

* Traffic Engineering

* Transportation Planning

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Systems

* Traffic Signals & Timing

Regional Gateway Commerce Center

NWC I-8/I-10 Traffic Interchange Casa Grande, Arizona

Traffic Impact Analysis

Prepared for:

Casa Grande Mountain Ranch, LP

Prepared by:

**Lee Engineering
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Phoenix, Arizona 85018
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September 20, 2013



Project No. 911.03

LEE ENGINEERING

**PHOENIX
DALLAS
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OKLAHOMA CITY**

**Regional Gateway Commerce Center
NWC I-8/I-10 Traffic Interchange**

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TRAFFIC IMPACT ANALYSIS

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TABLE OF CONTENTS

Introduction and Summary	1
Proposed Development	3
Study Area Conditions.....	7
Analysis of Existing Conditions	10
Background Conditions.....	17
Projected Traffic	29
Traffic Operations Analysis	40
Internal Site Access/Circulation	48
Conclusions & Recommendations.....	50

LIST OF TABLES

Table 1	Level of Service Criteria for Signalized/Unsignalized Intersections.....	13
Table 2	Intersection Capacity Analysis Summary – Existing Conditions	14
Table 3	Trip Generation Estimate of Adjacent Developments	19
Table 4	Capacity Analysis Summary – 2018 Background Conditions	25
Table 5	Capacity Analysis Summary – 2018 Background Conditions, Mitigated	26
Table 6	Capacity Analysis Summary – 2023 Background Conditions	27
Table 7	Capacity Analysis Summary – 2030 Background Conditions	28
Table 8	Trip Generation Estimate	30
Table 9	Capacity Analysis Summary – 2018 Total Traffic Conditions	41
Table 10	Capacity Analysis Summary – 2023 Total Traffic Conditions	43
Table 11	Capacity Analysis Summary – 2023 Total Traffic Conditions, Mitigated	46
Table 12	Capacity Analysis Summary – 2030 Total Traffic Conditions	46

LIST OF FIGURES

Figure 1	Vicinity Map	4
Figure 2	Site Layout (Phasing Plan)	5
Figure 3	Existing Conditions	11
Figure 4	Crash Diagram (to be provided in final report)	16
Figure 5	2018 Non-Site Background Traffic Estimates	20
Figure 6	2023 Non-Site Background Traffic Estimates	22
Figure 7	2030 Non-Site Background Traffic Estimates	24
Figure 8	Distribution and Assignment, 2018 Opening Year	32
Figure 9	Distribution and Assignment, 5-Yr Horizon 2023	34
Figure 10	Distribution and Assignment, Build-out 2030	36
Figure 11	2018 Total Traffic	37
Figure 12	2023 Total Traffic	38
Figure 13	2030 Total Traffic	39
Figure 14	2023 Total Traffic Schematic of Access Need	45

Introduction and Summary

Introduction

This study analyzes the potential traffic impacts of a proposed regional development to be located on land at the northwest corner of the I-8/I-10 interchange in Casa Grande, Arizona. The purpose of this study is to prepare a traffic impact analysis that satisfies the requirements, standards, and expectations for the City of Casa Grande and the Arizona Department of Transportation. The traffic study will determine the need for roadway improvements, identify operational deficiencies, and recommend appropriate roadway treatments in order to ensure that efficient and safe traffic operations are maintained on the adjacent road network for the horizon years of analysis. Given the nature of the development and its anticipated development schedule, three horizon years (2018, 2023, and 2030) have been analyzed corresponding with construction goals of the site.

Executive Summary

The following is a summary of the analysis and recommendations identified for the site based on our study.

Site Development Description

The subject site is to develop approximately 423 acres located at the northwest corner of the I-8 / I-10 interchange in addition to dedicating about 127 acres to ADOT for the improvement of the I-8/I-10 system interchange, frontage roads, and future I-8/Henness Road Traffic Interchange. Overall the site is to be planned to construct over 9.37 million square-feet of corporate headquarter office, business office, general office, general light industrial and commercial space. Opening year of the site's first phase is projected to occur in 2018.

At full build-out the site is to generate 71,300 daily trip ends with 11,000 trips occurring in the AM peak hour and 9,800 trips occurring in the PM peak hour.

Principal Findings

As part of the developer's initial phase of construction, a new site access is to be built from the property's west boundary along the Cornman/Henness/Selma alignments to Peart Road, improvements to the intersection of Jimmie Kerr Boulevard/Cox Road to be conducted, and improvements to the Cox Road approach to Jimmie Kerr to bring the existing railroad crossing into compliance to existing standards are anticipated as an interim condition prior to construction of the I-8/Henness traffic interchange. Access to/from Cox Road and the Jimmie Kerr intersection is needed to help alleviate access demand in all development phases. It is anticipated that major improvements to this intersection could be anticipated by others (City, ADOT, or adjacent developers) prior to the site's second development phase in 2023 that will allow for minimal development cost needs. With site development momentum, the ability of the developer to help facilitate an accelerated construction of the I-8/Henness interchange from the current ADOT horizon time period will be needed by the end of Phase 1 to minimize vehicular impacts to the local roadway network.

By 2023, it is estimated that the I-10 widening and other associated improvements with the planned ADOT project will help improve the access alternatives for site-related motorists. Depending upon the final design conditions/location of the I-10 Frontage Roads, improvements to the Cox Road connection at Jimmie Kerr Boulevard along with corresponding improvements of the Cox Road crossing of the Union Pacific Railroad will be needed to accommodate site growth. Also for this phase, the developer will need to coordinate with ADOT the logistics of a direct access ramp into the site from I-8 westbound and the Henness Road TI to accommodate non-local vehicles estimated to be over 2,100 in the AM peak hour.

Build-out for the site has been assumed for 2030 although actual build-out is not anticipated until 2040 or beyond. As part of the build-out assumptions for this time period, the ADOT I-8/I-10 system interchange improvements are anticipated to be complete. The site will need at least one, preferably two direct access points from the westbound frontage roadway network to accommodate vehicle demands. Due to high inbound and outbound site trips to be generated, additional access points will be needed besides the access points currently planned. In the interim, the existing access points should promote/have direct access capabilities, minimizing the delays associated with signal control using channelized right turn movements and access to site parking areas without needing to utilize the internal loop road.

Internally, the site's loop road should be considered for a 6-lane cross-section design to accommodate directional peak hour volumes that are anticipated to exceed 3,000 vehicles in the peak hour. Roundabouts are preferred at the major intersections with the site's loop road to help promote continuous traffic flow. Traffic signals could be considered at the more minor loop road intersections that are not major ingress/egress intersections to help promote truck movements, left turn movements and help create gaps in the traffic stream.

The ability to manage the trips generated from the corporate headquarter land use will have a significant impact to the operation of the site's internal roadway operation. Estimates show over half of all site trips are to be generated from these three lots (5.5 million SF of office space). Options to minimize the traffic generated from these lots on the site's internal loop road are needed in the ultimate condition. Off-site and/or on-site parking areas adjacent to direct access ramps with bus shuttle service, providing direct access to/from the corporate headquarters land uses that do not utilize the internal loop road, or other means to minimize all internal site traffic is needed in the ultimate condition to operate in an efficient manner.

Proposed Development

Site Location

The proposed site is located at the northwest corner of the I-8/I-10 system interchange extending northward to the Union Pacific Railroad (just south of Jimmie Kerr Boulevard) and westward following an existing irrigation channel to the Henness Road alignment. **Figure 1** shows a site vicinity map of the area with the subject site highlighted in yellow. The subject property is identified to envelop approximately 423 acres of developable land and will also include about 127 acres to be dedicated to ADOT for the future reconstruction of the I-8/I-10 interchange (60 acres), I-8 frontage roads (35 acres), and future construction of the I-8/Henness Road traffic interchange (32 acres).

Land Use and Intensity

Zoning and Land Use

As identified by the client, the majority of the existing site property is currently zoned light industrial with about 100 acres identified as agricultural/rural that is under PAD zoning application. The zoning identified by the client is assumed to be an update to information found on the City's website and City's published *General Plan 2010* and future land use graphic (Figure 3.1) that shows the area as low density residential. Noting the site's location adjacent to two interstates and proposed land use corresponding to corporate office, business park, light industrial and garden offices, the client's zoning for the employment land use appears to be appropriate. At full build-out, the client projects total site employment to reach 29,550 when operating at full potential.

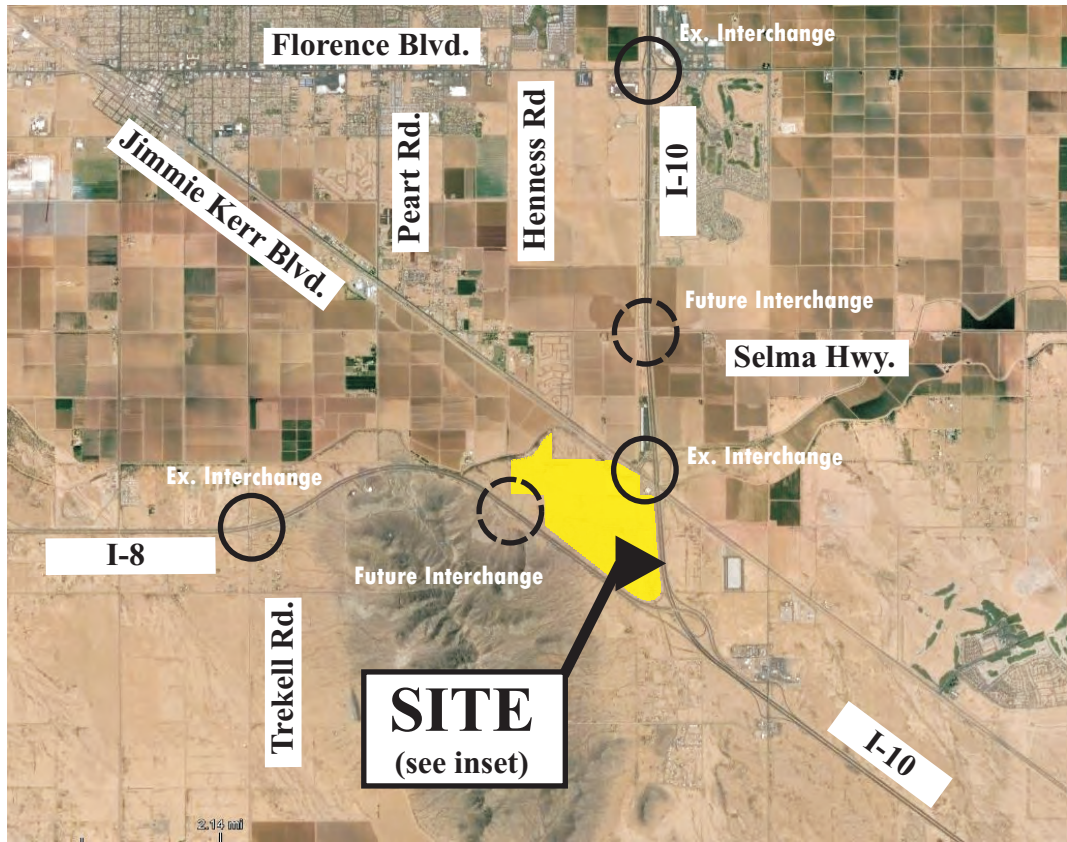
Intensity

The subject site is to consist of three development areas or phases. The following land uses are proposed for each phase:

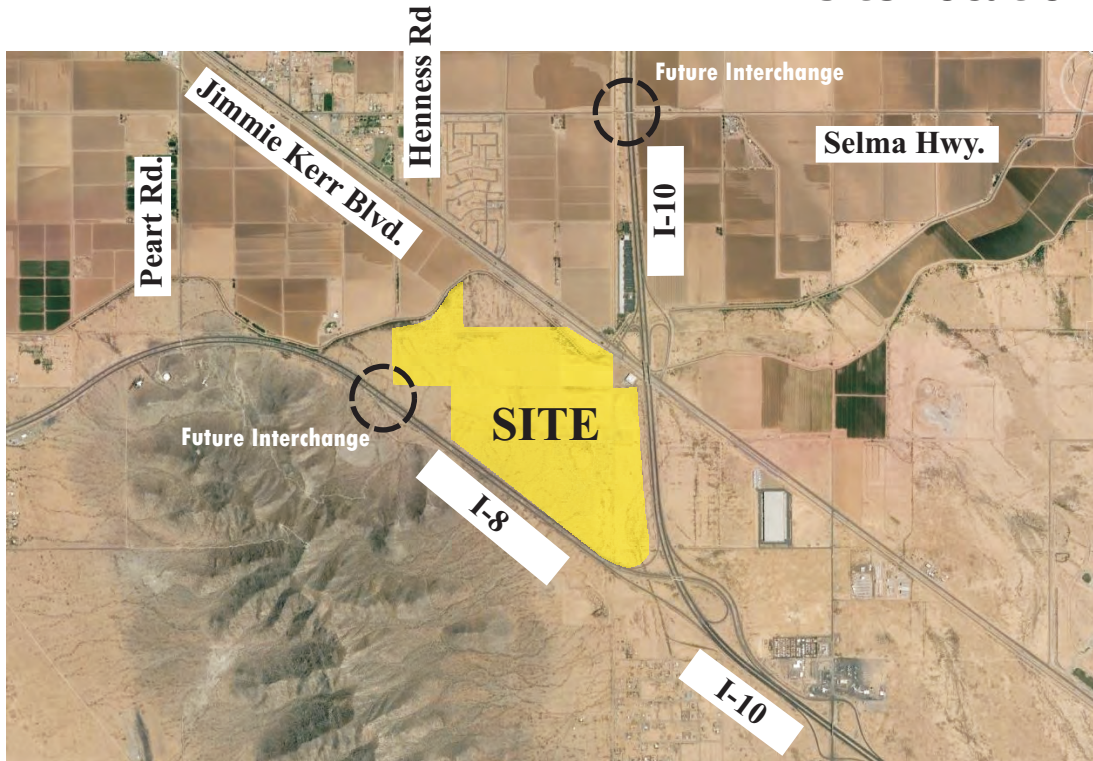
- Phase 1 Corporate Office - totaling 5,504,895 SF of floor area on 101.1 acres (FAR = 1.25)
- Phase 2 Commercial/Business Park/Light Industrial/Garden Office – totaling 2,388,612 SF of floor area on 161.2 acres (total FAR = 0.34)
 - Commercial - 114,998 SF on 8.8 acres (FAR = 0.30)
 - Business Park - 673,873 SF on 44.2 acres (FAR = 0.35)
 - Light Industrial/Garden Office – 196,020 SF on 15 acres (FAR = 0.30)
 - Light Industrial – 737,253 SF on 67.7 acres (FAR = 0.25)
 - Garden Office – 666,468 SF on 25.5 acres (FAR = 0.60)
- Phase 3 Light Industrial – totaling 1,477,773 SF of floor area on 135.7 acres (FAR = 0.25)

Site Plan

A copy of the site/phasing plan is provided in **Figure 2** (a copy of the site's land use plan is provided in the appendix). This figure is color coded to help identify the lot locations of the phased build areas. Highlights of the site plan include the construction of the I-8/Henness Road interchange, access roadway construction to Peart Road outside of the site boundaries, a proposed drill rail line to service some of the interior lots, and access points to connect the site to Jimmie Kerr Boulevard, the future I-8 westbound Frontage Road and the property south of I-8 via an underpass.



Site Location



Inset



Not to scale

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PHASING
 PHASE 1
 PHASE 2
 PHASE 3

CONCEPTUAL LOOP ROAD ALIGNMENT. FINAL LAYOUT TO BE APPROVED WITH SITE DEVELOPMENT/ SUBDIVISION PLAT. PROPERTY OWNER HAS TENTATIVELY AGREED TO ALIGNMENT.

Figure 2



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REGIONAL GATEWAY COMMERCE CENTER CASA GRANDE, AZ

PHASING PLAN

PREPARED FOR: CASA GRANDE MOUNTAIN RANCH LIMITED PARTNERSHIP, GEORGE CHASSE - GENERAL PARTNER
 DATE: 8-22-13

SCALE: 1" = 500'
 GP JOB# 11027

NORTH

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Development Phasing and Timing

Construction of the site's three phases is anticipated to be concurrent, dependent upon market needs. Initial construction is planned for 2015 with initial occupancy of the site targeted for 2018. A 25-year construction horizon is anticipated resulting in full site occupancy for year 2040. For the purpose of this study, three analysis years are to be analyzed. Below are the time horizons and clients' occupancy estimate of each year and phase:

Opening Year:	2018 (Phase 1 and 2 - 20%, Phase 3 -10%)
5-year Horizon:	2023 (Phase 1 – 70%, Phase 2 – 50%, Phase 3 - 35%)
Full Build-out:	2030 (Phase 1, 2, and 3 – 100%)

Although full build-out of the site is not anticipated until 2040, the full impact of the site construction has been accelerated to 2030 to best match the traffic impact guidelines and allow use of the volume projections presented in the Henness Road/Interstate 8 Traffic Interchange Report (Kimley-Horn, April 2013) and the Change of Access Report prepared for ADOT and the FHWA by Kimley-Horn, June 2013.

Phase 1 construction is to consist mainly of the more high profile areas within the site, the three large corporate headquarter lots located along the I-8/I-10 frontages and the eight lots located at the site's gateway entrance at the Henness/Cornman intersection. Included as part of this initial phase is partial development of the site's internal loop road and construction of the adjacent roadway network that follows the Cornman Road, Henness Road, and future Selma Highway alignments built such that access to Peart Road is provided. This new access connection will provide the site with two access points to the existing arterial network noting the site is currently served via Cox Road at its intersection with Jimmie Kerr Boulevard and the I-10 On/Off ramps. As part of the late Phase 1 development (Phase 1B), construction of the I-8/Henness Road interchange is to be accelerated as quickly as possible once adequate funding through development interests within and adjacent to the subject site are secured. Acceleration of the interchange with connection to Cornman Road is critical as the employment base (trip generation) increases to help offset the routing patterns that may develop along Florence Boulevard and to minimize the impacts to the I-10 ramp network at the Jimmie Kerr Boulevard intersection by inbound motorists originating outside the local area. Phase 2 of the development is to construct the majority of the remaining exterior lots on the site and complete the internal loop road within the property. Phase 3 is the last phase of construction areas with the projected longest time horizon that will fill in the interior of the site. A proposed drill rail line is shown from the existing Union Pacific Rail Road initiating along the site's northern boundary bisecting the Phase 3 lots and terminating near the south end of the site.

Study Area Conditions

Study Area

Per discussions with the City of Casa Grande, the limited access potential of this site and the anticipated roadway network changes likely to occur during the development of this site lends to an evaluation that will concentrate on the roadways adjacent to the site, including: Jimmie Kerr Boulevard and Peart Road, the future roadways of Cornman Road, Henness Road, and Selma Highway and the intersections/interchanges site vehicles are anticipated to utilized when accessing I-8 and I-10.

Adjacent Land Uses

Land uses in the study area are generally rural in nature consisting mostly of agriculture, large areas of undeveloped land, low density residential areas, and some small commercial developments. Adjacent to the site, the following land uses are identified:

- North – Vacant commercial building south of Jimmie Kerr Boulevard, a currently vacant Outlets at Casa Grande shopping center on the north side of Jimmie Kerr proposed for revitalization (The Station), and a proposed home improvement retail area on the vacant 34-acres west of the Outlets (the Station II).
- East – The I-10 corridor. East of the I-10 corridor on the south side of Jimmie Kerr Boulevard a proposed auction house for agricultural equipment anticipated to operate once a month
- South – The I-8 corridor. South of the I-8 corridor low density residential and the previously proposed Casa Grande Mountain Ranch Development.
- West – Agricultural/undeveloped.

Physical Characteristics

The physical transportation characteristics of the site adjacent roadways consist of the following:

- I-8 and I-10 – The two adjacent freeways that are divided two-lane directional facilities providing access to the Phoenix, Tucson, and Western Arizona/Southern California areas. A full access I-10 interchange exists at Jimmie Kerr Boulevard, which is located about 1-mile north of I-8. Both of its northbound and southbound on/off ramps are located to the north side of Jimmie Kerr. Potential I-8 interchanges to be used by site traffic occurs at Sunland Gin Road east of I-10 and at Trekell Road 3 miles west of I-10.
- Jimmie Kerr Boulevard (SR 84) – A mostly two-lane facility on a northwest/southeast alignment parallel to the Union Pacific Railroad providing access between downtown Casa Grande and the City of Eloy to the east. This roadway is identified as a city principal arterial and has a speed limit of 45 mph near its I-10 interchange and 50/55 mph to the west. Approximate 8-foot wide paved shoulders are provided along the roadway with right and left turn pockets provided at the minor street stop-controlled I-10 On/Off Ramp intersections and the signalized Tanger Drive intersection. Ultimately, this roadway is proposed as a 6-lane facility.
- Trekell Road - A two-lane roadway south of Jimmie Kerr Boulevard and identified as a city principal/regionally significant roadway providing access to

the downtown area of Casa Grande and I-8. The roadway is identified to have a posted speed limit of 50 mph. Until the I-8/Heness Road TI opens, this roadway is anticipated to capture any I-8 traffic to/from the west.

- Peart Road - Identified as a city principal roadway, although south of Jimmie Kerr Boulevard provides access to only a few single family homes, a park, agricultural areas, and low trip generating agricultural businesses. The posted speed limit is identified at 45 mph on this two-lane facility.
- Henness Road, Selma Highway Extension, and Cornman Road south of Jimmie Kerr Boulevard currently do not exist or exist only as unpaved, low-volume agricultural roads.

Site Accessibility

At some point in the future, three ADOT improvement projects are anticipated to occur in the study area that will impact travel patterns to and from the site. None of these projects are currently programmed from review of the most recent 2013-2017 State Transportation Improvement Program (STIP), but are anticipated to occur at some point during the construction cycle of this project. The three ADOT driven projects are:

- I-10 Widening, Early Road to I-8. This project will continue the recent I-8 and I-10 improvement projects to complete the widening of I-10 from two to three lanes per direction. Amongst other improvements, this project will also construct a new interchange at Selma Highway, provide one-way frontage roadways along I-10 between Selma and Jimmie Kerr, and eliminate the existing ramp system at Jimmie Kerr. From discussions with the City of Casa Grande, this project was considered for inclusion in the 2014-2018 STIP, but was left off, likely to return to the program in a 7-10 year time frame. This improvement project is assumed to be in-place for the 2023 analysis year. Soon after the new Selma Highway interchange is constructed, it is anticipated that a County-related project in conjunction with adjacent site development (potentially the Station II development/others) will be undertaken to realign Selma Highway west of I-10 to dip towards the south from its current east/west alignment, crossing Jimmie Kerr and the Union Pacific Railroad (possible grade separated) at a 90 degree angle to join the Selma Highway roadway segment constructed as part of the initial phase of this project. This project is identified as a High/Critical Priority in the 10-year Arterial Streets Capital Improvements Plan of the Streets CIP for New Development and Development Fees – Pinal County.
- I-8/Heness Road Interchange. An interim project to the I-10 Corridor Study improvements that would accelerate the construction of the I-8/Heness Road interchange funded primarily through developer driven construction. This interchange would be constructed to accommodate traffic operations both prior to and after the I-8/I-10 system interchange and construction of the I-8 frontage roads.
- I-10 Corridor Study, Junction I-8 to Tangerine Road. This study has identified needed roadway improvements to address future traffic volume conditions and highway deficiencies that will be exacerbated as part of the future growth of interstate traffic. Improvement aspects include a redesign of the I-8/I-10 system interchange, I-8 frontage roads and a new I-8/Heness Road interchange.

Additionally, the City of Casa Grande has identified major roadway improvements are needed to accommodate a projected increase in traffic volumes along city roadways as highlighted in their 2006 Casa Grande Small Area Transportation Study (CGSATS) conducted by Wilson and Company in July 2007. One improvement identified as part of the 2020 future network need is the widening of Jimmie Kerr Boulevard from Sunland Gin Road to Trekell Road from a two-lane roadway to six lanes. Other roadway improvements are identified in this study along with the expansion of the roadway network in the currently rural/agricultural areas to the west.

Prior to any ADOT or major City/County/Developer improvements to the Jimmie Kerr corridor, two access points are to serve the site at its immediate opening. The first site access point will be via new roadway construction of Cornman Road, Henness Road, and Selma Highway connecting to Peart Road by the developer. This access is to act as the main site entrance and will accommodate the majority of site trips until the I-8/Henness interchange is constructed. The second site access is via Cox Road at the existing Jimmie Kerr/Cox/I-10 southbound on/off ramps intersection. It is anticipated that minimal improvements can be made, when volumes dictate such improvements are required, to help limit vehicle travel along other area roadways trying to access the main entrance.

Prior to I-8/Henness Road TI opening, use of Cox Road in its current/slightly altered state is foreseen to:

- Help eliminate the potential need for significant widen/modification of the Cox Road railroad crossing. Future improvements to the I-10/Jimmie Kerr interchange and construction of the I-8/Henness Road TI will likely modify traffic patterns reducing the effectiveness of any significant improvements to this roadway during this initial phase or until the Jimmie Kerr roadway improvements are undertaken.
- Eliminate potential need for the site to undertake major off-site improvements to I-10/Jimmie Kerr interchange area while also funding construction of the I-8/Henness TI.
- Deter regional motorists from traveling through the City of Casa Grande and along Florence Boulevard to access the site. Use of the I-10/Florence interchange is identified as the shortest travel path to enter the site from I-10 and points north at 3.7 miles (to the Jimmie Kerr/Peart Road intersection). The only other alternative for motorists if unable to use the Cox Road access, would be the I-8/Trekell interchange, an 11.5 mile route between the I-10/Florence interchange and the Jimmie Kerr/Peart intersection.

Delay to major improvements at the Cox Road intersection will provide designers a better understanding of demand conditions such that one-time improvements to the area can be made considering a comprehensive design for the subject site, the ultimate design of Jimmie Kerr Boulevard, and coordination of the proposed I-10 frontage road system.

Once the new I-8/Henness Road interchange is in place, the new interchange becomes the quickest/most direct path for regional traffic, significantly reduces demand at the Cox Road/Jimmie Kerr interchange area, eliminates site-related use of the I-8/Trekell Road TI, and reduces site traffic routing through the City of Casa Grande.

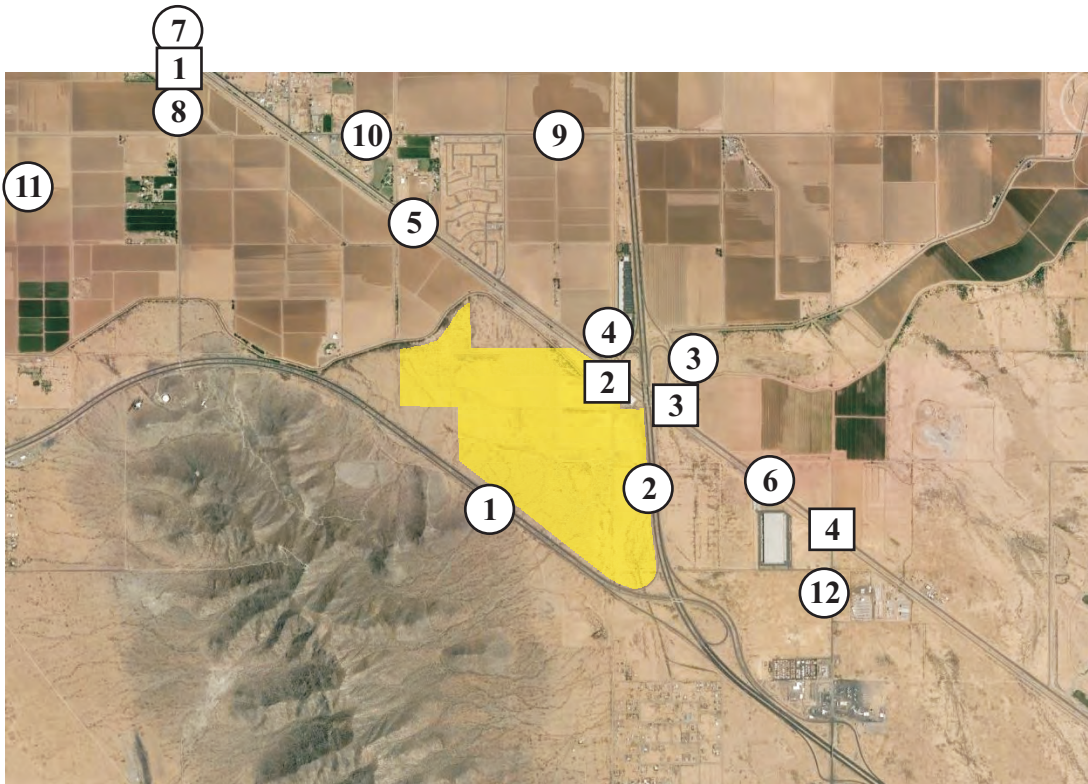
Analysis of Existing Conditions

Traffic Volumes

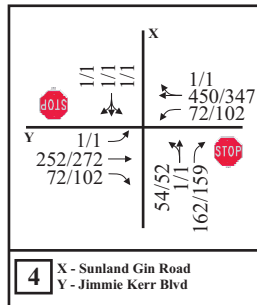
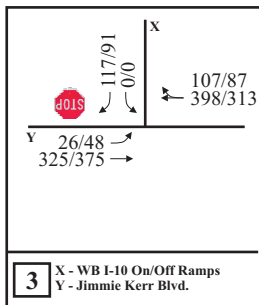
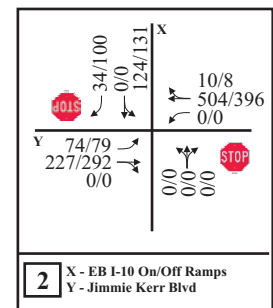
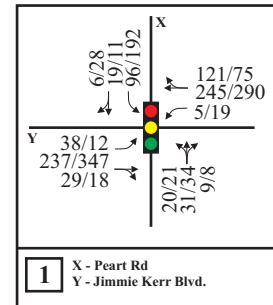
Historical

Historical traffic volumes, in the form of daily (24-hour) and peak hour counts, were obtained for the adjacent roadway segments as reported by the City of Casa Grande, ADOT, or as identified in the Henness Road/I-8 Traffic Interchange report (April 2013) submitted to ADOT by Kimley-Horn. The location of applicable traffic count data for the most recent count year is summarized in **Figure 3**. No new 24-hour volumes have been collected as part of this project.

From additional historical daily count information obtained from the City of Casa Grande for year 2008, the more recent 2011 count data volumes have shown a decrease in volumes. This is somewhat in contrast to results comparing historical ADOT volume data for the I-8 and I-10 freeway segments adjacent to the site. Data collected/shown for 2010 when compared to volumes from 2006 and 2009 (as shown in the Henness Road/I-8 TI report), 2010 volumes are lower by 20 to 25 percent. When comparing 2010 ADOT daily volume data on the I-10 ramps to/from Jimmie Kerr to the 2011 volume collected by the City of Casa Grande, the 2011 volumes are higher than the 2010 ADOT volumes by about 10%. The results of this comparison identify that roadway volumes may have dropped from peak conditions in the late 2000's, but volumes appear to be increasing once again in the area.



	Roadway	Segment	Daily	AM Pk	PM Pk	Source
1	I-8 EB	Trekell to I-10	3,675	230	235	Hennes Road/I-8 TI Report, 2010
	I-8 WB	Trekell to I-10	3,675	210	210	Hennes Road/I-8 TI Report, 2010
2	I-10 EB	Jimmie Kerr to I-8	15,806	1,106	1,217	Hennes Road/I-8 TI Report, 2010
	I-10 WB	Jimmie Kerr to I-8	15,806	1,106	996	Hennes Road/I-8 TI Report, 2010
3	I-10 EB On-Ramp	From Jimmie Kerr	908	84	87	City of Casa Grande, 2011
	I-10 EB Off-Ramp	To Jimmie Kerr	2,085	158	231	City of Casa Grande, 2011
4	I-10 WB On-Ramp	From Jimmie Kerr	1,486	133	135	City of Casa Grande, 2011
	I-10 WB Off-Ramp	To Jimmie Kerr	956	117	91	City of Casa Grande, 2011
5	Jimmie Kerr EB	Selma Hwy. to I-10	5,185	301	371	City of Casa Grande, 2011
	Jimmie Kerr WB	Selma Hwy. to I-10	4,846	490	395	City of Casa Grande, 2011
6	Jimmie Kerr EB	E. of I-10	5,275	295	361	City of Casa Grande, 2011
	Jimmie Kerr WB	E. of I-10	4,787	505	400	City of Casa Grande, 2011
7	Peart NB	N of Jimmie Kerr	2,239	188	193	City of Casa Grande, 2011
	Peart SB	N of Jimmie Kerr	2,428	130	216	City of Casa Grande, 2011
8	Peart NB	S of Jimmie Kerr	668	49	67	City of Casa Grande, 2011
	Peart SB	S of Jimmie Kerr	554	44	48	City of Casa Grande, 2011
9	Selma Highway EB	E. of I-10	623	42	66	City of Casa Grande, 2011
	Selma Highway WB	E. of I-10	673	60	60	City of Casa Grande, 2011
10	Selma Highway EB	E. of Jimmie Kerr	798	52	85	City of Casa Grande, 2011
	Selma Highway WB	E. of Jimmie Kerr	877	79	76	City of Casa Grande, 2011
11	Trekell NB	S of Selma Hwy	1,254	122	88	City of Casa Grande, 2008
	Trekell SB	S of Selma Hwy	1,447	110	132	City of Casa Grande, 2008
12	Sunland Gin NB	S of Jimmie Kerr	2,621	217	212	City of Casa Grande, 2011
	Sunland Gin SB	S of Jimmie Kerr	2,607	144	204	City of Casa Grande, 2011



Turn volumes at this location have been estimated.

Legend

- (X) - Count Location
- ↔ ↔ - Existing Lane Configuration
- XX/XX - AM/PM Peak Hour Volume Estimate



Not to scale

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Existing Traffic Conditions

Figure 3

AM and PM Peak Hour Intersection Count Data

From conversations with the City Engineering Department and ADOT, the need to collect significant intersection turning movement count data was not specifically required as traffic volume levels in the general area are acknowledged to be depressed from prior year levels. The information collected would be of limited value noting any data obtained would require upward seasonal adjustment, would change upon completion of the I-10 ADOT improvements, and the traffic volumes to be generated by the subject site would outweigh the existing/collected volumes along Jimmie Kerr Boulevard. Therefore, use of previously collected traffic data from prior years would be appropriate.

To confirm the traffic volume levels and compare turn movement percentages to previously collected data, a 30-minute turning movement check count was conducted at the Jimmie Kerr Boulevard intersections with the I-10 NB and SB on/off ramps and at the intersection of Jimmie Kerr and Peart Road. From the comparison of count data obtained at the Jimmie Kerr intersection at the I-10 on/off ramps in 2006, the recent 2013 hourly volume entering the intersection was lower by approximately 50% from 2006 peak hour values and 2011 City volume data. This high volume reduction could partially be attributed to the closing of the near-by Outlet mall facility (driveway located 450 feet west of this intersection at the signalized intersection of Tanger Drive) in addition to the seasonal variation component.

Noting data can be skewed when very low volumes are adjusted through an overall growth factor, existing AM and PM peak hour intersection turning movement volumes at Jimmie Kerr with the I-10 ramps and at Peart Road were calculated by taking the 2011 daily traffic volumes as collected by the City and applying a turn movement percent based on collected volume data from 2006 or from the 2011 volume data. The results of these calculations are shown in the bottom half of Figure 3 along with the identified lane configurations and traffic control. These volumes will be used as the existing turn movement conditions for these intersections. Other intersections in the area along Jimmie Kerr Boulevard are not identified to be major intersections, highlighted as being low volume locations at “t-type” minor-street stop controlled intersections (a result of access to I-10 and I-8 available via other routes to and from the residential and commercial areas of Casa Grande). The only other signalized intersection in the study area is the intersection of Jimmie Kerr with Tanger Drive, virtually having negligible turn volume demand with the closing of the outlet mall which will not be analyzed for the existing condition. The intersection of Jimmie Kerr and Sunland Gin has been added at the request of the City. Volume distribution at this location has been estimated due to a lack of intersection turn movement volume data found for this location.

Capacity Analysis of Existing Conditions

For the existing AM and PM peak hour conditions, the two study area intersections were analyzed based on the methodologies presented in the Highway Capacity Manual 2010 and evaluated using the Synchro software package (version 8). To provide an indication of intersection performance, signalized and unsignalized intersections are typically reported in terms of levels of service (LOS). The analysis of signalized intersections is based on the approach control delay, which includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay for all movements. Unsignalized stop-controlled intersection analysis is based on the minor street approach

or critical movement, whichever is applicable. The capacity criteria for signalized and unsignalized intersection analysis are presented in **Table 1**.

Table 1. Level of Service Criteria for Signalized/Unsignalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	
	Signalized	Unsignalized
A	≤10.0	≤10.0
B	>10.0 and ≤20.0	>10.0 and ≤15.0
C	>20.0 and ≤35.0	>15.0 and ≤25.0
D	>35.0 and ≤55.0	>25.0 and ≤35.0
E	>55.0 and ≤80.0	>35.0 and ≤50.0
F	>80.0	>50.0

Source: *Highway Capacity Manual, HCM 2010*, Transportation Research Board, 2000.

Additional performance measures such as volume to capacity (v/c) ratios and queue lengths also provide an indication of operations. For example, at two-way stop controlled intersections, main street traffic volumes may impose longer average delays for a small number of side-street vehicles, thus creating vehicle delays which correspond to a poor level of service. Motorists and agencies will typically accept longer delays (LOS E or F) if gaps in the traffic stream are anticipated within a reasonable timeframe and the side street traffic volumes do not warrant a traffic signal. As a general guide, gap acceptance thresholds for the longer delay values can be defined when the v/c ratios are under 0.80, which corresponds to 80 percent capacity usage for that movement. Therefore, a traffic movement with a poor level of service and a v/c value under 0.80 will be considered as operating acceptably.

As part of the City Small Area Transportation Study, daily roadway capacities were based on roadway functional class and level of service based on maximum volume-capacity ratios. The following capacities and LOS used in that report are indicated below:

<u>Functional Classification</u>	<u>Daily Per Lane Capacity</u>	<u>LOS</u>	<u>Maximum V/C</u>
Arterial	8,700	A	0.30
Collector	7,500	B	0.54
Freeway Ramps	8,000	C	0.75
		D	0.90
		E	1.00
		F	>1

In review of City and ADOT guidelines, the City of Casa Grande requires intersections and roadways that operated at LOS D or better without the development must be mitigated back to LOS D with site traffic. Where the highway/intersection will operate below LOS D in the horizon year(s) without the development traffic, the traffic impact of the development will be mitigated to provide the same LOS at the horizon year(s).

ADOT has similar mitigation requirements, but requires mitigation to LOS C instead of LOS D identified by the City.

Using the AM and PM peak hour traffic volumes, the intersection controls and lane configurations shown in Figure 4 along with estimated signal timing inputs from field observation at the Jimmie Kerr/Peart intersection, and use of peak hour factors as identified by ADOT, the information from both intersections were input in the Synchro V8 software program to determine operational conditions for the existing study intersections. The results of the 2013 existing conditions are shown in **Table 2**. All capacity output sheets are contained in the appendix.

Table 2. Intersection Capacity Analysis Summary, Existing Conditions

Intersection / Movement	EXISTING CONDITIONS							
	AM Peak				PM Peak			
	LOS	Delay	V/C	Queue	LOS	Delay	V/C	Queue
<i>Int 1. Jimmie Kerr / Peart (S)</i>								
EB Left	B	13.9			B	18.3		
EB Thru/Right	B	17.7	<50		B	15.7	<50	
WB Left	B	10.6	150		B	19.1	261	
WB Thru/Right	B	18.0	<50		B	15.7	<50	
NB Left/Thru/Right	B	16.1	254		B	19.7	249	
SB Left	B	12.4	<50		B	11.1	<50	
SB Thru/Right	B	14.7	62		B	19.4	134	
SB Thru/Right	B	12.0	<50		A	7.2	<50	
<i>Int 2. Jimmie Kerr / Cox / I-10 EB On/Off Ramps (MSS)</i>								
EB Left	A	9.1	<50		A	8.6	<50	
EB Thru/Right	-	-	-		-	-	-	
WB Left	-	-	-		-	-	-	
WB Thru/Right	-	-	-		-	-	-	
NB Left/Thru/Right	-	-	-		-	-	-	
SB Left/Thru	F	63.3	0.77	130	F	59.3	0.79	148
SB Right	B	12.3	<50		B	11.8	<50	
<i>Int 3. Jimmie Kerr / I-10 WB On/Off Ramps (MSS)</i>								
EB Left	A	8.8	<50		A	8.5	<50	
EB Thru	-	-	-		-	-	-	
WB Thru/Right	-	-	-		-	-	-	
SB Left	-	-	-		-	-	-	
SB Right	B	13.5	<50		B	11.7	<50	
<i>Int 4. Jimmie Kerr / Sunland Gin (MSS)</i>								
EB Left	A	8.5	<50		A	8.1	<50	
WB Left	A	8.1	<50		A	8.2	<50	
NB Left/Thru	C	22.3	<50		C	22.0	<50	
NB Right	B	10.8	<50		B	11.0	<50	
SB Left/Thru/Right	C	19.9	<50		C	19.3	<50	

Notes: (S) = Signal, (MSS) = Minor Street Strop
V/C shown if LOS E or F
Queue is the reported 95th percentile length in feet

From the results shown in Table 2, the following can be identified:

- This signalized intersection of Jimmie Kerr and Peart is identified to operate in an overall acceptable service level (LOS D or better) in both the AM and PM peak hours with all individual movements operating at LOS B or better.
- At the I-10 stop controlled ramps, the only movement identified to operate at an elevated delay level is the Eastbound (southbound) I-10 Off-ramp left turn movement to eastbound Jimmie Kerr. Both AM and PM peak hours are identified to operate at a LOS F with v/c ratios just under 0.80, identifying acceptable operation.
- All movements at the Jimmie Kerr and Sunland Gin intersection are estimated to operate in an acceptable manner in both the AM and PM peak hours

Safety

Crash Data

Crash data has been received from ADOT Risk Management for 2009, 2010, and 2011. A collision summary for the study area has been summarized in **Figure 4** with the crash database information provided in the appendix.

Figure 4 – Crash Summary

Study Area Crash Summary						
Year		2009	2010	2011		
Number		15	9	16		
Location		2009	2010	2011		
Jimmie Kerr	Pearl	5	7	6		
Jimmie Kerr	Trekell	0	0	1		
Jimmie Kerr	I-10 Ramp A	4	1	6		
Jimmie Kerr	I-10 Ramp J	1	1	3		
I-10 Ramp A	I-10	3	0	0		
Jimmie Kerr	S. of Henness	1	0	0		
Pearl	S. of Jimmie Kerr	1	0	0		
Collision Manner		2009	2010	2011		
Single Vehicle		4	3	5		
Rear End		6	3	5		
Side Swipe Same Direction		2	0	2		
Side Swipe Opposite Direction		0	0	1		
Angle, Not Left		0	1	2		
Angle, Left Turn		0	1	1		
Roll Over		1	0	0		
Unknown		1	0	0		
Other		1	1	0		
Light Condition		2009	2010	2011		
Daylight		11	6	9		
Dawn		1	1	0		
Dusk		0	1	0		
Dark		1	1	5		
Dark, Lighted		2	0	2		
		2009	2010	2011		
Day of Week		2009	2010	2011		
Sun		0	0	3		
Mon		5	2	4		
Tue		0	1	1		
Wed		1	1	1		
Thur		2	1	2		
Fri		7	3	1		
Sat		0	1	4		
		2009	2010	2011		
Month of Year		2009	2010	2011		
Jan		0	2	0		
Feb		0	0	1		
Mar		2	0	2		
Apr		2	3	1		
May		1	0	2		
Jun		2	0	1		
Jul		0	1	0		
Aug		1	0	2		
Sept		1	1	3		
Oct		3	0	0		
Nov		1	1	3		
Dec		2	1	1		
		2009	2010	2011		
Hour of Day		2009	2010	2011		
00:00 to 6:00		3	0	4		
6:00 to 11:00		3	2	0		
11:00 to 15:00		3	1	4		
15:00 to 19:00		6	4	5		
19:00 to 00:00		0	2	3		

Background Conditions

Roadway Improvement Projects

The following roadway improvement projects have been identified for the study area and will be considered as part of the background roadway improvements for the associated analysis year. The agency, source, and information regarding the projects are identified below:

Near Term (2013 to 2018)

None.

Mid-Term (2018 to 2023)

1. City of Casa Grande (from the *CGSATS*) - Jimmie Kerr Boulevard widening from two-lanes to 6-lanes between Sunland Gin and Peart Road.
2. City of Casa Grande (from the *I-8/Heness Road TI Change of Access Report*) - Peart Road connector providing a one-mile connection between Henness Road to Peart Road along the Selma Highway alignment and include the extension of Henness Road from the TI to Selma Highway (FY 2018 and beyond). Part of this construction is identified as part of the Phase 1 construction for the subject site. It will be assumed that Selma Road will be constructed to a 4-lane facility for this time period.
3. Pinal County (*Streets CIP for New Developments and Development Fees*) – Fee development based on the improvement of 34 lane-miles of Selma Highway in IFA 2, which includes the roadway section west of I-10 (a 6-10 year construction time frame noted). It will be assumed that Selma Road will be constructed to a 4-lane facility by the end of 2023.
4. ADOT – Although not identified in any currently funding source, it was identified by the City of Casa Grande Engineering Department that it is likely the I-10 improvements widening project (I-10 Widening, Early Road to I-8) will get identified as a viable project. Improvements impacting the site include construction of the Selma Highway Interchange and the conversion of I-10/Jimmie Kerr On/Off Ramps to one-way frontage roads. At this time it is also likely that Selma Highway will be extended/connected between the new interchange across the Union Pacific Railroad to meet with the Selma Road extension (to be constructed by the City).

Long-Term (2023 to 2030)

1. ADOT – (from the *I-8/Heness Road TI Change of Access Report*) – The construction of a new I-8/I-10 system interchange with new I-8 frontage roads and the I-8/Heness Road interchange.

Non-Site Traffic Forecasting

Background traffic growth is typically estimated by using the existing traffic volumes as a base and elevating them to analysis year levels by applying an estimated average annual growth rate typically defined through historical traffic volume trends or as projected

through a transportation plan. From the 2006 CGSATS, daily volume graphics for the study area arterial roadways were identified for the projected 2010, 2020, and 2030 networks. Volumes were compared for the projected 2010 and 2020 network conditions with the results indicating significant traffic volume increases throughout the entire City, including a calculated yearly growth projection along Jimmie Kerr Boulevard just west of I-10 at 6.7 percent per year (25,000 to 48,000 vpd).

A closer review of the CGSATS traffic analysis zones (TAZ) and the socio-economic data used to generate the model volumes for the study area identified employment data was underrepresented in the TAZ that makes up the subject site as compared to the subject site projections for all projected years. However, no attempt has been made to obtain the original traffic model or adjust model volumes downward to eliminate the potential double counting of trips generated from this site.

From discussions with the City Traffic Engineer, the growth projections within the CGSATS report were developed near the peak of the economic growth cycle during in the mid-2000's and are an over-representation of volume conditions for the identified year. The I-8/Henness Change of Access Report has also identified this volume anomaly and assumed the 2030 volume estimates within the CRSATS were for 2040. Assuming an additional 10-year horizon for the CGSATS, the average yearly traffic growth for the two Jimmie Kerr Boulevard roadway segments on either side of the I-10 between existing 2013 volumes and 2040 conditions is still an average yearly growth rate of 5.5 percent (existing 10,000 vpd on Jimmie Kerr, 2040 estimates of 51,000 and 74,000 vpd over 27 years). The CGSATS 2030 results indicate LOS F conditions along Jimmie Kerr Boulevard in the area of the subject site and therefore projecting both background and total traffic volumes along this roadway in both background and total traffic conditions will likely result in poor operations..

The City has identified the following projects near the subject site that have the potential of developing in the very near future. At this time, no specific traffic impact study has been provided for the first three projects listed, but the following information is noted:

1. An auction house, SEC of Jimmie Kerr Boulevard and I-10. This site is to auction large machinery, farm-related equipment, and other associated items. This site is only projected to be open during weekend periods and not projected to have a significant impact to study area traffic volumes.
2. The Station, NWC of Jimmie Kerr Boulevard and I-10. This project is to redevelop the existing 187,000 SF outlet mall area as a destination for home improvement type offerings. For the purposes of trip generation, this site will be considered a Factory Outlet Center.
3. The Station II, west of the Station off of Jimmie Kerr Boulevard. A 34-acre retail area with a hotel and multi-family residential on-site.
4. Casa Grande Mountain Ranch South, the sister property to the current subject property located on the south side of I-8 and east of I-10. A traffic report has been previously provided for this site (by Lee Engineering, 2006) and is identified to be a viable project noting over 2,300 residential housing units along with commercial, a resort hotel, and specialty retails areas is projected that would

supplement the growth of the subject site. In total, this site is estimated to generate a daily total of 38,000 trips.

