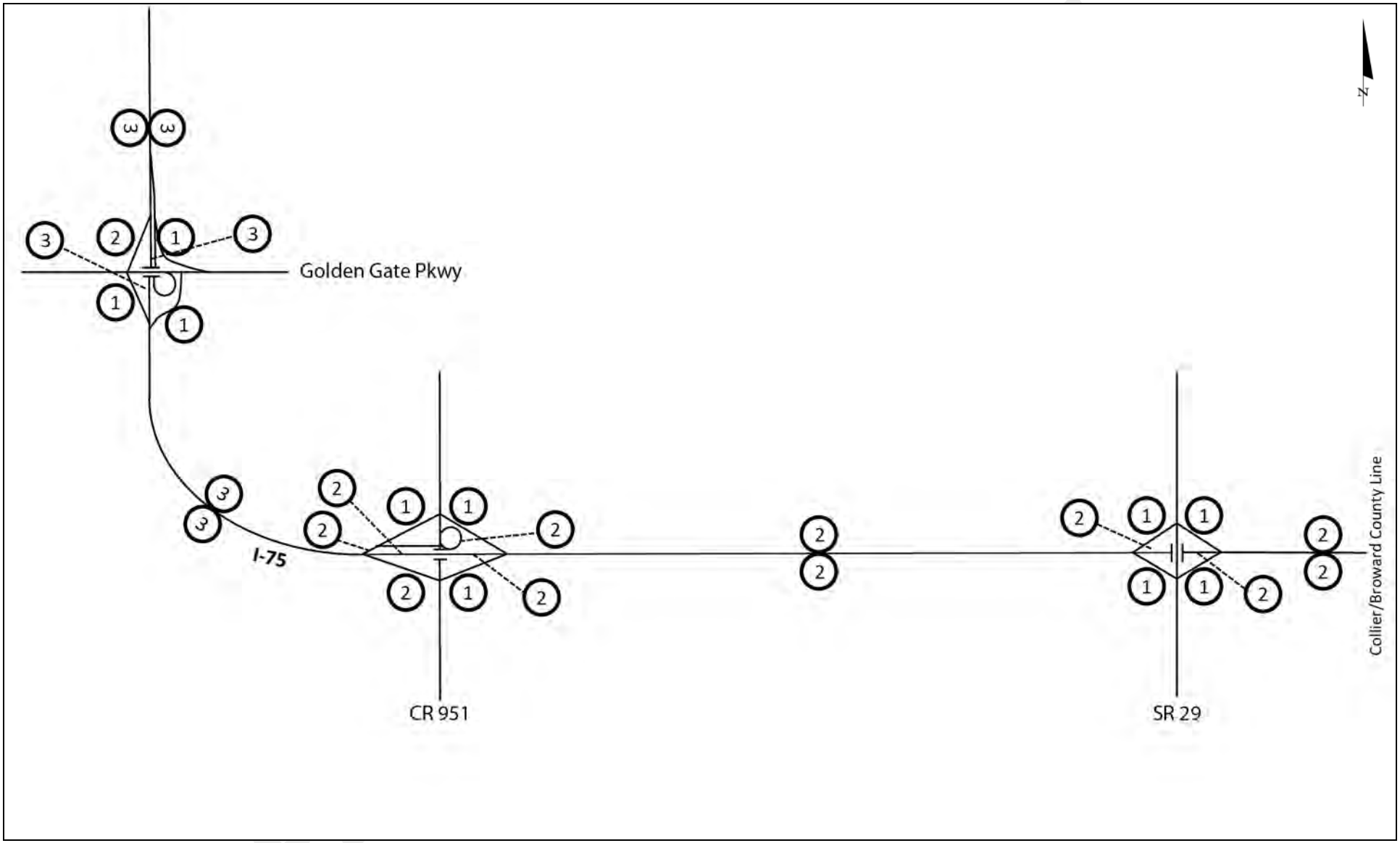


Figure 7-7: Interim Year (2029) I-75 Mainline and Ramp Laneage – Alternative 1

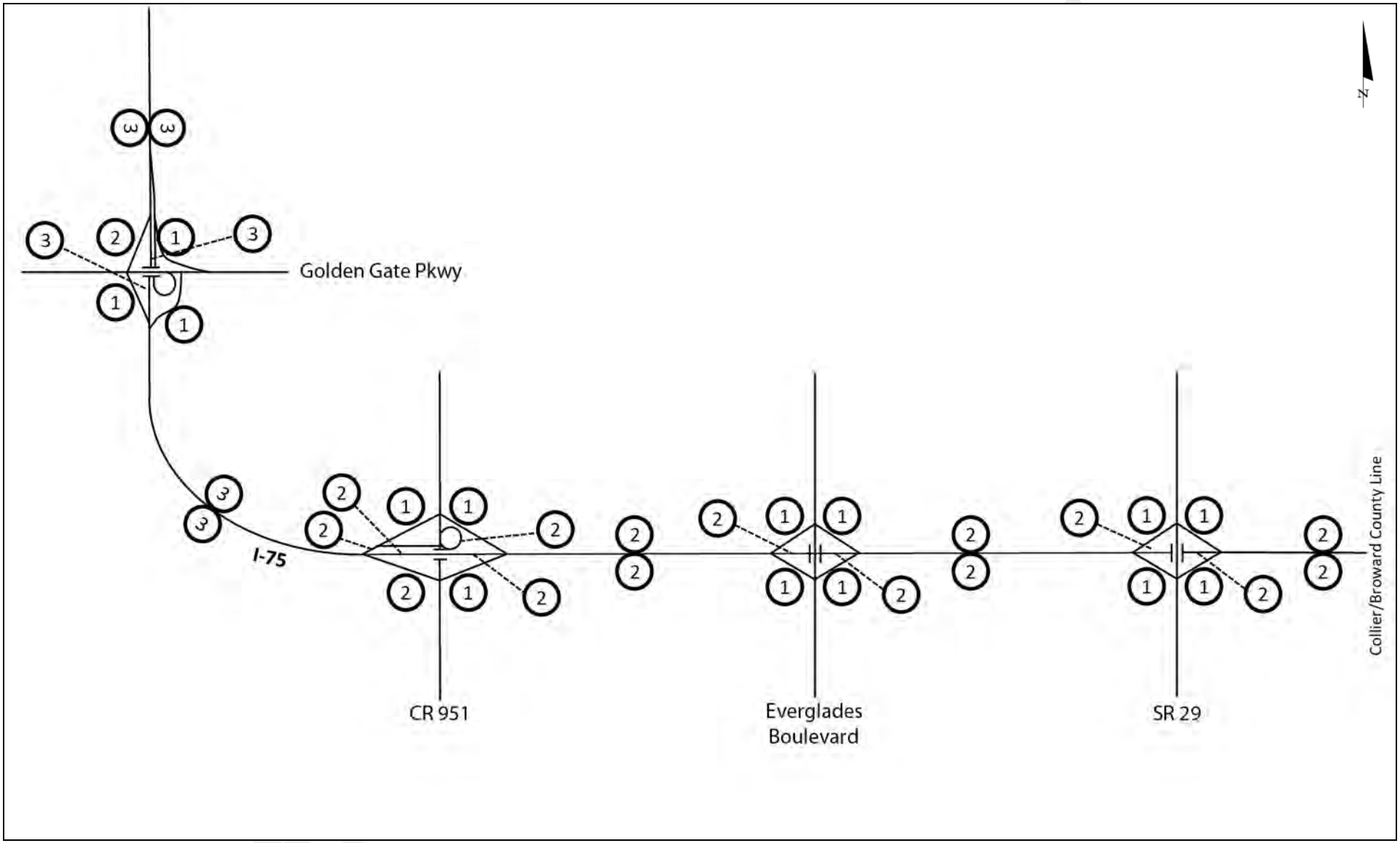


Figure 7-8: Interim Year (2029) I-75 Mainline and Ramp Laneage – Alternative 4

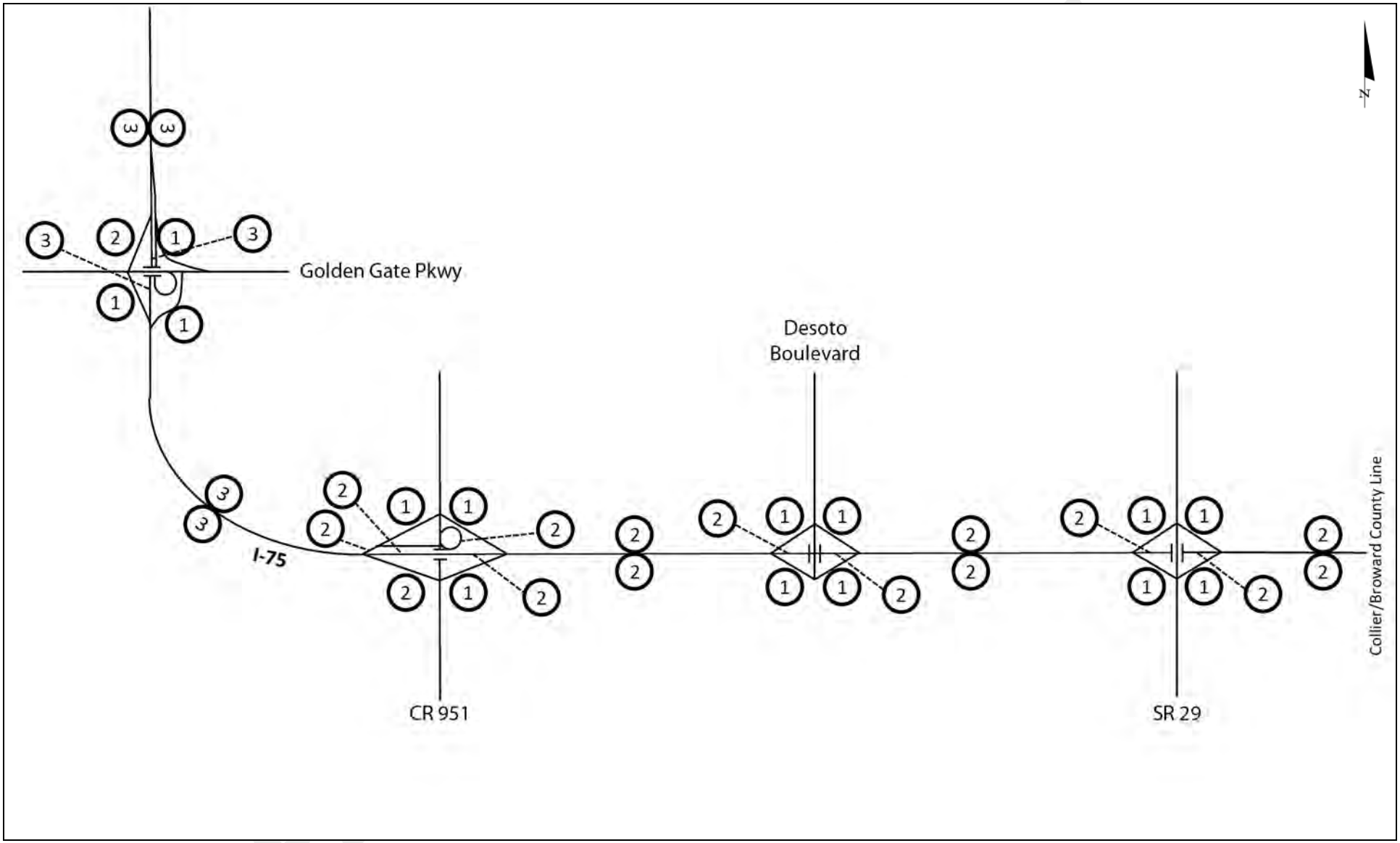


Figure 7-9: Interim Year (2029) I-75 Mainline and Ramp Laneage – Alternative 5

Table 7-16: Interim Year (2029) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 1

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	1,568	431	18.7	B	1,996	548	23.1	C
	EB On	1,137	287	15.4	B	1,448	365	19.0	B
	WB Off	1,813	365	21.1	C	1,424	287	17.1	B
	WB On	1,448	431	20.6	C	1,137	431	17.7	B
CR 951	EB Off	3,297 [1]	1,911 [2]	16.6 [3]	B	4,196 [1]	2,432 [2]	21.2 [3]	C
		1,386 [4]	-	10.7 [5]	A	1,764 [4]	-	13.6 [5]	B
	EB On	1,386	182	17.2	B	1,764	232	21.2	C
	WB Off	1,996	232	23.0	C	1,568	182	18.5	B
	WB On	1,764 [1]	2,432 [2]	13.6 [3]	B	1,386 [1]	1,911 [2]	10.7 [3]	A
		4,196 [4]	-	21.2 [5]	C	3,297 [4]	-	16.6 [5]	B
Golden Gate Pkwy	NB Off	4,196	487	27.5	C	3,297	382	22.7	C
	NB On	3,709	1,596	33.6	D	2,915	2,149	34.0	D
	SB Off	5,064	2,149	29.4	D	5,305	1,596	27.5	C
	SB On	2,915	382	19.7	B	3,709	487	24.5	C

[1] Volume Upstream of Two-Lane Ramp (Drop/Add Lane)

[2] Two-Lane Ramp (Drop/Add Lane)

[3] Density Upstream of Two-Lane Ramp (Drop/Add Lane)

[4] Volume Downstream of Two-Lane Ramp (Drop/Add Lane)

[5] Density Downstream of Two-Lane Ramp (Drop/Add Lane)

Table 7-17: Interim Year (2029) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 4

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	1,626	414	19.3	B	2,070	527	23.9	C
	EB On	1,212	212	15.4	B	1,543	270	19.0	B
	WB Off	1,813	270	21.1	C	1,424	212	17.1	B
	WB On	1,543	527	22.4	C	1,212	414	18.2	B
Everglades Blvd	EB Off	2,587	1,083	24.8	C	3,293	1,379	31.4	D
	EB On	1,504	122	13.2	B	1,914	156	17.3	B
	WB Off	2,070	156	22.1	C	1,626	122	17.5	B
	WB On	1,914	1,379	25.1	C	1,504	1,083	19.3	B
CR 951	EB Off	3,714 [1]	1,870	18.6 [3]	C	4,727[1]	2,380 [2]	24.3 [3]	C
		1,844 [4]	-	14.2 [5]	B	2,347[4]	-	18.0 [5]	C
	EB On	1,844	743	24.1	C	2,347	946	29.9	D
	WB Off	3,293	946	33.0	D	2,587	743	26.4	C
	WB On	2,347 [1]	2,380[2]	18.0 [3]	C	1,844 [1]	1,870 [2]	14.2 [3]	B
		4,727 [4]	-	24.3 [5]	C	3,714 [4]	-	18.6 [5]	C
Golden Gate Pkwy	NB Off	4,727	762	30.5	D	3,714	599	25.3	C
	NB On	3,965	1,561	34.6	D	3,115	2,047	34.2	D
	SB Off	5,162	2,047	29.3	D	5,526	1,561	28.3	D
	SB On	3,115	599	22.4	C	3,965	762	28.0	C

[1] Volume Upstream of Two-Lane Ramp (Drop/Add Lane)

[2] Two-Lane Ramp (Drop/Add Lane)

[3] Density Upstream of Two-Lane Ramp (Drop/Add Lane)

[4] Volume Downstream of Two-Lane Ramp (Drop/Add Lane)

[5] Density Downstream of Two-Lane Ramp (Drop/Add Lane)

Table 7-18: Interim Year (2029) I-75 Interchange Ramp Merge/Diverge Area Levels of Service – Alternative 5

Interchange	Ramp	AM Peak Hour				PM Peak Hour			
		Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS	Freeway Volume	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
SR 29	EB Off	1,654	419	19.6	B	2,106	534	24.3	C
	EB On	1,235	189	15.4	B	1,572	241	19.0	B
	WB Off	1,813	241	21.1	C	1,424	189	17.1	B
	WB On	1,572	534	22.7	C	1,235	419	18.5	B
Desoto Blvd	EB Off	2,400	896	23.0	C	3,055	1,140	29.1	D
	EB On	1,504	150	13.4	B	1,915	191	18.7	B
	WB Off	2,106	191	22.5	C	1,654	150	17.8	B
	WB On	1,915	1,140	23.2	C	1,504	896	17.8	B
CR 951	EB Off	3,605 [1]	1,883 [2]	18.1 [3]	C	4,588 [1]	2,396 [2]	23.5 [3]	C
		1,722 [4]	-	13.2 [5]	B	2,192 [4]	-	16.9 [5]	B
	EB On	1,722	678	22.5	C	2,192	863	28.0	C
	WB Off	3,055	863	30.8	D	2,400	678	24.6	C
	WB On	2,192 [1]	2,396 [2]	16.9 [3]	B	1,722 [1]	1,883 [2]	13.2 [3]	B
		4,588 [4]	-	23.5 [3]	C	3,605 [4]	-	18.1 [5]	C
Golden Gate Pkwy	NB Off	4,588	734	29.8	D	3,605	577	24.7	C
	NB On	3,854	1,568	34.1	D	3,028	2,077	34.0	D
	SB Off	5,105	2,077	29.2	D	5,422	1,568	27.9	C
	SB On	3,028	577	21.8	C	3,854	734	27.2	C

[1] Volume Upstream of Two-Lane Ramp (Drop/Add Lane)

[2] Two-Lane Ramp (Drop/Add Lane)

[3] Density Upstream of Two-Lane Ramp (Drop/Add Lane)

[4] Volume Downstream of Two-Lane Ramp (Drop/Add Lane)

[5] Density Downstream of Two-Lane Ramp (Drop/Add Lane)

Table 7-18 indicates that Alternative 5 is also projected to result in several additional ramps operating at LOS D during the a.m. or p.m. peak hour. These include the following:

- Eastbound off-ramp to Desoto Boulevard (p.m. peak hour)
- Westbound off-ramp to CR 951 (a.m. peak hour)
- Northbound off-ramp to Golden Gate Parkway (a.m. peak hour)

Table 7-19 provides a comparative summary of the interim year merge/diverge area levels of service for Alternatives 1, 4 and 5. The interim year HCS analyses for the I-75 merge/diverge areas are provided in Appendix J.

7.3 I-75/Ramp Terminal Intersections

7.3.1 Opening Year (2019)

The ramp terminal intersections at the SR 29, CR 951 and Golden Gate Parkway interchanges were analyzed for the opening year (2019) along with the I-75 ramp terminal intersection on the south side of the Everglades Boulevard interchange. Unsignalized intersection analyses were conducted for the SR 29 ramp terminal intersections as well as the Everglades Boulevard ramp terminal intersection. If a ramp terminal intersection was projected to operate over capacity with the existing geometry, additional laneage was analyzed to determine the minimum at-grade geometric improvements that were needed. The I-75 ramp terminal intersection geometry that was included in the final analyses is graphically illustrated in Figure 7-10. The 2019 a.m. and p.m. peak hour volumes are depicted in Figures 7-11 thru 7-15. The results of the a.m. and p.m. peak hour unsignalized intersection analyses are summarized in Tables 7-20 and 7-21, respectively.

Table 7-20 indicates that in the a.m. peak hour, the northbound and southbound left-turn movements at the SR 29 interchange are projected to operate at LOS A for all five alternatives. The eastbound left-turn movement is projected to operate at LOS D for Alternatives 1, 3A, and 3B and at LOS C for Alternatives 4 and 5. The westbound left-turn movement is projected to operate at LOS E for Alternatives 1 and 3B and at LOS D for Alternatives 3A, 4 and 5. Although some differences in level of service are projected to occur for this movement, it should be noted that the average delay only varies between 31.9 seconds/vehicle (Alternative 5) and 35.8 seconds/vehicle (Alternative 1). Table 7-20 also indicates that the southbound left-turn movement at the Everglades Boulevard diamond interchange is projected to operate at LOS A during the a.m. peak hour while the eastbound left-turn movement is projected to operate at LOS D.

Table 7-21 indicates that in the p.m. peak hour, the northbound and southbound left-turn movements at the SR 29 interchange are projected to operate at LOS A for all five alternatives. The eastbound left-turn movement is projected to operate at LOS E for Alternatives 1, 3A and 3B, LOS D for Alternative 4, and LOS C for Alternative 5. The average delay for the eastbound left-turn movement is projected to range between 24.4 seconds/vehicle (Alternative 5) and 47.4 seconds/ vehicle (Alternative 1). The westbound left-turn movement is projected to operate at LOS D for Alternatives 1, 3A, 3B and 4 and at LOS C for Alternative 5.

Table 7-21 also indicates that the southbound left-turn movement at the Everglades Boulevard diamond interchange is projected to operate at LOS A during the p.m. peak hour but the eastbound left-turn movement is projected to operate at LOS F. The v/c ratio for the eastbound left-turn movement is projected to be 1.12 while the average vehicle delay is projected to be 96.4 seconds/vehicle. The 95th percentile queue length for the eastbound Everglades Boulevard off-ramp is estimated to be approximately 22 vehicles. Based on an average vehicle spacing of 25 feet, the 95th percentile queue length would be approximately 550 feet. The magnitude of the off-ramp queue and the average vehicle delay suggest that the implementation of a traffic signal at this location in the opening year may be appropriate if a diamond interchange configuration were to be constructed at Everglades Boulevard.

The results of the a.m. and p.m. peak hour signalized intersection analyses are also summarized in Tables 7-20 and 7-21, respectively. The levels of service projected to occur for these intersections are not expected to vary significantly between the five alternatives for either peak hour. All of these signalized intersections are projected to operate at LOS D or better during both peak hours. The opening year HCS analyses for the I-75 ramp terminal intersections are provided in Appendix K.

Table 7-19: Interim Year (2029) I-75 Interchange Ramp Merge/Diverge Area Level of Service Summary

Interchange	Ramp	AM Peak Hour			PM Peak Hour		
		Alt. 1	Alt. 4	Alt. 5	Alt. 1	Alt. 4	Alt. 5
SR 29	EB Off	B	B	B	C	C	C
	EB On	B	B	B	B	B	B
	WB Off	C	C	C	B	B	B
	WB On	C	C	C	B	B	B
Everglades Blvd/Desoto Blvd	EB Off	-	C	C	-	D	D
	EB On	-	B	B	-	B	B
	WB Off	-	C	C	-	B	B
	WB On	-	C	C	-	B	B
CR 951	EB Off	B	C	C	C	C	C
	EB On	B	C	C	C	D	C
	WB Off	C	D	D	B	C	C
	WB On	C	C	C	B	C	C
Golden Gate Pkwy	EB Off	C	D	D	C	C	C
	EB On	D	D	D	D	D	D
	WB Off	D	D	D	C	D	C
	WB On	B	C	C	C	C	C

