Draft
Environmental Impact Report

SCH# 2023110442

Volume 7

Appendix J - Transportation Technical Documentation
Appendix K - Tribal Cultural
Appendix L - Economic and Fiscal Impact Analysis

IPG INDUSTRIAL PROJECT

by IPG Kern County 52 Holdings, LLC

(PP23405)

Precise Development Plan No. 72, Map No. 102
Zone Variance No. 57, Map No. 102

Kern County
Planning and Natural Resources Department
Bakersfield, CA

March 2025

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Kern County
Planning and Natural Resources Department
Bakersfield, CA

Technical Assistance by:

WSP USA, Inc.

March 2025

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Appendices - Volume 7

NOTE TO REVIEWER OF ELECTRONIC FILES:

To assist you in reviewing this electronic document, "bookmarks" and/or "links" have been provided for easier navigation between sections. When available, bookmarks are located in the panel to the left. Links are highlighted in **BLUE** in the Table of Contents. Clicking on either the bookmarks or links will take you to the selected item. This document may consist of multiple linked PDF files. If saving this document to your computer, you must save all corresponding files to a directory on your hard drive to maintain the manner in which these PDF documents are linked.

Appendix J: Transportation Technical Documentation

Appendix K: Tribal Cultural

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Twenty-Nine Palms

Twenty-Nine Plams_Tribal Grants Administration

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Appendix L: Economic and Fiscal Impact Analysis

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Appendix J

Transportation Technical Documentation

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Office Memorandum

To: Lorelei Oviatt, Director
Planning and Natural Resources Department
Attn: Mark Tolentino, Planner III

February 18, 2025

From: Cesar Ayon, Engineering Manager
Public Works Department/Development Review Division

Subject: 7-7-3.4b Proposed Airport Drive Warehouse
(Section 2, Township 29 S, Range 27 E, MDB&M, Bakersfield)

Development Review Division

This Division has reviewed the subject project and recommends the following:

1. Record an irrevocable offer of dedication to the County of Kern of all subject frontage along Airport Drive, 55-feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards.

2. Record an irrevocable offer of dedication to the County of Kern of all subject frontage along Boughton Drive, 55-feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards.

3. Record an irrevocable offer of dedication to the County of Kern of all subject frontage along Hangar Way, 45-feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards.

4. Under street improvement plans approved by the Kern County Public Works Department, construct Airport Drive project frontage to Type "A" Subdivision Standard, half width Arterial Street, and right turn lane (Plate R-40), per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins.

5. Under street improvement plans approved by the Kern County Public Works Department, construct Type "B1" curb (Plate R-52), raised median curb along the Airport Drive project frontage, from Boughton Drive to Skyway Drive, per the Kern County Development Standards and the Land Division Ordinance.

6. Under street improvement plans, approved by Kern County Public Works Department, construct Boughton Drive project frontage, to Half-Width Arterial Street Type "A" Subdivision Standards, and right turn lane (Plate R-40), in accordance with Kern County Development Standards and Land Division Ordinance. These improvements shall be, but not limited to curb, gutter, sidewalk, asphalt concrete, and the necessary tie-ins.

7. Under street improvement plans, approved by Kern County Public Works Department, construct Hangar Way project frontage, to Half-Width Collector Street Type "A" Subdivision Standards, and right turn lane (Plate R-40), in accordance with Kern County Development Standards and Land Division Ordinance. These improvements shall be, but not limited to curb, gutter, sidewalk, asphalt concrete, and the necessary tie-ins.

8. Under street improvement plans, approved by Kern County Public Works Department, construct a traffic signal at the intersection of Airport Drive and Park Meadows Avenue in accordance with Kern County Development Standards and Land Division Ordinance.

9. Provide a 20-foot by 20-foot right of way corner cutoff at all intersections.

10. All employee drive approaches shall conform to Plate R-55, per the Kern County Development Standards and the Land Division Ordinance.

11. All truck drive approaches shall conform to Plate R-58, widths to be determined in consultation with Kern County Public Works Department and per the Kern County Development Standards and the Land Division Ordinance.

12. Please include a striping plan and streetlight plan with the street improvement plans.

13. All easements shall be kept open, clear, and free from buildings and structures of any kind pursuant to Chapters 18.50 and 18.55 of the Kern County Land Division Ordinance. All obstructions, including utility poles and lines, trees, pole signs, fences, or similar obstructions, shall be removed from the ultimate road rights-of-way. Compliance with this requirement is the responsibility of the applicant and may result in significant financial expenditures.

Thank you for the opportunity to comment on this project. If you have any questions or comments, please contact Rodd Parke of this Division at (661) 862-8848.

Office Memorandum

To: Lorelei Oviatt, Director
Planning and Natural Resources Department
Attn: Mark Tolentino, Planner III

February 18, 2025

From: Cesar Ayon, Engineering Manager
Public Works Department/Development Review Division

Subject: 7-7-3.4b Proposed Airport Drive Warehouse
(Section 2, Township 29 S, Range 27 E, MDB&M, Bakersfield)

Development Review Division

This Division has reviewed the subject project and recommends the following:

1. Record an irrevocable offer of dedication to the County of Kern of all subject frontage along Airport Drive, 55-feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards.

2. Record an irrevocable offer of dedication to the County of Kern of all subject frontage along Boughton Drive, 55-feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards.

3. Record an irrevocable offer of dedication to the County of Kern of all subject frontage along Hangar Way, 45-feet in width, and additional right-of-way for right turn channelization, per the Kern County Land Division Ordinance, and Development Standards.

4. Under street improvement plans approved by the Kern County Public Works Department, construct Airport Drive project frontage to Type "A" Subdivision Standard, half width Arterial Street, and right turn lane (Plate R-40), per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, and the necessary tie-ins.

5. Under street improvement plans approved by the Kern County Public Works Department, construct Type "B1" curb (Plate R-52), raised median curb along the Airport Drive project frontage, from Boughton Drive to Skyway Drive, per the Kern County Development Standards and the Land Division Ordinance.

6. Under street improvement plans, approved by Kern County Public Works Department, construct Boughton Drive project frontage, to Half-Width Arterial Street Type "A" Subdivision Standards, and right turn lane (Plate R-40), in accordance with Kern County Development Standards and Land Division Ordinance. These improvements shall be, but not limited to curb, gutter, sidewalk, asphalt concrete, and the necessary tie-ins.

7. Under street improvement plans, approved by Kern County Public Works Department, construct Hangar Way project frontage, to Half-Width Collector Street Type "A" Subdivision Standards, and right turn lane (Plate R-40), in accordance with Kern County Development Standards and Land Division Ordinance. These improvements shall be, but not limited to curb, gutter, sidewalk, asphalt concrete, and the necessary tie-ins.

8. Under street improvement plans, approved by Kern County Public Works Department, construct a traffic signal at the intersection of Airport Drive and Park Meadows Avenue in accordance with Kern County Development Standards and Land Division Ordinance.

9. Provide a 20-foot by 20-foot right of way corner cutoff at all intersections.

10. All employee drive approaches shall conform to Plate R-55, per the Kern County Development Standards and the Land Division Ordinance.

11. All truck drive approaches shall conform to Plate R-58, widths to be determined in consultation with Kern County Public Works Department and per the Kern County Development Standards and the Land Division Ordinance.

12. Please include a striping plan and streetlight plan with the street improvement plans.

13. All easements shall be kept open, clear, and free from buildings and structures of any kind pursuant to Chapters 18.50 and 18.55 of the Kern County Land Division Ordinance. All obstructions, including utility poles and lines, trees, pole signs, fences, or similar obstructions, shall be removed from the ultimate road rights-of-way. Compliance with this requirement is the responsibility of the applicant and may result in significant financial expenditures.

Thank you for the opportunity to comment on this project. If you have any questions or comments, please contact Rodd Parke of this Division at (661) 862-8848.

DAVID EVANS
AND ASSOCIATES INC.

December 9, 2024

MEMORANDUM

To: Craig Wilde, Industrial Property Group, Inc.

From: James M. Daisa, PE, David Evans and Associates, Inc.

RE: SUPPLEMEMENTAL TRUCK ROUTING ASSESSMENT FOR THE PROPOSED AIRPORT DRIVE WAREHOUSE DEVELOPMENT IN UNINCORPORATED KERN COUNTY, CALIFORNIA

Introduction

This supplement to the May 10, 2024 Traffic Impact and Vehicle Miles Traveled (VMT) Analysis for the proposed Airport Drive Warehouse located in unincorporated Kern County identifies existing truck routes and describes the access routes used to assign project truck traffic to the site in the traffic study. This information is provided at the request of Kern County.

Existing Truck Routes

There are three jurisdictions maintaining roads within the study area that regulate the movement of trucks on which project generated trucks are forecast to travel.

1. State of California – The state's Department of Transportation (Caltrans) owns, operates, and maintains the three state highways within the study area including Highway 99, Highway 204, and Highway 65. Highway 99 is part of the National Truck Network and Highways 204 and 65 are part of the Terminal Access Network. These networks allow interstate (Surface Transportation Assistance Act ("STAA") and 65-foot California Legal trucks.
2. Kern County - The county does not have specifically designated truck routes but complies with the truck routes designated by the state and in the Metropolitan Bakersfield General Plan. Generally, the county allows trucks on highways, expressways, and arterial roads throughout the county.
3. City of Bakersfield – The Metropolitan Bakersfield General Plan designates truck routes in limited areas of the city that don't encompass the study area. The City of Bakersfield has approved Seventh Standard Road as an STAA truck route.

Project Truck Access Routes

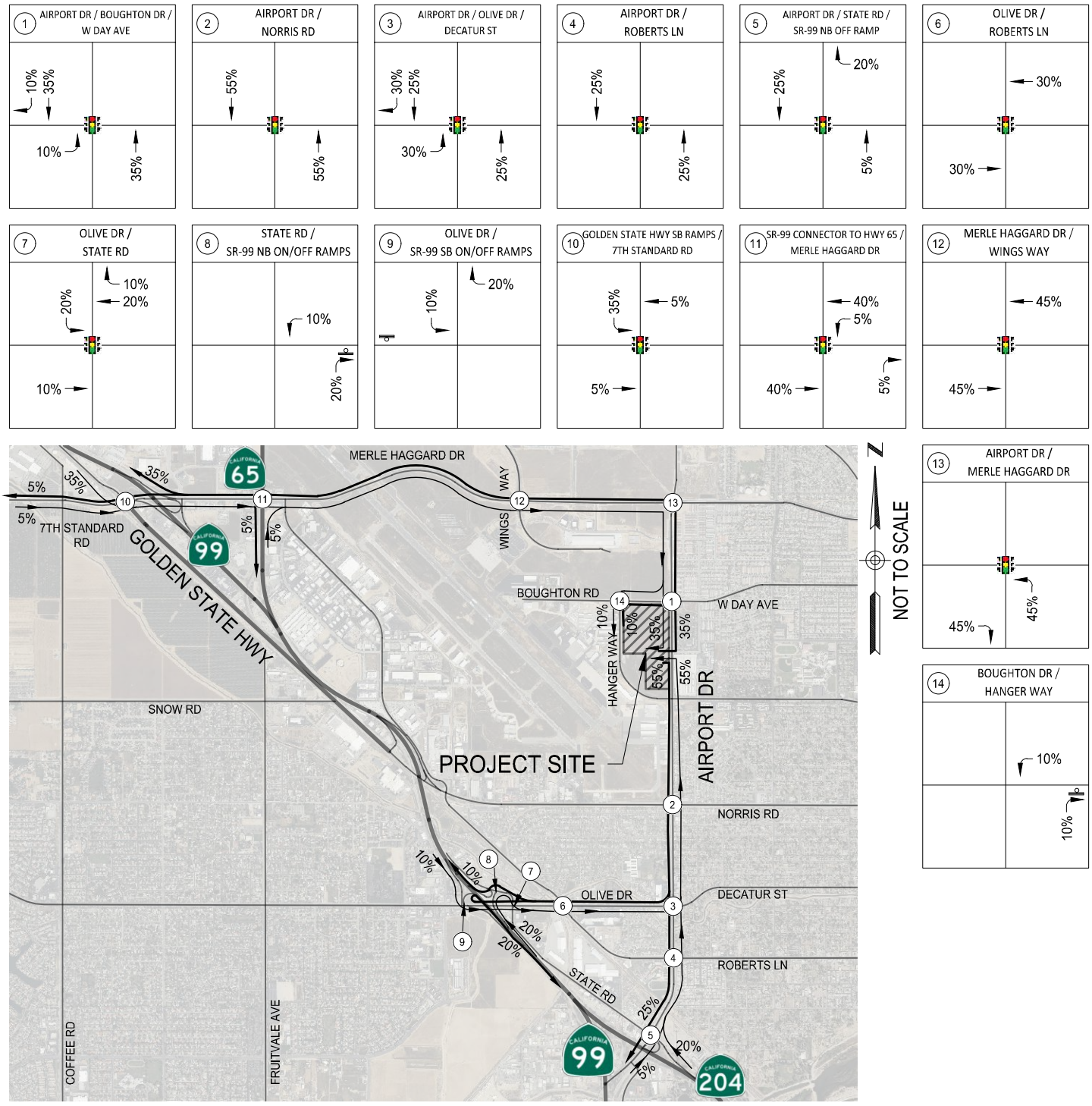
The distribution of project truck trips was approved by Kern County Department of Public Works in the July 10, 2023 scoping agreement for the project's traffic impact study as shown in **Exhibit A**. Trucks access the study area using Highway 99 and Seventh Standard Road and access the project site by one of four routes:

1. Highway 99 and Route 204 to Airport Drive
2. Highway 99 to Olive Drive to Airport Drive
3. Highway 99 to Merle Haggard Drive to Airport Drive
4. Seventh Standard Road to Merle Haggard Drive to Airport Drive

Most of the project-generated truck traffic (90%) accesses the proposed project from driveways located on Airport Drive. This equals 858 daily Passenger Car Equivalent (PCE) truck trips, 55 AM peak hour PCE truck trips, and 63 PM peak hour PCE truck trips. The remaining ten percent of the trucks access the site's driveways located on Hanger Way with 95 daily, 6 AM peak hour, and 7 PM peak hour PCE truck trips using Airport Drive to Boughton Drive to Hanger Way.

Exhibit A highlights the percentage of trucks using each of the four routes described above.

\ Attachment: Exhibit A



LEGEND

- XX% - SPECIFIC PROJECT TRIP PERCENTAGE
- (#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- INBOUND TRIPS
- OUTBOUND TRIPS

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT A: PROJECT TRUCK ROUTES AND PERCENT DISTRIBUTION BY ROUTE

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Last Opened: Apr. 30, 2024 - 10:40am by: Tmm

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PROPOSED AIRPORT DRIVE WAREHOUSE IN KERN COUNTY

APN: 492-010-13, 17

UNINCORPORATED KERN COUNTY, CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.

REVISED FINAL REPORT
September 17, 2024

DAVID EVANS
AND ASSOCIATES INC.

September 17, 2024 Job No. IPGIK52H-0001

IPG Kern County
Attn: Craig Wilde
52 Holdings LLC
991 Lomas Santa Fe Dr,
Suite C PMB 469
Solana Beach, CA 92075

RE: REVISED FINAL TRAFFIC IMPACT ANALYSIS FOR THE PROPOSED WAREHOUSE DEVELOPMENT LOCATED AT THE SOUTHWEST CORNER OF AIRPORT DRIVE AND BOUGHTON DRIVE IN UNINCORPORATED KERN COUNTY, CA (APN: 492-010-13, 17)

Dear Mr. Wilde,

David Evans and Associates, Inc. is pleased to submit this Revised Final Traffic Impact Analysis report for your proposed Airport Drive Warehouse in Unincorporated Kern County. The proposed project consists of two multi-tenant warehouse buildings with a total area of 923,130 square feet in Unincorporated Kern County, California.

This final report incorporates responses to comments received from Kern County Public Works Department / Development Review Division and Caltrans District 6 on February 27, 2024. It also addresses the August 8, 2024 comments from the Development Review Division of the Kern County Public Works Department.

We did not receive any comments with respect to the VMT analysis, which was prepared to estimate the proposed project's project-generated VMT and related metric of VMT/Employee for comparison with the average countywide VMT/Employee metric. and submitted separately from the traffic impact study. The key findings of the VMT analysis are summarized in the Executive Summary of this final report and the full analysis is included in the appendix.

We are pleased to have been of assistance to you in processing and obtaining approval for the project. If you have any questions or comments, please feel free to contact me at 909-912-7304.

Respectfully submitted,

DAVID EVANS AND ASSOCIATES, INC.

James M. Daisa, P.E.
Senior Project Manager / Associate



RESPONSE TO COMMENTS MATRIX

Review Document: **Date of Document:**	Revised Final Traffic Impact Analysis for the Proposed Airport Drive Warehouse in Kern County May 10, 2024	**DEA Project No**.: IPGIK52H-0001
From: Cesar Ayon, Engineering Manager, Public Works Department/Development Review Division		**Consultant:** Jim Daisa, PE David Evans and Associates, Inc. **Consultant Contact Info:** 4141 E. Inland Empire Boulevard, Suite 250, Ontario, CA, 91764 **Phone**: O: (909) 912-7304 C: (925) 586-7075, Email: Jim.Daisa@DEAINC.com
Date comments rec'd: August 8, 2024**, Date responses returned (with Final Report):** September 17, 2024		**Location:** Airport Drive and Boughton Drive in unincorporated Kern County**. APN:** 492-010-13, 17

No.	Comment	Response
COMMENTS RECEIVED FROM KERN COUNTY DPW / DEVELOPMENT REVIEW DIVISION		
1	On Page 3, Table 1-1: Comparison of Opening Year and Opening Year Plus Project Level of Service. Intersection 3. Airport Dr./Olive Dr./Decatur St. drops from a LOS C in opening year conditions to LOS D in opening year + project conditions. As mentioned before, the Metropolitan Bakersfield area acceptable LOS is C. Therefore, this intersection needs to be addressed in the mitigation.	The Revised Final Traffic Impact Analysis identifies a mitigation for the level of service deficiency identified in Table 1-1 and Table 5-2 at the intersection of Airport Dr./Olive Dr./Decatur St. The deficiency is based on level of service policy for the Metropolitan Bakersfield Sphere of Influence area (LOS C) as presented in the current Metropolitan Bakersfield General Plan and used as criteria for identifying deficiencies caused by new development. Specifically, the following deficiency criteria is used to identify deficiencies in the Revised Final Traffic Impact Analysis: *Criteria for LOS deficiencies for county intersections are based on the Kern County's General Plan Circulation Element (2009) in which the standard for the minimum LOS for intersections is LOS D or better. However, since the study area is located within the Metropolitan Bakersfield General Plan Sphere of Influence, the minimum level of service for intersections of LOS C or better is used to identify deficiencies. Therefore, a project would cause a deficiency, and therefore require mitigation, if the addition of project traffic causes the level of service of an intersection to drop from LOS C or better to a LOS D, E, or F, or contributes to an intersection operating at LOS E or F without the project.* A feasible mitigation measure for the intersection of Airport Dr./Olive Dr./Decatur St. was analyzed and submitted to the County's engineering department who subsequently concurred with the measure.
2	Table 1-1 Comparison of Opening Year and Opening Year Plus Project Level of Service and Table 5-2 Comparison of Opening Year and Opening Year Plus Project Level of Service do not match.	The line in Table 5-2 for Intersection 12 (Merle Haggard Dr / Wings Way) contained a typo in the last column for PM peak hour level of service. Table 5-2 indicated a LOS D with a delay of 20.8 seconds per vehicle, which corresponds to a LOS C. The typo is corrected in the Revised Final Traffic Impact Analysis and Table 5-2 matched Table 1-1.
3	Item number 6 of the first comment letter was not addressed. "Page 23 of the TIA, Section 5.3: Opening Year Plus Project Conditions Traffic Analysis. Last paragraph after Table 5-2, it discusses that neither deficient intersection meets signal	The Revised Final Traffic Impact Analysis includes a signal warrant analysis with Warrant #1 (Eight-Hour Vehicular Volume), Warrant #2 (Four-Hour Vehicular Volume), Warrant #3 (Peak Hour), and Warrants #4 through #9 where applicable for the intersection of Olive Drive and the SR-99 SB Ramps.

	installation Warrant #3 (Peak Hour) from the California Manual on Uniform Traffic Control Devices (CA MUTCD). However, it does not mention Warrant #1 or Warrant #2. Please include them in your analysis."	New 24-hour machine traffic counts were conducted on September 4, 2024, and are included in the warrant analysis. In our professional judgement, we continue to maintain that the intersection of Olive Drive and the SR-99 SB Ramps is not a good candidate for installation of a traffic signal regardless of whether it meets the numerical MUTCD warrants. We described the factors considered in coming to this conclusion in our response to the previous comment which are repeated below. a) The deficient movement in the year 2046 has a volume of 32 and 18 in the AM and PM peak hour respectively. Signalization would add delay to most of the traffic using Olive Drive (i.e., between 1,100 and over 1,700 vph in each direction). b) Spacing between the SB off-ramp and Knudsen Drive in the EB direction is 350 feet between the future stop bar in the EB direction at the ramp and the point beyond which vehicle queues would spill into the Olive Dr / Knudsen intersection. c) The distance between the future stop bar in the WB direction at the SB ramp and the point where queued WB vehicles in the right-hand lane would block access to the SB Hwy 99 loop- on-ramp is about 220 ft. or ten vehicles. d) In the EB direction, the two-lane high-speed slip ramp onto SB Hwy 99 would not integrate well with a signalized intersection. The Highway Design Manual discourages this type of ramp at intersections: *Higher speed, uncontrolled entries and exits from freeway ramps should not be used at the intersection of the ramps with the local road. The smallest curb return radius should be used that accommodates the design vehicle.* This ramp would require reconstruction to intersect Olive Drive at close to a 90-degree angle, however, this would create a sharp S-turn in the ramp that could result in an increase in run off road collisions. e) Between January 2018 and December 2022, there have been zero fatal or severe injury collisions at this intersection, although there may have been property damage only collisions. It is common to see an increase in rear-end collisions when a signal is installed. A speed limit of 50-mph combined with the long uncontrolled EB downgrade on the overcrossing of SR 99 may increase the risk of a high-speed rear end collision.

DAVID EVANS AND ASSOCIATES INC.

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DAVID EVANS AND ASSOCIATES INC.

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1 EXECUTIVE SUMMARY

This executive summary presents the findings and recommendations of this study.

1.1 Project Description

The project site is located on the southwest corner of the intersection of Airport Drive and Boughton Drive in unincorporated Kern County, as illustrated by **Figure 1**.

The proposed project consists of two speculative multi-tenant warehouse buildings with a total area of 923,130 square feet. Building 1 is the northernmost building on the site and is proposed to be a 655,690 square foot warehouse building, including 10,000 square feet of office area. Building 2 is the southernmost building on the site and is proposed to be a 267,440 square foot warehouse, including 5,000 square feet of office area.

The site is bounded to the north by Boughton Drive and vacant/undeveloped land; to the south by Skyway Drive and commercial buildings that provide services related to aircrafts; to the east by Airport Drive, residential area, and a storage provider business; and to the west by Hanger Way and Meadows Field Airport. **Figure 2** illustrates the proposed site plan.

1.2 Proposed Project Access

The proposed project's access is proposed from driveways on Airport Drive and Hanger Way, as shown in **Figure ES 1**. The proposed circulation and access plan to the two buildings on the site are described below:

1.2.1 Airport Drive Driveways

Access to the site from Airport Drive is via five commercial width driveways (labeled as driveways A though E) providing primary access to the site's automobile parking lots and, indirectly, internal roads on the western and eastern sides of the building. The driveways on Airport Drive are spaced about 350 feet (A to B), 460 feet (B to C), 460 feet (C to D), and 430 feet (D to E).

Secondary access to Building 1's secure gated loading dock and truck/trailer parking areas is provided by the two 50-foot-wide driveways (A and C) on Airport Drive.

The narrower 30-foot-wide driveways (B and D) on Airport Drive are for automobile access to the building's parking lots. The shared Driveway C between Buildings 1 and 2 internally connects the circulatory systems of both sites for trucks and automobiles.

Primary access to Building 2's secure gated loading dock and truck/trailer parking areas is provided by two driveways on Airport Drive, the 50-foot-wide Driveway C shared with Building 1, and the southern-most 40-foot-wide Driveway E.

1.2.2 Hanger Way Driveways

Access to the site from Hanger Way is via three driveways (labeled as driveways F though H) providing unrestricted access to Building 1's parking lots on the west side, and gated access to the loading docks and container storage areas. Hanger Way driveways are spaced about 400 feet (F to G) and 425 feet (G to H).

Primary truck access to Building 1's secure gated loading dock and truck/trailer parking area is provided by two commercial driveways (F and H) on Hanger Way with direct connections to the loading dock access gates on the north and south sides of the building.

The narrower 30-foot-wide Driveway G on Hangar Way is for automobile access to the building's parking lots.

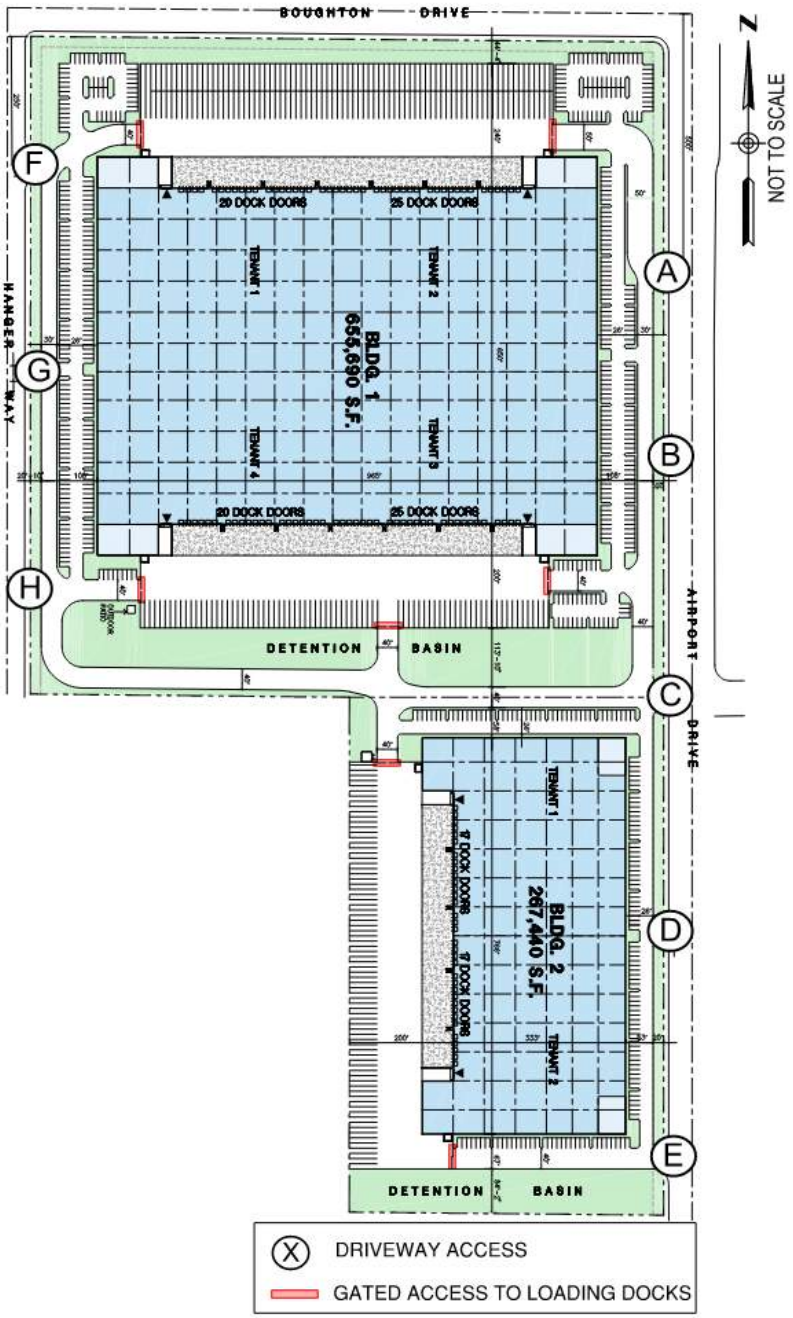


Figure ES 1: Project Driveway Locations

1.3 County and Metropolitan Bakersfield Intersection Level of Service Policies

Criteria for LOS deficiencies for county intersections are based on the Kern County's General Plan Circulation Element (2009) in which the standard for the minimum LOS for intersections is LOS D or better. However, since the study area is located within the Metropolitan Bakersfield General Plan Sphere of Influence, the minimum level of service for intersections of LOS C or better is used to identify deficiencies. Therefore, a project would cause a deficiency, and therefore require mitigation, if the addition of project traffic causes the level of service of an intersection to drop from LOS C or better to a LOS D, E, or F, or contributes to an intersection operating at LOS E or F without the project.

1.4 Caltrans Intersection Level of Service Policies

The Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) states "Caltrans endeavors to maintain a target level of service at the transition between LOS "C" and LOS "D" on State highway facilities. However, Caltrans acknowledges that this may not always be feasible, so their practice is to allow level of service thresholds equal to the threshold of the jurisdiction where the facility is located but preferably no greater than a 45 second average delay per vehicle in the peak hour (mid LOS D).

1.5 Level of Service Comparison With and Without the Proposed Project

1.5.1 Determination of Level of Service Deficiencies

Table 1-1 compares the weekday AM and PM peak hour Opening Year Conditions and Opening Year plus Project Conditions LOS at the study intersections. Opening Year Conditions represent the project's opening year of 2025 and includes growth in ambient traffic of 3.5 percent annually representing both ambient growth and other area development within the project study area.

Table 1-1: Comparison of Opening Year and Opening Year Plus Project Level of Service

Intersection	Control Type	Opening Year Conditions				Opening Year + Project Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Airport Dr / Boughton Dr / W Day Ave	TS	16.7	B	16.3	B	15.4	B	14.5	B
2. Airport Dr / Norris Rd	TS	36.9	D	30.1	C	36.6	D	30.1	C
3. Airport Dr / Olive Dr / Decatur St	TS	28.2	C	33.1	C	30.5	C	36.1	D
4. Airport Dr / Roberts Ln	TS	39.0	D	38.5	D	39.0	D	38.8	D
5. Airport Dr / State Rd / SR-99 NB Off Ramp	TS	14.5	B	23.2	C	14.8	B	23.4	C
6. Olive Dr / Roberts Ln	TS	19.7	B	47.8	D	19.9	B	50.0	D
7. Olive Dr / State Rd	TS	40.2	D	20.1	C	47.4	D	20.4	C
8. State Rd / SR-99 NB Ramps	SSSC	13.2	B	17.9	C	13.2	B	18.5	C
9. Olive Dr / SR-99 SB Ramps	SSSC	27.6	D	54.3	F	29.3	D	57.2	F
10. Golden State Hwy SB Ramps / 7th Std Rd	TS	62.9	E	81.7	F	68.1	E	84.0	F
11. SR-99 Connector to Hwy 65 / Merle Haggard Dr	TS	25.7	C	37.0	D	26.2	C	38.2	D
12. Merle Haggard Dr / Wings Way	TS	12.8	B	20.2	C	12.9	B	20.8	C
13. Airport Dr / Merle Haggard Dr	TS	20.4	C	36.5	D	21.0	C	41.2	D
14. Boughton Dr / Hanger Way	SSSC	8.7	A	8.7	A	8.7	A	8.7	A

Abbreviations:
TS – Traffic Signal Controlled Intersection, SSSC – Side Street Stop Controlled Intersection, Delay – seconds per vehicle, LOS – Level of Service

As presented in **Table 1-1**, under Opening Year Conditions, the majority of the study intersections operate at LOS D or better during both peak hours, with the exception of Olive Drive at SR-99 SB Ramps and Golden State Hwy / Southbound Off-Ramp at 7th Standard Road.

The intersection of Olive Drive at State Route 99 Southbound Ramps operates at LOS F during the PM peak hour. The intersection of Golden State Hwy / Southbound Off-Ramp at 7th Standard Road operates at LOS E during the AM peak hour and LOS F during the PM peak hour. As a result, these intersections are identified as cumulative deficiencies occurring prior to the addition of project traffic.

In the Opening Year plus Project Conditions, the addition of project traffic to the opening year traffic causes the level of service at the intersection of Airport Drive / Olive Drive and Decatur Street to change from a LOS C to a LOS D in the PM peak hour. This is considered a deficiency requiring mitigation.

Table 1-2 compares the weekday AM and PM peak hour Cumulative conditions and Cumulative plus Project conditions LOS at the study intersections. Year 2046 Conditions represent a long-range forecast for addressing the cumulative impacts of regional growth in traffic as determined through traffic forecasts from the Kern Council of Governments travel demand model projections. It should be noted that the peak hour factor utilized in the Cumulative Conditions and Cumulative plus Project Conditions' capacity analysis is set to 0.95 for all intersections.