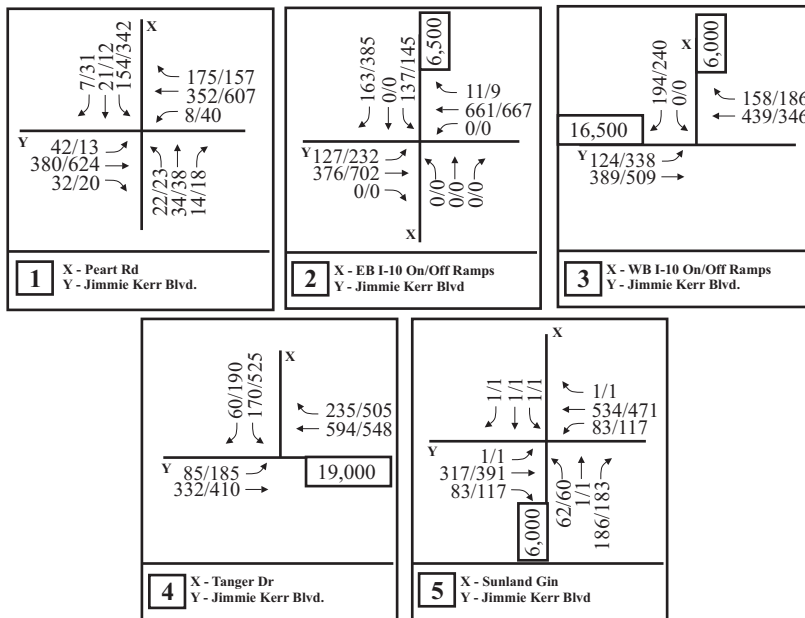
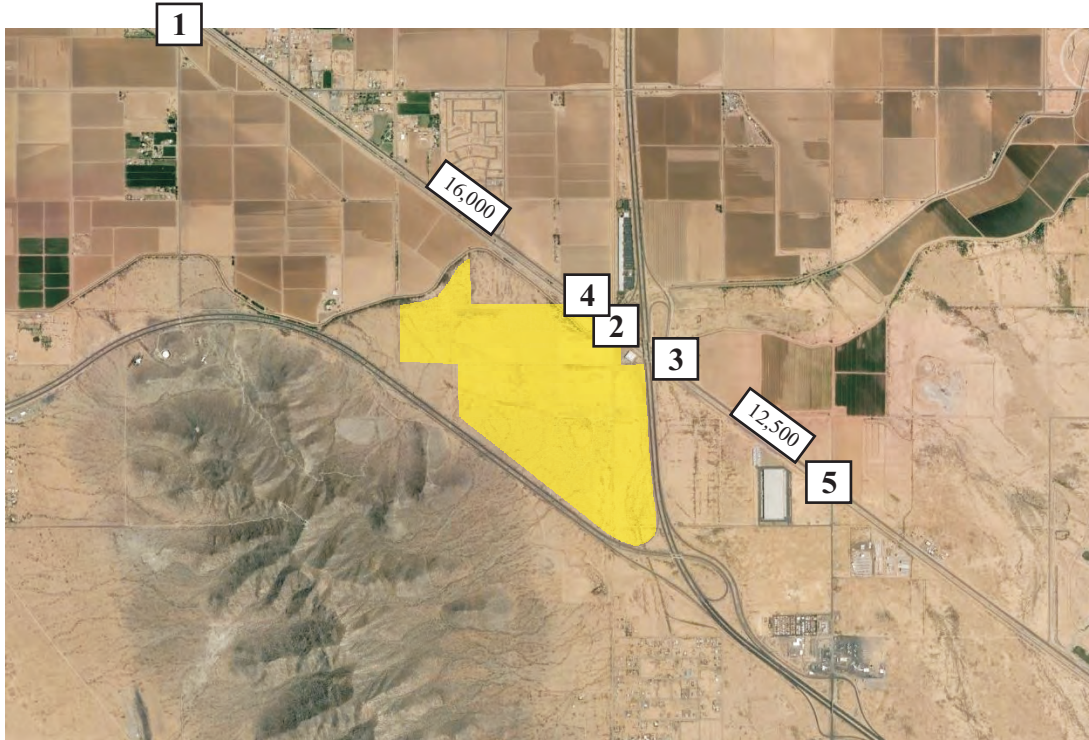
The total estimated trip generation for developments 2, 3 and 4 above are estimated in **Table 3** (detailed estimates provided in appendix). For the purposes of this analysis, it will be assumed that the Station and the Station II developments will be constructed and operating at full build-out capacity for 2018. It will be assumed that the Casa Grande Mountain Ranch South, partially dependent upon employment of the subject site, will be assumed for 50% occupancy in 2023 and its full site-related trips included as part of the 2030 arterial network projected in the CGSATS.

Table 3. Trip Generation Estimate of Adjacent Developments

Development	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
The Station	3,444	63	23	86	140	156	296
The Station II	11,864	235	192	427	504	511	1015
Casa Grande Mountain Ranch Development - South	37788	1345	1517	2862	1805	1755	3560

2018 Non-Site Background Condition

For the purposes of projecting a more realistic 2018 background volume estimate for the study area (as opposed to using the 2020 CGSATS estimates), a growth rate of 2% per year from existing conditions will be used as a background traffic growth rate along with adding the volume projections from other adjacent developments (Station and Station II). It is assumed that both the Station and Station II will have access to the existing traffic signal at Jimmie Kerr and Tanger Drive (75% of total) and also Selma Highway (25% of total). **Figure 5** estimates the daily, AM peak hour and PM peak hour volumes for the 2018 Non-Site Background Conditions.



Legend

- X - Intersection Location
- ↖ ↗ ↘ - Movement
- XX/XX - AM/PM Peak Hour Volume Estimate
- X,XXX - Daily Volume

Note: Some rounding may have occurred and volumes between intersection may not flow.



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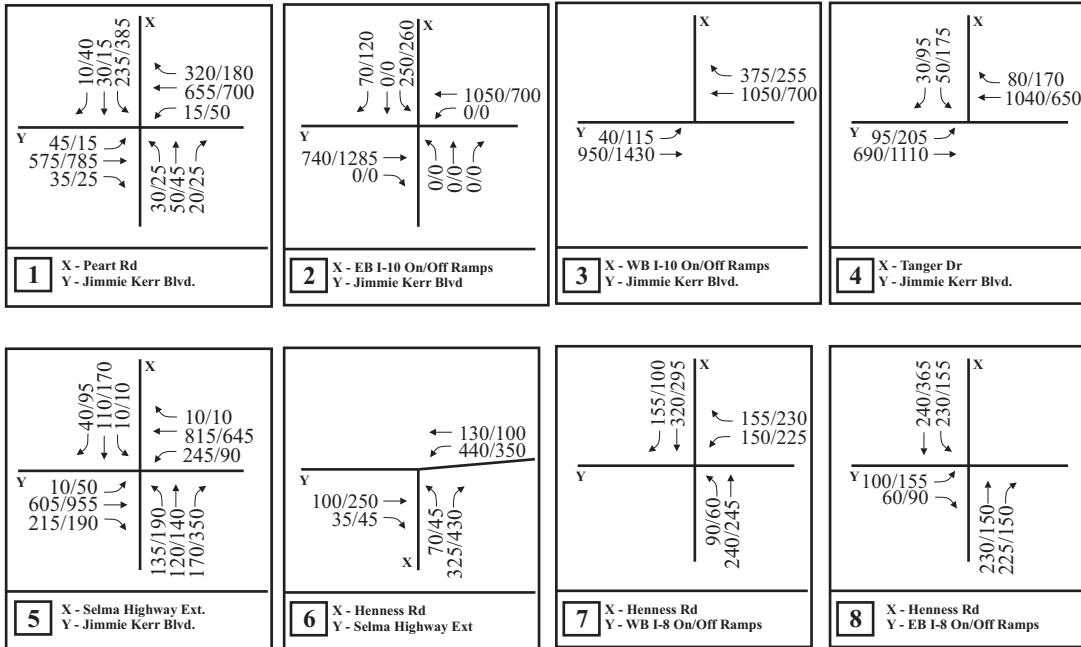
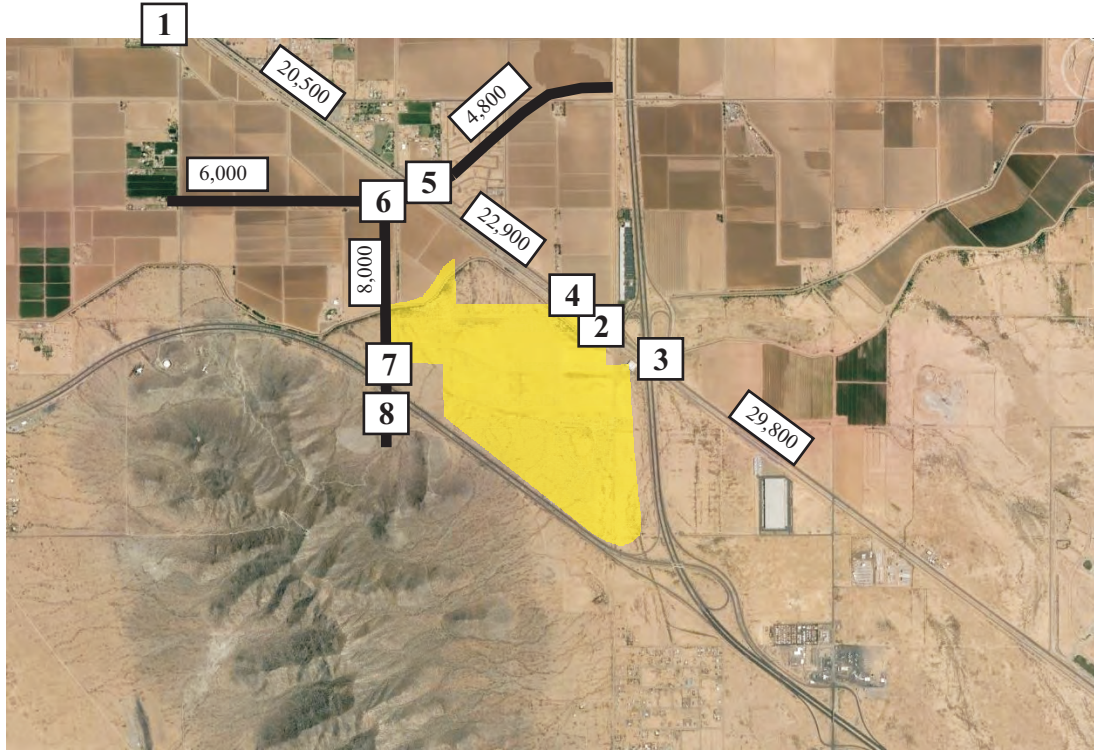
2023 Non-Site Background Condition

For this time period, the Casa Grande Mountain Ranch Development just south of the site and I-8 will be assumed to be 50% constructed along with the Mid-term roadway improvements and the up-grade of Jimmie Kerr Boulevard to a six-lane facility. To determine background traffic conditions, traffic volumes identified within the CGSATS (Figure B-6) for the 2030 condition were used as a base prior to adjustments since this CGSATS network map appeared to be the only network that includes the I-10 interchange at Selma Highway, assumed I-10/Jimmie Kerr ramp modifications, and an I-8/Henness Road interchange. To adjust the 2030 network to 2023 conditions, the following adjustments were made:

1. Noting previous growth projections within the CGSATS were assumed to be high for the horizon year (2040 estimate assumed) traffic volumes on the roadway network were reduced by 5.5 percent per year for 17 years (total reduction of 60%).
2. A Selma Highway link volume between I-10 and Peart Road equal to 4,800 daily vehicles matching the volume estimate for this roadway west of Jimmie Kerr Boulevard (after 60% reduction).
3. A reduction of Henness Road traffic north of I-8 to 8,000 (as indicated in the 2020 roadway network), a volume that appears to account for some traffic generated south of I-8.
4. Addition of one-half the trips generated from the Casa Grande Mountain Ranch Development – South (which also has connection to Arica/Sunland Gin) estimated at 15% to/from Henness north, 25% to/from I-8 east, and 10% to/from I-8 west (total trips for this estimate = 19,000 daily).

Review of the Henness/I-8 Traffic Interchange by Kimley-Horn and the I-8/Henness TI Change of Access Report did identify a traffic scenario for this time frame, but only assumed it would serve the local developments (no background traffic/no Henness Road connection to the north) and therefore no volume validation from these reports can be provided.

Figure 6 estimates the daily, AM peak hour and PM peak hour volumes for the 2023 Non-Site Background Conditions. Peak hour volumes are based on an 8% K-factor and a 60/40 distribution to the freeways in the AM and away from the freeways in the PM. Turn movements at intersections are based on current turn percentages, volumes and percentages identified from the original Casa Grande Mountain Ranch Development – South (2006) for the I-8/Henness interchange, and other assumptions to flow the Jimmie Kerr corridor between Selma and I-10. When comparing the daily volumes associated with the 2018 background conditions along Jimmie Kerr to 2023, daily volumes show an increase of about 5 percent per year for the segments west of I-10 but a significant increase in volume east of I-10 (19 percent per year), an indication of planned developments east of I-8/I-10 currently unknown at this time.



Legend

- X - Intersection Location
- ↖ ↗ ↘ - Movement
- XX/XX - AM/PM Peak Hour Volume Estimate
- X,XXX - Daily Volume Estimate before Casa Grande Mountain Ranch - South development



Not to scale

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2030 Non-Site Background Condition

To estimate 2030 arterial volumes, the 2023 estimates were grown by 3 percent per year for 7 years (+23 percent) in addition to the assumption that the Casa Grande Mountain Ranch Development South will be fully occupied and is generating 100% of its trip ends. Additional growth of the Peart Road and Selma highway corridors were also assumed permitting reduction in growth of Jimmie Kerr to match directional segment volumes. As part of the roadway network, it is assumed that the I-8/I-10 system interchange is complete which provides an I-8 westbound frontage road along the site frontage connecting to the I-8/Hennessy ramp network. **Figure 7** estimates the daily, AM peak hour and PM peak hour traffic volumes for the 2030 Non-Site Background Conditions.

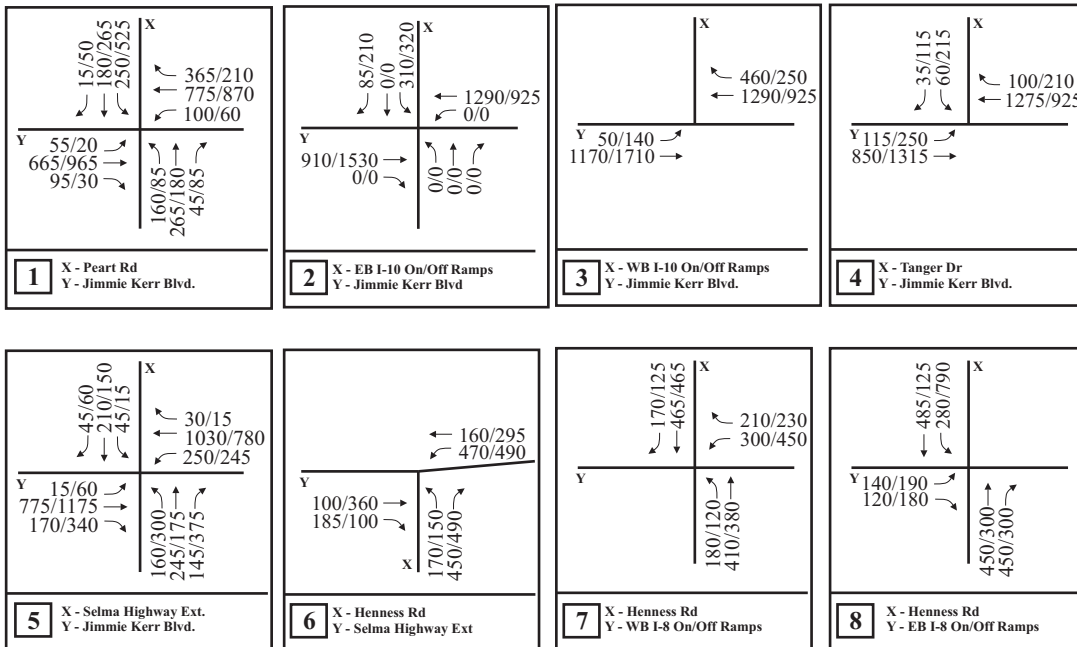
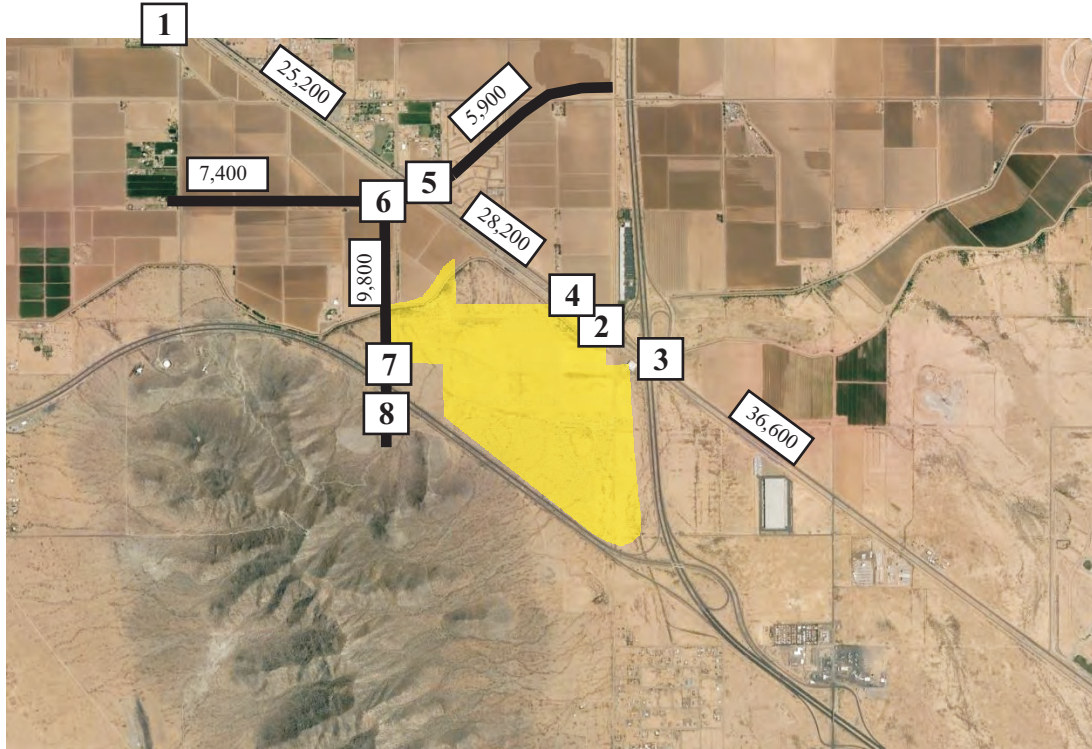
Capacity Analysis of 2018 Non-Site (Background) Conditions

Noting that no roadway improvements are identified for the study area, the same roadway network used in the existing conditions analysis was used for this analysis. Traffic volumes shown in Figure 5 were substituted into the appropriate peak hour Synchro file and the results analyzed. Output results are summarized in **Table 4**. Individual output sheets provided in the Appendix.

The results of Table 4 indicate:

- The signalized intersections of Jimmie Kerr with Peart and Tanger both operate with an overall LOS D or better in both the AM and PM peak hours. However, some individual movements are identified to operate at LOS E with v/c ratios near 1.0 and 95th percentile queues exceeding 500 feet, with the westbound queue extending into the I-10 EB On/Off intersection.
- At the minor street stop controlled intersection of the I-10 EB Off-Ramp at Jimmie Kerr, the southbound (EB Off-Ramp) through/left movement is identified to operate at LOS F in both the AM and PM peak hours. This movement is identified to operate with a v/c ratio of 1.9 and a 95th percentile vehicle queue in excess of 450 feet (about 18 vehicles).
- At the minor street stop controlled intersection of the I-10 WB Off-Ramp, movements are identified to operate in an acceptable manner under existing lane configuration and vehicle control.
- At Jimmie Kerr and Sunland Gin, the northbound left turn movement is identified to operate at LOS E and F respectively in the AM and PM Peak hour. However, with a v/c ratio below 0.80 during both peak hours, the movement is identified to operate in an acceptable manner.

In addition, some segments of Jimmie Kerr Boulevard exceed daily volume capacities associated with a 2-lane arterial roadway. Since widening is required, the ultimate full-width 6-lane arterial design should be constructed.



Legend

- X - Intersection Location
- ↖ ↗ ↘ - Movement
- XX/XX - AM/PM Peak Hour Volume Estimate
- X,XXX - Daily Volume Estimate before Casa Grande Mountain Ranch - South development



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Table 4. Capacity Analysis Summary – 2018 Background Conditions

Intersection / Movement	2018 BACKGROUND							
	AM Peak				PM Peak			
	LOS	Delay	V/C	Queue	LOS	Delay	V/C	Queue
<i>Int 1. Jimmie Kerr / Peart (S)</i>	C	22.2			D	38.4		
EB Left	B	18.4		<50	D	37.0		<50
EB Thru/Right	B	17.7		301	C	31.6		599
WB Left	B	17.9		<50	D	39.4		54
WB Thru/Right	C	29.2		395	C	31.8		785
NB Left/Thru/Right	B	12.0		<50	C	21.7		66
SB Left	B	18.1		95	E	74.5	0.98	413
SB Thru/Right	B	11.9		<50	B	11.9		<50
<i>Int 2. Jimmie Kerr / Cox / I-10 EB On/Off Ramps (MSS)</i>								
EB Left	B	10.2		<50	A	9.6		<50
EB Thru/Right	-	-		-	-	-		-
WB Left	-	-		-	-	-		-
WB Thru/Right	-	-		-	-	-		-
NB Left/Thru/Right	-	-		-	-	-		-
SB Left/Thru	F	>300	1.92	455	F	>300	1.90	483
SB Right	C	17.7		<50	B	15.0		<50
<i>Int 3. Jimmie Kerr / I-10 WB On/Off Ramps (MSS)</i>								
EB Left	A	9.8		<50	A	9.2		<50
EB Thru	-	-		-	-	-		-
WB Thru/Right	-	-		-	-	-		-
SB Left	-	-		-	-	-		-
SB Right	C	17.8		58	B	13.9		<50
<i>Int 4. Jimmie Kerr / Tanger Dr (S)</i>	B	18.5			D	43.6		
EB Left	A	6.6		<50	C	22.7		125
EB Thru	A	6.4		102	B	13.8		218
WB Thru	C	29.9		468	E	73.6	1.02	574
WB Right	A	6.0		58	B	18.9		256
SB Left	C	30.4		123	E	76.8	1.03	558
SB Right	A	7.8		<50	B	18.3		117
<i>Int 5. Jimmie Kerr / Sunland Gin (MSS)</i>								
EB Left	A	8.7		<50	A	8.5		<50
WB Left	A	8.3		<50	A	8.7		<50
NB Left/Thru	E	37.0	0.58	83	F	50.5	0.68	108
NB Right	B	11.7		<50	B	12.6		<50
SB Left/Thru/Right	D	25.8		<50	D	29.4		<50

Notes: (S) = Signal, (MSS) = Minor Street Strop

V/C shown if LOS E or F

Queue is the reported 95th percentile length in feet

Mitigation – 2018 Background Conditions

The following mitigation is required to improve operational conditions at the study intersections and to reduce approach queue. The operation of the study intersections under the mitigated conditions are shown in **Table 5**.

- Constructed Jimmie Kerr Boulevard to its ultimate design of 3-lanes in each direction as outlined in the CGSATS for 2020 between Sunland Gin Road and

Peart Road. This will improve operations at the signalized intersections at Peart Road and at Tanger Drive.

- Add a second southbound to eastbound left turn lane at Tanger Drive to accommodate the projected 525 outbound vehicles during the PM peak hour.
- Install signal control at the Jimmie Kerr/I-10 EB On/Off-ramp at a minimum (signalization at the I-10 WB On/Off ramps not necessary at this time). Construct the I-10 EB Off-Ramp approach to Jimmie Kerr to two-lanes for a minimum 300 feet to accommodate 95th percentile queue.
- At the Jimmie Kerr/Sunland Gin Road intersection, improvements are not necessary for this scenario.

Table 5. Capacity Analysis Summary – 2018 Background Conditions, Mitigated

Intersection / Movement	2018 BACKGROUND - MITIGATED			
	AM Peak		PM Peak	
	LOS	Delay	LOS	Delay
Int 1. Jimmie Kerr / Peart (S)	B	10.9	C	20.1
Int 2. Jimmie Kerr / Cox / I-10 EB On/Off Ramps (S)	A	9.9	B	15.2
Int 3. Jimmie Kerr / I-10 WB On/Off Ramps (MSS)				
EB Left	B	14.0	C	21.0
EB Thru	-	-	-	-
WB Thru/Right	-	-	-	-
SB Left	-	-	-	-
SB Right	C	16.0	C	16.8
Int 4. Jimmie Kerr / Tanger Dr (S)	A	8.1	B	16.6

Capacity Analysis of 2023 Non-Site (Background) Conditions

For this condition, it is assumed that the ADOT I-10 widening project has been funded and constructed, City planned Jimmie Kerr widening to six lanes has taken place (identified as a needed improvement for Year 2020 conditions in the CGSATS) and County planned completion of the I-10/Selma Highway interchange along with its connection to the Selma Extension south of the Union Pacific Railroad (at Henness Road) complete.

Intersection AM and PM LOS analysis for this condition have been prepared based on the volumes shown in Figure 6, but rely on turn movement volumes estimates that may not be appropriate. Conditions at the intersection of Jimmie Kerr and Sunland Gin have not been reviewed as significant changes to volume conditions at this location will have taken place with the elimination of the I-10 westbound off ramp to Jimmie Kerr, opening of the I-8/Henness interchange, and significant growth projections indicated above. Roadway segment LOS has also been prepared for the roadway links adjacent to the subject site, based on roadway capacity values and v/c ratio chart identified previously. Both overall intersection and roadway level of service results are provided below in **Table 6.**

Table 6. Capacity Analysis Results – 2023 Background Conditions

Intersection LOS

Intersection	AM/PM LOS
Jimmie Kerr at Peart	B/C
Jimmie Kerr at I-10 EB Frontage	A/A
Jimmie Kerr at I-10 WB Frontage	A/A
Jimmie Kerr at Tanger	A/A
Jimmie Kerr at Selma Highway	C/C
Selma Highway at Henness	A/B
Henness at I-8 WB On/Off Ramp	A/B
Henness at I-8 EB On/Off Ramp	A/A

Roadway Segment LOS

Roadway Segment	Background Volume (daily)	Adj. Development Volume (daily)	Total Volume	Facility Capacity	V/C	LOS
Jimmie Kerr East of Peart	20,500	2,000	22,500	52,200	0.43	B
Jimmie Kerr East of Selma	22,900	400	23,300	52,200	0.45	B
Jimmie Kerr East of Tanger	-	27,600	27,600	52,200	0.53	B
Jimmie Kerr East of I-10	29,800	400	30,200	52,200	0.58	B
Selma W of I-10	4,800	400	5,200	30,000	0.17	A
Selma W of Henness	6,000		6,000	30,000	0.20	A
Henness S of Selma	8,000		8,000	30,000	0.27	A
I-8 WB On-Ramp	-	2,000	2,000	8,000	0.25	A
I-8 WB Off-Ramp	-	5,700	5,700	8,000	0.71	C
I-8 EB On-Ramp	-	3,800	3,800	8,000	0.48	B
I-8 EB Off-Ramp	-	3,100	3,100	8,000	0.39	B

The results shown in Table 6 indicate that the ultimate roadway cross-section identified for the study area adjacent roadways can accommodate the 2023 background volumes in an appropriate manner. The intersection analysis also indicates that the intersections can accommodate the turn movement estimates identified for the 2023 background conditions.

Capacity Analysis of 2030 Non-Site (Background) Conditions

Intersection AM and PM LOS analysis for this condition have been prepared based on the volumes shown in Figure 7, but rely on turn movement volumes estimates that may not be appropriate. Roadways were assumed for their ultimate cross-section design with one or two left turn lanes and exclusive right turn lanes. Roadway segment LOS has also been prepared for the roadway links adjacent to the subject site, based on roadway capacity values and v/c ratio chart identified previously. Both overall intersection and roadway level of service conditions are provided in **Table 7**.

Table 7. Capacity Analysis Results – 2030 Background Conditions

Intersection LOS

<u>Intersection</u>	<u>AM/PM LOS</u>
Jimmie Kerr at Peart	C/D
Jimmie Kerr at I-10 EB Frontage	A/A
Jimmie Kerr at I-10 WB Frontage	A/A
Jimmie Kerr at Tanger	A/A
Jimmie Kerr at Selma Highway	C/C
Selma Highway at Henness	B/B
Henness at I-8 WB On/Off Ramp	B/B
Henness at I-8 EB On/Off Ramp	A/A

Roadway Segment LOS

<u>Roadway Segment</u>	<u>Background Volume (daily)</u>	<u>Adj. Development Volume (daily)</u>	<u>Total Volume</u>	<u>Facility Capacity</u>	<u>V/C</u>	<u>LOS</u>
Jimmie Kerr East of Peart	25,200	3,600	28,800	52,200	0.55	C
Jimmie Kerr East of Selma	28,200	1,000	29,200	52,200	0.56	C
Jimmie Kerr East of Tanger	-	27,600	27,600	52,200	0.53	C
Jimmie Kerr East of I-10	36,600	1,000	37,600	52,200	0.72	C
Selma W of I-10	5,900	1,000	6,900	30,000	0.23	A
Selma W of Henness	7,400		7,400	30,000	0.25	A
Henness S of Selma	9,800	4,200	14,000	30,000	0.47	B
I-8 WB On-Ramp	-	3,100	3,100	8,000	0.39	B
I-8 WB Off-Ramp	-	8,500	8,500	8,000	1.06	F
I-8 EB On-Ramp	-	6,100	6,100	8,000	0.76	D
I-8 EB Off-Ramp	-	4,600	4,600	8,000	0.58	C

Where daily volumes are unknown, PM peak hour assumed to be 8% of daily traffic.

The results shown in Table 7 identify that all intersections and roadway segments are identified to operate in an acceptable manner. The only roadway segment showing poor operation is the I-8 westbound off-ramp indicating that the daily ramp volume estimate is projected to exceed capacity of a single lane off-ramp. With a maximum peak hour ramp volume estimated at 680 vehicles, a one-lane exit ramp is identified to be acceptable.

Projected Traffic

Site Traffic Forecasting

Trip Generation

The first step in estimating traffic from the proposed development is to calculate trip generation, which is the total vehicle trips to and from the site over a given time period. To estimate the site's trip generation characteristics, *Trip Generation, Ninth Edition*, published by the Institute of Transportation Engineers (ITE) 2012, was used to calculate average weekday daily total, AM peak hour, and PM peak hour number of trips. The data in this publication is categorized by land use types. The land use categories (LUC) that would be applicable to the proposed site in each phase were based on information received from the client:

- Phase 1: 5,504,895 SF, Corporate Headquarters (LUC #714)
- Phase 2: 114,998 SF, Shopping Center (LUC #820)
673,873 SF Business Park (LUC #770)
737,253 SF Light Industrial (LUC #110)
666,468 SF Garden Offices (LUC #710)
196,020 SF Light Industrial + Garden Office (evenly divided
between light industrial and garden office)
- Phase 3: 1,477,773 SF Light Industrial (LUC #110)

Based on the use of the fitted curve equations to estimate the traffic associated with each land use, by phase, is presented in **Table 8**. Also provided are the AM peak hour, PM peak hour and daily total totals for the site for each analysis year.

Table 8. Trip Generation Estimate

Trip Generation by Land Use

Description	Phase	Phase 2				Phase 3			
	Lot No.	41-43	1, 2, 17, 18	15, 16, 19-32	3-14, 37-40, 45-50, 55, 56, 62, 63	33-36, 51-54, 57-59			
Land Use	Office	Commercial	Bus. Park	Garden Office	Gen Lt. Indus	Gen Lt. Indus			
ITE Land Use Code	714	820	770	710	110	110			
ITE Land Use Title	Corporate Headquarters	Shopping Center	Business Park	Gen Office Bldg	Gen Lt. Indust	Gen Lt. Indust			
Land Use Variable	1000 GFA	1000 GLA	1000 GFA	1000 GFA	1000 GFA	1000 GFA			
Variable Amount	5504.895	114.998	673.873	764.478	835.263	1477.773			
Weekday	$\text{Ln}(T)=0.97\text{Ln}(X)+2.23$	42.7	$T=10.62(X)+715.61$	$\text{Ln}(T)=0.76\text{Ln}(X)+3.68$	$T=7.47(X)-101.92$	$T=7.47(X)-101.92$			
AM Peak Hour	$\text{Ln}(T)=0.96\text{Ln}(X)+0.60$	0.96	$\text{Ln}(T)=0.97\text{Ln}(X)+0.49$	$\text{Ln}(T)=0.80\text{Ln}(X)+1.57$	$T=1.18(X)-89.28$	$T=1.18(X)-89.28$			
PM Peak Hour	$\text{Ln}(T)=0.88\text{Ln}(X)+0.98$	3.71	$\text{Ln}(T)=0.90\text{Ln}(X)+0.85$	$T=1.12(X)+78.45$	$T=1.43(X)-157.36$	$T=1.43(X)-157.36$			
Weekday	50%	50%	50%	50%	50%	50%			
AM Peak Hour	93%	62%	85%	88%	88%	88%			
PM Peak Hour	10%	48%	26%	17%	12%	12%			
Percentage of Intra-Site Trips ⁽¹⁾	5%	15%	5%	5%	5%	5%			
Intra-Site Trips	Weekday	1,977	737	394	308	307	1,746	547	4,270
	AM Peak Hour Inbound	331	11	39	43	40	133	73	537
	AM Peak Hour Outbound	25	6	7	6	5	24	10	59
	PM Peak Hour Inbound	27	31	11	8	7	57	12	96
	PM Peak Hour Outbound	234	33	31	39	45	148	86	468
Out of Area Trips	Weekday	37,560	4,174	7,479	5,852	5,831	23,336	10,390	71,286
	AM Peak Hour Inbound	6,280	58	731	815	750	2,354	1,384	10,018
	AM Peak Hour Outbound	472	36	128	110	102	376	188	1,036
	PM Peak Hour Inbound	495	174	203	151	118	646	223	1,364
	PM Peak Hour Outbound	4,462	189	577	737	867	2,370	1,635	8,467
Total Trips	Weekday	39,537	4,911	7,873	6,160	6,138	25,082	10,937	75,556
	AM Peak Hour Inbound	6,611	69	770	858	790	2,487	1,457	10,555
	AM Peak Hour Outbound	497	42	135	116	107	400	198	1,095
	PM Peak Hour Inbound	522	205	214	159	125	703	235	1,460
	PM Peak Hour Outbound	4,696	222	608	776	912	2,518	1,721	8,935

Notes:
 1 To account for portion of trip generation made between individual lots within the site as a whole
 Source: Trip Generation Manual, 9th Ed, Institute of Transportation Engineers, 2012.

Trip Generation by Phase

		Opening Year, 2018	5-Year Horizon, 2023	Full Build-out, 2030
		P1=20%, P2=20%, P3=10%	P1=70%, P2=50%, P3=35%	P1, P2, P3 = 100%
Intra-Site Trips	Weekday	799	2,448	4,270
	AM Peak Hour Inbound	100	324	537
	AM Peak Hour Outbound	11	33	59
	PM Peak Hour Inbound	18	52	96
	PM Peak Hour Outbound	85	268	468
Out of Area Trips	Weekday	13,218	41,597	71,286
	AM Peak Hour Inbound	1,865	6,057	10,018
	AM Peak Hour Outbound	188	584	1,036
	PM Peak Hour Inbound	251	748	1,364
	PM Peak Hour Outbound	1,530	4,881	8,467
Total Trips	Weekday	14,018	44,045	75,556
	AM Peak Hour Inbound	1,965	6,381	10,555
	AM Peak Hour Outbound	199	617	1,095
	PM Peak Hour Inbound	269	799	1,460
	PM Peak Hour Outbound	1,615	5,149	8,935

Mode Split

Based on the location of the site, all trips are assumed to arrive via private transportation and no reduction for transit, bike, or walk modes assumed.

From the ITE description of each land use, no identification is provided as to the percentage of trips generated by truck traffic. Data contained within the ITE *Trip Generation Handbook*, 2nd Edition, identifies an AM and PM truck generation rate (based on study in Fontana, California) for warehousing/light industrial land uses per 1,000 SF of gross floor area ranging from 0.01 to 0.05. Since the light industrial land use generates about 1 trip per 1,000 SF, 5% of all peak hour trips from the Light Industrial land use will be assumed as trucks. This portion of site traffic is assumed to travel along the most direct route between the site and interstate freeway system and will have a different distribution pattern than non-truck vehicles.

Intra-site Traffic

Because of the expanse size of the site, there is an assumption of some multi-point travel internal to the site (i.e., private courier services, maintenance activity, car pool, food services, trips between other land use facilities). To account for this interaction, a 5% assumption of total trips for the office/industrial land uses was assumed while a 15% assumption for the shopping center land use assumed. These trips are to be subtracted from the trip total to and from the site identified as intra-site trips, but accounted for along the internal roadway network.

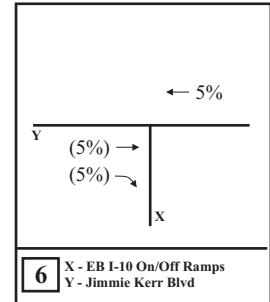
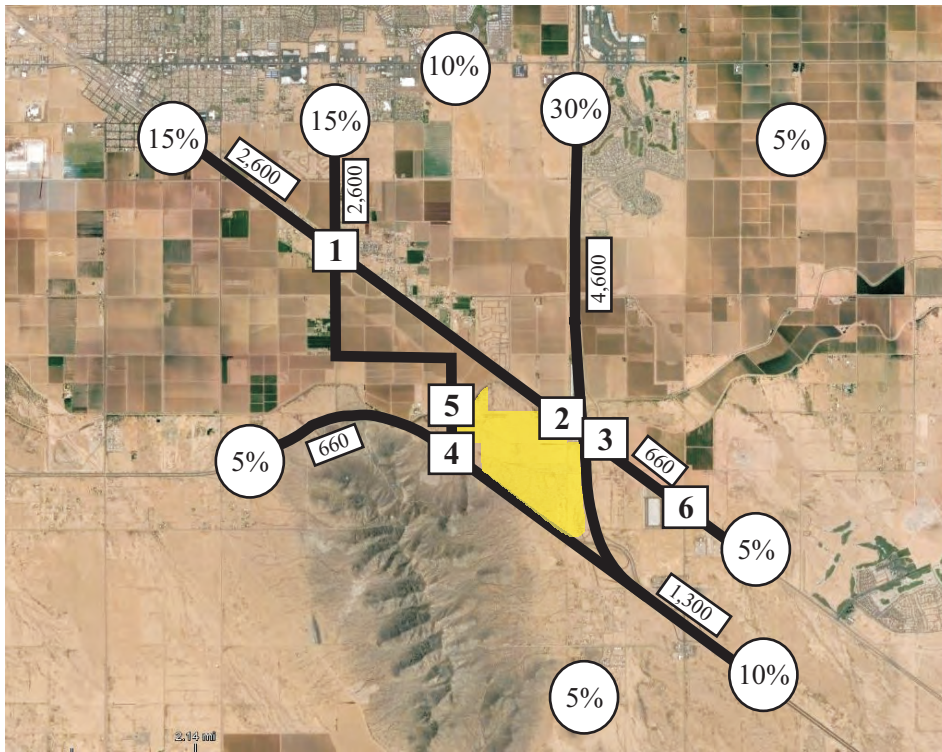
Pass-by Traffic

Due to the nature of the subject site and low volume conditions of the area, no reduction for pass-by trips were assumed. It is assumed that all trips being generated by the subject site will be new traffic.

Site Traffic Distribution – Opening Year

Distribution patterns for site traffic have been based loosely on a gravity model type method, considering adjacent population centers divided by the square of the distance between the site and population center. Percentages were then adjusted slightly to reduce the draw from the Casa Grande area by adding allocating 5 percent to I-10 west, I-10 east, and I-8 west then rounding to the nearest 5 percent. The top half of **Figure 8** identifies the estimated distribution percentage for traffic approaching and departing the site for the opening year the site based and as identified below.

- I-10 West (Phoenix, Chandler, Gilbert): 30%
- I-10 East (Tucson, points east): 10%
- I-8 West (Gila Bend, points west) 5%
- SR 84 East (Eloy) 5%
- Sunland Gin/South (Arizona City) 5%
- SR 287, E/W Roadway (Coolidge/Florence) 5%
- Local (Casa Grande) 40%

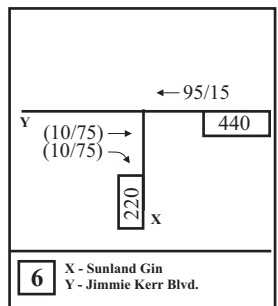


	Percent	Volume
1	<p>X - Peart Rd Y - Jimmie Kerr Blvd.</p>	<p>X - Peart Rd Y - Jimmie Kerr Blvd.</p>
2	<p>X - EB I-10 On/Off Ramps Y - Jimmie Kerr Blvd</p>	<p>X - EB I-10 On/Off Ramps Y - Jimmie Kerr Blvd</p>
3	<p>X - WB I-10 On/Off Ramps Y - Jimmie Kerr Blvd.</p>	<p>X - WB I-10 On/Off Ramps Y - Jimmie Kerr Blvd.</p>
4	<p>X - Henness Rd Y - I-8 On/Off Ramps</p>	<p>X - Henness Rd Y - I-8 On/Off Ramps</p>
5	<p>X - Henness Rd Y - Cornman (site access)</p>	<p>X - Henness Rd Y - Cornman (site access)</p>

Legend

- XXX% - Vehicle Distribution Percentage
- X - Count Location
- XX/XX - AM/PM Peak Hour Volume Est. inbound (outbound)
- X,XXX - Daily Volume

Interim Condition Note:
 Prior to the opening of the I-8/Henness Interchange, motorists from I-10 east and I-8 west are anticipated to use the Trekel interchange and motorists from Arizona City/South anticipated to use Chuichu/Trekel Roads. A percentage of these motorists are then anticipated to travel over unpaved roads (Selma Highway) to gain site entrance. The reverse routing is expected upon site exit. Also, motorists from the north (I-10 west) will use the least delayed option between Florence Boulevard and Jimmie Kerr to access Peart Road and the site. None of the above interim routing options are favorable and acceleration of the I-8/Henness Interchange should be accelerated as quickly as possible.



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**Distribution and Assignment
2018 Opening Year**

Figure 8

Site Traffic Assignment – 2018 Opening Year

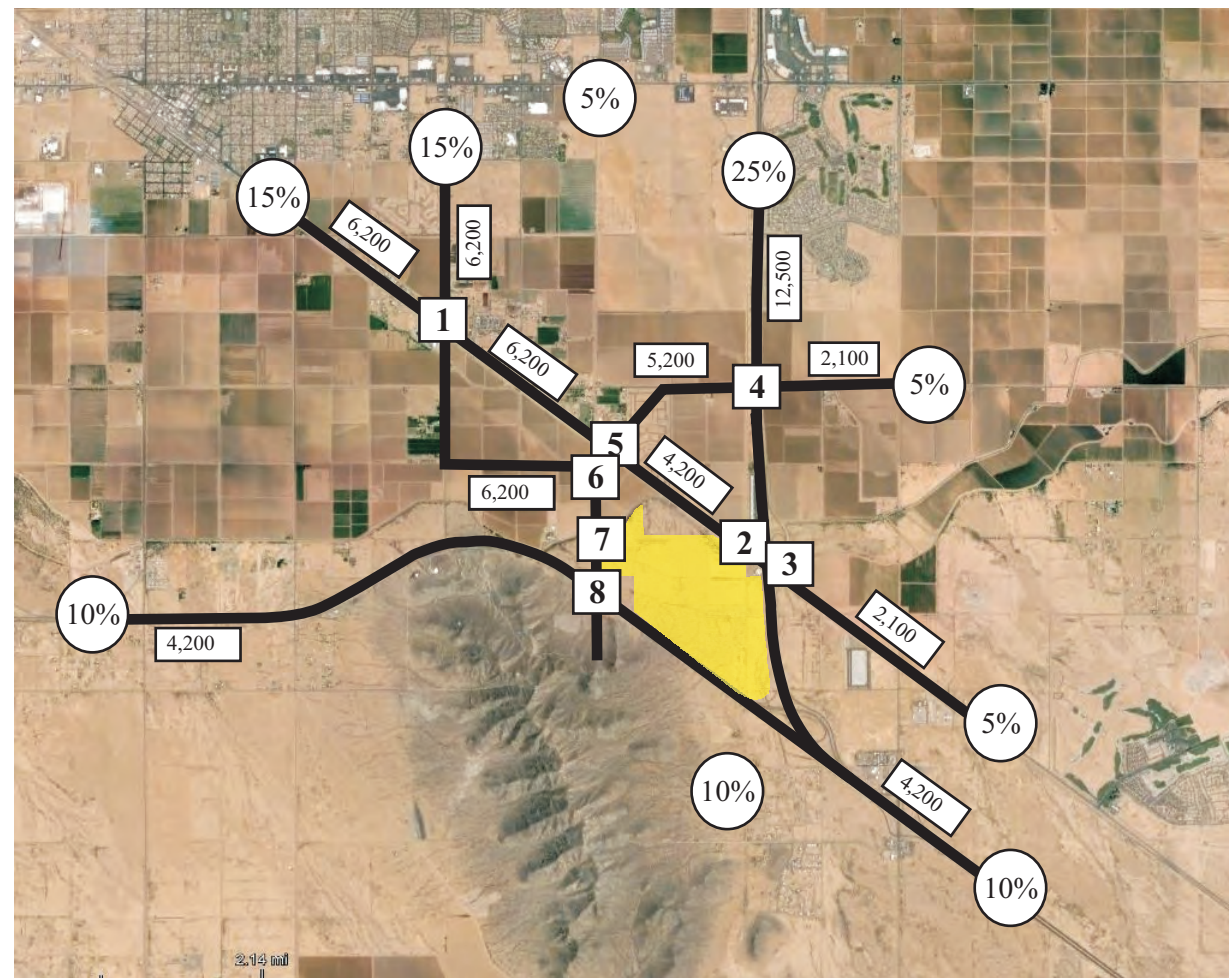
The assignment of the site-generated trips onto the adjacent roadway network were based on the circulation within the site, location of construction phases, ease of access to the adjacent network and turn movements allowed at each access point with the understanding that the I-8/Henness Road Interchange is to be accelerated as quickly as possible and belief that minimal improvements the Cox Road approach at Jimmie Kerr Boulevard to permit right-in/right-out only operation can be accomplished as an interim condition can continue as a viable access alternative for the site into the future. The AM and PM peak hour traffic assignment into and out of the subject site is shown in the bottom half of Figure 8.

Prior to the opening of the Henness interchange, it is not anticipated that the Cox Road access will be utilized/changed until improvements to Jimmie Kerr Boulevard is conducted by the City and/or improvements to the I-10 ramps are needed by ADOT. At that time, it is anticipated that right-in/right-out movements will be permitted to minimize routing concerns and minimize costs of possible rail crossing (maintain two-lane crossing) improvements that may be required of the site. However, if major improvements to the rail crossing are required, the ultimate, maximum capacity cross-section design should be considered at this time.

In this interim scenario, motorists from the east on I-10 (and I-8 west) are anticipated to use the Trekell Road interchange or if originating from the Arizona City area south, Chuichu/Trekell Roads to access the site. Some motorists will likely utilize unpaved roads from Trekell (Selma Highway) to gain site access as this would be a quicker, more direct path as opposed to traveling north to Jimmie Kerr then to Peart south. A similar return route for these motorists can be anticipated. Motorists approaching from the north on I-10 eastbound will likely utilized the least delayed option of Florence Boulevard or Jimmie Kerr to access Peart Road south and the subject site entrance.