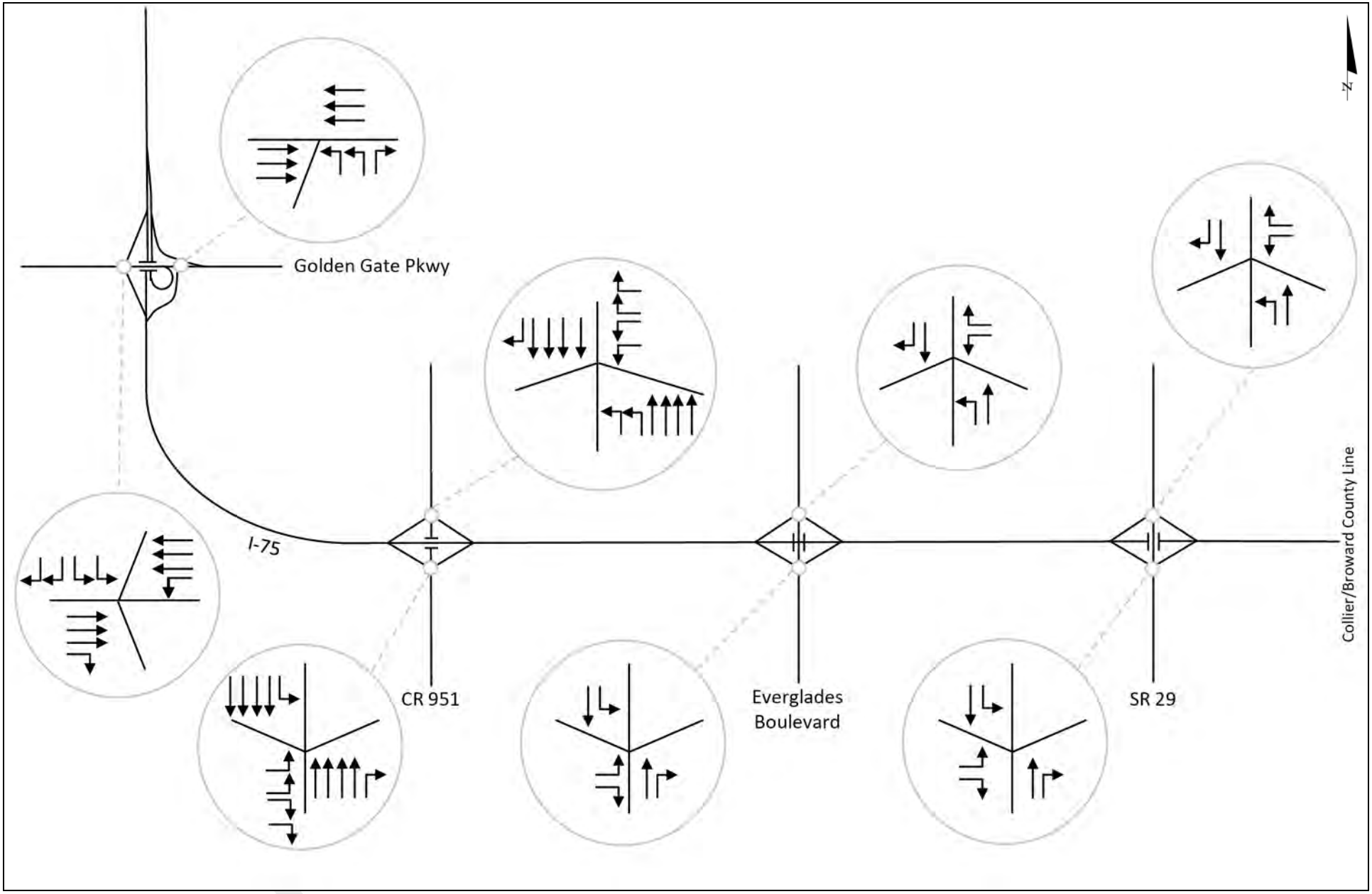


Figure 7-10: Opening Year (2019) I-75 Ramp Terminal Intersection Laneage

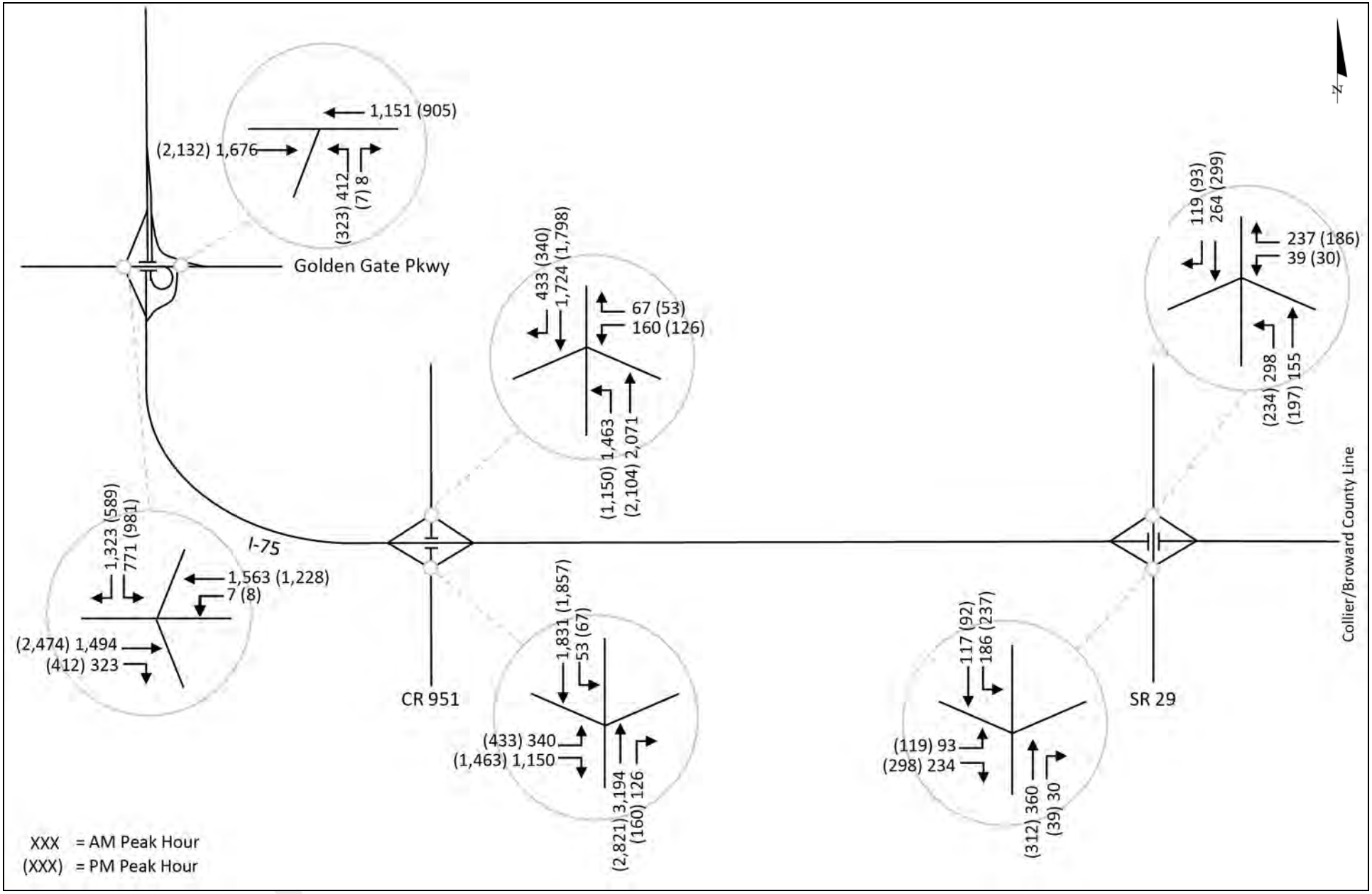


Figure 7-11: 2019 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 1

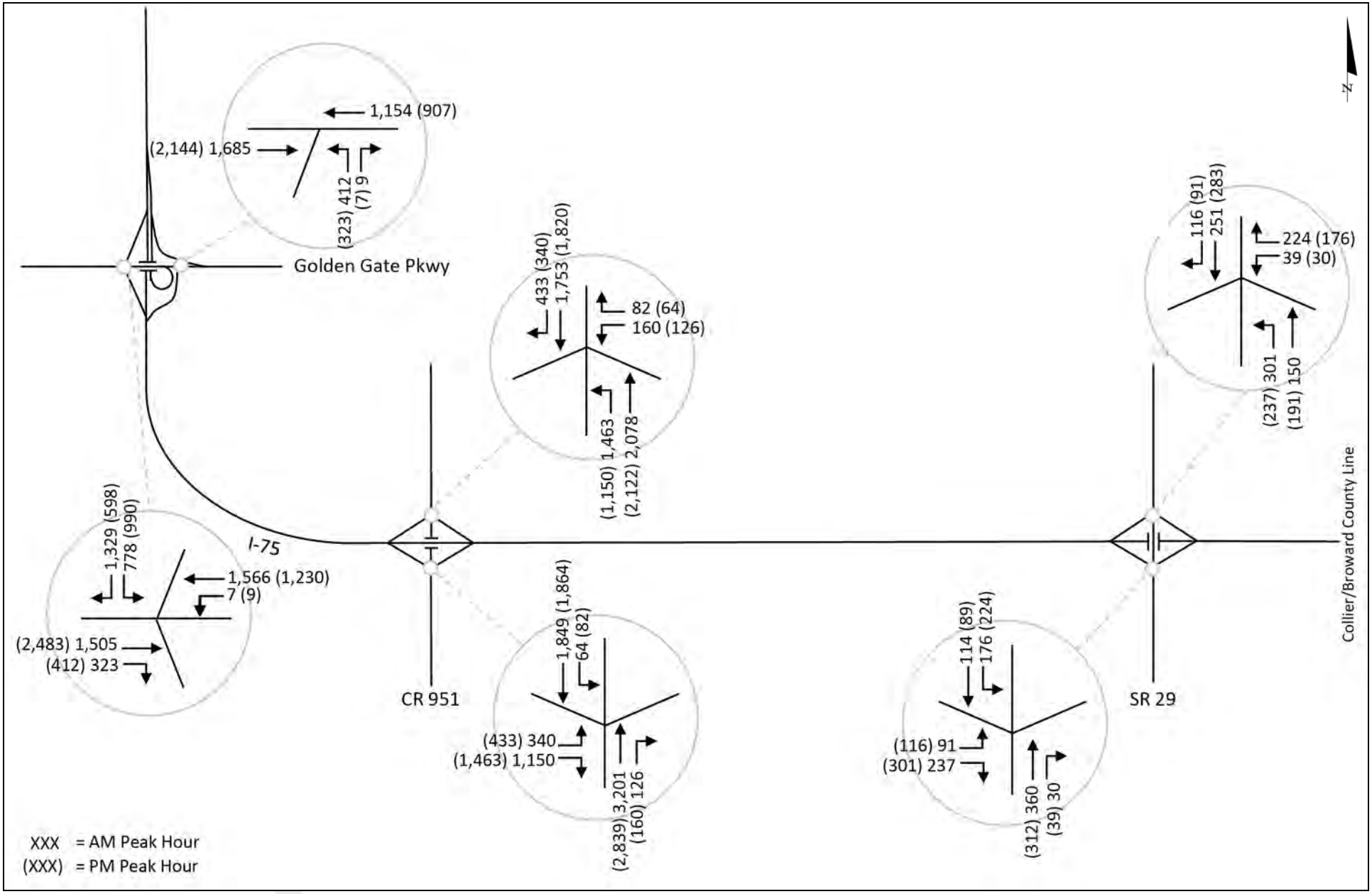


Figure 7-12: 2019 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 3A

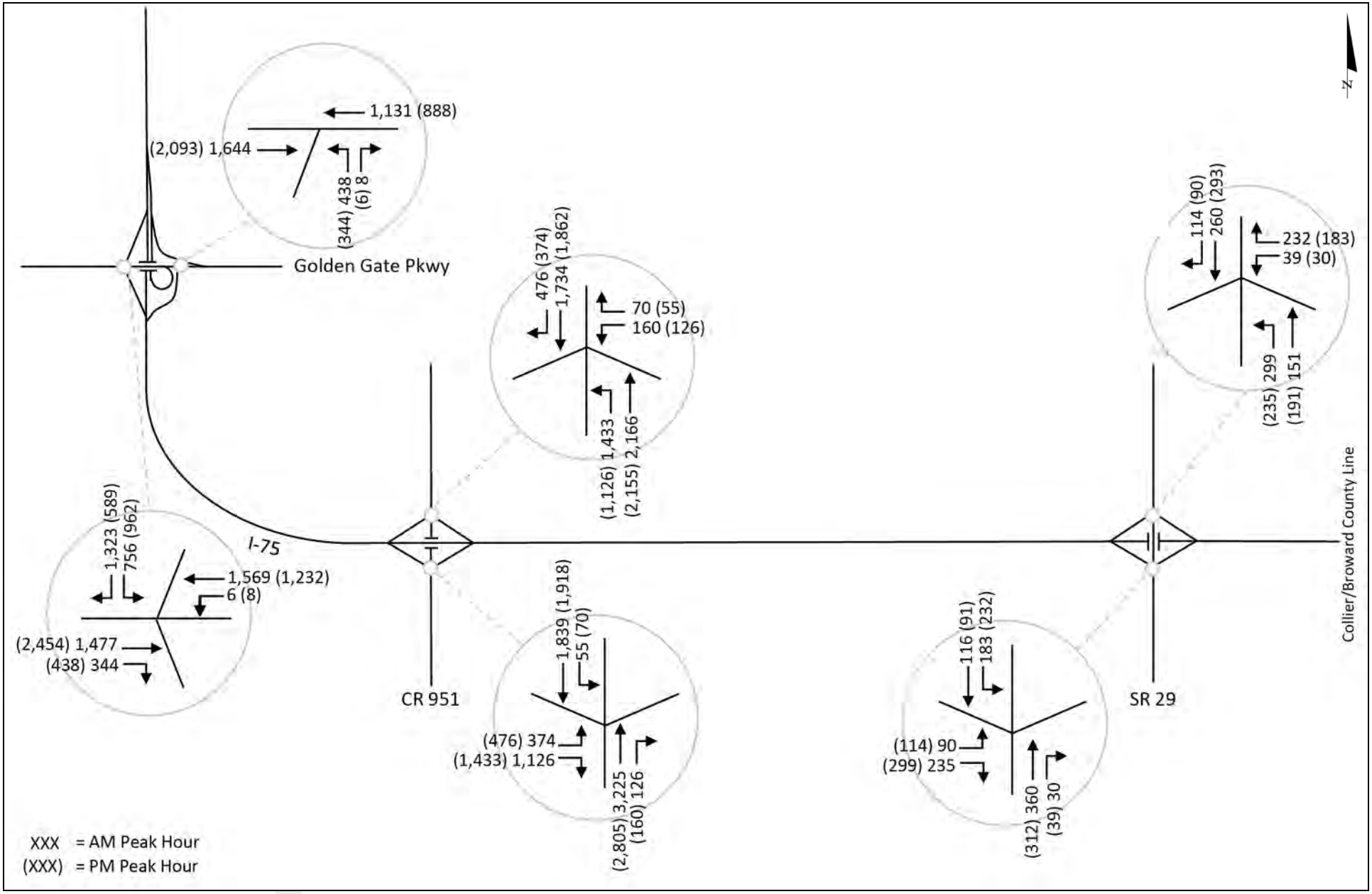


Figure 7-13: 2019 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 3B

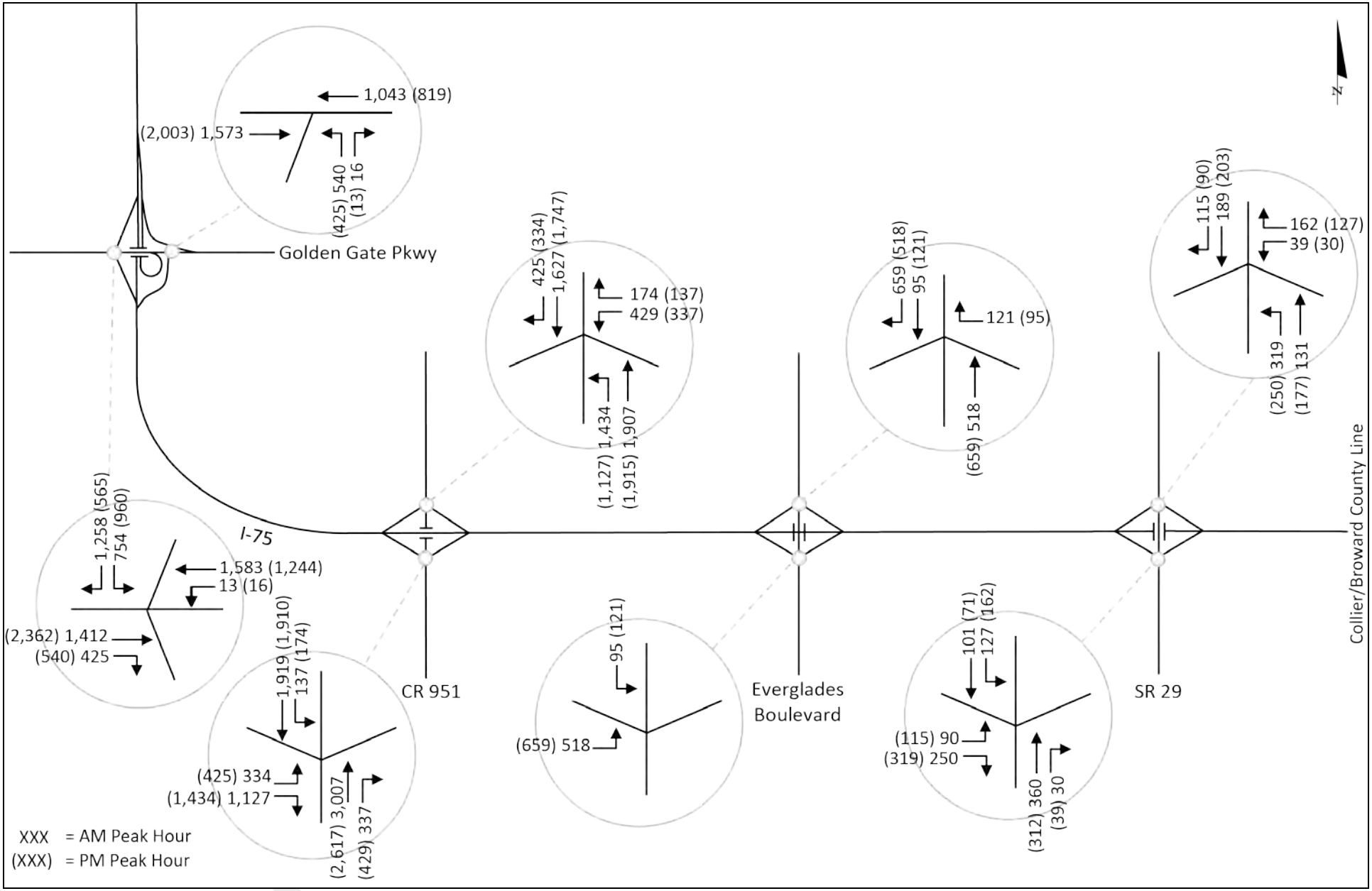


Figure 7-14: 2019 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 4

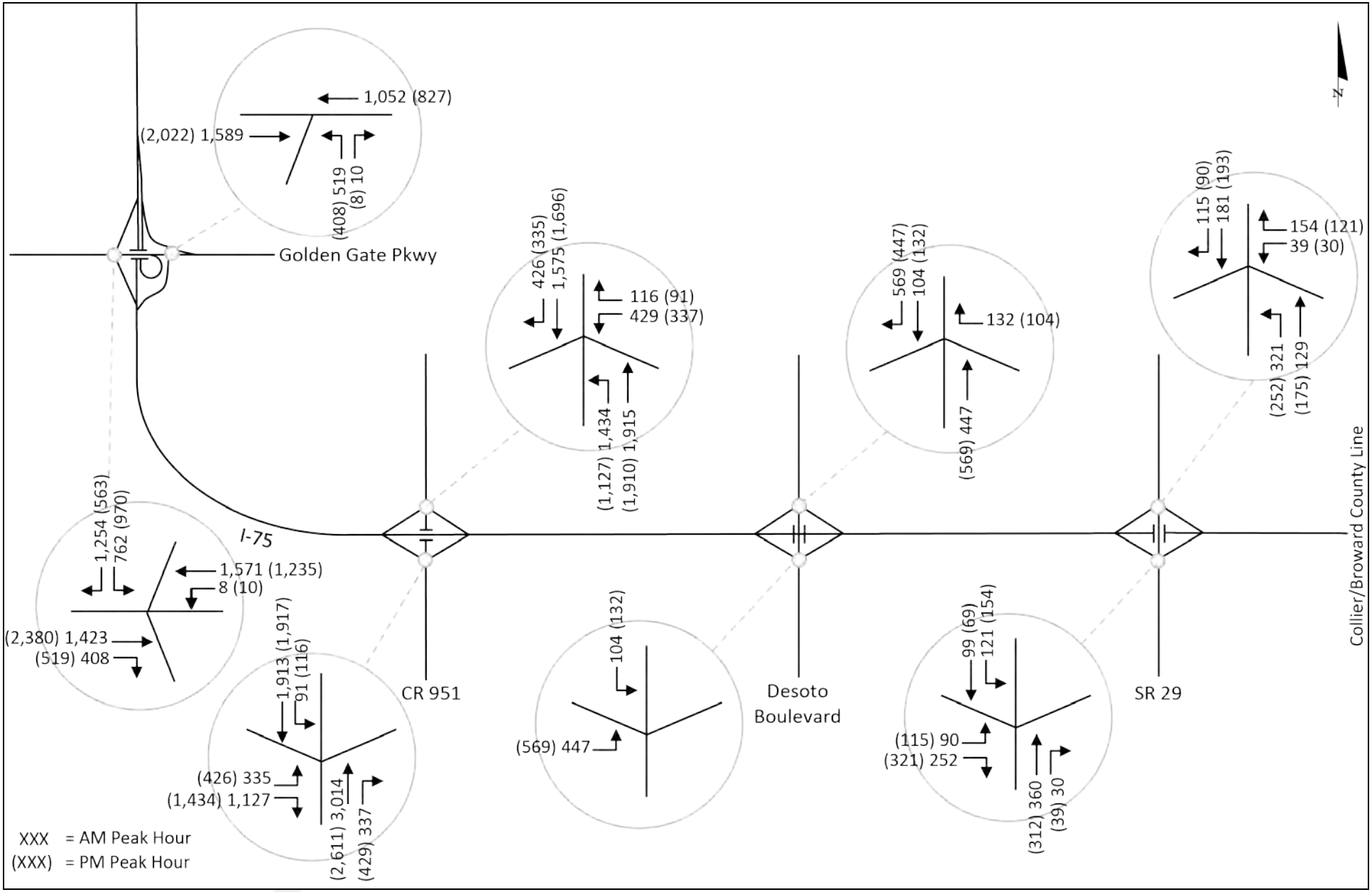


Figure 7-15: 2019 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 5

Table 7-20: Opening Year (2019) I-75 Ramp Terminal Intersection Levels of Service – AM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
SR 29 WB On/Off-Ramps [1]	WB LT	1	0.27	35.8	E	1	0.26	34.8	D	1	0.27	35.3	E	1	0.25	32.3	D	1	0.24	31.9	D
	NB LT	1	0.28	9.3	A	1	0.28	9.3	A	1	0.28	9.3	A	1	0.28	9.0	A	1	0.28	9.0	A
SR 29 EB On/Off-Ramps [1]	EB LT	1	0.45	32.6	D	1	0.42	30.1	D	1	0.43	31.4	D	1	0.33	22.5	C	1	0.32	21.7	C
	SB LT	1	0.19	9.2	A	1	0.18	9.2	A	1	0.19	9.2	A	1	0.13	8.9	A	1	0.13	8.9	A
Everglades Blvd EB On/Off-Ramps [1]	EB LT	-	-	-	-	-	-	-	-	-	-	-	-	1	0.80	26.9	D	-	-	-	-
	SB LT	-	-	-	-	-	-	-	-	-	-	-	-	1	0.06	7.4	A	-	-	-	-
CR 951 WB On/Off-Ramps	NB LT	2	0.99	41.1	D	2	0.99	41.0	D	2	0.97	37.0	D	2	1.00	38.8	D	2	1.00	39.2	D
	NB TH	4	0.43	1.3	A	4	0.42	1.2	A	4	0.44	1.3	A	4	0.40	1.1	A	4	0.40	1.1	A
	SB TH	4	0.97	57.4	E	4	0.96	54.3	D	4	0.98	57.1	E	4	0.95	47.0	D	4	0.92	44.3	D
	SB RT	1	0.54	25.1	C	1	0.54	25.1	C	1	0.61	26.4	C	1	0.52	21.0	C	1	0.52	21.0	C
	WB LT	1	0.66	58.2	E	1	0.69	61.4	E	1	0.66	58.2	E	2	0.91	67.1	E	2	0.91	67.1	E
	WB RT	1	0.18	48.6	D	1	0.26	50.3	D	1	0.32	50.2	D	1	0.65	50.2	D	1	0.38	43.2	D
	OVERALL	-	0.93	31.3	C	-	0.93	30.6	C	-	0.92	29.9	C	-	0.97	30.1	C	-	0.96	29.0	C
CR 951 EB On/Off-Ramps	NB TH	4	0.83	8.7	A	4	0.83	9.0	A	4	0.85	9.6	A	4	0.92	18.4	B	4	0.93	18.5	B
	NB RT	1	0.06	0.6	A	1	0.08	4.1	A	1	0.08	4.2	A	1	0.40	10.2	B	1	0.40	10.2	B
	SB LT	1	0.44	59.5	E	1	0.51	60.2	E	1	0.46	59.7	E	1	0.69	54.2	D	1	0.46	45.9	D
	SB TH	4	0.71	26.9	C	4	0.72	27.1	C	4	0.72	27.5	C	4	0.75	24.1	C	4	0.75	24.0	C
	EB LT	2	0.68	53.9	D	2	0.68	53.9	D	2	0.71	54.4	D	2	0.56	40.7	D	2	0.54	40.4	D
	EB RT	2	0.95	37.6	D	2	0.94	36.9	D	2	0.92	33.1	C	2	0.95	34.6	C	2	0.91	29.3	C
	OVERALL	-	0.84	21.4	C	-	0.84	21.5	C	-	0.83	21.3	C	-	0.86	24.1	C	-	0.84	22.9	C
Golden Gate Pkwy NB Off-Ramp	NB LT	2	0.58	34.6	C	2	0.58	34.6	C	2	0.59	34.1	C	2	0.68	31.7	C	2	0.62	35.6	D
	NB RT	1	0.02	29.1	C	1	0.03	29.1	C	1	0.02	28.3	C	1	0.04	24.5	C	1	0.03	28.6	C
	EB TH	3	0.57	9.3	A	3	0.57	9.3	A	3	0.56	9.7	A	3	0.56	9.9	A	3	0.57	11.9	B
	WB TH	3	0.39	7.9	A	3	0.39	7.9	A	3	0.39	8.3	A	3	0.37	8.4	A	3	0.37	10.1	B
	OVERALL	-	0.57	12.0	B	-	0.57	12.0	B	-	0.57	12.6	B	-	0.60	13.2	B	-	0.58	15.2	B
Golden Gate Pkwy SB On/Off-Ramps	SB LT	2	0.62	23.5	C	2	0.62	23.6	C	2	0.60	23.3	C	2	0.74	28.4	C	2	0.52	19.5	B
	SB RT	2	0.99	43.5	D	2	1.00	44.7	D	2	0.99	43.5	D	2	0.98	47.9	D	2	1.05	67.7	E
	EB TH	3	0.95	44.0	D	3	0.96	45.1	D	3	0.94	40.5	D	3	0.77	24.6	C	3	1.03	68.4	E
	WB LT	1	0.06	42.7	D	1	0.06	42.7	D	1	0.05	42.6	D	1	0.09	37.9	D	1	0.07	47.7	D
	WB TH	3	1.00	51.1	D	3	1.00	51.6	D	3	1.00	50.2	D	3	0.65	14.9	B	3	0.84	27.5	C
	OVERALL	-	0.99	43.0	D	-	1.00	43.8	D	-	0.99	41.7	D	-	0.78	28.0	C	-	0.95	47.9	D

[1] Unsignalized Intersection

Table 7-21: Opening Year (2019) I-75 Ramp Terminal Intersection Levels of Service – PM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
SR 29 WB On/Off-Ramps [1]	WB LT	1	0.18	28.8	D	1	0.17	27.9	D	1	0.18	28.2	D	1	0.16	25.1	D	1	0.15	24.8	C
	NB LT	1	0.23	9.2	A	1	0.23	9.1	A	1	0.23	9.1	A	1	0.22	8.8	A	1	0.22	8.7	A
SR 29 EB On/Off-Ramps [1]	EB LT	1	0.63	47.4	E	1	0.57	40.5	E	1	0.59	43.0	E	1	0.43	25.8	D	1	0.41	24.4	C
	SB LT	1	0.24	9.2	A	1	0.22	9.2	A	1	0.23	9.2	A	1	0.16	8.9	A	1	0.15	8.8	A
Everglades Blvd EB On/Off-Ramps [1]	EB LT	-	-	-	-	-	-	-	-	-	-	-	-	1	1.12	96.4	F	-	-	-	-
	SB LT	-	-	-	-	-	-	-	-	-	-	-	-	1	0.08	7.4	A	-	-	-	-
CR 951 WB On/Off-Ramps	NB LT	2	0.97	51.4	D	2	0.97	51.7	D	2	0.97	51.7	D	2	1.00	57.2	E	2	1.00	57.6	E
	NB TH	4	0.45	1.4	A	4	0.46	1.4	A	4	0.46	1.4	A	4	0.42	1.4	A	4	0.42	1.4	A
	SB TH	4	0.84	39.5	D	4	0.85	39.9	D	4	0.87	40.4	D	4	0.80	37.3	D	4	0.77	36.7	D
	SB RT	1	0.37	17.5	B	1	0.57	34.0	C	1	0.41	12.4	B	1	0.35	16.0	B	1	0.35	16.0	B
	WB LT	1	0.53	54.4	D	1	0.53	54.4	D	1	0.53	54.4	D	2	0.68	56.2	E	2	0.68	56.2	E
	WB RT	1	0.12	49.3	D	1	0.17	49.8	D	1	0.13	49.4	D	1	0.48	52.4	D	1	0.28	49.8	D
	OVERALL	-	0.84	26.6	C	-	0.85	27.7	C	-	0.85	26.5	C	-	0.86	29.3	C	-	0.85	28.9	C
CR 951 EB On/Off-Ramps	NB TH	4	0.85	19.1	B	4	0.85	18.7	B	4	0.84	18.4	B	4	0.82	19.9	B	4	0.78	16.9	B
	NB RT	1	0.11	0.8	A	1	0.17	10.2	B	1	0.12	0.8	A	1	0.36	1.2	A	1	0.35	1.1	A
	SB LT	1	0.38	56.9	E	1	0.48	58.6	E	1	0.40	57.1	E	1	0.78	69.9	E	1	0.60	60.6	E
	SB TH	4	0.94	51.7	D	4	0.96	54.4	D	4	0.94	50.2	D	4	0.96	53.4	D	4	0.96	54.2	D
	EB LT	2	0.61	47.4	D	2	0.61	47.4	D	2	0.71	51.3	D	2	0.63	48.9	D	2	0.64	49.6	D
	EB RT	2	0.99	35.0	D	2	0.99	33.1	C	2	0.99	35.7	D	2	0.98	32.0	C	2	0.98	32.0	C
	OVERALL	-	0.98	33.3	C	-	0.98	33.7	C	-	0.97	33.3	C	-	0.97	33.5	C	-	0.97	32.2	C
Golden Gate Pkwy NB Off-Ramp	NB LT	2	0.31	27.9	C	2	0.31	27.9	C	2	0.33	28.1	C	2	0.49	32.9	C	2	0.51	33.2	C
	NB RT	1	0.01	25.0	C	1	0.01	25.0	C	1	0.01	25.0	C	1	0.03	28.5	C	1	0.02	28.4	C
	EB TH	3	0.77	17.5	B	3	0.77	17.6	B	3	0.75	17.2	B	3	0.68	12.2	B	3	0.70	12.5	B
	WB TH	3	0.33	11.9	B	3	0.33	11.9	B	3	0.32	11.9	B	3	0.27	8.3	A	3	0.29	8.5	A
	OVERALL	-	0.60	17.0	B	-	0.61	17.1	B	-	0.60	16.9	B	-	0.62	14.0	B	-	0.65	14.1	B
Golden Gate Pkwy SB On/Off-Ramps	SB LT	2	1.03	73.4	E	2	1.03	76.0	E	2	1.01	68.1	E	2	1.00	65.6	E	2	1.01	68.1	E
	SB RT	2	0.76	38.6	D	2	0.77	39.1	D	2	0.54	24.3	C	2	0.72	35.7	D	2	0.72	35.7	D
	EB TH	3	1.05	59.2	E	3	1.05	60.6	E	3	1.04	56.4	E	3	1.02	44.3	D	3	1.03	46.5	D
	WB LT	1	0.06	47.7	D	1	0.07	47.7	D	1	0.06	47.7	D	1	0.13	45.6	D	1	0.08	45.3	D
	WB TH	3	0.43	11.7	B	3	0.43	11.7	B	3	0.52	19.2	B	3	0.43	6.6	A	3	0.43	6.6	A
	OVERALL	-	0.96	48.4	D	-	0.96	49.7	D	-	0.95	46.1	D	-	0.93	38.2	D	-	0.94	39.8	D

[1] Unsignalized Intersection

7.3.2 Design Year (2039)

The ramp terminal intersections at the SR 29, CR 951 and Golden Gate Parkway interchanges were also analyzed for the design year (2039) along with the I-75 ramp terminal intersection on the south side of the Everglades Boulevard interchange. Unsignalized intersection analyses were conducted for the SR 29 ramp terminal intersections as well as the Everglades Boulevard ramp terminal intersection. The design year (2039) intersection geometry that was analyzed for the CR 951 and Golden Gate Parkway interchange ramp terminal intersections is graphically illustrated in Figure 7-16. The 2039 a.m. and p.m. peak hour volumes are depicted on Figures 7-17 thru 7-21. The results of the a.m. and p.m. peak hour intersection analyses are summarized in Tables 7-22 and 7-23, respectively.

These tables indicate that all of the left-turn movements from the SR 29 off-ramps onto the cross streets are projected to operate at LOS F during both peak hours for all of the alternatives. Although LOS F conditions are projected for the westbound left-turn movement at the SR 29 interchange, the v/c ratio is projected to range between 0.52 (Alternative 4) and 0.70 (Alternative 1) in the a.m. peak hour and between 0.33 (Alternative 5) and 0.50 (Alternative 1) in the p.m. peak hour. The v/c ratios for the eastbound left-turn movement at the SR 29 interchange are projected to range between 1.49 (Alternative 5) and 3.10 (Alternative 1) in the a.m. peak hour and between 1.98 (Alternative 5) and 4.74 (Alternative 1) in the p.m. peak hour. Although LOS F conditions are projected to occur at the SR 29 ramp terminal intersections both with and without a new interchange, the estimated peak hour delays are significantly lower for the alternatives that include a new interchange.

Tables 7-22 and 7-23 indicate that the eastbound left-turn movement at the Everglades Boulevard interchange (Alternative 4) is also projected to operate at LOS F during both peak hours. The peak hour delays are estimated to be approximately 500 seconds/vehicle and 900 seconds/vehicle during the a.m. and p.m. peak hours, respectively. Based on the magnitude of the v/c ratios and average delays, this intersection would likely require signalization prior to the design year (2039) if a diamond interchange configuration were to be implemented at Everglades Boulevard. This ramp terminal intersection was re-analyzed as a signalized intersection with dual eastbound left-turn lanes and these results are also provided in Tables 7-22 and 7-23. If a traffic signal were implemented at this ramp terminal intersection by 2039 and dual left-turn lanes were provided for the eastbound left-turn movement, this left-turn movement is projected to operate at LOS A during the a.m. peak hour and LOS B during the p.m. peak hour. The southbound left-turn movement is projected to operate at LOS C during both peak hours with only a single left-turn lane. It should also be noted that a partial cloverleaf interchange would eliminate the need for any signals.

The results of the a.m. and p.m. peak hour signalized intersection analyses conducted at the CR 951 and Golden Gate Parkway interchanges are also summarized in Tables 7-22 and 7-23, respectively. It is important to note that the same geometry was analyzed for all five alternatives. The levels of service projected to occur for the individual movements that are subject to signal control at the CR 951 and Golden Gate Parkway ramp terminal intersections are not expected to vary significantly between the five alternatives for either peak hour. Only one movement at the CR 951 interchange (the southbound left-turn movement) is projected to operate at LOS F in the a.m. peak hour; however, the v/c ratio associated with this movement is

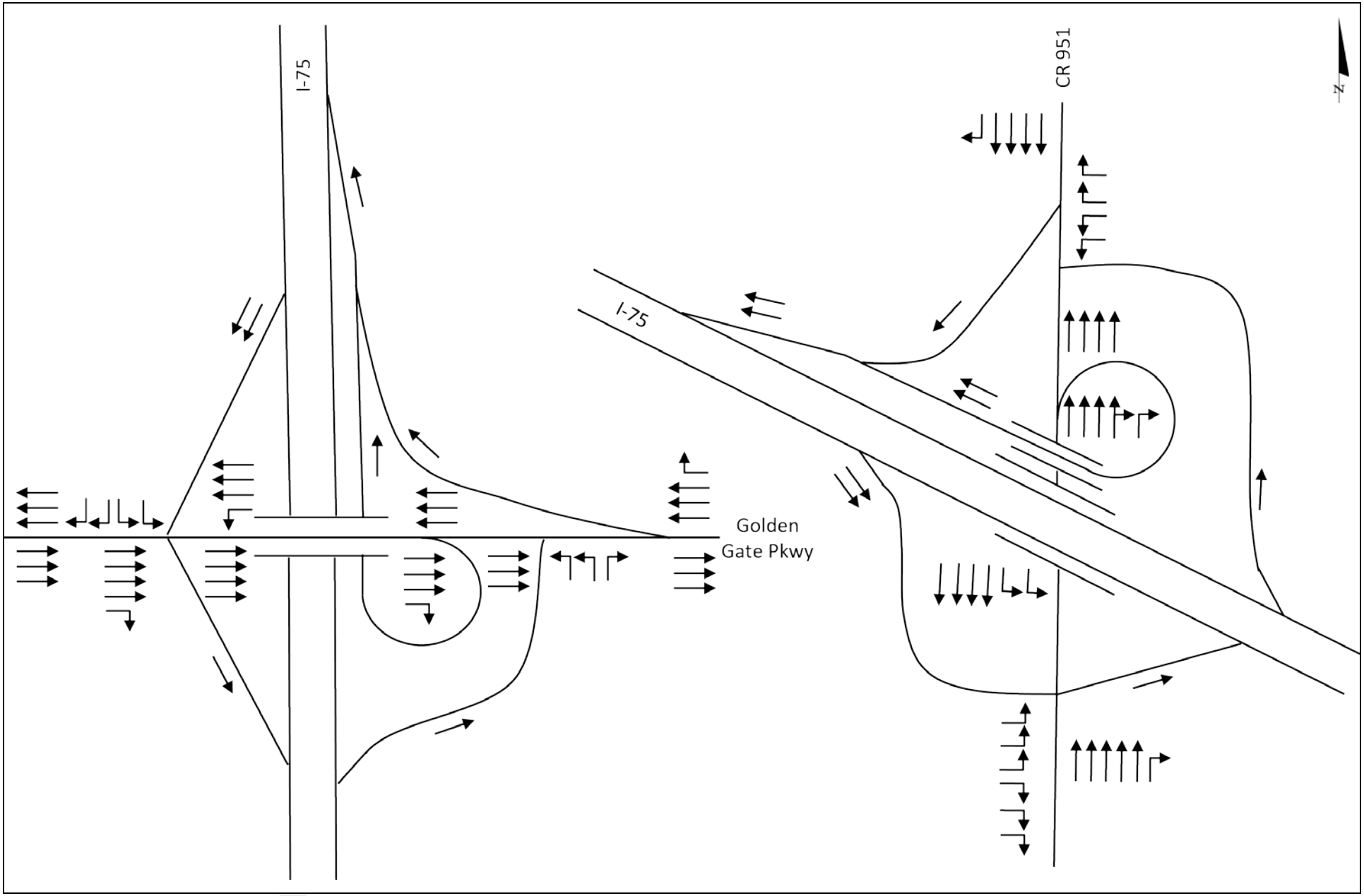


Figure 7-16: Design Year (2039) I-75 Ramp Terminal Signalized Intersection Laneage – CR 951 and Golden Gate Parkway Interchanges