Table 1-2: Comparison of Cumulative and Cumulative Plus Project Level of Service

Intersection	Control Type	Cumulative Conditions				Cumulative + Project Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Airport Dr / Boughton Dr / W Day Ave	TS	15.0	B	18.9	B	13.0	B	16.1	B
2. Airport Dr / Norris Rd	TS	25.6	C	40.4	D	25.5	C	40.5	D
3. Airport Dr / Olive Dr / Decatur St	TS	25.2	C	29.9	C	26.6	C	32.0	C
4. Airport Dr / Roberts Ln	TS	38.7	D	43.9	D	38.7	D	44.5	D
5. Airport Dr / State Rd / SR-99 NB Off Ramp	TS	14.4	B	20.5	C	14.7	B	20.7	C
6. Olive Dr / Roberts Ln	TS	18.6	B	43.8	D	18.7	B	45.4	D
7. Olive Dr / State Rd	TS	12.3	B	19.0	B	12.7	B	19.2	B
8. State Rd / SR-99 NB Ramps	SSSC	14.1	B	17.0	C	14.2	B	17.4	C
9. Olive Dr / SR-99 SB Ramps	SSSC	23.9	C	40.2	E	24.8	C	41.6	E
10. Golden State Hwy SB Ramps / 7th Standard Rd	TS	55.0	E	59.5	E	55.8	E	61.2	E
11. SR-99 Connector to Hwy 65 / Merle Haggard Dr	TS	25.1	C	33.0	C	25.6	C	33.8	C
12. Merle Haggard Dr / Wings Way	TS	12.8	B	17.5	B	12.9	B	17.9	B
13. Airport Dr / Merle Haggard Dr	TS	18.9	B	24.2	C	19.4	B	27.3	C
14. Boughton Dr / Hanger Way	SSSC	9.0	A	9.0	A	9.0	A	8.9	A

Abbreviations:
TS – Traffic Signal Controlled Intersection, SSSC – Side Street Stop Controlled Intersection, Delay – seconds per vehicle, LOS – Level of Service

As shown in

Table 1-2, under Cumulative Conditions, most of the study intersections operate at LOS D or better during both peak hours, except for Olive Dr at SR-99 SB Ramps and Golden State Hwy SB Ramps at 7th Standard Road.

The intersection of Olive Drive at State Route 99 Southbound Ramps operates at LOS E during the PM peak hour. The intersection of Golden State Highway / SR 99 Southbound Off-Ramp at 7th Standard Road operates at LOS E during the AM peak hour and LOS E during the PM peak hour. As a result, these intersections are identified as cumulative deficiencies occurring prior to the addition of project traffic.

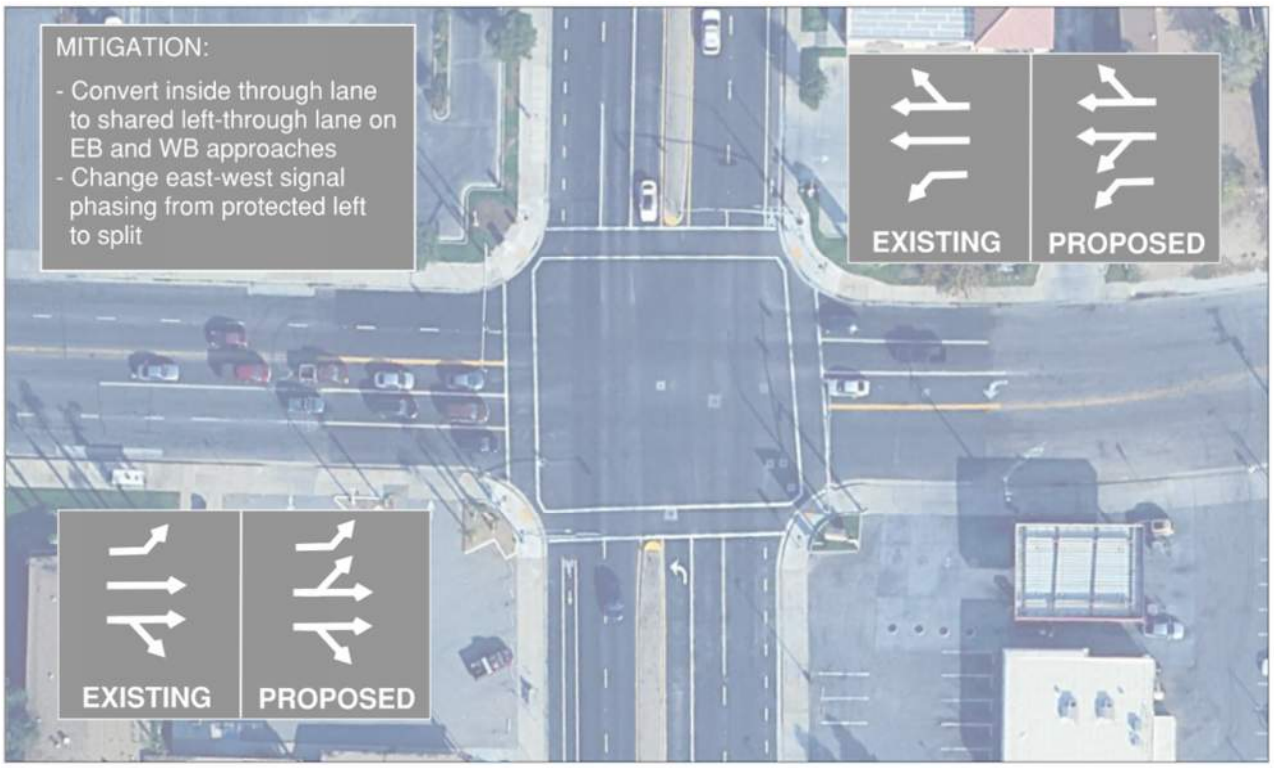
In the Cumulative Plus Project Conditions scenario, the addition of project traffic to the Cumulative Conditions traffic does NOT cause any deficiencies; but increases the delay slightly to the intersections that are operating unacceptably without the project.

1.6 Evaluation of Mitigation to Improve Deficient Intersections

This section summarizes the evaluation and conclusions discussed in Chapter 8 of this study as to the feasibility of mitigating the deficient level of service at the intersection of Airport Drive / Olive Drive and Decatur Street (which occurs under opening year conditions with the project), and the deficiencies at the intersections Olive Dr at SR-99 SB Ramps, and Golden State Hwy /SR 99 SB Off-Ramp at 7th Standard Rd which occur under all scenarios.

- **Airport Drive / Olive Drive and Decatur Street**: The addition of traffic from proposed project under Background (Opening Year) + Project condition causes the level of service at the intersection of Airport Drive / Olive Drive / Decatur Street to change from a LOS C to a LOS D in the PM peak hour. This change in level of service is considered a deficiency and requires mitigation to conform with the Metropolitan Bakersfield General Plan Sphere of Influence policy of LOS C.

  The intersection is in a fully developed urban area without surplus right of way to add lane capacity to the intersection. Capacity improvements, therefore, need to be operational. A commonly used strategy to improve peak hour level of service at compact intersections or where right is way acquisition is not feasible is to employ shared lanes to add capacity for turn movements. The proposed measure is illustrated in the diagram below.



Aerial view of the intersection of Airport Drive / Olive Drive / Decatur Street indicating the proposed lane configurations to increase the left turn capacity on Olive Drive and Decatur Street.

The proposed mitigation consists of:

- Converting the inside eastbound and westbound through lanes to shared left-through lanes to provide two lanes for the eastbound and westbound left turn movements.
- Requires the separation of traffic movements in the eastbound and westbound direction by implementing split phased signal operation.
- Implementing a split phasing scheme requires re-optimizing the intersection timing including increasing the cycle length to 140 seconds in both the a.m. and p.m. peak hours.

With the implementation of the proposed mitigations the intersection would operate at LOS C in both peak hours under Background (Opening Year) plus Project conditions, as shown in **Table 1-3**. Although the level of service deficiency does not occur in the cumulative 2045 conditions, the proposed mitigation maintains a LOS C in both peak hours with the addition of project traffic. The cumulative 2045 levels of service with and without implementation of the proposed measure is shown in **Table 1-4**.

Table 1-3: Opening Year Plus Project Level of Service With Mitigation

Intersection	Control Type	Opening Year Conditions				Opening Year + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Airport Dr / Olive Dr / Decatur St	TS	28.2	C	33.1	C	30.5	C	36.1	D
Mitigation: convert EB and WB TH to Shared LTH and split phase E/W approaches		Not Applicable				31.6	C	34.2	C

Table 1-4: Cumulative Plus Project Level of Service With Mitigation

Intersection	Control Type	Cumulative Year Conditions				Cumulative Year + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Airport Dr / Olive Dr / Decatur St	TS	25.2	C	29.9	C	26.6	C	32.0	C
Mitigation: convert EB and WB TH to Shared LTH and split phase E/W approaches		Not Applicable				27.8	C	34.3	C

- **Olive Drive / SR-99 SB On/Off Ramps**: This intersection is side-street stop-controlled, with the SB off-ramp being stop-controlled. It is critical to note that the delay reported for a side street stop-controlled intersection is the delay incurred by the left turning traffic from the off-ramp. For this intersection the deficient movement affects 8% of the traffic entering the intersection. There are two aspects of this intersection not considered in the theoretical calculation of delay:

  1. A refuge / acceleration lane is provided in the median of Olive Drive that allows completion of the southbound left turn in two stages. See Section 8.1 in Chapter 8 for a more detailed discussion of this aspect of the intersection.
  2. The left turn movement benefits from gaps in the traffic flow created by the platooning of vehicles released by signalized intersections both upstream and downstream of the southbound off-ramp. See Section 8.1 in Chapter 8 for a more detailed discussion of this aspect of the intersection.

  Because of the above aspects not considered in the calculation of delay, the Olive Dr / SR-99 SB On/Off Ramps intersection likely operates with less delay than reported in this study, but probably not at a LOS D or better. This intersection does not meet warrants (Warrant 3 Peak Hour) for installing a traffic signal in the opening day and cumulative plus project scenarios.

  This study concludes that there are no feasible mitigation measures to improve the left turn movement level of service deficiency to a LOS D or better at the intersection of Olive Dr / SR-99 SB On/Off Ramps.

- **Golden State Hwy / SR 99 SB Off Ramp / 7th Standard Rd**: This signalized intersection currently operates at a LOS E and F and is projected to operate at a LOS E and F in all future scenarios with or without the proposed project. The intersection is raised on an abutment as part of the 7th Standard Road overcrossing of the railroad and the Highway 99 overcrossing. The abutment was constructed with stable slopes down to grade level at the right of way line on the west and south sides of the intersection.

  Any capacity improvements to improve the deficient level of service would entail a major reconstruction of the intersection including extensive retaining walls and, potentially, widening of the 7th Standard Road railroad and SR 99 overcrossing structures.

  This study concludes that there are no practical mitigation measures toward which new development could contribute funds to improve the operation to a LOS D or better at the Golden State Hwy / SR 99 SB Off Ramp / 7th Standard Rd intersection.

1.7 Summary of Vehicle Miles of Travel (VMT) Analysis

The Kern Council of Governments (KernCOG) regional transportation model, used to estimate baseline VMT and project VMT for existing and future cumulative scenarios, was developed for use in adoption of the Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS). The regional model does not stop forecasting trips (and VMT) at the Kern County limits—it is linked to the State's transportation model data and accounts for the longer distance trips from Statewide travel.

The current model baseline year is 2020, and the cumulative future year is 2046. The output from the KernCOG model provides a detailed breakdown of the number of employees and trips and VMT by trip purpose and by TAZ county wide. The threshold of significance for employment-based land uses (i.e., office, industrial, warehousing, etc.) which is 15% less than the baseline (2020) countywide VMT which is 31.94 VMT / Employee.

Table 1-5, on the following page**,** compares project-generated VMT and project VMT / Employee metric to the significance threshold described above. The KernCOG model estimates the 437 project employees generate about 7,280 home-based-work vehicle miles of travel daily in baseline conditions. The resulting project metric of 16.65 Home-based-Work VMT/Employee is approximately half of the significance threshold of 31.94 VMT / Employee.

Table 1-5 also compares project-generated VMT and the project VMT / Employee metric to the significance threshold under future cumulative (2046) conditions. As expected, project-generated VMT reduces slightly in the future reflecting the maturation of development in the vicinity of the project providing opportunities for employees to reside and shop closer to the workplace. The home-based-work project-generated VMT / Employee metric in 2046 drops to 15.11, less than half of the baseline significance threshold of 31.94 VMT / Employee.

The full VMT analysis is included in **Appendix G.**

Table 1-5: Comparison of Project-Generated Home-Based-Work VMT Per Employee with Significance Threshold

Year	Home to Work Project Generated VMT [a]	Project Employment [b]	Project VMT Per Employee	Significance Threshold (VMT Per Employee) [c]	Exceed Significance Threshold?
2020	7,280	437	16.65	31.94	NO
2046	6,605	437	15.11		NO

Notes:
Sources of data:
[a] Daily project VMT for Home to Work trip purpose (2020 and 2046) is from KernCOG.
[b] Source of conversion from building floor area to employees: Southern California Association of Governments (SCAG) Employment Density Study Summary Report, October 31, 2001. Table 7A (Derivation of Square Feet per Employee Based on Median Employees Per Acre and Median Floor Area Ratio (FAR) in San Bernardino County). For warehousing, Table 7A provides a conversion of 2,111 square feet per employee.
[c] Significance Threshold (85% of countywide baseline VMT / Employee) is based on the recommendations in the California Office of Planning and Research (OPR) Technical Advisory (Dec. 2018). This study used OPR's threshold recommendation for office land uses which is based on employee commute trips and very similar to industrial land uses. The OPR recommended significance threshold requires that project-generated VMT/ Employee not exceed 15 percent less than countywide average baseline home-to-work-based VMT/employee metric.

2 INTRODUCTION

This report identifies the traffic impacts and presents recommendations for access and traffic mitigation for the proposed Airport Drive Warehouse project in the Unincorporated Kern County, California. The proposed project consists of two multi-tenant warehouse buildings with a total area of 923,130 square feet. Building one will have a total area of 655,690 SF, including 10,000 SF of office area. Building two will have a total area of 267,440 SF, including 5,000 SF of office area. **Figure 1** illustrates the vicinity map, and **Figure 2** illustrates the proposed project site plan.

The intent of this report is to evaluate potential traffic level of service deficiencies caused by the proposed development in accordance with the Kern County traffic impact analysis requirements under the following scenarios:

2.1 Analysis Scenarios

The scenarios analyzed in this study were developed with the Kern County Traffic Department and approved in the July 2023 Traffic Scope Agreement. The analysis scenarios are as follows:

- Existing Conditions
- Opening Year Conditions (Year 2025)
- Opening Year plus Project Conditions (Year 2025)
- Cumulative Conditions (Year 2046)
- Cumulative plus Project Conditions (Year 2046)

2.2 Scenario Definitions

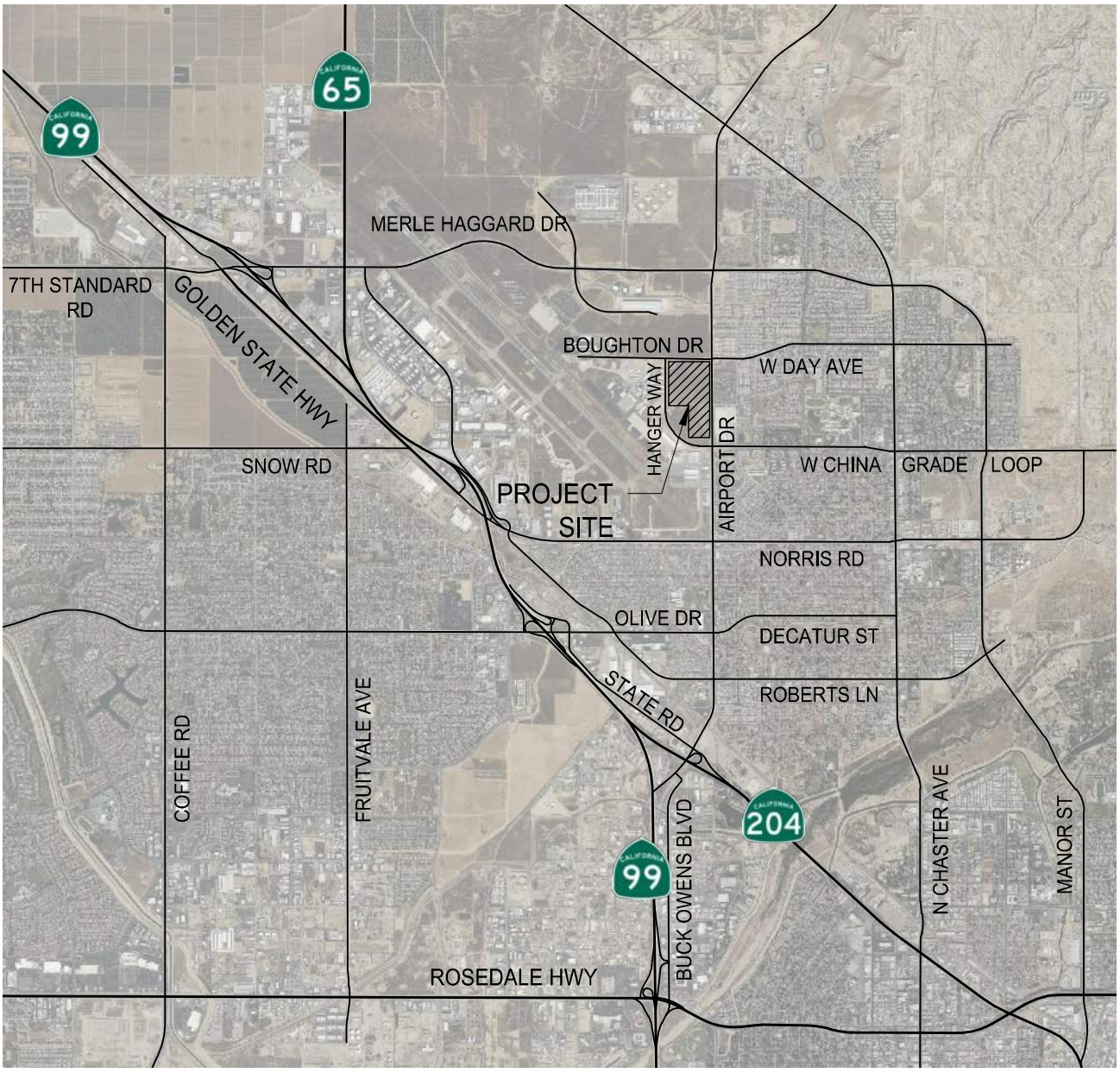
Existing Conditions. This scenario represents existing transportation conditions at the time this report was prepared. Data includes traffic counts collected in September 2023. This scenario is used as the baseline condition to identify existing deficiencies and establish context.

Opening Year Conditions (Year 2025). This scenario represents conditions at the time the project is anticipated to be fully constructed and occupied (known as buildout year 2025) but without traffic generated by the project. This scenario is comprised of ambient growth, a general rate of growth in traffic representing both ambient growth and other area development within the project study area. The growth rate of 3.5% annually was used for this study.

Opening Year plus Project Conditions (Year 2025). This scenario adds the project's estimated traffic generation at buildout (2025) to the opening year conditions scenario described above. Impacts identified in this near-term scenario are considered "cumulative" impacts—impacts that the project contributes to, but does not solely cause, and may be responsible for a fair-share of the cost to implement any improvement measures.

Cumulative Conditions (Year 2046). This scenario reflects regional growth in traffic up to the year 2046. Growth in traffic is from forecasts from the Kern Council of Governments (KernCOG) model projections. Intersection turn movements were derived from post processing forecasted approach volumes and balancing the turn movement volumes for each study intersection.

Cumulative plus Project Conditions (Year 2046). This scenario adds the project's estimated traffic generation to the future condition's scenario described above. Impacts identified in this scenario are considered "cumulative" impacts—impacts that the project contributes to, but does not solely cause, and may be responsible for a fair-share of the cost to implement any improvement measures.



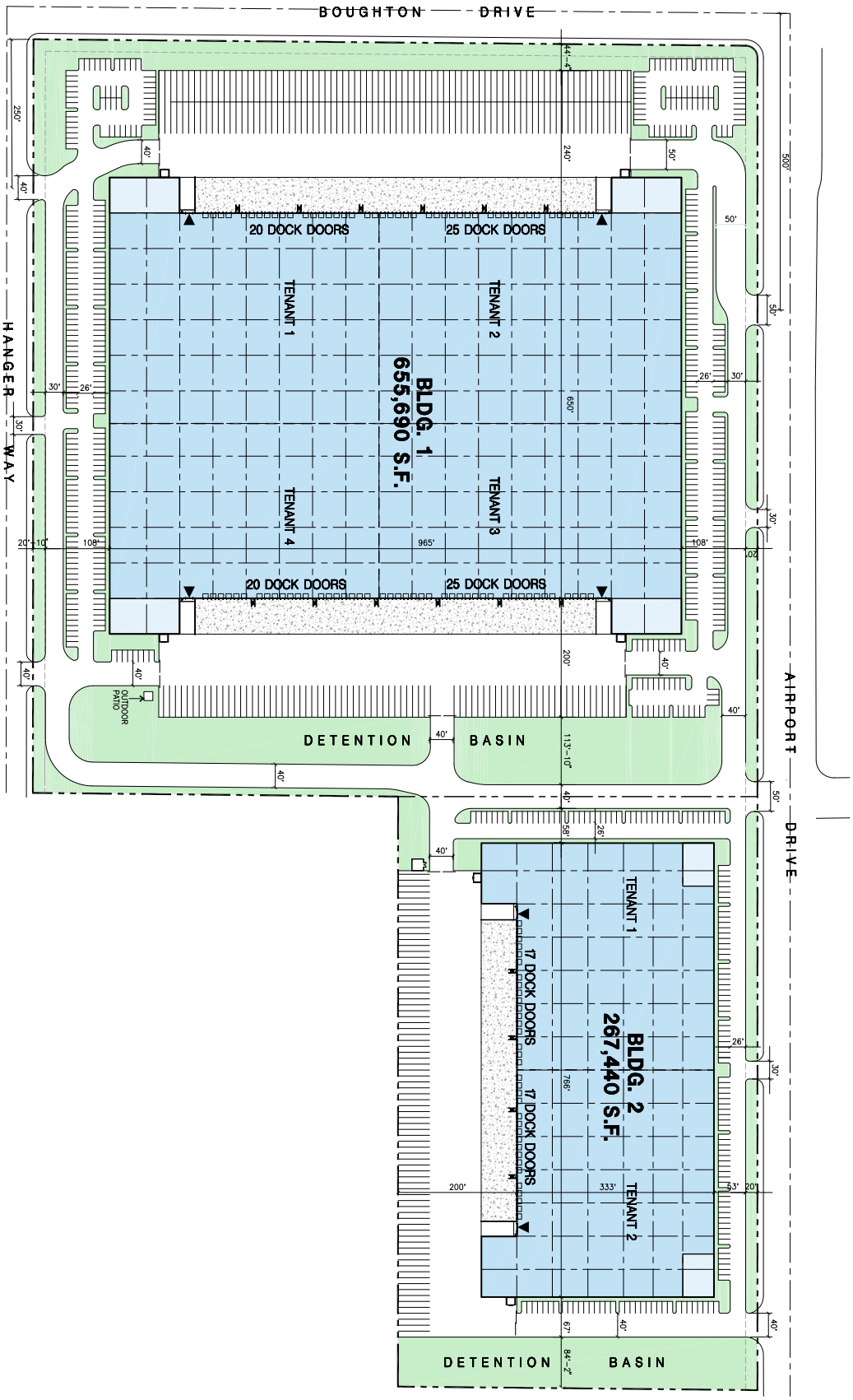
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NOT TO SCALE

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FIGURE 1: VICINITY MAP
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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FIGURE 2: SITE PLAN
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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3 EXISTING CONDITIONS

3.1 County and Metropolitan Bakersfield Intersection Level of Service Policies

Criteria for LOS deficiencies for county intersections are based on the Kern County's General Plan Circulation Element (2009) in which the standard for the minimum LOS for intersections is LOS D or better. However, since the study area is located within the Metropolitan Bakersfield General Plan Sphere of Influence, the minimum level of service for intersections of LOS C or better is used to identify deficiencies. Therefore, a project would cause a deficiency, and therefore require mitigation, if the addition of project traffic causes the level of service of an intersection to drop from LOS C or better to a LOS D, E, or F, or contributes to an intersection operating at LOS E or F without the project.

3.2 Caltrans Intersection Level of Service Policies

The Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) states "Caltrans endeavors to maintain a target level of service at the transition between LOS "C" and LOS "D" on State highway facilities. However, Caltrans acknowledges that this may not always be feasible, so their practice is to allow level of service thresholds equal to the threshold of the jurisdiction where the facility is located but preferably no greater than a 45 second average delay per vehicle in the peak hour (mid LOS D).

3.3 Study Intersections

This focused traffic study evaluates key intersections on routes expected to be used by project traffic to access the site. The list below identifies the intersections analyzed in this study.

1. Airport Dr / Boughton Dr / W Day Ave
2. Airport Dr / Norris Rd
3. Airport Dr / Olive Dr / Decatur St
4. Airport Dr / Roberts Ln
5. Airport Dr / State Rd / SR-99 NB Off Ramp
6. Olive Dr / Roberts Ln
7. Olive Dr / State Rd
8. State Rd / SR-99 NB Ramps
9. Olive Dr / SR-99 SB Ramps
10. Golden State Hwy SB Ramps / 7th Standard Rd
11. SR-99 Connector to Hwy 65 / Merle Haggard Dr
12. Merle Haggard Dr / Wings Way
13. Airport Dr / Merle Haggard Dr
14. Boughton Dr / Hanger Way

All the existing intersections are signalized intersections except for the intersections of State Rd at State Route 99 northbound ramps, Olive Drive at the State Route 99 southbound ramps, and Boughton Drive at Hanger Way, which are side-street-stop-controlled.

3.4 Existing Traffic Volumes

Turn movement counts were conducted in September 2023 by Newport Traffic Studies, an independent traffic data collection company. These counts were collected during the AM (7:00-9:00 AM) and PM (4:00-6:00 PM) peak periods. The existing turn movement counts are included in **Appendix B** of this study. A 24-hour approach traffic volume count was conducted September 2024, included in **Appendix F**.

3.5 Intersection Capacity Analysis Methodology

Intersection capacity analyses are conducted using Synchro software[1], which implements the methods of the Highway Capacity Manual, 6th Edition (HCM 6)[2] used in this report. The traffic analysis methodology concepts presented in Chapter 19 and Chapter 20 of the Highway Capacity Manual; 6th Edition (HCM 6) are used to calculate intersection Level of Service (LOS) based on the average control delay (in seconds per vehicle) of vehicles utilizing the intersection.

The LOS for a signalized intersection is calculated for the entire intersection in Synchro. **Table 3-1** provides LOS thresholds for signalized intersections as provided in the HCM 6 Chapter 19.

1 Trafficware Ltd, Version 10.
2 Transportation Research Board, Washington D.C., 2010.

Table 3-1: Level of Service Criteria for Signalized Intersections

Control Delay (seconds/vehicle)	LOS by Volume-to-Capacity Ratio [a]	
	Volume / Capacity Ratio ≤ 0.99	Volume / Capacity Ratio < 1.0
≤ 10	A	F
> 10 -15	B	F
> 15 - 25	C	F
> 25 - 35	D	F
> 35 - 50	E	F
> 50	F	F

Notes:
[a] For approach-based and intersection-wide assessments, LOS is defined solely by control delay. Source: Highway Capacity Manual 6th Edition, Exhibit 19-8.

The level of service for a two-way stop controlled (TWSC) or side-street stop-controlled (SSSC) intersection is determined by the computed control delay of the minor-street movement (or shared movement) with the worst level of service using the criteria provided in **Table 3-2** referenced from HCM 6 Chapter 20.

Table 3-2: Level of Service Criteria for Stop Controlled (TWSC & AWSC) Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio [a]	
	≤1.0	>1.0
0 - 10	A	F
> 10 -15	B	F
> 15 - 25	C	F
> 25 - 35	D	F
> 35 - 50	E	F
> 50	F	F

Notes:
The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for the uncontrolled major-Street approaches or for the intersection as a whole.
[a] For approaches and intersectionwide assessment, LOS is defined solely by control delay.
Source: Highway Capacity Manual 6th Edition, Exhibit 20-2.

3.6 Existing Traffic Analysis

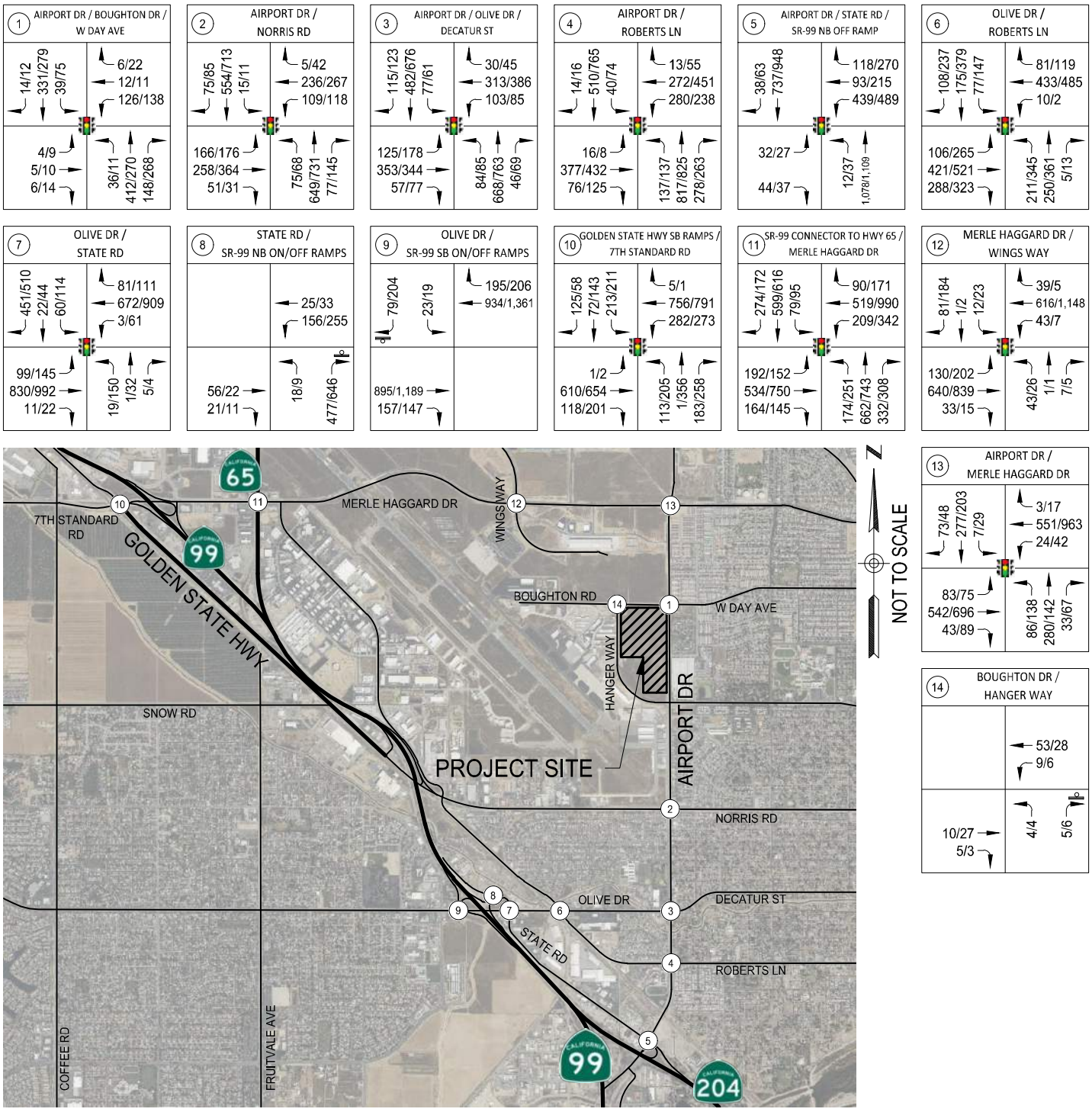
Existing intersection geometrics and existing AM and PM peak hour traffic counts are used in analyzing existing intersection capacity. **Table 3-3** and **Appendix E** provide the results of the analysis. **Figure 3** shows the existing peak hour traffic volumes in the study area, and **Figure 4** illustrates the existing intersection geometrics.

As presented in **Table 3-3***,* under Existing Conditions, the majority of the study intersections operate at LOS D or better during both peak hours, with the exception of Olive Dr at SR-99 SB Ramps and Golden State Hwy SB Ramps at 7th Standard Rd. The intersection of Olive Drive at State Route 99 Southbound Ramps operates at LOS E during the PM peak hour. The intersection of Golden State Highway Southbound Ramps at 7th Standard Road operates at LOS E during the AM peak hour and LOS E during the PM peak hour. As a result, these intersections are identified as cumulative deficiencies occurring prior to the addition of project traffic.