Site Traffic Distribution/Assignment – 2023 5-Year Horizon

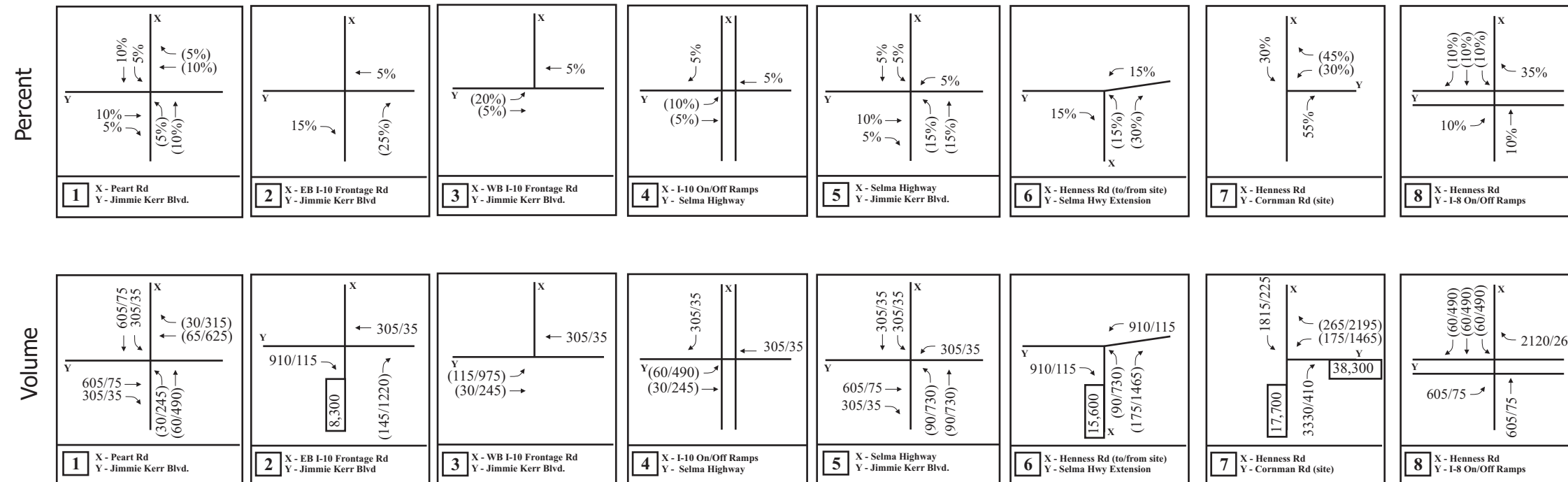
With the projected growth in the study area and changes to the roadway network, the distribution of traffic approaching and departing the site is expected to shift slightly, increasing from the west and south by 5 percent (a partial result of the Casa Grande Mountain Ranch Development just south of the subject site and other likely developments in the currently rural areas west), reducing the distribution to/from the areas north. **Figure 9** identifies the site traffic distribution and the AM, PM and daily assignment for the 2023 horizon year.



Legend

- XX% - Vehicle Distribution Percentage
- X - Count Location
- XX/XX - AM/PM Peak Hour Volume Est. inbound (outbound)
- X,XXX - Daily Volume

Note: Of the 30% vehicles arriving from the north (25% + 5%), 5% enter via Selma the other 25% via I-8/Hennessy TI

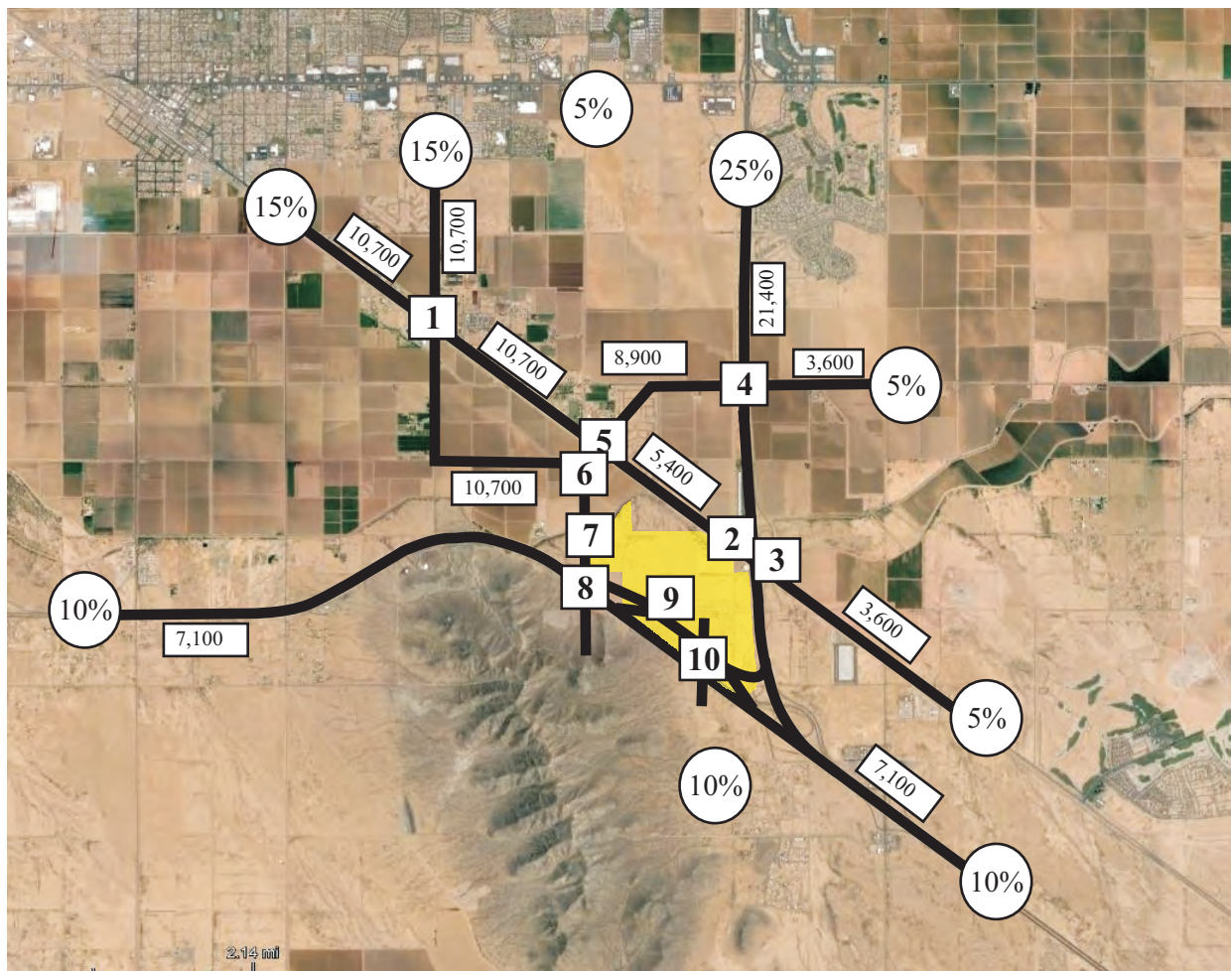


Site Traffic Distribution/Assignment – 2030 (Build-out)

The distribution of the site traffic for this time period is assumed to be similar to the 2023 condition. However, as part of the improvements to the I-8/I-10 system interchange and I-8 westbound frontage road along with site access off of the frontage road and an planned underpass of I-8 to the development on the south side of I-8 will impact approach and departure routes. **Figure 10** identifies the site traffic distribution and AM, PM and daily assignment for the 2023 horizon year.

Total Traffic

The projected daily and AM and PM peak hour total traffic volumes for the study area intersections and approach roadways were calculated from adding the background traffic volumes to the appropriate site-generated volumes. **Figures 11, 12 and 13** show the total traffic conditions for the 2018, 2023 and 2030 analysis years. Because peak hour turn movement volumes are highly subjective in the 2030 condition, only the daily volume totals are provided for the adjacent arterial roadways along with site-generated AM/PM peak hour volumes at the site access points.

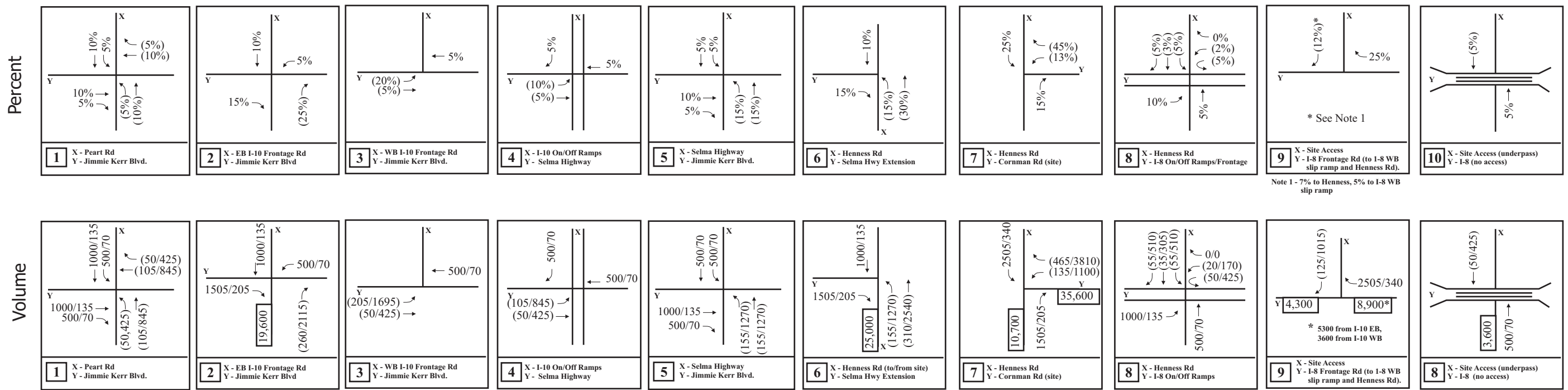


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Legend

- XX% - Vehicle Distribution Percentage
- X - Count Location
- XX/XX - AM/PM Peak Hour Volume Est. inbound (outbound)
- X,XXX - Daily Volume

Note: Of the 30% vehicles arriving from the north (25% + 5%), 5% enter via Selma, 10% via I-10 Frontage/Cox, the remaining 15% to the I-8 Frontage Road direct access driveway

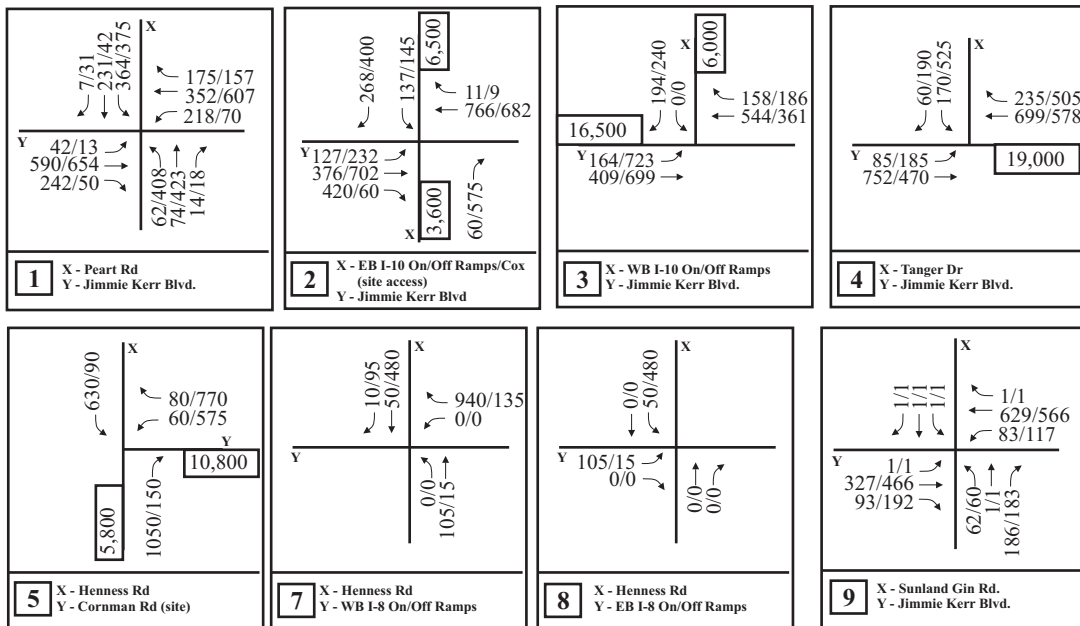
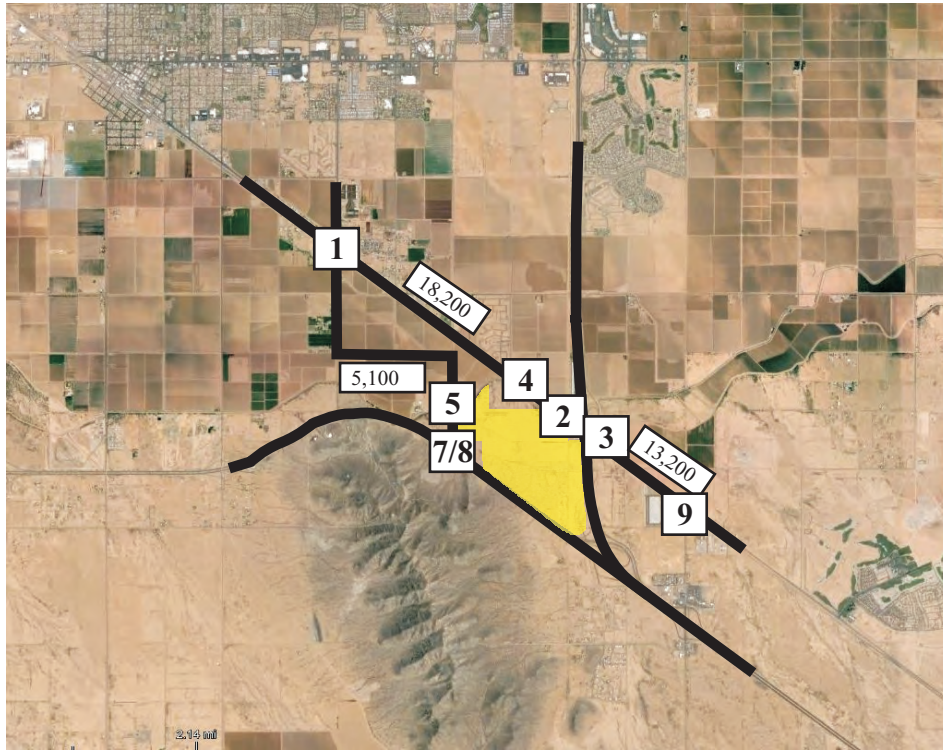


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**Distribution and Assignment
Build-out, 2030**

Figure 10



Legend

X - Count Location

XX/XX - AM/PM Peak Hour Volume Est.

X,XXX - Daily Volume



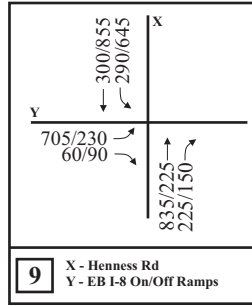
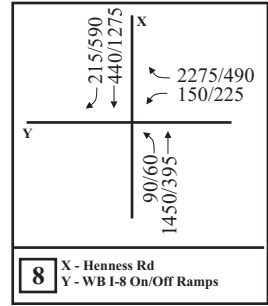
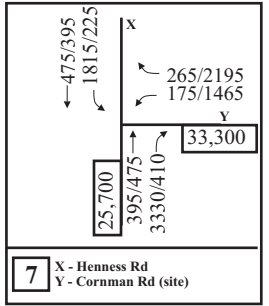
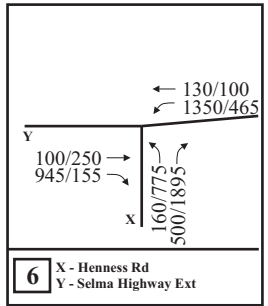
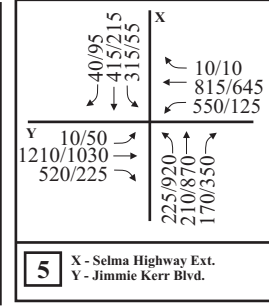
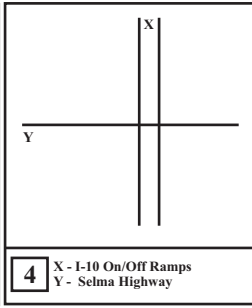
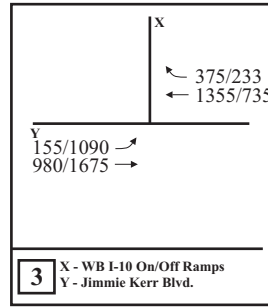
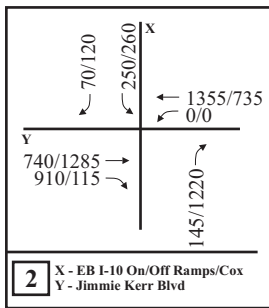
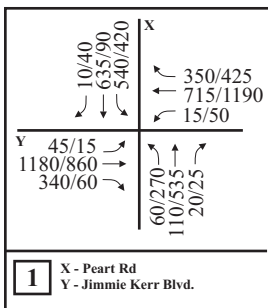
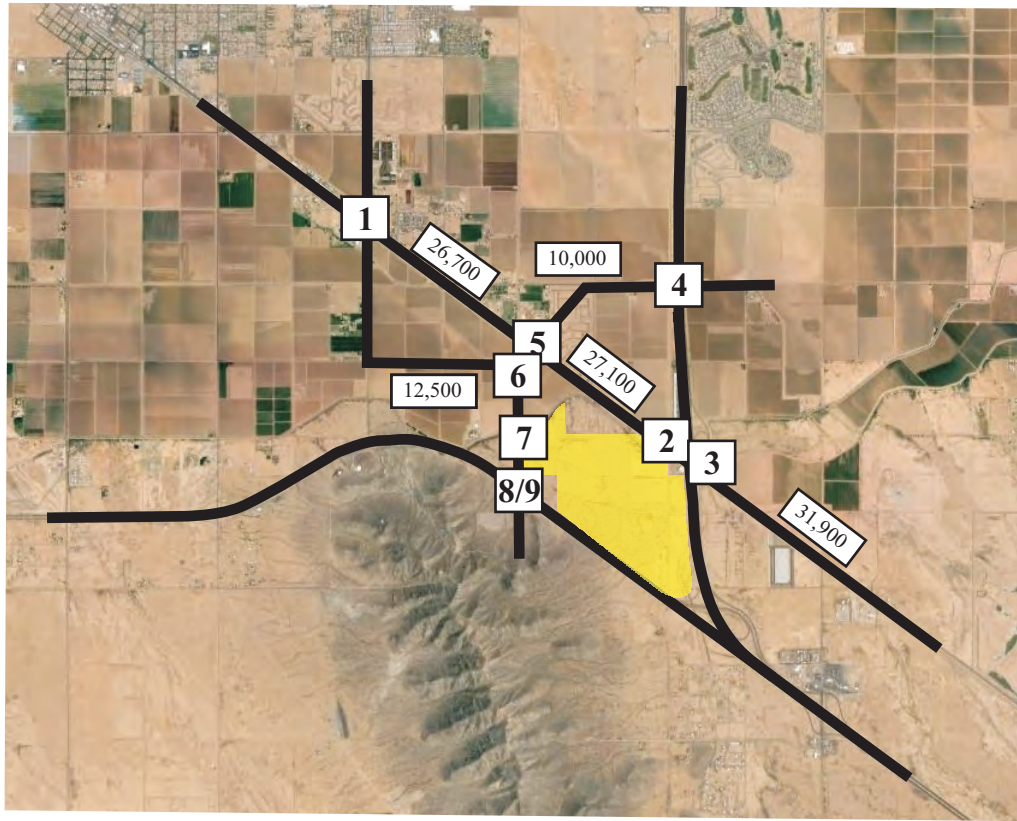
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2018 Total Traffic

Figure 11



Legend

- X - Count Location
- XX /XX - AM/PM Peak Hour Volume Est.
- X,XXX - Daily Volume

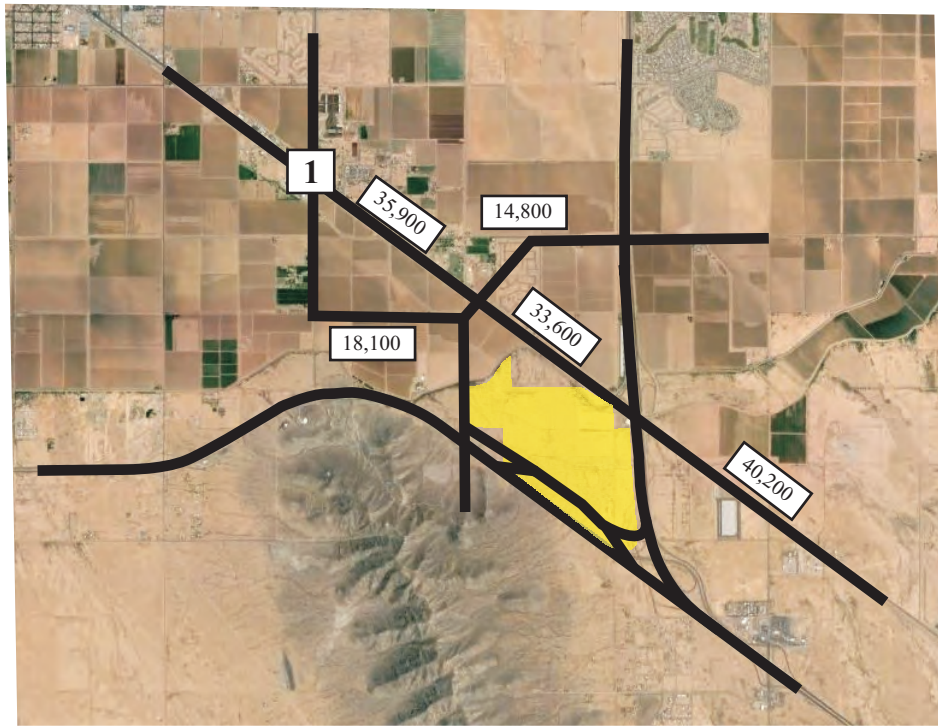
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2023 Total Traffic

Figure 12



	AM PEAK HOUR		PM PEAK HOUR	
	INBOUND	OUTBOUND	INBOUND	OUTBOUND
1	4010	600	545	4910
2	3005	260	410	2115
3	500	50	70	425
4/5	2505	125	340	1015

Legend

-  - Roundabout Intersection
-  - Signal Controlled Intersection
-  - Minor-Street Stop Controlled Intersection
-  - Access Point
-  - Roadway cross-section (4-lane)
-  - Daily Volume



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2030 Total Traffic

Figure 13

Traffic Operations Analysis

Capacity Analysis of 2018 Total Conditions

Noting the 2018 background conditions were analyzed with a widened Jimmie Kerr Boulevard (6-lanes) and signalization of the Jimmie Kerr/I-10 On/Off Ramps, improvements to the Cox Road site access are also anticipated. Since site development is responsible to construct the roadway access to its west and advance the I-8/Hennessy TI, site impacts to the Cox Road access to/from Jimmie Kerr were attempted to be minimized. The Cox Road access (south leg opposite the I-10 EB Off-Ramp at Jimmie Kerr has been assumed to be constructed as a right-in/right-out only access to help reduce site-related traffic from using the I-10 EB Off-ramps in its current condition, helping to minimize congestion, the need for ramp widening, and the need for significant improvements to the Cox Road rail crossing south of Jimmie Kerr especially if the improvements being planned by ADOT for the I-10 frontage road system is to relocate the eastbound and westbound frontage road intersections to a different location to maximize vehicle progression along Jimmie Kerr while also considering any impacts associated with the existing traffic signal at Tanger Drive.

Traffic volumes shown in Figure 11 were substituted into the appropriate peak hour Synchro file and the results analyzed along with reviewing the daily traffic volumes on the adjacent roadways. Individual Synchro output sheets are provided in the appendix and the results of the intersection and roadway capacity analyses are summarized in **Table 9**.

Table 9. Capacity Analysis Summary – 2018 Total Traffic Conditions
Intersection LOS

Intersection / Movement	2018 TOTAL							
	AM Peak				PM Peak			
	LOS	Delay	V/C	Queue	LOS	Delay	V/C	Queue
Int 1. JKB / Peart (S)	C	29.5			C	33.5		
EB Left	D	40.2	56		D	37.1		<50
EB Thru/Right	C	28.4	198		D	37.0		198
WB Left	D	54.0	209		D	43.8		78
WB Thru/Right	B	15.6	97		C	25.1		227
NB Left	B	19.3	50		B	16.5		185
NB Left/Thru/Right	C	33.5	90		D	52.4		375
SB Left	D	35.1	272		D	42.2		325
SB Thru/Right	D	36.6	191		B	16.6		<50
Int 2. JKB/Cox/I-10 EB On/Off Ramps (S)	A	9.5			B	18.9		
EB Left	B	14.6	103		C	30.5		212
EB Thru	A	6.7	<50		A	8.6		120
EB Right	A	2.4	<50		A	2.7		<50
WB Left	-	-	-		-	-		-
WB Thru/Right	A	8.5	97		A	8.3		67
NB Right (see note 1)	A	0.2	<50		D	37.3		384
SB Left	C	28.4	128		C	28.8		135
SB Right	B	15.4	120		C	25.3		271
Int 3. JKB / I-10 WB On/Off Ramps (S)	A	7.9			B	18.3		
EB Left	A	9.0	55		C	33.3		290
EB Thru	A	2.4	<50		A	2.7		<50
WB Thru/Right	B	12.4	114		C	26.4		159
SB Left (see note 2)	-	-	-		-	-		-
SB Right	A	1.5	0		A	0.9		<50
Int 4. JKB / Tanger Dr (S)	A	7.4			B	17.4		
EB Left	A	4.0	<50		A	8.7		76
EB Thru	A	3.2	54		A	6.4		55
WB Thru	A	5.3	139		B	17.7		138
WB Right	A	1.3	<50		A	7.8		154
SB Left	D	41.3	81		D	39.7		208
SB Right	B	12.1	<50		B	17.3		100
Int 5. Henness / Cornman (S)	A	12.7			A	8.3		
WB Left	B	18.1	<50		B	15.2		174
WB Right	A	6.1	<50		A	4.1		<50
NB Thru (see note 2)	-	-	-		-	-		-
NB Right	A	4.8	<50		A	0.2		<50
SB Left	B	15.3	351		B	13.5		<50
SB Thru (see note 2)	-	-	-		-	-		-
Int 7. Henness / I-8 WB On/Off Ramps (S)	A	2.5			A	3.9		
WB Left (see note 2)	-	-	-		-	-		-
WB Right	A	1.6	<50		A	0.2		<50
NB Left (see note 2)	-	-	-		-	-		-
NB Thru	A	9.2	<50		A	9.0		<50
SB Thru	A	5.3	<50		A	5.3		<50
SB Right	A	0.6	<50		A	1.8		<50
Int 8. Henness / I-8 EB On/Off Ramps (S)	B	13.8			A	7.5		
EB Left	B	18.5	<50		B	17.3		<50
EB Right (see note 2)	-	-	-		-	-		-
NB Thru	-	-	-		-	-		-
NB Right	-	-	-		-	-		-
SB Left	A	3.8	<50		A	7.1		114
SB Thru (see note 2)	-	-	-		-	-		-
Int 9. Jimmie Kerr/Sunland Gin (MSS) See Note 3								
EB Left	A	9.3	<50		A	8.9		<50
WB Left	A	8.3	<50		A	9.0		<50
NB Left/Thru	D	26.6	63		E	43.9	0.64	95
NB Right	B	11.9	<50		B	13.9		<50
SB Left/Thru/Right	D	31.0	<50		E	40.9	0.04	<50

Notes: (S) = Signal, (MSS) = Minor Street Stop, V/C shown if LOS E or F

Queue is the reported 95th percentile length in feet

Note 1 - Movement analyzed as a channelized stop condition. Queue calculated as the number of vehicles arriving in a two-minute period at 25 feet per vehicle.

Note 2 - Zero volume identified for this movement in the AM and PM peak hours.

Note 3 - Sunland Gin Road analyzed with 2 WB thru lanes as opposed to 1 in the background condition

Roadway Segment LOS

<u>Roadway Segment</u>	<u>Total Volume</u>	<u>Facility Capacity</u>	<u>V/C</u>	<u>LOS</u>
Jimmie Kerr East of Peart	18,000	52,200	0.34	B
Jimmie Kerr East of Tanger	21,000	52,200	0.40	B
Jimmie Kerr East of I-10	13,200	52,200	0.25	A
 Selma W of Henness	 4,600	 30,000	 0.15	 A
 Henness S of Selma	 4,600	 30,000	 0.15	 A
 I-8 WB On-Ramp	 330	 8,000	 0.04	 A
I-8 WB Off-Ramp	3,000	8,000	0.38	B
I-8 EB On-Ramp	1,600	8,000	0.20	A
I-8 EB Off-Ramp	330	8,000	0.04	A
 Cornman	 9,900	 30,000	 0.33	 B
Cox	3,300	15,000	0.22	A

From the results shown in Table 9, the following can be identified:

- All study intersections are identified to operate at acceptable service levels under the assumed ultimate roadway cross-section design. Results indicate the northbound Peart Road approach must be widened to provide an exclusive left turn lane to accommodate site traffic demand to/from the downtown Casa Grande area.
- At the end of the first construction phase (I-8/Henness Road opening), the Henness/Cornman (site access) should be considered for signalization due a v/c ratio over 0.80, a result of the southbound to eastbound inbound left turn movements delaying outbound (westbound to southbound) left turn movements destined to I-8. In the interim, minor street stop control is appropriate.
- Due to high northbound to eastbound right turn movements into the site at the Henness/Cornman intersection (935 AM peak hour vehicles), a free-flow channelized right turn movement should be considered.
- Cox Road operates in an acceptable manner under a right in/right-out only design. Consideration of the railroad crossing and use of this site access needs to be upgraded with any background intersection design improvements conducted at this location (with consideration of the future I-10 frontage ramp intersection location).
- The Cornman/Henness/Selma site access to Peart Road is required to be designed as a four-lane collector based on one-way peak hour directional demand over 1,600 vehicles prior to the I-8/Henness Road TI opening.
- The intersection of Jimmie Kerr and Sunland Gin can still operate in an acceptable manner as an unsignalized intersection, however with widening of Jimmie Kerr Road, two westbound through lanes east of Sunland Gin Road is needed as part of the background widening to this location. (This intersection was analyzed with only 1 westbound through lane in the background condition).

- All study area roadway segments are identified to operate in an acceptable manner.

Capacity Analysis of 2023 Total Conditions

Traffic volumes shown in Figure 12 were substituted into the appropriate peak hour Synchro file and the results analyzed along with reviewing the daily traffic volumes on the adjacent roadways. Individual Synchro output sheets are provided in the appendix and the results of the intersection and roadway capacity analyses are summarized in **Table 10**.

Table 10. Capacity Analysis Summary – 2023 Total Traffic Conditions

Intersection LOS

<u>Intersection</u>	<u>AM/PM LOS</u>
Jimmie Kerr at Peart	C/C
Jimmie Kerr at I-10 EB Frontage/Cox	A/C
Jimmie Kerr at I-10 WB Frontage	A/B
Jimmie Kerr at Tanger	A/A
Jimmie Kerr at Selma Highway	D/C
Selma Highway at Henness	C/C
Henness at I-E WB On/Off Ramp	F/B
Henness at I-8 EB On/Off Ramp	D/C
Henness at Cornman	F/F

Roadway Segment LOS

<u>Roadway Segment</u>	<u>Background Volume (daily)</u>	<u>Site Traffic</u>	<u>Total Volume</u>	<u>Facility Capacity</u>	<u>V/C</u>	<u>LOS</u>
Jimmie Kerr East of Peart	20,500	6,200	26,700	52,200	0.51	C
Jimmie Kerr East of Selma	22,900	4,200	27,100	52,200	0.52	C
Jimmie Kerr East of I-10	29,800	2,100	31,900	52,200	0.61	C
Selma W of I-10	4,800	5,200	10,000	30,000	0.33	B
Selma W of Henness	6,000	6,200	12,200	30,000	0.41	B
Henness S of Selma	8,000	15,600	23,600	30,000	0.79	D
I-8 WB On-Ramp	2,000	2,100	4,100	8,000	0.51	B
I-8 WB Off-Ramp	5,700	7,300	13,000	8,000	1.63	F
I-8 EB On-Ramp	3,800	2,100	5,900	8,000	0.74	C
I-8 EB Off-Ramp	3,100	2,100	5,200	8,000	0.65	C
Cornman	0	33,300	33,300	30,000	1.11	F
Cox	0	8,300	8,300	15,000	0.55	C

With the site generating a total of 41,600 daily trips for this analysis year, peak hour capacity analysis results at some intersection locations/movements will exceed typical hourly capacities, especially at the I-8 WB off-ramp, at the Cornman/Henness access site and at the site's Cox Road exit (above intersection results shown for a two-lane inbound and outbound movement). Review of the roadway segment LOS indicate the same

capacity issues as the intersection movements. Roadway cross-sections of Jimmie Kerr (6-lane arterial), Selma Highway (4-lane collector) and Henness Road (4-lane collector) are adequate for this time period.

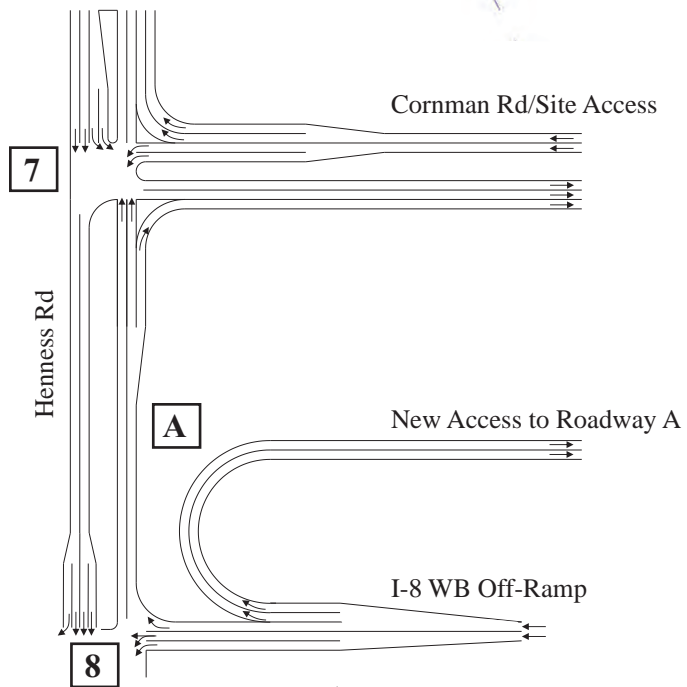
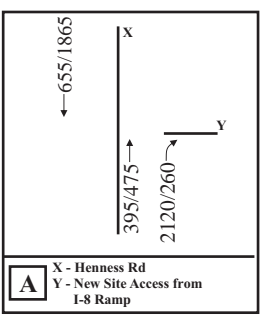
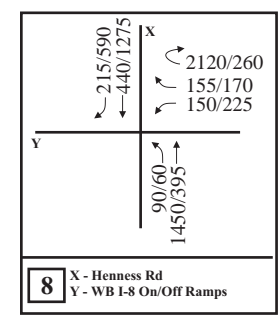
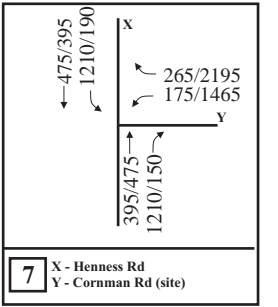
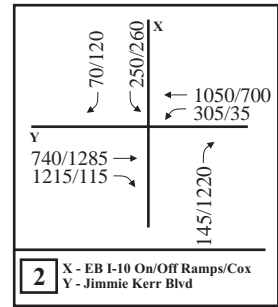
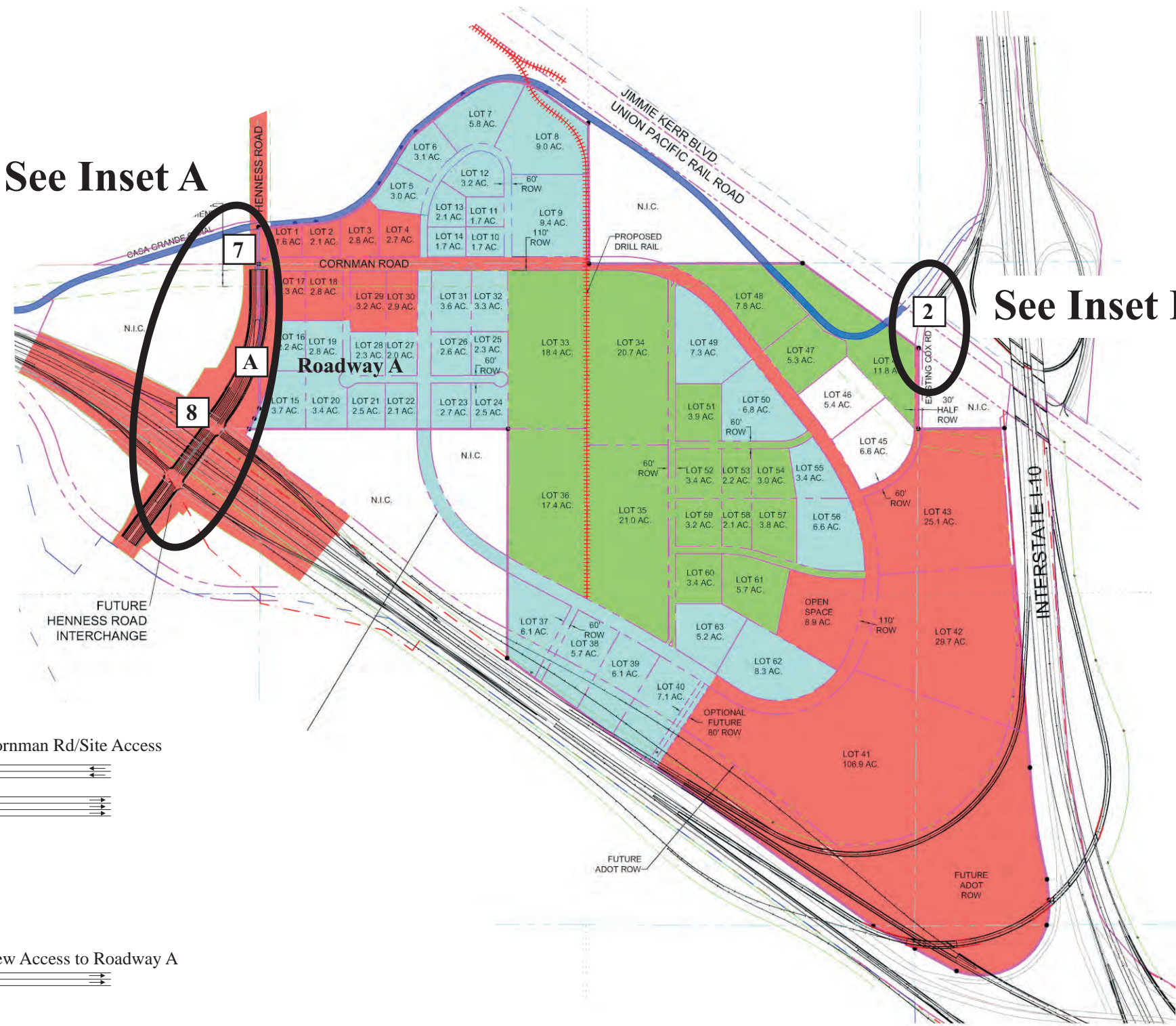
To improve on poor performance at the locations above, the following mitigation is offered (capacity analysis output sheets are provided in the appendix):

- An additional, alternative access is required to help accommodate the site inbound movements from I-8 westbound. This is planned once the I-8 frontage road network is constructed and direct inbound access to the site from the frontage road is provided. Noting a daily demand of 7,200 vehicles is expected from this facility (2,120 AM peak hour trips), the need for multiple site access points should be considered. To mitigate prior to the construction of the I-8 Frontage road, a second Henness Road access is needed to accommodate a two-lane direct entrance ramp into the site. This improvement would reduce the volume entering via right turn at Cornman allowing a single right turn lane to accommodate demand at this location.
- Improved/additional inbound capacity into the site is needed. This can be accomplished by improving the Cox Road access allowing inbound left turn movements from Jimmie Kerr (5% or 305 AM peak hour vehicles) to be accommodated via a single left turn lane (continued no inbound movements from the I-10 frontage road).
- Because of the inbound access issues at the Henness/Cornman intersection, a redistribution of 5% vehicle traffic from the west, originally assigned to turn right at the Jimmie Kerr/Selma intersection then left into the site at Cornman, would continue through to turn right into the site at the Cox Road entrance (total entering via right turn movement at this location now 20%).
- The above improvements would reduce the inbound left turn movements into the site from Henness Road to Cornman Road to 20% or a total of 1,210 vehicles in the AM peak hour. Two southbound left turn lanes could accommodate this demand.
- To accommodate the high PM peak hour demand to westbound I-10, two westbound to northbound left turn lanes are needed from Jimmie Kerr to the I-10 westbound frontage road.
- The Cornman/Henness westbound to northbound outbound movement is required to have channelized dual outbound right turn lanes to accommodate the 2,195 vehicle demand in the PM peak hour.
- To improve on the performance of the three-legged Selma Highway/Henness Road intersection, the ability for this intersection to have a north/south through alignment as opposed to having the south Henness Road leg “tee” into Selma Highway would improve operations. This intersection can be improved from D/F LOS operation to a C/C operation, as indicated in the above intersection LOS summary.

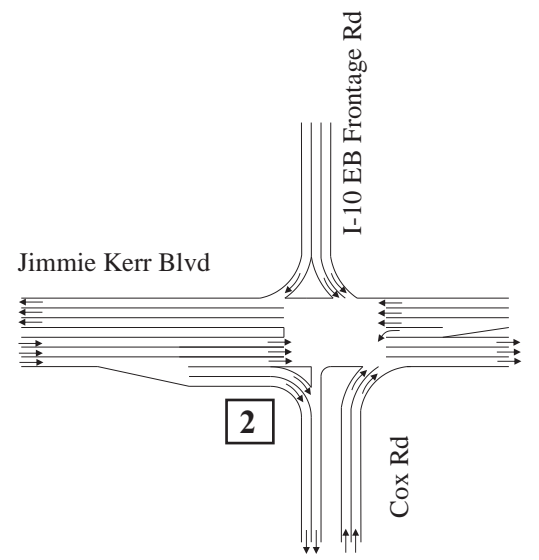
Based on the above improvements, **Figure 14** is provided showing a schematic of site access need corresponding to the LOS intersection summary provided in **Table 11**:

See Inset A

See Inset B



Inset A



Inset B

Note:
New Access to Roadway A needed prior to direct access from I-8 / I-10 WB frontage road.



Table 11. Capacity Analysis Summary – 2023 Total Traffic Conditions, Mitigated
Intersection LOS

<u>Intersection</u>	<u>AM/PM LOS</u>
Jimmie Kerr at Peart	C/C
Jimmie Kerr at I-10 EB Frontage/Cox	A/C
Jimmie Kerr at I-10 WB Frontage	A/B
Jimmie Kerr at Tanger	A/A
Jimmie Kerr at Selma Highway	C/C
Selma Highway at Henness	B/B
Henness at I-E WB On/Off Ramp	B/B
Henness at I-8 EB On/Off Ramp	C/C
Henness at Cornman	C/C

Capacity Analysis of 2030 Total Traffic Conditions

Analysis of the study area roadway segments are provided for this scenario as turn movement volumes along the roadway network is subjective, especially as the 2030 roadway network projections identified in the CGSATS had to be slightly modified based on a more recent understanding of future roadway conditions. **Table 12** provides the capacity analysis results assuming the roadway capacity and v/c ratios thresholds found in the CGSATS.

Table 12. Capacity Analysis Summary – 2030 Total Traffic Conditions

<u>Roadway Segment</u>	<u>Background Volume (daily)</u>	<u>Site Traffic</u>	<u>Total Volume</u>	<u>Facility Capacity</u>	<u>V/C</u>	<u>LOS</u>	<u>Comment</u>
Jimmie Kerr East of Peart	25,200	10,700	35,900	52,200	0.69	C	
Jimmie Kerr East of Selma	28,200	5,400	33,600	52,200	0.64	C	
Jimmie Kerr East of I-10	36,600	3,600	40,200	52,200	0.77	D	
Selma W of I-10	5,900	8,900	14,800	30,000	0.49	B	
Selma W of Henness	7,400	10,700	18,100	30,000	0.60	C	
Henness S of Selma	9,800	25,000	34,800	30,000	1.16	F	Requires a 6-lane cross-section
I-8 WB On-Ramp/Henness	3,700	1,800	5,500	8,000	0.69	C	
I-8 WB Off-Ramp/Henness	7,500	2,500	10,000	8,000	1.25	F	Carry two lanes to Henness Road
I-8 EB On-Ramp/Henness	11,400	3,600	15,000	8,000	1.88	F	Two lanes entering from Henness Road
I-8 EB Off-Ramp/Henness	3,900	3,600	7,500	8,000	0.94	E	
I-8 WB Frontage	8,500	8,900	17,400	17,400	1.00	E	Assumed 2-lane facility, arterial capacity
Cornman	0	35,600	35,600	45,000	0.79	D	Requires a 6-lane cross-section
Cox	0	19,600	19,600	30,000	0.65	C	Requires a 4-lane cross-section

The results above indicate the following:

- Henness/Selma Highway between the I-8 TI and Jimmie Kerr Boulevard should be considered for a 6-lane cross-section.
- Access to the site from the I-8/I-10 westbound frontage road will require two lanes or two separate entrances to accommodate the 8,900 daily (projected 2,500

AM peak hour vehicles) in a satisfactory manner. If possible, 1 entrance from the I-8 westbound frontage road and 1 entrance from the I-10 to I-8 eastbound ramp (prior to the merge of the two ramps) would help eliminate weaving conditions. If not possible, the use of the direct access ramps as indicated for the 2023 condition will be required.

- The I-8 eastbound and westbound frontage roads east of the Henness Road TI require a two directional lane design.
- It would be beneficial to add an additional site access to/from Henness Road or Jimmie Kerr to help reduce the vehicle demand at the Cornman/Henness intersection.

Other Considerations

From review of the other reports conducted by Kimley-Horn for the I-8/Henness TI and Change of Access Report, the traffic volumes outlined in these reports show I-8/Henness ramp volumes less than indicated in this report. This is a likely result of the subject site now estimated to generate a more significant amount of traffic than previously anticipated (an increase of 33,500 daily trips).

Internal Site Access/Circulation

Figure 13 identified the AM and PM peak hour traffic volumes estimated to enter and exit the site for the 2030 total traffic condition. With only 4 or 5 total access points, traffic volumes will require channelized turn movements to help accommodate the desired demand and to minimize delays and queues. Additional access points should be considered and the potential for off-site parking/shuttle service would help reduce the overall number of on-site vehicles. Use of roundabouts at the high access roadway/internal loop road intersections where turn movements are project to be high, may help reduce potential vehicle queue. The following items are noted regarding internal site access and circulation:

- High demand is identified for all site access points with a destination to/from the site's internal ring road. Because of these volumes, roundabouts are preferred to signalized intersections to help vehicle flow at these locations. It would be beneficial to permit right turn movements from channelized lanes. Adequate ROW should be reserved for internal main intersections to allow flexibility in future design.
- The ring road should be considered as a 6-lane facility as inbound and outbound volumes dictate the need for a wider cross-section design than indicated on the site plan. The current site plan indicates a 110-foot ROW for the ring road matching the City of Casa Grande minor-arterial cross-section design (4-lane roadway). This loop road will need to accommodate in excess of 3,000 directional peak hour vehicles.
- Secondary internal intersections could be considered for signal control to help left turn movements from the internal areas, provide the necessary gaps needed for trucks and allow for possible gaps in the traffic stream for more minor side street and driveway locations.
- Other minor/minor intersections can likely be accommodated via minor street or all-way stop control.
- Because drivers will mostly be repeat motorists, they will be able to adjust their ingress and egress route, if delays become persistent.
- The internal roadways appear to be properly located, however, the first roadways off of Cornman Road east of Henness Road (at the approximate 660-foot location) may have a very difficult time with left turn movements due to the high vehicle demand along Cornman Road in this area.
- Individual site access points should promote right-in/right-out movements as much as possible and parcels/lots provide joint access with access to the side street locations where practical.
- Left turn movements to/from the ring road should be limited to the major streets, if possible. Similarly, current access management concept should be continued, allowing only right-in/right-out movements near intersections, aligning driveways on opposite side of streets, and controlling the location of left turn movements. Right turn deceleration lanes to individual lots, especially at the corporate office

locations should be provided considering the identified demand along the loop road.

- Sidewalks, bike lanes, roadway lighting, should be considered to help promote safety and alternate travel options.
- No parking along the loop road or entrance roadways to the site should be allowed.
- Additional traffic control considerations may be needed based on design characteristics of specific lots.
- Over one-half of all site generated traffic is to be generated from the 5.5 million square feet of corporate headquarter office land use. The three lots proposed for this land use are located at the southeast corner of the site. The ability to provide easy access to these three lots, eliminating them from using the interior loop road will improve the overall operation of the site. Options to consider may be a new Jimmie Kerr access point east of Cox Road serving only the parking areas of these three lots, moving/separating the land uses to other parts of the site, utilizing one of the site lots or non-site parcel adjacent to a direct access ramp for a dedicated parking area with bus shuttle service to the entire site.

Conclusions & Recommendations

Conclusions

It is noted that existing traffic volumes on the existing study area roadway network have decreased from its peak conditions a few years back. In addition, the City conducted its current Small Area Transportation Study in the mid-2000's during the peak of the growth cycle resulting in a more aggressive estimate of horizon year traffic volumes and capital improvement projects that were anticipated. Currently, it is understood that the 2030 year horizon projections are estimated as 2040 year values.

This study has used the most recent traffic volume data as provided by the City (Winter/Spring of 2013) noting this project's time-line and the summer season which data collection would have taken place requiring adjustments and additional assumptions. No new traffic volume data was collected for this study.

Current volumes indicate the study intersections along Jimmie Kerr are operating in an acceptable manner. However future traffic growth, considering a near-term 2 percent per year growth rate and volumes from planned non-site development construction will cause the Jimmie Kerr intersection with the I-10 eastbound On/Off ramps (stop-controlled) to fail. In addition, daily traffic volumes on the Jimmie Kerr roadway segments will approach daily lane capacities by the opening year of the subject site in 2018 necessitating City widening of this facility near-term.