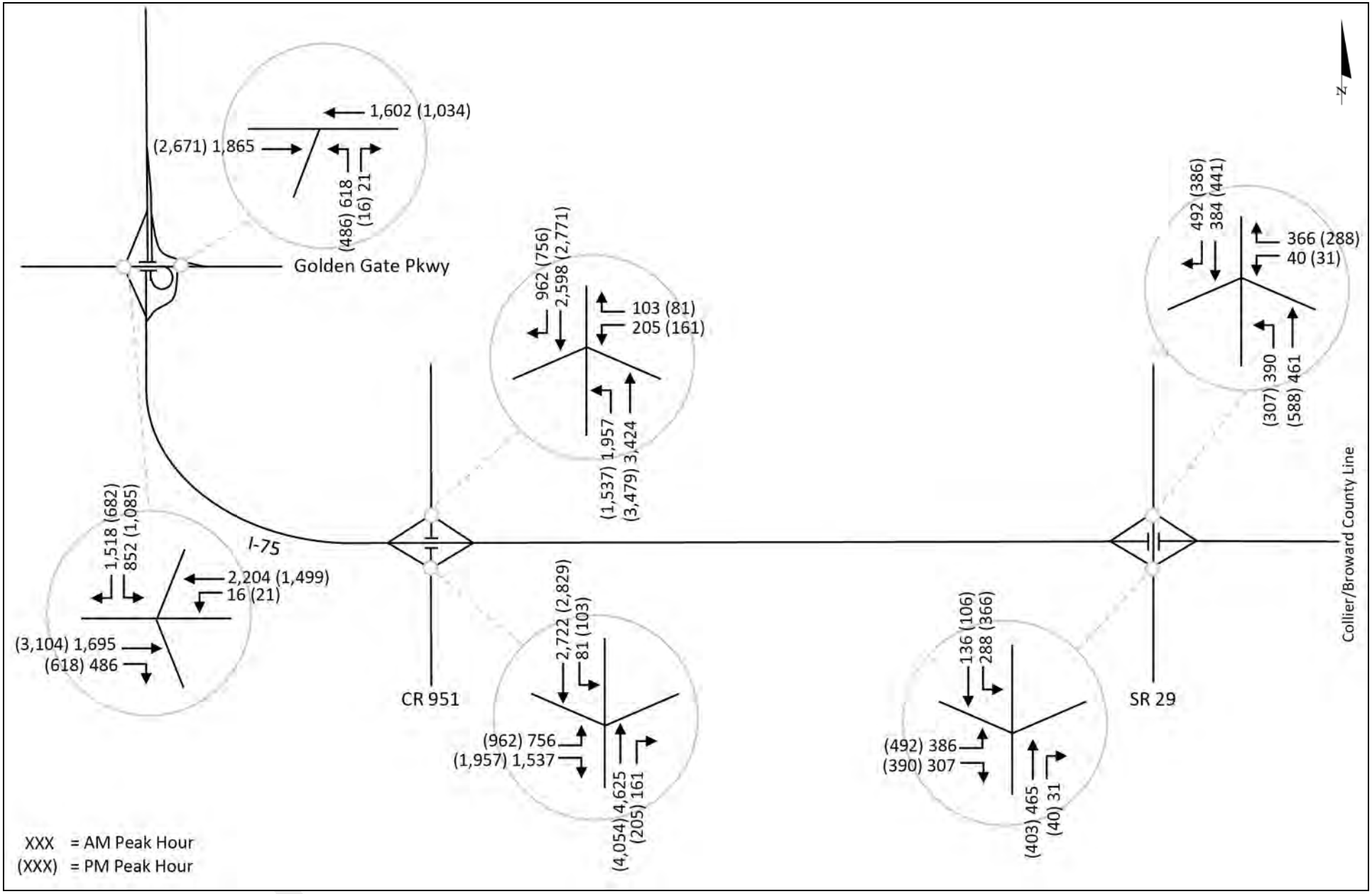


Figure 7-17: 2039 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 1

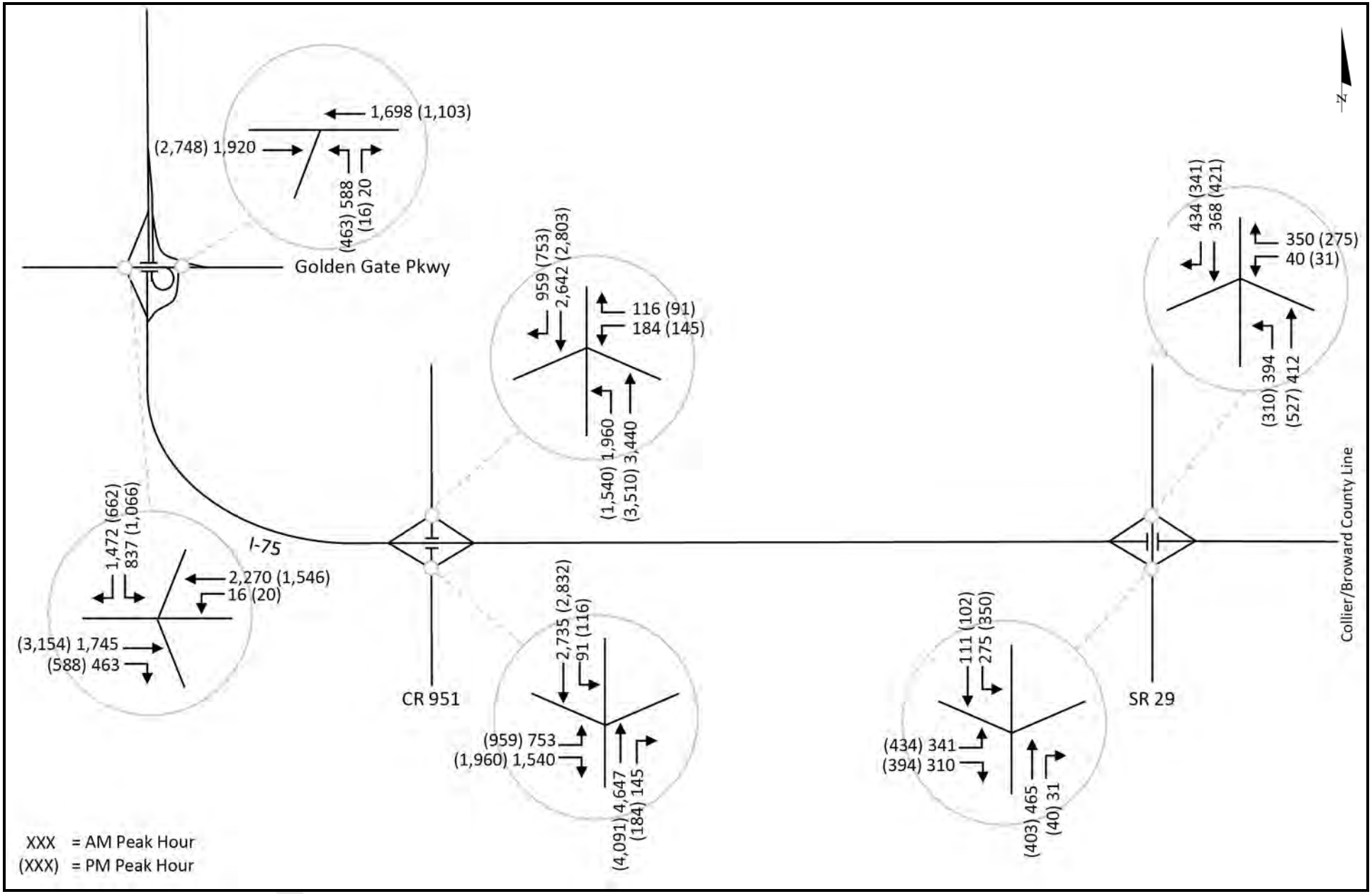


Figure 7-18: 2039 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 3A

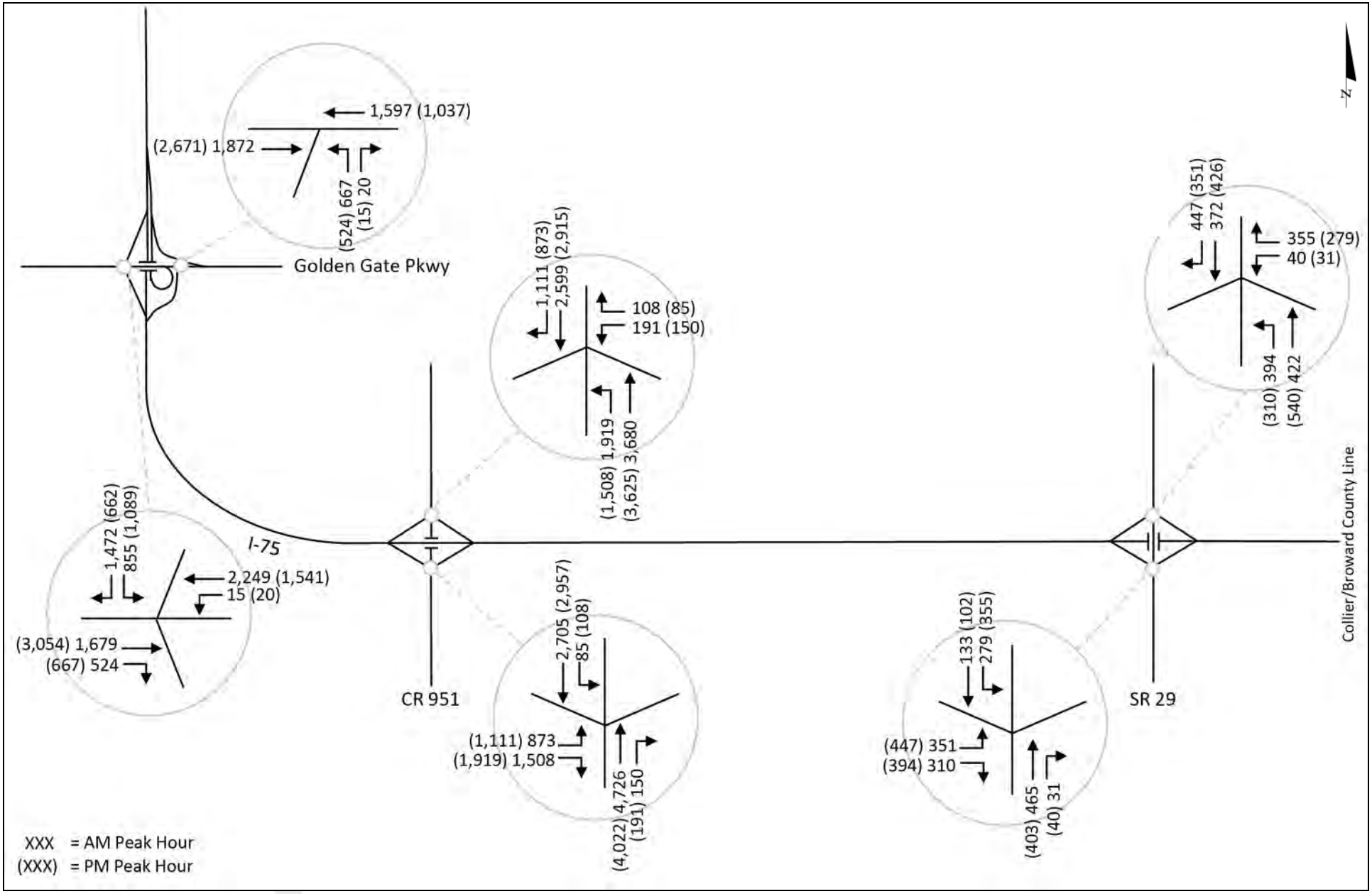


Figure 7-19: 2039 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 3B

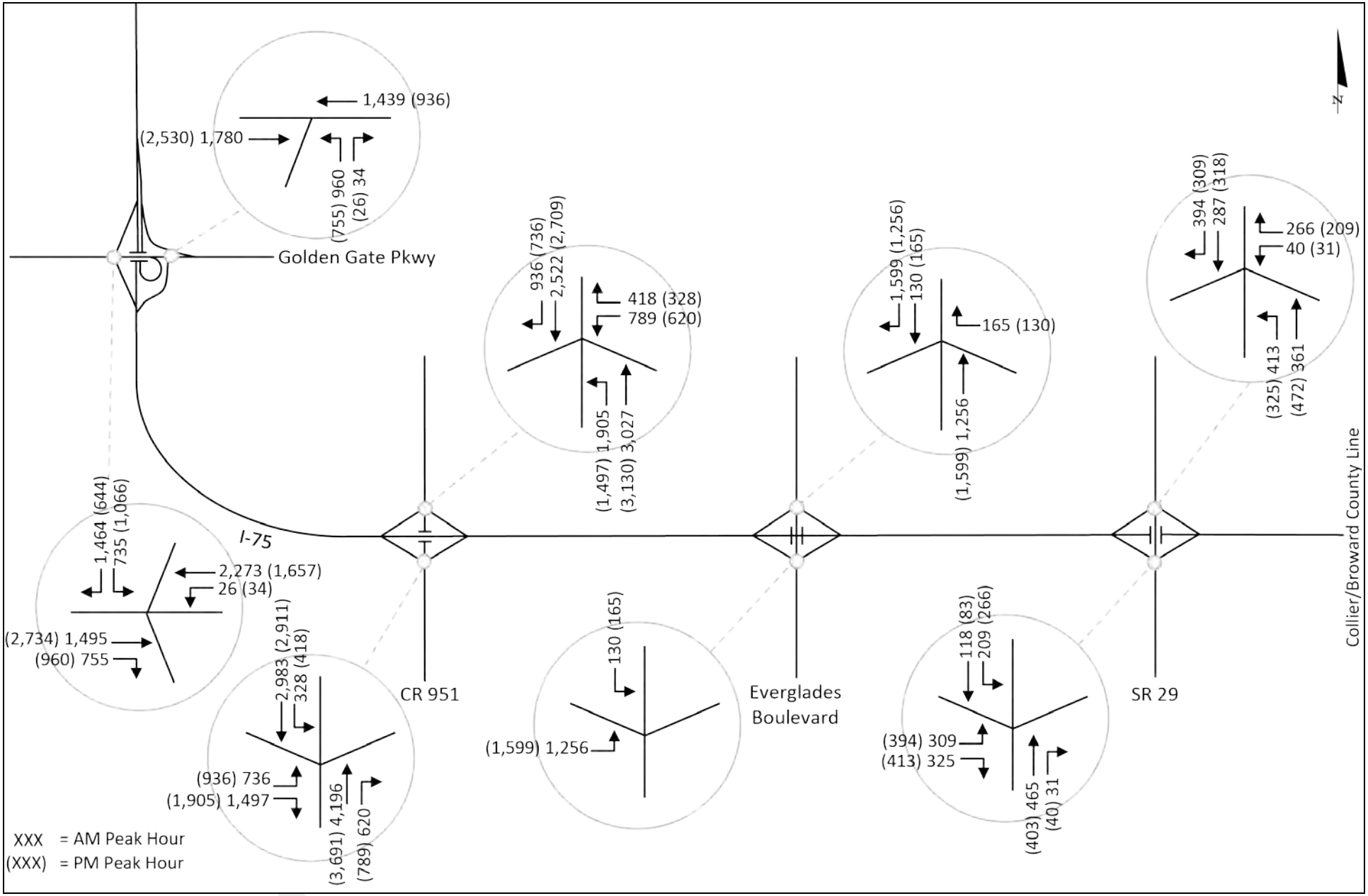


Figure 7-20: 2039 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 4

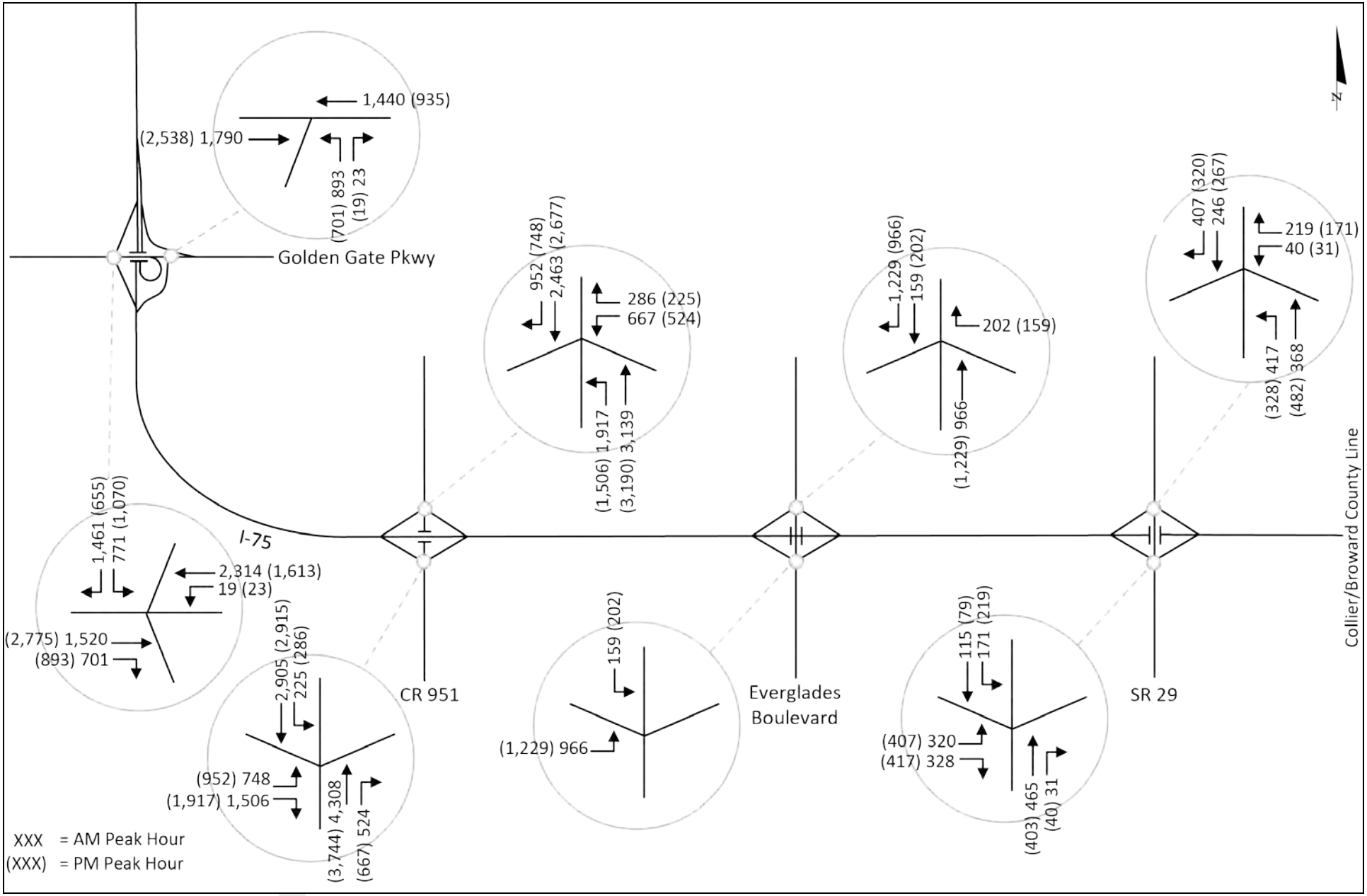


Figure 7-21: 2039 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 5

Table 7-22: Design Year (2039) I-75 Ramp Terminal Intersection Levels of Service – AM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS
SR 29 WB On/Off-Ramps [1]	NB LT	1	0.39	10.6	B	1	0.39	10.5	B	1	0.39	10.5	B	1	0.38	10.0	A	1	0.37	9.7	A
	WB LT	1	0.70	150.7	F	1	0.64	127.1	F	1	0.66	134.2	F	1	0.55	97.6	F	1	0.52	89.8	F
SR 29 EB On/Off-Ramps [1]	SB LT	1	0.31	10.3	B	1	0.30	10.2	B	1	0.30	10.2	B	1	0.22	9.7	A	1	0.18	9.5	A
	EB LT	1	3.10	1,016	F	1	2.56	771.4	F	1	2.67	823.9	F	1	1.70	380.1	F	1	1.49	283.9	F
Everglades Blvd EB On/Off-Ramps [1]	SB LT	-	-	-	-	-	-	-	-	-	-	-	-	1	0.08	7.4	A	-	-	-	-
	EB LT	-	-	-	-	-	-	-	-	-	-	-	-	1	2.06	499.4	F	-	-	-	-
Everglades Blvd EB On/Off-Ramps	EB LT	-	-	-	-	-	-	-	-	-	-	-	-	2	0.60	7.4	A	-	-	-	-
	SB LT	-	-	-	-	-	-	-	-	-	-	-	-	1	0.51	28.3	C	-	-	-	-
CR 951 WB On/Off-Ramps	WB LT	2	0.26	28.1	C	2	0.24	27.9	C	2	0.24	28.0	C	2	0.85	37.4	D	2	0.77	34.9	C
	WB RT	2	0.16	27.3	C	2	0.18	27.5	C	2	0.17	27.4	C	2	0.55	28.1	C	2	0.41	27.7	C
	NB TH	4	0.84	6.1	A	4	0.85	6.1	A	4	0.91	6.8	A	4	0.81	9.9	A	4	0.81	7.4	A
	SB TH	4	0.64	4.9	A	4	0.65	5.0	A	4	0.64	4.6	A	4	0.67	7.9	A	4	0.63	6.3	A
CR 951 EB On/Off-Ramps	EB LT	3	0.76	70.7	E	3	0.75	70.5	E	3	0.88	78.1	E	3	0.84	78.9	E	3	0.85	80.0	E
	EB RT	3	0.83	46.3	D	3	0.83	46.4	D	3	0.91	53.2	D	3	0.87	52.8	D	3	0.87	53.2	D
	NB TH	5	0.89	12.9	B	5	0.90	13.0	B	5	0.91	13.4	B	5	0.85	16.2	B	5	0.84	12.5	B
	NB RT	1	0.09	0.6	A	1	0.08	0.6	A	1	0.08	0.6	A	1	0.46	1.5	A	1	0.37	1.1	A
	SB LT	2	0.42	85.1	F	2	0.47	85.7	F	2	0.44	85.4	F	2	0.84	94.8	F	2	0.75	89.2	F
	SB TH	4	0.78	24.7	C	4	0.79	24.8	C	4	0.78	24.6	C	4	0.82	22.3	C	4	0.80	21.3	C
Golden Gate Pkwy NB Off-Ramp	EB TH	3	0.60	5.8	A	3	0.61	5.1	A	3	0.61	5.6	A	3	0.72	14.0	B	3	0.73	14.7	B
	WB TH	3	0.52	5.2	A	3	0.54	4.8	A	3	0.52	5.2	A	3	0.59	12.5	B	3	0.59	12.5	B
	NB LT	2	0.73	46.3	D	2	0.72	46.5	D	2	0.79	48.9	D	2	0.80	31.6	C	2	0.75	29.4	C
Golden Gate Pkwy SB On/Off-Ramps	EB TH	4	0.81	40.9	D	4	0.80	39.4	D	4	0.78	39.1	D	4	0.69	36.2	D	4	0.70	36.5	D
	WB LT	1	0.15	58.4	E	1	0.15	58.2	E	1	0.14	58.2	E	1	0.25	59.0	E	1	0.19	58.8	E
	WB TH	3	1.09	81.6	F	3	1.09	79.1	E	3	1.09	79.7	E	3	1.09	79.4	E	3	1.11	89.9	F
	SB LT	2	0.53	22.1	C	2	0.53	23.0	C	2	0.54	22.8	C	2	0.47	21.9	C	2	0.49	22.3	C
	SB RT	2	1.09	84.1	F	2	1.08	81.5	F	2	1.09	86.2	F	2	1.09	87.3	F	2	1.09	86.2	F

[1] Unsignalized Intersection

Table 7-23: Design Year (2039) I-75 Ramp Terminal Intersection Levels of Service – PM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS
SR 29 WB On/Off-Ramps [1]	NB LT	1	0.32	10.3	B	1	0.32	10.2	B	1	0.32	10.2	B	1	0.30	9.6	A	1	0.29	9.3	A
	WB LT	1	0.50	107.8	F	1	0.44	90.1	F	1	0.45	92.0	F	1	0.36	65.6	F	1	0.33	60.2	F
SR 29 EB On/Off-Ramps [1]	SB LT	1	0.37	10.5	B	1	0.36	10.4	B	1	0.36	10.4	B	1	0.27	9.8	A	1	0.22	9.5	A
	EB LT	1	4.74	1,763	F	1	3.86	1,364	F	1	4.09	1,466	F	1	2.37	673.9	F	1	1.98	494.7	F
Everglades Blvd EB On/Off-Ramps [1]	SB LT	-	-	-	-	-	-	-	-	-	-	-	-	1	0.11	7.5	A	-		-	-
	EB LT	-	-	-	-	-	-	-	-	-	-	-	-	1	2.97	908.9	F	-		-	-
Everglades Blvd EB On/Off-Ramps	EB LT	-	-	-	-	-	-	-	-	-	-	-	-	2	0.76	10.1	B	-	-	-	-
	SB LT	-	-	-	-	-	-	-	-	-	-	-	-	1	0.64	32.8	C	-	-	-	-
CR 951 WB On/Off-Ramps	WB LT	2	0.19	26.1	C	2	0.19	28.9	C	2	0.18	26.0	C	2	0.73	33.8	C	2	0.62	30.9	C
	WB RT	2	0.12	25.5	C	2	0.15	28.5	C	2	0.12	25.5	C	2	0.47	28.7	C	2	0.33	27.3	C
	NB TH	4	0.88	7.8	A	4	0.84	5.4	A	4	0.92	8.4	A	4	0.79	7.2	A	4	0.81	7.3	A
	SB TH	4	0.70	12.2	B	4	0.67	4.6	A	4	0.74	7.0	A	4	0.68	6.5	A	4	0.68	6.4	A
CR 951 EB On/Off-Ramps	EB LT	3	0.78	64.8	E	3	0.77	64.7	E	3	0.92	77.3	E	3	0.84	71.5	E	3	0.83	70.5	E
	EB RT	3	0.96	52.0	D	3	0.97	53.7	D	3	0.96	54.4	D	3	0.98	59.7	E	3	0.97	57.5	E
	NB TH	5	0.90	25.0	C	5	0.90	24.8	C	5	0.88	23.8	C	5	0.88	30.1	C	5	0.91	31.6	C
	NB RT	1	0.13	0.9	A	1	0.14	0.9	A	1	0.15	0.9	A	1	0.66	2.4	A	1	0.56	2.0	A
	SB LT	2	0.33	78.7	E	2	0.38	79.6	E	2	0.34	78.9	E	2	0.81	79.3	E	2	0.55	72.6	E
	SB TH	4	0.88	33.8	C	4	0.87	33.3	C	4	0.90	34.0	C	4	0.87	30.7	C	4	0.88	32.1	C
Golden Gate Pkwy NB Off-Ramp	EB TH	3	0.86	10.0	A	3	0.87	9.8	A	3	0.86	8.9	A	3	0.81	8.7	A	3	0.81	8.3	A
	WB TH	3	0.33	4.3	A	3	0.35	3.9	A	3	0.33	4.3	A	3	0.30	4.2	A	3	0.30	4.2	A
	NB LT	2	0.58	42.0	D	2	0.56	42.4	D	2	0.62	43.0	D	2	0.89	57.1	E	2	0.83	51.3	D
Golden Gate Pkwy SB On/Off-Ramps	EB TH	4	1.01	46.3	D	4	1.02	48.3	D	4	1.02	50.1	D	4	0.99	45.2	D	4	0.94	34.5	C
	WB LT	1	0.16	56.5	E	1	0.16	56.6	E	1	0.16	56.5	E	1	0.21	54.9	D	1	0.20	57.7	E
	WB TH	3	0.53	9.8	A	3	0.55	9.7	A	3	0.56	11.0	B	3	0.62	13.0	B	3	0.60	12.7	B
	SB LT	2	1.03	78.7	E	2	1.03	77.4	E	2	1.00	69.3	E	2	0.94	53.9	D	2	0.94	54.4	D
	SB RT	2	0.73	41.1	D	2	0.72	40.9	D	2	0.68	38.5	D	2	0.63	35.8	D	2	0.65	36.1	D

[1] Unsignalized Intersection

less than 1.00 for all five alternatives. The southbound right-turn movement at the Golden Gate Parkway interchange is also projected to operate at LOS F in the a.m. peak hour for all of the alternatives. No ramp terminal intersection movements are projected to operate at LOS F during the p.m. peak hour. Although the peak hour volumes projected for the CR 951 ramps to and from the east and the Golden Gate Parkway ramps to and from the south are higher with Alternatives 4 and 5, Tables 7-22 and 7-23 indicate that these higher volumes can be satisfactorily accommodated with the same intersection geometry that should be provided for Alternatives 1, 3A and 3B. The design year HCS analyses for the I-75 ramp terminal intersections are provided in Appendix L.

7.3.3 Interim Year (2029)

The ramp terminal intersections at the SR 29, CR 951 and Golden Gate Parkway interchanges were analyzed for the interim year (2029) along with the I-75 ramp terminal intersection on the south side of the Everglades Boulevard interchange. Unsignalized intersection analyses were conducted for the SR 29 ramp terminal intersections as well as the Everglades Boulevard ramp terminal intersection. The 2029 a.m. and p.m. peak hour volumes are depicted in Figures 7-22 thru 7-24. The results of the a.m. and p.m. peak hour intersection analyses are summarized in Tables 7-24 and 7-25, respectively.

These tables indicate that the left-turn movement from the westbound SR 29 off-ramp is projected to operate at LOS F during the a.m. peak hour and LOS E during the p.m. peak hour with Alternative 1. The average delays for this movement are in the range of approximately 40-50 seconds/vehicle. This same left-turn movement is projected to operate at LOS E during the a.m. peak hour and LOS D during the p.m. peak hour with either Alternative 4 or 5. The left-turn movement from the eastbound SR 29 off-ramp is projected to operate at LOS F during both peak hours with Alternative 1. The average delays for this movement are approximately 144 seconds/vehicle (a.m. peak hour) and 356 seconds/vehicle (p.m. peak hour). With Alternative 4, the eastbound left-turn is projected to operate at LOS E in the a.m. peak hour and LOS F in the p.m. peak hour. Even though LOS F is still projected to occur in the p.m. peak hour for this movement with Alternative 4, the average delay is projected to decrease to 69.0 seconds/vehicle. With Alternative 5, the eastbound left-turn is projected to operate at LOS D in the a.m. peak hour and LOS E in the p.m. peak hour.

Tables 7-24 and 7-25 indicate that the eastbound left-turn movement at the Everglades Boulevard interchange is also projected to operate at LOS F during both peak hours. The peak hour delays are estimated to be approximately 340 seconds/vehicle and 670 seconds/vehicle during the a.m. and p.m. peak hours, respectively. Based on the magnitude of the v/c ratios and average delays, this intersection would likely require signalization by the interim year (2029) if a diamond interchange configuration were to be implemented at Everglades Boulevard. This ramp terminal intersection was re-analyzed as a signalized intersection and these results are also provided in these two tables. If a traffic signal were implemented at this ramp terminal intersection by 2029 and dual left-turn lanes were provided for the eastbound left-turn movement, this left-turn movement is projected to operate at LOS A during both peak hours. The southbound left-turn movement is projected to operate at LOS C during both peak hours with only a single left-turn lane.

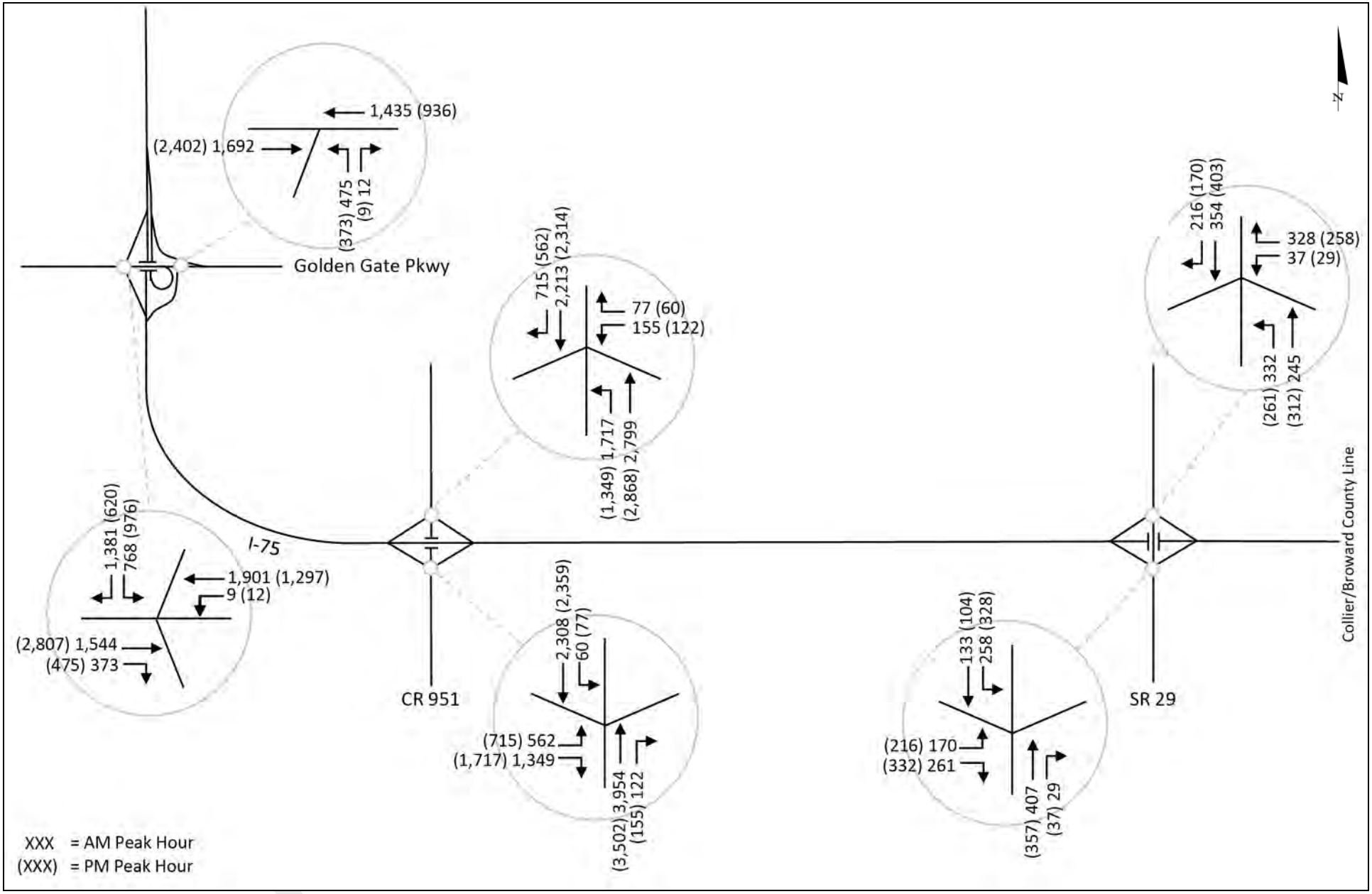


Figure 7-22: 2029 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 1

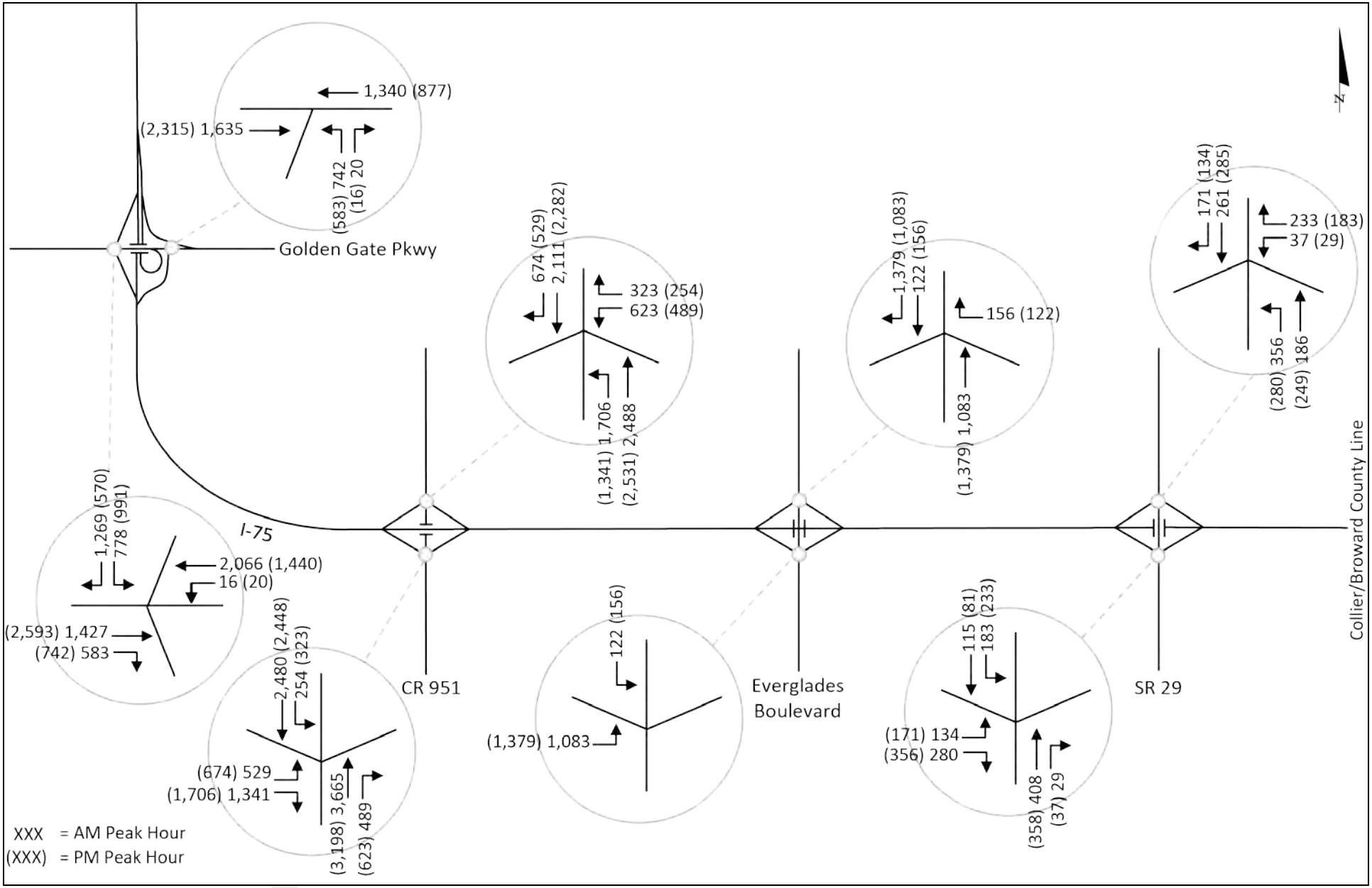


Figure 7-23: 2029 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 4

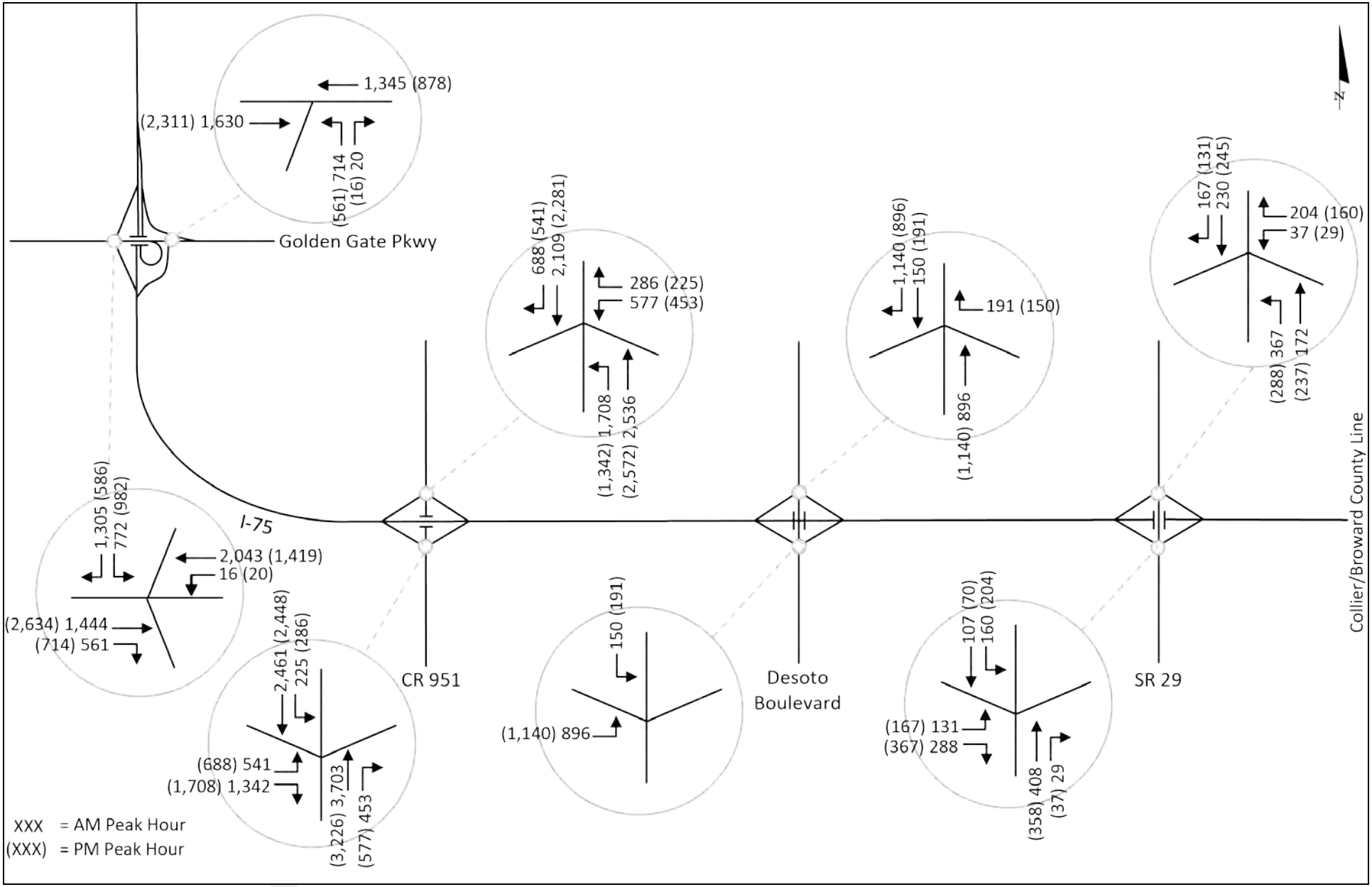


Figure 7-24: 2029 I-75 Ramp Terminal Intersection Peak Hour Volumes – Alternative 5

Table 7-24: Interim Year (2029) I-75 Ramp Terminal Intersection Levels of Service – AM Peak Hour

Intersection	Movement	Alternative 1				Alternative 4				Alternative 5			
		No. of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
SR 29 WB On/Off-Ramps [1]	NB LT	1	0.32	9.9	A	1	0.32	9.4	A	1	0.32	9.3	A
	WB LT	1	0.33	51.6	F	1	0.28	42.2	E	1	0.28	40.7	E
SR 29 EB On/Off-Ramps [1]	SB LT	1	0.26	9.7	A	1	0.19	9.3	A	1	0.16	9.2	A
	EB LT	1	1.07	144.1	F	1	0.60	40.6	E	1	0.52	32.7	D
Everglades Blvd EB On/Off-Ramps[1]	SB LT	-	-	-	-	1	0.08	7.4	A	-	-	-	-
	EB LT	-	-	-	-	1	1.71	342.0	F	-	-	-	-
Everglades Blvd EB On/Off-Ramps	SB LT	-	-	-	-	1	0.47	27.8	C	-	-	-	-
	EB LT	-	-	-	-	2	0.52	6.6	A	-	-	-	-
CR 951 WB On/Off-Ramps	WB LT	2	0.21	22.9	C	2	0.71	26.8	C	2	0.69	27.0	C
	WB RT	2	0.13	22.4	C	2	0.45	22.7	C	2	0.42	23.1	C
	NB TH	4	0.71	4.8	A	4	0.67	6.5	A	4	0.66	5.8	A
	SB TH	4	0.56	4.1	A	4	0.57	5.9	A	4	0.55	5.3	A
	OVERALL	-	0.57	5.3	A	-	0.68	9.5	A	-	0.67	8.7	A
CR 951 EB On/Off-Ramps	EB LT	2	0.93	79.1	E	2	0.84	67.4	E	2	0.83	65.7	E
	EB RT	3	0.87	47.7	D	3	0.95	61.9	E	3	0.93	58.0	E
	NB TH	4	1.00	18.6	B	4	0.99	21.3	C	4	1.00	23.4	C
	NB RT	1	0.06	0.7	A	1	0.37	1.1	A	1	0.34	1.1	A
	SB LT	2	0.22	64.1	E	2	0.66	67.1	E	2	0.62	66.0	E
	SB TH	4	0.62	12.5	B	4	0.63	9.7	A	4	0.64	10.2	B
	OVERALL	-	0.91	25.9	C	-	0.91	27.3	C	-	0.92	27.7	C
Golden Gate Pkwy NB On/Off-Ramps	EB TH	3	0.60	9.6	A	3	0.58	9.4	A	3	0.57	7.2	A
	WB TH	3	0.51	8.7	A	3	0.48	8.4	A	3	0.47	6.6	A
	NB LT	2	0.47	32.5	C	2	0.73	38.3	D	2	0.76	38.3	D
	NB RT	1	0.03	27.6	C	1	0.04	27.8	C	1	0.05	27.4	C
	OVERALL	-	0.56	12.3	B	-	0.63	14.9	B	-	0.63	13.1	B
Golden Gate Pkwy SB On/Off-Ramps	EB TH	4	0.82	41.1	D	3	0.93	47.6	D	3	0.70	22.5	C
	WB LT	1	0.08	52.8	D	1	0.12	51.3	D	1	0.11	46.2	D
	WB TH	3	1.01	53.6	D	3	0.99	44.9	D	3	0.99	41.7	D
	SB LT	2	0.47	18.8	B	2	0.52	22.3	C	2	0.71	33.4	C
	SB RT	2	1.00	52.7	D	2	0.99	54.9	D	2	1.00	54.4	D
	OVERALL	-	1.00	45.1	D	-	0.99	44.6	D	-	1.00	38.4	D

[1] Unsignalized Intersection

Table 7-25: Interim Year (2029) I-75 Ramp Terminal Intersection Levels of Service – PM Peak Hour

Intersection	Movement	Alternative 1				Alternative 4				Alternative 5			
		No. of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
SR 29 WB On/Off-Ramps [1]	NB LT	1	0.26	9.7	A	1	0.25	9.2	A	1	0.25	9.0	A
	WB LT	1	0.23	41.5	E	1	0.19	32.6	D	1	0.18	30.7	D
SR 29 EB On/Off-Ramps [1]	SB LT	1	0.32	9.9	A	1	0.23	9.3	A	1	0.20	9.2	A
	EB LT	1	1.60	355.8	F	1	0.82	69.0	F	1	0.69	46.4	E
Everglades Blvd EB On/Off-Ramps[1]	SB LT	-	-	-	-	1	0.10	7.5	A	-	-	-	-
	EB LT	-	-	-	-	1	2.45	674.2	F	-	-	-	-
Everglades Blvd EB On/Off-Ramps	SB LT	-	-	-	-	1	0.61	31.2	C	-	-	-	-
	EB LT	-	-	-	-	2	0.66	8.2	A	-	-	-	-
CR 951 WB On/Off-Ramps	WB LT	2	0.14	23.2	C	2	0.49	24.3	C	2	0.49	25.6	C
	WB RT	2	0.08	22.8	C	2	0.31	22.7	C	2	0.30	23.9	C
	NB TH	4	0.75	8.1	A	4	0.70	9.0	A	4	0.69	8.0	A
	SB TH	4	0.61	6.6	A	4	0.63	8.7	A	4	0.61	7.2	A
	OVERALL	-	0.55	8.0	A	-	0.62	10.8	B	-	0.62	9.8	A
CR 951 EB On/Off-Ramps	EB LT	2	0.87	70.8	E	2	0.85	71.0	E	2	0.87	72.8	E
	EB RT	3	0.93	51.7	D	3	0.94	53.5	D	3	0.96	56.8	E
	NB TH	4	0.98	35.9	D	4	0.95	34.0	C	4	0.94	27.5	C
	NB RT	1	0.11	0.9	A	1	0.50	1.9	A	1	0.46	1.5	A
	SB LT	2	0.24	73.4	E	2	0.73	77.5	E	2	0.70	78.5	E
	SB TH	4	0.70	22.4	C	4	0.72	22.1	C	4	0.71	21.3	C
	OVERALL	-	0.87	38.1	D	-	0.89	36.6	D	-	0.89	34.9	C
Golden Gate Pkwy NB On/Off-Ramps	EB TH	3	0.86	14.9	B	3	0.77	8.8	A	3	0.76	8.1	A
	WB TH	3	0.33	7.5	A	3	0.29	4.9	A	3	0.29	4.9	A
	NB LT	2	0.37	31.2	C	2	0.66	39.5	D	2	0.63	38.9	D
	NB RT	1	0.02	27.5	C	1	0.04	31.2	C	1	0.04	31.2	C
	OVERALL	-	0.68	14.7	B	-	0.73	12.7	B	-	0.72	12.0	B
Golden Gate Pkwy SB On/Off-Ramps	EB TH	4	0.89	24.2	C	3	1.07	61.7	E	3	1.08	64.4	E
	WB LT	1	0.11	53.1	D	1	0.18	53.6	D	1	0.18	53.6	D
	WB TH	3	0.46	7.7	A	3	0.50	7.4	A	3	0.49	7.1	A
	SB LT	2	0.98	63.8	E	2	1.02	75.5	E	2	1.03	77.5	E
	SB RT	2	0.69	38.2	D	2	0.65	37.6	D	2	0.68	38.8	D
	OVERALL	-	0.86	28.7	C	-	0.99	47.8	D	-	0.99	49.7	D

[1] Unsignalized Intersection

The results of the a.m. and p.m. peak hour signalized intersection analyses conducted for the CR 951 and Golden Gate Parkway ramp terminal intersections indicate that no significant differences in overall level of service are projected for Alternatives 1, 4 and 5. The interim year HCS analyses for the I-75 ramp terminal intersections are provided in Appendix M.