Table 3-3: Intersection Level of Service for Existing (2023) Conditions

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Airport Dr / Boughton Dr / W Day Ave	TS	15.7	B	15.5	B
2. Airport Dr / Norris Rd	TS	32.4	C	26.8	C
3. Airport Dr / Olive Dr / Decatur St	TS	26.6	C	30.1	C
4. Airport Dr / Roberts Ln	TS	34.9	C	34.4	C
5. Airport Dr / State Rd / SR-99 NB Off Ramp	TS	14.2	B	21.9	C
6. Olive Dr / Roberts Ln	TS	18.8	B	39.6	D
7. Olive Dr / State Rd	TS	27.5	C	19.2	B
8. State Rd / SR-99 NB Ramps	SSSC	12.7	B	16.8	C
9. Olive Dr / SR-99 SB Ramps	SSSC	24.9	C	45.5	E
10. Golden State Hwy SB Ramps / 7th Standard Rd	TS	57.0	E	70.3	E
11. SR-99 Connector to Hwy 65 / Merle Haggard Dr	TS	24.4	C	33.4	C
12. Merle Haggard Dr / Wings Way	TS	12.4	B	18.1	B
13. Airport Dr / Merle Haggard Dr	TS	19.3	B	29.1	C
14. Boughton Dr / Hanger Way	SSSC	8.7	A	8.7	A

Abbreviations:
TS – Traffic Signal Controlled, SSSC – Side Street Stop Controlled, Delay – seconds per vehicle, LOS – Level of Service



**TRUCK VOLUMES ARE REPRESENTED IN PASSENGER CAR EQUIVALENTS (PCE)

LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

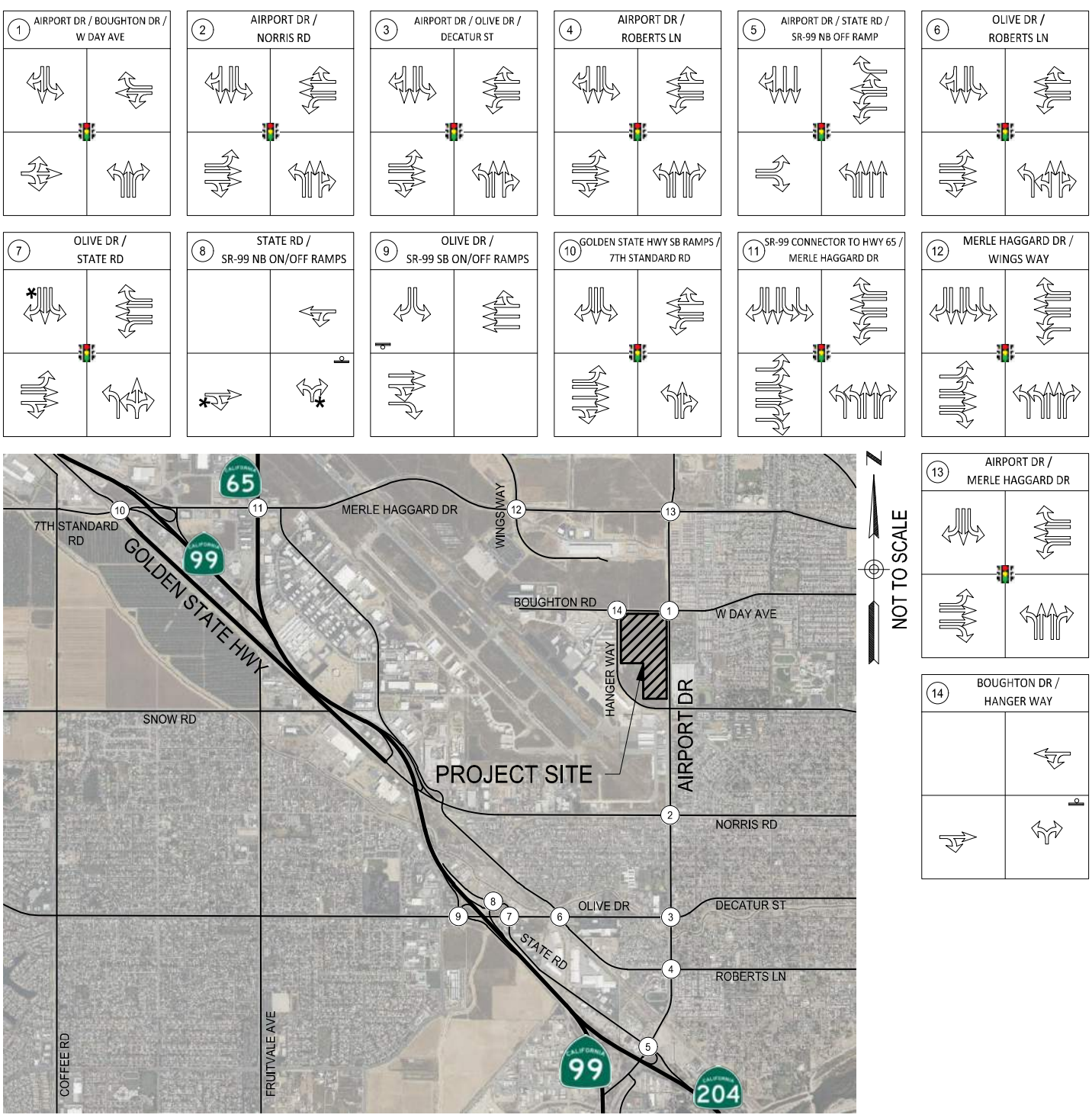
- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

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FIGURE 3: EXISTING TRAFFIC VOLUMES
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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LEGEND

- EXISTING GEOMETRICS
- # - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- FREE RIGHT TURN

DAVID EVANS AND ASSOCIATES INC.

FIGURE 4: EXISTING INTERSECTION GEOMETRICS
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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4 OPENING YEAR CONDITIONS

This scenario evaluates level of service deficiencies due to ambient growth in traffic and traffic generated by other area development projects affecting the study area up to the year 2025 when project construction is expected to be completed. This scenario is comprised of ambient growth, a general rate of growth in traffic representing both ambient growth and other area development within the project study area. The growth rate of 3.5% annually was used for this study.

The Kern County Planning Department provided a cumulative projects list of anticipated developments to occur in the area. At this time, all the projects included in the list are all at various pre-approval stages of the review process. The Cumulative Projects List are provided for reference in **Appendix D**.

4.1 Opening Year Conditions Traffic Analysis

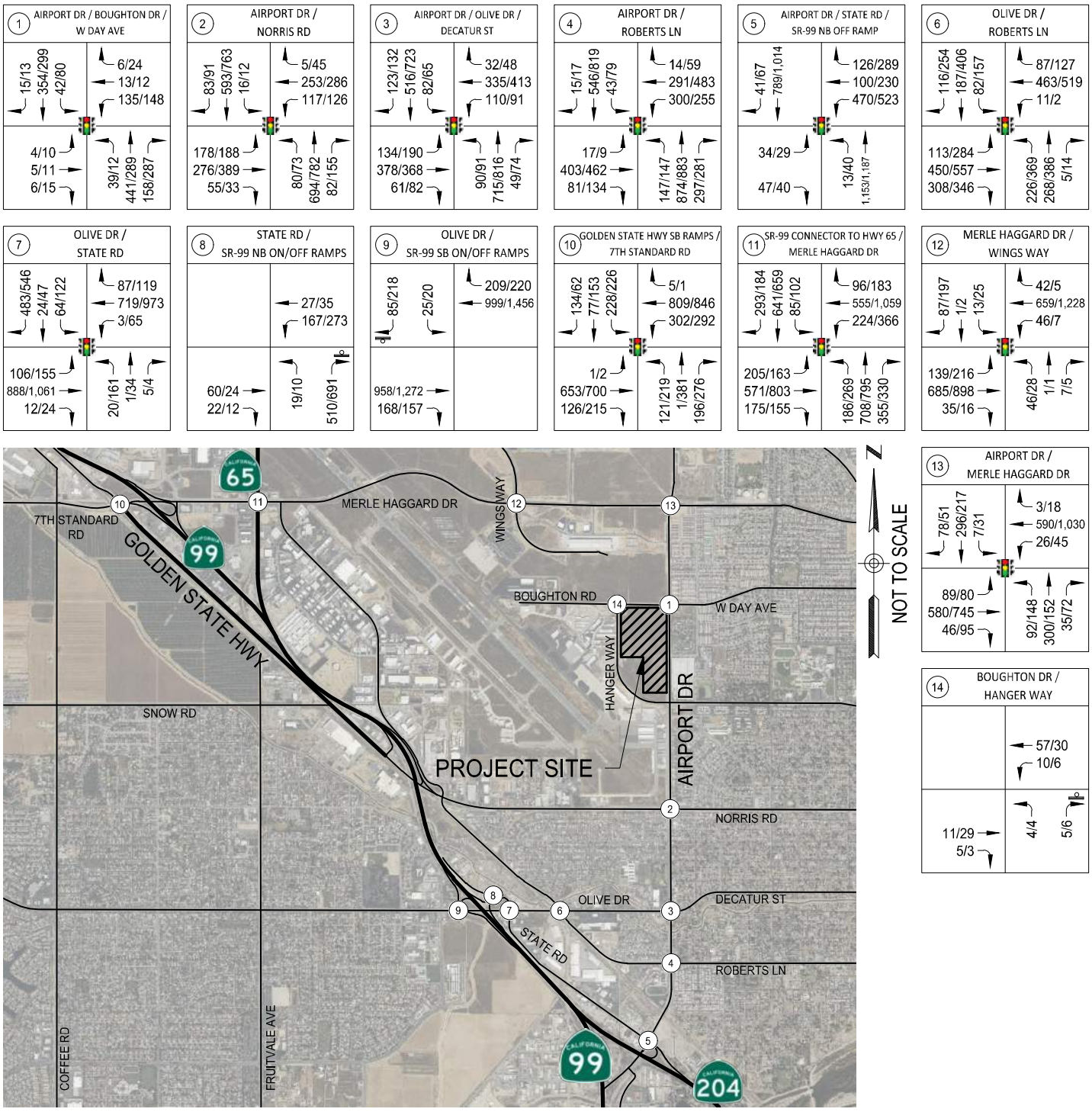
The Opening Year Conditions intersection level of service analysis uses existing intersection geometrics and the traffic volumes shown in **Figure 5. Table 4-1** and **Appendix E** provide the results of the analysis.

Table 4-1: Intersection Level of Service for Opening Year Conditions

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Airport Dr / Boughton Dr / W Day Ave	TS	16.7	B	16.3	B
2. Airport Dr / Norris Rd	TS	36.9	D	30.1	C
3. Airport Dr / Olive Dr / Decatur St	TS	28.2	C	33.1	C
4. Airport Dr / Roberts Ln	TS	39.0	D	38.5	D
5. Airport Dr / State Rd / SR-99 NB Off Ramp	TS	14.5	B	23.2	C
6. Olive Dr / Roberts Ln	TS	19.7	B	47.8	D
7. Olive Dr / State Rd	TS	40.2	D	20.1	C
8. State Rd / SR-99 NB Ramps	SSSC	13.2	B	17.9	C
9. Olive Dr / SR-99 SB Ramps	SSSC	27.6	D	54.3	F
10. Golden State Hwy SB Ramps / 7th Standard Rd	TS	62.9	E	81.7	F
11. SR-99 Connector to Hwy 65 / Merle Haggard Dr	TS	25.7	C	37.0	D
12. Merle Haggard Dr / Wings Way	TS	12.8	B	20.2	C
13. Airport Dr / Merle Haggard Dr	TS	20.4	C	36.5	D
14. Boughton Dr / Hanger Way	SSSC	8.7	A	8.7	A

Abbreviations:
TS – Traffic Signal Controlled Intersection, SSSC – Side Street Stop Controlled Intersection
Delay – seconds per vehicle, LOS – Level of Service

As presented in **Table 4-1**, under Opening Year Conditions, the majority of the study intersections operate at LOS D or better during both peak hours, with the exception of Olive Dr at SR-99 SB Ramps and Golden State Hwy SB Ramps at 7th Standard Rd. The intersection of Olive Drive at State Route 99 Southbound Ramps operates at LOS F during the PM peak hour. The intersection of Golden State Highway Southbound Ramps at 7th Standard Road operates at LOS E during the AM peak hour and LOS F during the PM peak hour. As a result, these intersections are identified as cumulative deficiencies occurring prior to the addition of project traffic.



**TRUCK VOLUMES ARE REPRESENTED IN PASSENGER CAR EQUIVALENTS (PCE)

LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

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FIGURE 5: OPENING YEAR TRAFFIC VOLUMES
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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Last Opened: Nov 20, 2023 - 11:57am by: Heay

5 OPENING YEAR PLUS PROJECT CONDITIONS

This scenario adds the project's estimated traffic generation at buildout (year 2025) to the opening year conditions scenario described in Chapter 4. Level of service deficiencies identified in this scenario are considered "cumulative" deficiencies— deficiencies that the project contributes to, but does not solely cause, and may be responsible for a fair-share of the cost to implement any mitigation measures.

5.1 Project Description and Trip Generation

The proposed project consists of two multi-tenant warehouse buildings with a total area of 923,130 square feet. The trip generation rates for the High Cube and Short-Term Storage Warehouse (LU 154) and High Cube Cold Storage Warehouse (LU 157) were obtained from the 11th Edition of the Institute of Transportation Engineers' Trip Generation manual.

Table 5-1 (provided on the following page) summarizes the estimated trip generation for the proposed project for the peak hours within the AM (7:00 -9:00 AM) and PM (4:00 -6:00 PM) peak periods. The trip generation rates for the site include High Cube and Short-Term Storage Warehouse (LU 154), which comprises 80% of both buildings, and High Cube Cold Storage Warehouse (LU 157), which comprises 20% of both buildings.

Combined, the two proposed warehouses would generate about 1,430 vehicle trips per day, 83 vehicle trips in the AM peak hour, and 99 vehicle trips in the PM peak hour.

For truck intensive land uses, it is standard practice to convert trips to passenger car equivalents (PCEs) for intersection capacity analysis. This conversion reflects the effects of large vehicles on intersection operations not just from the physical space a truck occupies but also from their effect on the intersection's saturation flow rate due to the slower acceleration of trucks.

The passenger car / truck mode share percentages (percentage of total) were obtained from the South Coast Air Quality Management District High Cube Warehouse Trip Generation Study (2016), based on data from eight high cube warehouses in San Bernardino County's Inland Empire. Passenger Car Equivalents (PCE) conversion factors are industry standard values.

When converted to PCEs, the Airport Drive warehouse generates about 2,012 daily PCEs, with 120 PCEs in the AM peak hour and 142 PCE's in the PM peak hour.

5.2 Project Trip Distribution and Assignment

To address the impacts of the estimated project traffic, project trips are distributed by direction towards major commute routes, truck routes, freight haul corridors, and concentrations of residential and commercial / employment centers. Truck trips are distributed specifically to/from truck routes designated in the City of Bakersfield's California Legal Truck Routes map, the nearest of which includes 7th Standard Road, Coffee Road, Buck Owens Boulevard, Chester Avenue, and Manor Street. Once the distribution pattern is established, project trips are assigned to the streets that provide the most direct route to the destination.

Project traffic is distributed by direction for automobiles (employees/visitors) and trucks separately. The automobile distribution is based on where the warehouse employees are likely to reside or perform other activities (e.g., concentration of residential neighborhoods and commercial centers). The truck distribution is based on the most direct routes to major roadways and highways that trucks are likely to use to access the project and depart for delivery of freight. Project trips are assigned to the area streets that provide the most direct route to the destination.

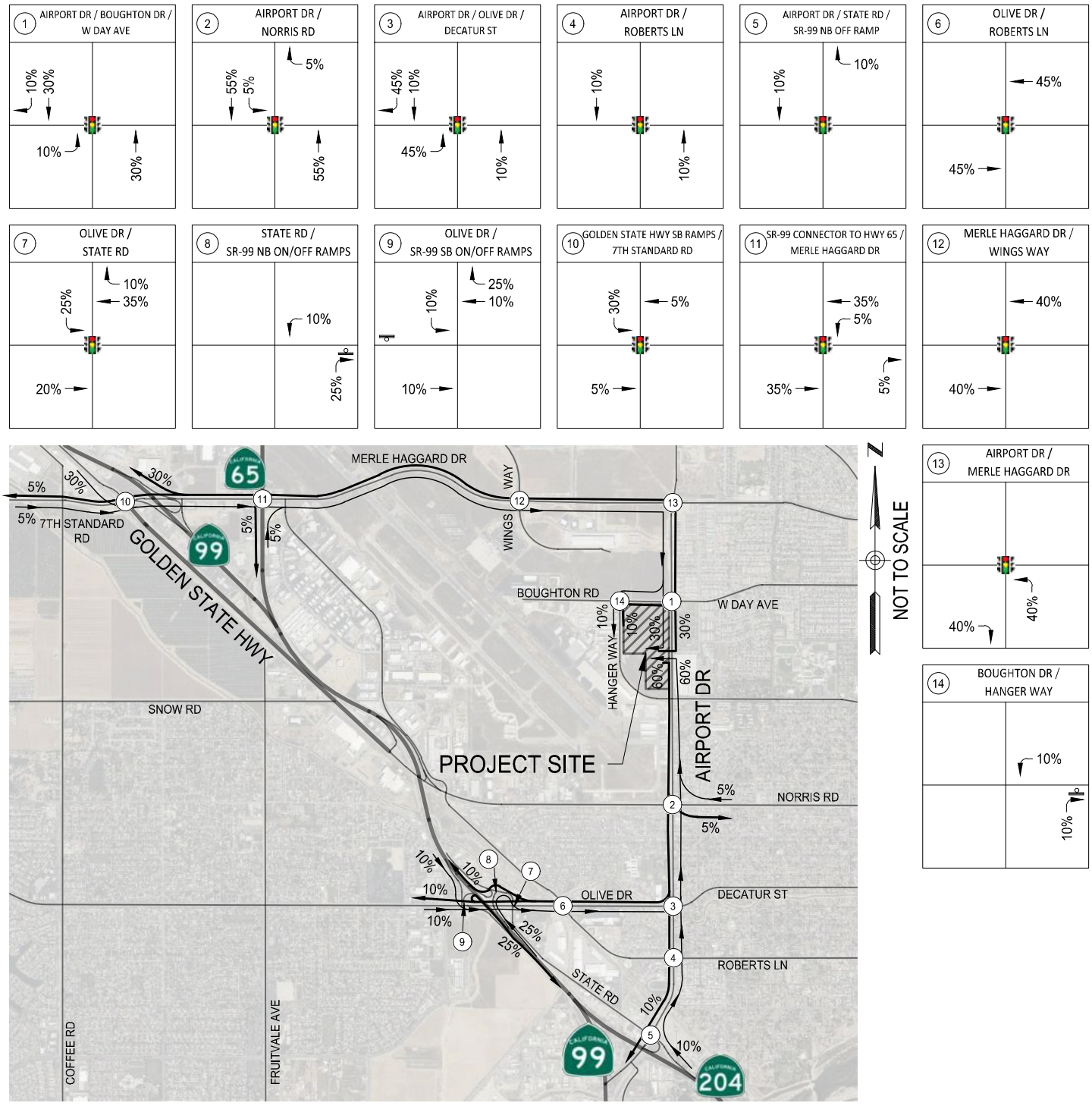
Figure 6 shows the distribution of the project-generated automobile trips (employees/visitors) to roadways as a percentage by direction and route. **Figure 7** shows the distribution of project-generated truck trips to roadways as a percentage by direction and route.

Figure 8 shows the assignment of project-generated automobile trips to each study intersection. **Figure 9** shows the assignment of project-generated truck PCE trips to each study intersection. **Figure 10** shows the assignment of the total project-generated PCE trips to each study intersection.

Table 5-1: Estimated Trip Generation for the Proposed Airport Drive Warehouse Project

	Land Use	Gross Floor Area (KSF)	Daily	AM Peak Hour of Adjacent Street Traffic			PM Peak Hour of Adjacent Street Traffic		
				In	Out	Total	In	Out	Total
1	**High Cube Transload Warehouse (Comprises 80% of Building)** (ITE Land Use Category 154)	738.5	*Vehicle Trip Generation Rates (Trips Per 1,000 Square Feet of Gross Floor Area)*						
			1.40	0.06	0.02	0.08	0.03	0.07	0.10
			Total Vehicle Trip Generation						
			1,034	46	14	60	21	53	74
		Mode Share	*Project Trip Generation by Vehicle Type*						
	Passenger Cars (Percent of Total)	74.22%	768	34	10	44	15	40	55
	2-Axle Trucks (Percent of Total)	4.55%	48	2	1	3	1	2	3
	3-Axle Trucks (Percent of Total)	4.18%	44	2	1	3	1	2	3
	4-Axle Trucks (Percent of Total)	17.05%	177	8	2	10	4	9	13
		PCE Factor	*Project Trip Generation in Passenger Car Equivalents (PCE)*						
	Passenger Cars	1.0	768	34	10	44	15	40	55
	2-Axle Trucks	1.5	72	3	2	5	2	3	5
	3-Axle Trucks	2.0	88	4	2	6	2	4	6
	4 + Axle Trucks	3.0	531	24	6	30	12	27	39
		PCE Total	1,459	65	20	85	31	74	105
2	**High Cube Cold Storage Warehouse (Comprises 20% of Building)** (ITE Land Use Category 157)	184.6	*Vehicle Trip Generation Rates (Trips Per 1,000 Square Feet of Gross Floor Area)*						
			2.12	0.08	0.03	0.11	0.03	0.09	0.12
			Total Vehicle Trip Generation						
			392	16	5	21	7	16	23
		Mode Share	*Project Trip Generation by Vehicle Type*						
	Passenger Cars (Percent of Total)	74.22%	291	12	3	15	5	12	17
	2-Axle Trucks (Percent of Total)	4.55%	18	1	1	2	1	1	2
	3-Axle Trucks (Percent of Total)	4.18%	17	1	1	2	1	1	2
	4-Axle Trucks (Percent of Total)	17.05%	67	3	1	4	1	3	4
		PCE Factor	*Project Trip Generation in Passenger Car Equivalents (PCE)*						
	Passenger Cars	1.0	291	12	3	15	5	12	17
	2-Axle Trucks	1.5	27	2	2	4	2	2	4
	3-Axle Trucks	2.0	34	2	2	4	2	2	4
	4 + Axle Trucks	3.0	201	9	3	12	3	9	12
		PCE Total	553	25	10	35	12	25	37
	Combined Total Project Trips								
		Mode Share	*Combined Total Project Trip Generation by Vehicle Type*						
	Passenger Cars (Percent of Total)	74.22%	1,059	46	13	59	20	52	72
	2-Axle Trucks (Percent of Total)	4.55%	66	3	2	5	2	3	5
	3-Axle Trucks (Percent of Total)	4.18%	61	3	2	5	2	3	5
	4-Axle Trucks (Percent of Total)	17.05%	244	11	3	14	5	12	17
	Total Combined Project Vehicle Trips (Non-PCE)		**1,430**	**63**	**20**	**83**	**29**	**70**	**99**
		PCE Factor	*Combined Total Project Trip Generation in PCEs*						
	Passenger Cars	1.0	1,059	46	13	59	20	52	72
	2-Axle Trucks	1.5	99	5	4	9	4	5	9
	3-Axle Trucks	2.0	122	6	4	10	4	6	10
	4 + Axle Trucks	3.0	732	33	9	42	15	36	51
	Total Combined Project Vehicle Trips (PCE)		**2,012**	**90**	**30**	**120**	**43**	**99**	**142**

Notes:
KSF = Thousands of Square Feet.
AM / PM Peak Hour of Adjacent Street Traffic = trip generation coinciding with the highest hourly volumes of traffic on the adjacent streets during the AM (7:00 AM and 9:00 AM) and PM (4:00 PM and 6:00 PM) commuter peak periods.
Source of trip generation rates: Institute of Transportation Engineers (ITE) Trip Generation (11th Edition).
Source of passenger car / truck mode share (percentage of total): South Coast Air Quality Management District High Cube Warehouse Trip Generation Study (2016). Based on data from eight high cube warehouses in San Bernardino County's Inland Empire.
Passenger Car Equivalents (PCE) conversion factors are industry standard values utilized in neighboring jurisdictions.



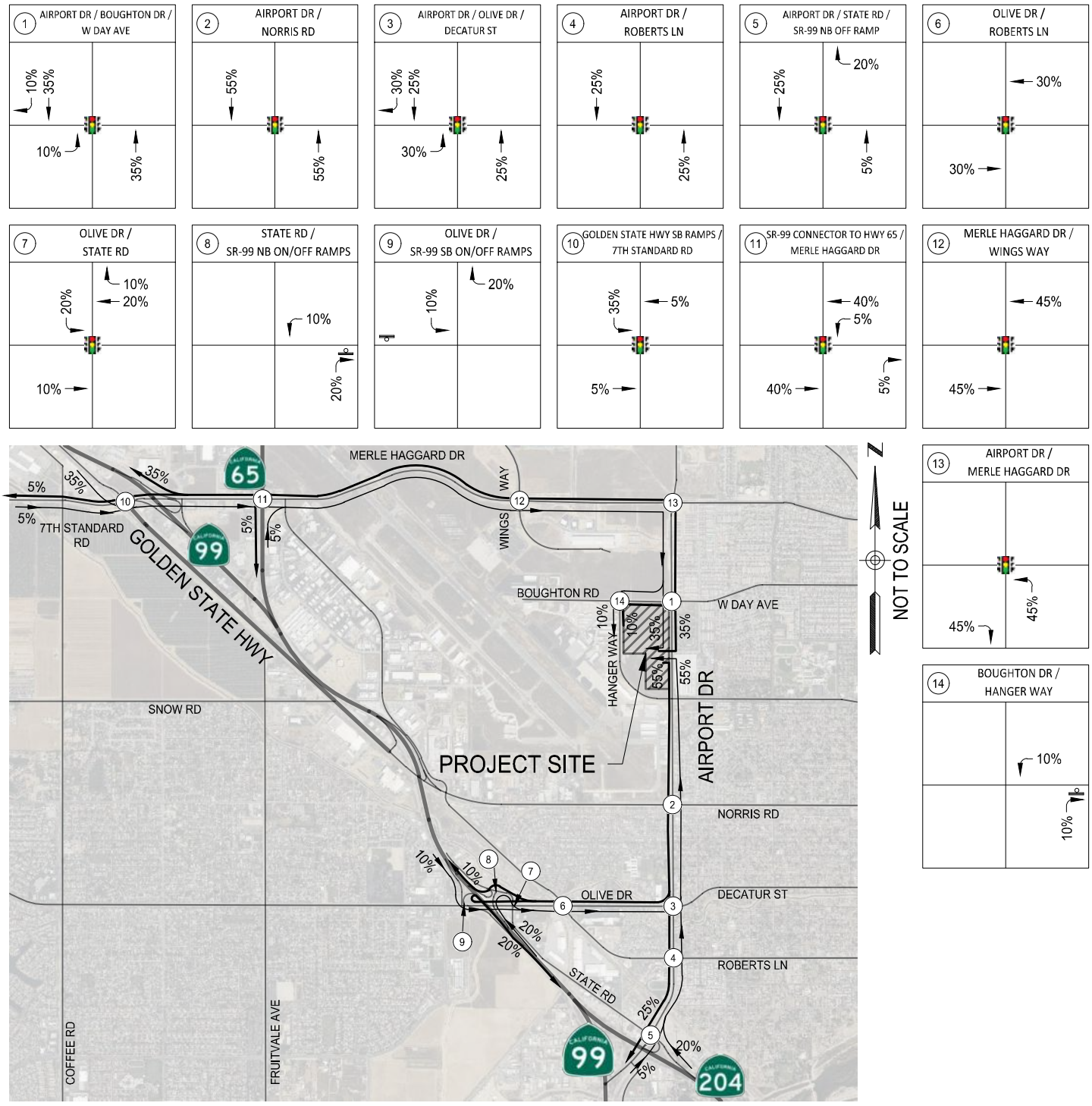
LEGEND

- XX% - SPECIFIC PROJECT TRIP PERCENTAGE
- (#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- INBOUND TRIPS
- OUTBOUND TRIPS

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FIGURE 6: PROJECT AUTOMOBILE TRIP DISTRIBUTION
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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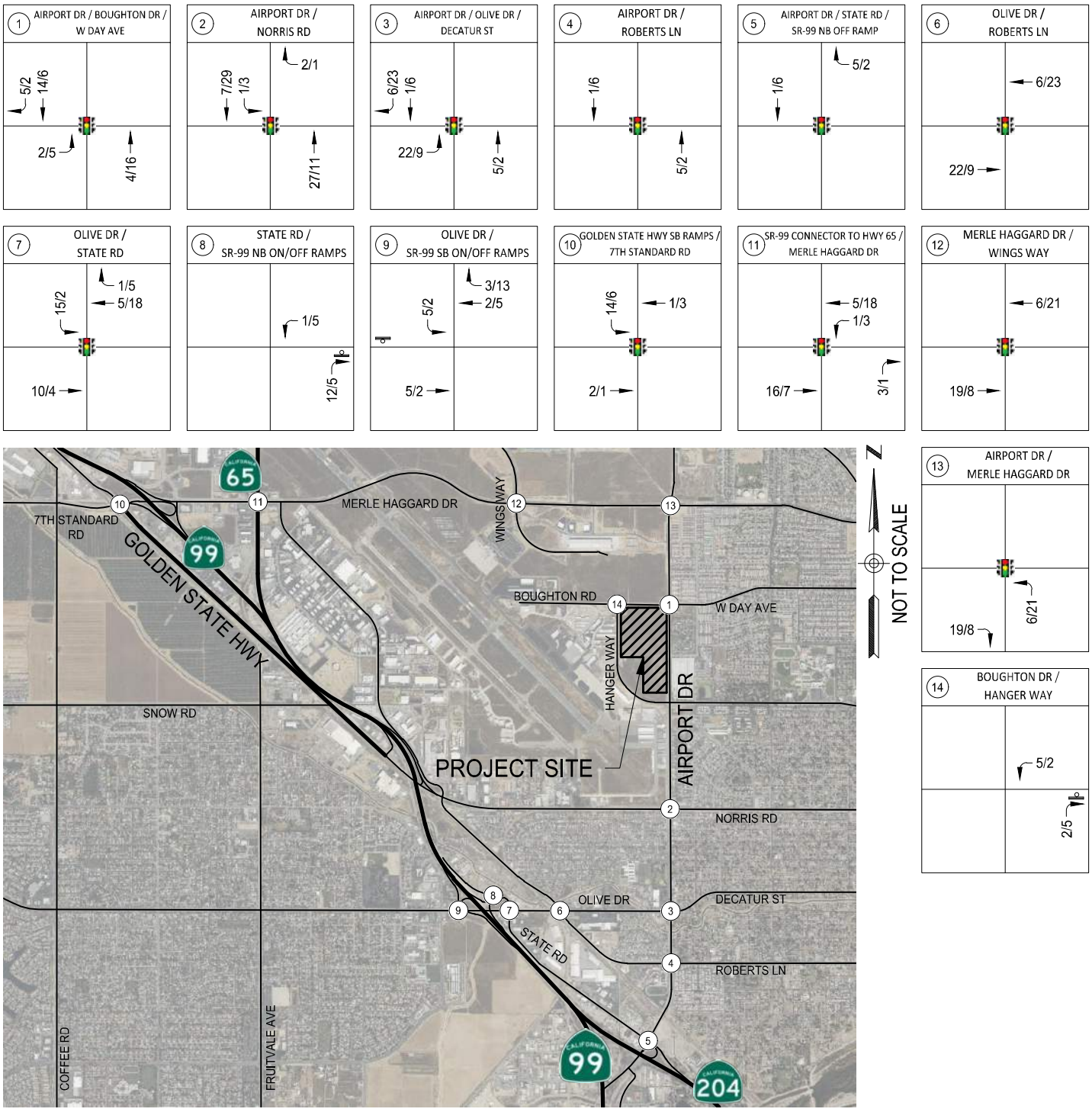
LEGEND

- XX% - SPECIFIC PROJECT TRIP PERCENTAGE
- (#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- INBOUND TRIPS
- OUTBOUND TRIPS

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FIGURE 7: PROJECT TRUCK TRIP DISTRIBUTION
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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PROJECT AUTOMOBILE TRIPS

AM PEAK HOUR - 46 IN / 13 OUT
PM PEAK HOUR - 20 IN / 52 OUT

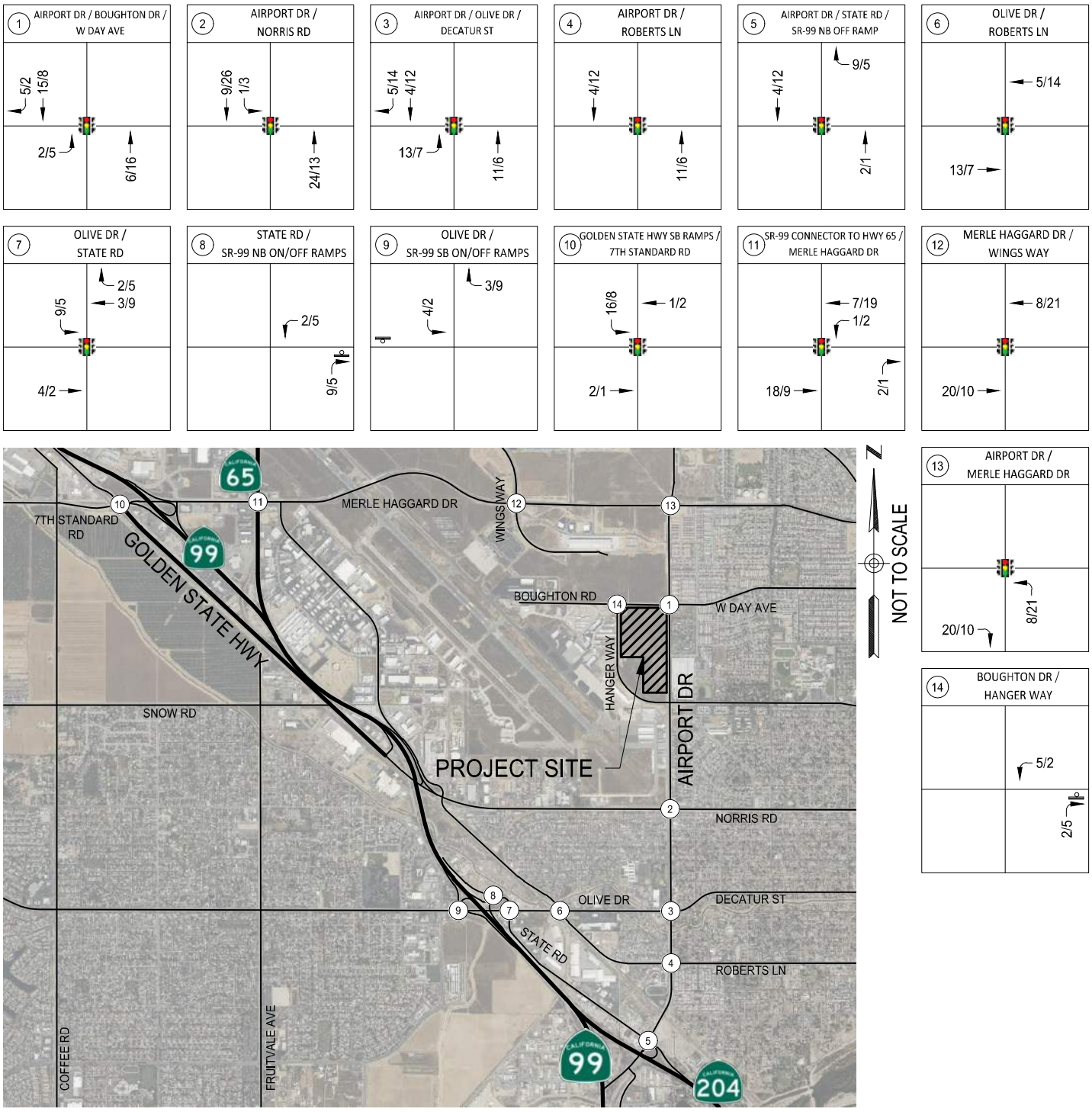
LEGEND

XX/XX - AM/PM PROJECT TRIPS
(#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 8: PROJECT AUTOMOBILE TRIPS
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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PROJECT TRUCK PCE TRIPS