The site's planned Phase 1 opening in 2018 is to consist of the more high-profile lots anticipated to accommodate corporate headquarter offices, business parks, general office buildings, light industrial, and other office and commercial land uses. For the opening year, the site is estimated to generate over 13,200 daily trips with over 2,000 AM and 1,800 PM peak hour trips. To accommodate these trips, the site will initially construct a roadway access from its western boundary along the Henness Road alignment westward to Peart Road. As part of the Phase 1 development plan (Phase 1B), the need to accelerate the construction the I-8/Henness Road TI is needed to help facilitate access to and from the site. This access will relieve potential circuitous routing that may take place over City roadways not capable of accommodating such demand. In the interim, City widening of Jimmie Kerr Boulevard (planned for 2020) is anticipated to increase the viability/potential use of the site's Cox Road access. It is anticipated that only minor improvements/costs will be required by the site to improve this access across the existing rail line, permitting right-in/right-out only movements to occur. This will help relieve some of the routing issues with the site only having one access prior to the I-8/Henness TI being operational. If improvement costs are significant, consideration to design Cox Road to an ultimate cross-section should be considered.

Ultimate build-out of this site is estimated to generate over 71,300 new daily trips with approximately 10,000 inbound trips anticipated for the AM peak hour and 8,500 outbound PM peak hour trips. Over one-half of all site traffic is to be generated from the three lots proposed as corporate headquarter offices, fronting the I-8 and I-10 interstates in the southeast area of this site. Managing the trips to/from these three lots or providing an overall site concept to reduce vehicle trips on the site's interior loop road is a high priority in allowing the site's road network to operate in an acceptable manner.

Recommendations

The following recommendations are provided as a result of the analysis within this report.

Prior to 2018 Phase 1 Opening - To be conducted by Others

Background traffic growth along with planned redevelopment of the mostly shuttered outlets mall (The Station) and additional adjacent development planned as part of The Station II, will initiate the need for the following:

- City of Casa Grande - Widen Jimmie Kerr Boulevard. Background traffic growth indicates some segments of this roadway will exceed single lane roadway capacity. Improvement of Jimmie Kerr to its ultimate 6-lane cross-section design (identified as part of the 2020 roadway improvement needs in the CGSATS) from Sunland Gin Road to Trezell Road should be considered at this time.
- ADOT - Improve/Signalize the intersection of Jimmie Kerr/I-10 EB On-Off Ramp. Currently the I-10 off-ramp is stop controlled and the I-10 off-ramp approach permits one to two vehicles to store before these vehicles block access to the right or left turn lane. Increased development in the area may create significant delays to motorists on this single lane ramp.
- City of Casa Grande / Developers of The Station - Improve the signalized intersection of Jimmie Kerr/Tanger Drive, if required, to minimize delays and queue associated to westbound Jimmie Kerr traffic (under a single lane scenario). This intersection is located only 400 feet west of the I-10 Eastbound On/Off Ramps and excessive queue back-up from the interior approaches between signals could block the upstream intersection. It is possible ADOT could consider relocating the I-10 EB ramp locations to help promote vehicle progression along Jimmie Kerr and eliminate potential vehicle queues from impacting the intersections prior to the full reconstruction of this areas ramp system.

Prior to 2023 Phase 2 Opening - To be conducted by Others

- City of Casa Grande – If not conducted prior, improve Jimmie Kerr Boulevard to its full 6-lane cross-section design.
- ADOT - Construct I-10 widening improvements which also includes the construction of a new interchange at I-10 and Selma Highway, conversion of the I-10 Jimmie Kerr ramps to one-way frontage roads (signal control) and widening of the I-10 freeway.
- Pinal County / City of Casa Grande - Construction of the new Selma Highway alignment from I-10 across Jimmie Kerr and the rail line to meet with the site's west access construction. Improvements to the Jimmie Kerr/Selma Highway intersection should consider a maximum cross-section design allowing for dual left turn lanes and an exclusive right turn lane at each approach or preferred above-grade crossing. Analysis indicates a 4-lane Selma Highway cross-section is appropriate for through traffic.
- Analysis indicates the west leg of the Selma Highway/Heness Road intersection should “tee” into the north/south alignment to improve intersection operations as a result of high demand for the site, I-8, and points south.

Prior to 2030 Site Build-out – To be conducted by Others

- ADOT - Construct I-10/I-8 system interchange that will provide an I-8 eastbound and westbound frontage road network. Consider the potential of access to/from the subject site from the ramp network.

2018 Phase 1 Site Opening – Developer Considerations

The site is to generate 13,218 daily trips, 2,053 AM peak hour trips (1,865 in plus 188 out), and 1,781 PM peak hour tips (251 in plus 1,530 out) by the end of Phase 1.

To minimize site-related impacts to Jimmie Kerr Boulevard, the I-10 Eastbound Off-Ramp, indirect routing, and improvements to the Cox Road railroad crossing, the site is to:

- Construct a westerly access along the Cornman/Heness/Selma Highway alignment to Peart Road (2-lane facility needed initially, eventual 4-lane facility required).
- Initiate the acceleration of the I-8/Heness Traffic Interchange construction.
- In conjunction with the City or ADOT, minimize site-related demand and impacts associated with the west access and improve ingress and egress options by utilizing the Cox Road access at Jimmie Kerr. By installing a diverter (or some type of design) to eliminate inbound and outbound left and through movements an interim solution, prior to the I-8/Heness opening. Analysis indicates site demand will necessitate use of this access in future phases.

2023 Phase 2 Site Opening – Developer Considerations

The site is to generate a total of 41,597 daily trips, 6,641 AM peak hour trips (6,057 in plus 584 out), and 5,629 PM peak hour trips (748 in plus 4,881 out) by the end of Phase 2.

To accommodate site traffic demand the site needs to consider:

- Improving the Cox Road access to Jimmie Kerr Boulevard to a 4-lane facility, allowing an interim inbound operation from Jimmie Kerr (2 inbound rights, and 1 inbound left) and eventual full inbound access design allowing 2 left, through and right turn lanes while maintaining outbound right turn only movements (2-lanes).
- Improve the Cox Road railroad crossing.
- Improve the Jimmie Kerr/I-10 WB Frontage Road intersection to 2 eastbound to northbound left turn lanes (toward I-10 westbound).
- Consider alternative, direct access ramps to the subject site from the I-8/Heness interchange to help accommodate a projected 2,200 vehicles originating from the interstate system (I-10 EB and I-8 WB).

2030 Site Build-out – Developer Considerations

At build-out the site is to generate a total of 71,286 daily trips, 11,054 AM peak hour trips (10,018 in plus 1,036 out), and 9,831 PM peak hour trips (1,364 in plus 8,467 out).

To accommodate site traffic demand the site needs to consider:

- Additional site access from the I-8/I-10 westbound frontage road(s).

- Construct, as planned, the I-8 underpass between the site at the parcel south of I-8.
- Consider additional access points to help reduce the site demand at the currently proposed 4 site access locations.
- Maximize vehicle flow into and out of the site by constructing direct access roadways that are not controlled via signal.
- Henness Road between I-8 interchange and Selma Highway as a 6-lane facility.

Site Internal Consideration

- Maximize the loop road cross-section (6-lanes) to accommodate peak hour routing needs.
- Consider roundabout intersections at the internal loop road intersections with the site access roadways to promote continuous flow. Signalized intersections may be beneficial at other internal loop road intersections to help accommodate truck turn movements, provide gaps in the traffic stream, and accommodate left turn demand. Dual turn lanes and channelized right turn lanes should be considered.
- Follow typical access control measures by aligning driveway, promote right-in/right-out only movements between individual site lots and the loop road, only allow left turn movements to be made side street locations, promote joint access.
- Additional traffic control considerations may be needed based on design characteristics of specific lots.
- The ability to promote off-site parking, centralized on-site parking area with bus shuttle service or other means of minimizing traffic on the site's loop road is needed as hourly volume estimates on the internal loop road is expected to exceed 3,000 directional vehicles will exceed loop road capacities.
- Direct access to and from the corporate headquarter lots will have a significant impact to the operation of the site's interior roadway as these three lots located adjacent to the I-8/I-10 frontages generate over half of all site traffic.

APPENDIX

File Name: 11-1019-001
 Start Date: 3/1/2011
 Start Time: 12:00:00 AM
 Site Code: 001
 Location 1: Jimmie Kerr Blvd east of I-10

Time	East	Hourly Total	West	Hourly Total	Total
0:00:00	10			7	17
0:15:00	7			6	13
0:30:00	8			11	19
0:45:00	7	32		3	27
1:00:00	6			3	10
1:15:00	6			5	9
1:30:00	10			2	11
1:45:00	6	28		4	12
2:00:00	1			2	10
2:15:00	4			7	3
2:30:00	8			6	14
2:45:00	3	16		3	6
3:00:00	8			4	12
3:15:00	5			8	13
3:30:00	1			13	14
3:45:00	7	21		6	33
4:00:00	4			14	18
4:15:00	8			19	27
4:30:00	18			6	24
4:45:00	8	38		14	53
5:00:00	4			18	23
5:15:00	31			28	59
5:30:00	56			32	88
5:45:00	27	118		31	110
6:00:00	27			57	84
6:15:00	49			52	101
6:30:00	52			53	105
6:45:00	40	168		43	205
7:00:00	40			87	127
7:15:00	59			88	147
7:30:00	59			93	152
7:45:00	58	216		93	361
8:00:00	45			85	130
8:15:00	39			81	120
8:30:00	65			86	151
8:45:00	47	196		72	324
9:00:00	65			71	136
9:15:00	53			80	133
9:30:00	65			78	143
9:45:00	62	245		71	300
10:00:00	59			79	138
10:15:00	68			72	140
10:30:00	66			75	141
10:45:00	60	253		70	296
11:00:00	65			76	141
11:15:00	58			73	131
11:30:00	57			89	126
11:45:00	74	254		88	286
12:00:00	71			79	150
12:15:00	66			85	151
12:30:00	84			86	170
12:45:00	101	322		92	342
13:00:00	118			86	204
13:15:00	99			100	199
13:30:00	91			92	183
13:45:00	94	402		94	372
14:00:00	100			97	197
14:15:00	122			100	222
14:30:00	110			101	211
14:45:00	105	437		96	394
15:00:00	118			96	214
15:15:00	118			107	225
15:30:00	129			88	218
15:45:00	110	475		84	376
16:00:00	116			95	211
16:15:00	110			93	203
16:30:00	96			86	182
16:45:00	125	447		78	352
17:00:00	125			90	215
17:15:00	127			64	191
17:30:00	128			73	201
17:45:00	86	466		59	286
18:00:00	76			47	125
18:15:00	76			59	135
18:30:00	68			55	123
18:45:00	73	295		42	203
19:00:00	95			46	141
19:15:00	73			37	110
19:30:00	61			24	85
19:45:00	58	287		24	82
20:00:00	48			30	78
20:15:00	54			23	77
20:30:00	56			32	88
20:45:00	51	209		18	69
21:00:00	49			18	67
21:15:00	30			15	45
21:30:00	45			21	66
21:45:00	33	157		26	80
22:00:00	31			16	47
22:15:00	29			28	57
22:30:00	27			13	40
22:45:00	20	107		12	69
23:00:00	23			19	42
23:15:00	18			16	34
23:30:00	31			10	41
23:45:00	14	86		7	21

PK - 195 etc 18) WB

361

376

24 Hr. Totals	5275	4787	10062
AM Peak Hr	11:45	7:00	
AM Peak Hr Total	295	361	
PM Peak Hr	16:45	14:30	
PM Peak Hr Total	505	400	

File Name: 11-1019-002
 Start Date: 2/24/2011
 Start Time: 12:00:00 AM
 Site Code: 002
 Location 1: I-10 & SR-84 NB Off Ramp

Time	North	Hourly Total	South	Hourly Total	Total
0:00:00	0		0		0
0:15:00	0		0		0
0:30:00	0		0		0
0:45:00	1	1	0	0	1
1:00:00	0		0		0
1:15:00	0		0		0
1:30:00	0		0		0
1:45:00	1	1	0	0	1
2:00:00	1	1	0		1
2:15:00	0		0		0
2:30:00	0		0		0
2:45:00	0	1	0	0	1
3:00:00	0		0		0
3:15:00	0		0		0
3:30:00	0		0		0
3:45:00	1	1	0	0	1
4:00:00	0		0		0
4:15:00	0		0		0
4:30:00	1	1	0		1
4:45:00	2	3	0	0	2
5:00:00	1	1	0		1
5:15:00	4	4	0		4
5:30:00	5	5	0		5
5:45:00	16	26	0	0	16
6:00:00	13	13	0		13
6:15:00	9	9	0		9
6:30:00	11	11	0		11
6:45:00	14	47	0	0	14
7:00:00	15	15	0		15
7:15:00	8	8	0		8
7:30:00	7	7	0		7
7:45:00	9	39	0	0	9
8:00:00	12	12	0		12
8:15:00	14	14	0		14
8:30:00	15	15	0		15
8:45:00	18	59	0	0	18
9:00:00	22	22	0		22
9:15:00	20	20	0		20
9:30:00	24	24	0		24
9:45:00	28	94	0	0	28
10:00:00	24	24	0		24
10:15:00	26	26	0		26
10:30:00	33	113	0	0	33
10:45:00	30	30	0		30
11:00:00	28	28	0		28
11:15:00	24	24	0		24
11:30:00	14	14	0		14
11:45:00	18	84	0	0	18
12:00:00	19	19	0		19
12:15:00	20	20	0		20
12:30:00	21	21	0		21
12:45:00	14	74	0	0	14
13:00:00	18	18	0		18
13:15:00	22	22	0		22
13:30:00	20	20	0		20
13:45:00	17	77	0	0	17
14:00:00	18	18	0		18
14:15:00	16	16	0		16
14:30:00	22	22	0		22
14:45:00	29	78	0	0	29
15:00:00	25	25	0		25
15:15:00	24	24	0		24
15:30:00	17	17	0		17
15:45:00	18	84	0	0	18
16:00:00	16	16	0		16
16:15:00	21	21	0		21
16:30:00	18	18	0		18
16:45:00	11	66	0	0	11
17:00:00	10	10	0		10
17:15:00	14	14	0		14
17:30:00	7	7	0		7
17:45:00	4	35	0	0	4
18:00:00	8	8	0		8
18:15:00	5	5	0		5
18:30:00	9	9	0		9
18:45:00	6	28	0	0	6
19:00:00	3	3	0		3
19:15:00	7	7	0		7
19:30:00	7	7	0		7
19:45:00	4	21	0	0	4
20:00:00	5	5	0		5
20:15:00	2	2	0		2
20:30:00	3	3	0		3
20:45:00	2	12	0	0	2
21:00:00	1	1	0		1
21:15:00	4	4	0		4
21:30:00	1	1	0		1
21:45:00	2	8	0	0	2
22:00:00	1	1	0		1
22:15:00	0	0	0		0
22:30:00	1	1	0		1
22:45:00	1	3	0	0	1
23:00:00	0	0	0		0
23:15:00	1	1	0		1
23:30:00	2	2	0		2
23:45:00	0	3	0	0	0

44 9

24 Hr. Totals

956

0

956

AM Peak Hr

10:15

AM Peak Hr Total

117

PM Peak Hr
PM Peak Hr Total

14:30
91

File Name: 11-1019-003
 Start Date: 2/24/2011
 Start Time: 12:00:00 AM
 Site Code: 003
 Location 1: I-10 & SR-84 NB On Ramp

Time	North	Hourly Total	South	Hourly Total	Total
0:00:00	2		0		2
0:15:00	1		0		1
0:30:00	4		0		4
0:45:00	1	8	0	0	1
1:00:00	0		0		0
1:15:00	1		0		1
1:30:00	2		0		2
1:45:00	1	4	0	0	1
2:00:00	0		0		0
2:15:00	1		0		1
2:30:00	2		0		2
2:45:00	1	4	0	0	1
3:00:00	5		0		5
3:15:00	2		0		2
3:30:00	6		0		6
3:45:00	3	16	0	0	3
4:00:00	5		0		5
4:15:00	8		0		8
4:30:00	11		0		11
4:45:00	14	38	0	0	14
5:00:00	18		0		18
5:15:00	7		0		7
5:30:00	4		0		4
5:45:00	8	37	0	0	6
6:00:00	11		0		11
6:15:00	15		0		15
6:30:00	16		0		16
6:45:00	21	63	0	0	21
7:00:00	25		0		25
7:15:00	24		0		24
7:30:00	26		0		26
7:45:00	19	94	0	0	19
8:00:00	20		0		20
8:15:00	21		0		21
8:30:00	14		0		14
8:45:00	32	87	0	0	32
9:00:00	30		0		30
9:15:00	39		0		39
9:30:00	32		0		32
9:45:00	28	129	0	0	28
10:00:00	24		0		24
10:15:00	21		0		21
10:30:00	25		0		25
10:45:00	21	91	0	0	21
11:00:00	19		0		19
11:15:00	22		0		22
11:30:00	29		0		29
11:45:00	32	102	0	0	32
12:00:00	33		0		33
12:15:00	30		0		30
12:30:00	32		0		32
12:45:00	28	123	0	0	28
13:00:00	24		0		24
13:15:00	26		0		26
13:30:00	41		0		41
13:45:00	28	118	0	0	28
14:00:00	24		0		24
14:15:00	29		0		29
14:30:00	33		0		33
14:45:00	30	118	0	0	30
15:00:00	32		0		32
15:15:00	28		0		28
15:30:00	24		0		24
15:45:00	41	125	0	0	41
16:00:00	42		0		42
16:15:00	28		0		28
16:30:00	24		0		24
16:45:00	26	120	0	0	26
17:00:00	22		0		22
17:15:00	20		0		20
17:30:00	21		0		21
17:45:00	14	77	0	0	14
18:00:00	18		0		18
18:15:00	11		0		11
18:30:00	14		0		14
18:45:00	9	52	0	0	9
19:00:00	12		0		12
19:15:00	14		0		14
19:30:00	8		0		8
19:45:00	7	41	0	0	7
20:00:00	5		0		5
20:15:00	6		0		6
20:30:00	3		0		3
20:45:00	2	18	0	0	2
21:00:00	5		0		5
21:15:00	2		0		2
21:30:00	4		0		4
21:45:00	1	12	0	0	1
22:00:00	5		0		5
22:15:00	2		0		2
22:30:00	1		0		1
22:45:00	0	8	0	0	0
23:00:00	1		0		1
23:15:00	2		0		2
23:30:00	0		0		0
23:45:00	4		0	0	4

25 E
 46

24 Hr. Totals 1486 0 1486
 AM Peak Hr 8:45
 AM Peak Hr Total 133

File Name: 11-1019-004
 Start Date: 2/24/2011
 Start Time: 12:00:00 AM
 Site Code: 004
 Location 1: I-10 & SR-94 SB Off Ramp

Time	North	Hourly Total	South	Hourly Total	Total
0:00:00	0		1		1
0:15:00	0		0		0
0:30:00	0		1		1
0:45:00	0	0	2	4	2
1:00:00	0		1		1
1:15:00	0		0		0
1:30:00	0		1		1
1:45:00	0	0	2	4	2
2:00:00	0		1		1
2:15:00	0		2		2
2:30:00	0		3		3
2:45:00	0	0	2	8	2
3:00:00	0		1		1
3:15:00	0		1		1
3:30:00	0		0		0
3:45:00	0	0	1	3	1
4:00:00	0		2		2
4:15:00	0		1		1
4:30:00	0		4		4
4:45:00	0	0	8	15	8
5:00:00	0		19		19
5:15:00	0		11		11
5:30:00	0		10		10
5:45:00	0	0	14	63	14
6:00:00	0		21		21
6:15:00	0		25		25
6:30:00	0		24		24
6:45:00	0	0	26	96	26
7:00:00	0		33		33
7:15:00	0		30		30
7:30:00	0		32		32
7:45:00	0	0	28	123	28
8:00:00	0		24		24
8:15:00	0		25		25
8:30:00	0		26		26
8:45:00	0	0	33	108	33
9:00:00	0		30		30
9:15:00	0		32		32
9:30:00	0		28		28
9:45:00	0	0	24	114	24
10:00:00	0		26		26
10:15:00	0		33		33
10:30:00	0		30		30
10:45:00	0	0	54	143	54
11:00:00	0		41		41
11:15:00	0		28		28
11:30:00	0		24		24
11:45:00	0	0	41	134	41
12:00:00	0		43		43
12:15:00	0		39		39
12:30:00	0		35		35
12:45:00	0	0	54	171	54
13:00:00	0		41		41
13:15:00	0		44		44
13:30:00	0		40		40
13:45:00	0	0	45	170	45
14:00:00	0		54		54
14:15:00	0		58		58
14:30:00	0		56		56
14:45:00	0	0	63	231	63
15:00:00	0		38		38
15:15:00	0		54		54
15:30:00	0		41		41
15:45:00	0	0	42	175	42
16:00:00	0		39		39
16:15:00	0		33		33
16:30:00	0		30		30
16:45:00	0	0	32	134	32
17:00:00	0		28		28
17:15:00	0		24		24
17:30:00	0		41		41
17:45:00	0	0	28	121	28
18:00:00	0		24		24
18:15:00	0		26		26
18:30:00	0		22		22
18:45:00	0	0	20	92	20
19:00:00	0		21		21
19:15:00	0		19		19
19:30:00	0		16		16
19:45:00	0	0	11	67	11
20:00:00	0		10		10
20:15:00	0		14		14
20:30:00	0		8		8
20:45:00	0	0	7	39	7
21:00:00	0		5		5
21:15:00	0		9		9
21:30:00	0		12		12
21:45:00	0	0	8	34	8
22:00:00	0		5		5
22:15:00	0		6		6
22:30:00	0		3		3
22:45:00	0	0	2	16	2
23:00:00	0		5		5
23:15:00	0		4		4
23:30:00	0		7		7
23:45:00	0	0	4	20	4

3 34

24 Hr. Totals

0 2085 2089

AM Peak Hr
 AM Peak Hr Total

10:15
 158

PM Peak Hr
PM Peak Hr Total

14:00
231

File Name: 11-1019-005
 Start Date: 2/24/2011
 Start Time: 12:00:00 AM
 Site Code: 005
 Location 1: I-10 & SR-84 SB On Ramp

Time	North	Hourly Total	South	Hourly Total	Total
0:00:00	0		2		2
0:15:00	0		1		1
0:30:00	0		0		0
0:45:00	0	0	1	4	1
1:00:00	0		2		2
1:15:00	0		1		1
1:30:00	0		0		0
1:45:00	0	0	0	3	0
2:00:00	0		1		1
2:15:00	0		2		2
2:30:00	0		1		1
2:45:00	0	0	0	4	0
3:00:00	0		0		0
3:15:00	0		0		0
3:30:00	0		1		1
3:45:00	0	0	2	3	2
4:00:00	0		1		1
4:15:00	0		5		5
4:30:00	0		2		2
4:45:00	0	0	6	14	6
5:00:00	0		3		3
5:15:00	0		2		2
5:30:00	0		5		5
5:45:00	0	0	4	14	4
6:00:00	0		7		7
6:15:00	0		4		4
6:30:00	0		8		8
6:45:00	0	0	9	28	9
7:00:00	0		14		14
7:15:00	0		15		15
7:30:00	0		18		18
7:45:00	0	0	14	61	14
8:00:00	0		11		11
8:15:00	0		10		10
8:30:00	0		14		14
8:45:00	0	0	15	50	15
9:00:00	0		16		16
9:15:00	0		11		11
9:30:00	0		10		10
9:45:00	0	0	17	54	17
10:00:00	0		15		15
10:15:00	0		12		12
10:30:00	0		13		13
10:45:00	0	0	18	58	18
11:00:00	0		17		17
11:15:00	0		18		18
11:30:00	0		22		22
11:45:00	0	0	20	77	20
12:00:00	0		22		22
12:15:00	0		20		20
12:30:00	0		21		21
12:45:00	0	0	17	80	17
13:00:00	0		18		18
13:15:00	0		18		18
13:30:00	0		22		22
13:45:00	0	0	20	83	20
14:00:00	0		21		21
14:15:00	0		14		14
14:30:00	0		18		18
14:45:00	0	0	22	75	22
15:00:00	0		20		20
15:15:00	0		24		24
15:30:00	0		21		21
15:45:00	0	0	19	84	19
16:00:00	0		18		18
16:15:00	0		21		21
16:30:00	0	0	14	69	14
16:45:00	0		18		18
17:00:00	0		16		16
17:15:00	0		13		13
17:30:00	0		11		11
17:45:00	0	0	10	50	10
18:00:00	0		14		14
18:15:00	0		15		15
18:30:00	0		8		8
18:45:00	0	0	7	44	7
19:00:00	0		5		5
19:15:00	0		9		9
19:30:00	0		7		7
19:45:00	0	0	2	23	2
20:00:00	0		1		1
20:15:00	0		4		4
20:30:00	0		1		1
20:45:00	0	0	5	11	5
21:00:00	0		2		2
21:15:00	0		6		6
21:30:00	0		3		3
21:45:00	0	0	2	13	2
22:00:00	0		1		1
22:15:00	0		1		1
22:30:00	0		0		0
22:45:00	0	0	1	3	1
23:00:00	0		2		2
23:15:00	0		1		1
23:30:00	0		0		0
23:45:00	0	0	0	3	0

310

24 Hr. Totals 0 808 908
 AM Peak Hr 11:30
 AM Peak Hr Total 84

PM Peak Hr
PM Peak Hr Total

14:45
87

File Name: 11-1018-182
 Start Date: 3/1/2011
 Start Time: 12:00:00 AM
 Site Code: 182
 Location 1: Selma Hwy east of I-10

Time	East	Hourly Total	West	Hourly Total	Total
0:00:00	0		2		2
0:15:00	0		1		1
0:30:00	1		1		2
0:45:00	2	3	0	4	2
1:00:00	0		0		0
1:15:00	1		2		3
1:30:00	1		0		1
1:45:00	0	2	0	2	0
2:00:00	1		0		1
2:15:00	0		1		1
2:30:00	1		1		2
2:45:00	0	2	0	2	0
3:00:00	1		2		3
3:15:00	1		1		2
3:30:00	1		0		1
3:45:00	1	4	1	4	2
4:00:00	1		2		3
4:15:00	2		4		6
4:30:00	0		4		4
4:45:00	2	5	2	12	4
5:00:00	4		5		10
5:15:00	6		4		10
5:30:00	1		4		5
5:45:00	2	19	5	19	7
6:00:00	5		8		13
6:15:00	14		6		20
6:30:00	9		13		22
6:45:00	14	42	15	42	29
7:00:00	8		11		17
7:15:00	14		19		33
7:30:00	11		14		25
7:45:00	5	38	16	80	21
8:00:00	7		15		22
8:15:00	7		12		19
8:30:00	9		15		24
8:45:00	2	25	17	59	19
9:00:00	7		9		16
9:15:00	4		12		16
9:30:00	8		13		21
9:45:00	8	27	11	45	19
10:00:00	10		5		15
10:15:00	7		7		14
10:30:00	5		8		13
10:45:00	8	30	11	31	19
11:00:00	5		9		14
11:15:00	9		5		14
11:30:00	6		7		13
11:45:00	3	23	8	29	11
12:00:00	9		8		17
12:15:00	6		7		13
12:30:00	7		8		15
12:45:00	7	29	10	33	17
13:00:00	17		10		27
13:15:00	12		11		23
13:30:00	6		10		16
13:45:00	8	43	13	44	21
14:00:00	11		18		29
14:15:00	9		11		20
14:30:00	14		12		26
14:45:00	18	52	16	67	34
15:00:00	14		10		24
15:15:00	10		16		26
15:30:00	11		15		26
15:45:00	19	54	15	56	34
16:00:00	7		13		20
16:15:00	17		19		36
16:30:00	17		13		30
16:45:00	20	61	15	80	35
17:00:00	19		11		30
17:15:00	16		10		26
17:30:00	12		9		21
17:45:00	19	66	7	37	26
18:00:00	11		8		19
18:15:00	7		8		13
18:30:00	11		6		17
18:45:00	9	38	6	26	15
19:00:00	8		6		14
19:15:00	4		4		8
19:30:00	5		3		8
19:45:00	2	19	6	19	8
20:00:00	7		3		10
20:15:00	5		2		7
20:30:00	4		1		5
20:45:00	2	18	2	8	4
21:00:00	1		3		4
21:15:00	9		3		12
21:30:00	3		3		6
21:45:00	2	15	0	9	2
22:00:00	4		1		5
22:15:00	3		3		6
22:30:00	1		1		2
22:45:00	4	12	2	7	6
23:00:00	1		3		4
23:15:00	1		4		5
23:30:00	1		1		2
23:45:00	1	4	0	8	1

24 Hr. Totals

623

673

1296

AM Peak Hr

6:45

7:15

AM Peak Hr Total

45

64

PM Peak Hr
PM Peak Hr: Total

16:15
73

15:30
62

File Name: 11-1010-184
 Start Date: 3/1/2011
 Start Time: 12:00:00 AM
 Site Code: 184
 Location 1: Solma Hwy east of Jimmie Kerr Blvd.

Time	East	Hourly Total	West	Hourly Total	Total
0:00:00	1		2		3
0:15:00	0		2		2
0:30:00	3		2		5
0:45:00	1	5	0	6	1
1:00:00	2		0		2
1:15:00	2		1		3
1:30:00	1		0		1
1:45:00	0	5	0	1	0
2:00:00	1		0		1
2:15:00	0		1		1
2:30:00	1		1		2
2:45:00	0	2	0	2	0
3:00:00	1		2		3
3:15:00	1		2		3
3:30:00	1		0		1
3:45:00	1	4	0	4	1
4:00:00	1		3		4
4:15:00	2		1		3
4:30:00	0		5		5
4:45:00	1	4	3	12	4
5:00:00	5		4		9
5:15:00	7		7		14
5:30:00	4		7		11
5:45:00	5	21	6	24	11
6:00:00	4		7		11
6:15:00	14		7		21
6:30:00	10		12		22
6:45:00	14	42	23	49	37
7:00:00	7		21		28
7:15:00	18		22		40
7:30:00	15		20		35
7:45:00	12	52	10	79	28
8:00:00	7		15		22
8:15:00	0		28		34
8:30:00	12		18		30
8:45:00	6	31	15	76	21
9:00:00	6		12		18
9:15:00	4		20		24
9:30:00	10		13		23
9:45:00	8	28	20	65	28
10:00:00	12		9		21
10:15:00	11		5		16
10:30:00	10		7		17
10:45:00	8	41	8	29	19
11:00:00	7		14		21
11:15:00	5		11		16
11:30:00	9		7		16
11:45:00	8	27	8	40	14
12:00:00	11		8		19
12:15:00	8		9		17
12:30:00	12		22		34
12:45:00	11	42	18	57	29
13:00:00	23		5		29
13:15:00	15		13		28
13:30:00	9		19		28
13:45:00	8	55	18	56	26
14:00:00	14		13		27
14:15:00	14		20		34
14:30:00	20		9		29
14:45:00	15	63	22	64	37
15:00:00	18		18		36
15:15:00	14		20		34
15:30:00	19		16		35
15:45:00	18	69	22	76	40
16:00:00	10		16		26
16:15:00	21		18		39
16:30:00	19		20		39
16:45:00	22	72	18	72	40
17:00:00	26		12		38
17:15:00	19		14		33
17:30:00	18		11		29
17:45:00	22	85	11	49	33
18:00:00	13		15		28
18:15:00	9		5		14
18:30:00	13		16		29
18:45:00	16	51	7	43	23
19:00:00	9		8		17
19:15:00	5		4		9
19:30:00	9		9		18
19:45:00	6	29	4	25	10
20:00:00	10		3		13
20:15:00	4		4		8
20:30:00	10		3		13
20:45:00	3	27	4	14	7
21:00:00	3		6		9
21:15:00	10		4		14
21:30:00	5		3		8
21:45:00	3	21	3	16	6
22:00:00	6		2		8
22:15:00	8		4		10
22:30:00	3		2		5
22:45:00	2	17	2	10	4
23:00:00	1		1		2
23:15:00	1		6		7
23:30:00	2		1		3
23:45:00	1	5	1	9	2

24 Hr. Totals 798 877 1675

AM Peak Hr 6:45 6:45
 AM Peak Hr Total 54 86

PM Peak Hr
PM Peak Hr Total

16:15
88

14:45
76

File Name: 11-1019-185
 Start Date: 3/1/2011
 Start Time: 12:00:00 AM
 Site Code: 185
 Location 1: Jimmie Kerr Blvd east of Selma Hwy

Time	East	Hourly Total	West	Hourly Total	Total
0:00:00	6		8		14
0:15:00	7		7		14
0:30:00	7		8		15
0:45:00	6	26	2	25	8
1:00:00	7		3		10
1:15:00	5		4		9
1:30:00	4		3		7
1:45:00	4	25	2	12	6
2:00:00	2		4		6
2:15:00	3		4		7
2:30:00	7		4		11
2:45:00	5	17	2	14	7
3:00:00	6		2		8
3:15:00	6		10		16
3:30:00	1		14		15
3:45:00	7	20	9	35	18
4:00:00	4		19		23
4:15:00	15		25		40
4:30:00	9		10		19
4:45:00	7	35	10	64	17
5:00:00	9		17		26
5:15:00	38		36		74
5:30:00	28		31		59
5:45:00	18	93	28	112	46
6:00:00	34		48		82
6:15:00	42		46		88
6:30:00	34		67		101
6:45:00	42	152	47	208	89
7:00:00	45		88		133
7:15:00	57		95		152
7:30:00	64		100		164
7:45:00	48	214	88	371	136
8:00:00	47		87		134
8:15:00	48		88		134
8:30:00	76		91		167
8:45:00	62	231	63	329	125
9:00:00	54		89		143
9:15:00	72		94		166
9:30:00	59		78		147
9:45:00	62	257	67	329	129
10:00:00	61		88		150
10:15:00	76		66		142
10:30:00	69		69		138
10:45:00	66	272	74	307	140
11:00:00	60		80		140
11:15:00	65		88		153
11:30:00	58		85		143
11:45:00	57	240	75	328	132
12:00:00	75		69		144
12:15:00	88		100		188
12:30:00	101		92		193
12:45:00	125	369	99	360	224
13:00:00	100		93		193
13:15:00	96		83		179
13:30:00	94		82		176
13:45:00	92	382	85	343	177
14:00:00	103		95		199
14:15:00	107		95		202
14:30:00	104		87		191
14:45:00	117	431	94	371	211
15:00:00	133		95		228
15:15:00	124		113		237
15:30:00	104		89		193
15:45:00	129	490	79	378	208
16:00:00	119		114		233
16:15:00	106		102		208
16:30:00	113		74		187
16:45:00	131	469	83	373	214
17:00:00	118		84		202
17:15:00	126		70		196
17:30:00	110		71		181
17:45:00	87	441	58	283	145
18:00:00	95		44		139
18:15:00	81		57		138
18:30:00	61		44		105
18:45:00	74	311	45	190	119
19:00:00	72		51		123
19:15:00	70		32		102
19:30:00	47		24		71
19:45:00	43	232	26	133	69
20:00:00	48		30		78
20:15:00	49		26		75
20:30:00	40		31		71
20:45:00	45	182	18	105	63
21:00:00	47		15		62
21:15:00	27		16		43
21:30:00	35		24		59
21:45:00	36	145	26	81	62
22:00:00	25		14		39
22:15:00	23		14		37
22:30:00	21		11		32
22:45:00	16	87	12	51	28
23:00:00	17		15		32
23:15:00	13		17		30
23:30:00	19		7		26
23:45:00	15	64	8	47	23

208
231

} 330 371

490

394

24 Hr. Totals 5185 4846 10031
 AM Peak Hr 11:45 7:00
 AM Peak Hr Total 301 371

PM Peak Hr
PM Peak Hr Total

15:00
480

15:15
385

File Name: 11-1019-166
 Start Date: 3/1/2011
 Start Time: 12:00:00 AM
 Site Code: 186
 Location 1: Peart Rd north of Jimmie Karr Blvd.

Time	North	Hourly Total	South	Hourly Total	Total
0:00:00	3		3		6
0:15:00	2		3		5
0:30:00	3		1		4
0:45:00	0	8	4	11	4
1:00:00	1		0		1
1:15:00	3		1		4
1:30:00	2		2		4
1:45:00	0	6	0	3	0
2:00:00	3		0		3
2:15:00	1		1		2
2:30:00	1		0		1
2:45:00	1	6	0	1	1
3:00:00	0		1		1
3:15:00	2		0		2
3:30:00	5		2		7
3:45:00	2	9	1	4	3
4:00:00	3		4		7
4:15:00	6		2		8
4:30:00	3		4		7
4:45:00	4	16	1	11	5
5:00:00	10		9		19
5:15:00	7		9		16
5:30:00	11		15		26
5:45:00	8	36	12	45	20
6:00:00	13		14		27
6:15:00	17		23		40
6:30:00	22		18		40
6:45:00	29	81	29	84	58
7:00:00	44		23		67
7:15:00	51		19		70
7:30:00	48		42		90
7:45:00	45	188	25	109	70
8:00:00	42		23		65
8:15:00	41		31		72
8:30:00	46		23		69
8:45:00	28	157	30	107	58
9:00:00	36		33		69
9:15:00	25		30		55
9:30:00	44		34		78
9:45:00	33	138	33	130	66
10:00:00	30		29		59
10:15:00	32		28		60
10:30:00	28		29		57
10:45:00	38	128	38	124	76
11:00:00	49		33		82
11:15:00	40		56		96
11:30:00	45		38		83
11:45:00	32	166	47	174	79
12:00:00	45		46		91
12:15:00	47		47		94
12:30:00	46		43		89
12:45:00	35	173	55	191	90
13:00:00	39		51		90
13:15:00	38		39		77
13:30:00	39		51		90
13:45:00	30	148	47	188	77
14:00:00	51		50		101
14:15:00	43		51		94
14:30:00	39		55		94
14:45:00	57	170	57	213	94
15:00:00	54		48		100
15:15:00	46		57		103
15:30:00	55		54		109
15:45:00	38	193	59	216	97
16:00:00	45		61		106
16:15:00	52		34		86
16:30:00	44		46		90
16:45:00	44	185	60	201	104
17:00:00	39		47		86
17:15:00	42		50		92
17:30:00	37		41		78
17:45:00	35	153	26	164	61
18:00:00	27		46		73
18:15:00	27		33		60
18:30:00	22		38		60
18:45:00	20	86	43	160	63
19:00:00	26		32		58
19:15:00	15		32		47
19:30:00	17		34		51
19:45:00	17	75	20	118	37
20:00:00	13		24		37
20:15:00	13		18		31
20:30:00	13		13		26
20:45:00	11	50	16	71	27
21:00:00	6		15		21
21:15:00	9		10		19
21:30:00	12		9		21
21:45:00	3	30	14	48	17
22:00:00	3		10		13
22:15:00	3		5		8
22:30:00	5		10		15
22:45:00	7	18	8	33	15
23:00:00	3		8		11
23:15:00	3		3		6
23:30:00	2		9		11
23:45:00	3	11	2	22	5
24 Hr. Totals	2239		2428		4667

174

102 121

} 231

AM Peak Hr 7:00 11:15
 AM Peak Hr Total 188 187

PM Peak Hr
PM Peak Hr Total

15:00
193

15:15
231

File Name: 11-1019-187
 Start Date: 3/1/2011
 Start Time: 12:00:00 AM
 Site Code: 187
 Location 1: Peart Rd. south of Jimmie Kerr Blvd

Time	North	Hourly Total	South	Hourly Total	Total
0:00:00	0		0		0
0:15:00	0		0		0
0:30:00	0		0		0
0:45:00	0	0	0	0	0
1:00:00	0		0		0
1:15:00	0		1		1
1:30:00	1		0		1
1:45:00	0	1	0	1	0
2:00:00	0		0		0
2:15:00	0		0		0
2:30:00	0		0		0
2:45:00	0	0	1	1	1
3:00:00	5		0		5
3:15:00	1		0		1
3:30:00	0		1		1
3:45:00	2	8	0	1	2
4:00:00	1		0		1
4:15:00	2		1		3
4:30:00	1		1		2
4:45:00	2	6	1	3	3
5:00:00	0		0		0
5:15:00	5		2		7
5:30:00	4		6		10
5:45:00	3	12	2	10	5
6:00:00	3		4		7
6:15:00	5		7		12
6:30:00	9		17		26
6:45:00	10	27	7	35	17
7:00:00	5		2		7
7:15:00	9		5		14
7:30:00	10		17		27
7:45:00	24	48	20	44	44
8:00:00	9		12		21
8:15:00	15		11		26
8:30:00	12		7		19
8:45:00	13	49	7	37	20
9:00:00	2		5		7
9:15:00	8		7		15
9:30:00	9		8		17
9:45:00	9	28	12	32	21
10:00:00	10		9		19
10:15:00	10		13		23
10:30:00	14		12		26
10:45:00	8	42	10	44	19
11:00:00	11		8		19
11:15:00	14		12		26
11:30:00	19		9		28
11:45:00	12	56	10	39	22
12:00:00	19		8		27
12:15:00	18		9		27
12:30:00	12		12		24
12:45:00	10	59	9	38	19
13:00:00	9		13		22
13:15:00	12		8		20
13:30:00	11		13		24
13:45:00	16	48	14	48	30
14:00:00	15		11		26
14:15:00	22		9		31
14:30:00	9		6		15
14:45:00	21	67	11	37	32
15:00:00	14		8		22
15:15:00	14		7		21
15:30:00	4		16		20
15:45:00	7	39	5	36	12
16:00:00	18		12		30
16:15:00	8		7		15
16:30:00	18		6		24
16:45:00	16	63	8	33	27
17:00:00	10		7		17
17:15:00	9		8		17
17:30:00	12		8		20
17:45:00	16	47	8	31	24
18:00:00	7		7		14
18:15:00	4		6		10
18:30:00	7		6		13
18:45:00	9	27	11	30	20
19:00:00	9		9		18
19:15:00	1		8		9
19:30:00	3		9		12
19:45:00	3	18	7	33	10
20:00:00	4		2		6
20:15:00	3		1		4
20:30:00	1		2		3
20:45:00	1	9	5	10	6
21:00:00	2		2		4
21:15:00	0		3		3
21:30:00	4		0		4
21:45:00	3	9	2	7	5
22:00:00	0		1		1
22:15:00	2		1		3
22:30:00	0		0		0
22:45:00	1	3	0	2	1
23:00:00	2		0		2
23:15:00	0		0		0
23:30:00	2		1		3
23:45:00	0	4	1	2	1

24 Hr. Totals 688 554 1222

AM Peak Hr 11:30 7:30

AM Peak Hr Total 68 60

W

63 }

PM Peak Hr
PM Peak Hr Total

14:00
67

13:00
46

File Name: 11-1019-188
 Start Date: 3/1/2011
 Start Time: 12:00:00 AM
 Site Code: 188
 Location 1: Jimmie Kerr Blvd west of Pearl Rd.

Time	East	Hourly Total	West	Hourly Total	Total
0:00:00	9		9		18
0:15:00	9		3		12
0:30:00	11		3		14
0:45:00	5	34	5	20	10
1:00:00	7		4		11
1:15:00	7		5		12
1:30:00	3		6		9
1:45:00	3	20	1	16	4
2:00:00	4		2		6
2:15:00	6		2		8
2:30:00	2		10		12
2:45:00	2	14	7	21	9
3:00:00	5		4		9
3:15:00	3		10		13
3:30:00	3		19		22
3:45:00	7	18	5	38	12
4:00:00	6		10		16
4:15:00	11		23		34
4:30:00	13		24		37
4:45:00	16	46	18	75	34
5:00:00	21		21		42
5:15:00	27		34		61
5:30:00	25		35		60
5:45:00	17	90	37	127	54
6:00:00	21		39		60
6:15:00	49		56		105
6:30:00	52		55		107
6:45:00	53	175	55	205	108
7:00:00	53		54		107
7:15:00	63		94		157
7:30:00	88		110		199
7:45:00	79	284	85	373	164
8:00:00	73		58		131
8:15:00	51		66		117
8:30:00	80		78		158
8:45:00	63	247	73	275	136
9:00:00	57		66		123
9:15:00	58		73		131
9:30:00	45		71		116
9:45:00	49	209	60	270	109
10:00:00	88		66		154
10:15:00	80		69		149
10:30:00	87		75		162
10:45:00	48	303	62	272	110
11:00:00	77		95		172
11:15:00	70		99		169
11:30:00	79		78		157
11:45:00	88	315	79	351	168
12:00:00	88		108		196
12:15:00	70		81		151
12:30:00	93		77		170
12:45:00	78	330	61	357	170
13:00:00	96		81		167
13:15:00	68		73		141
13:30:00	80		89		169
13:45:00	81	343	95	358	186
14:00:00	93		96		189
14:15:00	101		114		215
14:30:00	106		92		198
14:45:00	103	403	96	398	199
15:00:00	129		106		235
15:15:00	112		98		210
15:30:00	117		113		230
15:45:00	101	459	97	414	198
16:00:00	88		101		189
16:15:00	81		101		182
16:30:00	87		97		184
16:45:00	103	369	77	376	180
17:00:00	96		88		184
17:15:00	80		74		154
17:30:00	68		77		143
17:45:00	79	321	71	310	150
18:00:00	81		88		169
18:15:00	53		59		112
18:30:00	55		56		111
18:45:00	62	251	46	249	108
19:00:00	51		47		98
19:15:00	36		30		74
19:30:00	44		35		79
19:45:00	38	171	27	145	65
20:00:00	40		22		62
20:15:00	38		28		66
20:30:00	36		27		63
20:45:00	29	143	26	103	55
21:00:00	35		14		49
21:15:00	24		21		45
21:30:00	15		21		36
21:45:00	17	61	19	75	36
22:00:00	18		17		35
22:15:00	25		10		35
22:30:00	9		17		26
22:45:00	18	70	10	54	28
23:00:00	16		10		26
23:15:00	17		17		34
23:30:00	16		12		28
23:45:00	15	64	13	52	28
24 Hr. Totals	4770		4914		9684

304

377

AM Peak Hr 11:45 7:00
 AM Peak Hr Total 340 373

PM Peak Hr
PM Peak Hr Total

14:45
461

15:00
414

File Name: 11-1019-072
 Start Date: 3/1/2011
 Start Time: 12:00:00 AM
 Site Code: 072
 Location 1: Peart Rd south of Earley Rd.

Time	North	Hourly Total	South	Hourly Total	Total
0:00:00	1		1		2
0:15:00	1		2		3
0:30:00	3		3		6
0:45:00	1	6	2	8	3
1:00:00	2		1		3
1:15:00	3		2		5
1:30:00	0		0		0
1:45:00	2	7	1	4	3
2:00:00	1		1		2
2:15:00	2		1		3
2:30:00	0		2		2
2:45:00	0	3	3	7	3
3:00:00	1		0		1
3:15:00	4		0		4
3:30:00	1		0		1
3:45:00	4	10	1	1	5
4:00:00	3		1		4
4:15:00	8		3		11
4:30:00	4		4		8
4:45:00	3	18	3	11	6
5:00:00	9		0		9
5:15:00	7		12		19
5:30:00	13		15		28
5:45:00	7	38	9	38	16
6:00:00	21		13		34
6:15:00	15		20		35
6:30:00	22		21		43
6:45:00	23	81	25	79	46
7:00:00	40		19		59
7:15:00	43		32		75
7:30:00	40		24		64
7:45:00	31	154	34	109	65
8:00:00	35		18		53
8:15:00	45		20		65
8:30:00	20		26		55
8:45:00	53	182	24	88	77
9:00:00	33		29		62
9:15:00	37		47		84
9:30:00	44		27		71
9:45:00	30	144	42	145	72
10:00:00	39		35		74
10:15:00	33		42		75
10:30:00	28		24		52
10:45:00	24	124	28	129	52
11:00:00	29		32		61
11:15:00	22		30		52
11:30:00	20		33		53
11:45:00	25	98	26	121	51
12:00:00	41		53		94
12:15:00	39		39		78
12:30:00	44		55		99
12:45:00	45	169	39	186	84
13:00:00	40		57		97
13:15:00	38		39		75
13:30:00	40		56		96
13:45:00	32	148	52	204	84
14:00:00	44		50		94
14:15:00	49		48		97
14:30:00	39		46		85
14:45:00	38	170	53	197	91
15:00:00	46		57		103
15:15:00	63		54		117
15:30:00	48		42		90
15:45:00	44	201	50	203	94
16:00:00	40		53		93
16:15:00	58		62		120
16:30:00	49		46		95
16:45:00	31	178	53	214	84
17:00:00	33		65		98
17:15:00	35		53		88
17:30:00	43		43		86
17:45:00	32	143	36	197	68
18:00:00	20		46		66
18:15:00	24		33		57
18:30:00	25		36		61
18:45:00	27	96	28	143	55
19:00:00	29		33		62
19:15:00	14		44		58
19:30:00	9		24		33
19:45:00	14	66	20	121	34
20:00:00	14		12		26
20:15:00	13		23		36
20:30:00	8		20		28
20:45:00	6	41	22	77	28
21:00:00	13		12		25
21:15:00	3		14		17
21:30:00	14		14		28
21:45:00	8	38	17	57	25
22:00:00	4		11		15
22:15:00	8		11		19
22:30:00	6		6		12
22:45:00	4	22	5	33	9
23:00:00	7		7		14
23:15:00	3		4		7
23:30:00	5		8		13
23:45:00	4	10	3	22	7

24 Hr. Totals 2132 2392 4524

AM Peak Hr 8:45 11:45

AM Peak Hr Total 167 173

File Name: 11-1019-139
 Start Date: 2/23/2011
 Start Time: 12:00:00 AM
 Site Code: 139
 Location 1: Jimmie Kerr Blvd. west of Sunland Gin Rd.