7.4 Design Year (2039) I-75 Off-Ramp Queue Lengths

The design year (2039) peak hour queue length estimates obtained from the I-75 ramp terminal intersection HCS analyses were reviewed to assess the magnitude of the off-ramp queuing projected to occur in the design year. Table 7-26 provides a summary of both the average queue lengths (i.e., the 50th-percentile queue length) and the 95th-percentile queue lengths for the a.m. and p.m. peak hours. The queue length estimates provided in the HCS "Back of Queue Worksheets" are expressed in terms of the number of vehicles so these estimates were rounded up to the next highest integer and multiplied by an assumed vehicle spacing of 25 feet.

Table 7-26 indicates that the average and 95th-percentile queue lengths for the eastbound I-75 off-ramp to Everglades Boulevard are estimated to be 375 feet and 650 feet, respectively. These projected queue lengths occur in the p.m. peak hour. Table 7-23 also provides a comparison of the estimated queue lengths for the westbound I-75 off-ramp at the CR 951 interchange and the northbound I-75 off-ramp at the Golden Gate Parkway interchange. These two off-ramps were included because the implementation of a new interchange at either Everglades Boulevard or Desoto Boulevard is projected to increase the volumes on both of these off-ramps. As stated previously, there are only minimal differences between the I-75 ramp volumes projected for Alternatives 1, 3A and 3B. Consequently, the peak hour queue length comparison was only conducted for Alternatives 1, 4 and 5.

Alternative 4 is projected to increase the 95th-percentile queue lengths for the westbound left-turn and right-turn movements at the CR 951 interchange to 575 feet and 300 feet, respectively. These represent increases of 450 feet and 225 feet, respectively when compared to Alternative 1. Alternative 5 is projected to increase the 95th-percentile queue lengths for the westbound left-turn and right-turn movements at this interchange to 475 feet and 200 feet, respectively. These represent increases of 350 feet and 125 feet, respectively when compared to Alternative 1. The length of the existing westbound off-ramp to CR 951 is approximately 2,200 feet. Therefore, the implementation of a new interchange is not expected to cause any off-ramp queueing problems at this location that would negatively impact the I-75 mainline.

Alternatives 4 and 5 are also projected to increase the 95th-percentile queue length for the northbound left-turn movement at the Golden Gate Parkway interchange to 750 feet and 675 feet, respectively. These represent increases of 325 feet and 250 feet when compared to the p.m. peak hour 95th-percentile queue length for Alternative 1. The length of the portion of the existing northbound off-ramp to Golden Gate Parkway that is two-lanes wide is approximately 720 feet and the total length of the off-ramp is approximately 1,750 feet. Therefore, the implementation of a new interchange is not expected to cause any off-ramp queueing problems at this location that would negatively impact the I-75 mainline.

Table 7-26: Design Year (2039) Peak Hour I-75 Off-Ramp Queue Length Estimates (in Feet)

Interchange	Ramp	Movement	Alternative 1		Alternative 4		Alternative 5	
			Average	95th Percentile	Average	95th Percentile	Average	95th Percentile
AM Peak Hour								
Everglades Blvd	EB Off-Ramp	LT	-	-	225	425	-	-
CR 951	WB Off-Ramp	LT	75	125	325	575	250	475
		RT	50	75	150	300	100	200
Golden Gate Pkwy	NB Off-Ramp	LT	325	575	375	675	350	600
PM Peak Hour								
Everglades Blvd	EB Off-Ramp	LT	-	-	375	650	-	-
CR 951	WB Off-Ramp	LT	50	75	225	425	200	350
		RT	25	75	125	225	150	150
Golden Gate Pkwy	NB Off-Ramp	LT	225	425	450	750	375	675

8.0 ALTERNATIVES EVALUATION

8.1 Impacts to Existing Study Area Roadways and Intersections

8.1.1 Daily Traffic Volumes

Table 8-1 provides a comparison of the 2019 AADT volumes projected for various study area roadway locations. All increases and decreases referenced are in comparison to Alternative 1. The implementation of Alternative 4 is projected to increase the 2019 AADT volume on Everglades Boulevard just north of Alligator Alley from 1,400 vehicles/day to 12,700 vehicles/day. Alternative 4 is also projected to reduce the 2019 AADT volumes on the portion of Golden Gate Boulevard between Everglades Boulevard and CR 951 by approximately 4,000 vehicles/day. Alternative 5 is projected to increase the 2019 AADT volume on Desoto Boulevard north of Alligator Alley from 3,300 vehicles/day to 11,300 vehicles/day and reduce the 2019 AADT volumes on the portion of Golden Gate Boulevard between Everglades Boulevard and CR 951 by approximately 2,700 vehicles/day. Both Alternatives 4 and 5 are projected to reduce the 2019 AADT volumes on the portion of CR 951 between Golden Gate Parkway and Golden Gate Boulevard. With Alternative 4, the magnitude of the 2019 AADT volume reduction is between 3,000 vehicles/day and 4,500 vehicles/day. With Alternative 5, the magnitude of the 2019 AADT volume reduction is between 2,400 vehicles/day and 3,300 vehicles/day. Both Alternatives 4 and 5 are also projected to reduce the 2019 AADT volumes projected for the portion of Immokalee Road from Wilson Boulevard to CR 951 by approximately 4,000 vehicles/day.

Table 8-1 indicates that Alternatives 3A and 3B are also expected to have an impact on the AADT volumes projected for Golden Gate Boulevard, CR 951, and Immokalee Road; however, the magnitude of the impacts are less than what are projected to occur with Alternatives 4 and 5. Alternative 3A is projected to reduce the 2019 AADT volumes on Golden Gate Boulevard between Everglades Boulevard and CR 951 by approximately 2,000 vehicles/day and the 2019 AADT volumes on CR 951 between Green Boulevard and Golden Gate Boulevard by approximately 1,800 to 2,400 vehicles/day. Alternative 3A is also projected to reduce the 2019 AADT volumes on Immokalee Road from Wilson Boulevard to CR 951 by approximately 1,400 vehicles/day to 2,000 vehicles/day.

Due to its southernmost location within the study area, Alternative 3B is projected to have even less of an impact on the 2019 AADT volumes for Golden Gate Boulevard, CR 951, and Immokalee Road. This improvement is projected to reduce the 2019 AADT volumes on Golden Gate Boulevard between Everglades Boulevard and CR 951 by no more than 400 vehicles/day and the 2019 AADT volumes on CR 951 between Green Boulevard and Golden Gate Boulevard by no more than 500 vehicles/day. Alternative 3B is also projected to reduce the 2019 AADT volumes on Immokalee Road from Wilson Boulevard to CR 951 by approximately 1,400 vehicles/day.

Table 8-2 provides a similar comparison of the 2039 AADT volumes projected for various study area roadway locations. Alternative 4 is projected to increase the volume on Everglades Boulevard north of Alligator Alley from 3,200 vehicles/day to 28,600 vehicles/day and reduce the volumes on the portion of Golden Gate

Table 8-1: Opening Year (2019) AADT Volume Comparison for Study Area Roadway Locations

Roadway	Location	2019 AADT Volumes				
		Alternative 1	Alternative 3A	Alternative 3B	Alternative 4	Alternative 5
Desoto Blvd	North of Alligator Alley	3,300	3,300	3,300	3,300	11,300
	South of Golden Gate Blvd	6,500	6,500	6,500	6,500	11,700
	North of Golden Gate Blvd	3,500	3,900	3,600	3,900	6,600
	South of Randall Blvd	6,200	5,800	6,200	5,400	8,300
	South of Oil Well Rd	4,900	5,000	5,000	4,500	8,400
Everglades Blvd	North of Alligator Alley	1,400	1,400	4,900	12,700	1,400
	South of Golden Gate Blvd	11,800	7,600	11,300	11,500	14,000
	North of Golden Gate Blvd	9,200	7,700	8,700	9,100	7,100
	South of Randall Blvd	11,800	10,100	11,200	10,100	8,800
	South of Oil Well Rd	11,200	10,700	11,100	11,000	8,900
Wilson Blvd	North of Golden Gate Blvd	3,600	3,600	3,600	3,600	3,600
	South of Immokalee Rd	5,900	5,900	6,000	5,900	5,900
CR 951	North of I-75	36,100	39,500	40,400	37,600	35,600
	South of Golden Gate Pkwy	29,100	31,400	33,200	27,400	27,200
	North of Golden Gate Pkwy	33,400	37,000	33,200	30,500	31,000
	South of Green Blvd	33,700	37,000	33,500	30,800	31,400
	North of Green Blvd	34,400	32,000	34,200	31,400	32,000
	South of Pine Ridge Rd	33,900	31,500	33,700	30,700	31,400
	North of Pine Ridge Rd	35,000	33,200	34,500	30,500	31,700
	South of Golden Gate Blvd	34,300	32,500	33,800	29,800	31,000
	North of Golden Gate Blvd	28,400	27,900	27,300	27,600	26,800
	North of Vanderbilt Beach Rd	28,500	28,000	27,400	33,000	32,300
	South of Immokalee Rd	27,900	27,800	27,500	26,900	26,200
Golden Gate Blvd	East of Everglades Blvd	7,100	7,400	7,100	7,900	9,300
	East of Wilson Blvd	17,500	15,500	17,300	13,700	14,900
	West of Wilson Blvd	19,100	16,900	18,800	15,000	16,300
	East of CR 951	27,700	25,700	27,300	23,800	25,000
Randall Blvd	East of Everglades Blvd	2,900	2,500	2,800	2,400	1,200
	East of Immokalee Rd	12,400	10,600	11,600	9,200	9,600
Oil Well Rd	East of Desoto Blvd	21,700	21,600	21,800	20,600	20,700
	East of Everglades Blvd	18,500	18,300	18,500	17,800	17,900
	East of Immokalee Rd	24,500	24,200	24,100	23,700	23,500
Immokalee Rd	North of Oil Well Rd	11,200	11,100	11,100	11,200	11,100
	East of Wilson Blvd	43,800	41,800	42,500	39,900	40,000
	West of Wilson Blvd	44,500	43,100	43,100	40,500	40,600
	East of CR 951	49,400	47,500	48,000	45,500	45,600
	West of CR 951	38,900	38,000	37,300	36,500	36,800
Golden Gate Pkwy	West of CR 951	22,200	23,200	22,400	21,900	21,800
Green Blvd	West of CR 951	4,200	4,400	4,200	4,200	4,200
Pine Ridge Rd	West of CR 951	18,100	18,200	18,100	17,600	17,900
Vanderbilt Beach Rd	West of CR 951	28,700	28,100	28,200	27,200	27,100

Table 8-2: Design Year (2039) AADT Volume Comparison for Study Area Roadway Locations

Roadway	Location	2039 AADT Volumes				
		Alternative 1	Alternative 3A	Alternative 3B	Alternative 4	Alternative 5
Desoto Blvd	North of Alligator Alley	6,700	6,700	6,700	6,700	22,600
	South of Golden Gate Blvd	12,500	12,500	12,500	12,500	23,700
	North of Golden Gate Blvd	9,600	11,400	10,300	13,600	14,300
	South of Randall Blvd	10,700	9,100	9,000	11,500	12,600
	South of Oil Well Rd	10,700	9,900	9,600	12,000	13,000
Everglades Blvd	North of Alligator Alley	3,200	3,200	12,200	28,600	3,200
	South of Golden Gate Blvd	23,800	15,700	16,500	27,700	23,800
	North of Golden Gate Blvd	14,400	16,200	15,400	17,800	15,300
	South of Randall Blvd	14,800	11,900	11,800	13,300	11,700
	South of Oil Well Rd	14,000	13,000	13,500	15,100	13,300
Wilson Blvd	North of Golden Gate Blvd	8,400	8,500	8,700	9,000	8,500
	South of Immokalee Rd	11,500	10,200	11,200	10,800	10,900
CR 951	North of I-75	64,400	65,100	68,200	62,800	62,200
	South of Golden Gate Pkwy	46,700	46,900	44,000	39,500	41,700
	North of Golden Gate Pkwy	46,700	49,000	45,300	40,100	42,400
	South of Green Blvd	46,300	48,600	44,800	39,600	42,000
	North of Green Blvd	50,300	42,400	47,200	40,200	43,200
	South of Pine Ridge Rd	48,200	42,400	45,200	40,500	42,900
	North of Pine Ridge Rd	53,000	46,300	51,100	42,800	46,700
	South of Golden Gate Blvd	52,200	45,400	50,200	42,100	45,900
	North of Golden Gate Blvd	34,900	37,500	37,100	37,500	36,700
	North of Vanderbilt Beach Rd	53,200	50,100	51,000	47,400	48,700
	South of Immokalee Rd	44,600	41,800	42,700	38,700	40,400
Golden Gate Blvd	East of Everglades Blvd	15,100	18,200	17,200	20,400	17,000
	East of Wilson Blvd	36,200	28,900	33,000	24,100	27,200
	West of Wilson Blvd	37,400	30,500	33,000	25,400	28,300
	East of CR 951	41,500	33,700	41,500	34,600	37,200
Randall Blvd	East of Everglades Blvd	1,700	500	1,000	1,000	1,000
	East of Immokalee Rd	19,400	14,900	15,900	14,600	15,200
Oil Well Rd	East of Desoto Blvd	46,800	47,500	47,500	46,700	46,800
	East of Everglades Blvd	44,000	42,800	43,300	40,400	41,100
	East of Immokalee Rd	45,500	41,800	43,000	40,100	41,400
Immokalee Rd	North of Oil Well Rd	22,600	22,800	22,700	22,700	22,700
	East of Wilson Blvd	78,800	71,100	72,900	69,100	70,700
	West of Wilson Blvd	83,500	75,000	78,200	72,300	74,700
	East of CR 951	89,500	81,300	84,400	78,600	80,900
	West of CR 951	58,400	56,100	56,800	56,600	56,700
Golden Gate Pkwy	West of CR 951	23,300	25,300	25,700	25,100	24,800
Green Blvd	West of CR 951	7,100	9,500	6,000	5,000	5,100
Pine Ridge Rd	West of CR 951	28,900	28,800	28,200	26,300	27,000
Vanderbilt Beach Rd	West of CR 951	43,600	42,800	43,000	40,900	41,400

Boulevard between Everglades Boulevard and CR 951 by approximately 7,000 to 12,000 vehicles/day. Alternative 5 is projected to increase the volume on Desoto Boulevard north of Alligator Alley from 6,700 vehicles/day to 22,600 vehicles/day and reduce the volumes on the portion of Golden Gate Boulevard between Everglades Boulevard and CR 951 by approximately 4,300 to 9,000 vehicles/day. Both Alternatives 4 and 5 are projected to reduce the volumes on the portion of CR 951 between Golden Gate Parkway and Golden Gate Boulevard. With Alternative 4, the magnitude of the volume reduction is between 6,600 and 10,200 vehicles/day. With Alternative 5, the magnitude of the volume reduction is between 4,300 and 7,100 vehicles/day. Alternatives 4 and 5 are also projected to reduce the volumes projected for the portion of Immokalee Road from Wilson Boulevard to CR 951. With Alternative 4, the magnitude of the volume reduction for this portion of Immokalee Road is between 9,700 and 11,200 vehicles/day. With Alternative 5, the magnitude of the volume reduction is between 8,100 and 8,800 vehicles/day.

Table 8-2 indicates that neither Alternative 3A or 3B is expected to have as great an impact on the 2039 AADT volumes projected for Golden Gate Boulevard, CR 951, and Immokalee Road as Alternative 4. Alternative 3A is projected to reduce the volumes on Golden Gate Boulevard between Everglades Boulevard and CR 951 by approximately 6,900 to 7,800 vehicles/day and the volumes on CR 951 between Green Boulevard and Golden Gate Boulevard by approximately 5,800 to 7,900 vehicles/day. Alternative 3A is also projected to reduce the volumes on Immokalee Road from Wilson Boulevard to CR 951 by approximately 7,700 to 8,500 vehicles/day. Alternative 3B is projected to reduce the volumes on Golden Gate Boulevard between Everglades Boulevard and CR 951 by approximately 3,200 to 4,400 vehicles/day and the volumes on CR 951 between Green Boulevard and Golden Gate Boulevard by approximately 1,900 to 3,100 vehicles/day. Alternative 3B is also projected to reduce the volumes on Immokalee Road from Wilson Boulevard to CR 951 by approximately 5,100 to 5,900 vehicles/day.

The 2039 AADT volumes projected for Golden Gate Boulevard from Desoto Boulevard to CR 951 were also compared to the Generalized Daily Level of Service Volumes for areas transitioning into urbanized areas (i.e., Table 2 in the 2009 FDOT Quality/Level of Service Handbook). According to this table, the daily level of service volumes associated with state signalized arterials should be reduced by 10 percent and used as the daily level of service volumes for major county signalized roadways. Table 8-3 summarizes the design year levels of service that would be expected to occur on a four-lane Golden Gate Boulevard.

A review of this table indicates that with Alternative 1 the 2039 AADT volumes are projected to exceed the maximum LOS D volume for the portion of Golden Gate Boulevard between Everglades Boulevard and CR 951 (a distance of approximately 8.9 miles). With Alternatives 3A and 3B, the maximum LOS D volume is exceeded for the portion of Golden Gate Boulevard between Wilson Boulevard and CR 951 (a distance of approximately 5.0 miles). With Alternatives 4 and 5, the maximum LOS D volume is only exceeded for the portion of Golden Gate Boulevard between 17th Street SW and CR 951 (a distance of approximately 1.9 miles). Consequently, Alternatives 4 and 5 would be expected to minimize the portion of Golden Gate Boulevard that would need to be widened to six lanes to provide LOS D. Table 8-3 also indicates that although the four-lane portion of Golden Gate Boulevard between 17th Street SW and CR 951 is not projected to operate at LOS D or better with Alternatives 4 and 5, Alternative 4 is projected to provide LOS E

Table 8-3: Design Year (2039) AADT Volumes and Levels of Service – Golden Gate Boulevard

From	To	Alternative 1		Alternative 3A		Alternative 3B		Alternative 4		Alternative 5	
		AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS	AADT	LOS
Desoto Blvd	Everglades Blvd	15,100	B	18,200	B	17,200	B	20,400	B	17,000	B
Everglades Blvd	Wilson Blvd	32,000	E	24,950	C	29,400	D	20,400	B	23,600	B
Wilson Blvd	17th St SW	37,700	F	31,000	E	33,400	F	25,800	C	28,700	C
17th St SW	CR 951	41,400	F	30,900	E	37,800	F	31,100	E	33,700	F

Levels of Service are based on the following maximum daily volumes for a Class I arterial:
LOS B - 24,200 vpd
LOS C - 28,900 vpd
LOS D - 30,400 vpd
LOS E - 32,100 vpd

for this portion of the roadway while Alternative 5 is projected to provide LOS F. The Collier MPO's 2035 Financially Feasible LRTP does not include any six-laning of Golden Gate Boulevard due to the prohibitive cost associated with this improvement.

In summary, the implementation of a new interchange is projected to reduce the volumes on the primary arterial roadways within the study area. Larger reductions in AADT volumes are projected for Golden Gate Boulevard, CR 951, and Immokalee Road with Alternative 4; however, study area travel would still be improved with Alternative 5. The results of the travel demand modeling also indicate that the implementation of alternative roadway improvements (in lieu of a new interchange on I-75) are also projected to reduce the future year AADT volumes on the primary study area roadways but not to the extent that a new interchange would.

8.1.2 Peak Hour Traffic Operations for Key Study Area Intersections

Additional a.m. and p.m. peak hour intersection analyses were conducted for locations on CR 951, Golden Gate Boulevard, and Immokalee Road using the HCS. Since the implementation of a new east/west road or a new interchange is projected to cause shifts in the future year traffic volumes using these existing study area roadways, the additional analyses were conducted to determine the impact that each of these alternative improvements would have on future year levels of service and geometric requirements within the study area. It should be noted that some of the intersections located within the study area were projected to operate over capacity with their existing geometry for one or more of the alternatives. Consequently, the approach that was taken in this study was to determine the minimum at-grade geometric improvements required at each intersection for each alternative analyzed. Since the intersection cycle lengths, signal phasings, and green times were optimized for all alternatives, each alternative that was analyzed includes a Transportation Systems Management component.

The additional study area intersections that were analyzed included the following:

- CR 951/SR 84
- CR 951/City Gate Drive N.
- CR 951/Golden Gate Parkway
- CR 951/Green Boulevard
- CR 951/Pine Ridge Road
- CR 951/Golden Gate Boulevard
- CR 951/Vanderbilt Beach Road
- CR 951/Immokalee Road
- Golden Gate Boulevard/Everglades Boulevard
- Golden Gate Boulevard/Desoto Boulevard
- Immokalee Road/Wilson Boulevard
- Immokalee Road/Randall Boulevard
- Immokalee Road/Oil Well Road

A majority of the opening year (2019) intersection analyses were conducted using a PHF equal to 0.90 while a majority of the design year (2039) intersection analyses were conducted using a PHF equal to 0.95.

8.1.3 Opening Year (2019)

Tables 8-4 and 8-5 summarize the results of the opening year (2019) CR 951 a.m. and p.m. peak hour signalized intersection analyses, respectively. With one exception, both of these tables indicate that all of the CR 951 intersections are projected to operate at LOS D or better with all five alternatives. In the a.m. peak hour, the Pine Ridge Road intersection is projected to operate at LOS E overall with Alternative 3B. However, it should be noted that the overall average vehicle delay for this intersection is estimated to be 57.6 seconds/vehicle and this value exceeds the maximum LOS D value by only 2.6 seconds. There are several intersections that are projected to have overall v/c ratios greater than 1.00 for one or more of the alternatives; however in these cases the v/c ratio does not exceed 1.02.

Tables 8-6 and 8-7 summarize the results of the Immokalee Road a.m. and p.m. peak hour signalized intersection analyses, respectively. Both of these tables indicate that all three of the intersections analyzed are projected to operate at LOS D or better with all five alternatives. Table 8-8 summarizes the results of the Golden Gate Boulevard a.m. and p.m. peak hour intersection analyses. The Golden Gate Boulevard/Everglades Boulevard signalized intersection is projected to operate at LOS C or better overall with all five alternatives. With one exception, all four of the intersection approaches at the existing four-way stop controlled Golden Gate Boulevard/Desoto Boulevard intersection are projected to operate at LOS C or better during both peak hours with Alternatives 1, 3A, 3B and 4. In the p.m. peak hour, the eastbound approach lane is projected to operate at LOS D with Alternative 4. Two of the four intersection approach lanes are projected to operate at LOS F during both peak hours with Alternative 5. In the a.m. peak hour, the average vehicle delays for the eastbound and northbound approach lanes are estimated to be approximately 111 seconds/vehicle and 167 seconds/vehicle. In the p.m. peak hour, the average vehicle delays for the eastbound and northbound approach lanes are estimated to be approximately 58 seconds/vehicle and 276 seconds/vehicle. This indicates that a traffic signal may be necessary at this location if a new interchange were to be implemented on I-75 at Desoto Boulevard. The opening year HCS intersection analyses are provided in Appendix N.

8.1.4 Design Year (2039)

Tables 8-9 and 8-10 summarize the results of the design year (2039) CR 951 a.m. and p.m. peak hour signalized intersection analyses, respectively. Table 8-9 indicates that five CR 951 intersections are projected to operate significantly over capacity (i.e., have overall v/c ratios greater than or equal to 1.05) during the a.m. peak hour with Alternative 1. These intersections are located at SR 84, City Gate Boulevard, Pine Ridge Road, Vanderbilt Beach Road, and Immokalee Road. Only two CR 951 intersections (at SR 84 and Immokalee Road) are projected to operate significantly over capacity during the a.m. peak hour with Alternatives 3A, 4 and 5, while three intersections (at SR 84, City Gate Boulevard and Immokalee Road) are projected to operate significantly over capacity with Alternative 3B. Table 8-10 indicates that three CR 951 intersections are projected to operate with overall v/c ratios greater than or equal to 1.05 during the p.m. peak hour with

Table 8-4: Opening Year (2019) CR 951 Signalized Intersection Levels of Service – AM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
CR 951/SR 84	NB LT	2	0.48	55.1	E	2	0.46	54.6	D	2	0.51	56.4	E	2	0.43	45.4	D	2	0.43	45.4	D
	NB TH	4	0.87	38.0	D	4	0.96	46.9	D	4	0.95	43.1	D	4	0.94	40.2	D	4	0.94	40.4	D
	NB RT	1	0.09	14.9	B	1	0.09	14.9	B	1	0.09	14.4	B	1	0.09	15.0	B	1	0.09	15.0	B
	SB LT	2	0.85	68.6	E	2	0.82	65.5	E	2	0.91	78.7	E	2	0.77	52.9	D	2	0.77	52.9	D
	SB TH	3	0.90	39.7	D	3	0.90	34.7	C	3	0.86	36.4	D	3	0.99	48.8	D	3	0.99	48.3	D
	SB RT	2	0.63	13.7	B	2	0.63	6.2	A	2	0.61	12.4	B	2	0.66	13.2	B	2	0.66	13.2	B
	EB LT	3	0.92	65.2	E	3	0.95	69.6	E	3	0.94	67.0	E	3	0.91	55.6	E	3	0.92	55.8	E
	EB TH/RT	1	0.57	48.9	D	1	0.58	49.7	D	1	0.57	48.9	D	1	0.55	41.0	D	1	0.55	41.0	D
	WB LT	2	0.33	53.0	D	2	0.34	53.5	D	2	0.36	54.0	D	2	0.38	46.6	D	2	0.38	46.6	D
	WB TH	2	0.64	57.8	E	2	0.66	59.0	E	2	0.68	60.3	E	2	0.73	54.8	D	2	0.73	54.8	D
	WB RT	1	0.95	77.3	E	1	0.95	77.3	E	1	0.93	75.0	E	1	0.94	66.8	E	1	0.94	66.8	E
	OVERALL	-	0.92	42.7	D	-	0.96	43.6	D	-	0.94	43.8	D	-	0.96	42.5	D	-	0.96	42.4	D
CR 951/ City Gate Blvd	NB LT	2	0.48	44.0	D	2	0.51	45.1	D	2	0.77	60.4	E	2	0.67	43.0	D	2	0.65	42.3	D
	NB TH	4	0.53	28.4	C	4	0.53	26.0	C	4	0.54	26.1	C	4	0.64	29.9	C	4	0.60	29.4	C
	NB RT	1	0.19	9.6	A	1	0.23	8.0	A	1	0.18	6.8	A	1	0.34	10.2	B	1	0.28	9.7	A
	SB LT	2	0.95	76.5	E	2	0.95	78.6	E	2	0.21	46.7	D	2	0.55	34.2	C	2	0.65	36.4	D
	SB TH	3	0.97	50.6	D	3	0.98	52.0	D	3	0.99	53.0	D	3	0.91	36.1	D	3	0.86	32.7	C
	SB RT	1	0.10	16.2	B	1	0.12	13.2	B	1	0.12	14.2	B	1	0.17	15.2	B	1	0.13	14.8	B
	EB LT	1	0.99	112.5	F	1	0.99	112.5	F	1	0.95	98.5	F	1	0.62	37.3	D	1	0.65	39.1	D
	EB TH	2	0.05	43.1	D	2	0.05	43.1	D	2	0.08	43.3	D	2	0.07	37.7	D	2	0.07	37.7	D
	EB RT	1	0.27	29.0	C	1	0.37	34.4	C	1	0.37	34.3	C	1	0.51	33.5	C	1	0.49	33.3	C
	WB LT	2	1.04	90.2	F	2	1.09	106.7	F	2	1.10	107.0	F	2	0.91	46.6	D	2	0.89	44.2	D
	WB TH	2	0.02	34.6	C	2	0.03	35.4	D	2	0.03	32.3	C	2	0.02	25.8	C	2	0.02	25.8	C
	WB RT	1	0.55	29.8	C	1	0.51	26.9	C	1	0.10	25.8	C	1	0.31	14.1	B	1	0.37	14.7	B
	OVERALL	-	0.99	51.7	D	-	1.00	53.2	D	-	0.99	53.7	D	-	0.81	33.5	C	-	0.78	32.3	C
CR 951/ Golden Gate Pkwy	NBLT	1	0.97	68.1	E	1	0.94	60.7	E	1	0.93	56.2	E	1	0.86	41.7	D	1	0.86	42.1	D
	NBTH	3	0.36	7.6	A	3	0.37	7.9	A	3	0.32	7.2	A	3	0.29	6.7	A	3	0.30	7.2	A
	SBTH	3	0.92	41.6	D	3	0.96	46.4	D	3	0.85	36.6	D	3	0.87	38.6	D	3	0.88	39.3	D
	SBRT	1	0.96	38.0	D	1	0.98	43.4	D	1	0.93	32.4	C	1	0.92	33.8	C	1	0.94	35.4	D
	EBLT	2	0.93	53.8	D	2	0.94	54.9	D	2	0.90	50.6	D	2	0.86	45.0	D	2	0.85	43.1	D
	EBRT	1	0.66	15.7	B	1	0.62	14.8	B	1	0.64	14.9	B	1	0.62	12.3	B	1	0.60	11.8	B
	OVERALL	-	0.91	34.9	C	-	0.92	36.6	D	-	0.88	31.1	C	-	0.85	29.3	C	-	0.86	29.7	C

(*) Shared Thru/Right Lane

Table 8-4: Opening Year (2019) CR 951 Signalized Intersection Levels of Service – AM Peak Hour (Continued)

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
CR 951/ Green Blvd	NBLT	1	0.38	38.4	D	1	0.67	52.7	D	1	0.50	39.6	D	1	0.48	36.8	D	1	0.47	36.7	D
	NBTH	3	0.56	8.2	A	3	0.75	27.4	C	3	0.51	7.7	A	3	0.44	5.4	A	3	0.45	5.5	A
	NBRT	-	-	-	-	1	0.36	8.0	A	-	-	-	-	-	-	-	-	-	-	-	-
	SBLT	-	-	-	-	1	0.59	48.3	D	-	-	-	-	-	-	-	-	-	-	-	-
	SBTH	3	0.94	28.0	C	3	0.96	41.0	D	3	0.85	22.1	C	3	0.74	16.0	B	3	0.75	16.3	B
	SBRT	1	0.07	2.2	A	1	0.13	11.0	B	1	0.07	2.1	A	1	0.07	2.3	A	1	0.07	2.3	A
	EBLT	1	0.43	30.8	C	1	0.67	52.6	D	1	0.42	30.8	C	1	0.52	33.3	C	1	0.54	33.7	C
	EBTH	-	-	-	-	1	0.68	53.6	D	-	-	-	-	-	-	-	-	-	-	-	-
	EBRT	1	0.08	17.4	B	(*)	0.68	53.6	D	1	0.13	17.8	B	1	0.14	18.8	B	1	0.13	18.8	B
	WBLT	-	-	-	-	2	0.73	40.9	D	-	-	-	-	-	-	-	-	-	-	-	-
	WBTH	-	-	-	-	1	0.48	35.8	D	-	-	-	-	-	-	-	-	-	-	-	-
	WBRT	-	-	-	-	(*)	0.48	35.8	D	-	-	-	-	-	-	-	-	-	-	-	-
	OVERALL	-	0.73	19.7	B	-	0.83	34.7	C	-	0.69	16.7	B	-	0.65	12.8	B	-	0.67	13.0	B
CR 951/ Pine Ridge Rd	NBLT	2	0.88	83.8	F	2	0.82	68.3	E	1	0.98	105.0	F	2	0.82	71.2	E	2	0.81	69.5	E
	NBTH	3	0.75	33.5	C	3	0.62	30.2	C	3	0.63	30.1	C	3	0.58	29.7	C	3	0.86	48.1	D
	NBRT	1	0.31	16.9	B	1	0.11	14.3	B	1	0.30	16.2	B	1	0.32	17.2	B	1	0.41	27.4	C
	SBLT	1	0.56	63.0	E	1	0.55	65.3	E	1	0.56	65.8	E	1	0.51	60.7	E	1	0.21	46.0	D
	SBTH	3	1.00	57.5	E	3	0.93	49.0	D	3	1.00	65.8	E	3	0.80	38.0	D	3	0.81	37.9	D
	SBRT	1	0.79	22.7	C	1	0.78	25.5	C	1	0.85	32.8	C	1	0.74	21.5	C	1	0.83	26.4	C
	EBLT	2	0.99	84.0	F	2	0.93	73.3	E	2	1.01	92.0	F	2	0.89	64.1	E	2	0.94	74.2	E
	EBTH	1	0.65	43.8	D	1	0.60	44.9	D	1	0.67	47.3	D	1	0.62	42.6	D	1	0.63	43.4	D
	EBRT	1	0.26	26.6	C	1	0.37	26.6	C	1	0.24	23.1	C	1	0.28	25.3	C	1	0.28	25.6	C
	WBLT	2	0.88	72.2	E	2	0.38	52.6	D	2	0.88	74.7	E	2	0.88	73.2	E	2	0.91	78.7	E
	WBTH/RT	2	1.00	83.0	F	2	0.97	79.3	E	2	1.01	88.6	F	2	0.97	77.1	E	2	0.98	77.4	E
	OVERALL	-	0.98	52.3	D	-	0.92	47.5	D	-	1.00	57.6	E	-	0.86	44.3	D	-	0.86	49.5	D
CR 951/ Golden Gate Blvd	NBTH	3	0.83	39.5	D	3	0.73	33.1	C	3	0.79	37.5	D	3	0.77	36.5	D	3	0.75	35.7	D
	NBRT	2	0.54	6.3	A	2	0.42	6.1	A	2	0.46	6.2	A	2	0.37	6.6	A	2	0.41	6.4	A
	SBLT	2	0.87	53.4	D	2	0.85	48.3	D	2	0.85	49.4	D	2	0.78	42.2	D	2	0.79	43.4	D
	SBTH	3	0.57	18.9	B	3	0.51	14.8	B	3	0.53	17.3	B	3	0.50	15.2	B	3	0.52	16.0	B
	WBLT	2	0.99	49.7	D	2	0.87	37.1	D	2	0.88	34.6	C	2	0.73	29.4	C	2	0.80	31.2	C
	WBRT	1	0.64	11.9	B	1	0.74	17.0	B	1	0.68	13.3	B	1	0.71	14.5	B	1	0.69	13.7	B
	OVERALL	-	0.92	29.6	C	-	0.81	24.9	C	-	0.84	25.4	C	-	0.73	23.6	C	-	0.78	23.7	C

(*) Shared Thru/Right Lane

Table 8-4: Opening Year (2019) CR 951 Signalized Intersection Levels of Service – AM Peak Hour (Continued)