AM PEAK HOUR - 44 IN / 17 OUT
PM PEAK HOUR - 23 IN / 47 OUT

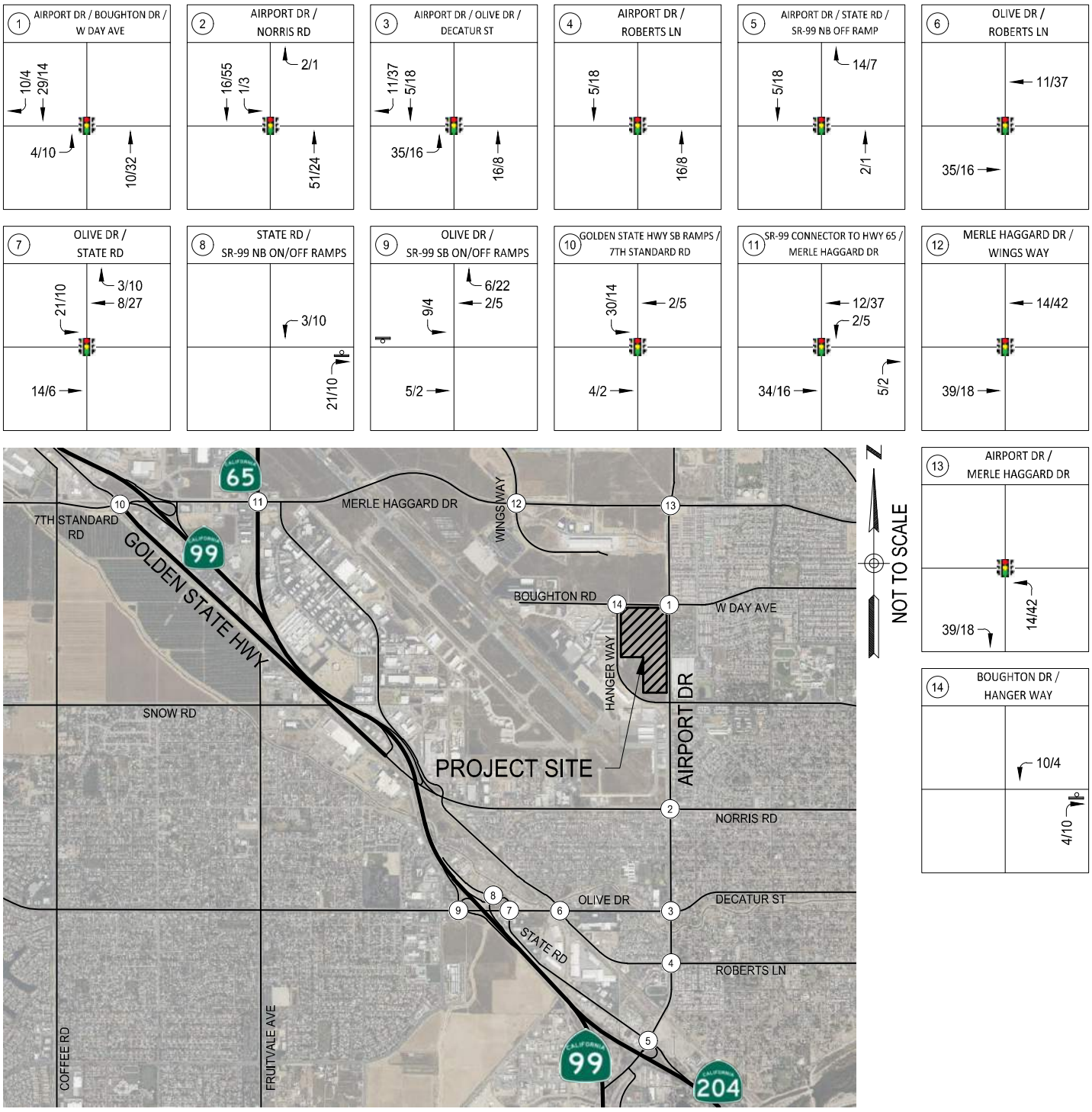
LEGEND

XX/XX - AM/PM PROJECT TRIPS
(#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

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FIGURE 9: PROJECT TRUCK PCE TRIPS
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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PROJECT TOTAL PCE TRIPS

AM PEAK HOUR - 90 IN / 30 OUT
PM PEAK HOUR - 43 IN / 99 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIPS
(#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

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FIGURE 10: PROJECT TOTAL PCE TRIPS
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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5.3 Opening Year Plus Project Conditions Traffic Analysis

Table 5-2 compares intersection level of service of Opening Year Conditions and Opening Year Plus Project Conditions. The Opening Year Plus Project Conditions traffic volumes are shown in **Figure 11**. The capacity analysis worksheets are provided in **Appendix E.**

Table 5-2: Comparison of Opening Year and Opening Year Plus Project Level of Service

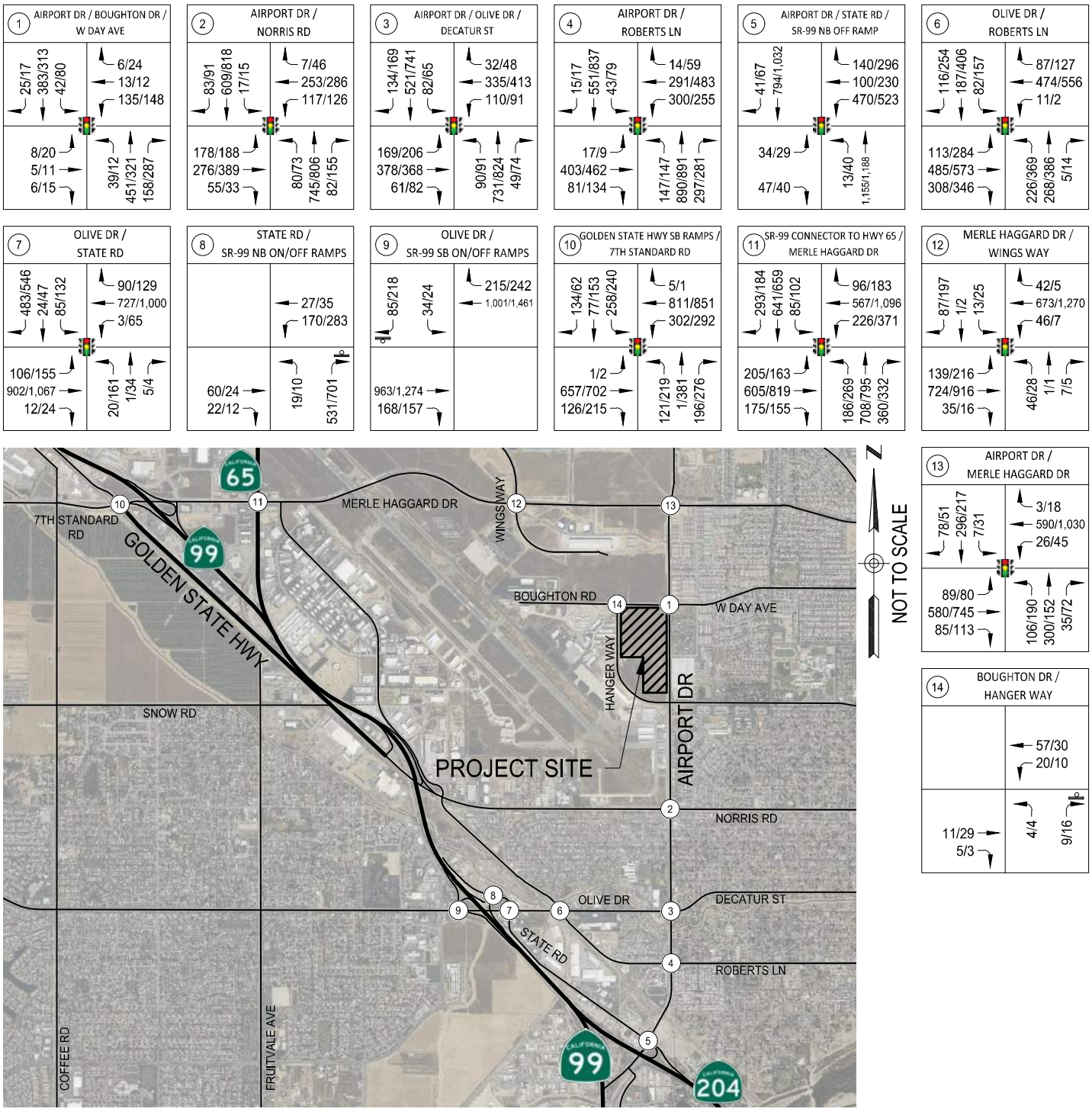
Intersection	Control Type	Opening Year Conditions				Opening Year + Project Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Airport Dr / Boughton Dr / W Day Ave	TS	16.7	B	16.3	B	15.4	B	14.5	B
2. Airport Dr / Norris Rd	TS	36.9	D	30.1	C	36.6	D	30.1	C
3. Airport Dr / Olive Dr / Decatur St	TS	28.2	C	33.1	C	30.5	C	36.1	D
Mitigation: convert EB and WB TH to Shared LTH and split phase E/W approaches		N/A				31.6	C	34.2	C
4. Airport Dr / Roberts Ln	TS	39.0	D	38.5	D	39.0	D	38.8	D
5. Airport Dr / State Rd / SR-99 NB Off Ramp	TS	14.5	B	23.2	C	14.8	B	23.4	C
6. Olive Dr / Roberts Ln	TS	19.7	B	47.8	D	19.9	B	50.0	D
7. Olive Dr / State Rd	TS	40.2	D	20.1	C	47.4	D	20.4	C
8. State Rd / SR-99 NB Ramps	SSSC	13.2	B	17.9	C	13.2	B	18.5	C
9. Olive Dr / SR-99 SB Ramps	SSSC	27.6	D	54.3	F	29.3	D	57.2	F
10. Golden State Hwy SB Ramps / 7th Standard Rd	TS	62.9	E	81.7	F	68.1	E	84.0	F
11. SR-99 Connector to Hwy 65 / Merle Haggard Dr	TS	25.7	C	37.0	D	26.2	C	38.2	D
12. Merle Haggard Dr / Wings Way	TS	12.8	B	20.2	C	12.9	B	20.8	C
13. Airport Dr / Merle Haggard Dr	TS	20.4	C	36.5	D	21.0	C	41.2	D
14. Boughton Dr / Hanger Way	SSSC	8.7	A	8.7	A	8.7	A	8.7	A

Abbreviations:
TS – Traffic Signal Controlled Intersection, SSSC – Side Street Stop Controlled Intersection, Delay – seconds per vehicle, LOS – Level of Service

As presented in **Table 5-2**, under Opening Year Plus Project Conditions, the majority of the study intersections operate at LOS D or better during both peak hours, with the exception of Olive Dr at SR-99 SB Ramps and Golden State Hwy / SB SR 99 Off-Ramp at 7th Standard Road. The intersection of Olive Drive at State Route 99 Southbound Ramps operates at LOS F during the PM peak hour. The intersection of Golden State Hwy / SB SR 99 Off-Ramp at 7th Standard Road operates at LOS E during the AM peak hour and LOS F during the PM peak hour. These intersections are identified as cumulative deficiencies occurring prior to the addition of project traffic. The addition of project traffic causes the level of service at the intersection of Airport Drive / Olive Drive and Decatur Street to change from a LOS C to a LOS D in the PM peak hour. The intersection will operate at LOS C with the proposed improvements illustrated in **Figure 12**. The mitigations include converting the eastbound and westbound through lane to a shared left through lane and split phase east and west approaches.

5.4 Traffic Signal Warrant Analysis

The deficient intersection of Olive Drive and the SR-99 SB Ramps does not meet signal installation warrants from the California Manual on Uniform Traffic Control Devices (CA MUTCD) in Opening Year Plus Project Conditions. Other design and safety related factors were considered in determining feasible measures for improving the level of service deficiency at this intersection. The results of the traffic signal warrant analysis are provided in **Table 5-3** and **Appendix F**.



**TRUCK VOLUMES ARE REPRESENTED IN PASSENGER CAR EQUIVALENTS (PCE)

LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

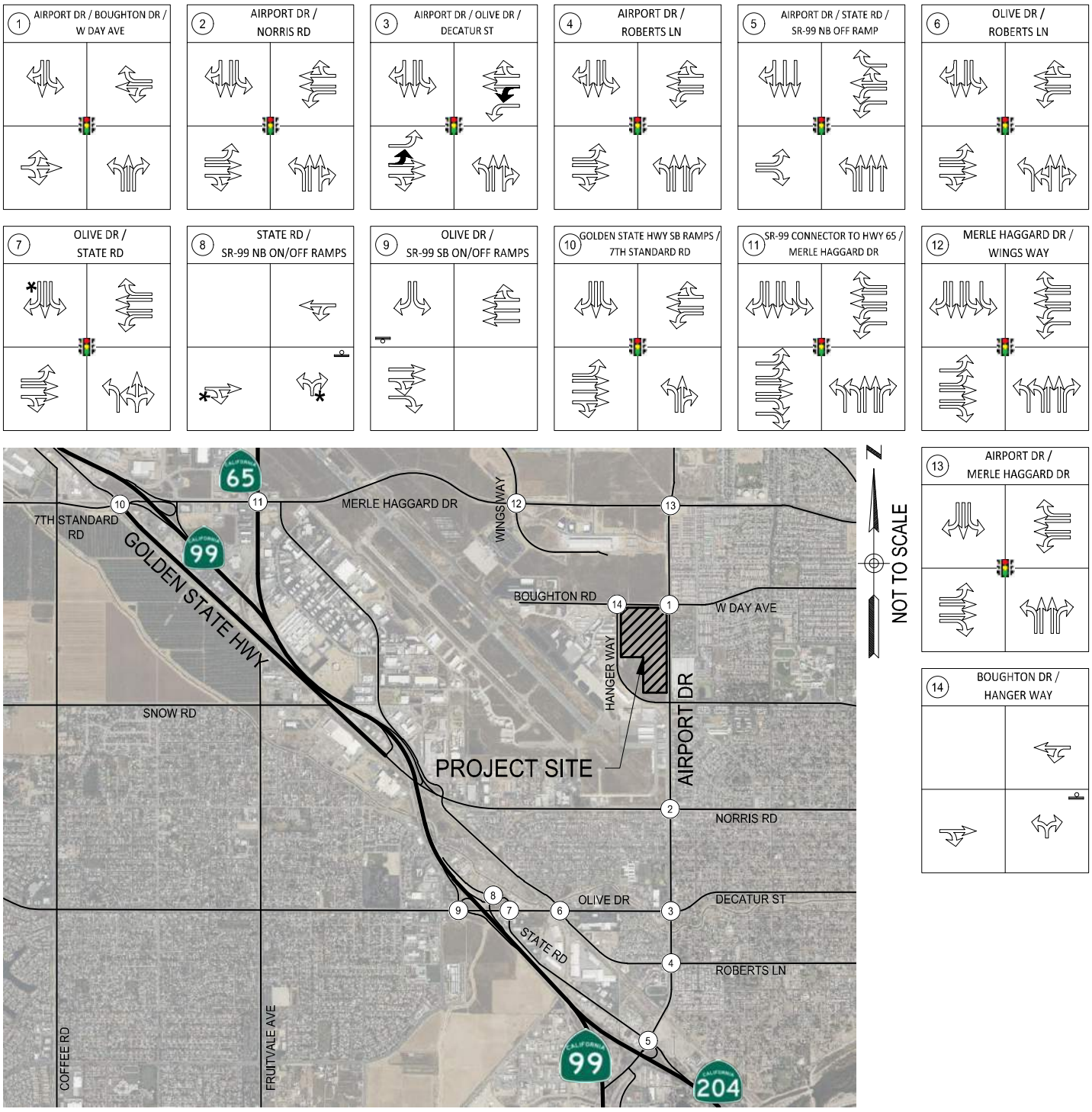
- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

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FIGURE 11: OPENING YEAR PLUS PROJECT TRAFFIC VOLUMES
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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LEGEND

- EXISTING GEOMETRICS
- PROPOSED GEOMETRICS
- (#) STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH
- * FREE RIGHT TURN

DAVID EVANS AND ASSOCIATES INC.

FIGURE 12: OPENING YEAR PLUS PROJECT INTERSECTION GEOMETRICS AIRPORT DRIVE & BOUGHTON DRIVE KERN COUNTY, CA

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Table 5-3 summarizes the findings of the signal warrant analysis at the intersection of Olive Drive and SR-99 SB Ramps.

Table 5-3: Summary of Traffic Signal Warrant Analysis at the Intersection of Olive Drive and SR-99 SB Ramps

Warrant	Warrant Title	Warrant Analysis Findings
1	Eight-Hour Vehicular Volume	This warrant has three volume conditions that may be met to satisfy the warrant. The intersection of Olive Drive and the SR-99 SB Ramps does meet Condition A or Condition B at 100% or 80%. The approach volumes for the minor leg are below the threshold. As such, this warrant would not be met.
2	Four-Hour Vehicular Volume	This warrant includes plotting the highest four hours on a chart with a minimum threshold volume. The intersection of Olive Drive and the SR-99 SB Ramps is identified as rural due to Olive Drive having a posted speed limit of 50 mph. Figure 4C-2 is utilized and only two of the four hours plotted above the minimum threshold of 60 vph. As such, this warrant would not be met.
3	Peak Hour	This warrant includes plotting the peak hour on a chart with a minimum threshold volume. The intersection of Olive Drive and the SR-99 SB Ramps is identified as rural due to Olive Drive having a posted speed limit of 50 mph. Figure 4C-4 is utilized and the plot was below the minimum threshold of 75 vph. As such, this warrant would not be met.
4	Pedestrian Volume	The intersection of Olive Drive and the SR-99 SB Ramps does not have a marked crosswalk crossing the major street (Olive Drive). There is a pedestrian crosswalk crossing the two-lane SR-99 southbound on-ramp from eastbound Olive Drive for pedestrians using the sidewalk on the south side of Olive Drive who are crossing the overpass. The warrant is typically applied to crossing the major or minor street being considered for signalization. This warrant is not applicable to this intersection.
5	School Crossing	The intersection is not a school crossing. This warrant is not applicable.
6	Coordinated Signal System	This warrant is to determine if a signal is installed and coordinated with other adjacent signalized intersections would it improve vehicle platooning and the efficiency of traffic movements within a band of green time in the peak direction. Due to the short distance to the adjacent signal at Knudsen Drive (about 220 feet) a signal at the Olive Drive and the SR-99 SB Ramps intersection would be difficult to coordinate and likely worsen the ability to generate platoons of vehicles.
7	Crash Experience	According to the Transportation Injury Mapping System (TIMS) there have been two injury crashes at this intersection between March 17, 2019, and March 17, 2024. While there may be additional property damage only (PDO) crashes, but based on two crashes this warrant would not be met.
8	Roadway Network	This warrant requires meeting Warrants 1, 2, and 3. Based on the warrants 1, 2, and 3 not being met this warrant will not be met.
9	Intersection Near a Grade Crossing	This warrant is not applicable to this intersection.
Source: California Manual on Uniform Traffic Control Devices (CA MUTCD), 2014 Edition, Revision 6 (March 30, 2021). Section 4C.01 Studies and Factors for Justifying Traffic Control Signals.		

Refer to Chapter 8 for more detailed discussion regarding the conclusions drawn from the traffic signal warrant analysis

6 CUMULATIVE CONDITIONS

The Cumulative Conditions scenario reflects regional growth in traffic up to the year 2046. Growth in traffic is from forecasts from the Kern Council of Governments (KernCOG) model projections. Intersection turn movements were derived from post processing forecasted approach volumes and balancing the turn movement volumes for each study intersection. The KernCOG model plots are provided in **Appendix C**. The Cumulative Conditions traffic volumes provided in **Figure 13.**

The KernCOG Year 2046 model includes planned and approved regional improvements which result in traffic diverting to new routes with more capacity. The 2046 model network includes future improvements consistent with the Regional Transportation Plan (RTP) representing, at a minimum, the fiscally constrained capital improvement projects identified in the RTP. As a result of regional and local improvements to the road and highway network, some intersections under cumulative conditions experience better levels of service when compared to opening year conditions as traffic diffuses throughout a more connected network and diverts to areas with increased capacity.

6.1 Cumulative Conditions Traffic Analysis

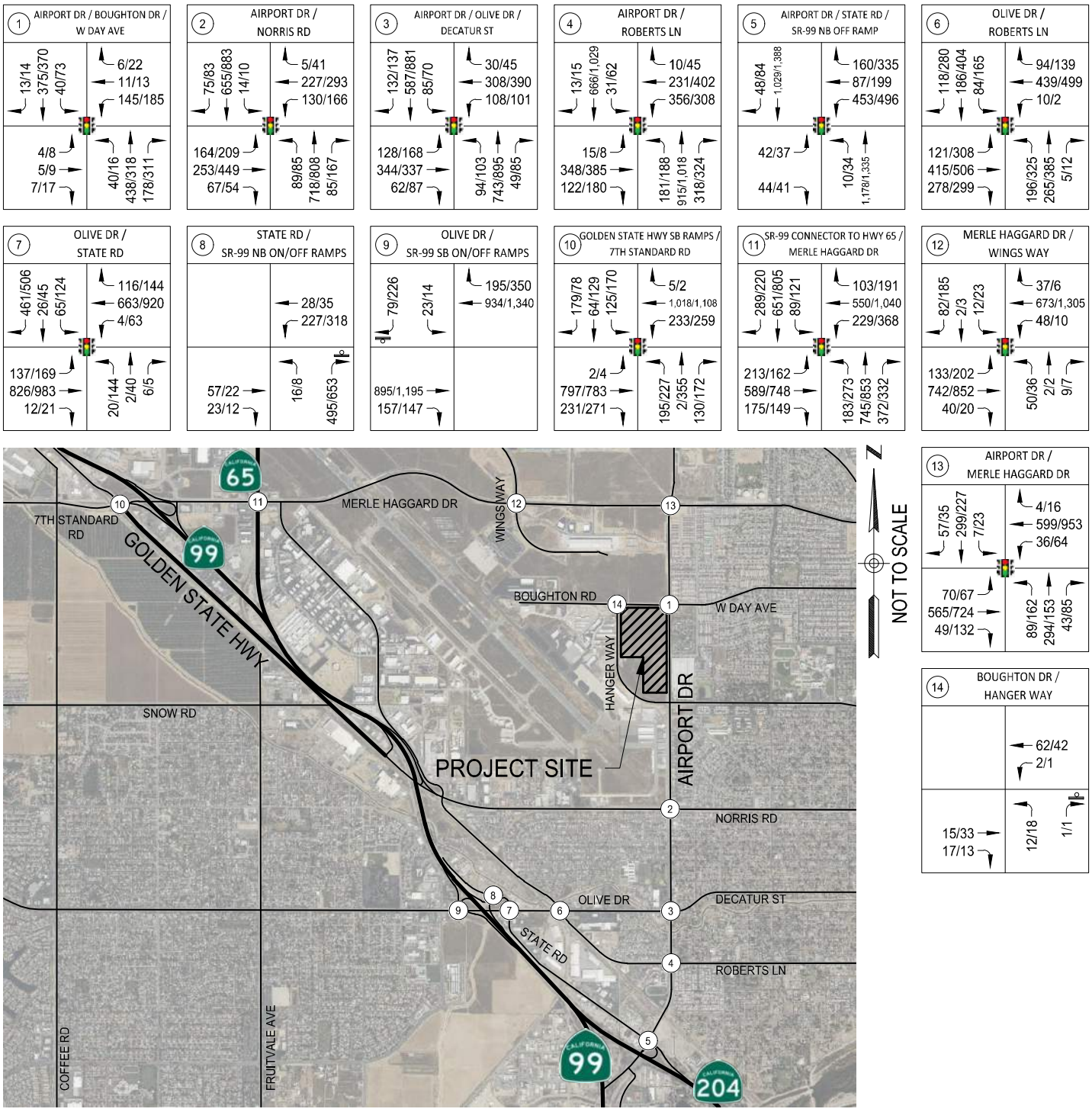
The Cumulative Conditions intersection capacity analysis uses existing intersection geometrics and the traffic volumes provided in **Figure 13**. It should be noted that the peak hour factor utilized in the Cumulative Conditions and Cumulative plus Project Conditions' capacity analysis is set to 0.95 for all intersections. **Table 6-1** and **Appendix E** provide the results of the analysis.

Table 6-1: Intersection Level of Service for Cumulative Conditions

Intersection	Control Type	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Airport Dr / Boughton Dr / W Day Ave	TS	15.0	B	18.9	B
2. Airport Dr / Norris Rd	TS	25.6	C	40.4	D
3. Airport Dr / Olive Dr / Decatur St	TS	25.2	C	29.9	C
4. Airport Dr / Roberts Ln	TS	38.7	D	43.9	D
5. Airport Dr / State Rd / SR-99 NB Off Ramp	TS	14.4	B	20.5	C
6. Olive Dr / Roberts Ln	TS	18.6	B	43.8	D
7. Olive Dr / State Rd	TS	12.3	B	19.0	B
8. State Rd / SR-99 NB Ramps	SSSC	14.1	B	17.0	C
9. Olive Dr / SR-99 SB Ramps	SSSC	23.9	C	40.2	E
10. Golden State Hwy SB Ramps / 7th Standard Rd	TS	55.0	E	59.5	E
11. SR-99 Connector to Hwy 65 / Merle Haggard Dr	TS	25.1	C	33.0	C
12. Merle Haggard Dr / Wings Way	TS	12.8	B	17.5	B
13. Airport Dr / Merle Haggard Dr	TS	18.9	B	24.2	C
14. Boughton Dr / Hanger Way	SSSC	9.0	A	9.0	A

Abbreviations:
TS – Traffic Signal Controlled Intersection, SSSC – Side Street Stop Controlled Intersection, Delay – seconds per vehicle, LOS – Level of Service

As presented in **Table 6-1***,* under Cumulative Conditions, the majority of the study intersections operate at LOS D or better during both peak hours, with the exception of Olive Dr at SR-99 SB Ramps and Golden State Hwy SB Ramps at 7th Standard Rd. The intersection of Olive Drive at State Route 99 Southbound Ramps operates at LOS E during the PM peak hour. The intersection of Golden State Highway Southbound Ramps at 7th Standard Road operates at LOS E during the AM peak hour and LOS E during the PM peak hour. As a result, these intersections are identified as cumulative deficiencies occurring prior to the addition of project traffic.



**TRUCK VOLUMES ARE REPRESENTED IN PASSENGER CAR EQUIVALENTS (PCE)

LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 13: CUMULATIVE TRAFFIC VOLUMES
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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7 CUMULATIVE PLUS PROJECT CONDITIONS

The Cumulative plus Project Conditions scenario adds the project's estimated traffic generation to the Cumulative Condition's scenario described in Chapter 6. As described in the previous section, the forecasted Cumulative Conditions intersection turn movement volumes were derived from a combination of post processing forecasted approach volumes from the KernCOG model. The KernCOG traffic model plots are provided in **Appendix C**. Level of service deficiencies identified in this scenario are considered "cumulative" deficiencies — deficiencies that the project contributes to, but does not solely cause, and may be responsible for a fair-share of the cost to implement any mitigation measures.

7.1 Cumulative Plus Project Traffic Analysis

The intersection level of service analysis for Cumulative plus Project Conditions uses existing intersection geometrics and the traffic volumes shown in **Figure 14**. **Table 7-1** and **Appendix E** provide the results of the analysis.

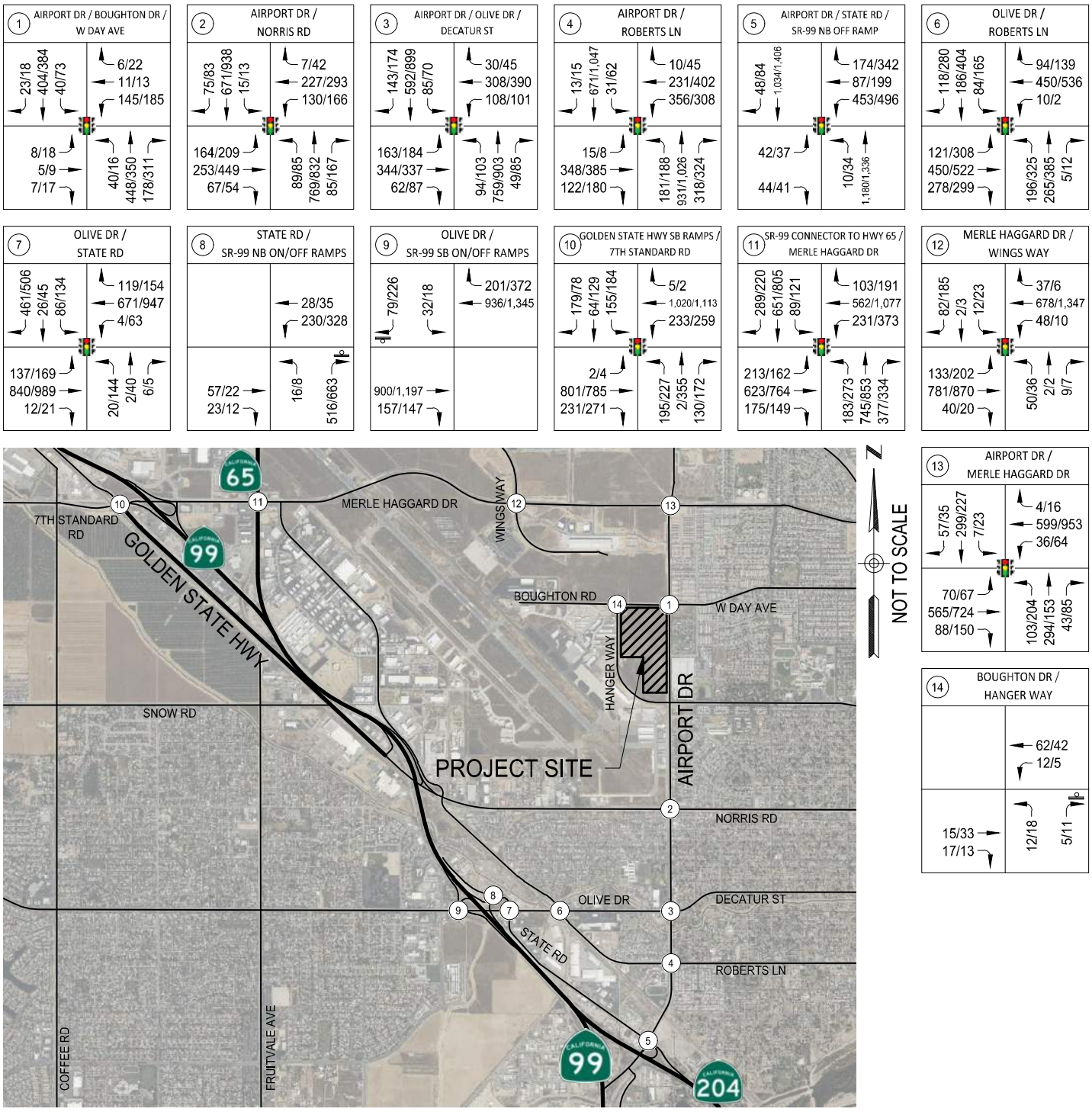
Table 7-1: Comparison of Cumulative and Cumulative Plus Project Level of Service

Intersection	Control Type	Cumulative Conditions				Cumulative + Project Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Airport Dr / Boughton Dr / W Day Ave	TS	15.0	B	18.9	B	13.0	B	16.1	B
2. Airport Dr / Norris Rd	TS	25.6	C	40.4	D	25.5	C	40.5	D
3. Airport Dr / Olive Dr / Decatur St	TS	25.2	C	29.9	C	26.6	C	32.0	C
Mitigation: convert EB and WB TH to Shared LTH and split phase E/W approaches		N/A				27.8	C	34.3	C
4. Airport Dr / Roberts Ln	TS	38.7	D	43.9	D	38.7	D	44.5	D
5. Airport Dr / State Rd / SR-99 NB Off Ramp	TS	14.4	B	20.5	C	14.7	B	20.7	C
6. Olive Dr / Roberts Ln	TS	18.6	B	43.8	D	18.7	B	45.4	D
7. Olive Dr / State Rd	TS	12.3	B	19.0	B	12.7	B	19.2	B
8. State Rd / SR-99 NB Ramps	SSSC	14.1	B	17.0	C	14.2	B	17.4	C
9. Olive Dr / SR-99 SB Ramps	SSSC	23.9	C	40.2	E	24.8	C	41.6	E
10. Golden State Hwy SB Ramps / 7th Standard Rd	TS	55.0	E	59.5	E	55.8	E	61.2	E
11. SR-99 Connector to Hwy 65 / Merle Haggard Dr	TS	25.1	C	33.0	C	25.6	C	33.8	C
12. Merle Haggard Dr / Wings Way	TS	12.8	B	17.5	B	12.9	B	17.9	B
13. Airport Dr / Merle Haggard Dr	TS	18.9	B	24.2	C	19.4	B	27.3	C
14. Boughton Dr / Hanger Way	SSSC	9.0	A	9.0	A	9.0	A	8.9	A

Abbreviations:
TS – Traffic Signal Controlled Intersection, SSSC – Side Street Stop Controlled Intersection, Delay – seconds per vehicle, LOS – Level of Service

As presented in **Table 7-1**, under the Cumulative Plus Project Conditions, the majority of the study intersections operate at LOS D or better during both peak hours, with the exception of Olive Dr at SR-99 SB Ramps and Golden State Hwy SB Ramps at 7th Standard Rd. The intersection of Olive Drive at State Route 99 Southbound Ramps operates at LOS E during the PM peak hour. The intersection of Golden State Highway Southbound Ramps at 7th Standard Road operates at LOS E during the AM peak hour and LOS E during the PM peak hour. As a result, these intersections are identified as cumulative deficiencies occurring prior to the addition of project traffic.