Time	East	Hourly Total	West	Hourly Total	Total
0:00:00	11		9		20
0:15:00	10		12		22
0:30:00	8		14		22
0:45:00	7	36	8	43	15
1:00:00	5		7		12
1:15:00	8		5		13
1:30:00	5		8		13
1:45:00	9	27	5	25	14
2:00:00	6		9		15
2:15:00	3		6		9
2:30:00	2		8		10
2:45:00	5	16	7	30	12
3:00:00	4		11		15
3:15:00	7		14		21
3:30:00	4		18		22
3:45:00	8	23	24	67	32
4:00:00	11		29		40
4:15:00	10		33		43
4:30:00	14		30		44
4:45:00	8	43	32	124	40
5:00:00	11		41		52
5:15:00	24		46		69
5:30:00	41		55		96
5:45:00	45	121	50	191	95
6:00:00	55		58		113
6:15:00	59		57		107
6:30:00	58		74		132
6:45:00	63	226	79	268	142
7:00:00	66		85		151
7:15:00	60		122		182
7:30:00	74		121		195
7:45:00	78	278	133	461	211
8:00:00	88		104		192
8:15:00	80		87		167
8:30:00	87		85		172
8:45:00	75	330	89	365	164
9:00:00	58		104		162
9:15:00	59		101		160
9:30:00	63		108		171
9:45:00	65	246	87	400	153
10:00:00	60		85		145
10:15:00	54		122		176
10:30:00	74		120		194
10:45:00	89	277	104	431	193
11:00:00	111		87		198
11:15:00	104		85		189
11:30:00	101		96		197
11:45:00	108	424	99	367	207
12:00:00	76		103		182
12:15:00	85		111		196
12:30:00	88		104		192
12:45:00	103	355	108	426	211
13:00:00	101		85		186
13:15:00	108		89		197
13:30:00	87		96		183
13:45:00	122	418	99	369	221
14:00:00	128		111		239
14:15:00	124		104		228
14:30:00	143		87		230
14:45:00	130	534	96	398	235
15:00:00	133		122		255
15:15:00	111		104		215
15:30:00	104		122		226
15:45:00	128	476	120	468	248
16:00:00	122		104		226
16:15:00	120		104		224
16:30:00	133		85		218
16:45:00	141	516	89	382	230
17:00:00	145		103		248
17:15:00	150		101		260
17:30:00	130		85		224
17:45:00	133	576	88	377	221
18:00:00	111		80		191
18:15:00	101		74		175
18:30:00	87		59		146
18:45:00	85	384	66	278	151
19:00:00	86		54		120
19:15:00	80		52		112
19:30:00	54		29		83
19:45:00	42	222	33	168	75
20:00:00	41		39		71
20:15:00	44		32		76
20:30:00	47		28		75
20:45:00	42	174	24	114	66
21:00:00	32		21		53
21:15:00	28		14		42
21:30:00	24		16		40
21:45:00	29	113	12	63	41
22:00:00	22		6		30
22:15:00	20		11		31
22:30:00	21		14		35
22:45:00	14	77	18	51	32
23:00:00	16		8		24
23:15:00	8		5		13
23:30:00	7		3		10
23:45:00	5	40	3	22	12

263

337

24 Hr. Totals 5932 5689 11621
 AM Peak Hr 11:00 7:15
 AM Peak Hr Total 424 480

PM Peak Hr	16:45	15:00
PM Peak Hr Total	584	488



City of Casa Grande General Plan 2010

Future Land Use

Figure 3.1

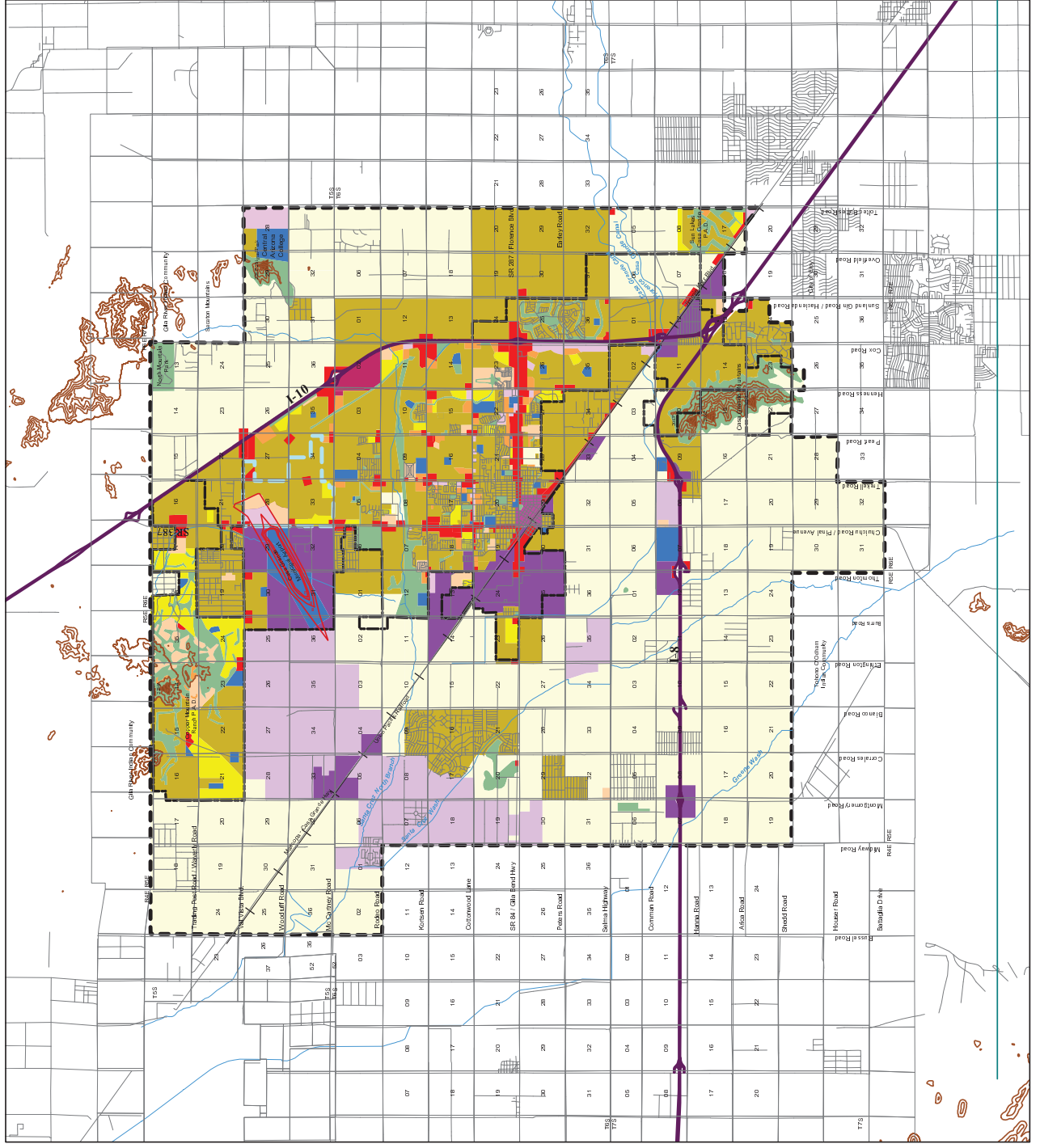
Legend

Land Use Designation

- Rural Residential (0-1 DU/AC*) Target: 5 DU/AC
- Low Density Residential (1-4 DU/AC) Target: 2.5 DU/AC
- Medium Density Residential #1 (4-8 DU/AC) Target: 5.0 DU/AC
- Medium Density Residential #2 (8-12 DU/AC) Target: 10.0 DU/AC
- High Density Residential (12-16 DU/AC) Target: 14.0 DU/AC
- Commercial
- Regional Commercial
- Office/Business Park
- Employment
- Natural Resource Extraction
- Public/Semi-Public
- Parks/Open Space
- Revitalization Area
- Master Planned Community (MPC)
- City Incorporated Boundary
- Planning Area Boundary
- Airport Noise Exposure Contours

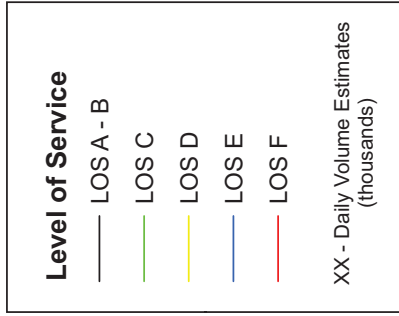
* DU/AC = dwelling units per acre

Note: A different target density for land designated Low Density Residential may be allowed depending on location. See Growth Areas and text in the General Plan document.

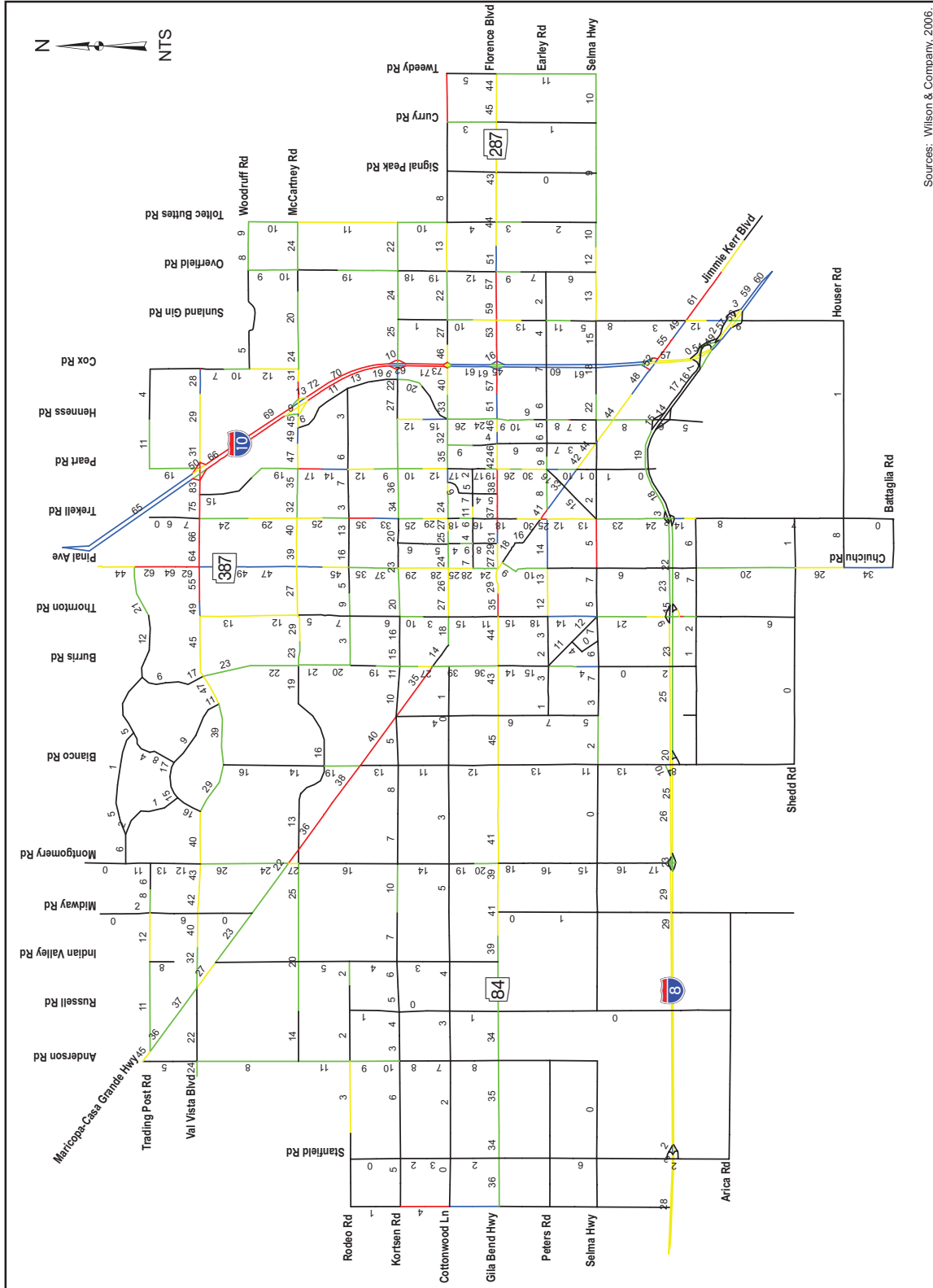


Partners For Strategic Action, Inc.
Lima & Associates
January 2005

YEAR 2020 NEEDS
NETWORK PERFORMANCE
AND VOLUME ESTIMATES



Note: These roadways do not account for all existing planned development, current roadway alignments, or vertical structures, and should not be construed as centerline or roadway alignments.



Sources: Wilson & Company, 2006.

FIGURE B-4

2006 Casa Grande Small Area Transportation Study

YEAR 2030 NEEDS
NETWORK PERFORMANCE
AND VOLUME ESTIMATES

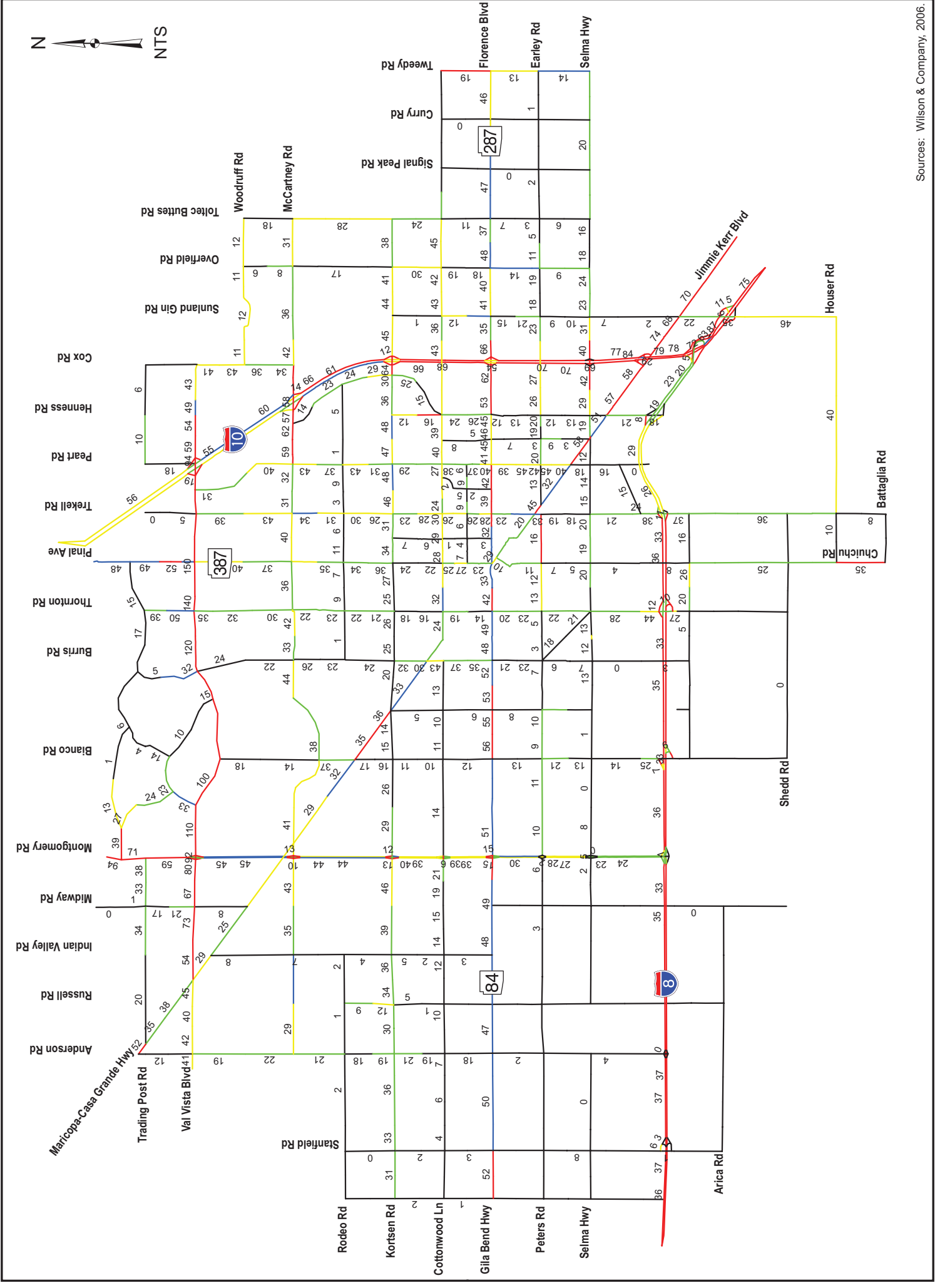


FIGURE B-6

2006 Casa Grande Small Area Transportation Study



[Arizona](#) Cities by Population

Arizona Cities by Population

Get a list of Arizona cities by population. The data are from the US Census 2010 dataset. Below are Arizona cities ranked 1 through 451. You can copy and paste this list directly into your favorite spreadsheet program. Don't you just adore lovely numbers listed nicely in columns & rows? We do!

Arizona Cities by Population Rank	City	Population
1	Phoenix	1,445,632
2	Tucson	520,116
3	Mesa	439,041
4	Chandler	236,123
5	Glendale	226,721
6	Scottsdale	217,385
7	Gilbert	208,453
8	Tempe	161,719
9	Peoria	154,065
10	Surprise	117,517
11	Yuma	93,064
12	San Tan Valley	81,321

13	Avondale	76,238
14	Casas Adobes	66,795
15	Flagstaff	65,870
16	Goodyear	65,275
17	Lake Havasu City	52,527
18	Buckeye	50,876
19	Catalina Foothills	50,796
20	Casa Grande	48,571
21	Sierra Vista	43,888
22	Maricopa	43,482
23	Oro Valley	41,011
24	Prescott	39,843
25	Bullhead City	39,540
26	Prescott Valley	38,822
27	Sun City	37,499
28	Apache Junction	35,840
29	Marana	34,961
30	El Mirage	31,797
31	Kingman	28,068
32	Drexel Heights	27,749
33	Queen Creek	26,361
34	Fortuna Foothills	26,265
35	Florence	25,536
36	San Luis	25,505
37	Sahuarita	25,259
38	Sun City West	24,535
39	Fountain Hills	22,489

40	Anthem	21,700
41	Green Valley	21,391
42	Nogales	20,837
43	Rio Rico	18,962
44	Douglas	17,378
45	Tanque Verde	16,901
46	Eloy	16,631
47	Flowing Wells	16,419
48	Payson	15,301
49	New River	14,952
50	Sierra Vista Southeast	14,797
51	Fort Mohave	14,364
52	Somerton	14,287
53	Sun Lakes	13,975
54	Paradise Valley	12,820
55	Tucson Estates	12,192
56	New Kingman-Butler	12,134
57	Coolidge	11,825
58	Verde Village	11,605
59	Cottonwood	11,265
60	Camp Verde	10,873
61	Chino Valley	10,817
62	Show Low	10,660
63	Arizona City	10,475
64	Vail	10,208
65	Gold Canyon	10,159
66	Sedona	10,031

67	Winslow	9,655
68	Saddlebrooke	9,614
69	Safford	9,566
70	Picture Rocks	9,563
71	Valencia West	9,355
72	Tuba City	8,611
73	Golden Valley	8,370
74	Catalina	7,569
75	Globe	7,532
76	Page	7,247
77	Tolleson	6,545
78	Wickenburg	6,363
79	Youngtown	6,156
80	Village of Oak Creek (Big Park)	6,147
81	Avra Valley	6,050
82	Corona de Tucson	5,675
83	South Tucson	5,652
84	Snowflake	5,590
85	Three Points	5,581
86	Bisbee	5,575
87	Guadalupe	5,523
88	Litchfield Park	5,476
89	Williamson	5,438
90	Doney Park	5,395
91	Summit	5,372
92	Paulden	5,231
93	Kayenta	5,189

94	Rincon Valley	5,139
95	Benson	5,105
96	Holbrook	5,053
97	Cave Creek	5,015
98	Eagar	4,885
99	Thatcher	4,865
100	Colorado City	4,821
101	Lake Montezuma	4,706
102	Chinle	4,518
103	Pinetop-Lakeside	4,282
104	Avenue B and C	4,176
105	Taylor	4,112
106	Whiteriver	4,104
107	Clarkdale	4,097
108	Lake of the Woods	4,094
109	San Carlos	4,038
110	Citrus Park	4,028
111	Dewey-Humboldt	3,894
112	Willcox	3,757
113	Oracle	3,686
114	Quartzsite	3,677
115	Fort Defiance	3,624
116	San Manuel	3,551
117	St. Johns	3,480
118	Carefree	3,363
119	Clifton	3,311
120	Ajo	3,304

121	Cornville	3,280
122	Parker	3,083
123	Williams	3,023
124	Swift Trail Junction	2,935
125	Wellton	2,882
126	Superior	2,837
127	Black Canyon City	2,837
128	Heber-Overgaard	2,822
129	Window Rock	2,712
130	Sacaton	2,672
131	Cordes Lakes	2,633
132	Kachina Village	2,622
133	Whetstone	2,617
134	Mohave Valley	2,616
135	Linden	2,597
136	Central Heights- Midland City	2,534
137	Sells	2,495
138	Pima	2,387
139	Star Valley	2,310
140	Desert Hills	2,245
141	White Mountain Lake	2,205
142	Red Rock	2,169
143	Golden Shores	2,047
144	Dolan Springs	2,033
145	Grand Canyon Village	2,004
146	Congress	1,975
147	Pine	1,963

148	Beaver Dam	1,962
149	Bylas	1,962
150	Springerville	1,961
151	Kearny	1,950
152	Gila Bend	1,922
153	Bagdad	1,876
154	Huachuca City	1,853
155	Miami	1,837
156	Mescal	1,812
157	Rio Verde	1,811
158	Cienega Springs	1,798
159	Pinetop Country Club	1,794
160	Pirtleville	1,744
161	Cibecue	1,713
162	Lukachukai	1,701
163	St. David	1,699
164	Valle Vista	1,659
165	Wagon Wheel	1,652
166	Scenic	1,643
167	First Mesa	1,555
168	Claypool	1,538
169	Salome	1,530
170	Kaibito	1,522
171	Cactus Flats	1,518
172	Donovan Estates	1,508
173	Mayer	1,497
174	Morenci	1,489

175	Ehrenberg	1,470
176	LeChee	1,443
177	St. Michaels	1,443
178	Mammoth	1,426
179	Tonto Basin	1,424
180	North Fork	1,417
181	Casa Blanca	1,388
182	Joseph City	1,386
183	Tombstone	1,380
184	Peridot	1,350
185	Many Farms	1,348
186	Fredonia	1,314
187	Centennial Park	1,264
188	Meadview	1,224
189	Ganado	1,210
190	Canyon Day	1,209
191	Tsaile	1,205
192	Tubac	1,191
193	Parks	1,188
194	Dilkon	1,184
195	Spring Valley	1,148
196	Mountaineer	1,119
197	Peach Springs	1,090
198	Arivaca Junction	1,090
199	Willow Valley	1,062
200	Blackwater	1,062
201	Naco	1,046

202	Houck	1,024
203	Six Shooter Canyon	1,019
204	Bouse	996
205	Rainbow City	968
206	Moenkopi	964
207	Second Mesa	962
208	Strawberry	961
209	Dudleyville	959
210	Hotevilla-Bacavi	957
211	Leupp	951
212	Arizona Village	946
213	Patagonia	913
214	Pinon	904
215	Cameron	885
216	Littleton	873
217	Wilhoit	868
218	Ak-Chin Village	862
219	Valle	832
220	Shongopovi	831
221	Komatke	821
222	Sonoita	818
223	Whitecone	817
224	Hondah	812
225	Martinez Lake	798
226	Aguila	798
227	Round Rock	789
228	Queen Valley	788

229	Wheatfields	785
230	Fort Valley	779
231	Mesa del Caballo	765
232	Wittmann	763
233	Low Mountain	757
234	Sawmill	748
235	Dennehotso	746
236	Kykotsmovi Village	746
237	Stanfield	740
238	Teec Nos Pos	730
239	Wenden	728
240	Bluewater	725
241	Maricopa Colony	709
242	Seven Mile	707
243	East Fork	699
244	La Paz Valley	699
245	Duncan	696
246	Arivaca	695
247	Pimaco Two	682
248	Gadsden	678
249	Icehouse Canyon	677
250	Brenda	676
251	Young	666
252	Hayden	662
253	Parker Strip	662
254	Stotonic Village	659
255	Yarnell	649

256	Central	645
257	Miracle Valley	644
258	Rock Point	642
259	Munds Park	631
260	Sanders	630
261	Santa Rosa	628
262	Rancho Mesa Verde	625
263	Gila Crossing	621
264	Elephant Head	612
265	Tacna	602
266	Vicksburg	597
267	Orange Grove Mobile Manor	594
268	Cactus Forest	594
269	Shonto	591
270	Gisela	570
271	Walnut Creek	562
272	Tusayan	558
273	York	557
274	Tonalea	549
275	Greasewood	547
276	Sacaton Flats Village	541
277	Burnside	537
278	McNary	528
279	San Jose	506
280	Chilchinbito	506
281	El Prado Estates	504
282	Upper Santan Village	495

283	Nazlini	489
284	Pinedale	487
285	Round Valley	487
286	Red Mesa	480
287	So-Hi	477
288	St. Johns	476
289	Picacho	471
290	Elfrida	459
291	Goodyear Village	457
292	Bitter Springs	452
293	Bowie	449
294	Tees Toh	448
295	Cane Beds	448
296	Seligman	445
297	Jerome	444
298	Pinal	439
299	Winslow West	438
300	Lazy Y U	428
301	Peeples Valley	428
302	Solomon	426
303	Dateland	416
304	Mesquite Creek	416
305	Wall Lane	415
306	Rough Rock	414
307	Clay Springs	401
308	Ash Fork	396
309	Tumacacori-Carmen	393

310	Fort Thomas	374
311	Lower Santan Village	374
312	Winkelman	353
313	Del Muerto	329
314	White Hills	323
315	Pisinemo	321
316	Cedar Creek	318
317	Sun Valley	316
318	Littlefield	308
319	Keams Canyon	304
320	Topawa	299
321	Amado	295
322	Turkey Creek	294
323	Jeddito	293
324	Poston	285
325	Steamboat	284
326	Sunizona	281
327	Tolani Lake	280
328	Crystal Beach	279
329	Drysdale	272
330	Chloride	271
331	Chuichu	269
332	Nelson	259
333	Wellton Hills	258
334	Tonto Village	256
335	Cornfields	255
336	Indian Wells	255

337	Cibola	250
338	Klagetoh	242
339	McNeal	238
340	Dripping Springs	235
341	Top-of-the-World	231
342	Beaver Valley	231
343	Wet Camp Village	229
344	Morristown	227
345	Cottonwood	226
346	East Globe	226
347	Oxbow Estates	217
348	Deer Creek	216
349	Palominas	212
350	Dragoon	209
351	Supai	208
352	San Miguel	197
353	Arlington	194
354	Woodruff	191
355	Gu Oidak	188
356	Pinion Pines	186
357	Beyerville	177
358	Wide Ruins	176
359	Bryce	175
360	Clacks Canyon	173
361	Padre Ranchitos	171
362	East Verde Estates	170
363	Red Rock	169

364	Sacate Village	169
365	Why	167
366	San Simon	165
367	Elgin	161
368	Ali Chuk	161
369	Theba	158
370	Maish Vaya	158
371	Christopher Creek	156
372	Oljato-Monument Valley	154
373	Buckshot	153
374	Anegam	151
375	Whispering Pines	148
376	Alpine	145
377	Fort Apache	143
378	Kaka	141
379	Pine Lake	138
380	Seba Dalkai	136
381	Wintersburg	136
382	Kino Springs	136
383	Sehili	135
384	Cowlic	135
385	Oatman	135
386	Truxton	134
387	Wikieup	133
388	Ali Chukson	132
389	Vaiva Vo	128
390	Carrizo	127

391	Utting	126
392	Yucca	126
393	Antares	126
394	Kaibab	124
395	Vernon	122
396	Wahak Hotrontk	114
397	South Komelik	111
398	Copper Hill	108
399	Katherine	103
400	Rillito	97
401	Haivana Nakya	96
402	Hard Rock	94
403	Franklin	92
404	Moccasin	89
405	Freedom Acres	84
406	Sweet Water Village	83
407	Chiawuli Tak	78
408	Rye	77
409	Jakes Corner	76
410	Cutter	74
411	Campo Bonito	74
412	Ali Molina	71
413	Washington Park	70
414	McConnico	70
415	Hackberry	68
416	Oak Springs	63
417	Tonopah	60

418	Geronimo Estates	60
419	Charco	52
420	Mojave Ranch Estates	52
421	Rock House	50
422	Ventana	49
423	Hunter Creek	48
424	Aztec	47
425	Kohls Ranch	46
426	Ko Vaya	46
427	Flowing Springs	42
428	Greer	41
429	Summerhaven	40
430	Concho	38
431	Valentine	38
432	Mead Ranch	38
433	Santa Cruz	37
434	El Capitan	37
435	Nolic	37
436	Ak Chin	30
437	Roosevelt	28
438	Kohatk	27
439	Nutriso	26
440	Lupton	25
441	Alamo Lake	25
442	Haigler Creek	19
443	Bear Flat	18
444	Sunwest	15

445	Crozier	14
446	Toyei	13
447	Tat Momoli	10
448	Topock	10
449	Comobabi	8
450	Grand Canyon West	2
451	Willow Canyon	1

Source: Census 2010 SF1

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New plans for old outlets Casa Grande's outlets

■ Owner wants to change name, design of mall

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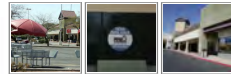
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Oscar Perez/Dispatch

The Outlets at Casa Grande

Kitchen Collection is one of only a few stores that occupy space at The Outlets at Casa Grande, which now sits mostly vacant.



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YOUR PERSONAL HOMETOWN JEWELER

Posted: Tuesday, March 19, 2013 8:03 am

By MELISSA ST. AUDE, Staff Writer | 0 comments

The Outlets at Casa Grande shopping center could soon become a destination for home improvement shoppers.

AZ Outlet Investments, which purchased the property in 2011, has plans to attract new tenants, including home improvement retailers and service providers.

"Our idea is to rebrand the mall as a home center with retail establishments that offer building materials, interior furnishings, anything for home improvement," said Brad Holyoak, vice president and project manager for AZ Outlet Investments. "We'll add sit-down restaurants and other things to increase traffic out there."

Renamed "The Station," the shopping center is also pegged for a facelift and architectural redesign.

With the addition of arches and gables, the mall will be transformed from Southwestern style to traditional, Holyoak said. New, lush landscaping is to be installed and the parking lot will be resurfaced and improved, he said.

"Physically transforming the facility should make it more attractive and increase activity out there," Holyoak said. The renovation work is to occur this summer.

While many of the new businesses are expected to be connected to home improvement, other retailers are welcome to lease space in the mall, and existing tenants can stay if they choose.

A gymnastics studio recently opened in the mall and Holyoak said a new in-house leasing team is working to sign other tenants.



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Today's E-Edition

Thursday - July 11, 2013

Brad Holyoak

“Our goal is to rebrand Jimmie Kerr Boulevard so that it becomes the main entrance to the city.”

— Brad Holyoak, Vice president and project manager of AZ Outlet Investments

The mall's redesign is among several plans currently in the works for that portion of Jimmie Kerr Boulevard.

While the mall is being redesigned and rebranded, its sister project "The Station II" is working its way through the city's approval process.

Located on 34 acres to the west of The Station, The Station II also will have retail space that focuses on home products. A hotel and condominiums are part of the plans for The Station II, Holyoak said.

"We're excited about this," he said. "We've been working on this for about a year and a half."

Holyoak said he sees the area becoming the main gateway into Casa Grande.

"Florence Boulevard is now seen as the gateway to Casa Grande," he said. "But our goal is to rebrand Jimmie Kerr Boulevard so that it becomes the main entrance to the city."

A nearby, but unrelated, development project on Jimmie Kerr Boulevard is also moving forward. Developers of 83 acres west of, and partially adjacent to, The Station and east of the undeveloped Casa Vista subdivision are seeking to change the zoning of the land from residential to major commercial and light industrial. The change allows the land to be used for warehouses, mixed-use office and industrial ventures.

The request to rezone the property, now dubbed "Lonesome Valley Farms," was given a favorable recommendation by the Casa Grande Planning and Zoning Commission earlier this month.

The outlet center opened in 1990 and at one time dozens of retailers were among its tenants.

It was sold several times before being purchased in 2011 by AZ Outlet Investments LLC, which is affiliated with AZ Sourcing — the developers of the future Phoenix Mart.

Originally, the company planned to use the mall in conjunction with development of Phoenix Mart. Expected to break ground sometime later this year, Phoenix Mart is a 1.5 million-square-foot commercial venture to be built at the east end of the city, near Florence Boulevard and Toltec Buttes Road.

The company's original plan for the outlet mall was that future Phoenix Mart tenants who wanted to set up shop early, before construction of the commercial center was finished, could do so in some of the empty space.

"We rethought that strategy," Holyoak said. "We feel this model is a good one."

The Casa Grande Planning and Zoning Commission earlier this month gave favorable recommendation to The Station's development plan, which included a request to rezone the property for more commercial, business and service uses. With the commission's stamp of approval, the plan next goes to the City Council for final approval.

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Posted in Area news on Tuesday, March 19, 2013 8:03 am.

From The Web

by Taboola



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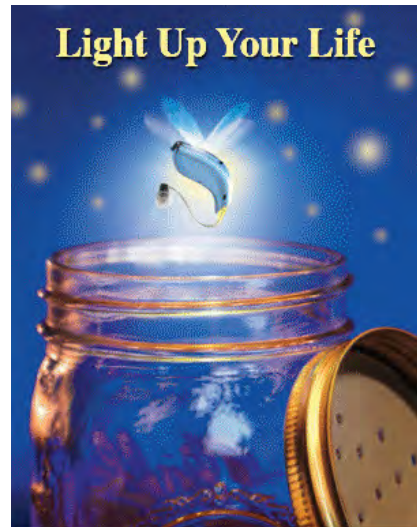
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Figure 3a: Map of 10 Year Arterial Streets Capital Improvements Plan

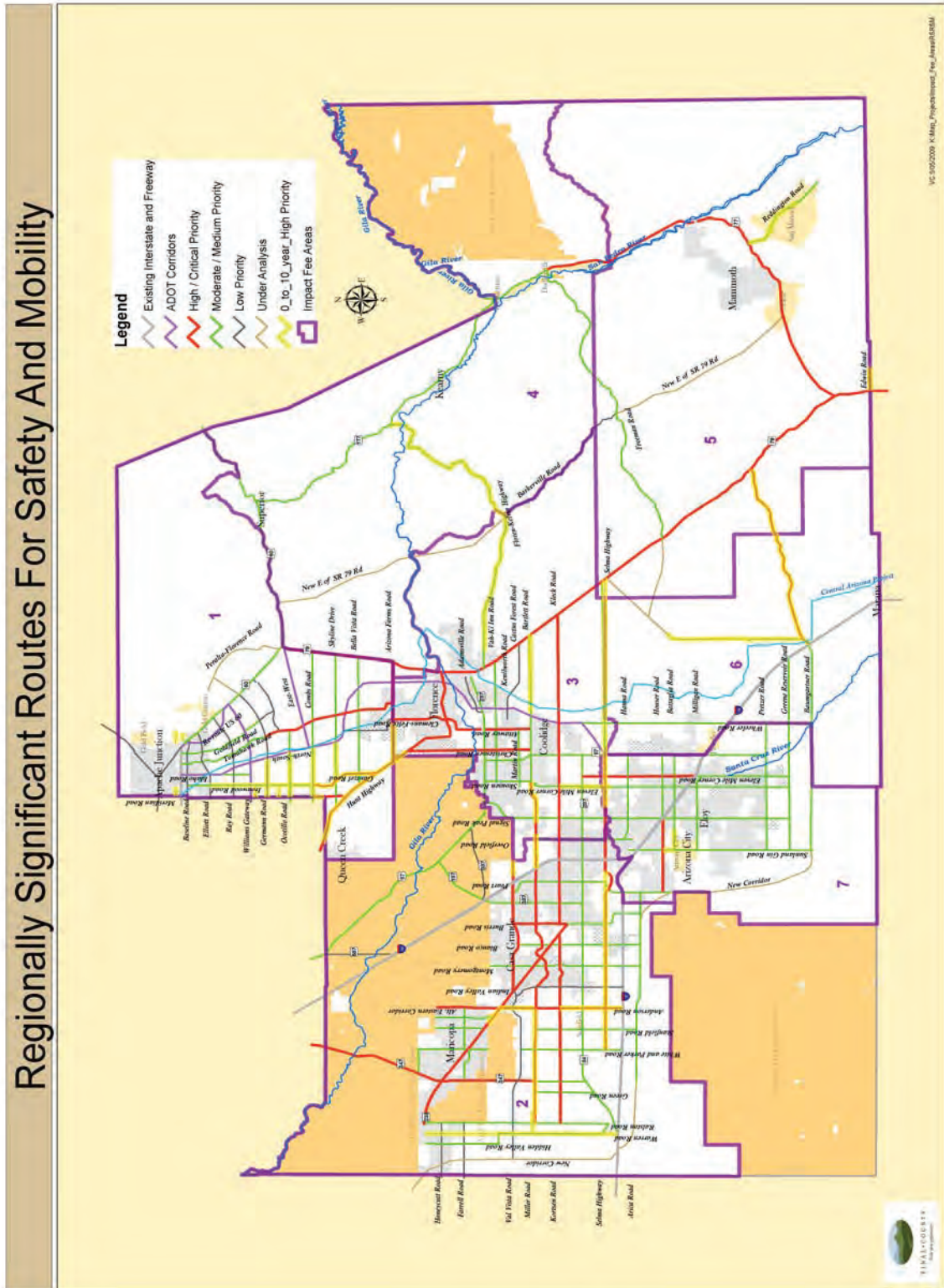
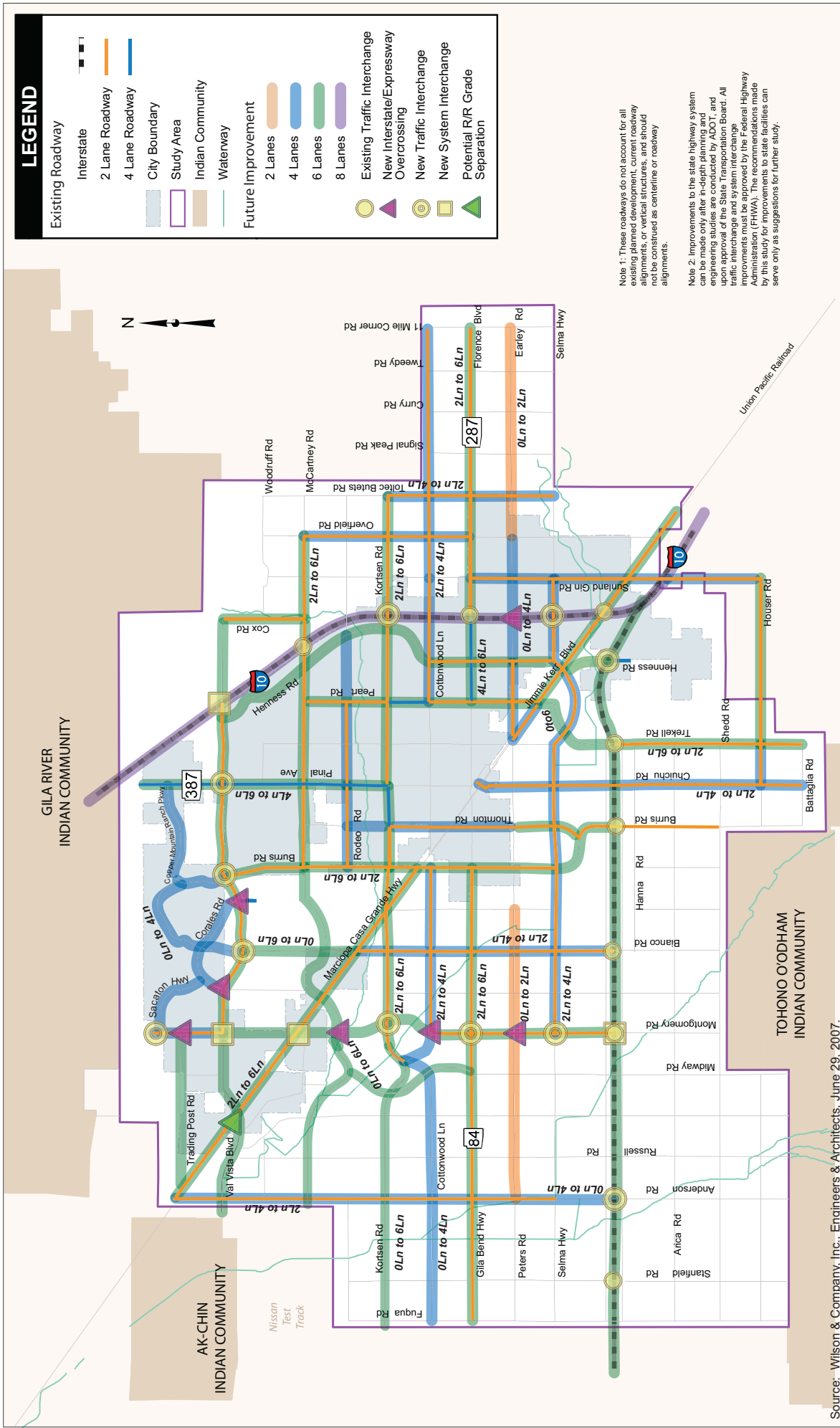


Figure 3: Summary 10 Year Arterial Streets Capital Improvements Plan

<i>IFA 1</i>	<i>ConstructionTimeframe</i>	<i>Lane Miles</i>	<i>Cost</i>
Ironwood Road (Elliot south to Bella Vista) - Existing	1-5 Years	52.0	\$98,127,248
Ironwood Road (Elliot south to Bella Vista) - 2 Lane Addition	1-5 Years	26.0	\$44,114,931
Gantzel (Bella Vista south to Hunt Hwy)	1-5 Years	6.0	\$15,712,416
Combs Road (Schnepf west to Meridian)	1-5 Years	6.0	\$10,180,369
Combs Road (Schnepf east to N-S Fwy)	1-5 Years	7.0	\$11,877,097
Ocotillo Road (Ironwood west to Meridian)	1-5 Years	2.0	\$3,393,456
Ocotillo Road (Ironwood east to N-S Fwy)	1-5 Years	7.0	\$11,877,097
Germann Road (Ironwood west to Meridian)	1-5 Years	2.0	\$3,393,456
Germann Road (Ironwood east to N-S Fwy)	1-5 Years	10.0	\$16,967,281
Skyline Road (Ironwood east to N-S Fwy)	1-5 Years	10.5	\$17,815,645
Empire (Ellsworth to Gary)	1-5 Years	4.0	\$496,140
Gary Road (Empire to Combs)	1-5 Years	2.0	\$3,393,456
Hunt Hwy (AZ Farms to Empire)	1-5 Years	19.0	\$32,237,834
Williams Gateway (Ironwood to Meridian)	6-10 Years	2.0	\$3,393,456
Southern Ave (Meridian east to Ironwood)	6-10 Years	1.6	\$2,714,765
Southern Ave (Mountain View east)	6-10 Years	2.0	\$3,393,456
34th Ave (Val Vista Road east)	6-10 Years	1.4	\$2,375,419
SUBTOTAL IFA 1		160.5	\$281,463,524
<i>IFA 2</i>	<i>ConstructionTimeframe</i>	<i>Lane Miles</i>	<i>Cost</i>
Miller Road (Warren east to Anderson)	1-5 Years	26.0	\$44,114,931
Anderson Road (Miller to CG/Maricopa Hwy)	1-5 Years	6.0	\$10,180,369
CG/Maricopa Hwy (Anderson to Maricopa city limits)	1-5 Years	3.6	\$6,108,221
Val Vista Road (I-10 east to Cox)	1-5 Years	3.0	\$5,090,184
McCartney Road (I-10 east to Weaver)	1-5 Years	5.0	\$8,483,641
Warren Road (I-8 north to 238)	6-10 Years	39.0	\$77,235,106
Anderson Road (I-8 to Kortsen)	6-10 Years	11.0	\$18,664,009
Selma Hwy (White and Parker east to Henness)	6-10 Years	34.0	\$67,333,169
SUBTOTAL IFA 2		127.6	\$237,209,630
<i>IFA 3</i>	<i>ConstructionTimeframe</i>	<i>Lane Miles</i>	<i>Cost</i>
McCartney Road (IFA east to Coolidge limits)	1-5 Years	1.0	\$1,696,728
McCartney Road (Coolidge limits to Skousen)	1-5 Years	8.0	\$13,573,825
Bartlett Road (Coolidge limits east to 79)	1-5 Years	14.6	\$28,913,655
Eleven Mile Corner Road (Kleck south to IFA boundary)	1-5 Years	7.0	\$11,877,097
Hunt Hwy (Christensen align. to Gila River limits)	1-5 Years	1.5	\$2,545,092
Arizona Farms Road (Hunt Hwy east to Felix Road)	6-10 Years	7.2	\$12,216,442
Selma Hwy (87 east to IFA boundary)	6-10 Years	58.8	\$116,446,775
Florence-Kelvin Hwy (Florence limits east to IFA boundary)	6-10 Years	28.0	\$47,508,387
SUBTOTAL IFA 3		126.1	\$234,778,002
<i>IFA 4</i>	<i>ConstructionTimeframe</i>	<i>Lane Miles</i>	<i>Cost</i>
Florence-Kelvin Hwy (IFA boundary east to 177)	6-10 Years	32.0	\$45,298,180
SUBTOTAL IFA 4		32.0	\$45,298,180
<i>IFA 5</i>	<i>ConstructionTimeframe</i>	<i>Lane Miles</i>	<i>Cost</i>
Edwin Road (77 east)	1-5 Years	4.0	\$750,000
Park Link (IFA boundary east to 79)	6-10 Years	13.0	\$20,863,473
Reddington Road (south)	6-10 Years	12.0	\$16,986,817
Selma Hwy (IFA boundary east to 79)	6-10 Years	6.0	\$8,493,409
SUBTOTAL IFA 5		35.0	\$47,093,699
<i>IFA 6 & 7</i>	<i>ConstructionTimeframe</i>	<i>Lane Miles</i>	<i>Cost</i>
Pecan Rd (Durham Landfill)	1-5 Years	26.0	\$41,726,946
Park Link (I-10 east to IFA boundary)	6-10 Years	22.0	\$35,307,416
Sunland Gin Road (Battaglia to Houser)	6-10 Years	2.0	\$2,831,136
Battaglia Road (Sunland Gin east to Eloy limits)	6-10 Years	4.0	\$5,662,272
Selma Hwy (CG limits to 87)	6-10 Years	10.0	\$14,155,681
Eleven Mile Corner Road (Grogan north to IFA boundary)	6-10 Years	1.4	\$1,981,795
SUBTOTAL IFA 6 & 7		65.4	\$101,665,246
TOTAL		546.6	\$947,508,281



Note 1: These roadways do not account for all existing planned development, current roadway alignments, or vertical structures, and should be reviewed as tentative or roadway alignments.

Note 2: Improvements to the state highway system can be made only after in-depth planning and engineering studies are conducted by ADOT, and traffic impacts and system interchanges. All improvements must be approved by the Federal Highway Administration (FHWA). The recommendations made by this study for improvements to state facilities can serve only as suggestions for further study.

Source: Wilson & Company, Inc., Engineers & Architects, June 29, 2007.