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
CR 951/ Vanderbilt Beach Rd	NBLT	2	0.88	54.8	D	2	0.87	53.2	D	2	0.87	52.8	D	2	0.89	53.6	D	2	0.87	52.2	D
	NBTH	3	0.48	23.9	C	3	0.47	22.6	C	3	0.46	23.3	C	3	0.47	23.0	C	3	0.45	22.7	C
	NBRT	1	0.01	11.3	B	1	0.01	10.5	B	1	0.01	11.1	B	1	0.01	10.7	B	1	0.00	10.7	B
	SBLT	2	0.15	51.3	D	2	0.16	51.3	D	2	0.15	51.3	D	2	0.16	48.9	D	2	0.15	48.8	D
	SBTH	3	0.93	52.8	D	3	0.94	53.2	D	3	0.94	54.1	D	3	0.94	52.5	D	3	0.95	53.8	D
	SBRT	1	0.96	46.1	D	1	0.92	39.5	D	1	0.96	47.0	D	1	0.90	34.5	C	1	0.83	28.2	C
	EBLT	2	0.90	57.2	E	2	0.92	61.0	E	2	0.90	57.3	E	2	0.87	52.9	D	2	0.89	54.5	D
	EBTH	2	0.09	35.3	D	2	0.09	36.9	D	2	0.09	35.7	D	2	0.09	34.8	C	2	0.09	34.8	C
	EBRT	1	0.63	22.0	C	1	0.67	23.4	C	1	0.65	22.0	C	1	0.66	22.2	C	1	0.65	21.9	C
	WBLT	2	0.03	50.6	D	2	0.03	50.6	D	2	0.03	50.6	D	2	0.03	48.1	D	2	0.03	48.1	D
	WBTH	3	0.23	51.7	D	3	0.22	51.6	D	3	0.23	51.7	D	3	0.21	49.0	D	3	0.21	49.1	D
	WBRT	1	0.06	38.2	D	1	0.07	38.2	D	1	0.06	38.2	D	1	0.07	35.8	D	1	0.06	35.8	D
	OVERALL	-	0.87	43.8	D	-	0.84	42.9	D	-	0.87	43.8	D	-	0.83	40.8	D	-	0.83	40.5	D
CR 951/ Immokalee Rd	NBLT	2	0.91	76.4	E	2	0.91	74.8	E	2	0.91	75.6	E	2	0.86	54.9	D	2	0.96	74.3	E
	NBRT	2	0.59	18.3	B	2	0.56	17.0	B	2	0.57	17.9	B	2	0.53	6.9	A	2	0.62	11.4	B
	EBTH	3	0.94	58.2	E	3	0.93	57.3	E	3	0.92	54.8	D	3	0.96	54.3	D	3	0.97	63.2	E
	EBRT	1	0.48	20.7	C	1	0.52	21.1	C	1	0.50	20.3	C	1	0.52	16.6	B	1	0.60	24.9	C
	WBLT	2	0.96	60.0	E	2	0.95	57.3	E	2	0.96	59.8	E	2	0.94	49.0	D	2	0.99	52.3	D
	WBTH	3	0.53	7.4	A	3	0.52	8.2	A	3	0.52	7.9	A	3	0.53	8.2	A	3	0.41	6.2	A
	OVERALL	-	0.94	37.0	D	-	0.93	36.5	D	-	0.93	36.3	D	-	0.93	30.8	C	-	0.97	36.1	D

(*) Shared Thru/Right Lane

Table 8-5: Opening Year (2019) CR 951 Signalized Intersection Levels of Service – PM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
CR 951/SR 84	NB LT	2	0.88	79.8	E	2	0.94	93.6	F	2	0.88	79.8	E	2	0.88	79.8	E	2	0.88	79.8	E
	NB TH	4	0.59	24.2	C	4	0.72	34.7	C	4	0.58	23.7	C	4	0.61	24.4	C	4	0.61	24.4	C
	NB RT	1	0.11	14.3	B	1	0.13	19.5	B	1	0.11	14.1	B	1	0.11	14.3	B	1	0.11	14.3	B
	SB LT	2	1.01	98.8	F	2	0.61	51.5	D	2	1.01	98.9	F	2	1.01	98.7	F	2	1.01	99.1	F
	SB TH	3	1.02	50.1	D	3	1.00	45.4	D	3	1.02	50.1	D	3	1.02	52.1	D	3	1.02	52.9	D
	SB RT	2	0.46	4.2	A	2	0.45	3.4	A	2	0.46	4.3	A	2	0.46	4.3	A	2	0.46	4.3	A
	EB LT	3	1.00	79.5	E	3	0.98	72.9	E	3	1.01	83.1	F	3	1.02	86.3	F	3	1.02	85.8	F
	EB TH/RT	1	0.62	50.1	D	1	0.60	48.7	D	1	0.63	50.9	D	1	0.62	50.1	D	1	0.62	50.1	D
	WB LT	2	0.40	60.6	E	2	0.40	60.6	E	2	0.40	60.6	E	2	0.40	60.6	E	2	0.40	60.6	E
	WB TH	2	0.76	73.5	E	2	0.76	73.5	E	2	0.76	73.5	E	2	0.76	73.5	E	2	0.76	73.5	E
	WB RT	1	0.94	90.0	F	1	0.67	49.0	D	1	0.94	90.0	F	1	0.94	90.0	F	1	0.94	90.0	F
	OVERALL	-	0.99	48.6	D	-	0.97	45.4	D	-	1.00	49.0	D	-	1.00	50.1	D	-	1.00	50.3	D
CR 951/ City Gate Blvd	NB LT	2	0.74	72.5	E	2	0.74	72.6	E	2	0.74	72.4	E	2	0.73	54.4	D	2	0.57	40.9	D
	NB TH	4	0.86	51.0	D	4	0.77	42.1	D	4	0.84	45.1	D	4	0.70	31.9	C	4	0.79	33.9	C
	NB RT	1	0.20	4.2	A	1	0.21	3.1	A	1	0.20	1.8	A	1	0.51	23.1	C	1	0.30	9.9	A
	SB LT	2	0.85	74.3	E	2	0.85	75.6	E	2	0.23	60.3	E	2	0.70	48.9	D	2	0.78	48.5	D
	SB TH	3	0.82	45.7	D	3	0.76	40.1	D	3	0.96	61.1	E	3	0.71	30.4	C	3	0.83	35.5	D
	SB RT	1	0.06	17.2	B	1	0.12	15.3	B	1	0.08	17.9	B	1	0.12	13.9	B	1	0.12	11.0	B
	EB LT	1	0.84	73.5	E	1	0.84	73.5	E	1	0.78	65.3	E	1	0.75	49.6	D	1	0.52	28.6	C
	EB TH	2	0.04	51.9	D	2	0.05	53.7	D	2	0.05	51.1	D	2	0.07	43.6	D	2	0.05	36.7	D
	EB RT	1	0.57	51.5	D	1	0.68	58.3	E	1	0.60	52.0	D	1	0.68	43.3	D	1	0.51	30.0	C
	WB LT	2	0.81	45.7	D	2	0.87	52.1	D	2	0.95	60.1	E	2	0.89	41.8	D	2	0.89	39.5	D
	WB TH	2	0.02	34.4	C	2	0.02	38.0	D	2	0.03	33.8	C	2	0.02	24.7	C	2	0.03	26.6	C
	WB RT	1	0.57	28.6	C	1	0.62	33.7	C	1	0.10	25.4	C	1	0.48	22.0	C	1	0.67	28.0	C
	OVERALL	-	0.76	48.4	D	-	0.79	45.7	D	-	0.87	52.4	D	-	0.77	34.9	C	-	0.86	33.9	C
CR 951/ Golden Gate Pkwy	NB LT	1	1.02	74.2	E	1	1.02	76.0	E	1	0.99	64.3	E	1	0.96	55.0	E	1	0.96	54.4	D
	NB TH	3	0.47	10.1	B	3	0.50	11.1	B	3	0.43	9.7	A	3	0.39	8.9	A	3	0.40	9.2	A
	SB TH	3	1.01	68.2	E	3	1.00	64.2	E	3	0.95	53.7	D	3	0.94	52.8	D	3	0.93	50.2	D
	SB RT	1	0.82	24.2	C	1	0.82	23.7	C	1	0.78	22.5	C	1	0.77	22.2	C	1	0.78	22.0	C
	EB LT	2	1.02	71.2	E	2	1.02	70.3	E	2	0.97	58.7	E	2	0.94	51.1	D	2	0.95	52.7	D
	EB RT	1	0.43	7.5	A	1	0.41	8.1	A	1	0.42	7.2	A	1	0.42	6.3	A	1	0.41	6.4	A
	OVERALL	-	1.02	42.6	D	-	1.01	41.9	D	-	0.97	35.9	D	-	0.95	33.0	C	-	0.95	32.8	C

(*) Shared Thru/Right Lane

Table 8-5: Opening Year (2019) CR 951 Signalized Intersection Levels of Service – PM Peak Hour (Continued)

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
CR 951/ Green Blvd	NB LT	1	0.40	30.9	C	1	0.47	43.6	D	1	0.52	32.3	C	1	0.59	40.1	D	1	0.59	39.9	D
	NB TH	3	0.71	8.6	A	3	0.97	44.4	D	3	0.65	7.8	A	3	0.56	6.3	A	3	0.57	6.4	A
	NB RT	-	-	-	-	1	0.49	10.7	B	-	-	-	-	-	-	-	-	-	-	-	-
	SB LT	-	-	-	-	1	0.68	52.4	D	-	-	-	-	-	-	-	-	-	-	-	-
	SB TH	3	0.78	17.8	B	3	0.76	28.4	C	3	0.71	16.3	B	3	0.57	13.3	B	3	0.59	13.4	B
	SB RT	1	0.10	2.6	A	1	0.09	10.2	B	1	0.10	2.6	A	1	0.10	2.3	A	1	0.10	2.3	A
	EB LT	1	0.37	26.6	C	1	0.71	52.7	D	1	0.37	26.6	C	1	0.41	32.0	C	1	0.42	32.0	C
	EB TH					1	0.70	51.1	D	-	-	-	-	-	-	-	-	-	-	-	-
	EB RT	1	0.03	13.7	B	(*)	0.70	51.1	D	1	0.07	13.9	B	1	0.09	18.4	B	1	0.18	30.0	C
	WB LT	-	-	-	-	2	0.65	40.5	D	-	-	-	-	-	-	-	-	-	-	-	-
	WB TH	-	-	-	-	1	0.42	36.5	D	-	-	-	-	-	-	-	-	-	-	-	-
	WB RT	-	-	-	-	(*)	0.42	36.5	D	-	-	-	-	-	-	-	-	-	-	-	-
	OVERALL	-	0.63	13.2	B	-	0.82	36.0	D	-	0.58	12.4	B	-	0.53	10.9	B	-	0.54	11.2	B
CR 951/ Pine Ridge Rd	NB LT	2	0.66	58.9	E	2	0.79	64.8	E	1	0.86	77.7	E	2	0.70	60.6	E	2	0.69	59.9	E
	NB TH	3	1.02	63.5	E	3	0.88	39.9	D	3	0.92	44.1	D	3	0.89	44.4	D	3	0.92	47.3	D
	NB RT	1	0.46	22.8	C	1	0.18	19.3	B	1	0.47	23.5	C	1	0.47	24.7	C	1	0.47	24.7	C
	SB LT	1	0.68	69.1	E	1	0.65	66.6	E	1	0.65	66.6	E	1	0.62	63.8	E	1	0.62	63.8	E
	SB TH	3	0.84	39.0	D	3	0.75	37.0	D	3	0.87	45.2	D	3	0.74	39.2	D	3	0.77	40.1	D
	SB RT	1	0.54	10.1	B	1	0.54	11.9	B	1	0.58	14.4	B	1	0.50	10.8	B	1	0.51	10.9	B
	EB LT	2	0.81	45.3	D	2	0.81	46.9	D	2	0.82	46.4	D	2	0.68	38.2	D	2	0.76	40.8	D
	EB TH	1	1.03	84.2	F	1	0.96	66.0	E	1	1.00	75.8	E	1	0.94	59.9	E	1	0.94	60.2	E
	EB RT	1	0.29	21.1	C	1	0.42	21.6	C	1	0.27	17.3	B	1	0.29	19.1	B	1	0.28	19.0	B
	WB LT	2	1.01	112.0	F	2	0.45	53.5	D	2	1.01	111.1	F	2	0.82	66.7	E	2	0.82	66.4	E
	WB TH/RT	2	0.87	69.1	E	2	0.70	53.5	D	2	0.76	56.6	E	2	0.72	54.0	D	2	0.73	54.2	D
	OVERALL	-	1.00	52.4	D	-	0.85	41.2	D	-	0.94	48.0	D	-	0.88	41.8	D	-	0.89	43.0	D
CR 951/ Golden Gate Blvd	NB TH	3	0.97	51.6	D	3	0.88	35.6	D	3	0.86	38.3	D	3	0.86	38.0	D	3	0.89	40.5	D
	NB RT	2	0.71	10.0	A	2	0.56	8.4	A	2	0.61	9.1	A	2	0.50	9.5	A	2	0.55	10.0	A
	SB LT	2	0.94	58.0	E	2	0.91	48.7	D	2	0.93	55.9	E	2	0.82	40.4	D	2	0.80	40.1	D
	SB TH	3	0.40	13.3	B	3	0.37	9.8	A	3	0.36	11.7	B	3	0.34	9.6	A	3	0.33	10.1	B
	WB LT	2	0.89	36.8	D	2	0.81	34.4	C	2	0.83	36.1	D	2	0.73	34.9	C	2	0.78	35.9	D
	WB RT	1	0.51	10.2	B	1	0.58	12.5	B	1	0.56	12.6	B	1	0.58	13.0	B	1	0.55	12.2	B
	OVERALL	-	0.93	30.1	C	-	0.87	24.9	C	-	0.87	26.9	C	-	0.80	24.8	C	-	0.83	25.6	C

(*) Shared Thru/Right Lane

Table 8-5: Opening Year (2019) CR 951 Signalized Intersection Levels of Service – PM Peak Hour (Continued)

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
CR 951/ Vanderbilt Beach Rd	NB LT	2	0.85	55.0	D	2	0.85	54.2	D	2	0.85	54.1	D	2	0.81	50.1	D	2	0.79	49.4	D
	NB TH	3	0.73	33.0	C	3	0.72	31.8	C	3	0.71	32.5	C	3	0.70	31.8	C	3	0.71	31.9	C
	NB RT	1	0.01	12.3	B	1	0.01	11.8	B	1	0.01	12.0	B	1	0.01	12.7	B	1	0.00	12.7	B
	SB LT	2	0.18	49.0	D	2	0.18	48.6	D	2	0.17	48.0	D	2	0.20	49.1	D	2	0.21	49.2	D
	SB TH	3	0.80	43.3	D	3	0.79	42.2	D	3	0.78	42.5	D	3	0.82	44.9	D	3	0.78	43.4	D
	SB RT	1	0.68	16.9	B	1	0.64	16.5	B	1	0.67	17.3	B	1	0.63	16.7	B	1	0.65	17.1	B
	EB LT	2	0.91	50.4	D	2	0.91	52.3	D	2	0.92	52.2	D	2	0.86	46.2	D	2	0.81	42.6	D
	EB TH	2	0.10	32.3	C	2	0.11	33.5	C	2	0.11	33.5	C	2	0.10	31.5	C	2	0.10	31.5	C
	EBRT	1	0.85	34.0	C	1	0.90	40.3	D	1	0.90	40.0	D	1	0.84	31.2	C	1	0.83	30.1	C
	WB LT	2	0.02	43.6	D	2	0.02	44.0	D	2	0.02	43.1	D	2	0.02	45.3	D	2	0.02	45.3	D
	WB TH	3	0.17	48.8	D	3	0.17	48.8	D	3	0.17	48.8	D	3	0.16	48.8	D	3	0.17	48.8	D
	WB RT	1	0.02	35.4	D	1	0.03	35.1	D	1	0.02	34.6	C	1	0.03	35.5	D	1	0.03	35.4	D
	OVERALL	-	0.79	38.8	D	-	0.78	39.4	D	-	0.78	39.7	D	-	0.73	37.3	D	-	0.71	36.2	D
CR 951/ Immokalee Rd	NB LT	2	0.93	62.7	E	2	0.77	62.4	E	2	0.83	69.8	E	2	0.75	51.0	D	2	0.72	45.7	D
	NB RT	2	1.02	60.5	E	2	0.81	31.5	C	2	0.87	37.8	D	2	0.77	25.1	C	2	0.90	26.1	C
	EB TH	3	1.02	69.7	E	3	0.95	52.6	D	3	0.90	43.5	D	3	0.94	44.6	D	3	0.93	46.8	D
	EB RT	1	0.46	7.8	A	1	0.60	18.0	B	1	0.57	16.5	B	1	0.61	14.7	B	1	0.65	18.7	B
	WB LT	2	0.64	55.3	E	2	0.89	56.8	E	2	0.93	62.4	E	2	0.90	51.1	D	2	0.95	49.4	D
	WB TH	3	0.41	14.1	B	3	0.40	6.5	A	3	0.40	5.5	A	3	0.40	6.3	A	3	0.32	5.7	A
	OVERALL	-	1.02	50.4	D	-	0.87	36.6	D	-	0.88	36.1	D	-	0.89	31.1	C	-	0.91	32.3	C

(*) Shared Thru/Right Lane

Table 8-6: Opening Year (2019) Immokalee Road Signalized Intersection Levels of Service – AM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
Immokalee Rd/ Wilson Blvd	NB LT	(*)	0.94	94.4	F	(*)	0.82	68.8	E	(*)	0.85	73.7	E	(*)	0.74	57.7	E	(*)	0.78	62.7	E
	NB TH	1	0.94	94.4	F	1	0.82	68.8	E	1	0.85	73.7	E	1	0.74	57.7	E	1	0.78	62.7	E
	NB RT	1	0.30	33.4	C	1	0.28	32.1	C	1	0.29	33.0	C	1	0.28	31.4	C	1	0.29	32.5	C
	SB LT	(*)	0.27	56.0	E	(*)	0.31	53.8	D	(*)	0.32	54.0	D	(*)	0.32	54.0	D	(*)	0.32	54.0	D
	SB TH	1	0.27	56.0	E	1	0.31	53.8	D	1	0.32	54.0	D	1	0.32	54.0	D	1	0.32	54.0	D
	SB RT	1	0.15	42.3	D	1	0.25	40.8	D	1	0.25	40.8	D	1	0.25	40.8	D	1	0.04	38.8	D
	EB LT	1	0.44	56.9	E	1	0.42	54.1	D	1	0.42	54.1	D	1	0.41	54.1	D	1	0.41	54.1	D
	EB TH	3	0.95	40.9	D	3	0.91	36.4	D	3	0.91	35.6	D	3	0.88	34.5	C	3	0.86	32.3	C
	EB RT	1	0.14	8.6	A	1	0.09	7.8	A	1	0.09	7.7	A	1	0.09	7.5	A	1	0.09	7.3	A
	WB LT	1	0.78	62.4	E	1	0.57	49.6	D	1	0.60	51.1	D	1	0.61	52.0	D	1	0.63	53.2	D
	WB TH	3	1.01	48.5	D	3	1.00	45.7	D	3	1.01	47.3	D	3	0.98	41.9	D	3	0.97	38.6	D
	WB RT	1	0.04	8.9	A	1	0.03	9.2	A	1	0.03	9.0	A	1	0.03	10.0	A	1	0.03	13.6	B
	OVERALL	-	0.88	46.5	D	-	0.85	42.1	D	-	0.86	42.8	D	-	0.82	39.3	D	-	0.82	37.1	D
Immokalee Rd/ Randall Blvd	NB TH	3	0.74	21.6	C	3	0.71	19.1	B	3	0.73	20.4	C	3	0.67	17.1	B	3	0.67	17.0	B
	NB RT	1	0.45	3.1	A	1	0.38	3.1	A	1	0.42	3.2	A	1	0.31	2.8	A	1	0.33	2.9	A
	SB LT	1	0.19	41.8	D	1	0.18	36.7	D	1	0.22	37.0	D	1	0.20	36.9	D	1	0.18	36.7	D
	SB TH	3	0.73	13.6	B	3	0.69	10.9	B	3	0.70	11.9	B	3	0.66	9.4	A	3	0.65	9.3	A
	WB LT	2	0.82	40.0	D	2	0.82	38.7	D	2	0.84	38.6	D	2	0.78	38.0	D	2	0.81	39.9	D
	WB RT	1	0.06	17.3	B	1	0.04	15.9	B	1	0.08	25.2	C	1	0.05	17.2	B	1	0.04	17.1	B
	OVERALL	-	0.76	19.1	B	-	0.73	16.9	B	-	0.74	18.0	B	-	0.69	15.3	B	-	0.69	15.5	B
Immokalee Rd/ Oil Well Rd	NB TH	2	0.55	34.9	C	2	0.56	29.2	C	2	0.56	29.2	C	2	0.55	28.7	C	2	0.56	29.2	C
	NB RT	2	0.58	3.5	A	2	0.57	4.0	A	2	0.57	4.0	A	2	0.56	3.9	A	2	0.55	3.9	A
	SB LT	1	0.58	53.4	D	1	0.60	43.2	D	1	0.60	43.5	D	1	0.60	43.2	D	1	0.60	43.2	D
	SB TH	3	0.33	22.9	C	3	0.32	17.4	B	3	0.31	17.4	B	3	0.31	17.1	B	3	0.31	17.4	B
	WB LT	1	0.98	51.2	D	1	0.99	52.6	D	1	0.99	51.7	D	1	0.98	50.8	D	1	0.96	44.7	D
	WB LT/RT	1	0.97	49.7	D	1	0.99	53.7	D	1	0.98	50.5	D	1	0.99	52.8	D	1	0.97	46.6	D
	OVERALL	-	0.80	30.4	C	-	0.81	29.8	C	-	0.80	28.9	C	-	0.80	29.1	C	-	0.79	26.8	C

(*) Shared Left/Thru Lane

Table 8-7: Opening Year (2019) Immokalee Road Signalized Intersection Levels of Service – PM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
Immokalee Rd/ Wilson Blvd	NB LT	(*)	0.89	96.1	F	(*)	0.85	83.8	F	(*)	0.89	92.7	F	(*)	0.87	87.3	F	(*)	0.77	69.3	E
	NB TH	1	0.89	96.1	F	1	0.85	83.8	F	1	0.89	92.7	F	1	0.87	87.3	F	1	0.77	69.3	E
	NB RT	1	0.54	48.4	D	1	0.31	44.0	D	1	0.27	40.1	D	1	0.30	42.7	D	1	0.23	36.3	D
	SB LT	(*)	0.36	64.6	E	(*)	0.27	56.0	E	(*)	0.27	56.0	E	(*)	0.27	56.0	E	(*)	0.27	56.0	E
	SB TH	1	0.36	64.6	E	1	0.27	56.0	E	1	0.27	56.0	E	1	0.27	56.0	E	1	0.27	56.0	E
	SB RT	1	0.16	53.7	D	1	0.20	42.8	D	1	0.17	38.6	D	1	0.18	40.6	D	1	0.19	41.9	D
	EB LT	1	0.62	72.0	E	1	0.56	60.0	E	1	0.37	51.7	D	1	0.44	54.7	D	1	0.50	56.9	E
	EB TH	3	1.00	47.3	D	3	1.03	55.0	D	3	1.01	49.4	D	3	0.99	45.6	D	3	1.00	48.8	D
	EB RT	1	0.17	6.4	A	1	0.13	7.3	A	1	0.13	6.7	A	1	0.13	8.0	A	1	0.13	7.3	A
	WB LT	1	0.87	91.0	F	1	0.82	72.6	E	1	0.98	112.0	F	1	0.75	61.5	E	1	0.83	73.8	E
	WB TH	3	0.73	19.9	B	3	0.72	19.7	B	3	0.80	25.0	C	3	0.70	19.9	B	3	0.71	20.8	C
	WB RT	1	0.02	6.0	A	1	0.04	11.1	B	1	0.04	9.6	A	1	0.03	8.1	A	1	0.04	8.5	A
	OVERALL	-	0.92	39.0	D	-	0.91	41.5	D	-	0.93	42.2	D	-	0.87	36.8	D	-	0.88	38.5	D
Immokalee Rd/ Randall Blvd	NB TH	3	0.85	23.8	C	3	0.85	21.5	C	3	0.85	21.8	C	3	0.84	20.9	C	3	0.83	20.6	C
	NB RT	1	0.57	3.7	A	1	0.50	3.6	A	1	0.55	4.1	A	1	0.42	3.2	A	1	0.44	3.3	A
	SB LT	1	0.26	47.5	D	1	0.14	36.5	D	1	0.17	36.7	D	1	0.15	36.6	D	1	0.14	36.5	D
	SB TH	3	0.54	9.4	A	3	0.51	7.3	A	3	0.52	7.5	A	3	0.51	7.2	A	3	0.50	7.2	A
	WB LT	2	0.73	42.3	D	2	0.75	37.5	D	2	0.79	39.3	D	2	0.64	34.4	C	2	0.67	35.1	D
	WB RT	1	0.05	22.1	C	1	0.10	28.8	C	1	0.07	17.6	B	1	0.11	28.8	C	1	0.06	17.8	B
	OVERALL	-	0.75	18.6	B	-	0.73	16.4	B	-	0.75	16.9	B	-	0.70	15.8	B	-	0.70	15.7	B
Immokalee Rd/ Oil Well Rd	NB TH	2	0.54	26.6	C	2	0.55	24.5	C	2	0.55	24.4	C	2	0.57	25.4	C	2	0.57	25.4	C
	NB RT	2	0.75	6.0	A	2	0.73	5.9	A	2	0.72	5.9	A	2	0.71	5.7	A	2	0.68	5.2	A
	SB LT	1	0.67	53.2	D	1	0.47	39.4	D	1	0.48	39.4	D	1	0.47	39.4	D	1	0.47	39.4	D
	SB TH	3	0.21	14.6	B	3	0.21	12.6	B	3	0.21	12.6	B	3	0.21	13.2	B	3	0.21	13.2	B
	WB LT	1	0.95	51.4	D	1	0.97	53.8	D	1	0.97	52.8	D	1	0.92	43.3	D	1	0.91	41.5	D
	WB LT/RT	1	0.95	50.6	D	1	0.95	50.2	D	1	0.97	54.6	D	1	0.93	44.8	D	1	0.92	43.1	D
	OVERALL	-	0.70	25.9	C	-	0.65	25.2	C	-	0.65	25.8	C	-	0.73	22.8	C	-	0.72	22.3	C

(*) Shared Left/Thru Lane

Table 8-8: Opening Year (2019) Golden Gate Boulevard Intersection Levels of Service – AM and PM Peak Hours

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
AM Peak Hour																					
Golden Gate Blvd/ Everglades Blvd	NB LT	1	0.82	19.8	B	1	0.26	10.1	B	1	0.53	11.1	B	1	0.34	11.7	B	1	0.53	10.1	B
	NB TH	1	0.85	41.3	D	1	0.42	20.3	C	1	0.47	19.5	B	1	0.75	28.3	C	1	0.91	40.5	D
	SB LT	1	0.21	9.9	A	1	0.17	9.7	A	1	0.18	9.1	A	1	0.20	11.9	B	1	0.35	12.8	B
	SB TH	1	0.52	26.1	C	1	0.38	19.9	B	1	0.45	19.2	B	1	0.57	22.3	C	1	0.26	16.9	B
	SB RT	1	0.24	23.5	C	1	0.20	18.3	B	1	0.18	16.9	B	1	0.19	18.3	B	1	0.13	15.9	B
	EB LT	1	0.68	34.4	C	1	0.63	28.0	C	1	0.66	31.7	C	1	0.42	20.1	C	1	0.33	21.7	C
	EB TH	1	0.35	21.6	C	1	0.38	19.9	B	1	0.36	21.1	C	1	0.27	18.3	B	1	0.28	21.0	C
	EB RT	1	0.41	7.8	A	1	0.17	9.5	A	1	0.41	12.4	B	1	0.18	9.6	A	1	0.30	12.0	B
	WB LT	1	0.19	20.4	C	1	0.25	18.9	B	1	0.27	20.4	C	1	0.54	21.6	C	1	0.78	35.3	D
	WB TH/RT	1	0.75	30.4	C	1	0.70	26.1	C	1	0.71	28.1	C	1	0.52	20.7	C	1	0.41	22.2	C
	OVERALL	-	0.87	24.1	C	-	0.59	19.7	B	-	0.66	19.2	B	-	0.67	20.7	C	-	0.89	24.4	C
Golden Gate Blvd/ Desoto Blvd [1]	EB L/T/R	1	-	15.7	C	1	-	18.0	C	1	-	16.4	C	1	-	20.1	C	1	-	110.7	F
	WB L/T/R	1	-	9.9	A	1	-	10.2	B	1	-	10.0	A	1	-	10.4	B	1	-	13.4	B
	NB L/T/R	1	-	20.6	C	1	-	22.6	C	1	-	21.2	C	1	-	23.9	C	1	-	167.4	F
	SB L/T/R	1	-	11.2	B	1	-	12.2	B	1	-	11.5	B	1	-	12.6	B	1	-	45.9	E
PM Peak Hour																					
Golden Gate Blvd/ Everglades Blvd	NB LT	1	0.73	15.7	B	1	0.29	9.6	A	1	0.61	12.1	B	1	0.35	9.4	A	1	0.48	10.7	B
	NB TH/RT	1	0.58	25.3	C	1	0.52	20.7	C	1	0.60	21.6	C	1	0.86	32.6	C	1	0.74	26.4	C
	SB LT	1	0.24	9.1	A	1	0.23	9.9	A	1	0.27	10.0	B	1	0.29	12.3	B	1	0.24	11.1	B
	SB TH	1	0.57	25.1	C	1	0.29	18.4	B	1	0.35	18.3	B	1	0.40	17.5	B	1	0.34	18.2	B
	SB RT	1	0.14	20.6	C	1	0.13	17.2	B	1	0.12	16.5	B	1	0.11	15.2	B	1	0.09	16.2	B
	EB LT	1	0.63	28.6	C	1	0.63	27.1	C	1	0.62	27.6	C	1	0.52	23.8	C	1	0.44	21.7	C
	EB TH	1	0.44	22.5	C	1	0.50	21.7	C	1	0.46	22.0	C	1	0.39	21.6	C	1	0.20	19.0	B
	EB RT	1	0.56	10.9	B	1	0.12	9.7	A	1	0.30	11.5	B	1	0.13	11.3	B	1	0.39	12.2	B
	WB LT	1	0.28	21.2	C	1	0.25	19.6	B	1	0.25	20.3	C	1	0.54	24.3	C	1	0.87	42.9	D
	WB TH/RT	1	0.58	24.8	C	1	0.57	23.0	C	1	0.56	23.5	C	1	0.45	22.3	C	1	0.48	21.6	C
	OVERALL	-	0.72	19.5	B	-	0.62	19.0	B	-	0.68	18.5	B	-	0.77	22.3	C	-	0.84	22.3	C
Golden Gate Blvd/ Desoto Blvd [1]	EB L/T/R	1	-	19.6	C	1	-	24.4	C	1	-	20.8	C	1	-	28.8	D	1	-	57.9	F
	WB L/T/R	1	-	9.7	A	1	-	10.0	A	1	-	9.8	A	1	-	10.1	B	1	-	12.4	B
	NB L/T/R	1	-	16.5	C	1	-	17.7	C	1	-	16.9	C	1	-	18.4	C	1	-	275.6	F
	SB L/T/R	1	-	11.6	B	1	-	12.5	B	1	-	11.9	B	1	-	12.8	B	1	-	24.8	C

[1] 4-Way Stop Controlled Intersection

Table 8-9: Design Year (2039) CR 951 Signalized Intersection Levels of Service – AM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS
CR 951/ SR 84	NB LT	2	0.73	94.1	F	2	0.74	94.4	F	2	0.74	94.4	F	2	0.80	102.9	F	2	0.78	99.5	F
	NB TH	5	0.98	63.1	E	5	0.98	62.9	E	5	1.00	67.8	E	5	0.98	64.0	E	5	0.99	64.9	E
	SB LT	2	0.97	93.7	F	2	0.97	93.1	F	2	0.97	94.9	F	2	0.99	114.5	F	2	0.98	94.8	F
	SB TH	3	0.95	41.5	D	3	0.95	41.5	D	3	0.91	38.9	D	3	0.99	55.7	E	3	0.97	43.9	D
	SB RT	2	0.75	3.4	A	2	0.76	3.4	A	2	0.78	3.6	A	2	0.80	5.4	A	2	0.79	3.7	A
	EB LT	3	0.96	81.5	F	3	0.97	83.4	F	3	0.99	87.2	F	3	1.00	90.2	F	3	1.00	89.4	F
	EB TH	1	0.62	60.1	E	1	0.62	60.2	E	1	0.62	60.1	E	1	0.58	57.9	E	1	0.60	58.7	E
	WB LT	2	0.92	122.8	F	2	0.92	122.8	F	2	0.92	122.8	F	2	0.92	122.8	F	2	0.92	122.8	F
	WB TH	2	1.65	397.8	F	2	1.67	403.1	F	2	1.66	399.6	F	2	1.62	382.1	F	2	1.63	389.1	F
	WB RT	1	1.71	402.8	F	1	1.70	399.1	F	1	1.71	401.6	F	1	1.74	415.1	F	1	1.73	410.2	F
	OVERALL	-	1.16	87.7	F	-	1.16	87.7	F	-	1.18	89.3	F	-	1.18	92.5	F	-	1.18	89.1	F
CR 951/ City Gate Blvd	NB LT	2	0.78	68.3	E	2	0.78	68.1	E	2	1.03	121.9	F	2	1.00	106.5	F	2	1.00	100.6	F
	NB TH	3	1.06	96.9	F	3	1.12	119.3	F	3	1.00	70.6	E	3	0.99	77.8	E	3	1.01	79.3	E
	NB RT	1	0.40	15.2	B	1	0.40	15.2	B	1	0.34	7.6	A	1	0.62	18.2	B	1	0.52	35.3	D
	SB LT	2	1.21	166.8	F	2	1.15	139.6	F	2	0.73	71.0	E	2	1.00	95.7	F	2	1.08	114.5	F
	SB TH	4	0.89	50.2	D	4	0.93	54.6	D	4	1.02	73.1	E	4	0.87	52.3	D	4	0.81	48.2	D
	SB RT	1	0.26	25.1	C	1	0.27	25.1	C	1	0.25	25.5	C	1	0.21	25.2	C	1	0.22	24.6	C
	EB LT	2	1.12	153.8	F	2	1.12	154.9	F	2	1.07	140.5	F	2	0.89	89.9	F	2	0.98	114.0	F
	EB TH	2	0.17	66.5	E	2	0.17	66.5	E	2	0.34	67.8	E	2	0.15	63.8	E	2	0.16	66.4	E
	EB RT	1	0.76	64.4	E	1	0.76	64.4	E	1	0.92	95.7	F	1	0.83	69.0	E	1	0.83	71.7	E
	WB LT	3	1.09	105.7	F	3	1.09	104.3	F	3	1.18	138.7	F	3	1.03	75.8	E	3	1.02	75.5	E
	WB TH	2	0.03	40.7	D	2	0.03	40.7	D	2	0.06	36.0	D	2	0.02	33.4	C	2	0.03	35.7	D
	WB RT	1	0.83	38.1	D	1	0.79	34.2	C	1	0.24	24.8	C	1	0.58	24.6	C	1	0.69	27.9	C
	OVERALL	-	1.05	84.6	F	-	1.04	85.8	F	-	1.06	88.6	F	-	0.92	66.1	E	-	0.96	69.7	E
CR 951/ Golden Gate Pkwy	NB LT	2	0.99	81.8	F	2	1.02	79.5	F	2	0.98	66.8	F	2	0.90	50.1	D	2	0.97	63.4	E
	NB TH	3	0.54	10.6	B	3	0.54	8.0	A	3	0.50	8.3	A	3	0.44	8.2	A	3	0.48	8.8	A
	SB TH	3	1.00	52.5	D	3	1.02	49.5	D	3	0.99	44.4	D	3	0.91	33.1	C	3	0.97	39.4	D
	SB RT	1	0.63	8.3	A	1	0.75	10.1	B	1	0.75	11.1	B	1	0.73	11.2	B	1	0.71	9.8	A
	EB LT	2	0.71	43.7	D	2	0.93	52.5	D	2	0.85	41.6	D	2	0.78	36.1	D	2	0.76	34.8	C
	EB RT	1	0.99	62.7	E	1	1.01	62.4	E	1	1.00	56.4	E	1	0.95	41.8	D	1	0.95	42.9	D
	OVERALL	-	1.00	39.5	D	-	1.02	38.1	D	-	1.00	34.5	C	-	0.93	27.6	C	-	0.96	30.5	C

(*) Shared Thru/Right Lane

Table 8-9: Design Year (2039) CR 951 Signalized Intersection Levels of Service – AM Peak Hour (Continued)