The deficient intersection of Olive Drive and the SR-99 SB Ramps does not meet signal installation Warrant #3 (Peak Hour) from the California Manual on Uniform Traffic Control Devices (CA MUTCD) in Cumulative Plus Project conditions. Other design and safety related factors were considered in determining feasible measures for improving the level of service deficiency at this intersection.



**TRUCK VOLUMES ARE REPRESENTED IN PASSENGER CAR EQUIVALENTS (PCE)

LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 14: CUMULATIVE PLUS PROJECT TRAFFIC VOLUMES
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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8 EVALUATION OF MITIGATION TO IMPROVE DEFICIENT INTERSECTIONS

The intersection of Golden State Highway Southbound Ramps at 7th Standard Road has right of way constraints along Golden State Hwy due to railroad running along the west side and the intersection being a part of the railroad overpass.

- **Airport Drive / Olive Drive and Decatur Street**: The addition of traffic from proposed project under Background (Opening Year) + Project condition causes the level of service at the intersection of Airport Drive / Olive Drive / Decatur Street to change from a LOS C to a LOS D in the PM peak hour. This change in level of service is considered a deficiency and requires mitigation to conform with the Metropolitan Bakersfield General Plan Sphere of Influence policy of LOS C.

  The intersection is in a fully developed urban area without surplus right of way to add lane capacity to the intersection. Capacity improvements, therefore, need to be operational. A commonly used strategy to improve peak hour level of service at compact intersections or where right is way acquisition is not feasible is to employ shared lanes to add capacity for turn movements. The proposed measure is illustrated in the diagram below.



Aerial view of the intersection of Airport Drive / Olive Drive / Decatur Street indicating the proposed lane configurations to increase the left turn capacity on Olive Drive and Decatur Street.

The proposed mitigation consists of:

- Converting the inside eastbound and westbound through lanes to shared left-through lanes to provide two lanes for the eastbound and westbound left turn movements.
- Requires the separation of traffic movements in the eastbound and westbound direction by implementing split phased signal operation.
- Implementing a split phasing scheme requires re-optimizing the intersection timing including increasing the cycle length to 140 seconds in both the a.m. and p.m. peak hours.

With the implementation of the proposed mitigations the intersection would operate at LOS C in both peak hours under Background (Opening Year) plus Project conditions, as shown in **Table 8-1.** Although the level of service deficiency does not occur in the cumulative 2045 conditions, the proposed mitigation maintains a LOS C in both peak hours with the addition of project traffic. The cumulative 2045 levels of service with and without implementation of the proposed measure is shown in **Table 8-2**.

Table 8-1: Opening Year Plus Project Level of Service With Mitigation

Intersection	Control Type	Opening Year Conditions				Opening Year + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Airport Dr / Olive Dr / Decatur St	TS	28.2	C	33.1	C	30.5	C	36.1	D
Mitigation: convert EB and WB TH to Shared LTH and split phase E/W approaches		Not Applicable				31.6	C	34.2	C

Table 8-2: Cumulative Plus Project Level of Service With Mitigation

Intersection	Control Type	Cumulative Year Conditions				Cumulative Year + Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Airport Dr / Olive Dr / Decatur St	TS	25.2	C	29.9	C	26.6	C	32.0	C
Mitigation: convert EB and WB TH to Shared LTH and split phase E/W approaches		Not Applicable				27.8	C	34.3	C

8.1 Olive Dr / SR-99 SB On/Off Ramps

This intersection is side-street stop-controlled, with the SB Off ramp being stop-controlled. It is critical to note that the delay reported for a side street stop-controlled intersection is the delay incurred by the left turning traffic from the off-ramp. For this intersection the deficient movement affects 8% of the traffic entering the intersection. There are two aspects of this intersection not considered in the theoretical calculation of delay:

1. A refuge / acceleration lane is provided in the median of Olive Drive that allows completion of the southbound left turn in two stages. The first stage movement is from the southbound off-ramp to the refuge / acceleration lane where the driver need only identify an acceptable gap in the westbound traffic flow on Olive Drive and not in both directions as required at a typical side-street stop-controlled intersection. The second stage is to use the acceleration lane to merge into the eastbound traffic flow on Olive Drive. Experienced drivers comfortable using a two-stage left turn can negotiate the movement with significantly less delay than drivers who wait for acceptable gaps in both directions of traffic. However, not all drivers are comfortable using a two-stage left turn so the reduction in delay does not apply to all left turns and cannot be calculated in this analysis.
2. The left turn movement benefits from gaps in the traffic flow created by the platooning of vehicles released by signalized intersections both upstream and downstream of the southbound off-ramp. The platoon effect created by adjacent signalized intersections produces more frequent and longer gaps in traffic than would occur with the random and uninterrupted traffic flow when upstream signals are too distant. Signalized intersections are located approximately 500 feet upstream in the eastbound direction, and about 1,300 feet upstream in the westbound direction. These distances are adequate to create gaps that will benefit left turn movements from the SR 99 southbound off-ramp.

Because of the above aspects not considered in the calculation of delay, the Olive Dr / SR-99 SB On/Off Ramps intersection likely operates with less delay than reported in this study, but probably not at a LOS D or better.

A traffic signal warrant utilizing the latest California Manual on Uniform Traffic Control Devices (CA MUTCD) was applied to the intersection of Olive Drive and SR-99 SB Ramps. Each warrant was assessed for applicability. Warrant 4: Pedestrian Volume, Warrant 5: School Crossing, and Warrant 9, Intersection Near a Grade Crossing were determined to not be applicable.

- New 24-hour counts were conducted to assess Warrant 1: Eight-Hour Vehicular Volume, Warrant 2: Four-Hour Vehicular Volume, and Warrant 3: Peak Hour. The approach volume of the southbound off ramp (minor approach) did not meet the minimum threshold for either of these warrants.
- Warrant 6: Coordinated Signal System was determined to be difficult to coordinate and likely worsen the ability to generate platoons of vehicles.
- Warrant 7: Crash Experience was accessed based on crash data obtained from Transportation Injury Mapping System (TIMS) over a 5-year period of March 17,2019 to March 19,2024. During this period not one 12-month period had 5 or more collisions. As such this warrant was not met.
- Warrant 8: Roadway Network is dependent on the intersection meeting warrants 1,2 and 3 as such this warrant is not met either.

A traffic signal is not recommended at the intersection of Olive Drive and SR-99 SB Ramps primarily due to the non-warrant related factors described below:

a) Signalization would substantially increase delay for the overwhelming majority of traffic traveling on Olive Drive (i.e., between 1,100 and over 1,700 vph in each direction).

b) Spacing between the southbound off-ramp and Knudsen Drive in the eastbound direction is 350 feet between the future stop bar in the eastbound direction at the ramp and the point beyond which vehicle queues would spill into the Olive Dr / Knudsen intersection.

c) The distance between the future stop bar (if signalized) in the westbound direction at the southbound SR-99 ramp and the point where queued westbound vehicles in the right-hand lane would block access to the southbound SR-99 loop on-ramp is about 220 ft. or ten vehicles.

d) In the eastbound direction, the two-lane high-speed slip ramp onto southbound SR-99 would not integrate well with a signalized intersection. The Caltrans' Highway Design Manual discourages this type of ramp at intersections: *Higher speed, uncontrolled entries and exits from freeway ramps should not be used at the intersection of the ramps with the local road. The smallest curb return radius should be used that accommodates the design vehicle.* To conform to Caltrans' desired configuration if the intersection were signalized, this ramp would require significant reconstruction.

e) In the past five years (2019 to 202), there have been zero fatal or severe injury collisions at this intersection, although there may have been additional property damage only (PDO) collisions. It is commonly known that rear-end collisions increase when a traffic signal is installed. A speed limit of 50-mph combined with the long uncontrolled eastbound downgrade on the overcrossing of SR-99 may increase the risk of high-speed rear-end collisions.

This study concludes that there are no feasible mitigation measures to improve the left turn movement level of service deficiency to a LOS D or better at the intersection of Olive Dr / SR-99 SB On/Off Ramps.

8.2 Golden State Hwy / SR 99 SB Off Ramp / 7th Standard Rd

This signalized intersection currently operates at a LOS E and F and is projected to operate at a LOS E and F in all future scenarios with or without the proposed project. The intersection is raised on an abutment as part of the 7th Standard Road overcrossing of the railroad and the Highway 99 overcrossing. The abutment was constructed with stable slopes down to grade level at the right of way line on the west and south sides of the intersection.

The addition of lanes on 7th Standard Road could require widening of the railroad overcrossing structure and /or the Highway 99 overcrossing structure in addition to the construction of a substantial amount of retaining walls to replace the current slopes on the west and south sides of the intersection. Similarly, widening of the southbound off-ramp approach to 7th Standard Road or the Golden State Highway approach / departure lanes south of 7th Standard Road would also require construction of a substantial amount of retaining walls.

Since each approach of the Golden State Hwy / SR 99 SB Off Ramp / 7th Standard Rd operates at a deficient level of service, multiple approaches would require additional capacity to improve the overall intersection to a LOS D or better. Any capacity improvements to improve the deficient level of service would entail a major reconstruction of the intersection including extensive retaining walls and, potentially, widening of the 7th Standard Road railroad and SR 99 overcrossing structures.

This study concludes that there are no practical mitigation measures toward which new development could contribute funds to improve the operation to a LOS D or better at the Golden State Hwy / SR 99 SB Off Ramp / 7th Standard Rd intersection.

9 APPENDICES

Appendix A: Approved Scope Agreement

Appendix B: Traffic Counts

Appendix C: Forecast Model Plots and Volume Development

Appendix D: Cumulative Projects List

Appendix E: Intersection Capacity Analysis Worksheets

Appendix F: Traffic Signal Warrant Analysis Worksheet and counts

Appendix G: Vehicle Miles Traveled (VMT) Analysis

Appendix A: Approved Scope Agreement

COUNTY OF KERN
PUBLIC WORKS DEPARTMENT
Office Memorandum

To: Lorelei Oviatt, Director
Planning and Natural Resources Department
Attn: Craig Murphy, Assistant Director

August 15, 2023

From: Cesar Ayon, Engineering Manager CA
Public Works Department/Development Review Division

Subject: Scoping Agreement for Focused Traffic Impact Analysis for Proposed Warehouse Development Located at the Southwest corner of Airport Drive and Boughton Drive in unincorporated Kern County, CA.

This Department has reviewed the Proposed scoping agreement for subject Project by David Evans and Associated, Inc dated July 10, 2023, and recommend the following:

1. The County concurs with the Trip Generation that was submitted.

2. The County agrees with the proposed intersections to be studied but believes the Trip Distribution needs to include Airport Drive at Merle Haggard Drive and Merle Haggard Drive at Wings Way and both intersections need to be added to the study. As Merle Haggard Drive is the 7th Standard Parallel and a major arterial.

3. Access to the project site. Airport Drive is classified as an Arterial highway per the Metropolitan Bakersfield General Plan Circulation Element. Therefore, it will require right-of-way dedication, median along the Airport Drive project frontage, right-turn channelization for entrances and the maximum width for drive approaches is 35 (Thirty-five) feet. Distances between drive approaches also need to adhere to County Standards.

4. Boughton Drive and Hanger Way are classified as Collector highway and will require right-of-way dedication, pavement analysis and drive approaches need to adhere to County Standards on width and distance.

5. The 2 to 3.5 percent ambient growth rate is acceptable.

6. The applicant will need to contact the Kern County Planning and Natural Resources Department for planned and approved development in the area of the proposed project.

Thank you for the opportunity to comment on this project, if you have any questions or comments, please contact Paul Candelaria of this department.

DAVID EVANS AND ASSOCIATES INC.

July 10, 2023 Job No. IPGIK52H-0001

MEMORANDUM

To: IPG Kern County
Attn: Craig Wilde
52 Holdings LLC
991 Lomas Santa Fe Dr, Suite C PMB 469
Solana Beach, CA 92075



From: James M. Daisa, PE
Senior Transportation Project Manager

RE: SCOPING AGREEMENT FOR FOCUSED TRAFFIC IMPACT ANALYSIS FOR PROPOSED WAREHOUSE DEVELOPMENT LOCATED AT THE SOUTHWEST CORNER OF AIRPORT DRIVE AND BOUGHTON DRIVE IN UNINCORPORATED KERN COUNTY, CA (APN: 492-010-13, 17)

This memorandum presents key elements of the proposed Focused Traffic Impact Study Report (TIS Report) scope of work for the above referenced development project. The purpose of this memorandum is to inform Kern County of our assumptions and methodologies, estimated project trip generation, distribution of project trips to proposed study intersections, and scenarios and timeframes to be analyzed prior to preparing the study.

We will incorporate changes specified by the county public works department, and once approved, the final scoping agreement will serve as our notification to proceed. Because the study area includes a state highway, this scoping agreement will be submitted to Caltrans District 6 Planning Division, Office of Land Development Review (LDR) concurrent with our submission to Kern County.

A. Project Description

The project site is located on the southwest corner of the intersection of Airport Drive and Boughton Drive in unincorporated Kern County, as illustrated in **Exhibit A**. The proposed project is to construct two multi-tenant warehouse buildings with a total area of 923,130 square feet.

Building one will have a total area of 655,690 SF, including a 10,000 SF of office area. Building one includes a total of 45 loading docks on the northern side and 45 loading docks on its southern side. Building one includes 429 automobile parking spaces in parking lots on the eastern and western sides of the project site, and 232 truck/trailer parking spaces in parking lots on the northern and southern sides of the site.

Building two will have a total area of 267,440 SF, including a 5,000 SF of office area. Building two includes a total of 34 loading docks on its west side. Building two includes 151 automobile parking spaces in parking lots on the northern, eastern, and western sides of the site, and 78 truck/trailer parking spaces in a parking lot on the western side of the site.

The proposed project is bounded to the north by Boughton Drive and vacant/undeveloped land, to the south by Skyway Drive and commercial buildings that provide services related to aircrafts, to the east by Airport Drive, residential area, and a storage provider business, and to the west by Hanger Way and Meadows Field Airport. **Exhibit B** illustrates the proposed site plan.

Circulation Improvements and Site Access

Access to the site will be from five proposed driveways on Airport Drive and three proposed driveways on Hanger Way. The five commercial width driveways proposed on Airport Drive provide primary access to the site's automobile parking lots and, indirectly, internal roads on the western and eastern sides of the building.

Primary truck access to Building 1's secure gated loading dock and truck/trailer parking area is provided by two commercial driveways on Hanger Way with direct connections to the loading dock access gates on the north and south sides of the building. Secondary access to Building 1's secure gated loading dock and truck/trailer parking areas is provided by the two 50-foot-wide driveways on Airport Drive, of which the southernmost driveway is shared with Building 2.

Building 2 does not have access to Hangar Way, therefore, truck access to Building 2's secure gated loading dock and truck/trailer parking areas is provided by two driveways on Airport Drive, the 50-foot-wide driveway shared with Building 1, and the southern-most 40-foot-wide driveway.

The narrower 30-foot-wide driveways on Hangar Way and Airport Drive are for automobile access to the building's parking lots, three driveways in total. The shared driveway between Buildings 1 and 2 internally connects the circulatory systems of both sites for trucks and automobiles.

B. Project Trip Generation

Table A (provided on the following page) summarizes the estimated trip generation for the proposed project for the peak hours within the AM (7:00 -9:00 AM) and PM (4:00 -6:00 PM) peak periods. The trip generation rates for the site includes High Cube and Short-Term Storage Warehouse (LU 154), which comprises 80% of both buildings, and High Cube Cold Storage Warehouse (LU 157), which comprises 20% of both buildings. The source of the rates is the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition.

Combined, the two proposed warehouses would generate about 1,430 vehicle trips per day, 83 vehicle trips in the AM peak hour, and 99 vehicle trips in the PM peak hour.

For truck intensive land uses, it is standard practice to convert trips to passenger car equivalents (PCEs) for intersection capacity analysis. This conversion reflects the effects of large vehicles on intersection operations not just from the physical space a truck occupies but also from their effect on the intersection's saturation flow rate due to the slower acceleration of trucks. When converted to PCEs, the proposed project generates about 2,012 daily PCEs, with 120 PCEs in the AM peak hour and 142 PCE's in the PM peak hour.

C. Study Intersections

The focused traffic study proposes to evaluate key intersections on routes expected to be used by project traffic to access the site. The study intersections include twelve existing public street intersections listed below. In addition, the study will analyze select driveways if a preliminary review indicates a severe capacity issue, potential safety issue, or the need for a traffic control device other than side-street stop control.

1. Airport Dr / Boughton Rd/ W Day Ave
2. Airport Dr / Norris Rd
3. Airport Dr / Olive Dr / Decatur St
4. Airport Dr / Roberts Ln
5. Airport Dr / State Rd / SR-99 NB Off Ramp
6. Olive Dr / Roberts Ln
7. Olive Dr / State Rd
8. State Rd / SR-99 NB On/Off Ramps
9. Olive Dr / SR-99 SB On/Off Ramps
10. SR-99 Connector to Hwy 65 / Merle Haggard Dr
11. Boughton Dr / Hanger Way
12. Golden State Hwy SB On/Off Ramps / 7th Standard Rd

Table A: Estimated Trip Generation for the Proposed Airport Drive Warehouse Project

	Land Use	Gross Floor Area (KSF)	Daily	AM Peak Hour of Adjacent Street Traffic			PM Peak Hour of Adjacent Street Traffic		
				In	Out	Total	In	Out	Total
1	**High Cube Transload Warehouse (Comprises 80% of Building)** (ITE Land Use Category 154)	738.5	*Vehicle Trip Generation Rates (Trips Per 1,000 Square Feet of Gross Floor Area)*						
			1.40	0.06	0.02	0.08	0.03	0.07	0.10
			Total Vehicle Trip Generation						
			1,034	46	14	60	21	53	74
		Mode Share	*Project Trip Generation by Vehicle Type*						
	Passenger Cars (Percent of Total)	74.22%	768	34	10	44	15	40	55
	2-Axle Trucks (Percent of Total)	4.55%	48	2	1	3	1	2	3
	3-Axle Trucks (Percent of Total)	4.18%	44	2	1	3	1	2	3
	4-Axle Trucks (Percent of Total)	17.05%	177	8	2	10	4	9	13
		PCE Factor	*Project Trip Generation in Passenger Car Equivalents (PCE)*						
	Passenger Cars	1.0	768	34	10	44	15	40	55
	2-Axle Trucks	1.5	72	3	2	5	2	3	5
	3-Axle Trucks	2.0	88	4	2	6	2	4	6
	4 + Axle Trucks	3.0	531	24	6	30	12	27	39
		PCE Total	1,459	65	20	85	31	74	105
2	**High Cube Cold Storage Warehouse (Comprises 20% of Building)** (ITE Land Use Category 157)	184.6	*Vehicle Trip Generation Rates (Trips Per 1,000 Square Feet of Gross Floor Area)*						
			2.12	0.08	0.03	0.11	0.03	0.09	0.12
			Total Vehicle Trip Generation						
			392	16	5	21	7	16	23
		Mode Share	*Project Trip Generation by Vehicle Type*						
	Passenger Cars (Percent of Total)	74.22%	291	12	3	15	5	12	17
	2-Axle Trucks (Percent of Total)	4.55%	18	1	1	2	1	1	2
	3-Axle Trucks (Percent of Total)	4.18%	17	1	1	2	1	1	2
	4-Axle Trucks (Percent of Total)	17.05%	67	3	1	4	1	3	4
		PCE Factor	*Project Trip Generation in Passenger Car Equivalents (PCE)*						
	Passenger Cars	1.0	291	12	3	15	5	12	17
	2-Axle Trucks	1.5	27	2	2	4	2	2	4
	3-Axle Trucks	2.0	34	2	2	4	2	2	4
	4 + Axle Trucks	3.0	201	9	3	12	3	9	12
		PCE Total	553	25	10	35	12	25	37
	Combined Total Project Trips								
		Mode Share	*Combined Total Project Trip Generation by Vehicle Type*						
	Passenger Cars (Percent of Total)	74.22%	1,059	46	13	59	20	52	72
	2-Axle Trucks (Percent of Total)	4.55%	66	3	2	5	2	3	5
	3-Axle Trucks (Percent of Total)	4.18%	61	3	2	5	2	3	5
	4-Axle Trucks (Percent of Total)	17.05%	244	11	3	14	5	12	17
	Total Combined Project Vehicle Trips (Non-PCE)		**1,430**	**63**	**20**	**83**	**29**	**70**	**99**
		PCE Factor	*Combined Total Project Trip Generation in PCEs*						
	Passenger Cars	1.0	1,059	46	13	59	20	52	72
	2-Axle Trucks	1.5	99	5	4	9	4	5	9
	3-Axle Trucks	2.0	122	6	4	10	4	6	10
	4 + Axle Trucks	3.0	732	33	9	42	15	36	51
	Total Combined Project Vehicle Trips (PCE)		**2,012**	**90**	**30**	**120**	**43**	**99**	**142**

Notes:
KSF = Thousands of Square Feet.
AM / PM Peak Hour of Adjacent Street Traffic = trip generation coinciding with the highest hourly volumes of traffic on the adjacent streets during the AM (7:00 AM and 9:00 AM) and PM (4:00 PM and 6:00 PM) commuter peak periods.
Source of trip generation rates: Institute of Transportation Engineers (ITE) Trip Generation (11th Edition).
Source of passenger car / truck mode share (percentage of total): South Coast Air Quality Management District High Cube Warehouse Trip Generation Study (2016). Based on data from eight high cube warehouses in San Bernardino County's Inland Empire.
Passenger Car Equivalents (PCE) conversion factors are industry standard values utilized in neighboring jurisdictions.

All the existing intersections are signalized intersections, except for three: the intersection of State Rd and State Route 99 northbound on/off ramps (intersection 8) is a south leg T-intersection with side-street-stop-controls on the south and west legs; the intersection of Olive Drive and State Route 99 southbound on/off ramps (intersection 9) is side-street-stop-controlled at the north leg (the off ramp); and the intersection of Boughton Drive and Hanger Way (intersection 11) is a south leg T-intersection, with a side-street-stop-control on the south leg.

D. Project Trip Distribution and Assignment

To address the impacts of the estimated project traffic, project trips are distributed by direction towards major commute routes, truck routes, freight haul corridors, and concentrations of residential and commercial / employment centers. Truck trips are distributed specifically to truck routes designated in the City of Bakersfield's California Legal Truck Routes map, the nearest of which includes 7th Standard Road, Coffee Road, Buck Owens Boulevard, Chester Avenue, and Manor Street. Once the distribution pattern is established, project trips are assigned to the streets that provide the most direct route to destinations.

The distribution of the automobile trips (employees/visitors) is illustrated in **Exhibit C-1**. The distribution of truck trips is illustrated in **Exhibit C-2**.

Exhibit D-1 shows the assignment of project automobile trips to proposed study intersections. **Exhibit D-2** shows the assignment of project truck PCE trips (trucks in passenger car equivalents) to proposed study intersections. **Exhibit D-3** shows the assignment of project total PCE trips (automobile plus trucks in passenger car equivalents) to proposed study intersections.

E. Traffic Study Scenarios

Scenarios analyzed in this study are consistent with Kern County Congestion Management Program (CMP), and Caltrans requirements for analysis scenarios which include:

1. Existing Conditions (2023)
2. Opening Year Conditions (Year 2025) without Project
    a. Ambient growth (assuming a growth rate of 2% to 3.5% annually) (to be confirmed by the County)
    b. Planned and approved (but not yet built) development in the vicinity of the project (to be provided by the county)
3. Opening Year Conditions + Project (Year 2025)
    a. Opening Year Conditions (Year 2025) as defined above + project traffic
4. Cumulative Conditions (Year 2045) without Project (Caltrans required 20-year projections)
    a. Extrapolated from the buildout KernCOG model projections
5. Cumulative + Project Conditions (Year 2045)
    a. Cumulative Conditions (Year 2045) as defined above + project traffic

F. Vehicle Miles Traveled (VMT) Analysis Screening

Kern County and KernCOG allow screening of land use development to identify when a development project should be expected to cause a less-than-significant impact without conducting a detailed study of VMT. (See e.g., CEQA Guidelines, §§15063(c)(3)(C), 15128, and Appendix G.) Both agencies support the use of the screening criteria published in *Technical Advisory on Evaluating Transportation Impacts* in CEQA (Governor's Office of Planning and Research (OPR)).

As explained below, this technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps of low-VMT generating areas, high frequency transit availability, and provision of affordable housing. Applicable OPR criteria is used to screen the proposed warehouse project in the following sections.

Screening Threshold for Small Projects

The OPR's Technical Advisory guidelines include a screening criterion that a project, absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, may be assumed to cause a less-than-significant transportation impact if the project generates or attracts fewer than 110 trips per day.

As shown in **Table A**, the proposed project generates about 1,430 trips per day, exceeding OPR's threshold of 110 daily trips. As a result, the proposed project is not screen from conducting a VMT analysis based on this criterion.

Map-Based Screening for Employment Projects

Office and other employment-generating land uses (excluding retail) located in areas with existing low VMT (or projected to generate low VMT in the future), and that incorporate similar features (i.e., density, mix of uses, transit accessibility) as the existing low VMT generating uses, will tend to exhibit similarly low VMT. The OPR guidance suggests reviewing maps created with VMT data, for example from a travel survey or a travel demand model, illustrating areas that are currently below threshold VMT to screen out projects from needing to prepare a detailed VMT analysis.

Because there isn't a map of low-VMT generating areas for Kern County, this screening assessment draws conclusions regarding this criterion based on a qualitative review of the land uses surrounding proposed project site.

The proposed project site is adjacent to the County's Meadow Field Airport and within the airport's sphere of influence (SOI) and land use plan which makes the site subject to specific regulatory requirements. The map below shows Kern County Zoning.



The site is zoned Light Industrial (M-1) and is on the eastern edge of a very large area of light industrial zoned land surrounding the airport (shown in grey). To the east and south of the site the land is zoned low density residential (primarily R-1 and R-2) with community serving retail (pink) placed to serve the residential uses.

The land uses within these zoning districts (light industrial and low density residential) are typically not associated with low-VMT generating uses. Both uses tend to generate large proportion of commuter traffic. For purposes of this screening analysis, it is assumed that the project site is not located in a low-VMT generating area and, therefore, not screened from requiring a VMT analysis based on this criterion.

Proximity to a Transit Priority Area

CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office [or employment] projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor will have a less-than-significant impact on VMT. A major transit stop is defined as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. A high-quality transit corridor is defined as a corridor with fixed route bus service with frequencies of 15 minutes or less during peak commute hours.

Public Transportation does serve the area where the project is located. The Golden Empire Transit District (GETBus) operates fixed bus routes serving destinations in nearby Oildale. The nearest bus stop, however, does not meet the definition of a major bus stop. The 45 route (Oildale / Foothill) has stops on McCray Street (east of Airport Drive) and a peak hour service frequency of no less than 30 minutes. Further, the closest stop by walking is over 3,000 feet from the nearest corner of the proposed project, which exceeds the ½-mile limit.

Given the frequency of service and the distance to the nearest stop, the project cannot be screened from requiring a VMT analysis based on the proximity to transit criterion.

Affordable Housing in Infill Development Areas

This final screening criterion in OPR's Technical Advisory on Evaluating Transportation Impacts is not applicable to the proposed project.

VMT Screening Conclusion

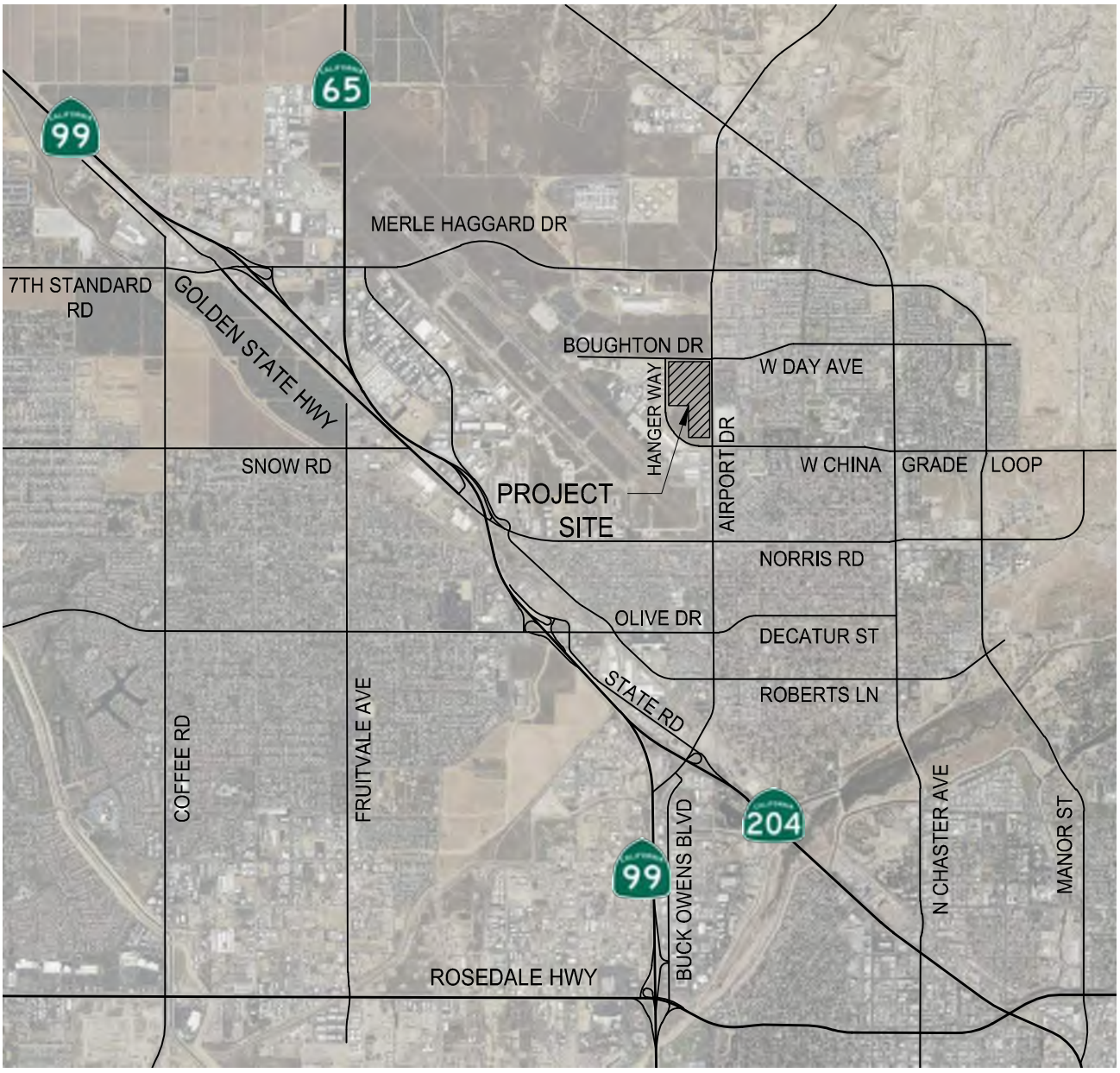
The proposed project is not screened from requiring a VMT analysis based on the criteria found in the guidelines presented in the Governor's Office of Planning and Research. A VMT analysis is required.