FIGURE 6-2 Year 2030 Roadway Improvement Plan



City of Casa Grande SATS Final Report

**TABLE 6-2
YEAR 2020 AND YEAR 2030 ROADWAY CAPACITY IMPROVEMENT NEEDS**

Location	Length (Miles)	Description	Responsible Agency	Cost ¹ (Thousands)
YEAR 2020 ROADWAY IMPROVEMENTS				
Val Vista Blvd: Anderson Rd to Maricopa-Casa Grande Hwy	1.49	Construct New 6 Lane	Pinal County	\$12,124
Val Vista Blvd: Maricopa-Casa Grande Hwy to I-10	10.31	Widen to 6 Lanes	Casa Grande	\$83,894
Val Vista Blvd: I-10 to Cox Rd	2.02	Widen to 4 Lanes	Pinal County	\$10,958
I-10: Val Vista Blvd	-	New Traffic Interchange	ADOT ²	\$30,000
Maricopa-Casa Grande Hwy: Burriss Rd to Val Vista Blvd	8.08	Widen to 4 Lanes	Casa Grande/Pinal County	\$43,832
Maricopa-Casa Grande Hwy: Val Vista Blvd to Anderson Rd	1.85	Widen to 6 Lanes	Casa Grande/Pinal County	\$15,054
Pinal Ave (SR 387): Kortsens Rd to I-10	6.31	Widen to 6 Lanes	ADOT ²	\$17,115
Florence Blvd (SR 287): Peart Rd to Tweedy Rd	8.00	Widen to 6 Lanes	ADOT ²	\$54,084
Jimmie Kerr Blvd: Sunland Gin Rd to Peart Rd	3.76	Widen to 6 Lanes	Casa Grande/Pinal County	\$30,596
Jimmie Kerr Blvd: Peart Rd to Trekell Rd	1.25	Widen to 4 Lanes	Casa Grande/Pinal County	\$6,781
I-10: Sunland Gin Rd to Val Vista Blvd	12.00	Widen to 8 Lanes	ADOT ²	\$129,400
Thornton Rd: I-8 to Selma Hwy	1.50	Widen to 4 Lanes	Casa Grande/Pinal County	\$8,137
Thornton Bypass: Thornton Rd to Burriss Rd	1.00	Construct New 4 Lane	Pinal County	\$5,425
Gila Bend Hwy (SR 84): Fuqua Rd to Thornton Rd	12.00	Widen to 6 Lanes	ADOT ²	\$92,139
Trading Post Rd: Midway Rd to Montgomery Rd	1.01	Construct New 2 Lane	Casa Grande	\$2,739
McCarthy Rd: Anderson Rd to Burriss Rd	8.49	Construct New 4 Lane	Casa Grande/Pinal County	\$46,056
McCarthy Rd: Burriss Rd to Pinal Ave	2.00	Widen to 4 Lanes	Casa Grande	\$11,100
McCarthy Rd: Pinal Ave to I-10	2.82	Widen to 6 Lanes	Casa Grande	\$7,649
McCarthy Rd: I-10 to Cox Rd	0.73	Widen to 6 Lanes	Casa Grande/Pinal County	\$5,940
Rodeo Rd: Peart Rd to Northwest Facility	1.65	Construct New 2 Lane	Casa Grande	\$4,475
Kortsens Rd: Fuqua Rd to Ethington Rd	9.96	Construct New 2 Lane	Pinal County	\$27,015
Kortsens Rd: Ethington Rd to Burriss Rd	1.02	Construct New 4 Lane	Pinal County	\$5,533
Kortsens Rd: Burriss Rd to Thornton Rd	1.00	Widen to 4 Lanes	Casa Grande/Pinal County	\$5,533
Kortsens Rd: Pinal Ave to I-10	3.83	Widen to 6 Lanes	Casa Grande	\$31,165
Kortsens Rd: I-10 to Toltec Buttes Rd	3.83	Widen to 4 Lanes	Casa Grande/Pinal County	\$15,677
Cottonwood Ln: Fuqua Rd to Montgomery Rd	6.97	Construct New 2 Lane	Pinal County	\$18,905
Cottonwood Ln: Peart Rd to Sunland Gin Rd	3.01	Widen to 6 Lanes	Casa Grande/Pinal County	\$24,493
Cottonwood Ln: Sunland Gin Rd to Overfield Rd	0.99	Widen to 4 Lanes	Pinal County	\$5,371

Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

Existing
AM Peak

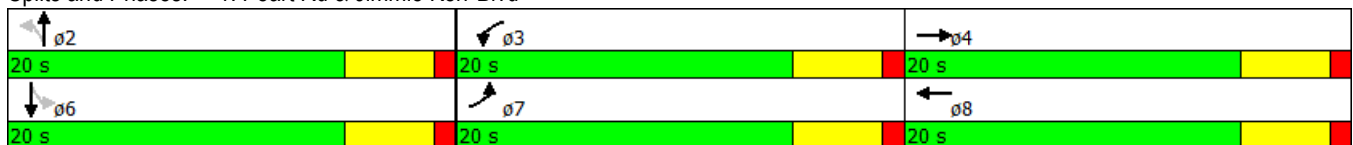
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	237	29	5	245	121	20	31	9	96	19	6
Satd. Flow (prot)	1703	1760	0	1703	1701	0	0	1728	0	1703	1724	0
Flt Permitted	0.950			0.950				0.876		0.708		
Satd. Flow (perm)	1703	1760	0	1703	1701	0	0	1539	0	1269	1724	0
Satd. Flow (RTOR)		11			42			11			8	
Lane Group Flow (vph)	48	299	0	6	414	0	0	75	0	113	32	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Act Effect Green (s)	11.2	26.4		11.2	24.2			16.8		16.8	16.8	
Actuated g/C Ratio	0.27	0.64		0.27	0.58			0.41		0.41	0.41	
v/c Ratio	0.10	0.27		0.01	0.41			0.12		0.22	0.05	
Control Delay	17.7	10.6		18.0	16.1			12.4		14.7	12.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	17.7	10.6		18.0	16.1			12.4		14.7	12.0	
LOS	B	B		B	B			B		B	B	
Approach Delay		11.6			16.1			12.4			14.1	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	8	46		1	63			9		16	3	
Queue Length 95th (ft)	32	150		9	#254			37		62	19	
Internal Link Dist (ft)		4350			12631			1291			849	
Turn Bay Length (ft)	165			140						120		
Base Capacity (vph)	690	1128		690	1011			630		514	704	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.07	0.27		0.01	0.41			0.12		0.22	0.05	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 41.4
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.41
 Intersection Signal Delay: 13.9
 Intersection Capacity Utilization 52.4%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd



HCM 2010 TWSC
2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd

Existing
AM Peak

Intersection

Intersection Delay, s/veh 10

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	74	227	0	0	504	10	0	0	0	124	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	Free	Free	Free
Storage Length	250		0	250		0	0		0	0		50
Median Width		12			12			0				0
Grade, %		0%			0%			0%				0%
Peak Hour Factor	0.80	0.85	0.90	0.90	0.90	0.80	0.90	0.90	0.90	0.85	0.90	0.80
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	6	6	6
Mvmt Flow	92	267	0	0	560	12	0	0	0	146	0	37
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	573	0	0	267	0	0	1018	1025	267	1018	1018	566
Stage 1	-	-	-	-	-	-	452	452	-	566	566	-
Stage 2	-	-	-	-	-	-	566	573	-	452	452	-
Follow-up Headway	2.254	-	-	2.254	-	-	3.554	4.054	3.354	3.554	4.054	3.354
Pot Capacity-1 Maneuver	980	-	-	1274	-	-	212	231	762	212	233	516
Stage 1	-	-	-	-	-	-	579	564	-	502	501	-
Stage 2	-	-	-	-	-	-	502	497	-	579	564	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	980	-	-	1274	-	-	182	209	762	197	211	516
Mov Capacity-2 Maneuver	-	-	-	-	-	-	182	209	-	197	211	-
Stage 1	-	-	-	-	-	-	524	510	-	454	501	-
Stage 2	-	-	-	-	-	-	466	497	-	524	510	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	0	0	56.3
HCM LOS	-	-	A	F

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Cap, veh/h	0	980	-	-	1274	-	-	207	516
HCM Control Delay, s	0	9.056	-	-	0	-	-	63.3	12.3
HCM Lane V/C Ratio	-	0.09	-	-	-	-	-	0.77	0.05
HCM Lane LOS	A	A	-	-	A	-	-	F	B
HCM 95th-tile Q, veh	-	0.3	-	-	0.0	-	-	5.2	0.2

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	26	325	398	107	0	117
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	240			0	135	0
Median Width		12	12		12	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.80	0.90	0.90	0.85	0.90	0.85
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	32	361	442	126	0	138
Number of Lanes	1	1	1	0	1	1

Major/Minor

	Major 1	Major 2				
Conflicting Flow All	568	0	-	0	931	505
Stage 1	-	-	-	-	505	-
Stage 2	-	-	-	-	426	-
Follow-up Headway	2.254	-	-	-	3.554	3.354
Pot Capacity-1 Maneuver	985	-	-	-	291	559
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	650	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	985	-	-	-	281	559
Mov Capacity-2 Maneuver	-	-	-	-	281	-
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	628	-

Approach

	EB	WB	SB
HCM Control Delay, s	0.7	0	13.5
HCM LOS	-	-	B

Minor Lane / Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Cap, veh/h	985	-	-	-	0	559
HCM Control Delay, s	8.779	-	-	-	0	13.5
HCM Lane V/C Ratio	0.03	-	-	-	-	0.25
HCM Lane LOS	A	-	-	-	A	B
HCM 95th-tile Q, veh	0.1	-	-	-	-	1.0

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	252	72	72	450	1	54	1	162	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	200		175	250		0	0		70	0		0
Median Width		12			12			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.80	0.80	0.90	0.90	0.85	0.90	0.85	0.90	0.90	0.90
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	6	6	6
Mvmt Flow	1	280	90	90	500	1	64	1	191	1	1	1
Number of Lanes	1	1	1	1	1	0	0	1	1	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	501	0	0	280	0	0	964	963	280	964	963	501
Stage 1	-	-	-	-	-	-	282	282	-	681	681	-
Stage 2	-	-	-	-	-	-	682	681	-	283	282	-
Follow-up Headway	2.254	-	-	2.254	-	-	3.554	4.054	3.354	3.554	4.054	3.354
Pot Capacity-1 Maneuver	1043	-	-	1260	-	-	231	252	749	231	252	562
Stage 1	-	-	-	-	-	-	716	671	-	434	444	-
Stage 2	-	-	-	-	-	-	433	444	-	715	671	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1043	-	-	1260	-	-	217	234	749	162	234	562
Mov Capacity-2 Maneuver	-	-	-	-	-	-	217	234	-	162	234	-
Stage 1	-	-	-	-	-	-	715	670	-	434	412	-
Stage 2	-	-	-	-	-	-	400	412	-	532	670	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.2	16.6	19.9
HCM LOS	-	-	C	C

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	335	749	1043	-	-	1260	-	-	245
HCM Control Delay, s	22.3	10.8	8.455	-	-	8.077	-	-	19.9
HCM Lane V/C Ratio	0.38	0.17	0.00	-	-	0.07	-	-	0.01
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th-tile Q, veh	1.7	0.6	0.0	-	-	0.2	-	-	0.0

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

Existing
PM Peak

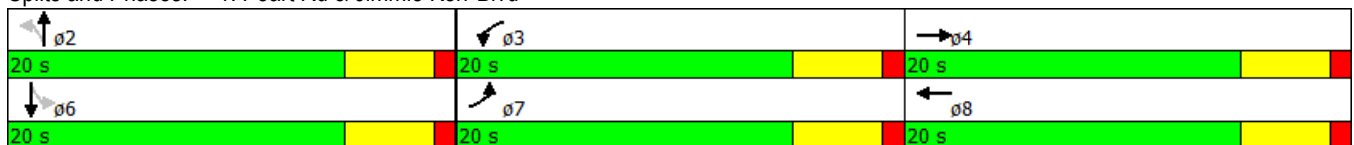
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	12	347	18	19	290	75	21	34	8	192	11	28
Satd. Flow (prot)	1703	1778	0	1703	1737	0	0	1734	0	1703	1601	0
Flt Permitted	0.950			0.950				0.910		0.706		
Satd. Flow (perm)	1703	1778	0	1703	1737	0	0	1603	0	1265	1601	0
Satd. Flow (RTOR)		5			21			10			35	
Lane Group Flow (vph)	15	408	0	24	429	0	0	78	0	226	49	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Act Effct Green (s)	10.2	17.4		10.2	17.4			15.3		15.3	15.3	
Actuated g/C Ratio	0.22	0.38		0.22	0.38			0.34		0.34	0.34	
v/c Ratio	0.04	0.60		0.06	0.63			0.14		0.53	0.09	
Control Delay	15.7	19.1		15.7	19.7			11.1		19.4	7.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	15.7	19.1		15.7	19.7			11.1		19.4	7.2	
LOS	B	B		B	B			B		B	A	
Approach Delay		19.0			19.5			11.1			17.2	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	3	69		4	70			9		36	2	
Queue Length 95th (ft)	15	#261		20	#249			38		#134	20	
Internal Link Dist (ft)		4350			12631			1291			849	
Turn Bay Length (ft)	165			140						120		
Base Capacity (vph)	574	684		574	678			547		426	563	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.03	0.60		0.04	0.63			0.14		0.53	0.09	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 45.4
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 18.3
 Intersection Capacity Utilization 45.5%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd



HCM 2010 TWSC
2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd

Existing
PM Peak

Intersection

Intersection Delay, s/veh 11.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	79	292	0	0	396	8	0	0	0	131	0	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	Free	Free	Free
Storage Length	250		0	250		0	0		0	0		50
Median Width		12			12			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.90	0.90	0.90	0.80	0.90	0.90	0.90	0.85	0.90	0.85
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	6	6	6
Mvmt Flow	93	344	0	0	440	10	0	0	0	154	0	118
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	1

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	450	0	0	344	0	0	974	979	344	974	974	445
Stage 1	-	-	-	-	-	-	529	529	-	445	445	-
Stage 2	-	-	-	-	-	-	445	450	-	529	529	-
Follow-up Headway	2.254	-	-	2.254	-	-	3.554	4.054	3.354	3.554	4.054	3.354
Pot Capacity-1 Maneuver	1090	-	-	1193	-	-	227	246	690	227	248	605
Stage 1	-	-	-	-	-	-	526	521	-	585	568	-
Stage 2	-	-	-	-	-	-	585	565	-	526	521	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1090	-	-	1193	-	-	171	225	690	212	227	605
Mov Capacity-2 Maneuver	-	-	-	-	-	-	171	225	-	212	227	-
Stage 1	-	-	-	-	-	-	481	477	-	535	568	-
Stage 2	-	-	-	-	-	-	471	565	-	481	477	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0	0	45.6
HCM LOS	-	-	A	E

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Cap, veh/h	0	1090	-	-	1193	-	-	244	605
HCM Control Delay, s	0	8.61	-	-	0	-	-	59.3	11.8
HCM Lane V/C Ratio	-	0.09	-	-	-	-	-	0.79	0.13
HCM Lane LOS	A	A	-	-	A	-	-	F	B
HCM 95th-tile Q, veh	-	0.3	-	-	0.0	-	-	5.9	0.4

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	48	375	313	87	0	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	240			0	135	0
Median Width		12	12		12	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.80	0.90	0.90	0.85	0.90	0.85
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	60	417	348	102	0	107
Number of Lanes	1	1	1	0	1	1

Major/Minor

	Major 1	Major 2				
Conflicting Flow All	450	0	-	0	936	399
Stage 1	-	-	-	-	399	-
Stage 2	-	-	-	-	537	-
Follow-up Headway	2.254	-	-	-	3.554	3.354
Pot Capacity-1 Maneuver	1090	-	-	-	289	642
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	578	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1090	-	-	-	273	642
Mov Capacity-2 Maneuver	-	-	-	-	273	-
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	546	-

Approach

	EB	WB	SB
HCM Control Delay, s	1.1	0	11.7
HCM LOS	-	-	B

Minor Lane / Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Cap, veh/h	1090	-	-	-	0	642
HCM Control Delay, s	8.495	-	-	-	0	11.7
HCM Lane V/C Ratio	0.06	-	-	-	-	0.17
HCM Lane LOS	A	-	-	-	A	B
HCM 95th-tile Q, veh	0.2	-	-	-	-	0.6

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	272	102	102	347	1	52	1	159	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	200		175	250		0	0		70	0		0
Median Width		12			12			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.85	0.85	0.90	0.90	0.80	0.90	0.85	0.90	0.90	0.90
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	6	6	6
Mvmt Flow	1	302	120	120	386	1	65	1	187	1	1	1
Number of Lanes	1	1	1	1	1	0	0	1	1	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	387	0	0	302	0	0	931	931	302	931	930	386
Stage 1	-	-	-	-	-	-	304	304	-	626	626	-
Stage 2	-	-	-	-	-	-	627	627	-	305	304	-
Follow-up Headway	2.254	-	-	2.254	-	-	3.554	4.054	3.354	3.554	4.054	3.354
Pot Capacity-1 Maneuver	1150	-	-	1237	-	-	243	263	728	243	263	653
Stage 1	-	-	-	-	-	-	697	656	-	465	471	-
Stage 2	-	-	-	-	-	-	465	470	-	696	656	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1150	-	-	1237	-	-	224	237	728	166	237	653
Mov Capacity-2 Maneuver	-	-	-	-	-	-	224	237	-	166	237	-
Stage 1	-	-	-	-	-	-	696	655	-	465	425	-
Stage 2	-	-	-	-	-	-	418	424	-	516	655	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.9	16.6	19.3
HCM LOS	-	-	C	C

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	338	728	1150	-	-	1237	-	-	255
HCM Control Delay, s	22	11	8.133	-	-	8.223	-	-	19.3
HCM Lane V/C Ratio	0.38	0.17	0.00	-	-	0.10	-	-	0.01
HCM Lane LOS	C	B	A	-	-	A	-	-	C
HCM 95th-tile Q, veh	1.7	0.6	0.0	-	-	0.3	-	-	0.0

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

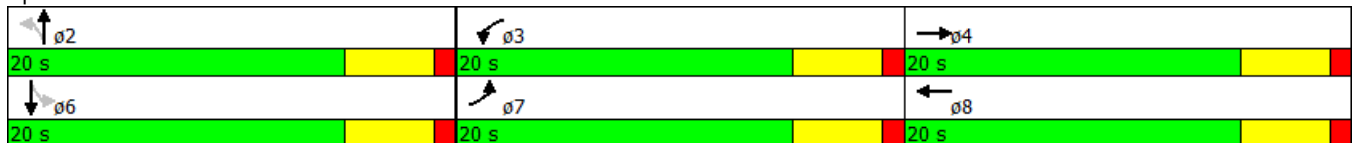
2018 Background - MITIGATED
AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	380	32	8	352	175	22	24	14	154	21	7
Satd. Flow (prot)	1703	4835	0	1703	4649	0	0	1704	0	1703	1723	0
Flt Permitted	0.950			0.950				0.890		0.708		
Satd. Flow (perm)	1703	4835	0	1703	4649	0	0	1544	0	1269	1723	0
Satd. Flow (RTOR)		23			201			18			9	
Lane Group Flow (vph)	52	487	0	10	620	0	0	76	0	181	35	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Act Effct Green (s)	10.3	23.1		10.3	20.7			15.5		15.5	15.5	
Actuated g/C Ratio	0.23	0.51		0.23	0.46			0.34		0.34	0.34	
v/c Ratio	0.13	0.20		0.03	0.28			0.14		0.41	0.06	
Control Delay	18.4	9.6		17.9	9.0			12.0		18.1	11.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	18.4	9.6		17.9	9.0			12.0		18.1	11.9	
LOS	B	A		B	A			B		B	B	
Approach Delay		10.4			9.1			12.0			17.1	
Approach LOS		B			A			B			B	
Queue Length 50th (ft)	9	24		2	22			8		28	4	
Queue Length 95th (ft)	34	64		12	60			35		95	20	
Internal Link Dist (ft)		4350			12631			1291			849	
Turn Bay Length (ft)	165			140						120		
Base Capacity (vph)	587	2494		587	2243			544		437	599	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.09	0.20		0.02	0.28			0.14		0.41	0.06	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 45
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.41
 Intersection Signal Delay: 10.9
 Intersection Capacity Utilization 48.5%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd



Lanes, Volumes, Timings
 2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd

2018 Background - MITIGATED
 AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	376	0	0	661	11	0	0	0	137	0	163
Satd. Flow (prot)	1703	4893	0	1792	4879	0	0	1792	0	0	1703	1524
Flt Permitted	0.356										0.757	
Satd. Flow (perm)	638	4893	0	1792	4879	0	0	1792	0	0	1357	1524
Satd. Flow (RTOR)					5							192
Lane Group Flow (vph)	149	418	0	0	748	0	0	0	0	0	161	192
Turn Type	Perm	NA		Perm	NA		Perm			Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Total Split (s)	58.0	58.0		58.0	58.0		32.0	32.0		32.0	32.0	32.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Act Effct Green (s)	63.9	63.9			63.9						16.1	16.1
Actuated g/C Ratio	0.71	0.71			0.71						0.18	0.18
v/c Ratio	0.33	0.12			0.22						0.67	0.45
Control Delay	10.4	4.8			5.2						46.8	7.9
Queue Delay	0.0	0.0			0.0						0.0	0.0
Total Delay	10.4	4.8			5.2						46.8	7.9
LOS	B	A			A						D	A
Approach Delay		6.3			5.2						25.7	
Approach LOS		A			A						C	
Queue Length 50th (ft)	42	30			44						86	0
Queue Length 95th (ft)	106	58			79						138	42
Internal Link Dist (ft)		390			1230			700			972	
Turn Bay Length (ft)	250											
Base Capacity (vph)	452	3474			3465						407	591
Starvation Cap Reductn	0	0			0						0	0
Spillback Cap Reductn	0	0			0						0	0
Storage Cap Reductn	0	0			0						0	0
Reduced v/c Ratio	0.33	0.12			0.22						0.40	0.32

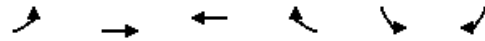
Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 9.9 Intersection LOS: A
 Intersection Capacity Utilization 40.1% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd



Lanes, Volumes, Timings
4: Jimmie Kerr Blvd & Tanger Dr

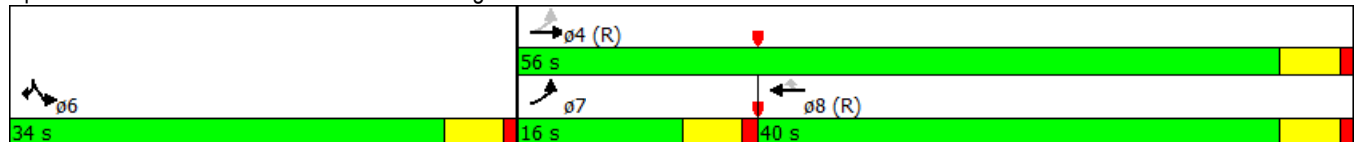


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑	↗	↖↗	↗
Volume (vph)	85	332	594	235	170	60
Satd. Flow (prot)	1703	4893	4893	1524	3303	1524
Flt Permitted	0.359				0.950	
Satd. Flow (perm)	643	4893	4893	1524	3303	1524
Satd. Flow (RTOR)				276		75
Lane Group Flow (vph)	106	369	660	276	200	75
Turn Type	pm+pt	NA	NA	Perm	NA	Prot
Protected Phases	7	4	8		6	6
Permitted Phases	4			8		
Total Split (s)	16.0	56.0	40.0	40.0	34.0	34.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	69.2	69.2	59.4	59.4	10.8	10.8
Actuated g/C Ratio	0.77	0.77	0.66	0.66	0.12	0.12
v/c Ratio	0.18	0.10	0.20	0.25	0.51	0.30
Control Delay	3.6	2.9	3.8	1.9	41.2	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	2.9	3.8	1.9	41.2	12.1
LOS	A	A	A	A	D	B
Approach Delay		3.0	3.2		33.3	
Approach LOS		A	A		C	
Queue Length 50th (ft)	12	15	51	0	55	0
Queue Length 95th (ft)	24	26	24	0	81	29
Internal Link Dist (ft)		12631	390		833	
Turn Bay Length (ft)	325			125		50
Base Capacity (vph)	623	3762	3230	1099	1064	541
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.10	0.20	0.25	0.19	0.14

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 25 (28%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 8.1
 Intersection Capacity Utilization 34.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 4: Jimmie Kerr Blvd & Tanger Dr



Intersection

Intersection Delay, s/veh 3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	124	389	439	158	0	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	240			0	135	0
Median Width		12	12		12	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.85	0.90	0.90	0.85	0.90	0.85
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	146	432	488	186	0	228
Number of Lanes	1	3	3	0	1	1

Major/Minor

	Major 1	Major 2				
Conflicting Flow All	674	0	-	0	1046	337
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	465	-
Follow-up Headway	3.16	-	-	-	3.86	3.96
Pot Capacity-1 Maneuver	547	-	-	-	286	553
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	537	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	547	-	-	-	210	553
Mov Capacity-2 Maneuver	-	-	-	-	210	-
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	394	-

Approach

	EB	WB	SB
HCM Control Delay, s	3.5	0	16
HCM LOS	-	-	C

Minor Lane / Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Cap, veh/h	547	-	-	-	0	553
HCM Control Delay, s	13.958	-	-	-	0	16
HCM Lane V/C Ratio	0.27	-	-	-	-	0.41
HCM Lane LOS	B	-	-	-	A	C
HCM 95th-tile Q, veh	1.1	-	-	-	-	2.0

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	317	83	83	534	1	62	1	186	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	200		175	250		0	0		70	0		0
Median Width		12			12			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.80	0.80	0.90	0.90	0.85	0.90	0.85	0.90	0.90	0.90
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	6	6	6
Mvmt Flow	1	352	104	104	593	1	73	1	219	1	1	1
Number of Lanes	1	1	1	1	1	0	0	1	1	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	594	0	0	352	0	0	1157	1156	352	1156	1155	594
Stage 1	-	-	-	-	-	-	354	354	-	801	801	-
Stage 2	-	-	-	-	-	-	803	802	-	355	354	-
Follow-up Headway	2.254	-	-	2.254	-	-	3.554	4.054	3.354	3.554	4.054	3.354
Pot Capacity-1 Maneuver	963	-	-	1185	-	-	170	193	683	170	193	498
Stage 1	-	-	-	-	-	-	655	623	-	372	391	-
Stage 2	-	-	-	-	-	-	371	391	-	654	623	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	963	-	-	1185	-	-	157	176	683	107	176	498
Mov Capacity-2 Maneuver	-	-	-	-	-	-	157	176	-	107	176	-
Stage 1	-	-	-	-	-	-	654	622	-	372	357	-
Stage 2	-	-	-	-	-	-	337	357	-	443	622	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.2	24.4	25.8
HCM LOS	-	-	C	D

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	254	683	963	-	-	1185	-	-	176
HCM Control Delay, s	37	11.7	8.743	-	-	8.329	-	-	25.8
HCM Lane V/C Ratio	0.58	0.21	0.00	-	-	0.09	-	-	0.02
HCM Lane LOS	E	B	A	-	-	A	-	-	D
HCM 95th-tile Q, veh	3.3	0.8	0.0	-	-	0.3	-	-	0.1

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

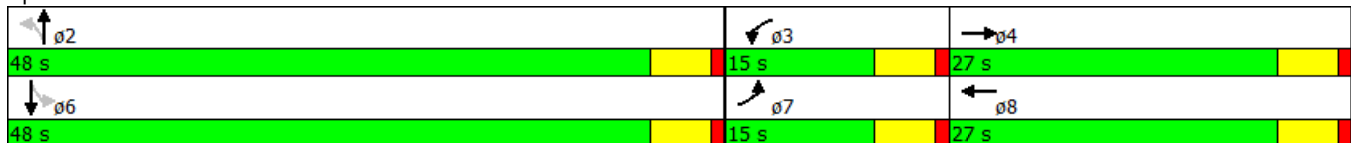
2018 Background - MITIGATED
PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	624	20	40	607	157	23	38	18	342	12	31
Satd. Flow (prot)	1703	4869	0	1703	4737	0	0	1714	0	1703	1599	0
Flt Permitted	0.950			0.950				0.924		0.755		
Satd. Flow (perm)	1703	4869	0	1703	4737	0	0	1607	0	1353	1599	0
Satd. Flow (RTOR)		6			73			22			39	
Lane Group Flow (vph)	16	718	0	50	859	0	0	99	0	380	54	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Total Split (s)	15.0	27.0		15.0	27.0		48.0	48.0		48.0	48.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Act Effct Green (s)	10.7	23.6		10.7	28.9			26.2		26.2	26.2	
Actuated g/C Ratio	0.16	0.35		0.16	0.42			0.38		0.38	0.38	
v/c Ratio	0.06	0.43		0.19	0.42			0.16		0.73	0.08	
Control Delay	33.8	21.8		34.2	16.0			12.0		27.3	6.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	33.8	21.8		34.2	16.0			12.0		27.3	6.8	
LOS	C	C		C	B			B		C	A	
Approach Delay		22.1			17.0			12.0			24.8	
Approach LOS		C			B			B			C	
Queue Length 50th (ft)	7	98		21	75			23		151	4	
Queue Length 95th (ft)	24	172		54	195			44		245	19	
Internal Link Dist (ft)		4350			12631			1291			849	
Turn Bay Length (ft)	165			140						120		
Base Capacity (vph)	268	1688		268	2050			1094		915	1094	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.06	0.43		0.19	0.42			0.09		0.42	0.05	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 68.1
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 20.1
 Intersection Capacity Utilization 61.7%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd



Lanes, Volumes, Timings
2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd

2018 Background - MITIGATED

PM Peak

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖			↕			↕	↖
Volume (vph)	232	702	0	0	667	9	0	0	0	145	0	385
Satd. Flow (prot)	1703	4893	0	1792	4884	0	0	1792	0	0	1703	1524
Flt Permitted	0.344										0.757	
Satd. Flow (perm)	617	4893	0	1792	4884	0	0	1792	0	0	1357	1524
Satd. Flow (RTOR)					5							244
Lane Group Flow (vph)	273	780	0	0	752	0	0	0	0	0	171	428
Turn Type	Perm	NA		Perm	NA		Perm			Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Total Split (s)	62.0	62.0		62.0	62.0		28.0	28.0		28.0	28.0	28.0
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Act Effct Green (s)	58.0	58.0			58.0						24.0	24.0
Actuated g/C Ratio	0.64	0.64			0.64						0.27	0.27
v/c Ratio	0.69	0.25			0.24						0.47	0.73
Control Delay	30.0	10.9			6.9						32.9	21.0
Queue Delay	0.0	0.0			0.0						0.0	0.0
Total Delay	30.0	10.9			6.9						32.9	21.0
LOS	C	B			A						C	C
Approach Delay		15.8			6.9						24.4	
Approach LOS		B			A						C	
Queue Length 50th (ft)	145	105			58						82	93
Queue Length 95th (ft)	222	126			75						144	209
Internal Link Dist (ft)		390			1230			700			972	
Turn Bay Length (ft)	250											
Base Capacity (vph)	397	3153			3149						361	585
Starvation Cap Reductn	0	0			0						0	0
Spillback Cap Reductn	0	0			0						0	0
Storage Cap Reductn	0	0			0						0	0
Reduced v/c Ratio	0.69	0.25			0.24						0.47	0.73

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 28 (31%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 15.2

Intersection LOS: B

Intersection Capacity Utilization 44.0%

ICU Level of Service A

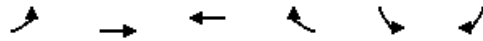
Analysis Period (min) 15

Splits and Phases: 2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd



Lanes, Volumes, Timings
4: Jimmie Kerr Blvd & Tanger Dr

2018 Background - MITIGATED
PM Peak

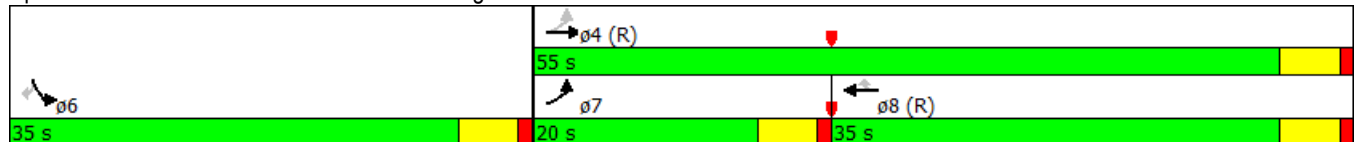


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑↑	↑↑↑	↵	↵↵	↵
Volume (vph)	185	410	548	505	525	190
Satd. Flow (prot)	1703	4893	4893	1524	3303	1524
Flt Permitted	0.341				0.950	
Satd. Flow (perm)	611	4893	4893	1524	3303	1524
Satd. Flow (RTOR)				561		134
Lane Group Flow (vph)	218	456	609	561	583	224
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Total Split (s)	20.0	55.0	35.0	35.0	35.0	35.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	58.2	58.2	38.2	38.2	21.8	21.8
Actuated g/C Ratio	0.65	0.65	0.42	0.42	0.24	0.24
v/c Ratio	0.38	0.14	0.29	0.58	0.73	0.48
Control Delay	9.3	6.9	17.0	6.4	36.7	14.8
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	9.3	6.9	17.0	6.5	36.7	14.8
LOS	A	A	B	A	D	B
Approach Delay		7.7	12.0		30.6	
Approach LOS		A	B		C	
Queue Length 50th (ft)	45	33	91	79	157	41
Queue Length 95th (ft)	86	56	135	143	195	87
Internal Link Dist (ft)		12631	390		833	
Turn Bay Length (ft)	325			125		50
Base Capacity (vph)	577	3165	2077	969	1101	597
Starvation Cap Reductn	0	0	0	45	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.14	0.29	0.61	0.53	0.38

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 55 (61%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 16.6
 Intersection Capacity Utilization 52.5%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 4: Jimmie Kerr Blvd & Tanger Dr



Intersection

Intersection Delay, s/veh 6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	338	509	346	186	0	240
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	240			0	135	0
Median Width		12	12		12	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.85	0.90	0.85
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	376	566	384	219	0	282
Number of Lanes	1	3	3	0	1	1

Major/Minor

	Major 1	Major 2				
Conflicting Flow All	603	0	-	0	1471	302
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	977	-
Follow-up Headway	3.16	-	-	-	3.86	3.96
Pot Capacity-1 Maneuver	592	-	-	-	172	583
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	286	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	592	-	-	-	63	583
Mov Capacity-2 Maneuver	-	-	-	-	63	-
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	104	-

Approach

	EB	WB	SB
HCM Control Delay, s	8.4	0	16.8
HCM LOS	-	-	C

Minor Lane / Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Cap, veh/h	592	-	-	-	0	583
HCM Control Delay, s	21.031	-	-	-	0	16.8
HCM Lane V/C Ratio	0.63	-	-	-	-	0.48
HCM Lane LOS	C	-	-	-	A	C
HCM 95th-tile Q, veh	4.5	-	-	-	-	2.6

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	391	117	117	471	1	60	1	183	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	200		175	250		0	0		70	0		0
Median Width		12			12			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.85	0.85	0.90	0.90	0.80	0.90	0.85	0.90	0.90	0.90
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	6	6	6
Mvmt Flow	1	434	138	138	523	1	75	1	215	1	1	1
Number of Lanes	1	1	1	1	1	0	0	1	1	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	524	0	0	434	0	0	1237	1237	434	1236	1236	524
Stage 1	-	-	-	-	-	-	437	437	-	799	799	-
Stage 2	-	-	-	-	-	-	800	800	-	437	437	-
Follow-up Headway	2.254	-	-	2.254	-	-	3.554	4.054	3.354	3.554	4.054	3.354
Pot Capacity-1 Maneuver	1023	-	-	1105	-	-	150	173	614	150	173	545
Stage 1	-	-	-	-	-	-	590	573	-	373	392	-
Stage 2	-	-	-	-	-	-	373	392	-	590	573	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1023	-	-	1105	-	-	135	151	614	88	151	545
Mov Capacity-2 Maneuver	-	-	-	-	-	-	135	151	-	88	151	-
Stage 1	-	-	-	-	-	-	589	572	-	373	343	-
Stage 2	-	-	-	-	-	-	325	343	-	382	572	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.8	31.8	29.4
HCM LOS	-	-	D	D

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	218	614	1023	-	-	1105	-	-	151
HCM Control Delay, s	50.5	12.6	8.523	-	-	8.721	-	-	29.4
HCM Lane V/C Ratio	0.68	0.23	0.00	-	-	0.13	-	-	0.02
HCM Lane LOS	F	B	A	-	-	A	-	-	D
HCM 95th-tile Q, veh	4.3	0.9	0.0	-	-	0.4	-	-	0.1

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

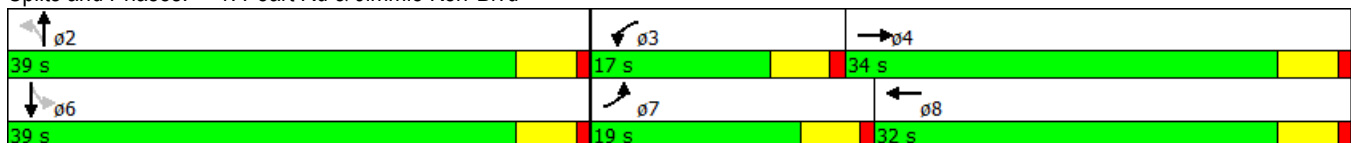
2023 Background
AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	575	35	15	655	320	30	50	20	235	30	10
Satd. Flow (prot)	1703	4849	0	1703	4654	0	0	1718	0	1703	1724	0
Flt Permitted	0.950			0.950				0.915		0.733		
Satd. Flow (perm)	1703	4849	0	1703	4654	0	0	1596	0	1314	1724	0
Satd. Flow (RTOR)		11			140			16			11	
Lane Group Flow (vph)	50	678	0	17	1084	0	0	111	0	261	44	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Total Split (s)	19.0	34.0		17.0	32.0		39.0	39.0		39.0	39.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Act Effect Green (s)	10.4	34.8		10.3	29.1			20.4		20.4	20.4	
Actuated g/C Ratio	0.15	0.51		0.15	0.43			0.30		0.30	0.30	
v/c Ratio	0.19	0.27		0.07	0.52			0.23		0.66	0.08	
Control Delay	32.0	11.5		31.5	15.7			17.8		30.8	15.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	32.0	11.5		31.5	15.7			17.8		30.8	15.2	
LOS	C	B		C	B			B		C	B	
Approach Delay		12.9			16.0			17.8			28.5	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	20	46		7	117			32		104	11	
Queue Length 95th (ft)	57	130		27	200			70		186	33	
Internal Link Dist (ft)		4350			7388			1291			849	
Turn Bay Length (ft)	165			140						120		
Base Capacity (vph)	363	2490		311	2077			833		680	897	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.14	0.27		0.05	0.52			0.13		0.38	0.05	

Intersection Summary

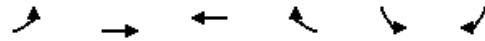
Cycle Length: 90
 Actuated Cycle Length: 67.9
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 16.8
 Intersection Capacity Utilization 60.3%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd



Lanes, Volumes, Timings
4: Jimmie Kerr Blvd & Tanger Dr

2023 Background
AM Peak

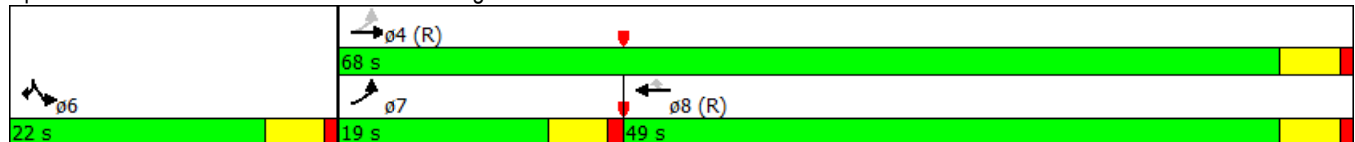


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷↷↷	↷↷↷	↷	↷↷	↷
Volume (vph)	95	690	1040	80	50	30
Satd. Flow (prot)	1703	4893	4893	1524	3303	1524
Flt Permitted	0.206				0.950	
Satd. Flow (perm)	369	4893	4893	1524	3303	1524
Satd. Flow (RTOR)				89		33
Lane Group Flow (vph)	106	767	1156	89	56	33
Turn Type	pm+pt	NA	NA	Perm	NA	Prot
Protected Phases	7	4	8		6	6
Permitted Phases	4			8		
Total Split (s)	19.0	68.0	49.0	49.0	22.0	22.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	75.1	76.1	66.6	66.6	7.0	7.0
Actuated g/C Ratio	0.83	0.85	0.74	0.74	0.08	0.08
v/c Ratio	0.26	0.19	0.32	0.08	0.22	0.22
Control Delay	8.4	8.2	6.3	3.2	40.6	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.4	8.2	6.3	3.2	40.6	17.5
LOS	A	A	A	A	D	B
Approach Delay		8.2	6.1		32.0	
Approach LOS		A	A		C	
Queue Length 50th (ft)	43	125	125	13	15	0
Queue Length 95th (ft)	73	162	166	31	34	28
Internal Link Dist (ft)		5163	390		833	
Turn Bay Length (ft)	325			125		50
Base Capacity (vph)	515	4139	3621	1151	623	314
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.19	0.32	0.08	0.09	0.11

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 25 (28%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.32
 Intersection Signal Delay: 8.0
 Intersection Capacity Utilization 41.2%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 4: Jimmie Kerr Blvd & Tanger Dr



Lanes, Volumes, Timings
6: Henness Rd & Selma Highway

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↖	↗↗
Volume (vph)	100	35	440	130	70	325
Satd. Flow (prot)	3406	1524	3303	3406	1703	2682
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3406	1524	3303	3406	1703	2682
Satd. Flow (RTOR)		39				361
Lane Group Flow (vph)	111	39	489	144	78	361
Turn Type	NA	Perm	Prot	NA	NA	Prot
Protected Phases	4		6!		2!	2
Permitted Phases		4		6		
Total Split (s)	21.0	21.0	21.0	21.0	21.0	21.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	15.1	15.1	25.9	25.9	25.9	25.9
Actuated g/C Ratio	0.38	0.38	0.65	0.65	0.65	0.65
v/c Ratio	0.09	0.07	0.23	0.07	0.07	0.19
Control Delay	9.1	4.1	7.2	7.1	7.6	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	4.1	7.2	7.1	7.6	1.7
LOS	A	A	A	A	A	A
Approach Delay	7.8			7.2	2.8	
Approach LOS	A			A	A	
Queue Length 50th (ft)	10	0	39	10	11	0
Queue Length 95th (ft)	19	12	65	22	29	18
Internal Link Dist (ft)	1634			1189	2421	
Turn Bay Length (ft)			300			
Base Capacity (vph)	1373	637	2139	2206	1103	1864
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.06	0.23	0.07	0.07	0.19

Intersection Summary




















Cycle Length: 42
 Actuated Cycle Length: 40
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.23
 Intersection Signal Delay: 5.6
 Intersection Capacity Utilization 40.1%
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 6: Henness Rd & Selma Highway

↘ φ2	→ φ4
21 s	21 s
↖ φ6	
21 s	

Lanes, Volumes, Timings
 7: Selma Highway/Henness Rd & I-8 WB On/Off Ramp

2023 Background
 AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	150	0	155	90	240	0	0	320	155
Satd. Flow (prot)	0	0	0	1618	1463	1447	1703	3406	0	0	4893	1524
Flt Permitted				0.950	0.979		0.531					
Satd. Flow (perm)	0	0	0	1618	1463	1447	952	3406	0	0	4893	1524
Satd. Flow (RTOR)					64	108						172
Lane Group Flow (vph)	0	0	0	117	114	108	100	267	0	0	356	172
Turn Type				Perm	NA	Perm	Perm	NA			NA	Perm
Protected Phases					8			2			6	
Permitted Phases				8		8	2					6
Total Split (s)				28.0	28.0	28.0	62.0	62.0			62.0	62.0
Total Lost Time (s)				5.0	5.0	5.0	5.0	5.0			5.0	5.0
Act Effect Green (s)				12.0	12.0	12.0	68.0	68.0			68.0	68.0
Actuated g/C Ratio				0.13	0.13	0.13	0.76	0.76			0.76	0.76
v/c Ratio				0.54	0.46	0.38	0.14	0.10			0.10	0.14
Control Delay				45.0	22.8	10.8	4.6	3.6			3.3	1.0
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				45.0	22.8	10.8	4.6	3.6			3.3	1.0
LOS				D	C	B	A	A			A	A
Approach Delay					26.6			3.9			2.6	
Approach LOS					C			A			A	
Queue Length 50th (ft)				66	28	0	20	27			15	0
Queue Length 95th (ft)				115	79	44	40	43			30	17
Internal Link Dist (ft)		1378			1446			473			2421	
Turn Bay Length (ft)												300
Base Capacity (vph)				413	421	450	719	2574			3697	1193
Starvation Cap Reductn				0	0	0	0	0			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.28	0.27	0.24	0.14	0.10			0.10	0.14

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 9.6
 Intersection Capacity Utilization 42.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 7: Selma Highway/Henness Rd & I-8 WB On/Off Ramp

#7  #8   (R) 62 s	#8   (R) 28 s
#7  #8   (R) 62 s	#7   (R) 28 s

Lane Group	ø4
Lane Configurations	
Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Total Split (s)	28.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

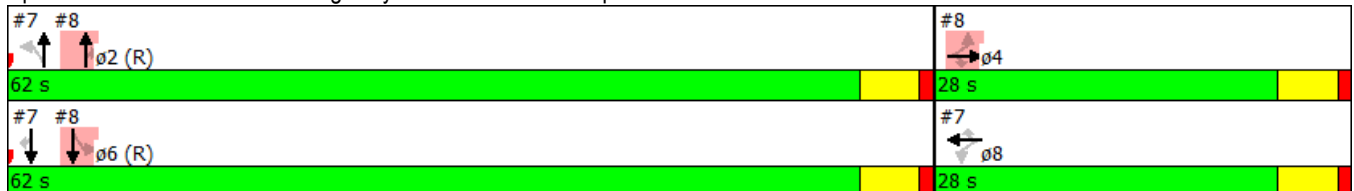
Lanes, Volumes, Timings
8: Selma Highway & I-8 EB On/Off Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	0	60	0	0	0	0	230	225	230	240	0
Satd. Flow (prot)	1618	1524	1447	0	0	0	0	4893	1524	1703	3406	0
Flt Permitted	0.950	0.961								0.587		
Satd. Flow (perm)	1618	1524	1447	0	0	0	0	4893	1524	1052	3406	0
Satd. Flow (RTOR)		24	56						250			
Lane Group Flow (vph)	62	60	56	0	0	0	0	256	250	256	267	0
Turn Type	Perm	NA	Perm					NA	Perm	Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4		4						2	6		
Total Split (s)	28.0	28.0	28.0					62.0	62.0	62.0	62.0	
Total Lost Time (s)	5.0	5.0	5.0					5.0	5.0	5.0	5.0	
Act Effect Green (s)	12.0	12.0	12.0					68.0	68.0	68.0	68.0	
Actuated g/C Ratio	0.13	0.13	0.13					0.76	0.76	0.76	0.76	
v/c Ratio	0.29	0.27	0.23					0.07	0.21	0.32	0.10	
Control Delay	37.0	25.4	11.7					3.3	1.0	6.1	3.4	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	37.0	25.4	11.7					3.3	1.0	6.1	3.4	
LOS	D	C	B					A	A	A	A	
Approach Delay		25.1						2.2			4.7	
Approach LOS		C						A			A	
Queue Length 50th (ft)	33	20	0					10	0	55	20	
Queue Length 95th (ft)	68	56	32					22	20	146	45	
Internal Link Dist (ft)		1438			1454			585			473	
Turn Bay Length (ft)												
Base Capacity (vph)	413	407	411					3697	1212	795	2574	
Starvation Cap Reductn	0	0	0					0	0	0	0	
Spillback Cap Reductn	0	0	0					0	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.15	0.15	0.14					0.07	0.21	0.32	0.10	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 6.7 Intersection LOS: A
 Intersection Capacity Utilization 42.6% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 8: Selma Highway & I-8 EB On/Off Ramp



Lane Group	ø8
Lane Configurations	
Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Total Split (s)	28.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

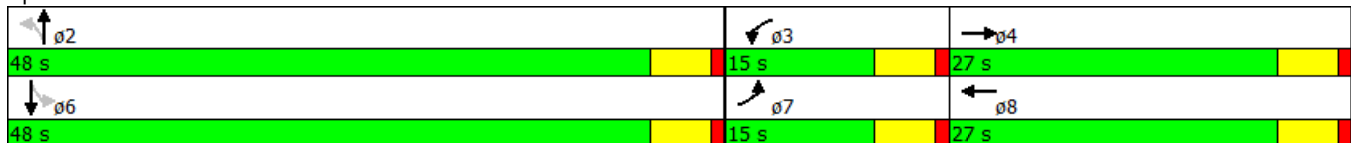
2023 Background
PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	785	25	50	700	180	25	45	25	385	15	40
Satd. Flow (prot)	1703	4869	0	1703	4742	0	0	1705	0	1703	1599	0
Flt Permitted	0.950			0.950				0.931		0.742		
Satd. Flow (perm)	1703	4869	0	1703	4742	0	0	1609	0	1330	1599	0
Satd. Flow (RTOR)		5			67			27			44	
Lane Group Flow (vph)	17	900	0	56	978	0	0	106	0	428	61	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Total Split (s)	15.0	27.0		15.0	27.0		48.0	48.0		48.0	48.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Act Effct Green (s)	10.6	23.4		10.6	28.7			29.1		29.1	29.1	
Actuated g/C Ratio	0.15	0.33		0.15	0.41			0.41		0.41	0.41	
v/c Ratio	0.07	0.56		0.22	0.50			0.16		0.78	0.09	
Control Delay	34.7	24.7		35.7	18.3			11.2		29.9	6.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	34.7	24.7		35.7	18.3			11.2		29.9	6.5	
LOS	C	C		D	B			B		C	A	
Approach Delay		24.9			19.2			11.2			27.0	
Approach LOS		C			B			B			C	
Queue Length 50th (ft)	7	135		24	97			24		180	5	
Queue Length 95th (ft)	29	220		67	230			52		292	25	
Internal Link Dist (ft)		4350			7388			1291			849	
Turn Bay Length (ft)	165			140						120		
Base Capacity (vph)	255	1611		255	1961			1048		858	1048	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.07	0.56		0.22	0.50			0.10		0.50	0.06	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 70.8
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 22.4
 Intersection Capacity Utilization 66.4%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd