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS
CR 951/ Green Blvd	NB LT	1	0.51	50.3	D	1	0.68	83.5	F	1	0.48	39.4	D	1	0.45	36.5	D	1	0.43	37.1	D
	NB TH	3	0.65	9.3	A	3	0.96	62.2	E	3	0.62	7.0	A	3	0.54	6.5	A	3	0.58	6.9	A
	NB RT	-	-	-	-	1	0.73	18.5	B	-	-	-	-	-	-	-	-	-	-	-	-
	SB LT	-	-	-	-	2	0.69	66.2	E	-	-	-	-	-	-	-	-	-	-	-	-
	SB TH	3	1.01	42.4	D	3	1.01	67.1	E	3	1.01	39.1	D	3	0.94	28.5	C	3	0.99	35.9	D
	SB RT	1	0.27	11.8	B	1	0.25	18.5	B	1	0.14	2.3	A	1	0.09	2.9	A	1	0.10	2.7	A
	EB LT	1	0.99	88.6	F	1	1.01	117.5	F	1	0.87	57.6	E	1	0.57	35.8	D	1	0.63	37.9	D
	EB TH	-	-	-	-	2	0.79	77.3	E	-	-	-	-	-	-	-	-	-	-	-	-
	EB RT	1	0.18	36.4	D	(*)	0.79	77.3	E	1	0.14	20.4	C	1	0.16	18.4	B	1	0.14	18.8	B
	WB LT	-	-	-	-	2	1.00	81.9	F	-	-	-	-	-	-	-	-	-	-	-	-
	WB TH	-	-	-	-	2	0.21	38.6	D	-	-	-	-	-	-	-	-	-	-	-	-
	WB RT	-	-	-	-	1	0.52	28.1	C	-	-	-	-	-	-	-	-	-	-	-	-
	OVERALL	-	0.95	31.2	C	-	0.95	61.2	E	-	0.91	26.0	C	-	0.78	19.5	B	-	0.82	23.4	C
CR 951/ Pine Ridge Rd	NB LT	2	1.12	166.0	F	2	1.00	108.9	F	2	1.01	129.8	F	2	0.76	70.4	E	2	0.75	69.3	E
	NB TH	3	0.78	37.9	D	3	0.61	29.3	C	3	0.72	35.6	D	3	0.65	32.6	C	3	0.66	29.1	C
	NB RT	1	0.25	17.1	B	1	0.10	13.0	B	1	0.24	17.9	B	1	0.33	13.2	B	1	0.37	23.9	C
	SB LT	1	0.16	80.2	F	1	0.56	90.3	F	1	0.15	80.1	F	1	0.12	68.2	E	1	0.13	68.3	E
	SB TH	3	1.09	98.5	F	3	1.01	75.8	E	3	1.03	74.8	E	3	1.00	68.4	E	3	1.00	63.4	E
	SB RT	2	0.69	18.4	B	2	0.68	22.8	C	2	0.66	17.1	B	2	0.63	16.2	B	2	0.66	17.3	B
	EB LT	3	1.11	134.3	F	3	1.02	104.9	F	3	1.01	101.2	F	2	1.06	105.3	F	3	0.98	83.3	F
	EB TH	1	0.97	99.5	F	1	0.62	60.5	E	1	0.75	65.7	E	1	0.82	67.2	E	1	0.89	77.5	E
	EB RT	1	0.47	45.7	D	1	0.61	38.1	D	1	0.45	42.7	D	1	0.40	32.8	C	1	0.40	33.8	C
	WB LT	2	0.99	126.1	F	2	0.62	83.4	F	2	1.06	148.3	F	2	0.90	81.8	F	2	1.03	121.6	F
	WB TH/RT	2	1.10	141.6	F	2	0.93	101.4	F	2	0.96	105.3	F	2	1.01	109.3	F	2	1.02	110.7	F
	OVERALL	-	1.10	80.8	F	-	1.00	62.3	E	-	1.01	64.8	E	-	0.98	57.7	E	-	0.96	56.1	E
CR 951/ Golden Gate Blvd	NBTH	3	0.96	57.5	E	3	0.88	44.5	D	3	0.91	49.9	D	3	1.00	59.5	E	3	0.94	52.8	D
	NBRT	2	0.70	9.5	A	2	0.52	8.8	A	2	0.68	10.9	B	2	0.52	7.3	A	2	0.61	10.3	B
	SBLT	2	0.98	79.2	E	2	0.85	53.6	D	2	0.97	72.2	E	2	1.03	75.4	E	2	0.88	53.9	D
	SBTH	3	0.70	23.5	C	3	0.63	16.9	B	3	0.62	19.5	B	3	0.63	16.1	B	3	0.61	18.0	B
	WBLT	3	0.99	52.4	D	3	0.86	42.2	D	3	1.00	58.4	E	2	1.01	56.7	E	3	0.87	39.2	D
	WBRT	1	0.76	19.4	B	1	0.86	28.6	C	1	0.90	30.1	C	1	0.93	28.8	C	1	0.86	24.5	C
	OVERALL	-	0.98	37.8	D	-	0.87	30.8	C	-	0.96	38.2	D	-	1.01	38.7	D	-	0.89	31.8	C

(*) Shared Thru/Right Lane

Table 8-9: Design Year (2039) CR 951 Signalized Intersection Levels of Service – AM Peak Hour (Continued)

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS
CR 951/ Vanderbilt Beach Rd	NB LT	2	1.15	145.3	F	2	1.11	119.6	F	2	1.17	146.1	F	2	1.12	123.6	F	2	1.11	123.1	F
	NB TH	3	0.59	28.0	C	3	0.53	23.5	C	3	0.54	25.9	C	3	0.52	25.9	C	3	0.54	27.0	C
	NB RT	1	0.01	15.0	B	1	0.01	12.5	B	1	0.01	14.1	B	1	0.01	9.7	A	1	0.01	9.8	A
	SB LT	2	0.21	66.8	E	2	0.22	65.2	E	2	0.20	66.7	E	2	0.14	62.7	E	2	0.14	62.7	E
	SB TH	3	1.04	80.5	F	3	1.07	94.4	F	3	1.03	81.3	F	3	1.00	72.6	E	3	1.00	72.8	E
	SB RT	2	0.88	27.8	C	2	0.88	32.3	C	2	0.89	31.4	C	2	0.82	28.2	C	2	0.84	28.3	C
	EB LT	3	1.02	86.6	F	3	1.08	106.7	F	3	1.04	94.4	F	3	1.00	86.4	F	3	1.01	85.6	F
	EB TH	2	0.10	42.9	D	2	0.10	45.1	D	2	0.10	44.4	D	2	0.13	51.7	D	2	0.13	51.7	D
	EB RT	1	0.82	43.2	D	1	0.93	53.2	D	1	0.93	54.8	D	1	0.99	70.4	E	1	0.96	63.8	E
	WB LT	2	0.03	65.5	E	2	0.03	63.0	E	2	0.03	65.5	E	2	0.02	59.6	E	2	0.02	58.2	E
	WB TH	3	0.34	67.4	E	3	0.30	64.6	E	3	0.31	67.3	E	3	0.30	67.2	E	3	0.31	67.2	E
	WB RT	1	0.14	53.5	D	1	0.29	65.6	E	1	0.13	53.4	D	1	0.11	50.0	D	1	0.11	50.0	D
	OVERALL	-	1.10	64.1	E	-	1.02	70.0	E	-	1.02	68.5	E	-	0.98	64.5	E	-	0.98	63.2	E
CR 951/ Immokalee Rd	NB LT	2	1.32	233.6	F	2	1.27	206.9	F	2	1.30	221.4	F	2	1.13	150.1	F	2	1.18	168.8	F
	NB RT	3	0.90	41.2	D	3	0.75	29.8	B	3	0.81	34.3	C	3	0.68	28.1	C	3	0.73	30.2	C
	EB TH	3	1.19	131.6	F	3	1.18	133.7	F	3	1.16	123.6	F	3	1.18	133.6	F	3	1.18	129.4	F
	EB RT	1	0.36	17.9	B	1	0.45	19.8	B	1	0.40	18.6	B	1	0.44	18.1	B	1	0.42	18.2	B
	WB LT	3	1.41	236.4	F	3	1.23	155.5	F	3	1.31	191.8	F	3	1.17	134.7	F	3	1.23	160.8	F
	WB TH	3	0.80	7.3	A	3	0.77	8.1	A	3	0.78	7.5	A	3	0.79	9.7	A	3	0.78	9.0	A
	OVERALL	-	1.29	102.4	F	-	1.21	82.9	F	-	1.24	89.2	F	-	1.17	75.3	E	-	1.20	80.8	F

(*) Shared Thru/Right Lane

Table 8-10: Design Year (2039) CR 951 Signalized Intersection Levels of Service – PM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS
CR 951/ SR 84	NB LT	2	1.23	226.8	F	2	1.23	228.7	F	2	1.23	228.7	F	2	1.20	215.1	F	2	1.21	219.0	F
	NB TH	5	0.91	63.3	E	5	0.91	63.3	E	5	0.88	60.7	E	5	0.95	67.2	E	5	0.93	65.3	E
	SB LT	2	0.95	76.4	E	2	0.95	76.1	E	2	0.95	76.3	E	2	0.96	77.7	E	2	0.96	77.1	E
	SB TH	3	1.26	156.7	F	3	1.26	156.2	F	3	1.28	168.1	F	3	1.23	143.1	F	3	1.25	150.5	F
	SB RT	2	0.57	2.0	A	2	0.57	2.0	A	2	0.58	2.0	A	2	0.61	2.1	A	2	0.62	2.4	A
	EB LT	3	1.14	134.3	F	3	1.15	138.8	F	3	1.17	146.7	F	3	1.22	169.0	F	3	1.20	162.0	F
	EB TH	1	0.73	62.6	E	1	0.74	62.9	E	1	0.73	62.7	E	1	0.71	61.7	E	1	0.72	62.1	E
	WB LT	2	0.75	97.9	F	2	0.75	97.9	F	2	0.75	97.9	F	2	0.75	97.9	F	2	0.75	97.9	F
	WB TH	2	1.35	268.7	F	2	1.35	270.4	F	2	1.35	268.7	F	2	1.31	253.4	F	2	1.33	261.9	F
	WB RT	1	1.11	142.6	F	1	1.10	141.8	F	1	1.11	142.6	F	1	1.12	149.2	F	1	1.01	109.7	F
	OVERALL	-	1.22	108.1	F	-	1.23	108.6	F	-	1.25	113.2	F	-	1.23	109.2	F	-	1.23	108.6	F
CR 951/ City Gate Blvd	NB LT	2	0.91	93.2	F	2	0.85	83.2	F	2	0.80	76.3	E	2	0.89	87.6	F	2	0.84	79.8	E
	NB TH	3	1.12	114.2	F	3	1.16	130.7	F	3	1.10	99.2	F	3	0.99	73.0	E	3	1.01	81.4	F
	NB RT	1	0.49	21.0	C	1	0.49	20.5	C	1	0.44	12.7	B	1	0.71	27.1	C	1	0.34	18.3	B
	SB LT	2	1.23	178.2	F	2	1.20	169.7	F	2	1.02	138.2	F	2	0.98	97.5	F	2	1.03	107.7	F
	SB TH	4	0.62	36.5	D	4	0.67	38.1	D	4	0.85	49.4	D	4	0.60	40.2	D	4	0.58	38.8	D
	SB RT	1	0.13	16.6	B	1	0.13	17.1	B	1	0.12	21.0	C	1	0.13	19.1	B	1	0.14	19.0	B
	EB LT	2	1.18	172.7	F	2	1.19	174.8	F	2	1.11	147.0	F	2	0.88	83.2	F	2	0.99	108.0	F
	EB TH	2	0.14	66.2	E	2	0.14	66.2	E	2	0.27	67.2	E	2	0.12	66.1	E	2	0.13	66.2	E
	EB RT	1	1.15	160.5	F	1	1.11	145.6	F	1	1.08	132.2	F	1	1.21	180.3	F	1	1.15	156.5	F
	WB LT	3	1.18	140.2	F	3	1.18	139.0	F	3	1.28	178.1	F	3	1.14	119.3	F	3	1.16	130.3	F
	WB TH	2	0.05	42.3	D	2	0.04	42.3	D	2	0.08	37.6	D	2	0.04	40.0	D	2	0.04	40.8	D
	WB RT	1	1.27	177.2	F	1	1.21	153.8	F	1	0.37	35.2	D	1	0.87	51.1	D	1	1.04	86.8	F
	OVERALL	-	1.20	113.8	F	-	1.19	112.4	F	-	1.10	103.9	F	-	0.98	79.6	E	-	1.02	87.0	F
CR 951/ Golden Gate Pkwy	NB LT	2	0.95	55.3	E	2	0.93	53.1	D	2	0.95	52.1	D	2	0.88	41.5	D	2	0.92	47.7	D
	NB TH	3	0.69	10.3	B	3	0.72	12.3	B	3	0.65	10.7	B	3	0.58	10.8	B	3	0.63	11.4	B
	SB TH	3	0.94	36.7	D	3	1.00	51.9	D	3	0.97	44.3	D	3	0.92	40.0	D	3	0.95	42.7	D
	SB RT	1	0.53	8.2	A	1	0.63	10.2	B	1	0.64	11.0	B	1	0.62	11.1	B	1	0.60	10.0	A
	EB LT	2	0.95	55.3	E	2	1.01	68.2	E	2	1.01	65.4	E	2	0.88	40.8	D	2	0.88	40.3	D
	EB RT	1	0.68	18.1	B	1	0.64	16.7	B	1	0.65	15.2	B	1	0.62	12.7	B	1	0.63	13.7	B
	OVERALL	-	0.95	28.1	C	-	0.98	34.3	C	-	0.97	31.8	C	-	0.89	26.1	C	-	0.92	27.5	C

(*) Shared Thru/Right Lane

Table 8-10: Design Year (2039) CR 951 Signalized Intersection Levels of Service – PM Peak Hour (Continued)

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS
CR 951/ Green Blvd	NB LT	1	0.35	33.9	C	1	0.85	111.7	F	1	0.40	34.4	C	1	0.47	34.7	C	1	0.38	32.6	C
	NB TH	3	0.87	14.4	B	3	1.00	64.6	E	3	0.83	13.1	B	3	0.71	9.7	A	3	0.74	9.2	A
	NB RT	-	-	-	-	1	0.92	33.4	C	-	-	-	-	-	-	-	-	-	-	-	-
	SB LT	-	-	-	-	2	0.87	80.0	F	-	-	-	-	-	-	-	-	-	-	-	-
	SB TH	3	1.00	42.2	D	3	0.67	30.9	C	3	0.96	34.2	C	3	0.82	23.5	C	3	0.87	25.4	C
	SB RT	1	0.28	4.1	A	1	0.27	11.3	B	1	0.20	3.8	A	1	0.12	3.7	A	1	0.15	4.3	A
	EB LT	1	0.72	38.6	D	1	0.95	106.8	F	1	0.54	32.5	C	1	0.39	31.1	C	1	0.48	33.7	C
	EB TH	-	-	-	-	2	0.91	95.5	F	-	-	-	-	-	-	-	-	-	-	-	-
	EB RT	1	0.05	14.3	B	(*)	0.91	95.5	F	1	0.07	14.4	B	1	0.10	14.9	B	1	0.08	15.0	B
	WB LT	-	-	-	-	2	0.99	85.7	F	-	-	-	-	-	-	-	-	-	-	-	-
	WB TH	-	-	-	-	2	0.26	51.2	D	-	-	-	-	-	-	-	-	-	-	-	-
	WB RT	-	-	-	-	1	0.52	38.1	D	-	-	-	-	-	-	-	-	-	-	-	-
	OVERALL	-	0.83	26.0	C	-	0.97	56.0	E	-	0.76	22.2	C	-	0.63	16.5	B	-	0.68	16.9	B
CR 951/ Pine Ridge Rd	NB LT	2	0.56	71.3	E	2	0.85	83.4	F	2	0.51	68.0	E	2	0.62	62.6	E	2	0.80	81.6	F
	NB TH	3	1.06	83.1	F	3	0.86	44.5	D	3	0.96	54.3	D	3	0.97	57.7	E	3	0.97	58.3	E
	NB RT	1	0.32	17.6	B	1	0.12	6.8	A	1	0.29	15.6	B	1	0.45	16.4	B	1	0.40	17.5	B
	SB LT	1	0.21	81.8	F	1	0.73	110.1	F	1	0.21	81.8	F	1	0.14	65.9	E	1	0.17	71.2	E
	SB TH	3	1.05	91.6	F	3	0.89	59.1	E	3	0.99	74.0	E	3	0.94	60.3	E	3	0.86	49.0	D
	SB RT	2	0.56	18.1	B	2	0.43	6.0	A	2	0.52	16.3	B	1	0.80	21.0	C	2	0.46	10.3	B
	EB LT	3	1.10	125.6	F	3	0.97	82.4	F	3	1.00	89.5	F	2	0.98	68.4	E	3	0.83	55.2	E
	EB TH	1	1.10	132.2	F	1	0.77	67.2	E	1	0.95	93.4	F	1	0.92	75.5	E	1	0.89	70.7	E
	EB RT	1	0.46	33.6	C	1	0.81	48.6	D	1	0.47	34.2	C	1	0.48	31.0	C	1	0.48	34.6	C
	WB LT	2	0.69	80.6	F	2	0.31	71.3	E	2	0.60	75.9	E	2	0.56	55.1	E	2	0.67	67.6	E
	WB TH/RT	2	1.08	140.8	F	2	0.85	92.1	F	2	0.93	106.0	F	2	0.98	107.6	F	2	0.91	91.6	F
	OVERALL	-	1.03	85.5	F	-	0.90	54.7	D	-	0.93	63.0	E	-	0.92	55.6	E	-	0.87	51.0	D
CR 951/ Golden Gate Blvd	NBTH	3	1.01	63.1	E	3	0.98	52.8	D	3	1.01	63.3	E	3	1.01	65.1	E	3	0.94	48.4	D
	NBRT	2	0.94	26.2	C	2	0.69	13.3	B	2	0.93	26.5	C	2	0.67	14.1	B	2	0.79	17.0	B
	SBLT	2	1.00	80.0	E	2	0.95	63.4	E	2	1.01	76.3	E	2	1.02	77.8	E	2	0.98	68.7	E
	SBTH	3	0.46	12.9	B	3	0.43	9.9	A	3	0.42	11.3	B	3	0.40	11.1	B	3	0.35	9.6	A
	WBLT	3	1.02	69.0	E	3	0.86	48.8	D	3	1.01	70.6	E	2	1.02	76.6	E	3	0.93	54.9	D
	WBRT	1	0.65	19.0	B	1	0.72	22.8	C	1	0.74	21.2	C	1	0.77	21.8	C	1	0.75	22.9	C
	OVERALL	-	1.01	45.0	D	-	0.93	34.8	C	-	1.01	45.2	D	-	1.02	44.6	D	-	0.95	36.7	D

(*) Shared Thru/Right Lane

Table 8-10: Design Year (2039) CR 951 Signalized Intersection Levels of Service – PM Peak Hour (Continued)

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS	No. of Lanes	V/C Ratio	Avg Delay	LOS
CR 951/ Vanderbilt Beach Rd	NB LT	2	0.95	80.3	F	2	1.00	89.3	F	2	1.02	97.3	F	2	1.02	95.6	F	2	1.03	99.7	F
	NB TH	3	0.85	41.6	D	3	0.82	39.8	D	3	0.81	39.4	D	3	0.79	39.2	D	3	0.80	39.6	D
	NB RT	1	0.01	19.0	B	1	0.01	19.0	B	1	0.01	18.9	B	1	0.01	19.5	B	1	0.01	19.5	B
	SB LT	2	0.32	66.9	E	2	0.27	65.6	E	2	0.31	66.8	E	2	0.31	66.8	E	2	0.31	66.8	E
	SB TH	3	1.00	75.7	E	3	1.03	87.3	F	3	1.00	76.3	E	3	1.04	89.5	F	3	0.99	76.3	E
	SB RT	2	0.67	17.3	B	2	0.64	18.7	B	2	0.66	18.1	B	2	0.60	17.8	B	2	0.62	17.1	B
	EB LT	3	1.01	75.3	E	3	0.95	61.8	E	3	0.98	66.9	E	3	0.86	50.4	D	3	0.90	53.7	D
	EB TH	2	0.10	34.3	C	2	0.09	34.9	C	2	0.09	34.2	C	2	0.09	33.4	C	2	0.09	33.5	C
	EB RT	1	0.90	44.7	D	1	1.06	81.1	F	1	1.03	72.2	E	1	1.06	80.4	F	1	1.02	70.4	E
	WB LT	2	0.03	63.0	E	2	0.03	63.0	E	2	0.03	63.0	E	2	0.03	63.0	E	2	0.03	63.0	E
	WB TH	3	0.25	64.4	E	3	0.23	64.2	E	3	0.24	64.2	E	3	0.23	64.2	E	3	0.23	64.2	E
	WB RT	1	0.09	52.2	D	1	0.17	64.4	E	1	0.08	52.1	D	1	0.08	52.1	D	1	0.08	52.1	D
	OVERALL	-	0.93	54.9	D	-	0.99	59.8	E	-	0.96	57.9	E	-	0.99	58.8	E	-	0.95	55.6	E
CR 951/ Immokalee Rd	NB LT	2	0.99	96.7	F	2	1.21	185.8	F	2	1.11	148.9	F	2	1.08	133.8	F	2	1.18	175.6	F
	NB RT	3	1.30	178.4	F	3	1.17	124.9	F	3	1.21	140.3	F	3	1.08	88.6	F	3	1.16	123.6	F
	EB TH	3	1.33	186.5	F	3	1.21	135.8	F	3	1.26	159.3	F	3	1.21	133.0	F	3	1.22	137.0	F
	EB RT	1	0.42	13.5	B	1	0.51	14.3	B	1	0.47	14.2	B	1	0.50	13.4	B	1	0.49	13.6	B
	WB LT	3	1.36	217.9	F	3	1.23	162.5	F	3	1.26	175.2	F	3	1.20	151.1	F	3	1.24	168.8	F
	WB TH	3	0.63	4.7	A	3	0.59	4.3	A	3	0.60	4.5	A	3	0.60	4.7	A	3	0.60	4.4	A
	OVERALL	-	1.31	137.9	F	-	1.19	103.0	F	-	1.24	114.6	F	-	1.15	89.6	F	-	1.05	103.0	F

(*) Shared Thru/Right Lane

Alternative 1. These intersections are located at SR 84, City Gate Boulevard, and Immokalee Road. Three CR 951 intersections (at SR 84, City Gate Boulevard and Immokalee Road) are also projected to operate with overall v/c ratios greater than or equal to 1.05 during the p.m. peak hour with Alternatives 3A and 3B. Only two CR 951 intersections (SR 84 and Immokalee Road) are projected to operate with overall v/c ratios greater than or equal to 1.05 with Alternatives 4 and 5.

A comparison of the Build Alternatives reveals the following:

- Alternatives 4 and 5 generally yield lower overall v/c ratios than Alternatives 3A and 3B at all intersections with the same intersection geometry. In addition, almost all of the overall v/c ratios estimated for Alternatives 4 and 5 are less than 1.00.
- Many of the north/south through movements are projected to operate with v/c ratios greater than 1.00 during both peak hours with Alternatives 3A and 3B. None of the a.m. peak hour north/south through movements and only three of the 15 p.m. peak hour through movements are projected to operate with v/c ratios greater than 1.00 with Alternatives 4 and 5.

It is very unlikely that acceptable traffic flow conditions would occur on the six-lane portion of CR 951 between Golden Gate Parkway and Immokalee Road without the implementation of a new interchange since many of the north/south through movements are projected to operate with v/c ratios greater than 1.00. Since these results were obtained using maximum feasible left-turn and right-turn lanes on both CR 951 as well as the cross streets, this indicates that an eight-lane CR 951 would likely be needed by the design year if a new interchange is not provided on I-75. Current Collier County policy prohibits the construction of any eight-lane roadways.

A comparison of the Build Alternatives also reveals the following:

- Dual westbound left-turn lanes are adequate at the CR 951/Golden Gate Boulevard intersection with Alternative 4, while triple left-turn lanes are required with all of the other alternatives.
- Dual eastbound left-turn lanes are adequate at the CR 951/Pine Ridge Road intersection with Alternative 4, while triple left-turn lanes are required with all of the other alternatives.

Tables 8-11 and 8-12 summarize the results of the Immokalee Road a.m. and p.m. peak hour signalized intersection analyses, respectively. Both of these tables indicate that two of the three intersections are projected to operate significantly over capacity for all of the alternatives. These two intersections are located at Wilson Boulevard and Randall Boulevard. The magnitude of the future year traffic volumes projected for Immokalee Road indicates that this roadway should be widened to eight lanes for all alternatives. As stated above, current Collier County policy prohibits the construction of any eight-lane roadways. Although both of these intersections are projected to be significantly over capacity in the design year (2039), Alternative 4 yields the lowest overall v/c ratios. Tables 8-11 and 8-12 also indicate that the Immokalee Road/Oil Well Road intersection is projected to operate significantly over capacity during the p.m. peak hour with Alternative 1. This same intersection is projected to operate at capacity with any of the

Table 8-11: Design Year (2039) Immokalee Road Signalized Intersection Levels of Service – AM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
Immokalee Rd/ Wilson Blvd	NB LT	2	1.31	226.3	F	1	1.72	404.3	F	2	1.34	237.6	F	1	1.60	353.4	F	1	1.71	398.3	F
	NB TH	1	0.64	60.3	E	1	0.08	53.7	D	1	0.75	67.2	E	1	0.08	52.5	D	1	0.07	52.0	D
	NB RT	(*)	0.64	60.3	E	1	0.49	44.5	D	(*)	0.75	67.2	E	1	0.53	43.3	D	1	0.36	40.0	D
	SB LT	1	0.77	103.5	F	1	0.32	56.7	E	1	0.94	149.9	F	1	0.31	55.2	E	1	0.24	54.0	D
	SB TH	1	0.18	66.8	E	1	0.11	54.0	D	1	0.24	67.4	E	1	0.10	52.7	D	1	0.10	52.3	D
	SB RT	1	0.54	54.4	D	1	0.38	42.7	D	1	0.57	56.9	E	1	0.35	39.8	D	1	0.35	39.8	D
	EB LT	1	0.74	62.4	E	1	1.01	137.3	F	1	1.06	152.0	F	1	0.89	100.8	F	1	0.92	108.0	F
	EB TH	3	1.27	152.0	F	3	1.06	62.2	E	3	1.15	99.3	F	3	1.06	62.5	E	3	1.09	75.0	E
	EB RT	1	0.26	6.5	A	1	0.24	11.2	B	1	0.26	5.9	A	1	0.24	12.7	B	1	0.27	12.9	B
	WB LT	1	1.23	190.1	F	1	1.25	220.4	F	1	1.22	208.4	F	1	1.26	220.0	F	1	1.53	332.4	F
	WB TH	3	1.61	306.1	F	3	1.35	187.0	F	3	1.46	237.6	F	3	1.35	186.5	F	3	1.39	204.6	F
	WB RT	1	0.03	12.0	B	1	0.01	9.4	A	1	0.01	11.0	B	1	0.01	10.7	B	1	0.02	10.8	B
	OVERALL	-	1.81	218.2	F	-	1.40	137.0	F	-	1.38	168.9	F	-	1.38	133.9	F	-	1.47	153.9	F
Immokalee Rd/ Randall Blvd	NB TH	3	1.11	89.9	F	3	0.99	43.7	D	3	1.01	51.0	D	3	0.97	38.8	D	3	0.98	42.3	D
	NB RT	1	0.66	3.5	A	1	0.49	2.0	A	1	0.53	2.2	A	1	0.48	1.9	A	1	0.50	2.0	A
	SB LT	1	0.40	71.5	E	1	0.49	73.2	E	1	0.51	73.6	E	1	0.51	73.6	E	1	0.40	71.5	E
	SB TH	3	1.24	138.5	F	3	1.11	79.2	E	3	1.14	90.9	F	3	1.08	68.2	E	3	1.10	75.8	E
	WB LT	2	1.22	159.6	F	2	1.06	103.2	F	2	1.10	116.2	F	2	1.02	91.0	F	2	1.07	105.2	F
	WB RT	1	0.03	38.2	D	1	0.01	32.8	C	1	0.01	32.2	C	1	0.02	41.6	D	1	0.03	32.7	C
	OVERALL	-	1.23	111.3	F	-	1.10	63.1	E	-	1.13	72.3	E	-	1.07	55.1	E	-	1.09	61.2	E
Immokalee Rd/ Oil Well Rd	NB TH	3	0.72	51.2	D	3	0.81	57.4	E	3	0.70	50.1	D	3	0.93	68.1	E	3	0.77	51.0	D
	NB RT	2	0.90	11.0	B	2	0.89	14.2	B	2	0.86	8.8	A	2	0.89	16.7	B	2	0.86	10.8	B
	SB LT	2	0.87	99.0	F	2	0.57	63.5	E	2	0.96	115.6	F	1	0.85	78.8	E	2	0.54	61.0	E
	SB TH	3	0.68	41.2	D	3	0.63	36.9	D	3	0.65	38.9	D	3	0.63	34.0	C	3	0.64	35.2	D
	WB LT	2	1.01	56.4	E	2	0.97	49.0	D	2	0.97	46.5	D	2	0.97	47.2	D	2	0.97	45.6	D
	WB LT/RT	1	0.99	56.9	E	1	0.95	51.8	D	1	0.95	49.8	D	1	0.88	39.2	D	1	0.98	55.8	E
	OVERALL	-	0.87	41.8	D	-	0.81	39.3	D	-	0.84	37.9	D	-	0.94	39.6	D	-	0.87	36.7	D

(*) Shared Thru/Right Lane

Table 8-12: Design Year (2039) Immokalee Road Signalized Intersection Levels of Service – PM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
Immokalee Rd/ Wilson Blvd	NB LT	2	1.34	245.8	F	1	1.54	334.8	F	2	1.58	350.5	F	1	1.48	308.7	F	1	1.65	380.0	F
	NB TH	1	0.94	99.8	F	1	0.13	57.5	E	1	0.70	68.2	E	1	0.12	56.6	E	1	0.12	56.6	E
	NB RT	(*)	0.94	99.8	F	1	0.35	42.9	D	(*)	0.70	68.2	E	1	0.40	41.7	D	1	0.50	43.5	D
	SB LT	1	1.04	184.5	F	1	0.30	59.6	E	1	0.70	91.0	F	1	0.29	58.6	E	1	0.38	59.8	E
	SB TH	1	0.15	66.5	E	1	0.10	57.3	E	1	0.19	66.9	E	1	0.09	56.4	E	1	0.09	56.3	E
	SB RT	1	0.44	55.1	E	1	0.28	41.9	D	1	0.35	48.6	D	1	0.26	39.4	D	1	0.26	39.5	D
	EB LT	1	1.14	161.4	F	1	1.07	148.0	F	1	0.97	114.4	F	1	0.95	107.6	F	1	0.97	113.2	F
	EB TH	3	1.51	258.2	F	3	1.35	187.0	F	3	1.47	241.4	F	3	1.30	164.0	F	3	1.37	194.1	F
	EB RT	1	0.33	6.2	A	1	0.31	11.9	B	1	0.36	8.5	A	1	0.31	12.7	B	1	0.35	13.2	B
	WB LT	1	1.15	169.3	F	1	1.32	239.6	F	1	1.13	163.4	F	1	1.34	244.3	F	1	0.99	122.0	F
	WB TH	3	1.19	114.3	F	3	1.06	62.2	E	3	1.15	102.2	F	3	1.02	48.9	D	3	1.07	67.3	E
	WB RT	1	0.01	9.6	A	1	0.02	9.5	A	1	0.02	11.4	B	1	0.02	10.2	B	1	0.01	10.1	B
	OVERALL	-	1.51	183.5	F	-	1.38	133.8	F	-	1.37	172.1	F	-	1.33	116.9	F	-	1.35	135.7	F
Immokalee Rd/ Randall Blvd	NB TH	3	1.39	211.2	F	3	1.21	124.1	F	3	1.24	137.8	F	3	1.14	94.3	F	3	1.15	99.8	F
	NB RT	1	0.85	9.5	A	1	0.64	3.2	A	1	0.68	3.9	A	1	0.62	3.0	A	1	0.65	3.4	A
	SB LT	1	0.49	73.2	E	1	0.40	71.5	E	1	0.41	71.7	E	1	0.41	71.7	E	1	0.51	73.6	E
	SB TH	3	0.96	32.9	C	3	0.84	17.9	B	3	0.86	19.4	B	3	0.80	14.9	B	3	0.81	15.0	B
	WB LT	2	0.99	80.2	F	2	0.93	74.5	E	2	0.96	79.8	E	2	0.98	86.8	F	2	1.04	103.9	F
	WB RT	1	0.01	39.0	D	1	0.03	35.8	D	1	0.09	35.8	D	1	0.05	47.4	D	1	0.01	37.6	D
	OVERALL	-	1.22	111.3	F	-	1.09	69.2	E	-	1.12	75.9	E	-	1.06	55.9	E	-	1.09	59.9	E
Immokalee Rd/ Oil Well Rd	NB TH	3	0.64	37.5	D	3	0.66	38.6	D	3	0.65	38.4	D	3	0.67	40.0	D	3	0.61	35.0	C
	NB RT	2	1.16	86.1	F	2	1.06	46.8	D	2	1.09	57.4	E	2	1.06	49.2	D	2	1.05	45.2	D
	SB LT	2	1.00	127.2	F	2	0.77	81.8	F	2	0.79	84.9	F	1	0.98	126.0	F	2	0.92	102.6	F
	SB TH	3	0.40	24.1	C	3	0.41	24.8	C	3	0.40	24.7	C	3	0.39	22.3	C	3	0.38	21.6	C
	WB LT	2	1.01	68.3	E	2	0.95	53.0	D	2	0.98	58.2	E	2	0.97	58.9	E	2	0.99	64.2	E
	WB LT/RT	1	1.03	83.7	F	1	0.95	60.3	E	1	0.97	66.4	E	1	0.97	69.0	E	1	1.00	76.5	E
	OVERALL	-	1.11	67.6	E	-	1.00	45.9	D	-	1.03	51.6	D	-	1.01	49.7	D	-	1.01	49.1	D

(*) Shared Thru/Right Lane

Build Alternatives. Although dual southbound left-turn lanes are necessary at this location with Alternatives 1, 3A, 3B, and 5; only a single southbound left-turn lane is necessary with Alternative 4.

Tables 8-13 and 8-14 summarize the results of the Golden Gate Boulevard a.m. and p.m. peak hour intersection analyses, respectively. The Golden Gate Boulevard/Everglades Boulevard intersection is projected to operate at LOS E overall with Alternative 1 during both the a.m. and p.m. peak hours with overall v/c ratios of 0.98 and 1.00, respectively. This capacity condition is projected to occur even with the provision of a second left-turn lane and an exclusive right-turn lane on the northbound Everglades Boulevard approach. Similar results are projected to occur at this intersection with Alternative 3B. In contrast, this intersection is projected to operate under capacity at LOS D during both peak hours with Alternatives 3A, 4, and 5.

The Golden Gate Boulevard/Desoto Boulevard intersection was first analyzed as an unsignalized intersection. Based on the magnitude of the design year (2039) peak hour volumes, separate left-turn lanes were included in the analyses for the eastbound, northbound and southbound intersection approaches. A significant number of movements are projected to operate at LOS F during both the a.m. and p.m. peak hours for all of the alternatives. These movements include the following:

- Eastbound through/right-turn
- Northbound left-turn
- Southbound through/right-turn

In addition, the northbound through/right-turn movement is projected to operate at LOS F during both peak hours with Alternative 5 while the eastbound left-turn movement is projected to operate at LOS E or F during both peak hours for Alternatives 3A, 3B, and 4.

Based on the results of the unsignalized intersection analyses, the Golden Gate Boulevard/Desoto Boulevard intersection was subsequently analyzed as a signalized intersection. With one exception, all of the alternatives were analyzed assuming the same intersection laneage. With Alternatives 1, 3A, 3B, and 4, the southbound approach geometry consisted of single left-turn, through, and right-turn lanes. With Alternative 5, the southbound approach geometry consisted of a single left-turn lane, one exclusive through lane, and one shared through/right-turn lane. Dual northbound left-turn lanes were required with all five alternatives. Tables 8-13 and 8-14 summarize the results of the a.m. and p.m. peak hour signalized intersection analyses, respectively. A signalized intersection at this location is projected to operate at LOS C overall during both peak hours for all five alternatives. The design year HCS intersection analyses are provided in Appendix O.

In summary, the results of the design year peak hour intersection analyses indicate the following:

- The implementation of a new interchange on I-75 is projected to reduce the number of key study area roadway intersections that are projected to operate at or over capacity.