Attachments:

1. Exhibit A – Vicinity Map
2. Exhibit B – Site Plan
3. Exhibit C-1 – Project Automobile Trip Distribution
4. Exhibit C-2 – Project Truck Trip Distribution
5. Exhibit D-1 – Project Automobile Trips
6. Exhibit D-2 – Project Truck PCE Trips
7. Exhibit D-3 – Project Total PCE Trips

N

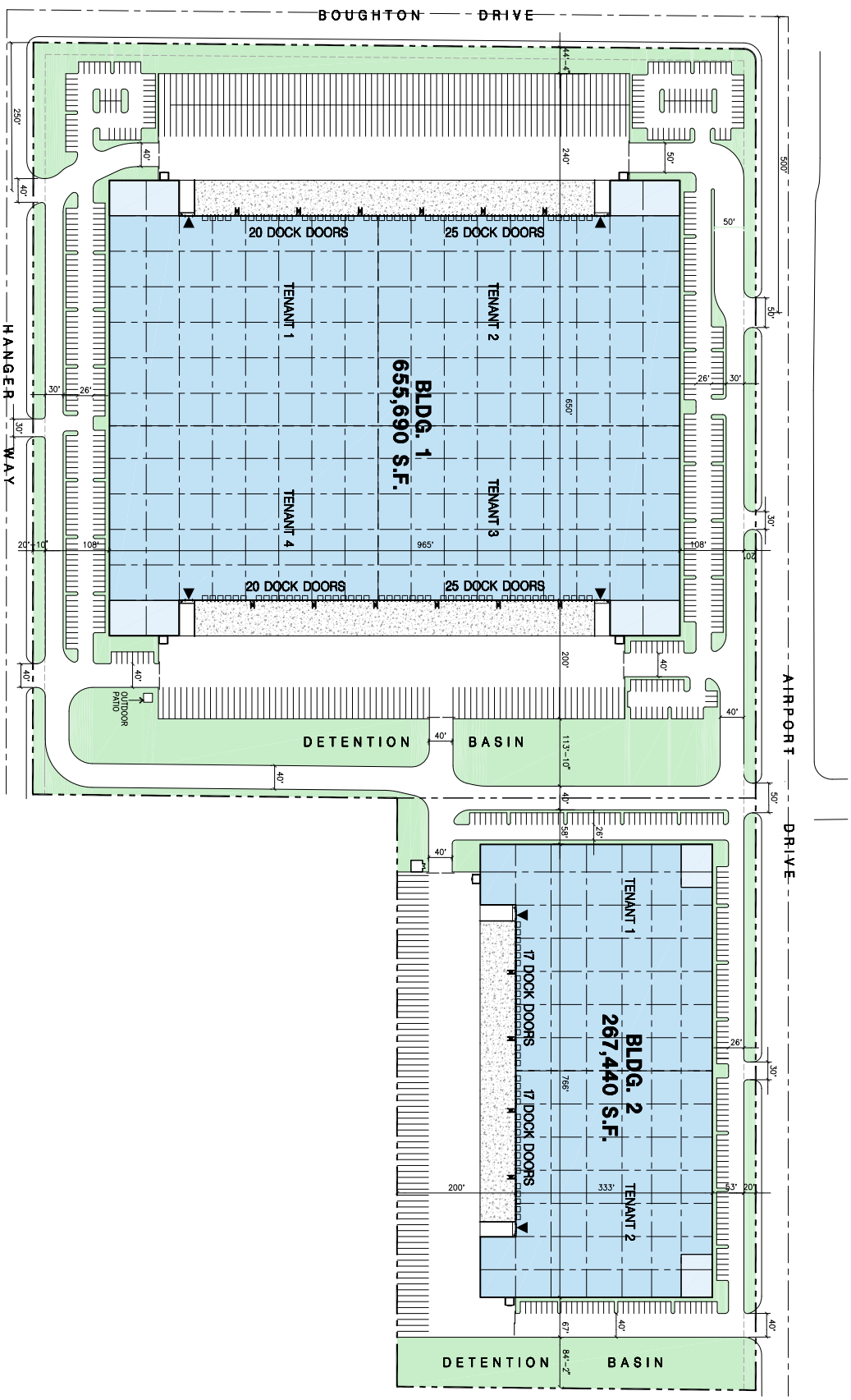
NOT TO SCALE



DAVID EVANS AND ASSOCIATES INC.

EXHIBIT A: VICINITY MAP
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

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Last Opened: Jun 20, 2023 - 9:25am by: hsay



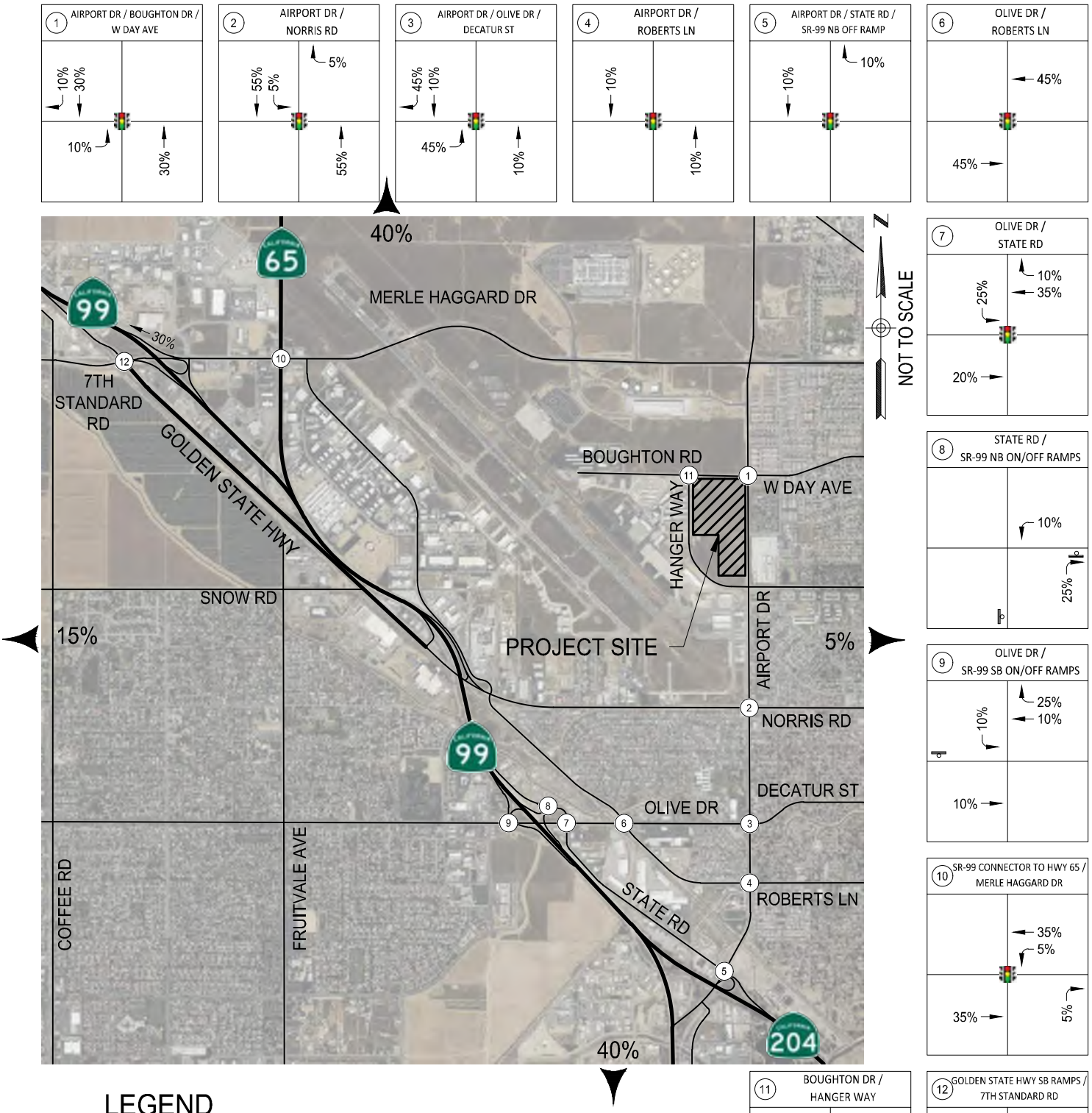
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DAVID EVANS AND ASSOCIATES INC.

EXHIBIT B: SITE PLAN
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

Drawing Name: D:\temp\AcPublish_22944\Exhibit B.dwg
Last Opened: Jun 20, 2023 - 9:04am by: heay



LEGEND

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XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

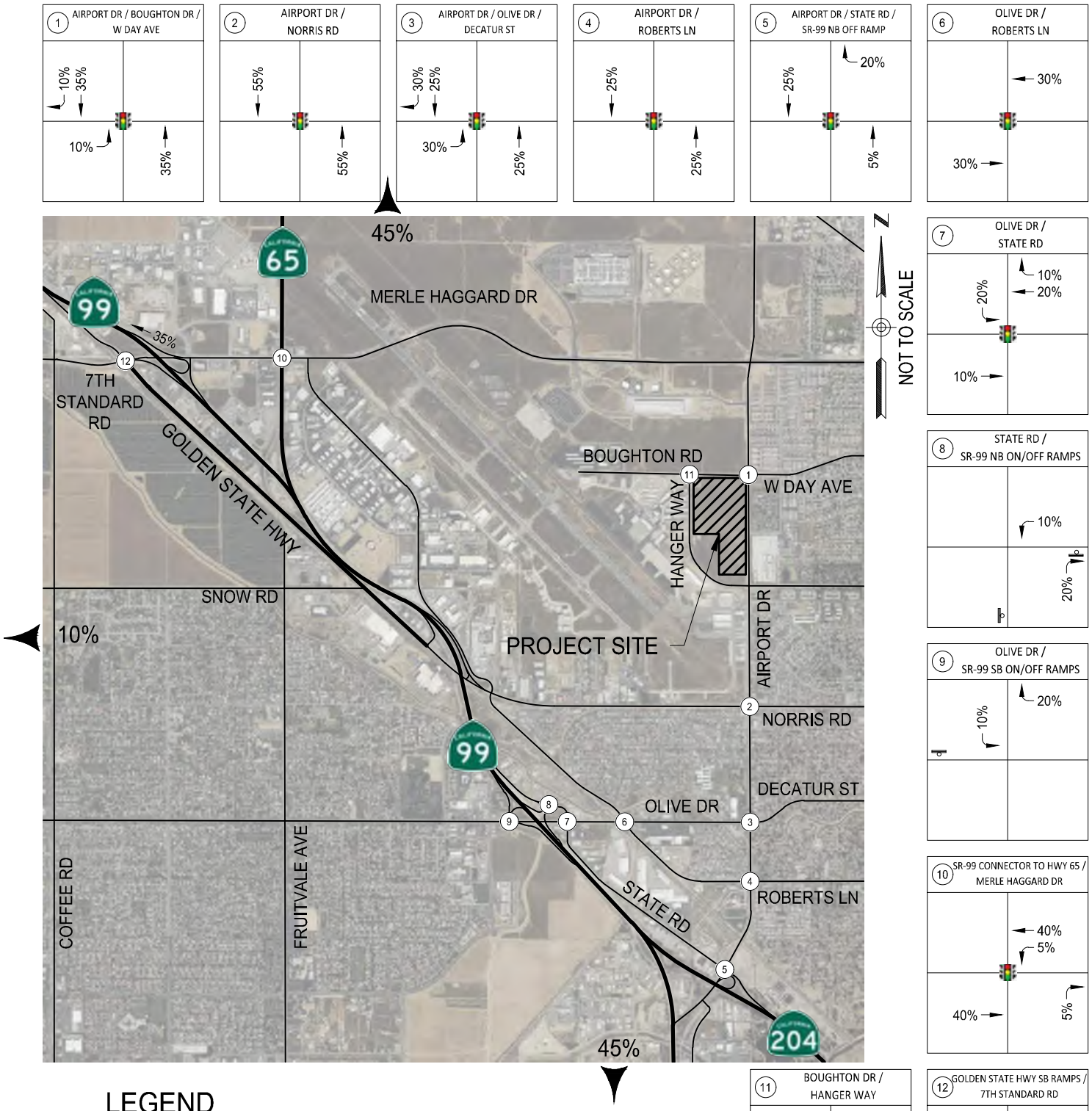
- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT C-1: PROJECT AUTOMOBILE TRIP DISTRIBUTION
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

Drawing Name: P:\IIP\GIS\2H0001\0400\CAD\EXHIBITS\ScopeExhibit C-1.dwg
Last Opened: Jun 20, 2023 - 3:00pm by: hsay



LEGEND

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XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

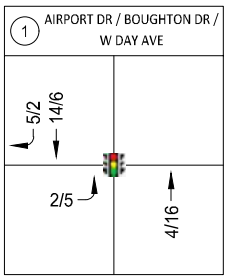
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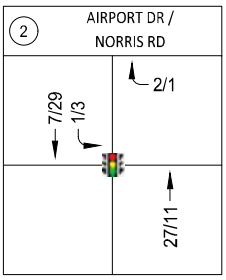
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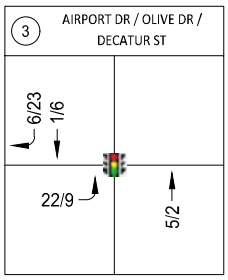
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AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

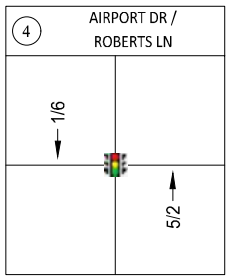
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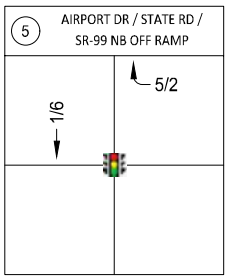


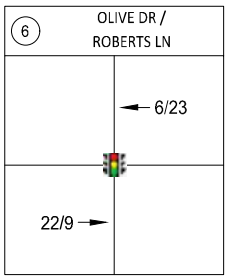


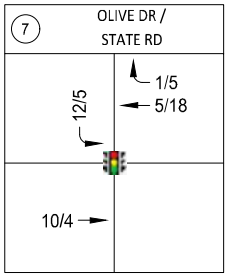


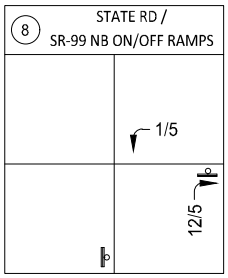


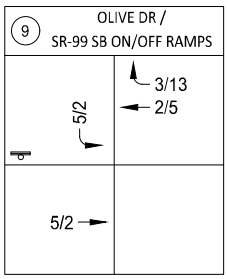


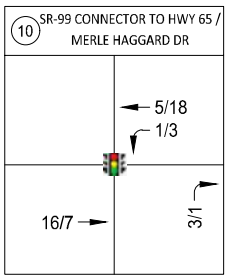


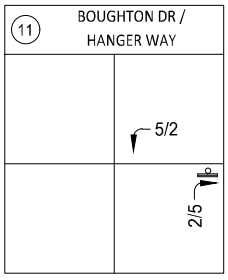


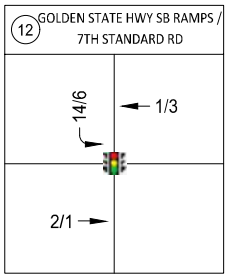












LEGEND

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(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

PROJECT AUTOMOBILE TRIPS

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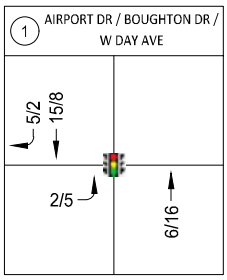
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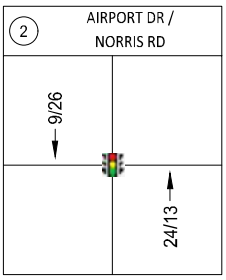
DAVID EVANS AND ASSOCIATES INC.

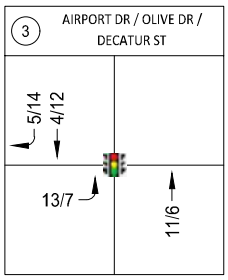
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AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

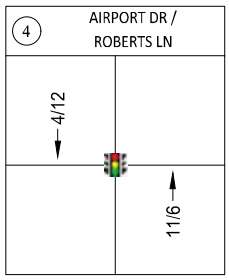
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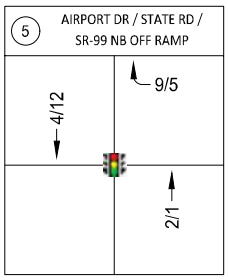


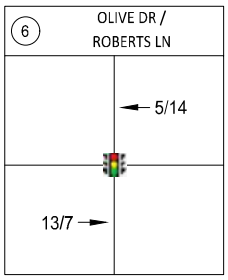


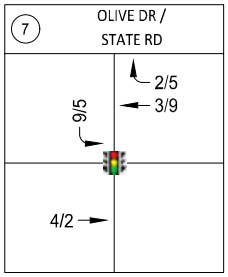


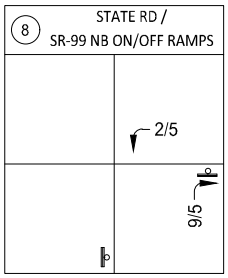


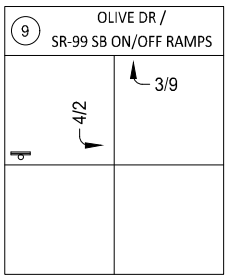


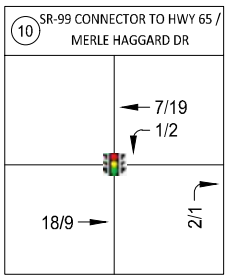


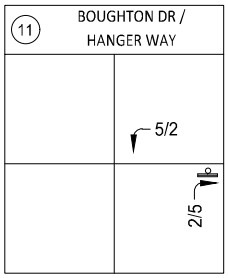


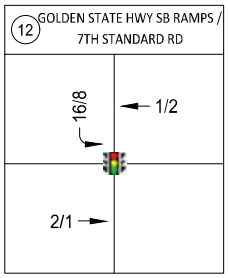












LEGEND

XX/XX - AM/PM PROJECT TRIPS

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

PROJECT AUTOMOBILE TRIPS

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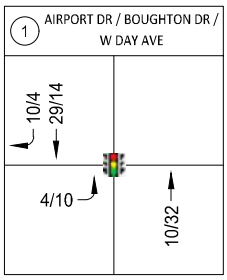
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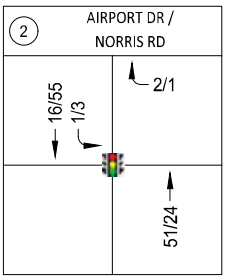
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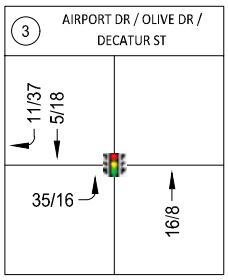
EXHIBIT D-2: PROJECT TRUCK PCE TRIPS
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

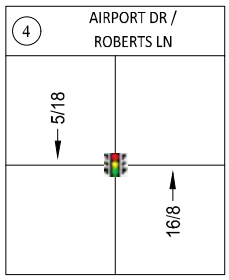
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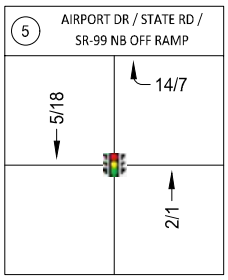


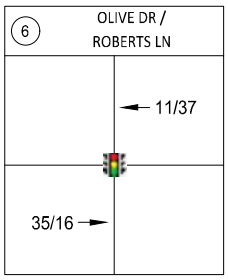


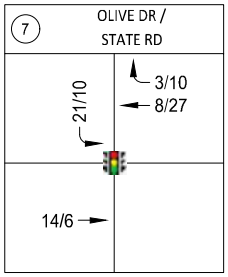


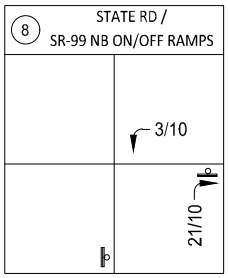


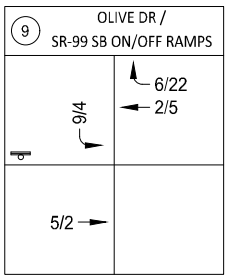


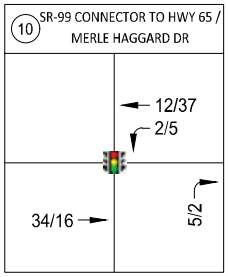


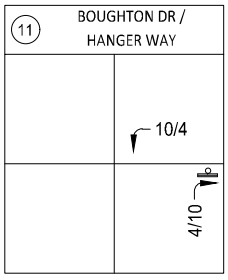


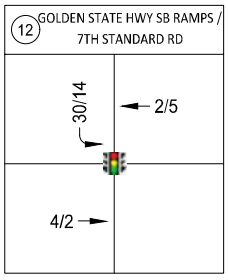












LEGEND

XX/XX - AM/PM PROJECT TRIPS

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

PROJECT AUTOMOBILE TRIPS

AM PEAK HOUR - 90 IN / 30 OUT

PM PEAK HOUR - 43 IN / 99 OUT

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT D-3: PROJECT TOTAL PCE TRIPS
AIRPORT DRIVE & BOUGHTON DRIVE
KERN COUNTY, CA

Drawing Name: P:\IIPGIS\52H0001\0400CAD\EXHIBITS\ScopeExhibit D-3.dwg
Last Opened: Jun 20, 2023 - 3:00pm by: hsay

Appendix B: Traffic Counts

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIRPORT DR
EAST-WEST STREET: BOUGHTON/W DAY
JURISDICTION: BAKERSFIELD

DATE: 09-19-23

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 371

Rt	Thru	Lt	
8	324	39	Total
2	67	10	1st
2	121	8	2nd
1	81	10	3rd
3	55	11	4th

EAST LEG TOTAL: 139

	1st	2nd	3rd	4th	Total
Rt	2	2	1	1	6
Thru	0	1	3	3	7
Lt	26	31	33	36	126

WEST LEG TOTAL: 15

Total	1st	2nd	3rd	4th	
4	2	1	0	1	Lt
5	0	3	1	1	Thru
6	1	2	3	0	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.71
SOUTH LEG = 0.82
EAST LEG = 0.87
WEST LEG = 0.63

ALL LEGS = 0.79

SOUTH LEG

TOTAL: 571

	Lt	Thru	Rt
1st	5	88	40
2nd	5	128	41
3rd	6	86	37
4th	4	101	30
Total	20	403	148

HOUR TOTAL: 1,096

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIRPORT DR — BAKERSFIELD

EAST-WEST STREET : BOUGHTON/W DAY — 09-19-23

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
0	39	6	0	1	0	0	1	0	0	0	0	47
0	57	6	0	2	0	0	0	0	0	2	0	67
2	66	10	0	0	0	0	1	0	0	0	0	79
2	120	8	0	0	0	0	0	0	0	1	0	131
1	80	10	0	1	0	0	0	0	0	0	0	92
3	52	11	0	1	0	0	1	0	0	1	0	69
2	37	8	0	0	1	0	0	0	0	1	0	49
2	24	6	0	2	0	0	0	0	0	1	0	35
12	475	65	0	7	1	0	3	0	0	6	0	569
					SOUTH LEG							
20	50	6	0	2	0	0	1	0	0	2	0	81
33	67	5	0	1	0	0	0	0	0	1	0	107
40	86	5	0	1	0	0	1	0	0	0	0	133
41	126	5	0	1	0	0	0	0	0	1	0	174
37	82	6	0	2	0	0	1	0	0	1	0	129
30	100	4	0	1	0	0	0	0	0	0	0	135
27	41	5	0	4	0	1	3	0	1	1	0	83
22	25	5	1	0	1	0	1	0	0	0	0	55
250	577	41	1	12	1	1	7	0	1	6	0	897
					EAST LEG							
0	0	18	0	0	0	0	0	0	0	0	0	18
0	1	25	0	0	0	0	0	0	0	0	0	26
2	0	26	0	0	0	0	0	0	0	0	0	28
2	1	31	0	0	0	0	0	0	0	0	0	34
1	3	33	0	0	0	0	0	0	0	0	0	37
1	3	36	0	0	0	0	0	0	0	0	0	40
3	1	29	0	0	0	0	0	0	0	0	0	33
2	1	27	0	0	1	0	0	0	0	0	0	31
11	10	225	0	0	1	0	0	0	0	0	0	247
					WEST LEG							
0	0	0	0	0	0	0	0	0	0	0	0	0
0	1	1	0	0	0	0	0	0	0	0	0	2
1	0	2	0	0	0	0	0	0	0	0	0	3
2	3	1	0	0	0	0	0	0	0	0	0	6
3	1	0	0	0	0	0	0	0	0	0	0	4
0	1	1	0	0	0	0	0	0	0	0	0	2
1	0	2	0	0	0	0	0	0	0	0	0	3
1	2	2	0	0	0	0	0	0	0	0	0	5
8	8	9	0	0	0	0	0	0	0	0	0	25

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: BOUGHTON/W DAY

TIME: 07:00AM-08:00AM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
4	290	30	Total
0	41	6	1st
0	61	6	2nd
2	67	10	3rd
2	121	8	4th

	1st	2nd	3rd	4th	Total
Rt	0	0	2	2	4
Thru	0	1	0	1	2
Lt	18	25	26	31	100

Total	1st	2nd	3rd	4th	
4	0	1	2	1	Lt
4	0	1	0	3	Thru
3	0	0	1	2	Rt

	Lt	Thru	Rt
1st	6	55	20
2nd	5	69	33
3rd	5	88	40
4th	5	128	41
Total	21	340	134

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: BOUGHTON/W DAY

TIME: 08:00AM-09:00AM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
8	201	36	Total
1	81	10	1st
3	55	11	2nd
2	38	9	3rd
2	27	6	4th

	1st	2nd	3rd	4th	Total
Rt	1	1	3	2	7
Thru	3	3	1	1	8
Lt	33	36	29	28	126

Total	1st	2nd	3rd	4th	
5	0	1	2	2	Lt
4	1	1	0	2	Thru
5	3	0	1	1	Rt

	Lt	Thru	Rt
1st	6	86	37
2nd	4	101	30
3rd	5	49	29
4th	6	26	23
Total	21	262	119

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIRPORT DR
EAST-WEST STREET: BOUGHTON/W DAY
JURISDICTION: BAKERSFIELD

DATE: 09-19-23

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 361

Rt	Thru	Lt	
12	274	75	Total
1	82	18	1st
3	73	16	2nd
4	59	20	3rd
4	60	21	4th

EAST LEG TOTAL: 171

	1st	2nd	3rd	4th	Total
Rt	5	5	7	5	22
Thru	2	4	2	3	11
Lt	32	41	35	30	138

WEST LEG TOTAL: 31

Total	1st	2nd	3rd	4th	
9	3	2	3	1	Lt
9	0	3	4	2	Thru
13	1	4	4	4	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.89
SOUTH LEG = 0.88
EAST LEG = 0.86
WEST LEG = 0.70

ALL LEGS = 0.91

SOUTH LEG

TOTAL: 543

	Lt	Thru	Rt
1st	2	69	63
2nd	4	79	71
3rd	3	63	69
4th	2	55	63
Total	11	266	266

HOUR TOTAL: 1,106

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIRPORT DR — BAKERSFIELD

EAST-WEST STREET : BOUGHTON/W DAY — 09-19-23

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
1	55	10	0	0	0	0	0	0	0	1	0	67
0	53	10	0	1	0	0	0	0	0	1	0	65
1	81	18	0	1	0	0	0	0	0	0	0	101
3	72	16	0	0	0	0	1	0	0	0	0	92
4	57	20	0	1	0	0	1	0	0	0	0	83
4	59	21	0	0	0	0	0	0	0	1	0	85
1	40	15	0	0	0	0	0	0	1	1	0	58
3	41	8	0	0	0	0	0	0	1	0	0	53
17	458	118	0	3	0	0	2	0	2	4	0	604
					SOUTH LEG							
51	64	0	0	1	0	0	0	0	0	1	0	117
69	42	3	0	0	0	0	0	0	0	1	0	115
62	69	2	0	0	0	1	0	0	0	0	0	134
70	79	4	0	0	0	1	0	0	0	0	0	154
69	61	3	0	2	0	0	0	0	0	0	0	135
63	52	2	0	2	0	0	0	0	0	1	0	120
56	46	2	0	0	0	1	0	0	0	0	0	105
64	39	0	0	1	0	0	0	0	0	1	0	105
504	452	16	0	6	0	3	0	0	0	4	0	985
					EAST LEG							
2	2	27	0	0	0	0	0	0	0	0	0	31
2	2	30	0	0	0	0	0	0	0	0	0	34
5	2	32	0	0	0	0	0	0	0	0	0	39
5	4	41	0	0	0	0	0	0	0	0	0	50
7	2	35	0	0	0	0	0	0	0	0	0	44
5	3	30	0	0	0	0	0	0	0	0	0	38
6	2	32	0	0	0	0	0	0	0	0	0	40
2	3	28	0	0	0	0	0	0	0	0	0	33
34	20	255	0	0	0	0	0	0	0	0	0	309
					WEST LEG							
2	1	0	0	0	0	0	0	0	0	0	0	3
1	4	2	0	0	0	0	0	0	0	0	0	7
1	0	3	0	0	0	0	0	0	0	0	0	4
4	3	2	0	0	0	0	0	0	0	0	0	9
4	4	3	0	0	0	0	0	0	0	0	0	11
4	2	1	0	0	0	0	0	0	0	0	0	7
3	3	3	0	0	0	0	0	0	0	0	0	9
3	2	0	0	0	0	0	0	0	0	0	0	5
22	19	14	0	0	0	0	0	0	0	0	0	55

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: BOUGHTON/W DAY

TIME: 04:00PM-05:00PM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
5	266	54	Total
1	56	10	1st
0	55	10	2nd
1	82	18	3rd
3	73	16	4th

	1st	2nd	3rd	4th	Total
Rt	2	2	5	5	14
Thru	2	2	2	4	10
Lt	27	30	32	41	130

Total	1st	2nd	3rd	4th	
7	0	2	3	2	Lt
8	1	4	0	3	Thru
8	2	1	1	4	Rt

	Lt	Thru	Rt
1st	0	66	51
2nd	3	43	69
3rd	2	69	63
4th	4	79	71
Total	9	257	254

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: BOUGHTON/W DAY

TIME: 05:00PM-06:00PM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
14	201	64	Total
4	59	20	1st
4	60	21	2nd
2	41	15	3rd
4	41	8	4th

	1st	2nd	3rd	4th	Total
Rt	7	5	6	2	20
Thru	2	3	2	3	10
Lt	35	30	32	28	125

Total	1st	2nd	3rd	4th	
7	3	1	3	0	Lt
11	4	2	3	2	Thru
14	4	4	3	3	Rt

	Lt	Thru	Rt
1st	3	63	69
2nd	2	55	63
3rd	2	46	57
4th	0	41	64
Total	7	205	253

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIRPORT DR
EAST-WEST STREET: NORRIS RD
JURISDICTION: BAKERSFIELD

DATE: 09-19-23

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 634

Rt	Thru	Lt	
78	541	15	Total
10	116	4	1st
22	178	4	2nd
25	106	5	3rd
21	141	2	4th

EAST LEG TOTAL: 333

	1st	2nd	3rd	4th	Total
Rt	2	2	0	1	5
Thru	42	65	69	57	233
Lt	20	25	26	24	95

WEST LEG TOTAL: 471

Total	1st	2nd	3rd	4th	
163	37	44	49	33	Lt
258	59	66	71	62	Thru
50	10	16	14	10	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.78
SOUTH LEG = 0.72
EAST LEG = 0.88
WEST LEG = 0.88

ALL LEGS = 0.80

SOUTH LEG

TOTAL: 769

	Lt	Thru	Rt
1st	14	151	14
2nd	20	226	20
3rd	18	139	23
4th	11	113	20
Total	63	629	77

HOUR TOTAL: 2,207

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIRPORT DR — BAKERSFIELD

EAST-WEST STREET : NORRIS RD — 09-19-23

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
						NORTH LEG						
6	77	0	0	1	0	0	1	0	0	0	0	85
11	124	2	0	2	0	0	1	0	0	2	0	142
10	115	4	0	0	0	0	0	0	0	1	0	130
22	177	4	0	0	0	0	0	0	0	1	0	204
25	103	5	0	1	0	0	1	0	0	1	0	136
21	137	2	0	1	0	0	1	0	0	2	0	164
16	99	1	0	0	0	0	0	0	0	0	0	116
13	82	2	0	0	0	0	0	0	0	1	0	98
124	914	20	0	5	0	0	4	0	0	8	0	1075
						SOUTH LEG						
11	125	9	0	4	1	0	2	0	0	2	0	154
14	150	7	0	1	1	0	0	2	0	2	1	178
14	145	12	0	3	1	0	1	0	0	2	1	179
20	224	17	0	1	1	0	0	1	0	1	1	266
23	136	16	0	0	0	0	2	0	0	1	2	180
20	106	10	0	2	0	0	4	0	0	1	1	144
16	151	9	0	1	2	0	1	0	0	0	0	180
19	96	11	0	0	1	0	0	2	0	0	0	129
137	1133	91	0	12	7	0	10	5	0	9	6	1410
						EAST LEG						
0	31	8	0	0	0	0	0	0	0	0	0	39
0	37	10	0	0	0	0	0	0	0	0	1	48
2	42	18	0	0	0	0	0	1	0	0	1	64
2	65	22	0	0	1	0	0	1	0	0	1	92
0	68	23	0	0	2	0	0	1	0	1	0	95
1	56	21	0	1	0	0	0	1	0	0	2	82
4	43	20	0	0	0	0	0	0	0	0	0	67
0	51	15	0	0	0	0	0	1	0	0	0	67
9	393	137	0	1	3	0	0	5	0	1	5	554
						WEST LEG						
6	29	26	0	0	0	0	0	0	0	0	0	61
8	36	39	0	0	0	0	0	0	0	0	0	83
10	59	37	0	0	0	0	0	0	0	0	0	106
16	66	44	0	0	0	0	0	0	0	0	0	126
14	71	49	0	0	0	0	0	0	0	0	0	134
9	62	31	1	0	0	0	0	1	0	0	1	105
9	66	32	0	0	0	1	0	0	0	0	0	108
3	49	33	0	0	0	0	0	0	0	0	0	85
75	438	291	1	0	0	1	0	1	0	0	1	808