Lanes, Volumes, Timings
 2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd

2023 Background
 PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1285	0	0	700	0	0	0	0	260	0	120
Satd. Flow (prot)	1792	4893	0	1792	4893	0	0	0	0	1618	1618	1524
Flt Permitted										0.950	0.950	
Satd. Flow (perm)	1792	4893	0	1792	4893	0	0	0	0	1618	1618	1524
Satd. Flow (RTOR)												133
Lane Group Flow (vph)	0	1428	0	0	778	0	0	0	0	144	145	133
Turn Type	Perm	NA		Perm	NA					Split	NA	Prot
Protected Phases		4			8					6	6	6
Permitted Phases	4			8								
Total Split (s)	59.0	59.0		59.0	59.0					31.0	31.0	31.0
Total Lost Time (s)	5.0	5.0		5.0	5.0					5.0	5.0	5.0
Act Effect Green (s)		66.4			66.4					13.6	13.6	13.6
Actuated g/C Ratio		0.74			0.74					0.15	0.15	0.15
v/c Ratio		0.40			0.22					0.59	0.60	0.39
Control Delay		2.2			4.2					44.9	45.0	9.3
Queue Delay		0.1			0.0					0.0	0.0	0.0
Total Delay		2.2			4.2					44.9	45.0	9.3
LOS		A			A					D	D	A
Approach Delay		2.2			4.2						33.7	
Approach LOS		A			A						C	
Queue Length 50th (ft)		50			41					81	82	0
Queue Length 95th (ft)		61			72					133	134	45
Internal Link Dist (ft)		390			1230			700			972	
Turn Bay Length (ft)												
Base Capacity (vph)		3612			3612					467	467	534
Starvation Cap Reductn		582			0					0	0	0
Spillback Cap Reductn		0			0					0	0	0
Storage Cap Reductn		0			0					0	0	0
Reduced v/c Ratio		0.47			0.22					0.31	0.31	0.25

Intersection Summary

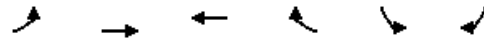
Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 7.9 Intersection LOS: A
 Intersection Capacity Utilization 40.4% ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd



Lanes, Volumes, Timings
4: Jimmie Kerr Blvd & Tanger Dr

2023 Background
PM Peak

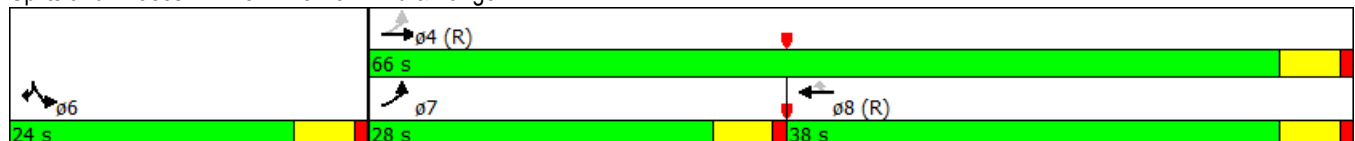


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑↑	↑↑↑	↵	↵↵	↵
Volume (vph)	205	1110	650	170	175	95
Satd. Flow (prot)	1703	4893	4893	1524	3303	1524
Flt Permitted	0.330				0.950	
Satd. Flow (perm)	592	4893	4893	1524	3303	1524
Satd. Flow (RTOR)				189		106
Lane Group Flow (vph)	228	1233	722	189	194	106
Turn Type	pm+pt	NA	NA	Perm	NA	Prot
Protected Phases	7	4	8		6	6
Permitted Phases	4			8		
Total Split (s)	28.0	66.0	38.0	38.0	24.0	24.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	69.4	69.4	55.6	55.6	10.6	10.6
Actuated g/C Ratio	0.77	0.77	0.62	0.62	0.12	0.12
v/c Ratio	0.40	0.33	0.24	0.19	0.50	0.39
Control Delay	4.5	5.1	5.5	2.1	41.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.5	5.1	5.5	2.1	41.3	11.8
LOS	A	A	A	A	D	B
Approach Delay		5.0	4.8		30.9	
Approach LOS		A	A		C	
Queue Length 50th (ft)	22	179	60	23	54	0
Queue Length 95th (ft)	7	11	104	40	84	45
Internal Link Dist (ft)		5163	390		833	
Turn Bay Length (ft)	325			125		50
Base Capacity (vph)	740	3773	3020	1012	697	405
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.33	0.24	0.19	0.28	0.26

Intersection Summary

























Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 25 (28%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.50
 Intersection Signal Delay: 7.8
 Intersection Capacity Utilization 41.4%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 4: Jimmie Kerr Blvd & Tanger Dr



Lanes, Volumes, Timings
5: Selma Highway & Jimmie Kerr Blvd

2023 Background
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	955	190	90	645	10	190	140	350	10	170	95
Satd. Flow (prot)	3303	4893	1524	3303	4893	1524	3303	3406	1524	1703	3406	1524
Flt Permitted	0.950			0.950			0.950			0.653		
Satd. Flow (perm)	3303	4893	1524	3303	4893	1524	3303	3406	1524	1170	3406	1524
Satd. Flow (RTOR)			267			206			324			267
Lane Group Flow (vph)	56	1061	211	100	717	11	211	156	389	11	189	106
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2	6		6
Total Split (s)	10.0	33.0	33.0	17.0	40.0	40.0	19.0	30.0	30.0	10.0	21.0	21.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Act Effct Green (s)	6.5	38.1	38.1	8.1	39.6	39.6	11.0	29.0	29.0	20.0	15.0	15.0
Actuated g/C Ratio	0.07	0.42	0.42	0.09	0.44	0.44	0.12	0.32	0.32	0.22	0.17	0.17
v/c Ratio	0.24	0.51	0.26	0.34	0.33	0.01	0.52	0.14	0.55	0.04	0.33	0.22
Control Delay	41.9	21.6	2.0	57.4	19.4	0.0	41.4	22.5	8.5	19.6	35.0	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	21.6	2.0	57.4	19.4	0.0	41.4	22.5	8.5	19.6	35.0	1.1
LOS	D	C	A	E	B	A	D	C	A	B	C	A
Approach Delay		19.3			23.8			20.6			22.7	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)	15	165	0	31	64	0	58	31	25	4	50	0
Queue Length 95th (ft)	35	229	23	58	88	0	90	61	115	15	82	0
Internal Link Dist (ft)		7388			5163			1189			1092	
Turn Bay Length (ft)	300		300	300		300	300		300	300		300
Base Capacity (vph)	237	2071	799	440	2155	786	513	1105	713	289	605	490
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.51	0.26	0.23	0.33	0.01	0.41	0.14	0.55	0.04	0.31	0.22

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 21.1

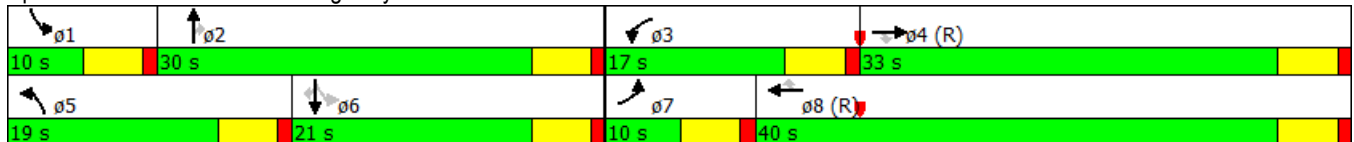
Intersection LOS: C

Intersection Capacity Utilization 56.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Selma Highway & Jimmie Kerr Blvd



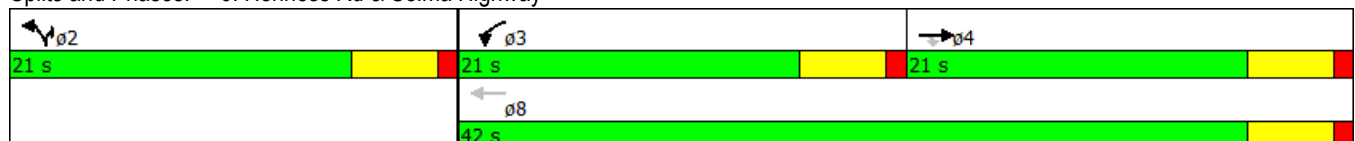
Lanes, Volumes, Timings
6: Henness Rd & Selma Highway

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘↙	↑↑	↖	↗↗
Volume (vph)	250	45	350	100	45	430
Satd. Flow (prot)	3406	1524	3303	3406	1703	2682
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3406	1524	3303	3406	1703	2682
Satd. Flow (RTOR)		50				478
Lane Group Flow (vph)	278	50	389	111	50	478
Turn Type	NA	Perm	Prot	NA	NA	Prot
Protected Phases	4		3		2	2
Permitted Phases		4		8		
Total Split (s)	21.0	21.0	21.0	42.0	21.0	21.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	16.0	16.0	16.0	37.0	16.0	16.0
Actuated g/C Ratio	0.25	0.25	0.25	0.59	0.25	0.25
v/c Ratio	0.32	0.12	0.46	0.06	0.12	0.46
Control Delay	20.3	7.1	22.0	5.7	19.0	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	7.1	22.0	5.7	19.0	3.9
LOS	C	A	C	A	B	A
Approach Delay	18.3			18.4	5.3	
Approach LOS	B			B	A	
Queue Length 50th (ft)	45	0	64	8	15	0
Queue Length 95th (ft)	75	22	101	16	38	34
Internal Link Dist (ft)	1634			1189	2421	
Turn Bay Length (ft)			300			
Base Capacity (vph)	865	424	838	2000	432	1037
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.12	0.46	0.06	0.12	0.46

Intersection Summary

Cycle Length: 63
 Actuated Cycle Length: 63
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay: 13.3
 Intersection Capacity Utilization 50.0%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 6: Henness Rd & Selma Highway



Lane Group	ø4
Lane Configurations	
Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Total Split (s)	39.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lane Group	ø8
Lane Configurations	
Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Total Split (s)	39.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

2018 Total
AM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	565	271	193	352	175	62	74	14	339	206	7
Satd. Flow (prot)	1703	4654	0	1703	4649	0	1703	1751	0	1703	1783	0
Flt Permitted	0.950			0.950			0.604			0.479		
Satd. Flow (perm)	1703	4654	0	1703	4649	0	1083	1751	0	859	1783	0
Satd. Flow (RTOR)		129			148			9			2	
Lane Group Flow (vph)	52	984	0	227	620	0	73	103	0	377	250	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Total Split (s)	15.0	28.0		21.0	34.0		15.0	20.0		21.0	26.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effct Green (s)	10.2	23.5		14.5	34.7		21.5	15.3		31.1	19.8	
Actuated g/C Ratio	0.12	0.28		0.17	0.41		0.25	0.18		0.37	0.23	
v/c Ratio	0.25	0.71		0.77	0.31		0.21	0.32		0.79	0.60	
Control Delay	40.2	28.4		54.0	15.6		19.3	33.5		35.1	36.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	40.2	28.4		54.0	15.6		19.3	33.5		35.1	36.6	
LOS	D	C		D	B		B	C		D	D	
Approach Delay		29.0			25.9			27.6			35.7	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	28	165		124	73		25	48		161	126	
Queue Length 95th (ft)	56	198		#209	97		50	90		#272	191	
Internal Link Dist (ft)		4350			12631			1291			849	
Turn Bay Length (ft)	165			140			300			120		
Base Capacity (vph)	206	1387		329	1996		350	324		482	454	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.71		0.69	0.31		0.21	0.32		0.78	0.55	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 84.4

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 29.5

Intersection LOS: C

Intersection Capacity Utilization 75.6%

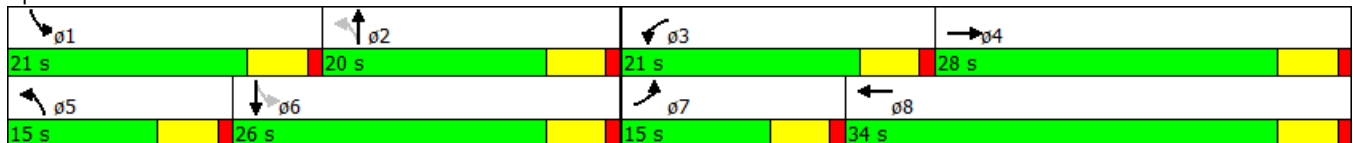
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

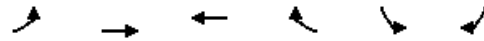
Queue shown is maximum after two cycles.

Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd



Lanes, Volumes, Timings
4: Jimmie Kerr Blvd & Tanger Dr

2018 Total
AM Peak Hr

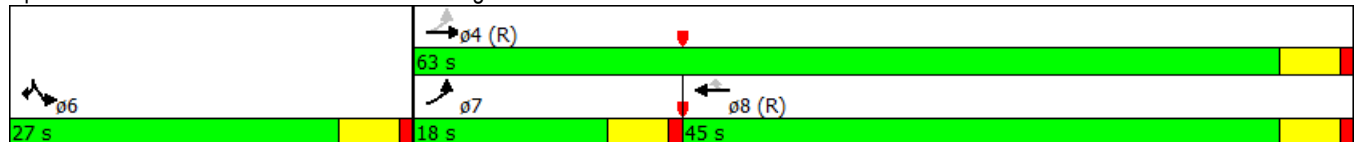


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑↑	↑↑↑	↵	↵↵	↵
Volume (vph)	85	703	778	235	170	60
Satd. Flow (prot)	1703	4893	4893	1524	3303	1524
Flt Permitted	0.282				0.950	
Satd. Flow (perm)	505	4893	4893	1524	3303	1524
Satd. Flow (RTOR)				276		75
Lane Group Flow (vph)	106	781	864	276	200	75
Turn Type	pm+pt	NA	NA	Perm	NA	Prot
Protected Phases	7	4	8		6	6
Permitted Phases	4			8		
Total Split (s)	18.0	63.0	45.0	45.0	27.0	27.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	69.2	69.2	59.5	59.5	10.8	10.8
Actuated g/C Ratio	0.77	0.77	0.66	0.66	0.12	0.12
v/c Ratio	0.22	0.21	0.27	0.25	0.51	0.30
Control Delay	4.0	3.2	5.3	1.3	41.3	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	3.2	5.3	1.3	41.3	12.1
LOS	A	A	A	A	D	B
Approach Delay		3.3	4.3		33.4	
Approach LOS		A	A		C	
Queue Length 50th (ft)	12	35	31	0	55	0
Queue Length 95th (ft)	23	54	139	5	81	29
Internal Link Dist (ft)		12631	390		833	
Turn Bay Length (ft)	325			125		50
Base Capacity (vph)	561	3764	3232	1100	807	429
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.21	0.27	0.25	0.25	0.17

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 25 (28%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 7.4
 Intersection Capacity Utilization 37.1%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 4: Jimmie Kerr Blvd & Tanger Dr



Lanes, Volumes, Timings
5: Henness Rd & Cornman Rd

2018 Total
AM Peak

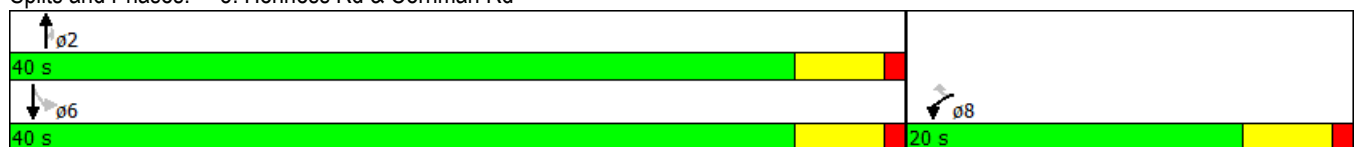
	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↖	↑↑	↗	↘	↑↑
Volume (vph)	55	75	0	935	560	0
Satd. Flow (prot)	1703	1524	3406	1524	1703	3406
Flt Permitted	0.950				0.757	
Satd. Flow (perm)	1703	1524	3406	1524	1357	3406
Satd. Flow (RTOR)	83		1091			
Lane Group Flow (vph)	61	83	0	1039	622	0
Turn Type	NA	Perm		Perm	Perm	
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Total Split (s)	20.0	20.0	40.0	40.0	40.0	40.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	15.7	15.7		36.0	36.0	
Actuated g/C Ratio	0.29	0.29		0.66	0.66	
v/c Ratio	0.12	0.17		0.75	0.69	
Control Delay	18.1	6.1		4.8	15.3	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	18.1	6.1		4.8	15.3	
LOS	B	A		A	B	
Approach Delay	11.2					
Approach LOS	B					
Queue Length 50th (ft)	15	0		0	152	
Queue Length 95th (ft)	43	28		33	#351	
Internal Link Dist (ft)	1549		1078			509
Turn Bay Length (ft)				300	300	
Base Capacity (vph)	491	498		1385	921	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.12	0.17		0.75	0.68	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 54.4
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 8.9
 Intersection Capacity Utilization 97.3%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service F

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Henness Rd & Cornman Rd



Lane Group	ø4
Lane Configurations	
Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Total Split (s)	24.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
8: Henness Rd & I-8 EB On/Off Ramp

2018 Total
AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕						↑↑↑	↗	↘	↑↑	
Volume (vph)	95	0	0	0	0	0	0	0	0	45	0	0
Satd. Flow (prot)	1618	1618	0	0	0	0	0	4893	1792	1703	3406	0
Flt Permitted	0.950	0.950								0.757		
Satd. Flow (perm)	1618	1618	0	0	0	0	0	4893	1792	1357	3406	0
Satd. Flow (RTOR)												
Lane Group Flow (vph)	53	53	0	0	0	0	0	0	0	50	0	0
Turn Type	Perm	NA							Perm	Perm		
Protected Phases		4						2			6	
Permitted Phases	4								2	6		
Total Split (s)	24.0	24.0						36.0	36.0	36.0	36.0	
Total Lost Time (s)	5.0	5.0						5.0	5.0	5.0	5.0	
Act Effect Green (s)	15.0	15.0								35.0		
Actuated g/C Ratio	0.25	0.25								0.58		
v/c Ratio	0.13	0.13								0.06		
Control Delay	18.5	18.5								3.8		
Queue Delay	0.0	0.0								0.0		
Total Delay	18.5	18.5								3.8		
LOS	B	B								A		
Approach Delay		18.5										
Approach LOS		B										
Queue Length 50th (ft)	15	15								4		
Queue Length 95th (ft)	41	41								8		
Internal Link Dist (ft)		1455			1541			1629			473	
Turn Bay Length (ft)												
Base Capacity (vph)	512	512								791		
Starvation Cap Reductn	0	0								0		
Spillback Cap Reductn	0	0								0		
Storage Cap Reductn	0	0								0		
Reduced v/c Ratio	0.10	0.10								0.06		

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay: 13.8 Intersection LOS: B
 Intersection Capacity Utilization 55.5% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 8: Henness Rd & I-8 EB On/Off Ramp



Lane Group	ø8
Lane Configurations	
Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Total Split (s)	24.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Intersection

Intersection Delay, s/veh 4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	164	409	573	158	0	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	240			0	135	0
Median Width		12	12		12	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.85	0.90	0.90	0.85	0.90	0.85
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	193	454	637	186	0	228
Number of Lanes	1	3	3	0	1	1

Major/Minor

	Major 1	Major 2				
Conflicting Flow All	823	0	-	0	1298	411
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	568	-
Follow-up Headway	3.16	-	-	-	3.86	3.96
Pot Capacity-1 Maneuver	463	-	-	-	212	496
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	474	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	463	-	-	-	124	496
Mov Capacity-2 Maneuver	-	-	-	-	124	-
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	276	-

Approach

	EB	WB	SB
HCM Control Delay, s	5.4	0	18.3
HCM LOS	-	-	C

Minor Lane / Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Cap, veh/h	463	-	-	-	0	496
HCM Control Delay, s	18.218	-	-	-	0	18.3
HCM Lane V/C Ratio	0.42	-	-	-	-	0.46
HCM Lane LOS	C	-	-	-	A	C
HCM 95th-tile Q, veh	2.0	-	-	-	-	2.4

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	327	93	83	659	1	62	1	186	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	200		0	0		70	0		0
Median Width		12			12			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.90	0.85	0.85	0.90	0.80	0.80	0.80	0.85	0.80	0.80	0.80
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	6	6	6
Mvmt Flow	1	363	109	98	732	1	77	1	219	1	1	1
Number of Lanes	1	1	1	1	2	0	0	1	1	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	733	0	0	363	0	0	928	1295	363	1294	1294	367
Stage 1	-	-	-	-	-	-	366	366	-	928	928	-
Stage 2	-	-	-	-	-	-	562	929	-	366	366	-
Follow-up Headway	2.26	-	-	2.254	-	-	3.557	4.057	3.357	3.557	4.057	3.357
Pot Capacity-1 Maneuver	842	-	-	1174	-	-	230	158	670	126	158	621
Stage 1	-	-	-	-	-	-	643	613	-	283	339	-
Stage 2	-	-	-	-	-	-	471	338	-	643	613	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	842	-	-	1174	-	-	213	145	670	79	145	621
Mov Capacity-2 Maneuver	-	-	-	-	-	-	213	145	-	79	145	-
Stage 1	-	-	-	-	-	-	642	612	-	283	311	-
Stage 2	-	-	-	-	-	-	429	310	-	432	612	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	19.4	31
HCM LOS	-	-	C	D

Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	315	670	842	-	-	1174	-	-	142
HCM Control Delay, s	26.6	11.9	9.282	-	-	8.344	-	-	31
HCM Lane V/C Ratio	0.48	0.22	0.00	-	-	0.08	-	-	0.03
HCM Lane LOS	D	B	A	-	-	A	-	-	D
HCM 95th-tile Q, veh	2.5	0.8	0.0	-	-	0.3	-	-	0.1

Notes

- : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

2018 Total
PM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	649	45	65	607	157	328	343	18	370	37	31
Satd. Flow (prot)	1703	4840	0	1703	4737	0	1703	1778	0	1703	1669	0
Flt Permitted	0.950			0.950			0.571			0.245		
Satd. Flow (perm)	1703	4840	0	1703	4737	0	1023	1778	0	439	1669	0
Satd. Flow (RTOR)		12			69			3			39	
Lane Group Flow (vph)	16	777	0	81	859	0	364	403	0	411	85	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Total Split (s)	15.0	23.0		15.0	23.0		23.0	29.0		23.0	29.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	10.1	18.3		10.1	26.8		40.6	21.9		37.1	22.7	
Actuated g/C Ratio	0.12	0.22		0.12	0.32		0.48	0.26		0.44	0.27	
v/c Ratio	0.08	0.74		0.40	0.56		0.54	0.88		0.89	0.18	
Control Delay	37.1	37.0		43.8	25.1		16.5	52.4		42.2	16.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.1	37.0		43.8	25.1		16.5	52.4		42.2	16.6	
LOS	D	D		D	C		B	D		D	B	
Approach Delay		37.0			26.7			35.3			37.9	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	8	152		44	124		119	216		147	19	
Queue Length 95th (ft)	24	198		78	#227		185	#375		#325	47	
Internal Link Dist (ft)		4350			12631			1291			849	
Turn Bay Length (ft)	165			140			300			120		
Base Capacity (vph)	203	1049		203	1540		686	511		463	517	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.08	0.74		0.40	0.56		0.53	0.79		0.89	0.16	

Intersection Summary

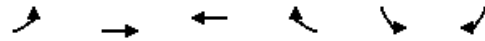
Cycle Length: 90
 Actuated Cycle Length: 85
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 33.5
 Intersection LOS: C
 Intersection Capacity Utilization 79.9%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd

23 s	29 s	15 s	23 s
23 s	29 s	15 s	23 s

Lanes, Volumes, Timings
4: Jimmie Kerr Blvd & Tanger Dr

2018 Total
PM Peak Hr



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑↑	↑↑↑	↵	↵↵	↵
Volume (vph)	185	460	578	505	525	190
Satd. Flow (prot)	1703	4893	4893	1524	3303	1524
Flt Permitted	0.328				0.950	
Satd. Flow (perm)	588	4893	4893	1524	3303	1524
Satd. Flow (RTOR)				561		122
Lane Group Flow (vph)	218	511	642	561	583	224
Turn Type	pm+pt	NA	NA	Perm	NA	Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Total Split (s)	20.0	61.0	41.0	41.0	29.0	29.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	59.2	59.2	39.2	39.2	20.8	20.8
Actuated g/C Ratio	0.66	0.66	0.44	0.44	0.23	0.23
v/c Ratio	0.38	0.16	0.30	0.57	0.76	0.50
Control Delay	8.7	6.4	17.7	7.6	39.1	17.3
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	8.7	6.4	17.7	7.8	39.1	17.3
LOS	A	A	B	A	D	B
Approach Delay		7.1	13.1		33.0	
Approach LOS		A	B		C	
Queue Length 50th (ft)	45	37	100	88	157	47
Queue Length 95th (ft)	76	55	138	154	208	100
Internal Link Dist (ft)		12631	390		833	
Turn Bay Length (ft)	325			125		50
Base Capacity (vph)	572	3216	2129	979	880	495
Starvation Cap Reductn	0	0	0	63	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.16	0.30	0.61	0.66	0.45

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 55 (61%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 17.4
 Intersection Capacity Utilization 52.5%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 4: Jimmie Kerr Blvd & Tanger Dr



Lanes, Volumes, Timings
5: Henness Rd & Cornman Rd

2018 Total
PM Peak

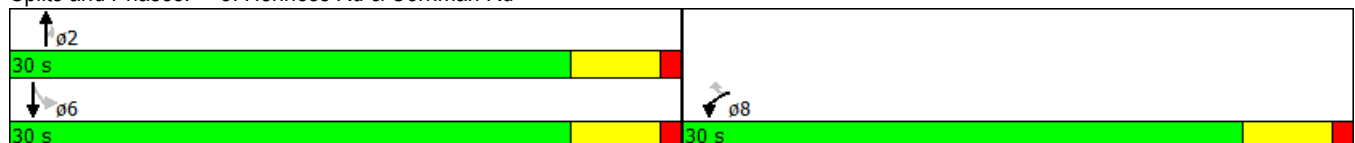
	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↖	↑↑	↗	↘	↑↑
Volume (vph)	460	610	0	125	75	0
Satd. Flow (prot)	1703	1524	3406	1524	1703	3406
Flt Permitted	0.950				0.757	
Satd. Flow (perm)	1703	1524	3406	1524	1357	3406
Satd. Flow (RTOR)		678		1091		
Lane Group Flow (vph)	511	678	0	139	83	0
Turn Type	NA	Perm		Perm	Perm	
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	19.8	19.8		15.1	15.1	
Actuated g/C Ratio	0.44	0.44		0.34	0.34	
v/c Ratio	0.68	0.65		0.11	0.18	
Control Delay	15.2	4.1		0.2	13.5	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	15.2	4.1		0.2	13.5	
LOS	B	A		A	B	
Approach Delay	8.9					
Approach LOS	A					
Queue Length 50th (ft)	96	0		0	15	
Queue Length 95th (ft)	174	41		0	44	
Internal Link Dist (ft)	991		688			983
Turn Bay Length (ft)				300	300	
Base Capacity (vph)	952	1151		1333	758	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.54	0.59		0.10	0.11	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 45
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 8.3
 Intersection Capacity Utilization 46.3%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 5: Henness Rd & Cornman Rd



Lane Group	ø4
Lane Configurations	
Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Total Split (s)	20.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lane Group	ø8
Lane Configurations	
Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Total Split (s)	20.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Intersection

Intersection Delay, s/veh 61.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	643	664	451	186	0	240
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	240			0	135	0
Median Width		12	12		12	
Grade, %		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.85	0.90	0.85
Heavy Vehicles, %	6	6	6	6	6	6
Mvmt Flow	714	738	501	219	0	282
Number of Lanes	1	3	3	0	1	1

Major/Minor

	Major 1	Major 2				
Conflicting Flow All	720	0	-	0	2335	360
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	1724	-
Follow-up Headway	3.16	-	-	-	3.86	3.96
Pot Capacity-1 Maneuver	# 520	-	-	-	58	535
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	109	-
Time blocked-Platoon, %	0	-	-	-	0	0
Mov Capacity-1 Maneuver	# 520	-	-	-	58	535
Mov Capacity-2 Maneuver	-	-	-	-	58	-
Stage 1	-	-	-	-	406	-
Stage 2	-	-	-	-	109	-

Approach

	EB	WB	SB
HCM Control Delay, s	99.7	0	19
HCM LOS	-	-	C

Minor Lane / Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Cap, veh/h	# 520	-	-	-	0	535
HCM Control Delay, s	202.636	-	-	-	0	19
HCM Lane V/C Ratio	# 1.374	-	-	-	-	0.53
HCM Lane LOS	F	-	-	-	A	C
HCM 95th-tile Q, veh	32.5	-	-	-	-	3.1

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	466	192	117	566	1	60	1	183	1	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	200		0	0		70	0		0
Median Width		12			12			0			0	
Grade, %		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.90	0.85	0.85	0.90	0.80	0.80	0.90	0.85	0.80	0.80	0.80
Heavy Vehicles, %	6	6	6	6	6	6	6	6	6	6	6	6
Mvmt Flow	1	518	226	138	629	1	75	1	215	1	1	1
Number of Lanes	1	1	1	1	2	0	0	1	1	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow All	630	0	0	518	0	0	1110	1425	518	1426	1425	315
Stage 1	-	-	-	-	-	-	520	520	-	905	905	-
Stage 2	-	-	-	-	-	-	590	905	-	521	520	-
Follow-up Headway	2.26	-	-	2.254	-	-	3.557	4.057	3.357	3.557	4.057	3.357
Pot Capacity-1 Maneuver	922	-	-	1028	-	-	171	131	547	101	131	671
Stage 1	-	-	-	-	-	-	529	523	-	292	347	-
Stage 2	-	-	-	-	-	-	454	347	-	529	523	-
Time blocked-Platoon, %	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	922	-	-	1028	-	-	152	113	547	54	113	671
Mov Capacity-2 Maneuver	-	-	-	-	-	-	152	113	-	54	113	-
Stage 1	-	-	-	-	-	-	528	522	-	292	300	-
Stage 2	-	-	-	-	-	-	391	300	-	320	522	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	29.1	40.9
HCM LOS	-	-	D	E

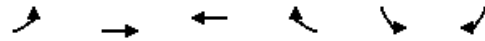
Minor Lane / Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Cap, veh/h	233	547	922	-	-	1028	-	-	104
HCM Control Delay, s	43.9	13.9	8.91	-	-	9.043	-	-	40.9
HCM Lane V/C Ratio	0.64	0.26	0.00	-	-	0.13	-	-	0.04
HCM Lane LOS	E	B	A	-	-	A	-	-	E
HCM 95th-tile Q, veh	3.8	1.0	0.0	-	-	0.5	-	-	0.1

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Lanes, Volumes, Timings
 3: Jimmie Kerr Blvd & I-10 WB On/Off Ramps

2018 Total - MITIGATED
 AM Peak Hr

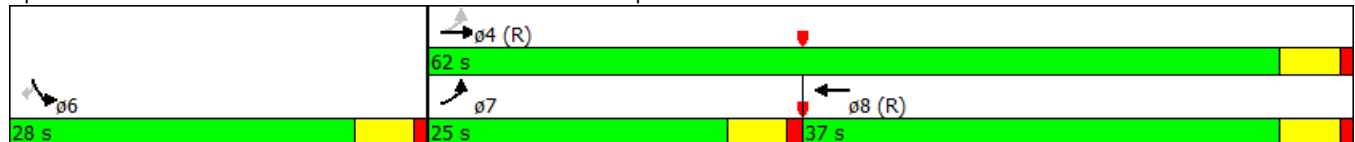


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑↑		↖	↗
Volume (vph)	164	409	573	158	0	194
Satd. Flow (prot)	1703	4893	4727	0	1792	1524
Flt Permitted	0.270					
Satd. Flow (perm)	484	4893	4727	0	1792	1524
Satd. Flow (RTOR)			91			482
Lane Group Flow (vph)	193	454	823	0	0	228
Turn Type	pm+pt	NA	NA			Perm
Protected Phases	7	4	8		6	
Permitted Phases	4					6
Total Split (s)	25.0	62.0	37.0		28.0	28.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Act Effct Green (s)	65.0	65.0	45.0			15.0
Actuated g/C Ratio	0.72	0.72	0.50			0.17
v/c Ratio	0.35	0.13	0.34			0.35
Control Delay	9.0	2.4	12.4			1.5
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	9.0	2.4	12.4			1.5
LOS	A	A	B			A
Approach Delay		4.3	12.4			
Approach LOS		A	B			
Queue Length 50th (ft)	25	14	86			0
Queue Length 95th (ft)	55	19	114			0
Internal Link Dist (ft)		1230	2613		948	
Turn Bay Length (ft)	240					
Base Capacity (vph)	620	3533	2409			748
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.31	0.13	0.34			0.30

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.35
 Intersection Signal Delay: 7.9
 Intersection Capacity Utilization 35.4%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 3: Jimmie Kerr Blvd & I-10 WB On/Off Ramps



Lanes, Volumes, Timings
 3: Jimmie Kerr Blvd & I-10 WB On/Off Ramps

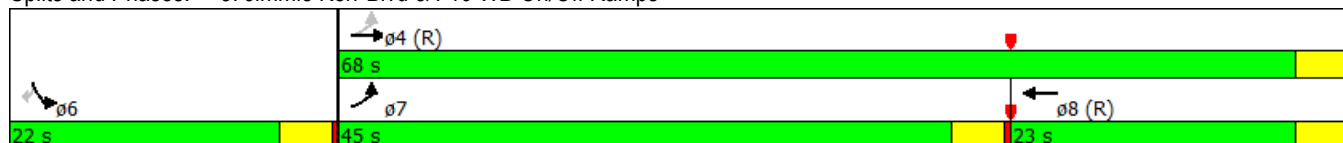
2018 Total MITIGATED
 PM Peak Hr

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	643	664	451	186	0	240
Satd. Flow (prot)	1703	4893	4668	0	1792	1524
Flt Permitted	0.222					
Satd. Flow (perm)	398	4893	4668	0	1792	1524
Satd. Flow (RTOR)			111			760
Lane Group Flow (vph)	714	738	720	0	0	282
Turn Type	pm+pt	NA	NA			Perm
Protected Phases	7	4	8		6	
Permitted Phases	4					6
Total Split (s)	45.0	68.0	23.0		22.0	22.0
Total Lost Time (s)	4.0	4.0	4.0		4.0	4.0
Act Effct Green (s)	64.0	64.0	24.5			18.0
Actuated g/C Ratio	0.71	0.71	0.27			0.20
v/c Ratio	0.89	0.21	0.53			0.31
Control Delay	33.3	2.7	26.4			0.9
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	33.3	2.7	26.4			0.9
LOS	C	A	C			A
Approach Delay		17.7	26.4			
Approach LOS		B	C			
Queue Length 50th (ft)	235	17	112			0
Queue Length 95th (ft)	m290	m34	159			0
Internal Link Dist (ft)		1230	2613		948	
Turn Bay Length (ft)	240					
Base Capacity (vph)	877	3479	1350			912
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.81	0.21	0.53			0.31

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 44 (49%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 18.3
 Intersection Capacity Utilization 55.2%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Jimmie Kerr Blvd & I-10 WB On/Off Ramps



Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

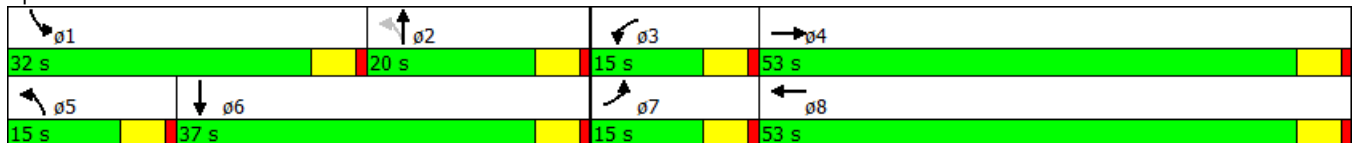
2023 Total
AM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	1180	340	15	715	350	60	110	20	540	635	10
Satd. Flow (prot)	1703	4727	0	1703	4654	0	1703	3327	0	3303	3399	0
Flt Permitted	0.950			0.950			0.355			0.950		
Satd. Flow (perm)	1703	4727	0	1703	4654	0	636	3327	0	3303	3399	0
Satd. Flow (RTOR)		72			123			14			1	
Lane Group Flow (vph)	50	1689	0	17	1183	0	67	144	0	600	717	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2					
Total Split (s)	15.0	53.0		15.0	53.0		15.0	20.0		32.0	37.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	10.1	54.2		10.1	48.4		25.2	15.1		24.4	33.0	
Actuated g/C Ratio	0.09	0.47		0.09	0.42		0.22	0.13		0.21	0.29	
v/c Ratio	0.34	0.74		0.11	0.58		0.29	0.32		0.85	0.73	
Control Delay	58.5	27.4		52.9	24.8		28.9	44.5		56.5	43.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	58.5	27.4		52.9	24.8		28.9	44.5		56.5	43.8	
LOS	E	C		D	C		C	D		E	D	
Approach Delay		28.3			25.2			39.5			49.6	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	37	324		12	236		32	48		228	271	
Queue Length 95th (ft)	79	490		36	285		64	82		296	345	
Internal Link Dist (ft)		4350			7388			1291			849	
Turn Bay Length (ft)	165			140						120		
Base Capacity (vph)	149	2273		149	2036		233	451		784	998	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.34	0.74		0.11	0.58		0.29	0.32		0.77	0.72	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 114.5
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 34.3
 Intersection Capacity Utilization 77.8%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

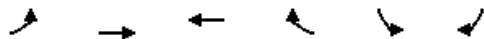
Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd



Lanes, Volumes, Timings

3: Jimmie Kerr Blvd & I-10 WB On/Off Ramps

2023 Total
AM Peak Hr



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑↑	↑↑↑	↗		
Volume (vph)	155	980	1355	375	0	0
Satd. Flow (prot)	1703	4893	4893	1524	0	0
Flt Permitted	0.136					
Satd. Flow (perm)	244	4893	4893	1524	0	0
Satd. Flow (RTOR)				417		
Lane Group Flow (vph)	172	1089	1506	417	0	0
Turn Type	pm+pt	NA	NA	Perm		
Protected Phases	7	4	8			
Permitted Phases	4			8		
Total Split (s)	27.0	90.0	63.0	63.0		
Total Lost Time (s)	5.0	5.0	5.0	5.0		
Act Effect Green (s)	85.0	90.0	65.0	65.0		
Actuated g/C Ratio	0.94	1.00	0.72	0.72		
v/c Ratio	0.36	0.22	0.43	0.34		
Control Delay	7.0	0.1	5.5	1.2		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	7.0	0.1	5.5	1.2		
LOS	A	A	A	A		
Approach Delay		1.0	4.5			
Approach LOS		A	A			
Queue Length 50th (ft)	8	0	105	0		
Queue Length 95th (ft)	41	0	128	22		
Internal Link Dist (ft)		1230	2613		948	
Turn Bay Length (ft)	240			300		
Base Capacity (vph)	587	4893	3533	1216		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.29	0.22	0.43	0.34		

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 3.2

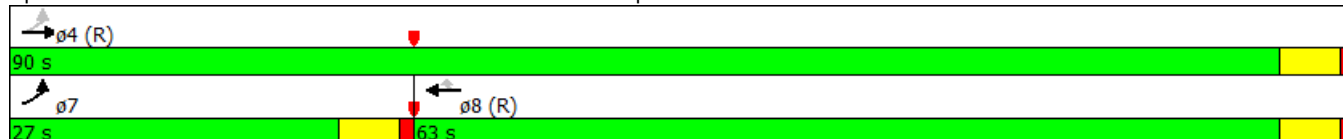
Intersection LOS: A

Intersection Capacity Utilization 47.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Jimmie Kerr Blvd & I-10 WB On/Off Ramps



Lanes, Volumes, Timings

4: Jimmie Kerr Blvd & Tanger Dr

2023 Total
AM Peak Hr

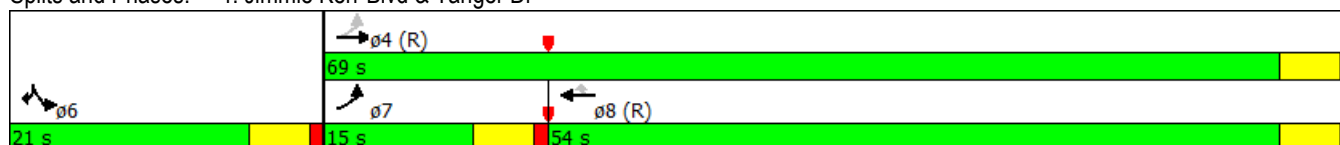


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷↷↷	↷↷↷	↷	↶↶	↷
Volume (vph)	95	1600	1345	80	50	30
Satd. Flow (prot)	1703	4893	4893	1524	3303	1524
Flt Permitted	0.136				0.950	
Satd. Flow (perm)	244	4893	4893	1524	3303	1524
Satd. Flow (RTOR)				86		33
Lane Group Flow (vph)	106	1778	1494	89	56	33
Turn Type	pm+pt	NA	NA	Perm	NA	Prot
Protected Phases	7	4	8		6	6
Permitted Phases	4			8		
Total Split (s)	15.0	69.0	54.0	54.0	21.0	21.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	75.1	76.1	66.6	66.6	7.0	7.0
Actuated g/C Ratio	0.83	0.85	0.74	0.74	0.08	0.08
v/c Ratio	0.34	0.43	0.41	0.08	0.22	0.22
Control Delay	6.7	0.7	2.9	0.3	40.6	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	0.7	2.9	0.3	40.6	17.5
LOS	A	A	A	A	D	B
Approach Delay		1.0	2.7		32.0	
Approach LOS		A	A		C	
Queue Length 50th (ft)	6	5	41	0	15	0
Queue Length 95th (ft)	m8	m4	52	2	34	28
Internal Link Dist (ft)		5163	390		833	
Turn Bay Length (ft)	325			125		50
Base Capacity (vph)	365	4139	3621	1150	587	298
Starvation Cap Reductn	0	0	143	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.43	0.43	0.08	0.10	0.11

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 7 (8%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.43
 Intersection Signal Delay: 2.6
 Intersection Capacity Utilization 47.1%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Jimmie Kerr Blvd & Tanger Dr



Lanes, Volumes, Timings
5: Selma Highway & Jimmie Kerr Blvd

2023 Total
AM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1210	520	550	815	10	225	210	170	315	415	40
Satd. Flow (prot)	3303	4893	1524	3303	4893	1524	3303	3406	1524	1703	3406	1524
Flt Permitted	0.950			0.950			0.950			0.544		
Satd. Flow (perm)	3303	4893	1524	3303	4893	1524	3303	3406	1524	975	3406	1524
Satd. Flow (RTOR)			302			145			206			206
Lane Group Flow (vph)	11	1344	578	611	906	11	250	233	189	350	461	44
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2	6		6
Total Split (s)	13.0	30.0	30.0	23.0	40.0	40.0	15.0	21.0	21.0	16.0	22.0	22.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Act Effct Green (s)	5.8	25.2	25.2	18.2	46.1	46.1	9.7	15.6	15.6	27.9	16.9	16.9
Actuated g/C Ratio	0.06	0.28	0.28	0.20	0.51	0.51	0.11	0.17	0.17	0.31	0.19	0.19
v/c Ratio	0.05	0.98	0.90	0.91	0.36	0.01	0.70	0.39	0.44	0.90	0.72	0.10
Control Delay	39.8	53.7	34.0	69.0	9.1	0.0	50.0	35.2	7.4	53.7	41.7	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	53.7	34.0	69.0	9.1	0.0	50.0	35.2	7.4	53.7	41.7	0.4
LOS	D	D	C	E	A	A	D	D	A	D	D	A
Approach Delay		47.7			33.0			32.9			44.5	
Approach LOS		D			C			C			D	
Queue Length 50th (ft)	3	278	162	195	47	0	71	62	0	159	130	0
Queue Length 95th (ft)	11	#382	#374	#290	68	m0	#113	97	47	#239	184	0
Internal Link Dist (ft)		7388			5163			918			1092	
Turn Bay Length (ft)	300		300	300		300	300		300	300		300
Base Capacity (vph)	293	1369	643	668	2506	851	367	605	440	390	645	455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.98	0.90	0.91	0.36	0.01	0.68	0.39	0.43	0.90	0.71	0.10

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 40.7

Intersection LOS: D

Intersection Capacity Utilization 85.7%

ICU Level of Service E

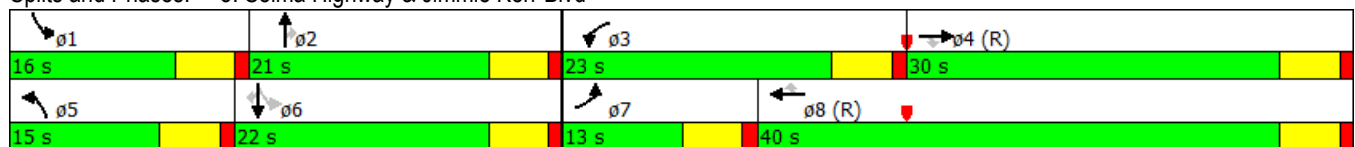
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Selma Highway & Jimmie Kerr Blvd



Lanes, Volumes, Timings
6: Henness Rd & Selma Highway

2023 Total
AM Peak Hr

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	100	945	165	500	1350	130
Satd. Flow (prot)	3303	2682	1703	3406	3406	2682
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3303	2682	1703	3406	3406	2682
Satd. Flow (RTOR)		21				144
Lane Group Flow (vph)	111	1050	183	556	1500	144
Turn Type	NA	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6
Total Split (s)	21.0	23.0	23.0	69.0	46.0	46.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	15.2	33.5	18.2	65.9	41.4	41.4
Actuated g/C Ratio	0.18	0.39	0.21	0.78	0.49	0.49
v/c Ratio	0.19	0.98	0.50	0.21	0.90	0.10
Control Delay	32.6	49.0	36.7	3.9	31.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	49.0	36.7	3.9	31.0	2.8
LOS	C	D	D	A	C	A
Approach Delay	47.4			12.1	28.5	
Approach LOS	D			B	C	
Queue Length 50th (ft)	27	299	93	46	412	0
Queue Length 95th (ft)	51	#447	160	63	#578	17
Internal Link Dist (ft)	1634			1137	918	
Turn Bay Length (ft)						300
Base Capacity (vph)	627	1069	364	2640	1660	1381
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.98	0.50	0.21	0.90	0.10

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 85
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 31.3
 Intersection Capacity Utilization 78.7%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Henness Rd & Selma Highway



Lanes, Volumes, Timings

7: Selma Highway/Henness Rd & I-8 WB On/Off Ramp

2023 Total
AM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖	↕			↕	↗
Volume (vph)	0	0	0	150	0	2275	90	1450	0	0	440	215
Satd. Flow (prot)	0	0	0	1618	1314	2773	1703	3406	0	0	4893	1524
Flt Permitted				0.950	0.999		0.950					
Satd. Flow (perm)	0	0	0	1618	1314	2773	1703	3406	0	0	4893	1524
Satd. Flow (RTOR)					275	500						239
Lane Group Flow (vph)	0	0	0	150	851	1694	100	1611	0	0	489	239
Turn Type				Perm	NA	Perm	Prot	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8						6
Total Split (s)				46.0	46.0	46.0	20.0	50.0			54.0	54.0
Total Lost Time (s)				5.0	5.0	5.0	5.0	5.0			5.0	5.0
Act Effect Green (s)				41.0	41.0	41.0	15.0	45.0			49.0	49.0
Actuated g/C Ratio				0.34	0.34	0.34	0.12	0.38			0.41	0.41
v/c Ratio				0.27	1.35	1.33	0.47	1.26			0.24	0.31
Control Delay				30.3	192.8	177.7	59.2	154.4			24.8	7.5
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				30.3	192.8	177.7	59.2	154.4			24.8	7.5
LOS				C	F	F	E	F			C	A
Approach Delay					174.3			148.8			19.1	
Approach LOS					F			F			B	
Queue Length 50th (ft)				88	~836	~790	82	~840			106	10
Queue Length 95th (ft)				146	#1125	#939	m131	#984			138	92
Internal Link Dist (ft)		1378			1446			499			1176	
Turn Bay Length (ft)												300
Base Capacity (vph)				552	629	1276	212	1277			1997	763
Starvation Cap Reductn				0	0	0	0	0			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.27	1.35	1.33	0.47	1.26			0.24	0.31

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 143.8

Intersection LOS: F

Intersection Capacity Utilization 112.1%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Selma Highway/Henness Rd & I-8 WB On/Off Ramp

#8 ↖ ø1	#7 ↕ ø2 (R)	#8 ↗ ø2 (R)	#8 ↖ ø4
24 s	50 s	46 s	46 s
#7 ↖ ø5	#7 ↕ ø6 (R)	#8 ↗ ø6 (R)	#7 ↖ ø8
20 s	54 s	46 s	46 s