Table 8-13: Design Year (2039) Golden Gate Boulevard Signalized Intersection Levels of Service – AM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
Golden Gate Blvd/ Everglades Blvd	EB LT	1	1.00	87.3	F	1	0.95	62.0	E	1	1.01	80.7	F	1	0.76	51.7	D	1	0.97	65.6	E
	EB TH	2	0.65	45.0	D	2	0.72	41.4	D	2	0.72	41.7	D	2	0.78	54.8	D	2	0.38	35.9	D
	EB RT	1	0.84	31.3	C	1	0.30	24.3	C	1	0.71	33.5	C	1	0.47	27.9	C	1	0.58	17.6	B
	WB LT	1	0.42	24.8	C	1	0.77	28.3	C	1	0.52	19.6	B	2	0.88	55.2	E	1	0.93	57.7	E
	WB TH/RT	2	0.99	76.7	E	2	0.92	55.6	E	2	1.01	76.3	E	2	0.65	39.3	D	2	0.83	48.3	D
	NB LT	2	1.00	75.4	E	1	0.69	34.0	C	1	1.01	83.9	F	1	0.64	29.8	C	2	0.68	35.9	D
	NB TH	1	0.59	32.4	C	1	0.71	40.7	D	1	0.58	36.9	D	1	0.92	54.3	D	1	0.54	28.1	C
	NB RT	1	0.19	12.9	B	1	0.29	14.5	B	1	0.18	13.9	B	1	0.51	11.9	B	1	0.58	16.4	B
	SB LT	1	0.27	35.3	D	1	0.18	22.1	C	1	0.17	29.8	C	1	0.20	29.4	C	1	0.43	28.8	C
	SB TH	1	0.92	78.8	E	1	0.91	58.4	E	1	0.99	88.9	F	2	0.85	49.9	D	1	0.78	51.1	D
	SB RT	1	0.61	32.8	C	1	0.58	18.4	B	1	0.69	27.2	C	1	0.44	24.8	C	1	0.62	27.7	C
	OVERALL	-	0.98	55.2	E	-	0.97	41.1	D	-	1.04	55.0	D	-	0.83	42.3	D	-	0.82	37.0	D
Golden Gate Blvd/ Desoto Blvd [1]	EB LT	1	-	28.8	D	1	-	73.1	F	1	-	45.7	E	1	-	168.2	F	1	-	22.3 [2]	C [2]
	EB TH/RT	1	-	78.5	F	1	-	96.8	F	1	-	98.8	F	1	-	117.4	F	1	-	386.7 [3]	F [3]
	WB L/T/R	1	-	17.2	C	1	-	17.3	C	1	-	17.3	C	1	-	17.3	C	1	-	17.4	C
	NB LT	1	-	218.0	F	1	-	258.7	F	1	-	261.2	F	1	-	263.2	F	1	-	311.5	F
	NB TH/RT	1	-	22.0	C	1	-	19.4	C	1	-	19.0	C	1	-	19.1	C	1	-	188.7	F
	SB LT	1	-	12.8	B	1	-	12.8	B	1	-	12.7	B	1	-	12.8	B	1	-	12.9	B
	SB TH/RT	1	-	130.0	F	1	-	250.5	F	1	-	178.3	F	1	-	382.6	F	1	-	574.3	F
Golden Gate Blvd/ Desoto Blvd	EB LT	1	0.70	28.7	C	1	0.84	36.7	D	1	0.70	26.1	C	1	0.85	34.1	C	1	0.53	29.1	C
	EB TH	1	0.11	18.7	B	1	0.10	18.8	B	1	0.09	18.1	B	1	0.08	16.3	B	1	0.09	24.1	C
	EB RT	1	0.39	6.3	A	1	0.43	8.4	A	1	0.42	7.7	A	1	0.39	6.1	A	1	0.90	29.6	C
	WB L/T/R	1	0.24	19.7	B	1	0.67	47.1	D	1	0.67	47.1	D	1	0.68	51.8	D	1	0.30	26.0	C
	NB LT	2	0.58	24.0	C	2	0.79	39.1	D	2	0.78	38.0	D	2	0.79	42.3	D	2	0.80	38.4	D
	NB TH	1	0.25	8.5	A	1	0.23	11.8	B	1	0.23	12.3	B	1	0.25	16.7	B	1	0.50	10.2	B
	NB RT	(*)	0.25	8.5	A	(*)	0.23	11.8	B	(*)	0.23	12.3	B	(*)	0.25	16.7	B	(*)	0.50	10.2	B
	SB LT	1	0.10	23.1	C	1	0.07	25.2	C	1	0.08	26.3	C	1	0.10	32.8	C	1	0.08	20.7	C
	SB TH	1	0.45	25.8	C	1	0.34	27.4	C	1	0.35	28.6	C	1	0.43	35.9	D	2	0.79	31.0	C
	SB RT	1	0.81	40.9	D	1	0.55	14.9	B	1	0.47	14.0	B	1	0.71	19.9	B	(*)	0.79	31.0	C
	OVERALL	-	0.69	21.6	C	-	0.69	25.5	C	-	0.68	23.6	C	-	0.72	27.5	C	-	0.86	28.0	C

[1] 4-Way Stop Controlled Intersection

[2] Average Delay and Level of Service for a Shared Left/Thru Lane

[3] Average Delay and Level of Service for an Exclusive Right-Turn Lane

(*) Shared Thru/Right Lane

Table 8-14: Design Year (2039) Golden Gate Boulevard Signalized Intersection Levels of Service – PM Peak Hour

Intersection	Movement	Alternative 1				Alternative 3A				Alternative 3B				Alternative 4				Alternative 5			
		No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No.of Lanes	V/C Ratio	Avg. Delay	LOS	No. of Lanes	V/C Ratio	Avg. Delay	LOS
Golden Gate Blvd/ Everglades Blvd	EB LT	1	0.94	64.0	E	1	0.94	54.4	D	1	1.02	80.8	F	1	0.86	46.7	D	1	0.79	28.7	C
	EB TH	2	0.60	36.3	D	2	0.67	33.4	C	2	0.59	30.8	C	2	0.89	64.6	E	2	0.55	41.9	D
	EB RT	1	1.00	55.4	E	1	0.16	14.0	B	1	0.32	9.8	A	1	0.47	36.4	D	1	0.93	50.1	D
	WB LT	1	0.73	53.9	D	1	0.72	33.7	C	1	0.70	51.6	D	2	0.94	75.0	E	1	0.95	47.5	D
	WB TH/RT	2	0.97	77.6	E	2	0.95	66.7	E	2	1.01	86.7	F	2	0.78	54.7	D	2	0.74	47.6	D
	NB LT	2	0.97	75.4	E	1	0.62	28.6	C	1	1.00	78.9	E	1	0.70	23.3	C	2	0.74	45.5	D
	NB TH	1	0.48	30.5	C	1	0.94	65.3	E	1	0.68	41.6	D	1	0.99	67.0	E	1	0.48	31.5	C
	NB RT	1	0.16	17.6	B	1	0.44	20.3	C	1	0.31	24.1	C	1	0.67	16.2	B	1	0.41	11.4	B
	SB LT	1	0.29	31.7	C	1	0.30	30.1	C	1	0.25	37.8	D	1	0.28	28.9	C	1	0.57	35.0	C
	SB TH	1	0.96	79.1	E	1	0.93	70.4	E	1	0.99	100.8	F	2	0.48	31.6	C	1	0.95	76.4	E
	SB RT	1	0.36	19.9	B	1	0.44	15.9	B	1	0.52	23.4	C	1	0.25	13.5	B	1	0.37	17.2	B
	OVERALL	-	1.00	56.0	E	-	0.95	44.6	D	-	1.06	55.1	E	-	0.94	46.2	D	-	0.97	40.9	D
Golden Gate Blvd/ Desoto Blvd [1]	EB LT	1	-	44.2	E	1	-	152.6	F	1	-	91.7	F	1	-	298.1	F	1	-	22.6 [2]	C [2]
	EB TH/RT	1	-	167.6	F	1	-	197.5	F	1	-	200.9	F	1	-	200.9	F	1	-	225.5 [3]	F [3]
	WB L/T/R	1	-	15.8	C	1	-	15.8	C	1	-	15.8	C	1	-	15.8	C	1	-	15.9	C
	NB LT	1	-	99.3	F	1	-	124.1	F	1	-	126.8	F	1	-	125.9	F	1	-	489.5	F
	NB TH/RT	1	-	17.9	C	1	-	16.5	C	1	-	16.3	C	1	-	16.4	C	1	-	292.6	F
	SB LT	1	-	12.8	B	1	-	12.8	B	1	-	12.8	B	1	-	12.8	B	1	-	12.9	B
	SB TH/RT	1	-	112.3	F	1	-	183.6	F	1	-	133.4	F	1	-	279.0	F	1	-	315.9	F
Golden Gate Blvd/ Desoto Blvd	EB LT	1	0.81	34.2	C	1	0.82	28.9	C	1	0.75	26.3	C	1	0.90	35.8	D	1	0.63	31.9	C
	EB TH	1	0.13	17.5	B	1	0.10	15.2	B	1	0.11	16.4	B	1	0.09	13.7	B	1	0.11	24.3	C
	EB RT	1	0.50	7.1	A	1	0.52	7.2	A	1	0.53	7.8	A	1	0.51	7.0	A	1	0.64	12.6	B
	WB L/T/R	1	0.17	17.8	B	1	0.52	40.3	D	1	0.52	40.3	D	1	0.58	47.7	D	1	0.23	25.4	C
	NB LT	2	0.50	24.4	C	2	0.67	35.9	D	2	0.64	34.3	C	2	0.80	47.4	D	2	0.86	38.7	D
	NB TH	1	0.21	9.3	A	1	0.21	14.9	B	1	0.20	13.7	B	1	0.23	19.4	B	1	0.64	12.4	B
	NB RT	(*)	0.21	9.3	A	(*)	0.21	14.9	B	(*)	0.20	13.7	B	(*)	0.23	19.4	B	(*)	0.64	12.4	B
	SB LT	1	0.13	23.3	C	1	0.12	28.9	C	1	0.11	28.1	C	1	0.13	33.1	C	1	0.14	24.0	C
	SB TH	1	0.58	27.8	C	1	0.53	32.9	C	1	0.50	31.5	C	1	0.55	37.7	D	2	0.72	31.3	C
	SB RT	1	0.61	29.0	C	1	0.41	12.3	B	1	0.35	12.3	B	1	0.49	11.8	B	(*)	0.72	31.3	C
	OVERALL	-	0.66	20.7	C	-	0.74	22.4	C	-	0.70	21.6	C	-	0.76	26.6	C	-	0.73	25.2	C

[1] 4-Way Stop Controlled Intersection

[2] Average Delay and Level of Service for a Shared Left/Thru Lane

[3] Average Delay and Level of Service for an Exclusive Right-Turn Lane

(*) Shared Thru/Right Lane

- For those intersections projected to operate over capacity both with and without a new interchange, lower levels of overcapacity conditions are projected to occur with the implementation of a new interchange.

Based on these results, it can be concluded that the implementation of a new interchange is expected to improve the peak hour traffic operations on the study area's primary roadways (i.e., CR 951, Immokalee Road and Golden Gate Parkway).

8.2 Future Year Travel Time to Access I-75

As was discussed earlier in Section 4.1 of this report, a majority of the existing study area residents must travel extremely long distances to access I-75 via the existing SR 29, CR 951 or Golden Gate Parkway interchanges. The implementation of a new east/west facility north of I-75 connecting Everglades Boulevard with CR 951 would not be expected to have any significant reduction in the overall average trip length for residents that desire to travel east of SR 29 on I-75. In contrast, the implementation of a new interchange at Everglades Boulevard or Desoto Boulevard would be expected to result in a significant reduction in the overall average trip length for study area residents traveling east of SR 29 on I-75. A new east/west road connecting Everglades Boulevard to CR 951 would result in some reduction in the overall average trip length for study area residents living south of Golden Gate Boulevard along Everglades Boulevard that use CR 951 or Golden Gate Parkway to access I-75 for westbound travel; however, a much larger reduction in average trip length would be expected to result from the implementation of a new interchange at Everglades Boulevard.

In addition to the travel distance required to access I-75 (either via an existing interchange or a new interchange) there is also the distance spent traveling on I-75. Since different travel paths and different interchanges will be used to access I-75 depending on the specific roadway network available to the study area residents, the total distance traveled on I-75 will also vary depending on the roadway network.

From a driver's perspective, travel time is even more important than travel distance. Table 8-15 summarizes the projected I-75 travel times (based on the travel demand model) that would be expected to be incurred by residents living in two Traffic Analysis Zones. One Traffic Analysis Zone is located immediately east of Desoto Boulevard (TAZ No. 145) while the other zone is located immediately west of Everglades Boulevard (TAZ No. 526). Both of these zones are located south of Golden Gate Boulevard and north of I-75. TAZ No. 145 only has access to Desoto Boulevard while TAZ No. 526 only has access to Everglades Boulevard.

It is important to note that the travel times contained in Table 8-15 represent the total time required to reach the SR 29 interchange (for eastbound travel) and the CR 951 interchange (for westbound travel). These total times include both the travel time required to access I-75 from either a new or existing interchange as well as the time spent traveling on I-75. The travel paths that correspond to the travel times contained in Table 8-15 are illustrated in Figures 8-1 thru 8-4. As indicated in Figure 8-1, the shortest travel time path for TAZ No. 526 to access I-75 for eastbound travel east of SR 29 with Alternatives 3A and 3B actually involves traveling westbound from Everglades Boulevard to CR 951 and then southbound to the CR

Table 8-15: Eastbound and Westbound I-75 Access/Travel Time Comparison

Year and Alternative	Total Travel Time (in Minutes)			
	East of Desoto Blvd (TAZ No. 145)		West of Everglades Blvd (TAZ No. 526)	
	Eastbound I-75	Westbound I-75	Eastbound I-75	Westbound I-75
2019	**2019**			
1	52.2	40.4	55.9	38.7
3A	52.2	38.3	41.0	22.7
3B	52.3	40.1	51.3	33.0
4	36.7	31.7	21.3	16.3
5	24.5	24.5	37.4	37.4
2039	**2039**			
1	60.1	56.1	72.1	62.3
3A	58.3	39.4	37.7	18.9
3B	58.7	43.8	50.0	31.1
4	34.5	33.6	18.7	17.8
5	26.8	26.5	45.2	45.0

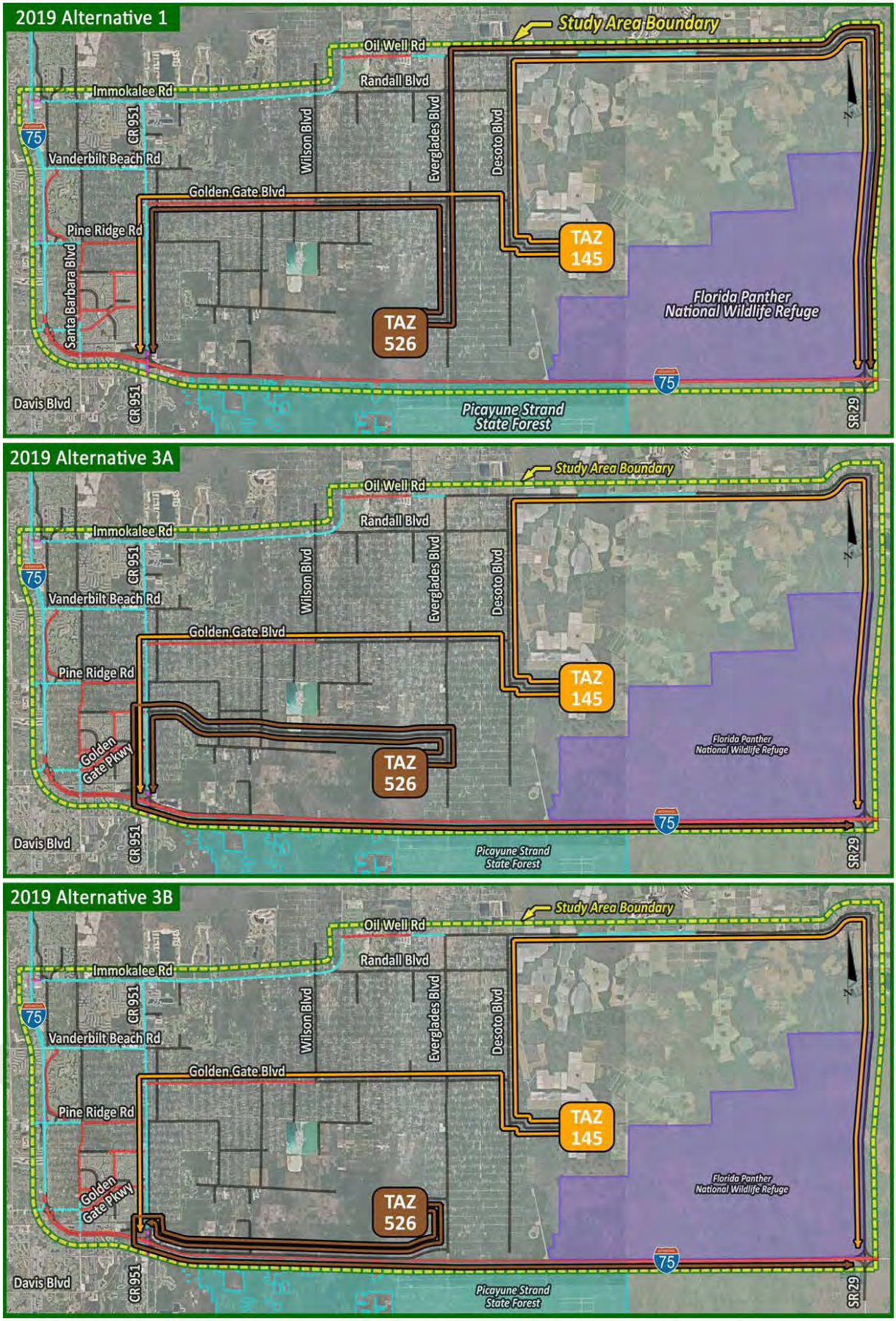


Figure 8-1: 2019 Minimum Travel Time Paths for Alternatives 1, 3A, and 3B

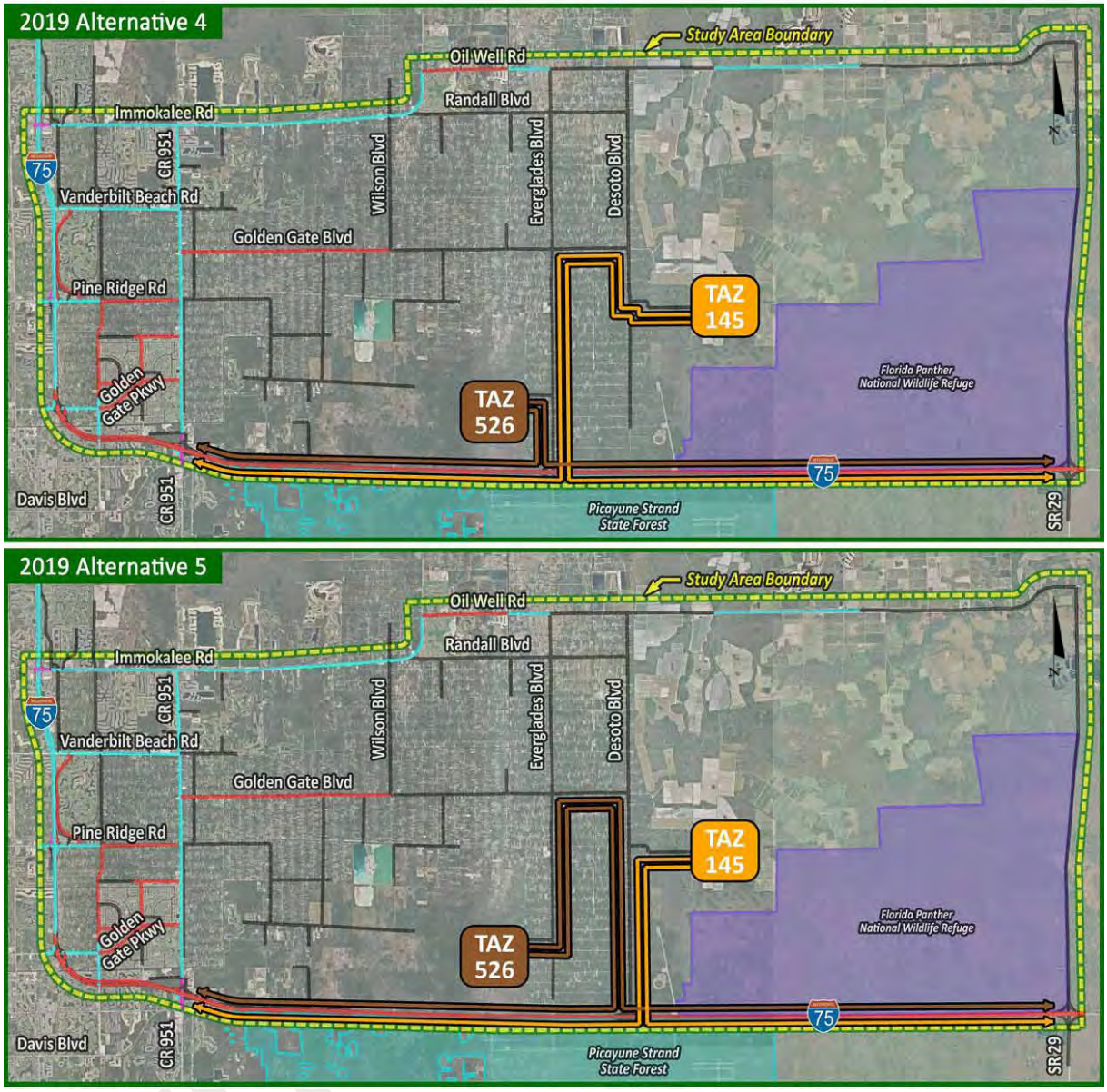


Figure 8-2: 2019 Minimum Travel Time Paths for Alternatives 4 and 5

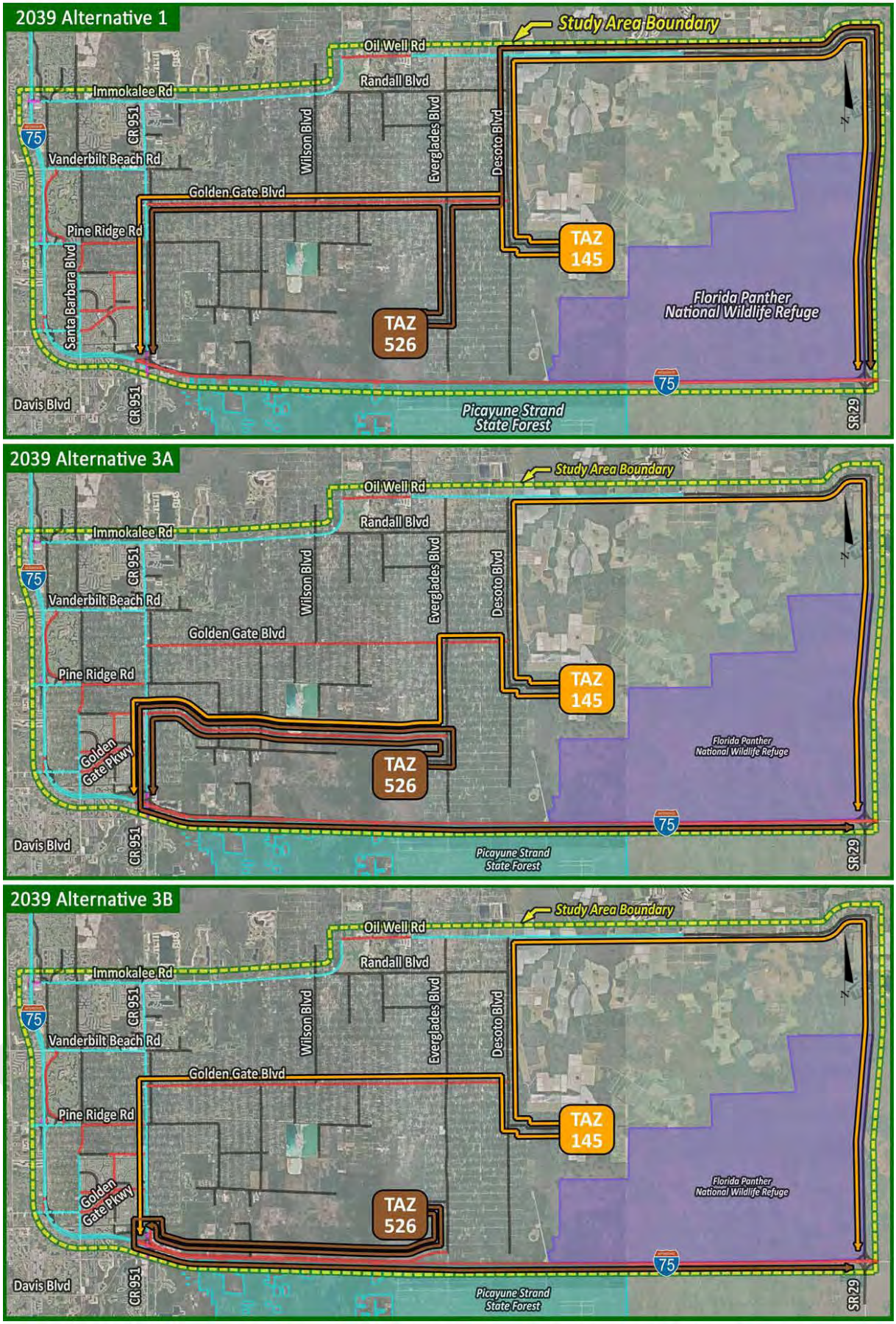


Figure 8-3: 2039 Minimum Travel Time Paths for Alternatives 1, 3A, and 3B

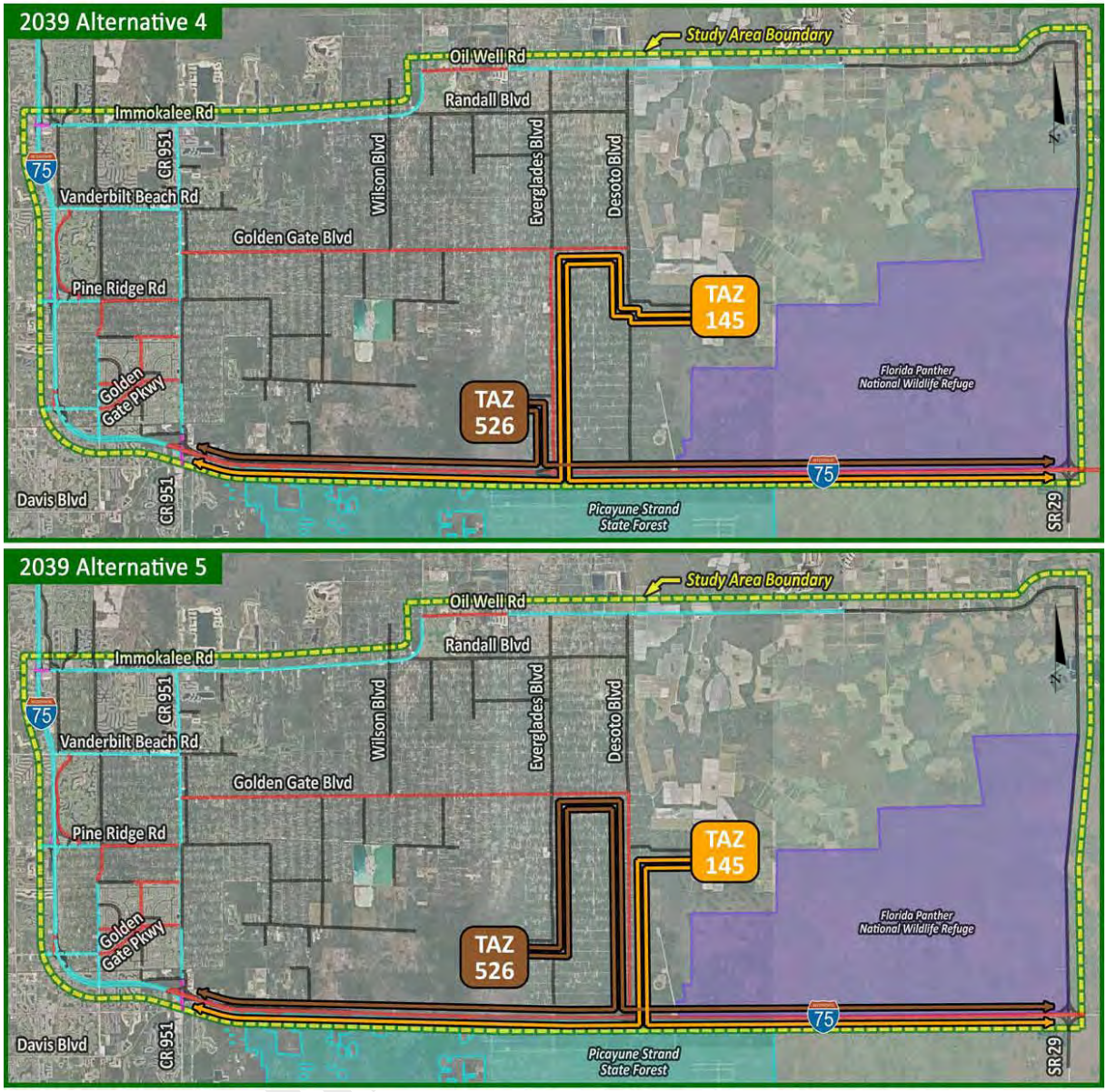


Figure 8-4: 2039 Minimum Travel Time Paths for Alternatives 4 and 5

951 interchange. Although the total distance associated with this travel path is longer than the total distance required to travel north on Everglades Boulevard, east on Oil Well Road and then south on SR 29 to the SR 29 interchange, the total travel time is shorter due to the increased capacity and speed available on I-75. In the opening year (2019), trips generated in TAZ No. 145 that desire to use I-75 for eastbound and westbound travel are estimated to take approximately 52 minutes and 40 minutes, respectively with both Alternative 1 and Alternative 3B. Alternative 3A is expected to reduce the westbound I-75 travel time to approximately 38 minutes; however, no travel time reduction is projected for eastbound I-75 travel with this alternative. More significant reductions in travel times are projected to occur with Alternatives 4 and 5. Alternative 4 is projected to reduce these travel times to approximately 37 minutes and 32 minutes for eastbound and westbound I-75 travel, respectively. Alternative 5 is projected to reduce both of these travel times to approximately 25 minutes.

In the opening year (2019), trips generated in TAZ No. 526 that desire to access I-75 for eastbound and westbound travel are estimated to take approximately 56 minutes and 39 minutes, respectively with Alternative 1. Alternative 3B is expected to reduce these travel times to approximately 51 minutes and 33 minutes for eastbound and westbound I-75 travel, respectively. Alternative 3A is expected to further reduce these eastbound and westbound I-75 travel times to approximately 41 minutes and 23 minutes, respectively. More significant reductions in eastbound and westbound I-75 travel times are projected to occur with Alternative 4. The implementation of a new interchange at Everglades Boulevard is expected to reduce these travel times to approximately 21 minutes and 16 minutes, respectively. With Alternative 5, trips generated in TAZ No. 526 that desire to access I-75 for eastbound and westbound travel are estimated to take approximately 37 minutes.

The travel time required to access I-75 (as well as the time spent traveling on I-75) will change over time based on the relative levels of traffic congestion projected to occur on the study area roadway network. Table 8-15 also summarizes the estimated travel times for the design year (2039) for all five alternatives. Although most of the design year travel times are greater than the corresponding opening year travel times, several are not. This is due to the additional roadway capacity that is provided in the design year as a result of either the four-laning of the new roadway (with Alternatives 3A and 3B) or the four-laning of the existing roadway that has the new interchange (with Alternatives 4 and 5). The shorter travel distances and travel times for trips between the study area and I-75 that would be expected to occur with Alternative 4 would greatly increase the likelihood of having a successful emergency evacuation/response should this type of situation occur in the future. Although the specific travel time savings discussed in this section are associated with two individual Traffic Analysis Zones located within the study area, the implementation of a new interchange on I-75 is expected to reduce the travel times for a large number of study area trips projected to occur during the twenty-year period from 2019 to 2039. The projected impact of new Interstate access on overall study area mobility is discussed in the next section of this report.

8.3 Study Area Mobility

The implementation of a new transportation facility (either a new roadway or new interchange) increases the accessibility of an area, which in turn reduces the overall vehicle-miles of travel (VMT) and vehicle-hours

of travel (VHT) within the area. These reductions in VMT and VHT are brought about because the new facility provides shorter travel paths for certain trips and more overall roadway system capacity that reduces the level of congestion on multiple facilities. The opening year (2019) and design year (2039) study area daily VMT and VHT estimates obtained from the travel demand model output are summarized in Table 8-16.

In 2019, three of the four Build Alternatives are projected to reduce the average daily VMT for the study area when compared to the No-Build Alternative. The reduction in study area VMT for these three alternatives is projected to range between approximately 32,900 vehicle-miles (with Alternative 4) and 35,500 vehicle-miles (with Alternative 3A). Only Alternative 5 is projected to increase the study area VMT and this projected increase is approximately 14,400 vehicle-miles. All four Build Alternatives are projected to reduce the average daily VHT for the study area when compared to the No-Build in 2019. The reduction in study area VHT is projected to range between approximately 3,200 vehicle hours (with Alternative 3B) and approximately 6,200 vehicle-hours (Alternative 4). It should be noted that even though Alternative 5 is projected to result in a higher study area VMT than the No-Build Alternative, this interchange location is still projected to result in a lower study area VHT than the No-Build Alternative. Although there is additional travel distance involved in accessing and using I-75 via the Desoto Boulevard interchange, the limited access freeway provides drivers with travel time savings due to the significantly higher travel speed on this facility.

In 2039, all four Build Alternatives are projected to reduce the average daily study area VMT when compared to the No-Build Alternative. The reduction in study area VMT for these four alternatives is projected to range between approximately 513,200 vehicle-miles (with Alternative 5) and approximately 608,000 vehicle-miles (with Alternative 3A). All four Build Alternatives are also projected to reduce average daily study area VHT when compared to the No-Build in 2039. The reduction in study area VHT is projected to range between approximately 39,100 vehicle hours (with Alternative 5) and approximately 46,800 vehicle-hours (with Alternative 4).

Table 8-16 demonstrates that the implementation of a new interchange at Everglades Boulevard is expected to result in larger reductions in study area VHT than any of the other Build Alternatives that were modeled - both in the opening year and the design year. In the design year, this projected reduction in daily VHT is approximately 18.0 percent. These reductions in both daily VMT and VHT are also anticipated to result in significant reductions in total vehicle emissions and fuel consumption over the 20-year period from 2019 to 2039.

8.4 Comparative Evaluation of Interchange Impacts and Costs

Two alternative geometric configurations were developed for Alternative 4 for the purpose of conducting a preliminary impact and cost evaluation. Alternative 4A is a diamond interchange with single lane ramps in all four quadrants. Four lanes are provided on Everglades Boulevard from the eastbound I-75 ramp terminal intersection northward while two lanes are provided south of this ramp terminal intersection. This interchange concept includes two new two-lane bridges over I-75. This interchange concept is illustrated in Figure 8-5. Alternative 4B is a partial cloverleaf interchange with single lane ramps in three of the four quadrants. A single lane loop ramp with a 409-foot radius is located in the southeast quadrant of the

Figure 8-5: Preliminary Everglades Boulevard Diamond Interchange Concept (Alternative 4A)

interchange for the eastbound I-75-to-northbound Everglades Boulevard movement. The design speed for this loop ramp is 35 mph. Four lanes are provided on Everglades Boulevard from the eastbound I-75 on- and off-ramps northward. This alternative concept also includes two new two-lane bridges over I-75. This interchange concept is illustrated in Figure 8-6.

Table 8-16: Study Area Daily Vehicle – Miles of Travel and Vehicle – Hours of Travel Comparison

Alternative	VMT	VHT	Ratio
Year 2019			
1	4,169,900	117,300	35.55
3A	4,134,400	113,100	36.59
3B	4,134,600	114,100	36.24
4	4,137,000	111,100	37.24
5	4,184,300	112,800	37.09
Year 2039			
1	7,030,600	264,100	26.62
3A	6,422,600	220,500	29.13
3B	6,427,800	217,400	29.57
4	6,460,600	217,300	29.73
5	6,517,400	225,000	28.97

Since the FDOT Plans Preparation Manual requires the limited access right-of-way to extend 300 feet beyond the end of the ramp taper on the cross road, the implementation of an interchange at Everglades Boulevard would also require a relocation of a portion of 42nd Avenue SE located on the north side of the north canal. In the vicinity of the westbound I-75 on- and off-ramps, 42nd Avenue SE is realigned to run parallel to Everglades Boulevard and is extended northward to intersect with 40th Avenue SE (thus creating two new T-intersections on SE 40th Avenue SE approximately 1,320 feet apart).

The interchange concept that was developed for Alternative 5 is a trumpet interchange with single lane ramps in three of the four quadrants. A single lane loop ramp with a 409-foot radius is located in the southeast quadrant of the interchange for the eastbound I-75-to-northbound Desoto Boulevard movement. A trumpet interchange configuration was developed for the Desoto Boulevard interchange to preclude a possible extension of Desoto Boulevard south of the eastbound I-75 on- and off-ramps. Four lanes are provided on Desoto Boulevard from the locations where the westbound I-75 on- and off-ramps exit/enter Desoto Boulevard northward. This interchange concept includes a pair of one-lane bridges over I-75. Unlike the Everglades Boulevard location, there is no existing east/west local roadway on the north side of the north canal in the vicinity of Desoto Boulevard. However, two north/south frontage roads are included with this interchange concept (one on each side of Desoto Boulevard) to maintain access to the first row of existing parcels on the east and west sides of Desoto Boulevard. These frontage roads extend southward from 40th Avenue SE to the proposed limited access right-of-way line for the westbound I-75 on- and off-ramps. The Alternative 5 interchange concept is illustrated in Figure 8-7.

Figure 8-6: Preliminary Everglades Boulevard Diamond Interchange With Loop Ramp Concept (Alternative 4B)

Figure 8-7: Preliminary Desoto Boulevard Trumpet Interchange Concept (Alternative 5)

Both the Desoto Boulevard and Everglades Boulevard interchange configurations include ramps to and from the east as well as to and from the west in recognition of FHWA's requirement that the proposed interchange "connects to a public road only and provides for all traffic movements" (FHWA Requirement No. 4 as contained in the February 11, 1998 Federal Register). In addition, all of the geometrics included in the preliminary interchange concepts meet current FDOT standards for Federal-aid projects on the interstate system. Based on the sizes of the preliminary interchange "footprints", these concepts should be viewed as "worst-case" concepts from a right-of-way/environmental impact perspective. During subsequent phases of the interchange concept development process to be conducted as a part of a Project Development and Environment Study, additional concepts will be developed to minimize right-of-way and environmental impacts and quantify the trade-offs between right-of-way costs and construction costs.

A comparative evaluation of the impacts and costs associated with these three preliminary interchange concepts was conducted. The impacts that were evaluated included the following:

- Wetlands
- Panther Habitat (both primary and secondary zones)
- Right-of-Way
- Number of Parcels Impacted
- Number of Potential Relocations

Preliminary cost estimates were developed for the following items:

- Wetland Mitigation
- Panther Habitat Mitigation/Compensation
- Right-of-Way Acquisition
- Construction (both interchange and frontage road/local road)
- Design
- Construction, Engineering and Inspection (CEI)

Table 8-17 summarizes the impacts and costs for the three potential interchange configurations. The Desoto Boulevard trumpet interchange concept is estimated to have the least amount of environmental impacts while the Everglades Boulevard diamond interchange concept is estimated to have the greatest amount of environmental impacts. The acres of wetlands impacted ranges from 54.8 acres to 62.4 acres while the acres of panther primary zone impacted ranges from 51.3 acres to 67.7 acres. The acres of right-of-way that would need to be acquired also ranges from 51.3 acres to 67.7 acres. The number of parcels impacted ranges from 51 to 67.