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: NORRIS RD

TIME: 07:00AM-08:00AM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
49	502	10	Total
6	79	0	1st
11	129	2	2nd
10	116	4	3rd
22	178	4	4th

	1st	2nd	3rd	4th	Total
Rt	0	0	2	2	4
Thru	31	37	42	65	175
Lt	8	11	20	25	64

Total	1st	2nd	3rd	4th	
146	26	39	37	44	Lt
190	29	36	59	66	Thru
40	6	8	10	16	Rt

	Lt	Thru	Rt
1st	10	133	11
2nd	11	153	14
3rd	14	151	14
4th	20	226	20
Total	55	663	59

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: NORRIS RD

TIME: 08:00AM-09:00AM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
75	429	10	Total
25	106	5	1st
21	141	2	2nd
16	99	1	3rd
13	83	2	4th

	1st	2nd	3rd	4th	Total
Rt	0	1	4	0	5
Thru	69	57	43	51	220
Lt	26	24	20	16	86

Total	1st	2nd	3rd	4th	
147	49	33	32	33	Lt
248	71	62	66	49	Thru
37	14	10	10	3	Rt

	Lt	Thru	Rt
1st	18	139	23
2nd	11	113	20
3rd	11	153	16
4th	14	96	19
Total	54	501	78

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIRPORT DR
EAST-WEST STREET: NORRIS RD
JURISDICTION: BAKERSFIELD

DATE: 09-19-23

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 803

Rt	Thru	Lt	
85	707	11	Total
20	159	1	1st
27	159	3	2nd
22	199	4	3rd
16	190	3	4th

EAST LEG TOTAL: 426

	1st	2nd	3rd	4th	Total
Rt	10	11	10	11	42
Thru	69	73	64	61	267
Lt	30	32	30	25	117

WEST LEG TOTAL: 556

Total	1st	2nd	3rd	4th	
172	44	50	42	36	Lt
357	96	105	83	73	Thru
27	8	7	6	6	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.89
SOUTH LEG = 0.92
EAST LEG = 0.92
WEST LEG = 0.86

ALL LEGS = 0.95

SOUTH LEG

TOTAL: 927

	Lt	Thru	Rt
1st	18	146	41
2nd	17	188	37
3rd	16	204	33
4th	11	185	31
Total	62	723	142

HOUR TOTAL: 2,712

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIRPORT DR — BAKERSFIELD

EAST-WEST STREET : NORRIS RD — 09-19-23

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
						NORTH LEG						
8	129	1	0	1	0	0	0	0	0	1	0	140
14	128	1	0	1	0	0	0	0	0	1	0	145
21	153	3	0	1	0	0	0	0	0	0	0	178
20	158	1	0	1	0	0	0	0	0	0	0	180
27	158	3	0	0	0	0	1	0	0	0	0	189
22	198	4	0	0	0	0	0	0	0	1	0	225
16	189	3	0	0	0	0	0	0	0	1	0	209
15	129	1	0	0	0	0	0	0	0	0	0	145
143	1242	17	0	4	0	0	1	0	0	4	0	1411
						SOUTH LEG						
25	136	7	0	1	1	0	0	0	0	2	0	172
27	121	12	0	1	1	0	1	0	0	0	0	163
33	101	14	0	0	0	0	0	1	0	0	1	150
41	145	17	0	0	1	0	1	0	0	0	0	205
35	185	16	0	2	1	1	1	0	1	0	0	242
33	200	15	0	3	0	0	0	0	0	1	1	253
31	184	9	0	0	1	0	1	0	0	0	1	227
22	174	11	0	1	0	0	0	0	0	1	0	209
247	1246	101	0	8	5	1	4	1	1	4	3	1621
						EAST LEG						
6	50	17	0	0	0	0	0	0	0	0	0	73
6	57	22	0	0	0	0	0	0	0	0	0	85
9	71	26	0	0	0	0	0	0	0	0	0	106
10	69	30	0	0	0	0	0	0	0	0	0	109
11	73	31	0	0	0	0	0	1	0	0	0	116
10	64	30	0	0	0	0	0	0	0	0	0	104
11	61	25	0	0	0	0	0	0	0	0	0	97
7	55	21	0	0	0	0	0	0	0	0	0	83
70	500	202	0	0	0	0	0	1	0	0	0	773
						WEST LEG						
3	53	20	0	0	0	0	0	0	2	0	0	78
5	71	22	0	0	0	0	0	0	0	0	0	98
4	83	40	0	0	0	0	0	0	1	0	0	128
7	96	44	0	0	0	0	0	0	1	0	0	148
6	101	48	0	0	0	0	1	0	1	3	2	162
6	83	42	0	0	0	0	0	0	0	0	0	131
6	73	36	0	0	0	0	0	0	0	0	0	115
3	77	33	0	0	0	0	0	0	1	0	0	114
40	637	285	0	0	0	0	1	0	6	3	2	974

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: NORRIS RD

TIME: 04:00PM-05:00PM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
63	574	6	Total
8	131	1	1st
14	130	1	2nd
21	154	3	3rd
20	159	1	4th

	1st	2nd	3rd	4th	Total
Rt	6	6	9	10	31
Thru	50	57	71	69	247
Lt	17	22	26	30	95

Total	1st	2nd	3rd	4th	
126	20	22	40	44	Lt
303	53	71	83	96	Thru
23	5	5	5	8	Rt

	Lt	Thru	Rt
1st	8	139	25
2nd	13	123	27
3rd	16	101	33
4th	18	146	41
Total	55	509	126

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: NORRIS RD

TIME: 05:00PM-06:00PM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
80	677	11	Total
27	159	3	1st
22	199	4	2nd
16	190	3	3rd
15	129	1	4th

	1st	2nd	3rd	4th	Total
Rt	11	10	11	7	39
Thru	73	64	61	55	253
Lt	32	30	25	21	108

Total	1st	2nd	3rd	4th	
161	50	42	36	33	Lt
338	105	83	73	77	Thru
23	7	6	6	4	Rt

	Lt	Thru	Rt
1st	17	188	37
2nd	16	204	33
3rd	11	185	31
4th	11	176	22
Total	55	753	123

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIRPORT DR
EAST-WEST STREET: OLIVE/DECATUR
JURISDICTION: BAKERSFIELD

DATE: 09-19-23

PEAK HOUR: 07:45AM

NORTH LEG

TOTAL: 653

Rt	Thru	Lt	
113	464	76	Total
36	161	14	1st
24	101	19	2nd
31	111	23	3rd
22	91	20	4th

EAST LEG TOTAL: 445

	1st	2nd	3rd	4th	Total
Rt	6	8	8	8	30
Thru	83	66	71	93	313
Lt	26	29	22	25	102

WEST LEG TOTAL: 525

Total	1st	2nd	3rd	4th	
124	38	26	29	31	Lt
353	59	89	99	106	Thru
48	9	14	14	11	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.77
SOUTH LEG = 0.75
EAST LEG = 0.88
WEST LEG = 0.89

ALL LEGS = 0.87

SOUTH LEG

TOTAL: 756

	Lt	Thru	Rt
1st	18	223	12
2nd	23	155	9
3rd	11	111	14
4th	19	151	10
Total	71	640	45

HOUR TOTAL: 2,379

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIRPORT DR — BAKERSFIELD

EAST-WEST STREET : OLIVE/DECATUR — 09-19-23

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
15	69	8	0	1	0	0	1	0	0	0	0	94
21	6	10	0	2	0	0	1	0	0	2	0	42
15	118	7	0	0	0	0	1	0	1	2	0	144
35	158	13	0	1	1	0	1	0	1	1	0	211
24	94	18	0	3	1	0	2	0	0	2	0	144
31	107	23	0	2	0	0	1	0	0	1	0	165
22	89	20	0	0	0	0	1	0	0	1	0	133
20	69	15	0	0	0	0	1	0	0	1	0	106
183	710	114	0	9	2	0	9	0	2	10	0	1039
					SOUTH LEG							
6	118	5	0	4	0	0	1	0	0	12	0	146
6	148	9	0	2	0	0	2	1	0	3	0	171
7	159	5	0	4	2	0	1	0	0	1	1	180
12	218	15	0	2	2	0	1	0	0	2	1	253
9	147	22	0	2	0	0	3	0	0	3	1	187
14	104	7	0	2	1	0	2	2	0	3	1	136
9	147	17	1	3	0	0	1	1	0	0	1	180
6	96	9	0	1	1	0	2	0	0	1	0	116
69	1137	89	1	20	6	0	13	4	0	25	5	1369
					EAST LEG							
3	55	16	0	0	0	0	0	0	0	0	0	74
5	73	14	0	0	1	0	0	0	0	0	0	93
4	82	22	0	0	1	0	0	1	0	0	0	110
6	83	25	0	0	1	0	0	0	0	0	0	115
8	66	29	0	0	0	0	0	0	0	0	0	103
8	71	22	0	0	0	0	0	0	0	0	0	101
8	93	24	0	0	1	0	0	0	0	0	0	126
5	95	19	0	0	0	0	0	0	0	0	0	119
47	618	171	0	0	4	0	0	1	0	0	0	841
					WEST LEG							
8	49	10	0	0	0	0	0	0	0	0	0	67
11	45	21	1	0	0	1	0	0	0	0	0	79
9	53	12	1	1	0	0	0	0	0	1	0	77
7	59	37	2	0	1	0	0	0	0	0	0	106
11	89	26	1	0	0	1	0	0	1	0	0	129
13	99	29	0	0	0	0	0	0	1	0	0	142
10	106	31	0	0	0	0	0	0	1	0	0	148
7	79	22	0	0	0	0	0	0	0	0	0	108
76	579	188	5	1	1	2	0	0	3	1	0	856

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: OLIVE/DECATUR

TIME: 07:00AM-08:00AM DATE: 09-19-23

NORTH LEG

88	364	39	Total
15	71	8	1st
21	11	10	2nd
16	121	7	3rd
36	161	14	4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt	3	5	4	6	18
Thru	55	73	82	83	293
Lt	16	15	24	26	81

Total	1st	2nd	3rd	4th	
81	10	21	12	38	Lt
208	49	45	55	59	Thru
40	8	13	10	9	Rt

	Lt	Thru	Rt
1st	5	135	6
2nd	10	155	6
3rd	8	165	7
4th	18	223	12
Total	41	678	31

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: OLIVE/DECATUR

TIME: 08:00AM-09:00AM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
97	374	77	Total
24	101	19	1st
31	111	23	2nd
22	91	20	3rd
20	71	15	4th

	1st	2nd	3rd	4th	Total
Rt	8	8	8	5	29
Thru	66	71	93	95	325
Lt	29	22	25	19	95

Total	1st	2nd	3rd	4th	
108	26	29	31	22	Lt
373	89	99	106	79	Thru
46	14	14	11	7	Rt

	Lt	Thru	Rt
1st	23	155	9
2nd	11	111	14
3rd	19	151	10
4th	10	100	6
Total	63	517	39

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIRPORT DR
EAST-WEST STREET: OLIVE/DECATUR
JURISDICTION: BAKERSFIELD

DATE: 09-19-23

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 850

Rt	Thru	Lt	
123	666	61	Total
31	144	14	1st
37	144	19	2nd
30	190	15	3rd
25	188	13	4th

EAST LEG TOTAL: 515

	1st	2nd	3rd	4th	Total
Rt	10	14	11	10	45
Thru	100	93	112	81	386
Lt	19	27	22	16	84

WEST LEG TOTAL: 598

Total	1st	2nd	3rd	4th	
178	46	51	39	42	Lt
344	116	81	81	66	Thru
76	21	23	16	16	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.90
SOUTH LEG = 0.89
EAST LEG = 0.89
WEST LEG = 0.82

ALL LEGS = 0.93

SOUTH LEG

TOTAL: 903

	Lt	Thru	Rt
1st	19	161	18
2nd	27	188	21
3rd	23	211	19
4th	16	189	11
Total	85	749	69

HOUR TOTAL: 2,866

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIRPORT DR — BAKERSFIELD

EAST-WEST STREET : OLIVE/DECATUR — 09-19-23

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
16	116	10	0	1	0	0	1	0	0	3	0	147
22	126	16	0	2	0	0	0	0	0	1	0	167
28	145	12	0	1	0	0	0	0	0	1	0	187
31	142	14	0	1	0	0	0	0	0	1	0	189
37	142	19	0	0	0	0	1	0	0	1	0	200
30	189	15	0	0	0	0	0	0	0	1	0	235
25	187	13	0	0	0	0	0	0	0	1	0	226
28	103	15	0	0	0	0	0	0	0	0	0	146
217	1150	114	0	5	0	0	2	0	0	9	0	1497
SOUTH LEG												
10	129	21	0	2	0	0	0	0	0	2	0	164
14	110	19	0	2	0	0	1	0	0	0	0	146
14	92	17	1	0	0	0	1	0	0	1	0	126
18	159	19	0	1	0	0	1	0	0	0	0	198
21	185	27	0	1	0	0	1	0	0	1	0	236
19	206	23	0	3	0	0	0	0	0	2	0	253
11	186	16	0	1	0	0	1	0	0	1	0	216
15	166	17	0	1	0	0	0	0	0	1	0	200
122	1233	159	1	11	0	0	5	0	0	8	0	1539
EAST LEG												
5	56	14	0	0	0	0	0	0	0	0	0	75
5	75	10	0	0	0	0	0	0	0	0	0	90
6	88	12	0	0	1	0	0	0	0	0	0	107
10	100	19	0	0	0	0	0	0	0	0	0	129
14	93	26	0	0	1	0	0	0	0	0	0	134
11	112	22	0	0	0	0	0	0	0	0	0	145
10	81	16	0	0	0	0	0	0	0	0	0	107
10	69	14	0	0	0	0	0	0	0	0	0	93
71	674	133	0	0	2	0	0	0	0	0	0	880
WEST LEG												
15	68	36	0	0	0	0	0	0	1	0	0	120
11	84	44	0	0	0	0	0	0	0	0	0	139
13	98	47	1	0	0	0	0	0	1	0	0	160
21	116	46	0	0	0	0	0	0	0	0	0	183
23	81	51	0	0	0	0	0	0	0	0	0	155
16	81	39	0	0	0	0	0	0	0	0	0	136
15	66	42	1	0	0	0	0	0	0	0	0	124
10	55	33	0	0	0	0	0	0	0	0	0	98
124	649	338	2	0	0	0	0	0	2	0	0	1115

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: OLIVE/DECATUR

TIME: 04:00PM-05:00PM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
97	541	52	Total
16	121	10	1st
22	129	16	2nd
28	147	12	3rd
31	144	14	4th

	1st	2nd	3rd	4th	Total
Rt	5	5	6	10	26
Thru	56	75	88	100	319
Lt	14	10	13	19	56

Total	1st	2nd	3rd	4th	
173	36	44	47	46	Lt
366	68	84	98	116	Thru
63	16	11	15	21	Rt

	Lt	Thru	Rt
1st	21	133	10
2nd	19	113	14
3rd	17	94	15
4th	19	161	18
Total	76	501	57

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: OLIVE/DECATUR

TIME: 05:00PM-06:00PM DATE: 09-19-23

NORTH LEG

120	625	62	Total
37	144	19	1st
30	190	15	2nd
25	188	13	3rd
28	103	15	4th
Rt	Thru	Lt	

Rt	14	11	10	10	45
Thru	93	112	81	69	355
Lt	27	22	16	14	79
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
165	51	39	42	33	Lt
283	81	81	66	55	Thru
65	23	16	16	10	Rt

	Lt	Thru	Rt
1st	27	188	21
2nd	23	211	19
3rd	16	189	11
4th	17	168	15
Total	83	756	66

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIRPORT DR
EAST-WEST STREET: ROBERTS LN
JURISDICTION: BAKERSFIELD

DATE: 09-19-23

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 531

Rt	Thru	Lt	
14	478	39	Total
3	33	10	1st
4	147	13	2nd
4	179	11	3rd
3	119	5	4th

EAST LEG TOTAL: 557

	1st	2nd	3rd	4th	Total
Rt	2	3	3	5	13
Thru	51	60	79	81	271
Lt	72	63	75	63	273

WEST LEG TOTAL: 460

Total	1st	2nd	3rd	4th	
14	1	2	5	6	Lt
376	98	123	89	66	Thru
70	13	21	20	16	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.68
SOUTH LEG = 0.85
EAST LEG = 0.89
WEST LEG = 0.79

ALL LEGS = 0.84

SOUTH LEG

TOTAL: 1,177

	Lt	Thru	Rt
1st	33	171	70
2nd	30	189	66
3rd	27	244	74
4th	36	174	63
Total	126	778	273

HOUR TOTAL: 2,725

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIRPORT DR — BAKERSFIELD

EAST-WEST STREET : ROBERTS LN — 09-19-23

BEGINNING TIME : 07:00AM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
2	79	3	0	1	0	0	1	0	0	0	0	86
3	26	9	0	3	1	0	2	0	0	2	0	46
4	141	13	0	2	0	0	2	0	0	2	0	164
4	175	11	0	1	0	0	1	0	0	2	0	194
3	107	5	0	6	0	0	3	0	0	3	0	127
5	122	6	0	3	0	0	1	0	0	2	0	139
4	107	5	0	1	0	0	1	0	0	2	0	120
5	80	6	0	0	0	0	0	0	0	0	0	91
30	837	58	0	17	1	0	11	0	0	13	0	967
SOUTH LEG												
49	144	18	0	4	0	0	1	0	0	2	0	218
68	164	32	1	2	1	0	3	0	1	2	0	274
64	180	27	1	6	1	0	1	1	1	2	1	285
74	235	25	0	4	2	0	1	0	0	4	0	345
63	165	32	0	2	0	0	3	2	0	4	2	273
21	112	28	1	3	1	0	4	1	1	4	0	176
24	174	29	2	4	0	0	2	0	0	1	0	236
29	110	23	0	2	1	0	2	0	0	1	0	168
392	1284	214	5	27	6	0	17	4	3	20	3	1975
EAST LEG												
1	43	39	0	0	1	0	1	0	0	0	1	86
2	50	69	0	0	0	0	1	2	0	0	1	125
3	60	62	0	0	1	0	0	0	0	0	0	126
3	79	75	0	0	0	0	0	0	0	0	0	157
5	81	60	0	0	2	0	0	1	0	0	0	149
5	39	39	0	0	0	0	0	0	0	0	1	84
2	62	33	0	0	0	0	0	0	0	0	0	97
1	48	31	0	0	0	0	0	0	0	0	0	80
22	462	408	0	0	4	0	2	3	0	0	3	904
WEST LEG												
5	44	1	1	0	0	0	0	0	1	2	0	54
13	97	0	0	1	0	0	0	0	0	0	1	112
21	123	2	0	0	0	0	0	0	0	0	0	146
20	89	5	0	0	0	0	0	0	0	0	0	114
12	66	6	1	0	0	1	0	0	2	0	0	88
14	73	6	2	0	0	3	0	0	2	0	0	100
18	59	4	0	0	0	0	0	0	0	0	0	81
13	55	1	0	0	0	0	0	0	0	0	0	69
116	606	25	4	1	0	4	0	0	5	2	1	764

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: ROBERTS LN

TIME: 07:00AM-08:00AM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
13	440	37	Total
2	81	3	1st
3	33	10	2nd
4	147	13	3rd
4	179	11	4th

	1st	2nd	3rd	4th	Total
Rt	1	2	3	3	9
Thru	44	51	60	79	234
Lt	41	72	63	75	251

Total	1st	2nd	3rd	4th	
9	1	1	2	5	Lt
356	46	98	123	89	Thru
61	7	13	21	20	Rt

	Lt	Thru	Rt
1st	18	151	49
2nd	33	171	70
3rd	30	189	66
4th	27	244	74
Total	108	755	259

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: ROBERTS LN

TIME: 08:00AM-09:00AM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
17	438	22	Total
3	119	5	1st
5	128	6	2nd
4	111	5	3rd
5	80	6	4th

	1st	2nd	3rd	4th	Total
Rt	5	5	2	1	13
Thru	81	39	62	48	230
Lt	63	40	33	31	167

Total	1st	2nd	3rd	4th	
17	6	6	4	1	Lt
253	66	73	59	55	Thru
68	16	21	18	13	Rt

	Lt	Thru	Rt
1st	36	174	63
2nd	30	123	23
3rd	29	181	26
4th	24	115	29
Total	119	593	141

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIRPORT DR
EAST-WEST STREET: ROBERTS LN
JURISDICTION: BAKERSFIELD

DATE: 09-19-23

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 846

Rt	Thru	Lt	
16	756	74	Total
5	166	20	1st
7	176	16	2nd
4	203	23	3rd
0	211	15	4th

EAST LEG TOTAL: 744

	1st	2nd	3rd	4th	Total
Rt	10	19	16	10	55
Thru	123	110	129	89	451
Lt	63	55	69	51	238

WEST LEG TOTAL: 562

Total	1st	2nd	3rd	4th	
8	2	4	1	1	Lt
432	111	100	131	90	Thru
122	30	29	33	30	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.92
SOUTH LEG = 0.90
EAST LEG = 0.87
WEST LEG = 0.85

ALL LEGS = 0.89

SOUTH LEG

TOTAL: 1,205

	Lt	Thru	Rt
1st	30	189	65
2nd	37	170	71
3rd	33	236	66
4th	36	212	60
Total	136	807	262

HOUR TOTAL: 3,357

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIRPORT DR — BAKERSFIELD

EAST-WEST STREET : ROBERTS LN — 09-19-23

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
						NORTH LEG						
0	119	20	0	1	0	0	1	0	0	4	0	145
3	128	19	0	2	0	0	0	0	0	1	0	153
1	151	23	0	2	0	0	0	0	0	2	0	179
5	164	20	0	1	0	0	0	0	0	1	0	191
7	174	16	0	1	0	0	1	0	0	0	0	199
4	202	23	0	0	0	0	0	0	0	1	0	230
0	209	15	0	1	0	0	0	0	0	1	0	226
3	102	11	0	0	0	0	0	0	0	1	0	117
23	1249	147	0	8	0	0	2	0	0	11	0	1440
						SOUTH LEG						
68	144	21	0	2	0	0	0	0	0	2	2	239
64	130	26	1	2	0	1	1	0	0	0	2	227
71	110	31	0	0	0	0	0	0	0	0	0	212
65	184	29	0	2	0	0	2	1	0	1	0	284
71	167	37	0	1	0	0	0	0	0	2	0	278
65	233	33	1	2	0	0	0	0	0	1	0	335
60	208	36	0	1	0	0	1	0	0	2	0	308
61	189	29	0	1	0	0	0	0	0	1	0	281
525	1365	242	2	11	0	1	4	1	0	9	4	2164
						EAST LEG						
4	81	62	0	0	0	0	0	0	0	0	0	147
13	84	57	0	1	0	0	0	0	0	0	1	156
14	101	59	0	0	0	0	0	0	0	0	0	174
10	123	63	0	0	0	0	0	0	0	0	0	196
19	110	55	0	0	0	0	0	0	0	0	0	184
16	129	69	0	0	0	0	0	0	0	0	0	214
10	89	51	0	0	0	0	0	0	0	0	0	150
10	67	43	0	0	0	0	0	0	0	0	0	120
96	784	459	0	1	0	0	0	0	0	0	1	1341
						WEST LEG						
25	75	3	0	0	0	0	1	0	0	0	0	104
27	64	0	0	0	0	0	0	0	1	0	0	92
29	91	0	1	0	0	0	0	0	1	0	0	122
28	111	2	1	0	0	0	0	0	1	0	0	143
29	100	4	0	0	0	0	0	0	0	0	0	133
33	131	1	0	0	0	0	0	0	0	0	0	165
30	90	1	0	0	0	0	0	0	0	0	0	121
27	73	3	0	0	0	0	0	0	0	0	0	103
228	735	14	2	0	0	0	1	0	3	0	0	983

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: ROBERTS LN

TIME: 04:00PM-05:00PM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
9	577	82	Total
0	125	20	1st
3	131	19	2nd
1	155	23	3rd
5	166	20	4th

	1st	2nd	3rd	4th	Total
Rt	4	13	14	10	41
Thru	81	85	101	123	390
Lt	62	58	59	63	242

Total	1st	2nd	3rd	4th	
5	3	0	0	2	Lt
342	76	64	91	111	Thru
114	25	28	31	30	Rt

	Lt	Thru	Rt
1st	23	148	68
2nd	28	133	66
3rd	31	110	71
4th	30	189	65
Total	112	580	270

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: ROBERTS LN

TIME: 05:00PM-06:00PM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
14	693	65	Total
7	176	16	1st
4	203	23	2nd
0	211	15	3rd
3	103	11	4th

	1st	2nd	3rd	4th	Total
Rt	19	16	10	10	55
Thru	110	129	89	67	395
Lt	55	69	51	43	218

Total	1st	2nd	3rd	4th	
9	4	1	1	3	Lt
394	100	131	90	73	Thru
119	29	33	30	27	Rt

	Lt	Thru	Rt
1st	37	170	71
2nd	33	236	66
3rd	36	212	60
4th	29	191	61
Total	135	809	258

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIRPORT DR
EAST-WEST STREET: STATE/SR-99 RAMPS
JURISDICTION: BAKERSFIELD

DATE: 09-19-23

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 729

Rt	Thru	Lt	
33	696		Total
17	146		1st
4	172		2nd
8	191		3rd
4	187		4th

EAST LEG TOTAL: 631

	1st	2nd	3rd	4th	Total
Rt	25	34	26	19	104
Thru	23	38	12	16	89
Lt	65	122	136	115	438

WEST LEG TOTAL: 65

Total	1st	2nd	3rd	4th	
26	11	6	5	4	Lt
					Thru
39	10	9	9	11	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.92
SOUTH LEG = 0.80
EAST LEG = 0.81
WEST LEG = 0.77

ALL LEGS = 0.86

SOUTH LEG

TOTAL: 1,057

	Lt	Thru	Rt
1st	7	232	
2nd	2	238	
3rd	1	330	
4th	2	245	
Total	12	1045	

HOUR TOTAL: 2,482

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIRPORT DR — BAKERSFIELD

EAST-WEST STREET : STATE/SR-99 RAMPS — 09-19-23

BEGINNING TIME : 07:00AM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
10	124	0	0	3	0	0	1	0	0	1	0	139
13	139	0	3	0	0	0	4	0	1	3	0	163
1	168	0	3	0	0	0	2	0	0	2	0	176
8	187	0	0	1	0	0	1	0	0	2	0	199
4	168	0	0	9	0	0	5	0	0	5	0	191
11	158	0	0	5	0	0	4	0	0	5	0	183
11	132	0	0	1	0	0	1	0	0	2	0	147
8	110	0	0	0	0	0	0	0	0	0	0	118
66	1186	0	6	19	0	0	18	0	1	20	0	1316
SOUTH LEG												
0	201	5	0	2	0	0	1	0	0	1	0	210
0	227	7	0	1	0	0	2	0	0	2	0	239
0	229	2	0	5	0	0	2	0	0	2	0	240
0	325	1	0	2	0	0	1	0	0	2	0	331
0	238	2	0	0	0	0	2	0	0	5	0	247
0	136	4	0	2	0	0	4	0	0	4	0	150
0	191	0	0	5	0	0	2	1	0	0	0	199
0	126	4	0	2	0	0	2	0	0	1	0	135
0	1673	25	0	19	0	0	16	1	0	17	0	1751
EAST LEG												
12	15	42	4	0	0	0	0	0	0	0	0	73
23	23	65	1	0	0	1	0	0	0	0	0	113
29	38	122	4	0	0	0	0	0	1	0	0	194
21	10	136	4	1	0	0	1	0	1	0	0	174
15	15	114	2	0	0	1	0	1	1	1	0	150
17	18	79	3	1	1	1	2	0	2	1	0	125
31	1	55	0	2	1	0	1	2	0	1	2	96
20	26	17	1	0	0	0	0	0	0	0	0	64
168	146	630	19	4	2	3	4	3	5	3	2	989
WEST LEG												
4	0	5	1	0	0	0	0	0	0	0	1	11
10	0	10	0	0	0	0	0	0	0	0	1	21
8	0	5	0	0	0	0	0	0	1	0	1	15
7	0	4	1	0	0	0	0	0	1	0	1	14
11	0	4	0	0	0	0	0	0	0	0	0	15
5	0	1	1	0	0	0	0	2	1	0	1	11
5	0	3	0	0	1	0	0	0	0	0	1	10
6	0	5	0	0	0	0	0	0	0	0	0	11
56	0	37	3	0	1	0	0	2	3	0	6	108

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: STATE/SR-99 RAMPS

TIME: 07:00AM-08:00AM DATE: 09-19-23

NORTH LEG

39	638		Total
10	129		1st
17	146		2nd
4	172		3rd
8	191		4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt	16	25	34	26	101
Thru	15	23	38	12	88
Lt	42	65	122	136	365

Total	1st	2nd	3rd	4th	
28	6	11	6	5	Lt
					Thru
33	5	10	9	9	Rt

	Lt	Thru	Rt
1st	5	205	
2nd	7	232	
3rd	2	238	
4th	1	330	
Total	15	1005	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: STATE/SR-99 RAMPS

TIME: 08:00AM-09:00AM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
34	605		Total
4	187		1st
11	172		2nd
11	136		3rd
8	110		4th

	1st	2nd	3rd	4th	Total
Rt	19	23	31	21	94
Thru	16	22	5	26	69
Lt	115	80	60	17	272

Total	1st	2nd	3rd	4th	
18	4	4	5	5	Lt
					Thru
29	11	7	5	6	Rt

	Lt	Thru	Rt
1st	2	245	
2nd	4	146	
3rd	1	198	
4th	4	131	
Total	11	720	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIRPORT DR
EAST-WEST STREET: STATE/SR-99 RAMPS DATE: 09-19-23
JURISDICTION: BAKERSFIELD

PEAK HOUR: 05:00PM

NORTH LEG

TOTAL: 1,001

Rt	Thru	Lt	
63	938		Total
19	244		1st
25	268		2nd
14	271		3rd
5	155		4th

EAST LEG TOTAL: 966

	1st	2nd	3rd	4th	Total
Rt	63	90	83	28	264
Thru	51	98	41	24	214
Lt	110	173	128	77	488

WEST LEG TOTAL: 64

Total	1st	2nd	3rd	4th	
27	10	7	8	2	Lt
					Thru
37	10	11	10	6	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.85
SOUTH LEG = 0.80
EAST LEG = 0.67
WEST LEG = 0.80

ALL LEGS = 0.77

SOUTH LEG

TOTAL: 1,134

	Lt	Thru	Rt
1st	10	213	
2nd	9	344	
3rd	10	200	
4th	7	341	
Total	36	1098	

HOUR TOTAL: 3,165

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIRPORT DR — BAKERSFIELD

EAST-WEST STREET : STATE/SR-99 RAMPS — 09-19-23

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
12	186	0	0	1	0	0	1	0	2	2	0	204
6	216	0	0	2	0	0	0	0	2	2	0	228
21	224	0	1	2	0	0	0	0	1	1	0	250
17	233	0	1	1	0	0	0	0	1	1	0	254
19	241	0	0	1	0	0	1	0	0	1	0	263
25	267	0	0	0	0	0	0	0	0	1	0	293
14	269	0	0	1	0	0	0	0	0	1	0	285
5	154	0	0	0	0	0	0	0	0	1	0	160
119	1790	0	2	8	0	0	2	0	6	10	0	1937
					SOUTH LEG							
0	174	23	0	2	0	0	0	0	0	4	0	203
0	141	3	0	3	0	0	2	0	0	2	0	151
0	135	10	0	0	0	0	0	0	0	0	0	145
0	115	3	0	2	0	0	3	0	0	0	0	123
0	211	9	0	1	1	0	0	0	0	1	0	223
0	342	9	0	1	0	0	0	0	0	1	0	353
0	197	10	0	1	0	0	1	0	0	1	0	210
0	340	7	0	0	0	0	0	0	0	1	0	348
0	1655	74	0	10	1	0	6	0	0	10	0	1756
					EAST LEG							
38	31	32	0	0	0	0	0	0	0	0	0	101
60	43	34	0	0	0	0	0	0	0	0	0	137
52	55	27	0	0	0	0	0	0	0	0	0	134
43	43	57	0	0	0	0	0	1	0	0	0	144
62	51	110	0	0	0	0	0	0	1	0	0	224
88	97	172	2	1	0	0	0	1	0	0	0	361
82	40	128	0	1	0	0	0	0	1	0	0	252
27	24	77	1	0	0	0	0	0	0	0	0	129
452	384	637	3	2	0	0	0	2	2	0	0	1482
					WEST LEG							
32	0	25	0	0	0	0	0	0	0	0	0	57
34	0	8	0	0	0	0	0	0	0	0	0	42
27	0	18	0	0	0	0	0	0	0	0	0	45
58	0	42	0	0	0	0	0	0	0	0	1	101
10	0	10	0	0	0	0	0	0	0	0	0	20
11	0	7	0	0	0	0	0	0	0	0	0	18
10	0	8	0	0	0	0	0	0	0	0	0	18
6	0	2	0	0	0	0	0	0	0	0	0	8
188	0	120	0	0	0	0	0	0	0	0	1	309

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: STATE/SR-99 RAMPS

TIME: 04:00PM-05:00PM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
64	872		Total
14	190		1st
8	220		2nd
23	227		3rd
19	235		4th

	1st	2nd	3rd	4th	Total
Rt	38	60	52	43	193
Thru	31	43	55	43	172
Lt	32	34	27	58	151

Total	1st	2nd	3rd	4th	
94	25	8	18	43	Lt
					Thru
151	32	34	27	58	Rt

	Lt	Thru	Rt
1st	23	180	
2nd	3	148	
3rd	10	135	
4th	3	120	
Total	39	583	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIRPORT DR