Lanes, Volumes, Timings
 7: Selma Highway/Henness Rd & I-8 WB On/Off Ramp

2023 Total
 AM Peak Hr

Lane Group	ø1	ø4
Lane Configurations		
Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	4
Permitted Phases		
Total Split (s)	24.0	46.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
 8: Selma Highway & I-8 EB On/Off Ramp

2023 Total
 AM Peak Hr

Lane Group	ø5	ø8
Lane Configurations		
Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	5	8
Permitted Phases		
Total Split (s)	20.0	46.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
9: Henness Rd

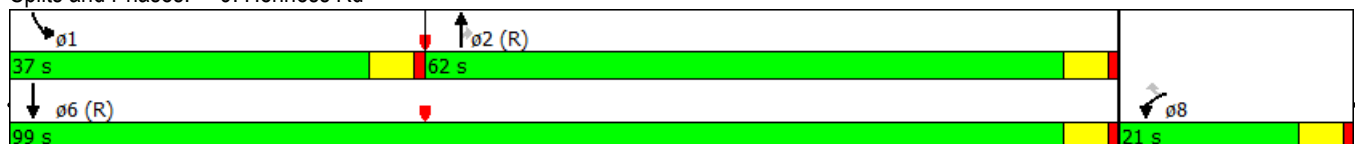
2023 Total
AM Peak Hr

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	175	265	395	3330	1815	475
Satd. Flow (prot)	3303	2682	3406	2682	3303	3406
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	2682	3406	2682	3303	3406
Satd. Flow (RTOR)		294		640		
Lane Group Flow (vph)	194	294	439	3700	2017	528
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Total Split (s)	21.0	21.0	62.0	62.0	37.0	99.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	12.3	12.3	57.0	57.0	35.7	97.7
Actuated g/C Ratio	0.10	0.10	0.48	0.48	0.30	0.81
v/c Ratio	0.57	0.55	0.27	2.30	2.06	0.19
Control Delay	57.8	9.4	21.8	603.4	503.5	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.8	9.4	21.8	603.4	503.5	2.8
LOS	E	A	C	F	F	A
Approach Delay	28.6		541.7			399.6
Approach LOS	C		F			F
Queue Length 50th (ft)	75	0	111	~2509	~1267	37
Queue Length 95th (ft)	110	44	m84	m#1708	#1442	59
Internal Link Dist (ft)	1978		1176			1137
Turn Bay Length (ft)	300	300		300	300	
Base Capacity (vph)	440	612	1617	1609	981	2771
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.48	0.27	2.30	2.06	0.19

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.30
 Intersection Signal Delay: 456.4
 Intersection LOS: F
 Intersection Capacity Utilization 176.6%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Henness Rd



Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

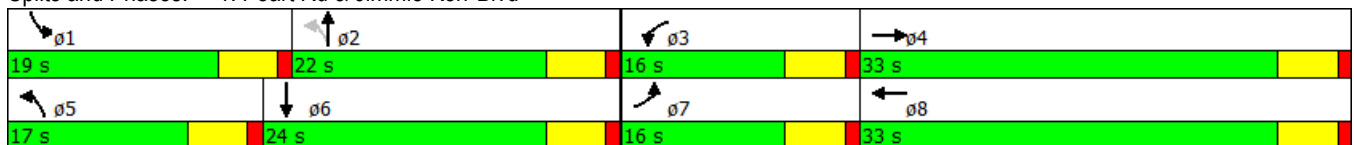
2023 Total
PM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	860	60	50	1190	425	270	535	25	420	90	40
Satd. Flow (prot)	1703	4844	0	1703	4703	0	1703	3382	0	3303	3249	0
Flt Permitted	0.950			0.950			0.661			0.950		
Satd. Flow (perm)	1703	4844	0	1703	4703	0	1185	3382	0	3303	3249	0
Satd. Flow (RTOR)		13			104			5			44	
Lane Group Flow (vph)	17	1023	0	56	1794	0	300	622	0	467	144	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2					
Total Split (s)	16.0	33.0		16.0	33.0		17.0	22.0		19.0	24.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	10.1	28.2		10.3	34.0		28.7	17.2		13.9	19.5	
Actuated g/C Ratio	0.12	0.34		0.12	0.41		0.35	0.21		0.17	0.23	
v/c Ratio	0.08	0.62		0.27	0.90		0.62	0.89		0.84	0.18	
Control Delay	36.7	25.6		39.0	30.1		25.6	49.6		50.6	20.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.7	25.6		39.0	30.1		25.6	49.6		50.6	20.2	
LOS	D	C		D	C		C	D		D	C	
Approach Delay		25.8			30.4			41.8			43.4	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	9	179		29	275		119	182		134	24	
Queue Length 95th (ft)	29	229		66	#521		193	#297		#225	50	
Internal Link Dist (ft)		4350			7388			1291			849	
Turn Bay Length (ft)	165			140						120		
Base Capacity (vph)	227	1656		227	1989		493	702		561	796	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.07	0.62		0.25	0.90		0.61	0.89		0.83	0.18	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 83
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 33.5
 Intersection LOS: C
 Intersection Capacity Utilization 81.6%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd



Lanes, Volumes, Timings

2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd

2023 Total
PM Peak Hr

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕				↕↕	↖	↕	↖
Volume (vph)	0	1285	115	0	735	0	0	0	1220	260	0	120
Satd. Flow (prot)	1792	4835	0	1792	4893	0	0	0	2682	1618	1618	1524
Flt Permitted										0.950	0.950	
Satd. Flow (perm)	1792	4835	0	1792	4893	0	0	0	2682	1618	1618	1524
Satd. Flow (RTOR)		18							24			50
Lane Group Flow (vph)	0	1556	0	0	817	0	0	0	1356	144	145	133
Turn Type	Perm	NA		Perm	NA				custom	Prot	NA	Prot
Protected Phases		4			8					1	6	6
Permitted Phases	4			8					6			
Total Split (s)	37.0	37.0		37.0	37.0				53.0	53.0	53.0	53.0
Total Lost Time (s)	5.0	5.0		5.0	5.0				5.0	5.0	5.0	5.0
Act Effect Green (s)		32.0			32.0				48.0	48.0	48.0	48.0
Actuated g/C Ratio		0.36			0.36				0.53	0.53	0.53	0.53
v/c Ratio		0.90			0.47				0.94	0.17	0.17	0.16
Control Delay		28.8			12.1				33.8	11.4	11.4	7.3
Queue Delay		0.0			0.0				0.0	0.0	0.0	0.0
Total Delay		28.8			12.1				33.8	11.4	11.4	7.3
LOS		C			B				C	B	B	A
Approach Delay		28.8			12.1						10.1	
Approach LOS		C			B						B	
Queue Length 50th (ft)		110			35				381	42	42	22
Queue Length 95th (ft)		#409			66				#571	74	75	50
Internal Link Dist (ft)		390			1230			700			972	
Turn Bay Length (ft)												
Base Capacity (vph)		1730			1739				1441	862	862	836
Starvation Cap Reductn		2			0				0	0	0	0
Spillback Cap Reductn		0			0				0	0	0	0
Storage Cap Reductn		0			0				0	0	0	0
Reduced v/c Ratio		0.90			0.47				0.94	0.17	0.17	0.16

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 25.2

Intersection LOS: C

Intersection Capacity Utilization 89.8%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

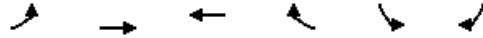
Splits and Phases: 2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd



Lanes, Volumes, Timings

3: Jimmie Kerr Blvd & I-10 WB On/Off Ramps

2023 Total
PM Peak Hr

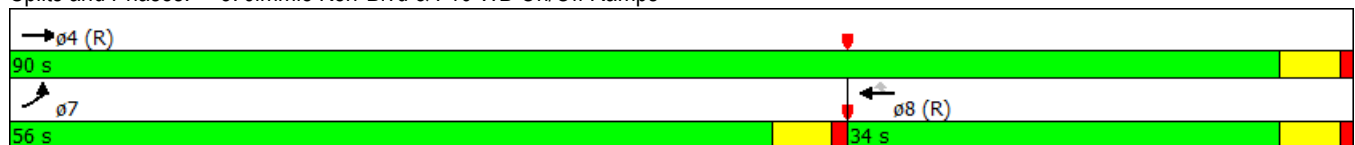


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↕↕↕	↕↕↕	↕		
Volume (vph)	1090	1675	735	233	0	0
Satd. Flow (prot)	3303	4893	4893	1524	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3303	4893	4893	1524	0	0
Satd. Flow (RTOR)				63		
Lane Group Flow (vph)	1211	1861	817	259	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	7	4	8			
Permitted Phases				8		
Total Split (s)	56.0	90.0	34.0	34.0		
Total Lost Time (s)	5.0	5.0	5.0	5.0		
Act Effect Green (s)	42.3	90.0	37.7	37.7		
Actuated g/C Ratio	0.47	1.00	0.42	0.42		
v/c Ratio	0.78	0.38	0.40	0.38		
Control Delay	20.5	0.1	20.1	17.0		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	20.5	0.1	20.1	17.0		
LOS	C	A	C	B		
Approach Delay		8.2	19.3			
Approach LOS		A	B			
Queue Length 50th (ft)	288	0	116	74		
Queue Length 95th (ft)	m291	m0	171	155		
Internal Link Dist (ft)		1230	2613		948	
Turn Bay Length (ft)	240			300		
Base Capacity (vph)	1871	4893	2047	674		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.65	0.38	0.40	0.38		

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 11.1
 Intersection LOS: B
 Intersection Capacity Utilization 53.9%
 ICU Level of Service A
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Jimmie Kerr Blvd & I-10 WB On/Off Ramps



Lanes, Volumes, Timings
5: Selma Highway & Jimmie Kerr Blvd

2023 Total
PM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	1030	225	125	645	10	920	870	350	55	215	95
Satd. Flow (prot)	3303	4893	1524	3303	4893	1524	3303	3406	1524	1703	3406	1524
Flt Permitted	0.950			0.950			0.950			0.308		
Satd. Flow (perm)	3303	4893	1524	3303	4893	1524	3303	3406	1524	552	3406	1524
Satd. Flow (RTOR)			250			206			332			206
Lane Group Flow (vph)	56	1144	250	139	717	11	1022	967	389	61	239	106
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2	6		6
Total Split (s)	13.0	27.0	27.0	13.0	27.0	27.0	33.0	39.0	39.0	11.0	17.0	17.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Act Effct Green (s)	6.9	22.3	22.3	7.7	25.2	25.2	28.0	36.2	36.2	17.9	12.0	12.0
Actuated g/C Ratio	0.08	0.25	0.25	0.09	0.28	0.28	0.31	0.40	0.40	0.20	0.13	0.13
v/c Ratio	0.22	0.94	0.44	0.49	0.52	0.02	1.00	0.71	0.48	0.33	0.53	0.28
Control Delay	40.9	49.9	6.5	53.8	17.5	0.1	47.9	21.2	3.6	21.5	41.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	49.9	6.5	53.8	17.5	0.1	47.9	21.2	3.6	21.5	41.0	1.8
LOS	D	D	A	D	B	A	D	C	A	C	D	A
Approach Delay		42.0			23.1			29.8			27.8	
Approach LOS		D			C			C			C	
Queue Length 50th (ft)	15	235	0	43	64	0	272	250	27	17	67	0
Queue Length 95th (ft)	34	#327	58	75	174	m0	m#417	m283	m27	38	105	0
Internal Link Dist (ft)		7388			5163			896			1092	
Turn Bay Length (ft)	300		300	300		300	300		300	300		300
Base Capacity (vph)	293	1211	565	293	1372	575	1027	1369	811	187	454	381
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.94	0.44	0.47	0.52	0.02	1.00	0.71	0.48	0.33	0.53	0.28

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 32.0

Intersection LOS: C

Intersection Capacity Utilization 78.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Selma Highway & Jimmie Kerr Blvd



Lanes, Volumes, Timings
7: Selma Highway/Henness Rd & I-8 WB On/Off Ramp

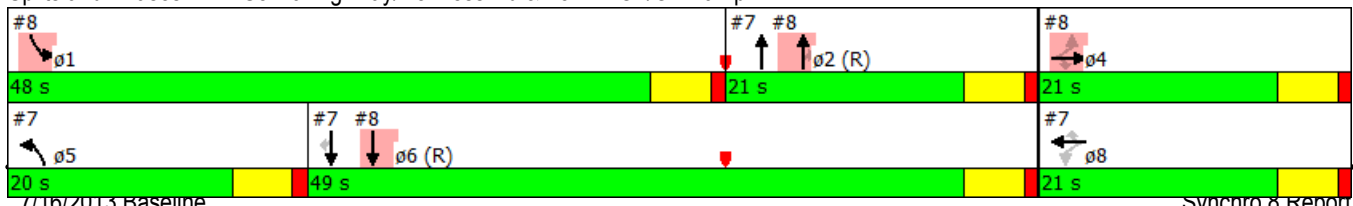
2023 Total
PM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	225	0	490	60	395	0	0	1275	590
Satd. Flow (prot)	0	0	0	1618	1348	2773	1703	3406	0	0	4893	1524
Flt Permitted				0.950	0.989		0.950					
Satd. Flow (perm)	0	0	0	1618	1348	2773	1703	3406	0	0	4893	1524
Satd. Flow (RTOR)					152	392						656
Lane Group Flow (vph)	0	0	0	205	197	392	67	439	0	0	1417	656
Turn Type				Perm	NA	Perm	Prot	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8						6
Total Split (s)				21.0	21.0	21.0	20.0	21.0			49.0	49.0
Total Lost Time (s)				5.0	5.0	5.0	5.0	5.0			5.0	5.0
Act Effect Green (s)				15.7	15.7	15.7	15.0	18.4			48.3	48.3
Actuated g/C Ratio				0.17	0.17	0.17	0.17	0.20			0.54	0.54
v/c Ratio				0.73	0.55	0.49	0.24	0.63			0.54	0.58
Control Delay				51.7	16.1	5.8	27.0	33.2			7.5	3.8
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				51.7	16.1	5.8	27.0	33.2			7.5	3.8
LOS				D	B	A	C	C			A	A
Approach Delay					20.2			32.4			6.3	
Approach LOS					C			C			A	
Queue Length 50th (ft)				116	25	0	39	74			146	46
Queue Length 95th (ft)				#220	102	40	82	115			m187	m53
Internal Link Dist (ft)		1378				1446		493			1190	
Turn Bay Length (ft)												300
Base Capacity (vph)				287	364	815	283	697			2628	1122
Starvation Cap Reductn				0	0	0	0	0			0	0
Spillback Cap Reductn				0	0	0	0	0			24	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.71	0.54	0.48	0.24	0.63			0.54	0.58

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 13.5
 Intersection LOS: B
 Intersection Capacity Utilization 74.0%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Selma Highway/Henness Rd & I-8 WB On/Off Ramp



Lane Group	ø1	ø4
Lane Configurations		
Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	4
Permitted Phases		
Total Split (s)	48.0	21.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings

8: Selma Highway & I-8 EB On/Off Ramp

2023 Total
PM Peak Hr

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	0	90	0	0	0	0	225	150	645	855	0
Satd. Flow (prot)	1618	1542	1447	0	0	0	0	4893	1524	1703	3406	0
Flt Permitted	0.950	0.956								0.950		
Satd. Flow (perm)	1618	1542	1447	0	0	0	0	4893	1524	1703	3406	0
Satd. Flow (RTOR)		145	145						167			
Lane Group Flow (vph)	133	133	90	0	0	0	0	250	167	717	950	0
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Total Split (s)	21.0	21.0	21.0					21.0	21.0	48.0	49.0	
Total Lost Time (s)	5.0	5.0	5.0					5.0	5.0	5.0	5.0	
Act Effect Green (s)	15.7	15.7	15.7					18.4	18.4	40.9	48.3	
Actuated g/C Ratio	0.17	0.17	0.17					0.20	0.20	0.45	0.54	
v/c Ratio	0.47	0.34	0.24					0.25	0.38	0.93	0.52	
Control Delay	39.6	7.6	3.1					31.7	8.2	45.9	10.2	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay	39.6	7.6	3.1					31.7	8.2	45.9	10.2	
LOS	D	A	A					C	A	D	B	
Approach Delay		18.4						22.3			25.6	
Approach LOS		B						C			C	
Queue Length 50th (ft)	72	0	0					45	0	291	91	
Queue Length 95th (ft)	131	45	12					69	53	#553	95	
Internal Link Dist (ft)		1438			1454			585			493	
Turn Bay Length (ft)												
Base Capacity (vph)	287	393	376					1002	445	813	1829	
Starvation Cap Reductn	0	0	0					0	0	0	0	
Spillback Cap Reductn	0	0	0					0	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.46	0.34	0.24					0.25	0.38	0.88	0.52	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 24.0

Intersection LOS: C

Intersection Capacity Utilization 74.0%

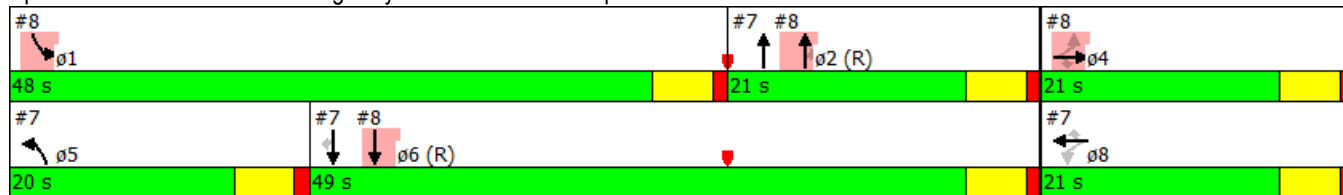
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: Selma Highway & I-8 EB On/Off Ramp



Lanes, Volumes, Timings
 8: Selma Highway & I-8 EB On/Off Ramp

2023 Total
 PM Peak Hr

Lane Group	ø5	ø8
Lane Configurations		
Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	5	8
Permitted Phases		
Total Split (s)	20.0	21.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
9: Henness Rd & Cornman Rd

2023 Total
PM Peak Hr

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↑↑	↖↗	↖↗	↑↑
Volume (vph)	1465	2195	475	410	225	395
Satd. Flow (prot)	3303	2682	3406	2682	3303	3406
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	2682	3406	2682	3303	3406
Satd. Flow (RTOR)		43		456		
Lane Group Flow (vph)	1628	2439	528	456	250	439
Turn Type	NA	pt+ov	NA	Perm	Prot	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases				2		
Total Split (s)	52.0		22.0	22.0	16.0	38.0
Total Lost Time (s)	5.0		5.0	5.0	5.0	5.0
Act Effct Green (s)	47.0	63.0	17.0	17.0	11.0	33.0
Actuated g/C Ratio	0.52	0.70	0.19	0.19	0.12	0.37
v/c Ratio	0.94	1.29	0.82	0.52	0.62	0.35
Control Delay	33.3	153.2	59.3	19.7	25.1	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	153.2	59.3	19.7	25.1	15.3
LOS	C	F	E	B	C	B
Approach Delay	105.2		41.0			18.8
Approach LOS	F		D			B
Queue Length 50th (ft)	425	~1018	164	2	75	128
Queue Length 95th (ft)	#604	#1170	#240	113	117	173
Internal Link Dist (ft)	1978		1190			1138
Turn Bay Length (ft)	300	300		300	300	
Base Capacity (vph)	1724	1890	643	876	403	1248
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.29	0.82	0.52	0.62	0.35

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.29

Intersection Signal Delay: 83.8

Intersection LOS: F

Intersection Capacity Utilization 98.3%

ICU Level of Service F

Analysis Period (min) 15

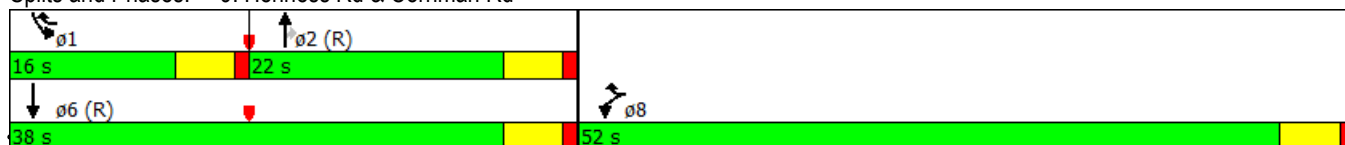
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 9: Henness Rd & Cornman Rd



7/16/2013 Baseline

Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

2023 Total MITIGATION
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	1180	340	15	715	350	60	110	20	540	635	10
Satd. Flow (prot)	1703	4727	0	1703	4654	0	1703	3327	0	3303	3399	0
Flt Permitted	0.950			0.950			0.296			0.950		
Satd. Flow (perm)	1703	4727	0	1703	4654	0	531	3327	0	3303	3399	0
Satd. Flow (RTOR)		85			145			20			2	
Lane Group Flow (vph)	50	1689	0	17	1183	0	67	144	0	600	717	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2					
Total Split (s)	15.0	34.0		15.0	34.0		15.0	20.0		21.0	26.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	10.1	32.0		10.1	29.2		25.2	15.1		16.1	24.5	
Actuated g/C Ratio	0.12	0.38		0.12	0.35		0.30	0.18		0.19	0.29	
v/c Ratio	0.25	0.91		0.08	0.69		0.22	0.23		0.95	0.72	
Control Delay	39.4	33.8		37.0	23.9		19.1	28.1		61.2	34.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.4	33.8		37.0	23.9		19.1	28.1		61.2	34.9	
LOS	D	C		D	C		B	C		E	C	
Approach Delay		34.0			24.1			25.2			46.9	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	27	252		9	191		23	32		~183	208	
Queue Length 95th (ft)	62	#478		29	244		50	60		#293	#314	
Internal Link Dist (ft)		4350			7388			1291			849	
Turn Bay Length (ft)	165			140						120		
Base Capacity (vph)	204	1854		204	1713		299	615		634	993	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.91		0.08	0.69		0.22	0.23		0.95	0.72	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 84
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 34.7
 Intersection Capacity Utilization 77.8%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd

21 s	20 s	15 s	34 s
15 s	26 s	15 s	34 s

Lanes, Volumes, Timings
2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd

2023 Total MITIGATION
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	740	1215	305	1050	0	0	0	145	250	0	70
Satd. Flow (prot)	1792	4893	2682	1703	4893	0	0	0	2682	1618	1618	1524
Flt Permitted				0.274						0.950	0.950	
Satd. Flow (perm)	1792	4893	2682	491	4893	0	0	0	2682	1618	1618	1524
Satd. Flow (RTOR)			1180						730			85
Lane Group Flow (vph)	0	822	1350	339	1167	0	0	0	161	139	139	78
Turn Type	Perm	NA	Perm	pm+pt	NA				custom	Prot	NA	Prot
Protected Phases		4		3	8					1	6	6
Permitted Phases	4		4	8					6			
Total Split (s)	45.0	45.0	45.0	24.0	69.0				21.0	21.0	21.0	21.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0				5.0	5.0	5.0	5.0
Act Effect Green (s)		46.7	46.7	64.0	64.0				16.0	16.0	16.0	16.0
Actuated g/C Ratio		0.52	0.52	0.71	0.71				0.18	0.18	0.18	0.18
v/c Ratio		0.32	0.69	0.66	0.34				0.15	0.48	0.48	0.23
Control Delay		5.6	3.8	21.2	5.2				0.3	39.8	39.8	8.6
Queue Delay		0.0	0.3	0.0	0.0				0.0	0.0	0.0	0.0
Total Delay		5.6	4.1	21.2	5.2				0.3	39.8	39.8	8.6
LOS		A	A	C	A				A	D	D	A
Approach Delay		4.7			8.8						32.9	
Approach LOS		A			A						C	
Queue Length 50th (ft)		30	0	88	78				0	75	75	0
Queue Length 95th (ft)		40	3	202	97				0	137	137	34
Internal Link Dist (ft)		390			1230			700			972	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		2537	1959	605	3479				1077	287	287	340
Starvation Cap Reductn		0	168	0	0				0	0	0	0
Spillback Cap Reductn		0	0	0	0				0	0	0	0
Storage Cap Reductn		0	0	0	0				0	0	0	0
Reduced v/c Ratio		0.32	0.75	0.56	0.34				0.15	0.48	0.48	0.23

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 8.4

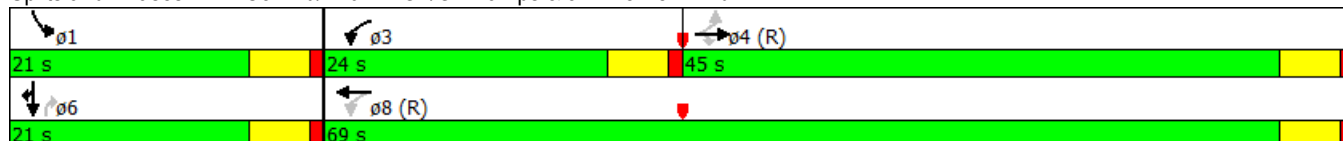
Intersection LOS: A

Intersection Capacity Utilization 80.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd



Lanes, Volumes, Timings 4: Jimmie Kerr Blvd & Tanger Dr

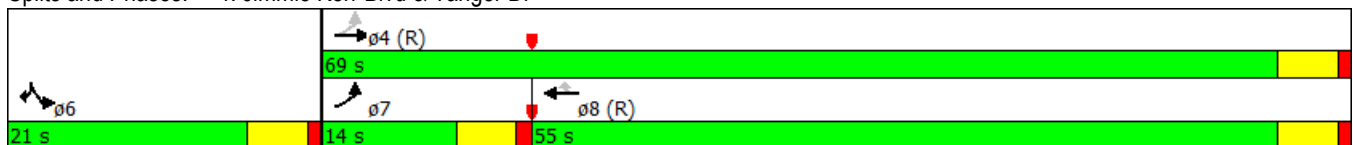
2023 Total MITIGATION
AM Peak Hour

	↖	→	←	↖	↘	↙
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↖↖↖	↖↖↖	↖	↖↖	↖
Volume (vph)	95	1905	1040	80	50	30
Satd. Flow (prot)	1703	4893	4893	1524	3303	1524
Flt Permitted	0.206				0.950	
Satd. Flow (perm)	369	4893	4893	1524	3303	1524
Satd. Flow (RTOR)				89		33
Lane Group Flow (vph)	106	2117	1156	89	56	33
Turn Type	pm+pt	NA	NA	Perm	NA	Prot
Protected Phases	7	4	8		6	6
Permitted Phases	4			8		
Total Split (s)	14.0	69.0	55.0	55.0	21.0	21.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	75.1	76.1	66.6	66.6	7.0	7.0
Actuated g/C Ratio	0.83	0.85	0.74	0.74	0.08	0.08
v/c Ratio	0.26	0.51	0.32	0.08	0.22	0.22
Control Delay	1.1	0.5	2.9	1.1	40.6	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.1	0.5	2.9	1.1	40.6	17.5
LOS	A	A	A	A	D	B
Approach Delay		0.5	2.7		32.0	
Approach LOS		A	A		C	
Queue Length 50th (ft)	0	0	4	0	15	0
Queue Length 95th (ft)	m1	m9	135	10	34	28
Internal Link Dist (ft)		5163	390		833	
Turn Bay Length (ft)	325			125		50
Base Capacity (vph)	441	4139	3621	1151	587	298
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	85	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.52	0.32	0.08	0.10	0.11

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 2.1
 Intersection Capacity Utilization 48.5%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Jimmie Kerr Blvd & Tanger Dr



Lanes, Volumes, Timings
5: Selma Highway & Jimmie Kerr Blvd

2023 Total MITIGATION
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1515	215	245	815	10	225	210	170	315	415	40
Satd. Flow (prot)	3303	4893	1524	3303	4893	1524	3303	3406	1524	3303	3406	1524
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3303	4893	1524	3303	4893	1524	3303	3406	1524	3303	3406	1524
Satd. Flow (RTOR)			239			145			176			145
Lane Group Flow (vph)	11	1683	239	272	906	11	250	233	189	350	461	44
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Total Split (s)	13.0	39.0	39.0	14.0	40.0	40.0	14.0	21.0	21.0	16.0	23.0	23.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Act Effct Green (s)	8.0	34.1	34.1	9.5	45.9	45.9	9.0	15.5	15.5	11.0	17.5	17.5
Actuated g/C Ratio	0.09	0.38	0.38	0.11	0.51	0.51	0.10	0.17	0.17	0.12	0.19	0.19
v/c Ratio	0.04	0.91	0.33	0.78	0.36	0.01	0.76	0.40	0.46	0.87	0.70	0.11
Control Delay	37.9	35.3	4.0	54.0	6.6	0.0	49.1	33.2	14.9	61.7	40.1	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	35.3	4.0	54.0	6.6	0.0	49.1	33.2	14.9	61.7	40.1	0.5
LOS	D	D	A	D	A	A	D	C	B	E	D	A
Approach Delay		31.4			17.4			34.0			46.9	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	3	326	0	86	91	0	52	64	39	102	130	0
Queue Length 95th (ft)	11	#426	46	#145	120	m0	#119	111	76	#178	181	0
Internal Link Dist (ft)		7388			5163			918			1092	
Turn Bay Length (ft)	300		300	300		300	300		300	300		300
Base Capacity (vph)	293	1851	725	347	2497	848	330	605	415	403	681	420
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.91	0.33	0.78	0.36	0.01	0.76	0.39	0.46	0.87	0.68	0.10

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 31.0

Intersection LOS: C

Intersection Capacity Utilization 74.4%

ICU Level of Service D

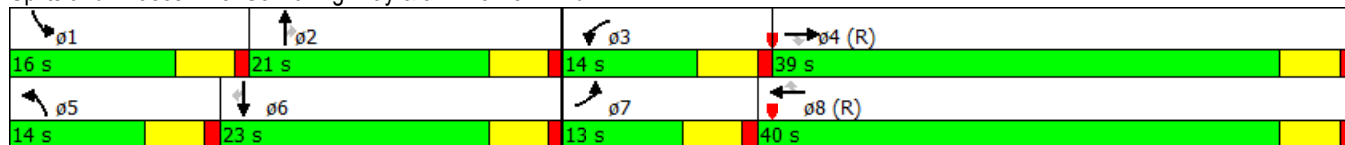
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Selma Highway & Jimmie Kerr Blvd



Lanes, Volumes, Timings

7: Selma Highway/Heness Rd & I-8 WB On/Off Ramp

2023 Total MITIGATION

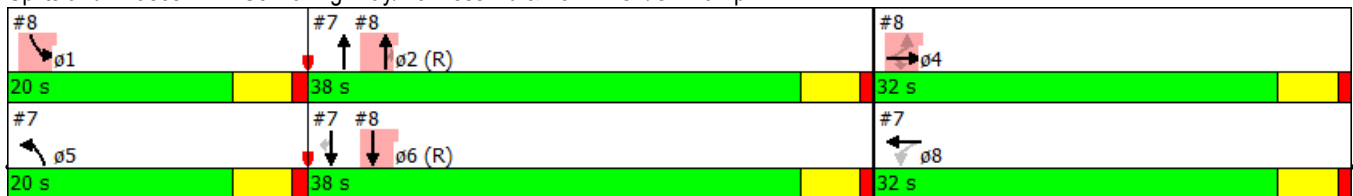
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	150	155	2120	90	1450	0	0	440	215
Satd. Flow (prot)	0	0	0	1618	1696	2682	1703	4893	0	0	4893	1524
Flt Permitted				0.950	0.996		0.950					
Satd. Flow (perm)	0	0	0	1618	1696	2682	1703	4893	0	0	4893	1524
Satd. Flow (RTOR)						1077						239
Lane Group Flow (vph)	0	0	0	150	189	2356	100	1611	0	0	489	239
Turn Type				Perm	NA	Free	Prot	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		Free						6
Total Split (s)				32.0	32.0		20.0	38.0			38.0	38.0
Total Lost Time (s)				5.0	5.0		5.0	5.0			5.0	5.0
Act Effect Green (s)				25.2	25.2	90.0	15.0	34.8			38.8	38.8
Actuated g/C Ratio				0.28	0.28	1.00	0.17	0.39			0.43	0.43
v/c Ratio				0.33	0.40	0.88	0.35	0.85			0.23	0.30
Control Delay				27.4	28.6	4.8	38.3	26.4			22.9	11.2
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Total Delay				27.4	28.6	4.8	38.3	26.4			22.9	11.2
LOS				C	C	A	D	C			C	B
Approach Delay					7.7			27.1			19.0	
Approach LOS					A			C			B	
Queue Length 50th (ft)				68	88	0	60	186			84	20
Queue Length 95th (ft)				122	151	0	m94	#415			110	89
Internal Link Dist (ft)		1378			1446			499			516	
Turn Bay Length (ft)							225					300
Base Capacity (vph)				485	508	2682	283	1894			2111	793
Starvation Cap Reductn				0	0	0	0	0			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.31	0.37	0.88	0.35	0.85			0.23	0.30

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 15.8
 Intersection LOS: B
 Intersection Capacity Utilization 61.3%
 ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Selma Highway/Heness Rd & I-8 WB On/Off Ramp



Lane Group	ø1	ø4
Lane Configurations		
Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	4
Permitted Phases		
Total Split (s)	20.0	32.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

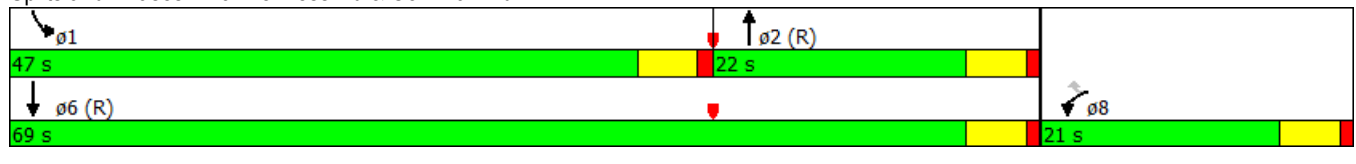
Lane Group	ø5	ø8
Lane Configurations		
Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	5	8
Permitted Phases		
Total Split (s)	20.0	32.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↖↖	↑↑	↗	↖↖	↑↑
Volume (vph)	175	265	395	1210	1210	475
Satd. Flow (prot)	3303	2682	3406	1524	3303	3406
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	2682	3406	1524	3303	3406
Satd. Flow (RTOR)	294		492			
Lane Group Flow (vph)	194	294	439	1344	1344	528
Turn Type	NA	Perm	NA	Free	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases	8		Free			
Total Split (s)	21.0	21.0	22.0		47.0	69.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Act Effect Green (s)	10.8	10.8	22.5	90.0	41.8	69.2
Actuated g/C Ratio	0.12	0.12	0.25	1.00	0.46	0.77
v/c Ratio	0.49	0.51	0.52	0.88	0.88	0.20
Control Delay	40.8	7.7	53.2	26.3	23.9	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	7.7	53.2	26.3	23.9	4.5
LOS	D	A	D	C	C	A
Approach Delay	20.9		33.0		18.4	
Approach LOS	C		C		B	
Queue Length 50th (ft)	54	0	147	553	277	55
Queue Length 95th (ft)	83	38	m182	m#813	403	77
Internal Link Dist (ft)	1978		580		1137	
Turn Bay Length (ft)	300	300			300	
Base Capacity (vph)	587	718	850	1524	1588	2619
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.41	0.52	0.88	0.85	0.20

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 25.0 Intersection LOS: C
 Intersection Capacity Utilization 62.9% ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Henness Rd & Cornman Rd



Lanes, Volumes, Timings
1: Peart Rd & Jimmie Kerr Blvd

2023 Total - MITIGATION

8/14/2013

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	860	60	50	1190	425	270	535	25	420	90	40
Satd. Flow (prot)	1703	4844	0	1703	4703	0	1703	3382	0	3303	3249	0
Flt Permitted	0.950			0.950			0.661			0.950		
Satd. Flow (perm)	1703	4844	0	1703	4703	0	1185	3382	0	3303	3249	0
Satd. Flow (RTOR)		12			101			5			44	
Lane Group Flow (vph)	17	1023	0	56	1794	0	300	622	0	467	144	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2					
Total Split (s)	16.0	31.0		16.0	31.0		17.0	24.0		19.0	26.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	10.1	26.3		10.3	32.0		29.5	17.9		13.9	20.2	
Actuated g/C Ratio	0.12	0.32		0.13	0.39		0.36	0.22		0.17	0.25	
v/c Ratio	0.08	0.65		0.26	0.94		0.60	0.84		0.83	0.17	
Control Delay	36.7	27.3		38.8	35.1		23.4	43.0		49.0	19.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.7	27.3		38.8	35.1		23.4	43.0		49.0	19.1	
LOS	D	C		D	D		C	D		D	B	
Approach Delay		27.4			35.2			36.6			42.0	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	9	185		29	290		114	176		134	23	
Queue Length 95th (ft)	29	238		66	#545		185	#272		#225	48	
Internal Link Dist (ft)		4350			7388			1291			849	
Turn Bay Length (ft)	165			140						120		
Base Capacity (vph)	232	1567		232	1903		512	799		572	877	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.07	0.65		0.24	0.94		0.59	0.78		0.82	0.16	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 81.8

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 34.6

Intersection LOS: C

Intersection Capacity Utilization 81.6%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Peart Rd & Jimmie Kerr Blvd

19 s	24 s	16 s	31 s	17 s	26 s	16 s	31 s	

Lanes, Volumes, Timings
2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd

2023 Total - MITIGATION

8/14/2013

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1285	115	35	700	0	0	0	1220	260	0	120
Satd. Flow (prot)	1792	4893	1524	1703	4893	0	0	0	2682	1618	1618	1524
Flt Permitted				0.111						0.950	0.950	
Satd. Flow (perm)	1792	4893	1524	199	4893	0	0	0	2682	1618	1618	1524
Satd. Flow (RTOR)				128					286			101
Lane Group Flow (vph)	0	1428	128	39	778	0	0	0	1356	144	145	133
Turn Type	Perm	NA	Perm	pm+pt	NA				custom	Prot	NA	Prot
Protected Phases		4		3	8					1	6	6
Permitted Phases	4		4	8					6			
Total Split (s)	34.0	34.0	34.0	10.0	44.0				46.0	46.0	46.0	46.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0				5.0	5.0	5.0	5.0
Act Effect Green (s)		33.0	33.0	39.0	39.0				41.0	41.0	41.0	41.0
Actuated g/C Ratio		0.37	0.37	0.43	0.43				0.46	0.46	0.46	0.46
v/c Ratio		0.80	0.20	0.23	0.37				0.98	0.20	0.20	0.18
Control Delay		22.0	2.4	29.6	13.0				41.2	15.5	15.6	5.4
Queue Delay		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Total Delay		22.0	2.4	29.6	13.0				41.2	15.5	15.6	5.4
LOS		C	A	C	B				D	B	B	A
Approach Delay		20.4			13.8						12.4	
Approach LOS		C			B						B	
Queue Length 50th (ft)		312	0	5	39				353	49	50	10
Queue Length 95th (ft)		#382	5	44	97				#542	89	90	41
Internal Link Dist (ft)		390			1230			700			972	
Turn Bay Length (ft)			300	250								
Base Capacity (vph)		1794	639	169	2120				1377	737	737	749
Starvation Cap Reductn		0	0	0	0				0	0	0	0
Spillback Cap Reductn		0	0	0	0				0	0	0	0
Storage Cap Reductn		0	0	0	0				0	0	0	0
Reduced v/c Ratio		0.80	0.20	0.23	0.37				0.98	0.20	0.20	0.18

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 25.1

Intersection LOS: C

Intersection Capacity Utilization 88.3%

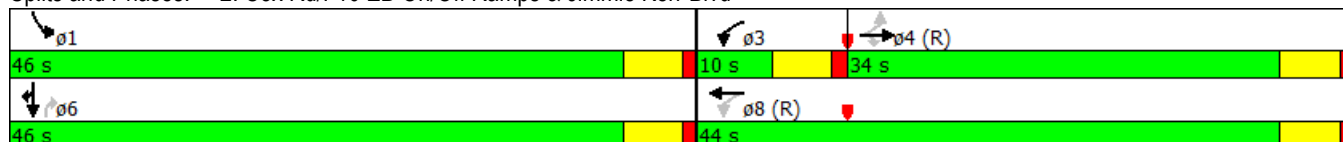
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Cox Rd/I-10 EB On/Off Ramps & Jimmie Kerr Blvd

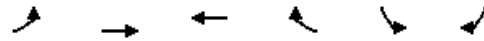


Lanes, Volumes, Timings

3: Jimmie Kerr Blvd & I-10 WB On/Off Ramps

2023 Total - MITIGATION

8/14/2013

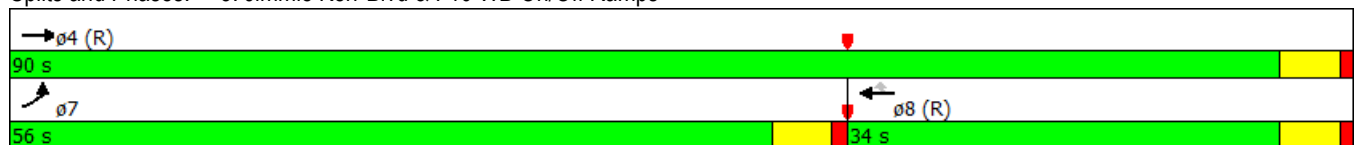


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↕↕↕	↕↕↕	↕		
Volume (vph)	1090	1675	735	233	0	0
Satd. Flow (prot)	3303	4893	4893	1524	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3303	4893	4893	1524	0	0
Satd. Flow (RTOR)				63		
Lane Group Flow (vph)	1211	1861	817	259	0	0
Turn Type	Prot	NA	NA	Perm		
Protected Phases	7	4	8			
Permitted Phases				8		
Total Split (s)	56.0	90.0	34.0	34.0		
Total Lost Time (s)	5.0	5.0	5.0	5.0		
Act Effect Green (s)	42.3	90.0	37.7	37.7		
Actuated g/C Ratio	0.47	1.00	0.42	0.42		
v/c Ratio	0.78	0.38	0.40	0.38		
Control Delay	19.4	0.1	20.1	17.0		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	19.4	0.1	20.1	17.0		
LOS	B	A	C	B		
Approach Delay		7.7	19.3			
Approach LOS		A	B			
Queue Length 50th (ft)	273	0	116	74		
Queue Length 95th (ft)	m271	m0	171	155		
Internal Link Dist (ft)		1230	2613		948	
Turn Bay Length (ft)	240			300		
Base Capacity (vph)	1871	4893	2047	674		
Starvation Cap Reductn	0	0	0	0		
Spillback Cap Reductn	0	0	0	0		
Storage Cap Reductn	0	0	0	0		
Reduced v/c Ratio	0.65	0.38	0.40	0.38		

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 10.7 Intersection LOS: B
 Intersection Capacity Utilization 53.9% ICU Level of Service A
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Jimmie Kerr Blvd & I-10 WB On/Off Ramps



Lanes, Volumes, Timings
5: Selma Highway & Jimmie Kerr Blvd

2023 Total - MITIGATION

8/14/2013

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	1030	225	90	645	10	920	870	350	55	215	95
Satd. Flow (prot)	3303	4893	1524	3303	4893	1524	3303	3406	1524	3303	3406	1524
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3303	4893	1524	3303	4893	1524	3303	3406	1524	3303	3406	1524
Satd. Flow (RTOR)			250			206			212			206
Lane Group Flow (vph)	56	1144	250	100	717	11	1022	967	389	61	239	106
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Total Split (s)	10.0	27.0	27.0	10.0	27.0	27.0	33.0	43.0	43.0	10.0	20.0	20.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Act Effct Green (s)	5.0	24.0	24.0	5.0	24.0	24.0	28.0	40.0	40.0	5.0	15.0	15.0
Actuated g/C Ratio	0.06	0.27	0.27	0.06	0.27	0.27	0.31	0.44	0.44	0.06	0.17	0.17
v/c Ratio	0.31	0.88	0.42	0.55	0.55	0.02	1.00	0.64	0.49	0.33	0.42	0.25
Control Delay	45.5	41.7	6.3	47.9	18.9	0.1	50.1	28.5	15.6	46.1	36.2	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.5	41.7	6.3	47.9	18.9	0.1	50.1	28.5	15.6	46.1	36.2	1.4
LOS	D	D	A	D	B	A	D	C	B	D	D	A
Approach Delay		35.7			22.1			35.6			28.6	
Approach LOS		D			C			D			C	
Queue Length 50th (ft)	15	235	0	26	74	0	306	268	102	17	64	0
Queue Length 95th (ft)	35	#327	58	#42	173	m0	m#422	m341	m165	37	101	0
Internal Link Dist (ft)		7388			5163			896			1092	
Turn Bay Length (ft)	300		300	300		300	300		300	300		300
Base Capacity (vph)	183	1305	589	183	1305	557	1027	1514	794	183	567	425
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.88	0.42	0.55	0.55	0.02	1.00	0.64	0.49	0.33	0.42	0.25

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 32.9

Intersection LOS: C

Intersection Capacity Utilization 78.6%

ICU Level of Service D

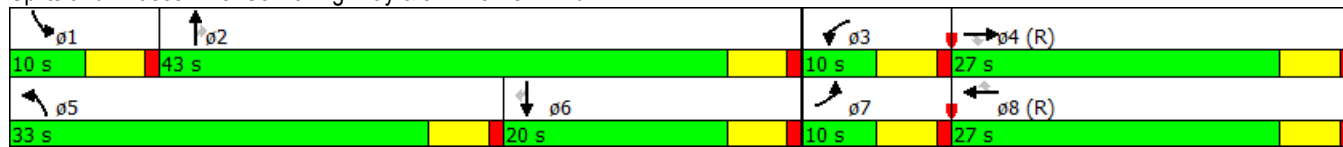
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Selma Highway & Jimmie Kerr Blvd



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	250	155	715	1895	430	100
Satd. Flow (prot)	3303	2682	3303	3406	3406	2682
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3303	2682	3303	3406	3406	2682
Satd. Flow (RTOR)		172				111
Lane Group Flow (vph)	278	172	794	2106	478	111
Turn Type	NA	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6
Total Split (s)	21.0	35.0	35.0	69.0	34.0	34.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	15.2	51.0	30.8	64.8	29.0	29.0
Actuated g/C Ratio	0.17	0.57	0.34	0.72	0.32	0.32
v/c Ratio	0.50	0.11	0.70	0.86	0.44	0.12
Control Delay	37.4	1.7	29.8	13.8	16.4	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	1.7	29.8	13.8	16.4	3.7
LOS	D	A	C	B	B	A
Approach Delay	23.7			18.1	14.0	
Approach LOS	C			B	B	
Queue Length 50th (ft)	74	0	209	383	111	0
Queue Length 95th (ft)	112	14	m245	m515	131	25
Internal Link Dist (ft)	1634			1138	896	
Turn Bay Length (ft)			300			300
Base Capacity (vph)	587	1594	1130	2452	1097	939
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.11	0.70	0.86	0.44	0.12

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 18.2

Intersection LOS: B

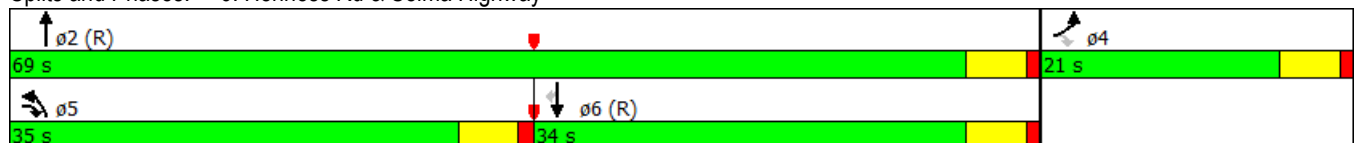
Intersection Capacity Utilization 73.2%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Henness Rd & Selma Highway



Lane Group	ø1	ø4
Lane Configurations		
Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	1	4
Permitted Phases		
Total Split (s)	33.0	25.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lane Group	ø5	ø8
Lane Configurations		
Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	5	8
Permitted Phases		
Total Split (s)	20.0	25.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↘	↖↗	↑↑	↗	↙↘	↑↑
Volume (vph)	1465	2195	415	150	190	395
Satd. Flow (prot)	3303	2682	3406	1524	3303	3406
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	2682	3406	1524	3303	3406
Satd. Flow (RTOR)		1279		167		
Lane Group Flow (vph)	1628	2439	461	167	211	439
Turn Type	NA	Free	NA	Free	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Total Split (s)	55.0		22.0		13.0	35.0
Total Lost Time (s)	5.0		5.0		5.0	5.0
Act Effect Green (s)	49.0	90.0	17.9	90.0	8.2	31.0
Actuated g/C Ratio	0.54	1.00	0.20	1.00	0.09	0.34
v/c Ratio	0.91	0.91	0.68	0.11	0.71	0.37
Control Delay	27.1	6.7	51.3	0.1	60.9	46.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	6.7	51.3	0.1	60.9	46.4
LOS	C	A	D	A	E	D
Approach Delay	14.8		37.7			51.1
Approach LOS	B		D			D
Queue Length 50th (ft)	391	0	141	0	66	133
Queue Length 95th (ft)	#513	0	195	0	#114	182
Internal Link Dist (ft)	1978		571			1138
Turn Bay Length (ft)	300	300			300	
Base Capacity (vph)	1835	2682	676	1524	299	1173
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.91	0.68	0.11	0.71	0.37

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 21.9

Intersection LOS: C

Intersection Capacity Utilization 71.2%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 9: Henness Rd & Cornman Rd