The wetland mitigation costs and the panther habitat mitigation costs were both estimated based on $50,000/acre impacted. The preliminary right-of-way acquisition costs were calculated by multiplying the estimated land values by a factor of 1.65. This factor was provided by the Collier County Right-of-Way

Table 8-17: Preliminary Impacts and Costs for Interchange Options

Evaluation Criteria	Everglades Boulevard		Desoto Boulevard
Alternative	4A	4B	5
Type of Interchange	Diamond	Diamond with Loop Ramp	Trumpet
Environmental Impacts			
Wetlands (Acres)	62.4	59.3	54.8
Panther Primary Zone (Acres)	67.7	58.1	51.3
Panther Secondary Zone (Acres)	0	0	0
Right-of-Way Impacts			
Right-of-Way to be Acquired (Acres)	67.7	58.1	51.3
Number of Parcels Impacted	67	62	51
Number of Potential Relocations	1	1	0
Estimated Project Costs			
Wetland Mitigation[1]	$3,120,000	$2,965,000	$2,740,000
Panther Primary Zone[2]	$3,385,000	$2,905,000	$2,565,000
Panther Secondary Zone[2]	$0	$0	$0
Total of Mitigation Cost	**$6,505,000**	**$5,870,000**	**$5,305,000**
Right-of-Way Acquisition Cost[3]	**$447,000**	**$383,000**	**$339,000**
Frontage Road Construction Cost	$2,253,000	$2,111,000	$1,529,000
Interchange Construction Cost	$16,693,000	$16,227,000	$15,289,000
Total Construction Cost	**$18,946,000**	**$18,338,000**	**$16,818,000**
Design[4]	$2,841,900	$2,750,700	$2,522,700
Construction Engineering & Inspection[4]	$2,841,900	$2,750,700	$2,522,700
Total of Design and CE&I	**$5,683,800**	**$5,501,400**	**$5,045,400**
Preliminary Estimate of Total Cost	**$31,581,800**	**$30,092,400**	**$27,507,400**

1. Wetland mitigation cost is estimated at $50,000 per acre through banking.

2. Panther Primary and Secondary Zone cost is estimated at $50,000 per acre. Assumes 10 PHU/acre x 2.5 x $2000 per PHU

3. NO RELOCATION COSTS ARE INCLUDED IN THIS ESTIMATE. Right-of-way land cost is based on land values obtained from the Collier County Property Appraisers Website for each alignment.

4. Design and CE&I cost are each estimated at 15% of the Total Construction Cost.

Department to reflect the administrative costs associated with the land acquisition. The land value costs were obtained from the Collier County Property Appraiser's website. No relocation costs were included as a part of this study. The interchange design and CEI costs were each assumed to be equal to 15.0 % of the total construction cost. Table 8-17 indicates that the total cost of the interchange alternatives is estimated to range from approximately $27.5 million to $31.6 million. For Alternative 4, the diamond with loop ramp concept was selected since it has fewer impacts and a lower overall cost.

8.5 Roadway Concepts

A four-lane divided typical section with a total right-of-way width of 216 feet was developed for the purpose of estimating the preliminary impacts and costs for constructing a new four-lane roadway. This typical section provides sidewalks and drainage swales on both sides of the road and a depressed median. This was used for Alternative 3A and the majority of Alternative 3B. A 110-foot four-lane urban typical section was assumed for the westernmost portion of Alternative 3B from City Gate Blvd North to east of Shearwater Street due to the existing development and the constraints in this section of White Lake Boulevard. Both of these typical sections are illustrated in Figure 8-8.

The implementation of Alternative 4 or 5 will require that either Everglades Boulevard or Desoto Boulevard be widened to four lanes up to Golden Gate Boulevard by the year 2029. The same typical section that was used for Alternatives 3A and 3B was also used for Alternatives 4 and 5. The following three options for widening Everglades Boulevard and Desoto Boulevard were evaluated:

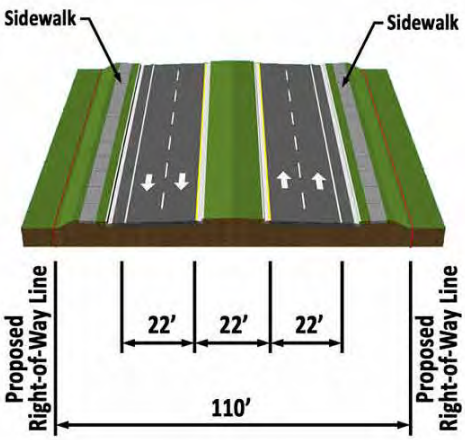
- Construct a new four-lane roadway.
- Construct two new southbound lanes to the west of the existing two-lane undivided roadway and convert the existing roadway to northbound travel only.
- Construct two new northbound lanes to the east of the existing two-lane undivided roadway and convert the existing roadway to southbound travel only.

These options are graphically illustrated in Figure 8-8. Table 8-18 contains the estimated impacts and costs for Alternatives 3A and 3B. In addition, the estimated impacts and costs associated with the above three options for Everglades Boulevard and Desoto Boulevard from the new interchange to Golden Gate Boulevard are also provided in this table. Table 8-18 indicates that widening Everglades Boulevard or Desoto Boulevard from two lanes to four lanes has less impacts and cost than constructing a new four-lane divided roadway. Widening to the west was the selected option for both Alternatives 4 and 5 since the combination of the potential number of relocations and estimated cost for the widening option is less for both alternatives.

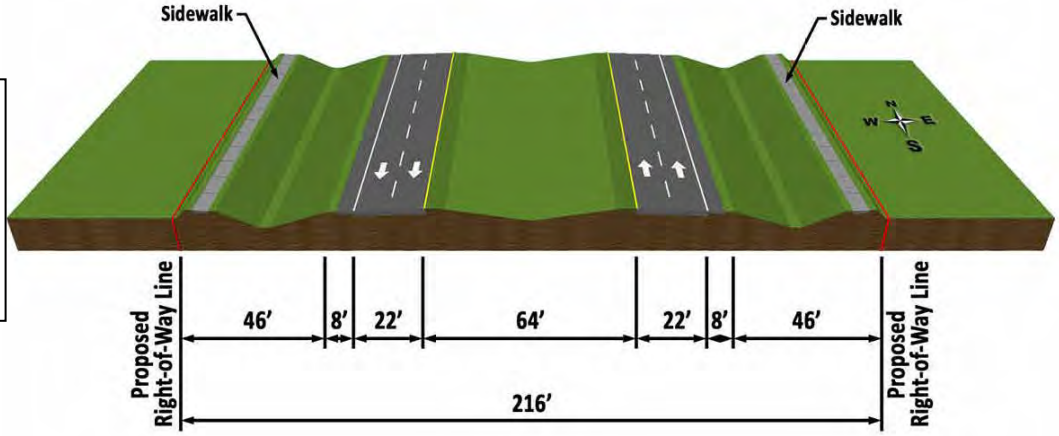
8.6 Implementation Costs

The total implementation cost for each of the alternatives, combining new interchange with the required roadway widening costs is contained in Table 8-19. Also included in this table are other improvement costs that would be required to maintain acceptable levels of service on area roadways and intersections (at-grade) within the study area for each alternative. As can be seen in this table, the total implementation cost

Four-Lane Urban Typical Section for Westernmost



Four-Lane Typical Section – New Construction with Centered Alignment



Four-Lane Typical Section – Widening to One Side Only

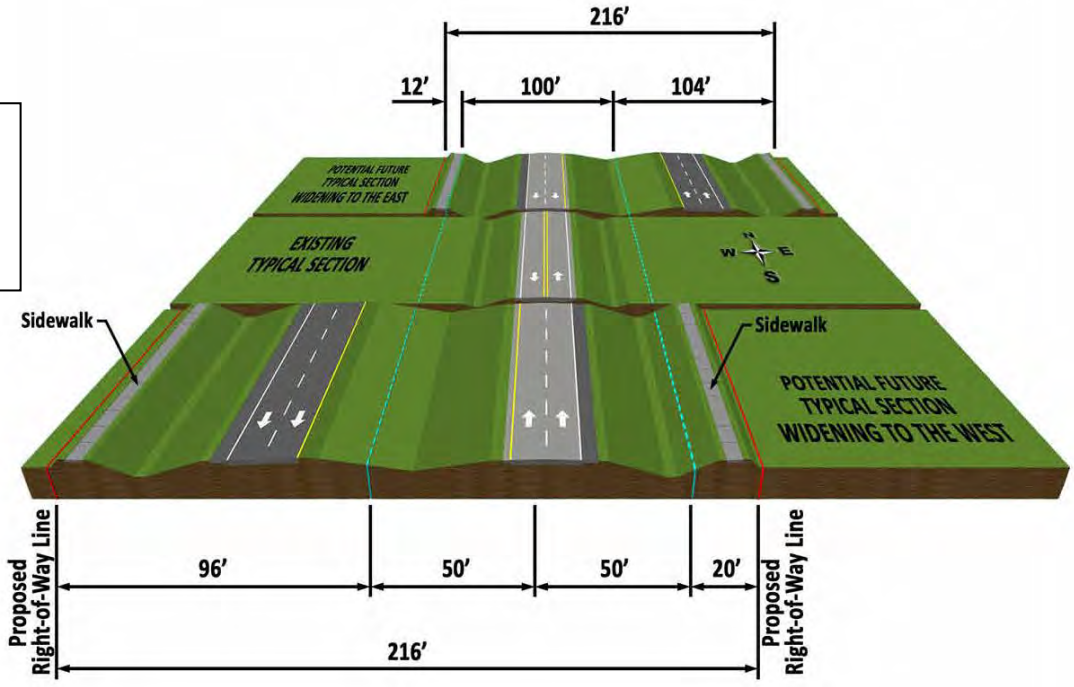


Figure 8-8: Preliminary Four-Lane Divided Typical Sections

Table 8-18: Preliminary Impacts and Costs for New Roadways and Roadway Widenings

Evaluation Criteria	Green Boulevard	White Lake Boulevard	Everglades Boulevard			Desoto Boulevard		
Length (Miles)	9.04	9.39	5.03			5.06		
Alternative	3A	3B	4			5		
Type of Construction	New Construction	New Construction	New Construction	Widen to the West	Widen to the East	New Construction	Widen to the West	Widen to the East
Number of New Lanes	4	4	4	2	2	4	2	2
Width of ROW Required	216	110/216	216	216	216	216	216	216
Environmental Impacts								
Wetlands (Acres)	103.5	141.1	74.2	75.5	72.9	81.7	80.9	82.5
Panther Primary Zone (Acres)	155.4	207.2	73.3	73.3	73.3	132.5	132.5	132.5
Panther Secondary Zone (Acres)	0	0	58.4	58.4	58.4	0	0	0
Right-of-Way Impacts								
Right-of-Way to be Acquired (Acres)	208.7	211.7	129.6	127.0	130.5	131.4	131.0	131.0
Number of Parcels Impacted	161	126	322	321	322	367	367	367
Number of Potential Relocations	12	9	9	11	29	10	5	22
Estimated Project Costs								
Wetland Mitigation[1]	$5,175,000	$7,055,000	$3,710,000	$3,775,000	$3,645,000	$4,085,000	$4,045,000	$4,125,000
Panther Primary Zone[2]	$7,770,000	$10,360,000	$3,665,000	$3,665,000	$3,665,000	$6,625,000	$6,625,000	$6,625,000
Panther Secondary Zone[2]	$0	$0	$2,920,000	$2,920,000	$2,920,000	$0	$0	$0
Total of Mitigation Cost	**$12,945,000**	**$17,415,000**	**$10,295,000**	**$10,360,000**	**$10,230,000**	**$10,710,000**	**$10,670,000**	**$10,750,000**
Right-of-Way Acquisition Cost[3]	**$4,132,000**	**$4,332,000**	**$1,283,000**	**$1,257,000**	**$1,292,000**	**$1,084,000**	**$1,081,000**	**$1,081,000**
Roadway Construction Cost	$33,285,000	$37,300,000	$18,520,000	$11,690,000	$11,690,000	$18,631,000	$11,759,000	$11,759,000
Bridge Construction Cost	$5,098,000	$1,690,000	$0	$0	$0	$0	$0	$0
Total Construction Cost	**$38,383,000**	**$38,990,000**	**$18,520,000**	**$11,690,000**	**$11,690,000**	**$18,631,000**	**$11,759,000**	**$11,759,000**
Design[4]	$5,757,500	$5,848,500	$2,778,000	$1,753,500	$1,753,500	$2,794,700	$1,763,900	$1,763,900
Construction Engineering & Inspection[4]	$5,757,500	$5,848,500	$2,778,000	$1,753,500	$1,753,500	$2,794,700	$1,763,900	$1,763,900
Total of Design and CE&I	**$11,515,000**	**$11,697,000**	**$5,556,000**	**$3,507,000**	**$3,507,000**	**$5,589,400**	**$3,527,800**	**$3,527,800**
Preliminary Estimate of Total Cost	**$66,975,000**	**$72,434,000**	**$35,654,000**	**$26,814,000**	**$26,719,000**	**$36,014,400**	**$27,037,800**	**$27,117,800**

1. Wetland mitigation cost is estimated at $50,000 per acre.
2. Panther Primary and Secondary Zone cost is estimated at $50,000 per acre . Assumes 10PHU/acre x 2.5 x $2500 per PHU
3. NO RELOCATION COSTS ARE INCLUDED IN THIS ESTIMATE. Right-of-way land cost is based on land values obtained from the Collier County Property Appraisers Website for each alignment.
4. Design and CE&I cost are each estimated at 15% of the Total Construction Cost.

Table 8-19: Preliminary Impacts and Costs For Total Project

Evaluation Criteria	Green Boulevard	White Lake Boulevard	Everglades Boulevard	Desoto Boulevard
Alternative	3A	3B	4	5
Type of Mainline Construction	New Construction	New Construction	Widen to the West	Widen to the West
Type of Interchange	None	None	Diamond with Loop Ramp	Trumpet
Environmental Impacts				
Wetlands (Acres)	103.5	143.7	136.0	137.5
Panther Primary Zone (Acres)	155.4	207.2	131.4	183.8
Panther Secondary Zone (Acres)	0.0	0.0	62.9	3.8
Right-of-Way Impacts				
Right-of-Way to be Acquired (Acres)	209.6	282.9	189.6	222.6
Number of Parcels Impacted	162	415	396	584
Number of Potential Relocations	12	9	12	5
Estimated Project Costs				
Wetland Mitigation[1]	$5,175,000	$7,185,000	$6,800,000	$6,875,000
Panther Primary Zone[2]	$7,770,000	$10,360,000	$6,570,000	$9,190,000
Panther Secondary Zone[2]	$0	$0	$3,145,000	$190,000
Total of Mitigation Cost	**$12,945,000**	**$17,545,000**	**$16,515,000**	**$16,255,000**
Right-of-Way Acquisition Cost[3]	**$4,145,200**	**$6,434,100**	**$1,696,100**	**$2,535,400**
Roadway Construction Cost	$33,285,000	$37,300,000	$11,690,000	$11,759,000
Bridge Construction Cost	$5,098,000	$1,690,000	$0	$0
Interchange Construction Cost	$0	$0	$18,338,000	$16,818,000
Other Improvements Construction Cost[4]	$1,062,000	$17,759,000	$369,000	$10,715,000
Total Construction Cost	**$39,445,000**	**$56,749,000**	**$30,397,000**	**$39,292,000**
Design[5]	$5,916,800	$8,512,400	$4,559,600	$5,893,800
Construction Engineering & Inspection[5]	$5,916,800	$8,512,400	$4,559,600	$5,893,800
Total of Design and CE&I	**$11,833,600**	**$17,024,800**	**$9,119,200**	**$11,787,600**
Preliminary Estimate of Total Project Cost	**$68,368,800**	**$97,752,900**	**$57,727,300**	**$69,870,000**

1. Wetland mitigation cost is estimated at $50,000 per acre.
2. Panther Primary and Secondary Zone cost is estimated at $50,000 per acre . Assumes 10PHU/acre x 2.5 x $2500 per PHU
3. NO RELOCATION COSTS ARE INCLUDED IN THIS ESTIMATE. Right-of-way land cost is based on land values obtained from the Collier County Property Appraisers Website for each alignment.
4. The preliminary impacts and costs associated with the other needed improvements for each alternative are provided in Appendix P.
5. Design and CE&I cost are each estimated at 15% of the Total Construction Cost.

for the alternatives ranges from approximately $57.7 million to $97.8 million, with Alternative 4, Everglades Boulevard the least costly alternative at $57.7 million.

8.7 Environmental Considerations

The proposed interchange was submitted to the FDOT District One Environmental Technical Advisory Team (ETAT) for review through an Efficient Transportation Decision Making (ETDM) Planning Screen. As a result of this review, substantial concerns were raised by several environmental regulatory agencies related to the proposed project's direct effects to wetlands, wildlife and habitat, Section 4(f), recreation and land use, and potential indirect and cumulative effects to these environmental resources. The ETAT review of the Programming Screen resulted in several agencies raising a potential dispute for the following three issues:

- Special Designations
- Wildlife and Habitat
- Recreation Areas

Comments received from three ETAT member agencies disputing the project, identified their concerns that the project may not be permittable, could be contrary to their program and initiative, and could result in significant environmental costs that could exceed the benefits of the project. In order to address these environmental concerns, an informal dispute resolution process was initiated and Dispute Resolution Sub-team (DRST) was formed from ETAT member agencies. This DRST is comprised of:

- Florida Department of Environmental Protection (FDEP)
- Florida Fish and Wildlife Conservation Commission (FFWCC)
- U.S. Fish and Wildlife Services (USFWS)
- Florida Department of Agriculture and Consumer Services (FDACS) – Division of Forestry (DOF)
- Federal Highway Administration (FHWA)
- South Florida Water Management District (SFWMD)
- United States Army Corps of Engineers (USACE)
- Collier Metropolitan Planning Organization (CMPO); and
- Florida Department of Transportation (FDOT)

The potential cumulative effects resulting from the proposed interchange, in conjunction with other past, present and foreseeable future actions, was a primary concern identified by the ETAT. These potential cumulative effects may impact various environmental resources found within the area of the project. To address this issue, a Cumulative Effects Evaluation (CEE) Study was undertaken by FDOT District One to identify potential cumulative effects to certain environmental resources and to identify potential actions that can lessen or mitigate these identified effects.

The preliminary results of this evaluation are currently under review by the DRST. These results indicate that only minimal differences in the amount and location of development are projected for conditions "with" and

"without" a proposed interchange. Future development is expected to occur in and around currently developed areas. These minimal differences result in small differences in the projected development patterns between the "with" and "without" interchange scenarios. The differences in the value of available suitable habitats (HSV) were minimal between the "with" and "without" interchange scenarios.

With resolution of the ETDM concerns, there are no known fatal flaws or areas of concern within the proposed interchange project. As required by FHWA, a PD&E study will be conducted for this project that will more specifically identify the potential direct impacts from a new interchange. The PD&E study is expected to commence in the summer of 2012 pending the ETDM Dispute Resolution Process. This PD&E study will closely review the potential for environmental impacts, address additional concerns noted by the DRST, minimize any negative impacts, and identify mitigation requirements.

To cursorily address potential large mitigation costs prior to the PD&E, mitigation for wetland impacts and impacts to panther habitat were estimated based on a GIS review of features in the project area for each of the proposed alternatives.

9.0 PUBLIC INVOLVEMENT

On June 3, 2009, Collier County held a Public Information Workshop for the IJR study at the Palmetto Elementary School. A total of 345 citizens attending this meeting signed in; however, a large number of attendees did not sign in due to the long lines at the registration table. At this meeting, the attendees were asked to come back to the registration table and provide County staff with their approval or disapproval of a new interchange on I-75. There were 286 attendees that were in favor of a new interchange and nine that were opposed to a new interchange. A total of 70 comment sheets were returned at the meeting and an additional 96 were submitted after the meeting via regular mail or e-mail. A significant number of the comments provided by the people in favor of a new interchange addressed the long travel times incurred while accessing I-75 and/or the need for improved evacuation/emergency response times.

On November 4, 2010, Collier County held a second Public Information Meeting regarding the IJR study. This meeting was also held at the Palmetto Elementary School. A total of 223 individuals/families that attended this meeting signed in and 44 comments were provided to the County. Forty-two (42) respondents were in favor of a new interchange while only one was opposed to a new interchange. Once again, a majority of the comments that were provided addressed long travel distances/times and emergency evacuation. These two formal IJR public involvement activities help to demonstrate that there is significant public support for a new interchange on I-75 between SR 29 and CR 951.

In addition, there have been several public meetings associated with the CEE Study. While sparsely attended by the public, the major concern of agencies and environmental advocates was the potential development that would be generated by a new interchange in the area and its impact on the natural environment and habitat, specifically that of the Florida panther. The results of that study are anticipated to be available in the summer of 2012, at which time an additional public meeting will be held to present the findings of the study.

A PD&E study which is anticipated to begin in the summer of 2012 will also have a comprehensive public involvement program. This will include a public kickoff meeting, a public workshop and hearing along with numerous other local meetings to determine the public support for the project once all the environmental impacts are identified and evaluated.

10.0 PROJECT SCHEDULE

10.1 Conceptual Funding Plan

There is a firm commitment for funding the subsequent phases of this interchange. The CEE is scheduled to be completed in 2012 and a consultant has been selected for the FDOT's PD&E Study (with notice to proceed expected in May 2012). A new interchange at I-75 and Everglades Boulevard is currently contained in the Collier MPO's 2035 Financially Feasible LRTP. A total of $64.2 million is allocated to this improvement, including the CEE, IJR and PD&E study, as well as final design, right-of-way and construction in the years 2016 to 2020. In addition, the widening (i.e., four-laning) of Everglades Boulevard from I-75 to Golden Gate Boulevard is also currently funded through right-of-way acquisition for $19.2 million. Construction is currently unfunded in the 2035 LRTP.

Since the section of I-75 at Everglades Boulevard is currently tolled, there is a possibility that toll revenues could be used to fund a portion of these improvements. During the PD&E study, coordination with FDOT Central Office and Florida's Turnpike Enterprise will be undertaken to explore this possibility. As can be noted from the preliminary cost estimates provided in Section 8.7, there appears to be sufficient funding for the complete construction of the new interchange. These cost estimates will be refined during the upcoming PD&E study.

10.2 Implementation Schedule

The current schedule has the CEE being completed by August 2012. The PD&E study will begin in the summer of 2012 and is expected to be completed in the summer of 2014. The FDOT's Five-Year Work Program has $4.75 million for Preliminary Engineering in 2015 and this will likely take approximately 36 to 48 months to complete. Subsequent phases for right-of-way acquisition and construction are currently required outside the Five-Year Work Program Cycle; however, the 2035 Collier MPO's Financially Feasibly LRTP has right-of-way and construction funded by 2020.

11.0 COMPLIANCE WITH FHWA/FDOT POLICIES AND REQUIREMENTS

As adopted in Rule Chapter 14-97, FAC; the minimum desired spacing for an interchange on the Interstate Highway System in a rural area is six miles. Both of the alternative locations evaluated in this IJR provide interchange spacings that exceed this minimum desired distance.

On February 1, 1998, FHWA issued a notice of policy statement for Additional Interchanges to the Interstate System. This policy statement identified eight requirements that must be met before any new interchange on the interstate system can be approved. This section documents how the new interchange proposed for I-75 meets the requirements set forth in this policy. Each of the eight points in the FHWA policy is provided below in **bold** text along with the justification for the new interchange.

1. **The existing interchanges and/or local roads and streets in the corridor can neither provide the necessary access nor be improved to satisfactorily accommodate the design year traffic demands while at the same time providing the access intended by the interchange proposal.**

   The study area has poor access both with respect to I-75 as well as to the western portion of Collier County and the City of Naples. The only two north/south roadways in the study area that have interchanges with I-75 are SR 29 and CR 951. These existing interchanges are separated by a distance of slightly more than 21 miles. The I-75/SR 29 interchange is located in the easternmost portion of Collier County. Due to the large distance between SR 29 and Golden Gate Estates and the lack of any direct connections between the two, the I-75/SR 29 interchange does not serve the study area.

   Similarly, there are only two east/west roadways within the study area (Golden Gate Boulevard and Immokalee Road) that provide access to the other four existing I-75 interchanges. Immokalee Road provides direct access to I-75; however, this roadway is located at the northern boundary of the study area. Golden Gate Boulevard provides access indirectly to I-75 since it does not connect to I-75 but does connect to CR 951. The Everglades Boulevard/Golden Gate Boulevard intersection is located approximately 8.9 miles east of the CR 951/Golden Gate Boulevard intersection while the CR 951/Golden Gate Boulevard intersection is located approximately 4.7 miles north of the I-75/CR 951 interchange. These conditions result in lengthy and circuitous travel paths being incurred by many of the study area residents as they travel to and from I-75. As an example, study area residents living along Everglades Boulevard south of Golden Gate Boulevard, must travel over 14 miles to access the I-75/CR 951 interchange.

   Although the planned widening of Golden Gate Boulevard (four-laning) and CR 951 (six-laning) will provide additional roadway capacity for study area travelers in the future, it will not do anything to reduce the distance that study area residents will need to travel to access I-75 both respect to daily commuting as well as in response to an emergency evacuation event. Several alternatives were evaluated that did not include a new interchange on I-75. These alternatives provided new four-lane

east/west roadways that extended from CR 951 to Everglades Boulevard. The results of the evaluations conducted for these alternatives indicated that they would result in somewhat shorter distances for trips using I-75 to travel to/from the west (compared to the No-Build Alternative): however, they would not shorten the travel distance required to access I-75 via SR 29 for travel to/from the east.

The results of the traffic analysis indicate that the implementation of a new four-lane east/west road would result in some reduction in the design year traffic volumes for the primary study area roadways. However, several portions of the study area roadway network are projected to be overcapacity even with the implementation of a new east/west road. Although widening of key roadways (i.e., Golden Gate Parkway and CR 951) would eliminate the overcapacity conditions projected to occur at these locations, the costs and impacts associated with further widening makes this a non-viable solution. The implementation of a new interchange is projected to result in greater reductions in design year traffic volumes for most of the primary study area roadways and greatly reduce the number of locations that are projected to operate overcapacity.

Lastly, the costs and impacts of a new four-lane roadway connecting CR 951 and Everglades Boulevard are estimated to be higher than the costs and impacts of a new interchange. Since a new east/west roadway will not adequately provide the interstate access needed by the study area and will not eliminate the need for additional roadway improvements beyond what is currently contained in the Collier MPO's 2035 Financially Feasible LRTP, the additional costs and impacts associated with a new east/west road greatly reduces the cost-effectiveness of this type of improvement.

2. **All reasonable alternatives for design options, location, and transportation system management type improvements have been assessed and provided for if currently justified, or provisions for accommodating such facilities if a future need is identified.**

The design year traffic analyses that were conducted for the study area roadway intersections were conducted by optimizing the performance of the signalized intersections. The analysis results indicate that some additional intersection geometry will likely be needed by the design year at several of the intersections analyzed whether or not a new interchange is implemented. Over the last five years, Collier County has made a significant financial investment in Transportation Systems Management improvements through their successful implementation of ITS and their Traffic Management Center (TMC). The County also has plans to increase these capabilities in the near future. In FDOT Fiscal Year 2012/2013, the Collier County Traffic Operations Department (through Local Agency Program (LAP) funds) will be expanding their existing 60-mile ITS fiber optic system by approximately 15 miles to monitor and control additional traffic signals from their TMC. In addition, in FDOT Fiscal Year 2013/2014, the County's Traffic Operations Department (once again through LAP funding) will be receiving 25 arterial monitoring cameras to assist the County's TMC in traffic surveillance and incident management making the operations of the TMC more efficient. Another 50

additional monitoring cameras will be added through the LAP process over the next four to five years. Collier County is committed to upgrading and expanding their Congestion Management System as funding becomes available; however, these types of improvements are needed in addition to a new interchange – not in lieu of a new interchange.

3. **The proposed access point does not have a significant adverse impact on the safety and operation of the interstate facility based on the analysis of the future traffic.**

   If a new interchange were to be constructed at Everglades Boulevard, the interchange would be located approximately 12.3 miles to the west of SR 29 and approximately 8.9 miles to the east of CR 951. If a new interchange were to be constructed at Desoto Boulevard, the interchange would be located approximately 10.5 miles to the west of SR 29 and approximately 10.7 miles to the east of CR 951. Given these distances, no negative impacts are anticipated to occur with respect to merging, diverging and weaving. In addition, these distances would allow for proper advanced signing of the exit ramps. Although the preparation of a conceptual signing plan for the proposed interchange was included in the MLOU, the preferred location and configuration for the interchange has not yet been determined. Since the preferred location/configuration would be determined during the PD&E Study, the Applicant requests that the preparation of the conceptual signing plan be deferred until a preferred alternative is determined. The design year traffic analysis results indicate that the estimated off-ramp vehicle queues can be accommodated on the off-ramps and; therefore, the queues should have no impact on the mainline traffic flow.

   The results of the design year traffic analyses do indicate that the level of service for the portion of the I-75 mainline between the new interchange and the CR 951 interchange is projected to decrease (compared to the No-Build Alternative). This condition is projected for both the Everglades Boulevard and Desoto Boulevard interchange locations. Consequently, the portion of I-75 between the new interchange and the CR 951 interchange will need to be widened to six lanes by the design year to maintain the same level of service (LOS C) that is projected to occur with the No-Build Alternative.

4. **The proposed access connects to a public road only and will provide for all traffic movements. The proposed access will be designed to meet or exceed current standards for Federal-aid projects on the Interstate system.**

   Both of the evaluated locations for the new interchange that were documented in this IJR (Everglades Boulevard and Desoto Boulevard) are public roads that are maintained by Collier County. The proposed interchange will be a “full interchange”. Access to and from I-75 will be provided in both the eastbound and westbound directions.

   The interchange geometrics included in the preliminary interchange concepts are consistent with the design standards contained in the FDOT’s Roadway Plans Preparation Manual. The interchange

ramp acceleration/deceleration lanes, vertical clearance of the bridges over I-75, and the limited access right-of-way limits along the cross street are all compliant with FDOT/FHWA criteria. No design exceptions or variances are anticipated to be needed with any of the interchange concepts.

5. **The interchange proposal considers and is consistent with local and regional land use and transportation plans.**

   The proposed interchange is included in the current Collier MPO's 2035 Financially Feasible LRTP as a fully funded improvement and is consistent with that plan. This project has had enough continuous local support that it was also included in the Collier MPO's 2030 Financially Feasible LRTP. The Board of County Commissioners has officially prioritized the interchange as the number-one project on the county's federal legislative agenda for the past five years. The proposed interchange is also included in the Collier/Lee County MPO's Joint Regional Transportation Network and is consistent with Collier County's Comprehensive Plan. It is also the intention of local agencies to maintain current land use controls to prevent any commercialization of the interchange area.

6. **In areas where the potential exists for future or multiple interchange additions, all requests for new access are supported by a comprehensive interstate network study.**

   There are no other new interchanges currently being planned or programmed within Collier County. Two alternative locations for a single new access point on I-75 were evaluated – Everglades Boulevard and Desoto Boulevard. This IJR included an analysis of two existing interchanges located west/north of the proposed interchange (CR 951 and Golden Gate Parkway) and one existing interchange located east of the proposed interchange (SR 29). Peak hour traffic analyses were conducted for the I-75 mainline segments, interchange on-/off-ramps and ramp terminal intersections.

7. **The request for new access generated by new or expanded development demonstrates appropriate coordination between the development and related or otherwise required transportation system improvements.**

   The request for this new interchange **is not** being driven by any specific private development either planned/approved or under review. This interchange is intended to serve the existing population within the study area as well as the future population and employment that the Collier MPO has projected for the study area. The population and employment in the eastern portion of Collier County is projected to increase regardless of whether a new interchange is constructed on I-75 because this area primarily consists of platted single family lots varying in size from approximately one to five acres. There is limited potential for significant additional growth to occur in the urbanized portion of western Collier County and as a result, a majority of the future growth in County population and employment is projected to occur within and north of the study area.

8. The request for new access contains information relative to the planning requirements and the status of environmental processing of the proposal.

This IJR includes a discussion of the results of the ETDM Programming Screen that was conducted for the interchange by the FDOT District One Environmental Technical Advisory Team (ETAT). Several project effects were identified as requiring dispute resolution by the Florida Department of Environmental Protection, US Fish and Wildlife Service, and Florida Fish and Wildlife Conservation Commission. An informal dispute resolution process was subsequently initiated to address these environmental concerns and a Dispute Resolution Sub-team (DRST) was formed from ETAT member agencies. Based on the concerns raised by several ETAT members, a Cumulative Effects Evaluation (CEE) Study was undertaken by FDOT to identify potential cumulative effects to certain environmental resources and to identify potential actions that can lessen or mitigate these identified effects. The preliminary results of this evaluation are currently under review by the DRST.

If conditional approval of the IJR is granted by FHWA, a PD&E study will be conducted for this project (as well as for the widening of either Everglades Boulevard or Desoto Boulevard) that will more specifically identify the potential direct impacts from a new interchange. The PD&E study is expected to commence in the summer of 2012 pending the ETDM Dispute Resolution Process and the IJR review. This PD&E study will closely review the potential for environmental impacts, address additional concerns noted by the DRST, minimize any negative impacts, and identify mitigation requirements.

12.0 RECOMMENDATION

Based on the information provided in this IJR, Collier County respectfully requests that FHWA grant conditional approval of a new interchange to be located on I-75 between the existing SR 29 and CR 951 interchanges. Collier County understands that this conditional approval would be subject to the successful completion of a PD&E study that culminates with Location Design and Concept Approval (LDCA) from FHWA. The County also understands that the initiation of the PD&E Study by FDOT District One will be subject to the successful completion of the FDOT's CEE Study. Preliminary evaluations have been conducted as a part of this IJR for two alternative locations for this new interchange and both of these potential locations should be further evaluated in more detail during the PD&E Study. In addition, alternative interchange concepts will need to be developed and evaluated for both of these potential locations to identify the interchange concept that minimizes the environmental impacts to the surrounding area.

13.0 FINAL OUTCOME OF THE STUDY

This Preliminary Draft IJR was submitted to FDOT District One for their review on April 27, 2012. On July 16, 2012 Collier County received a letter from Ms. Amy Perez (FDOT District One Systems Planning Administrator and Interchange Review Committee Chair) summarizing the FDOT's primary concerns regarding the IJR document. A copy of Ms. Perez's letter is included in Appendix Q. The primary concerns raised by the FDOT included the following:

- The new interchange is projected to result in a significant increase in the volumes on the I-75 mainline between the new interchange and the existing CR 951 interchange. The magnitude of the projected increase would require that the I-75 mainline be widened from four lanes to six lanes between the new interchange and the CR 951 interchange to maintain an acceptable level of service through the design year 2039.

- The traffic volumes and travel patterns documented in the IJR indicate that the vehicles accessing the interstate via the new interchange were projected to exit at either the CR 951 interchange or the Golden Gate Parkway interchange. This increase in short distance trips on I-75 is contrary to FDOT and FHWA policies of maintaining the interstate as a primary route for regional trips.

- The need for six lanes on I-75 between the new interchange and the CR 951 interchange is not currently included in the Collier MPO's 2035 Financially Feasible Long Range Transportation Plan and is not projected to occur until beyond the design year without the proposed interchange.

- The proposed interchange does not appear to provide any relief to the adjacent interchanges.

- The Draft IJR did not adequately evaluate other reasonable alternatives in lieu of the new interchange.

- The conceptual funding plan identified in the Draft IJR did not identify funding sources for all of the network-wide improvements necessitated by the proposed interchange including the widening of the I-75 mainline.

- The Draft IJR did not include any discussion regarding impacts to panther habitat, wetlands, floodplains or cultural features.

On September 27, 2012 a letter was sent from Mr. Nick Casalanguida (Collier County Growth Management Division Administrator) to Ms. Perez containing the County's responses to the six primary concerns raised by FDOT in their July 16, 2012 letter. A copy of this letter is provided in Appendix Q.

Collier County was subsequently invited to make a presentation on the IJR at the October 29, 2012 District One Interchange Review Staff meeting in Bartow, Florida. A copy of the PowerPoint presentation is provided in Appendix Q. On December 6, 2012 a letter was sent from Mr. Billy Hattaway (FDOT District One Secretary) to Mr. Casalanguida stating that the FDOT would not support the County's request for a new interchange on I-75 at Everglades Boulevard at this time because the Draft IJR did not satisfactorily meet all eight of the FHWA's policy points regarding new access to the interstate system. Although the FDOT acknowledged the County's position regarding the lack of adequate interstate access for a significant portion of the study area,

they indicated that more convenient access is viewed as a supporting justification measure – not a primary reason for approving new interstate access. The primary stated reason for this denial was that in order to fully satisfy FHWA Policy Point No. 1, an IJR must show that the existing adjacent interchanges and interstate system cannot accommodate the projected future travel demand without major geometric improvements. The FDOT's current position is that there is adequate capacity at the existing adjacent interchanges to serve the travel demand in the opening year (2019) and the design year (2039) without a new interchange at Everglades Boulevard. A new interchange is not recommended at this time since the current cost feasible roadway network can satisfy the future travel demand.

Although the FDOT did not support the new interchange request at this time, it did also state that "as land use and development patterns change and the existing interchanges cannot satisfy the need, a new interchange can be reevaluated in the future." In the meantime, the FDOT recommended that Collier County conduct further evaluations of off-system improvements and re-direct the new interchange funding to County bridge and roadway improvement projects within the Golden Gate Estates area to reduce the travel times associated with accessing I-75. A copy of Secretary Hattaway's letter is also provided in Appendix Q. In response to the letter from Secretary Hattaway, the Collier MPO Board subsequently voted to move the I-75/Everglades Boulevard interchange into the 2021-2026 time frame of the updated 2035 Financially Feasible Long Range Transportation Plan.