EAST-WEST STREET: STATE/SR-99 RAMPS

TIME: 05:00PM-06:00PM DATE: 09-19-23

NORTH LEG

Rt	Thru	Lt	
63	938		Total
19	244		1st
25	268		2nd
14	271		3rd
5	155		4th

	1st	2nd	3rd	4th	Total
Rt	63	90	83	28	264
Thru	51	98	41	24	214
Lt	110	173	128	77	488

Total	1st	2nd	3rd	4th	
27	10	7	8	2	Lt
					Thru
37	10	11	10	6	Rt

	Lt	Thru	Rt
1st	10	213	
2nd	9	344	
3rd	10	200	
4th	7	341	
Total	36	1098	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: ROBERTS LN
EAST-WEST STREET: OLIVE DR
JURISDICTION: BAKERSFIELD

DATE: 09-20-21

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 339

Rt	Thru	Lt	
91	172	76	Total
24	48	20	1st
25	56	49	2nd
18	24	5	3rd
24	44	2	4th

EAST LEG TOTAL: 483

	1st	2nd	3rd	4th	Total
Rt	13	29	11	18	71
Thru	96	107	99	103	405
Lt	1	5	0	1	7

WEST LEG TOTAL: 768

Total	1st	2nd	3rd	4th	
106	22	27	31	26	Lt
374	55	55	128	136	Thru
288	80	81	66	61	Rt

SOUTH LEG

TOTAL: 447

	Lt	Thru	Rt
1st	71	55	0
2nd	41	81	2
3rd	55	72	1
4th	38	30	1
Total	205	238	4

PEAK HOUR FACTORS

NORTH LEG = 0.65
SOUTH LEG = 0.87
EAST LEG = 0.86
WEST LEG = 0.85

ALL LEGS = 0.91

HOUR TOTAL: 2,037

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : ROBERTS LN — BAKERSFIELD

EAST-WEST STREET : OLIVE DR — 09-20-21

BEGINNING TIME : 07:00AM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
19	22	0	1	2	0	1	1	0	2	2	0	50
25	21	3	3	0	0	0	0	0	1	0	0	53
20	47	20	3	1	0	1	0	0	0	0	0	92
19	54	48	2	2	1	3	0	0	1	0	0	130
14	23	5	2	1	0	0	0	0	2	0	0	47
19	43	2	3	0	0	2	1	0	0	0	0	70
14	29	11	3	0	1	2	0	0	1	1	0	62
11	6	2	1	0	0	3	0	0	3	1	0	27
141	245	91	18	6	2	12	2	0	10	4	0	531
SOUTH LEG												
1	32	15	0	1	0	0	0	1	0	1	0	51
1	34	37	0	0	0	0	0	0	0	0	0	72
0	53	70	0	1	0	0	0	0	0	1	1	126
1	80	40	1	0	0	0	0	0	0	1	1	124
1	68	54	0	1	0	0	1	1	0	2	0	128
1	29	37	0	0	0	0	0	1	0	1	0	69
0	45	20	0	0	0	0	0	1	0	1	1	68
0	22	33	0	0	2	0	0	1	0	1	2	61
5	363	306	1	3	2	0	1	5	0	8	5	699
EAST LEG												
1	61	3	0	4	0	0	4	0	1	3	0	77
24	68	0	1	5	0	0	4	1	1	2	0	106
8	89	0	1	3	1	1	1	0	3	3	0	110
28	100	4	1	6	1	0	1	0	0	0	0	141
10	88	0	0	5	0	1	5	0	0	1	0	110
17	96	0	0	5	0	1	1	0	0	1	1	122
16	110	1	1	4	0	0	2	0	2	3	1	140
15	101	0	2	3	0	0	5	1	2	1	0	130
119	713	8	6	35	2	3	23	2	9	14	2	936
WEST LEG												
28	58	18	0	4	0	0	6	0	0	7	0	121
57	63	35	0	5	0	0	6	0	0	3	1	170
80	42	22	0	5	0	0	5	0	0	3	0	157
81	44	27	0	5	0	0	1	0	0	5	0	163
66	119	31	0	5	0	0	1	0	0	3	0	225
61	127	26	0	4	0	0	2	0	0	3	0	223
54	125	20	1	2	0	0	6	0	0	3	0	211
48	91	15	0	4	0	0	11	0	0	3	0	172
475	669	194	1	34	0	0	38	0	0	30	1	1442

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: ROBERTS LN

EAST-WEST STREET: OLIVE DR

TIME: 07:00AM-08:00AM DATE: 09-20-21

NORTH LEG

Rt	Thru	Lt	
101	152	72	Total
23	27	0	1st
29	21	3	2nd
24	48	20	3rd
25	56	49	4th

	1st	2nd	3rd	4th	Total
Rt	2	26	13	29	70
Thru	72	79	96	107	354
Lt	3	1	1	5	10

Total	1st	2nd	3rd	4th	
103	18	36	22	27	Lt
262	75	77	55	55	Thru
246	28	57	80	81	Rt

	Lt	Thru	Rt
1st	16	34	1
2nd	37	34	1
3rd	71	55	0
4th	41	81	2
Total	165	204	4

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: ROBERTS LN

EAST-WEST STREET: OLIVE DR

TIME: 08:00AM-09:00AM DATE: 09-20-21

NORTH LEG

Rt	Thru	Lt	
80	105	21	Total
18	24	5	1st
24	44	2	2nd
20	30	12	3rd
18	7	2	4th

	1st	2nd	3rd	4th	Total
Rt	11	18	19	19	67
Thru	99	103	119	110	431
Lt	0	1	2	1	4

Total	1st	2nd	3rd	4th	
92	31	26	20	15	Lt
509	128	136	136	109	Thru
230	66	61	55	48	Rt

	Lt	Thru	Rt
1st	55	72	1
2nd	38	30	1
3rd	22	46	0
4th	38	23	0
Total	153	171	2

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: ROBERTS LN
EAST-WEST STREET: OLIVE DR
JURISDICTION: BAKERSFIELD

DATE: 09-20-21

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 754

Rt	Thru	Lt	
231	376	147	Total
59	89	54	1st
50	89	34	2nd
74	87	14	3rd
48	111	45	4th

EAST LEG TOTAL: 571

	1st	2nd	3rd	4th	Total
Rt	21	39	36	22	118
Thru	97	99	118	137	451
Lt	0	0	0	2	2

WEST LEG TOTAL: 1,078

Total	1st	2nd	3rd	4th	
265	67	63	64	71	Lt
494	90	134	159	111	Thru
319	59	85	80	95	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.92
SOUTH LEG = 0.83
EAST LEG = 0.89
WEST LEG = 0.89

ALL LEGS = 0.91

SOUTH LEG

TOTAL: 710

	Lt	Thru	Rt
1st	101	70	4
2nd	72	84	1
3rd	89	71	3
4th	83	127	5
Total	345	352	13

HOUR TOTAL: 3,113

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : ROBERTS LN — BAKERSFIELD

EAST-WEST STREET : OLIVE DR — 09-20-21

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
45	71	29	1	1	0	0	0	0	1	0	0	148
58	86	54	0	2	0	0	0	0	1	1	0	202
47	89	34	1	0	0	1	0	0	1	0	0	173
73	87	14	1	0	0	0	0	0	0	0	0	175
48	111	45	0	0	0	0	0	0	0	0	0	204
43	40	17	0	0	0	0	0	0	1	2	0	103
57	25	20	0	0	0	0	0	0	0	2	0	104
42	18	7	0	0	0	0	0	0	0	0	0	67
413	527	220	3	3	0	1	0	0	4	5	0	1176
SOUTH LEG												
14	81	81	2	0	0	0	0	0	0	0	0	178
4	68	101	0	0	0	0	0	0	0	2	0	175
1	83	72	0	1	0	0	0	0	0	0	0	157
3	70	89	0	0	0	0	0	0	0	1	0	163
5	126	83	0	0	0	0	0	0	0	1	0	215
2	47	72	0	1	0	0	0	0	0	0	0	122
12	94	70	0	0	0	0	0	0	0	0	0	176
1	34	50	0	0	0	0	0	0	0	0	1	86
42	603	618	2	2	0	0	0	0	0	4	1	1272
EAST LEG												
17	68	7	1	0	0	2	2	0	0	5	1	103
20	87	0	0	4	0	1	4	0	0	2	0	118
39	93	0	0	1	0	0	0	0	0	5	0	138
36	113	0	0	0	0	0	2	0	0	3	0	154
22	128	2	0	4	0	0	2	0	0	3	0	161
35	125	1	0	2	0	0	4	0	0	2	0	169
13	102	0	0	1	0	1	1	0	1	1	0	120
8	106	0	0	1	1	1	1	1	1	2	0	122
190	822	10	1	13	1	5	16	1	2	23	1	1085
WEST LEG												
48	76	44	0	3	0	0	3	0	0	3	0	177
58	83	67	0	4	0	0	2	0	1	1	0	216
85	129	63	0	3	0	0	0	0	0	2	0	282
79	155	64	0	2	0	0	0	0	1	2	0	303
95	104	71	0	2	0	0	1	0	0	4	0	277
83	109	109	0	2	0	0	1	0	1	3	0	308
71	97	60	0	2	0	0	1	0	0	3	0	234
48	167	45	0	2	0	1	1	0	0	4	0	268
567	920	523	0	20	0	1	9	0	3	22	0	2065

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: ROBERTS LN

EAST-WEST STREET: OLIVE DR

TIME: 04:00PM-05:00PM DATE: 09-20-21

NORTH LEG

Rt	Thru	Lt	
230	337	131	Total
47	72	29	1st
59	89	54	2nd
50	89	34	3rd
74	87	14	4th

	1st	2nd	3rd	4th	Total
Rt	20	21	39	36	116
Thru	75	97	99	118	389
Lt	8	0	0	0	8

Total	1st	2nd	3rd	4th	
238	44	67	63	64	Lt
468	85	90	134	159	Thru
272	48	59	85	80	Rt

	Lt	Thru	Rt
1st	81	81	16
2nd	101	70	4
3rd	72	84	1
4th	89	71	3
Total	343	306	24

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: ROBERTS LN

EAST-WEST STREET: OLIVE DR

TIME: 05:00PM-06:00PM DATE: 09-20-21

NORTH LEG

Rt	Thru	Lt	
191	198	89	Total
48	111	45	1st
44	42	17	2nd
57	27	20	3rd
42	18	7	4th

	1st	2nd	3rd	4th	Total
Rt	22	35	15	10	82
Thru	137	133	105	110	485
Lt	2	1	0	2	5

Total	1st	2nd	3rd	4th	
285	71	109	60	45	Lt
503	111	115	103	174	Thru
299	95	84	71	49	Rt

	Lt	Thru	Rt
1st	83	127	5
2nd	72	48	2
3rd	70	94	12
4th	51	34	1
Total	276	303	20

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: STATE RD
EAST-WEST STREET: OLIVE DR
JURISDICTION: BAKERSFIELD

DATE: 09-20-21

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 515

Rt	Thru	Lt	
437	22	56	Total
116	0	5	1st
104	5	6	2nd
131	14	27	3rd
86	3	18	4th

EAST LEG TOTAL: 662

	1st	2nd	3rd	4th	Total
Rt	22	11	21	21	75
Thru	148	152	142	143	585
Lt	2	0	0	0	2

WEST LEG TOTAL: 879

Total	1st	2nd	3rd	4th	
95	6	16	26	47	Lt
773	222	215	184	152	Thru
11	3	2	0	6	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.75
SOUTH LEG = 0.44
EAST LEG = 0.96
WEST LEG = 0.94

ALL LEGS = 0.95

SOUTH LEG

TOTAL: 23

	Lt	Thru	Rt
1st	1	1	0
2nd	3	0	0
3rd	4	0	1
4th	9	0	4
Total	17	1	5

HOUR TOTAL: 2,079

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STATE RD — BAKERSFIELD

EAST-WEST STREET : OLIVE DR — 09-20-21

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
50	8	8	1	0	0	2	0	0	0	0	0	69
79	0	19	0	0	0	0	0	0	1	0	1	100
54	1	47	1	0	0	1	0	0	2	0	0	106
110	0	17	0	0	1	0	0	0	1	0	1	130
110	0	4	4	0	0	1	0	1	1	0	0	121
99	5	5	3	0	1	1	0	0	1	0	0	115
127	14	26	2	0	0	2	0	0	0	0	1	172
85	3	17	0	0	1	1	0	0	0	0	0	107
714	31	143	11	0	3	8	0	1	6	0	3	920
					SOUTH LEG							
5	6	3	0	0	0	0	0	0	0	0	0	14
0	1	3	0	0	0	0	0	0	0	0	0	4
1	5	20	0	0	0	0	0	0	0	0	0	26
0	6	9	0	0	0	0	0	0	0	0	0	15
0	1	0	0	0	1	0	0	0	0	0	0	2
0	0	1	0	0	2	0	0	0	0	0	0	3
1	0	3	0	0	1	0	0	0	0	0	0	5
4	0	9	0	0	0	0	0	0	0	0	0	13
11	19	48	0	0	4	0	0	0	0	0	0	82
					EAST LEG							
4	90	1	0	5	0	1	5	0	0	7	0	113
3	149	4	1	6	0	0	4	0	0	1	0	168
-1	138	0	3	3	0	1	1	0	0	3	0	148
-1	150	0	1	7	0	0	4	0	0	1	0	162
22	130	1	0	6	1	0	6	0	0	6	0	172
9	134	0	2	6	0	0	3	0	0	9	0	163
20	125	0	1	6	0	0	5	0	0	6	0	163
18	126	0	0	5	0	2	5	0	1	7	0	164
74	1042	6	8	44	1	4	33	0	1	40	0	1253
					WEST LEG							
-1	91	16	0	4	0	0	6	1	1	7	0	125
1	133	9	0	5	0	0	6	0	0	4	1	159
3	92	15	0	5	0	0	5	2	0	3	0	125
0	126	11	0	6	0	0	1	0	0	6	1	151
3	214	5	0	4	0	0	1	0	0	3	1	231
2	206	16	0	4	0	0	2	0	0	3	0	233
0	164	26	0	12	0	0	6	0	0	2	0	210
6	133	46	0	3	0	0	12	0	0	4	1	205
14	1159	144	0	43	0	0	39	3	1	32	4	1439

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STATE RD

EAST-WEST STREET: OLIVE DR

TIME: 07:00AM-08:00AM DATE: 09-20-21

NORTH LEG

Rt	Thru	Lt	
302	9	94	Total
53	8	8	1st
80	0	20	2nd
58	1	47	3rd
111	0	19	4th

	1st	2nd	3rd	4th	Total
Rt	5	4	3	0	12
Thru	107	160	145	162	574
Lt	1	4	0	0	5

Total	1st	2nd	3rd	4th	
56	17	10	17	12	Lt
500	108	148	105	139	Thru
4	0	1	3	0	Rt

	Lt	Thru	Rt
1st	3	6	5
2nd	3	1	0
3rd	20	5	1
4th	9	6	0
Total	35	18	6

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STATE RD

EAST-WEST STREET: OLIVE DR

TIME: 08:00AM-09:00AM DATE: 09-20-21

NORTH LEG

Rt	Thru	Lt	
437	22	56	Total
116	0	5	1st
104	5	6	2nd
131	14	27	3rd
86	3	18	4th

	1st	2nd	3rd	4th	Total
Rt	22	11	21	21	75
Thru	148	152	142	143	585
Lt	2	0	0	0	2

Total	1st	2nd	3rd	4th	
95	6	16	26	47	Lt
773	222	215	184	152	Thru
11	3	2	0	6	Rt

	Lt	Thru	Rt
1st	1	1	0
2nd	3	0	0
3rd	4	0	1
4th	9	0	4
Total	17	1	5

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: STATE RD
EAST-WEST STREET: OLIVE DR
JURISDICTION: BAKERSFIELD

DATE: 09-20-21

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 618

Rt	Thru	Lt	
471	43	104	Total
119	9	30	1st
107	10	28	2nd
124	13	23	3rd
121	11	23	4th

EAST LEG TOTAL: 1,005

	1st	2nd	3rd	4th	Total
Rt	13	24	20	26	83
Thru	152	243	271	195	861
Lt	52	5	4	0	61

WEST LEG TOTAL: 1,098

Total	1st	2nd	3rd	4th	
106	21	30	33	22	Lt
970	253	172	265	280	Thru
22	8	5	6	3	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.97
SOUTH LEG = 0.73
EAST LEG = 0.85
WEST LEG = 0.90

ALL LEGS = 0.88

SOUTH LEG

TOTAL: 178

	Lt	Thru	Rt
1st	61	0	0
2nd	29	8	1
3rd	44	14	2
4th	16	2	1
Total	150	24	4

HOUR TOTAL: 2,899

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STATE RD — BAKERSFIELD

EAST-WEST STREET : OLIVE DR — 09-20-21

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4 (+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
126	6	29	1	0	0	1	0	0	3	0	0	166
103	16	13	5	0	0	0	0	0	1	0	0	138
112	9	29	1	0	0	1	0	0	5	0	1	158
101	9	27	1	1	0	0	0	0	5	0	1	145
120	12	22	2	1	0	0	0	0	2	0	1	160
113	11	21	2	0	0	1	0	0	5	0	2	155
82	13	36	2	0	1	1	0	0	1	0	0	136
79	18	20	0	0	0	1	0	0	3	0	1	122
836	94	197	14	2	1	5	0	0	25	0	6	1180
SOUTH LEG												
16	26	17	0	0	0	0	0	0	0	0	0	59
19	12	27	0	0	0	0	0	0	0	0	0	58
0	0	61	0	0	0	0	0	0	0	0	0	61
1	8	29	0	0	0	0	0	0	0	0	0	38
2	14	44	0	0	0	0	0	0	0	0	0	60
1	2	16	0	0	0	0	0	0	0	0	0	19
0	0	19	0	0	0	0	0	0	0	0	0	19
3	22	27	0	0	0	0	0	0	0	0	0	52
42	84	240	0	0	0	0	0	0	0	0	0	366
EAST LEG												
15	142	35	0	1	0	0	2	0	1	6	0	202
19	214	6	0	4	0	0	4	0	0	3	0	250
12	140	52	1	2	0	0	4	0	0	6	0	217
24	237	5	0	1	0	0	1	0	0	4	0	272
20	263	4	0	4	0	0	1	0	0	3	0	295
26	186	0	0	2	0	0	3	0	0	4	0	221
21	210	0	0	1	0	1	2	0	1	2	0	238
13	179	2	0	1	0	0	1	0	0	2	0	198
150	1571	104	1	16	0	1	18	0	2	30	0	1893
WEST LEG												
19	126	79	0	3	0	0	3	0	0	3	1	234
9	172	29	0	5	0	0	2	0	0	2	1	220
8	249	21	0	2	0	0	0	0	0	2	0	282
5	170	29	0	2	0	0	0	0	0	0	1	207
6	259	33	0	2	0	0	1	0	0	3	0	304
3	274	21	0	2	0	0	1	1	0	3	0	305
0	194	26	0	3	0	0	1	1	0	3	0	228
0	186	31	0	1	0	0	1	0	0	3	0	222
50	1630	269	0	20	0	0	9	2	0	19	3	2002

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STATE RD

EAST-WEST STREET: OLIVE DR

TIME: 04:00PM-05:00PM DATE: 09-20-21

NORTH LEG

Rt	Thru	Lt	
466	41	100	Total
131	6	29	1st
109	16	13	2nd
119	9	30	3rd
107	10	28	4th

	1st	2nd	3rd	4th	Total
Rt	16	19	13	24	72
Thru	151	225	152	243	771
Lt	35	6	52	5	98

Total	1st	2nd	3rd	4th	
161	80	30	21	30	Lt
741	135	181	253	172	Thru
41	19	9	8	5	Rt

	Lt	Thru	Rt
1st	17	26	16
2nd	27	12	19
3rd	61	0	0
4th	29	8	1
Total	134	46	36

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: STATE RD

EAST-WEST STREET: OLIVE DR

TIME: 05:00PM-06:00PM DATE: 09-20-21

NORTH LEG

Rt	Thru	Lt	
414	55	104	Total
124	13	23	1st
121	11	23	2nd
86	13	37	3rd
83	18	21	4th

	1st	2nd	3rd	4th	Total
Rt	20	26	23	13	82
Thru	271	195	215	183	864
Lt	4	0	0	2	6

Total	1st	2nd	3rd	4th	
113	33	22	27	31	Lt
937	265	280	201	191	Thru
9	6	3	0	0	Rt

	Lt	Thru	Rt
1st	44	14	2
2nd	16	2	1
3rd	19	0	0
4th	27	22	3
Total	106	38	6

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: SR-99 NB RAMPS
EAST-WEST STREET: STATE RD
JURISDICTION: BAKERSFIELD

DATE: 09-20-21

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 0

Rt	Thru	Lt	
			Total
			1st
			2nd
			3rd
			4th

EAST LEG TOTAL: 171

	Rt	Thru	Lt	
Rt				
Thru	10	6	3	6
Lt	21	21	43	61

1st	2nd	3rd	4th	Total
				25
				146

WEST LEG TOTAL: 77

Total	1st	2nd	3rd	4th	
					Lt
56	9	23	14	10	Thru
21	7	7	3	4	Rt

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.78
EAST LEG = 0.64
WEST LEG = 0.64

ALL LEGS = 0.84

SOUTH LEG

TOTAL: 477

	Lt	Thru	Rt
1st	6		111
2nd	6		93
3rd	4		149
4th	1		107
Total	17		460

HOUR TOTAL: 725

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STATE RD BAKERSFIELD

EAST-WEST STREET : SR-99 NB RAMPS 09-20-21

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
65	0	0	1	0	0	0	0	0	0	0	0	66
97	0	0	0	0	0	0	0	0	2	0	0	99
95	0	1	1	0	0	1	0	0	2	0	0	100
114	0	4	1	0	0	0	0	0	1	0	0	120
104	0	5	4	0	1	2	0	0	1	0	0	117
89	0	6	2	0	0	1	0	0	1	0	0	99
145	0	4	1	0	0	2	0	0	1	0	0	153
104	0	0	2	0	1	1	0	0	0	0	0	108
813	0	20	12	0	2	7	0	0	8	0	0	862
EAST LEG												
0	1	31	0	0	0	0	0	2	0	0	0	34
0	3	12	0	0	1	0	0	0	0	0	1	17
0	3	17	0	0	3	0	0	3	0	0	0	26
0	5	12	0	0	1	0	0	0	0	0	1	19
0	10	20	0	0	0	0	0	0	0	0	1	31
0	6	19	0	0	2	0	0	0	0	0	0	27
0	3	42	0	0	1	0	0	0	0	0	0	46
0	6	58	0	0	0	0	0	2	0	0	1	67
0	37	211	0	0	8	0	0	7	0	0	4	267
WEST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
2	7	0	0	0	0	0	0	0	0	0	0	9
5	13	0	0	0	0	0	0	0	0	0	0	18
7	9	0	0	0	0	0	0	0	0	0	0	16
7	23	0	0	0	0	0	0	0	0	0	0	30
3	14	0	0	0	0	0	0	0	0	0	0	17
4	10	0	0	0	0	0	0	0	0	0	0	14
28	76	0	0	0	0	0	0	0	0	0	0	104

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 NB RAMPS

EAST-WEST STREET: STATE RD

TIME: 07:00AM-08:00AM DATE: 09-20-21

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt					
Thru	1	3	3	5	12
Lt	33	14	23	14	84

Total	1st	2nd	3rd	4th	
					Lt
20	0	0	7	13	Thru
7	0	0	2	5	Rt

	Lt	Thru	Rt
1st	0		66
2nd	0		99
3rd	1		99
4th	4		116
Total	5		380

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 NB RAMPS

EAST-WEST STREET: STATE RD

TIME: 08:00AM-09:00AM DATE: 09-20-21

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

Rt					
Thru	10	6	3	6	25
Lt	21	21	43	61	146
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
					Lt
56	9	23	14	10	Thru
21	7	7	3	4	Rt

	Lt	Thru	Rt
1st	6		111
2nd	6		93
3rd	4		149
4th	1		107
Total	17		460

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: SR-99 NB RAMPS
EAST-WEST STREET: STATE RD
JURISDICTION: BAKERSFIELD

DATE: 09-20-21

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 0

	Rt	Thru	Lt
Total			
1st			
2nd			
3rd			
4th			

EAST LEG TOTAL: 281

	1st	2nd	3rd	4th	Total
Rt					
Thru	4	8	6	15	33
Lt	116	55	29	48	248

WEST LEG TOTAL: 32

Total	1st	2nd	3rd	4th	
					Lt
21	5	5	3	8	Thru
11	2	2	2	5	Rt

SOUTH LEG

TOTAL: 594

	Lt	Thru	Rt
1st	2		159
2nd	1		135
3rd	3		153
4th	3		138
Total	9		585

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.92
EAST LEG = 0.59
WEST LEG = 0.62

ALL LEGS = 0.79

HOUR TOTAL: 907

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : STATE RD BAKERSFIELD

EAST-WEST STREET : SR-99 NB RAMPS 09-20-21

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
154	0	2	1	0	0	1	0	0	3	0	0	161
129	0	1	5	0	0	0	0	0	1	0	0	136
145	0	3	1	0	0	1	0	0	6	0	0	156
131	0	3	1	0	0	0	0	0	6	0	0	141
139	0	3	2	0	0	0	0	0	3	0	0	147
128	0	5	2	0	0	2	0	0	7	0	0	144
123	0	2	3	0	0	1	0	0	1	0	0	130
113	0	2	0	0	0	0	0	0	4	0	0	119
1062	0	21	15	0	0	5	0	0	31	0	0	1134
EAST LEG												
0	4	114	0	0	0	0	0	0	0	0	2	120
0	8	54	0	0	0	0	0	0	0	0	1	63
0	6	28	0	0	1	0	0	0	0	0	0	35
0	15	48	0	0	0	0	0	0	0	0	0	63
0	6	63	0	0	0	0	0	0	0	0	1	70
0	10	38	0	0	1	0	0	1	0	0	1	51
0	5	48	0	0	1	0	0	2	0	0	1	57
0	7	59	0	0	0	0	0	0	0	0	0	66
0	61	452	0	0	3	0	0	3	0	0	6	525
WEST LEG												
2	5	0	0	0	0	0	0	0	0	0	0	7
2	5	0	0	0	0	0	0	0	0	0	0	7
2	3	0	0	0	0	0	0	0	0	0	0	5
5	8	0	0	0	0	0	0	0	0	0	0	13
6	13	0	0	0	0	0	0	0	0	0	0	19
4	15	0	0	0	0	0	0	0	0	0	0	19
5	10	0	0	0	0	0	0	0	0	0	0	15
5	4	0	0	0	0	0	0	0	0	0	0	9
31	63	0	0	0	0	0	0	0	0	0	0	94

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 NB RAMPS

EAST-WEST STREET: STATE RD

TIME: 04:00PM-05:00PM DATE: 09-20-21

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	Rt	Thru	Lt	
Rt				
Thru	4	8	6	15
Lt	116	55	29	48
	1st	2nd	3rd	4th

Total	1st	2nd	3rd	4th	
					Lt
21	5	5	3	8	Thru
11	2	2	2	5	Rt

	Lt	Thru	Rt
1st	2		159
2nd	1		135
3rd	3		153
4th	3		138
Total	9		585

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 NB RAMPS

EAST-WEST STREET: STATE RD

TIME: 05:00PM-06:00PM DATE: 09-20-21

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

Rt					
Thru	6	10	5	7	28
Lt	64	41	52	59	216
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
					Lt
42	13	15	10	4	Thru
20	6	4	5	5	Rt

	Lt	Thru	Rt
1st	3		144
2nd	5		139
3rd	2		128
4th	2		117
Total	12		528

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: SR-99 SB RAMPS
EAST-WEST STREET: OLIVE DR
JURISDICTION: BAKERSFIELD

DATE: 09-20-21

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 94

Rt	Thru	Lt	
73		21	Total
12		6	1st
5		4	2nd
46		6	3rd
10		5	4th

EAST LEG TOTAL: 1,022

	1st	2nd	3rd	4th	Total
Rt	30	28	58	23	139
Thru	231	229	217	206	883
Lt					

WEST LEG TOTAL: 960

Total	1st	2nd	3rd	4th	
					Lt
831	215	222	200	194	Thru
129	42	28	37	22	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.45
SOUTH LEG =
EAST LEG = 0.93
WEST LEG = 0.93

ALL LEGS = 0.92

SOUTH LEG

TOTAL: 0

	Lt	Thru	Rt
1st			
2nd			
3rd			
4th			
Total			

HOUR TOTAL: 2,076

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : SR-99 SB RAMPS BAKERSFIELD

EAST-WEST STREET : OLIVE DR 09-20-21

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
11	0	10	1	0	0	0	0	0	2	0	1	25
9	0	7	1	0	1	0	0	0	0	0	0	18
25	0	10	1	0	0	0	0	0	0	0	1	37
17	0	6	3	0	1	0	0	0	0	0	1	28
10	0	5	0	0	1	0	0	0	2	0	0	18
5	0	3	0	0	1	0	0	0	0	0	0	9
43	0	5	3	0	1	0	0	0	0	0	0	52
10	0	5	0	0	0	0	0	0	0	0	0	15
130	0	51	9	0	5	0	0	0	4	0	3	202
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
EAST LEG												
4	136	0	3	3	0	5	2	0	4	3	0	160
53	179	0	2	4	0	1	3	0	0	2	0	244
36	183	0	1	3	0	2	0	0	2	3	0	230
79	193	0	5	2	0	2	2	0	1	2	0	286
17	218	0	8	5	0	1	5	0	4	3	0	261
16	216	0	4	7	0	2	2	0	6	4	0	257
49	204	0	4	5	0	3	4	0	2	4	0	275
11	198	0	2	3	0	3	3	0	7	2	0	229
265	1527	0	29	32	0	19	21	0	26	23	0	1942
WEST LEG												
4	94	0	0	5	0	1	7	0	5	8	0	124
16	133	0	5	7	0	0	6	0	2	4	0	173
25	85	0	5	5	0	1	7	0	2	2	0	132
29	88	0	5	5	0	0	1	0	3	6	0	137
36	207	0	1	3	0	3	1	0	2	4	0	257
23	215	0	1	3	0	2	2	0	2	2	0	250
26	178	0	7	11	0	2	6	0	2	5	0	237
17	173	0	3	3	0	1	13	0	1	5	0	216
176	1173	0	27	42	0	10	43	0	19	36	0	1526

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 SB RAMPS

EAST-WEST STREET: OLIVE DR

TIME: 07:00AM-08:00AM DATE: 09-20-21

NORTH LEG

70		38	Total
14		11	1st
10		8	2nd
26		11	3rd
20		8	4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt	16	56	41	87	200
Thru	144	188	189	199	720
Lt					

Total	1st	2nd	3rd	4th	
					Lt
463	114	150	99	100	Thru
103	10	23	33	37	Rt

	Lt	Thru	Rt
1st			
2nd			
3rd			
4th			
Total			

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 SB RAMPS

EAST-WEST STREET: OLIVE DR

TIME: 08:00AM-09:00AM DATE: 09-20-21

NORTH LEG

Rt	Thru	Lt	
73		21	Total
12		6	1st
5		4	2nd
46		6	3rd
10		5	4th

	1st	2nd	3rd	4th	Total
Rt	30	28	58	23	139
Thru	231	229	217	206	883
Lt					

Total	1st	2nd	3rd	4th	
					Lt
831	215	222	200	194	Thru
129	42	28	37	22	Rt

	Lt	Thru	Rt
1st			
2nd			
3rd			
4th			
Total			

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: SR-99 SB RAMPS
EAST-WEST STREET: OLIVE DR
JURISDICTION: BAKERSFIELD

DATE: 09-20-21

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 217

Rt	Thru	Lt	
199		18	Total
30		0	1st
28		0	2nd
49		9	3rd
92		9	4th

EAST LEG TOTAL: 1,480

	1st	2nd	3rd	4th	Total
Rt	27	52	51	38	168
Thru	303	321	389	299	1312
Lt					

WEST LEG TOTAL: 1,319

Total	1st	2nd	3rd	4th	
					Lt
1174	290	303	282	299	Thru
145	42	40	28	35	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.54
SOUTH LEG =
EAST LEG = 0.84
WEST LEG = 0.96

ALL LEGS = 0.93

SOUTH LEG

TOTAL: 0

	Lt	Thru	Rt
1st			
2nd			
3rd			
4th			
Total			

HOUR TOTAL: 3,016

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : SR-99 SB RAMPS BAKERSFIELD

EAST-WEST STREET : OLIVE DR 09-20-21

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
25	0	5	0	0	0	0	0	0	0	0	0	30
52	0	3	1	0	0	0	0	0	0	0	0	56
30	0	0	0	0	0	0	0	0	0	0	0	30
27	0	0	0	0	0	0	.0	0	1	0	0	28
47	0	9	2	0	0	0	0	0	0	0	0	58
89	0	8	2	0	0	1	0	1	0	0	0	101
9	0	3	1	0	0	1	0	0	0	0	0	14
51	0	0	0	0	0	0	0	0	0	0	0	51
330	0	28	6	0	0	2	0	1	1	0	0	368
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
EAST LEG												
33	250	0	0	2	0	1	3	0	4	5	0	298
47	291	0	5	3	0	2	2	0	1	3	0	354
17	294	0	2	1	0	2	3	0	6	5	0	330
48	313	0	2	0	0	0	1	0	2	7	0	373
45	383	0	3	3	0	0	1	0	3	2	0	440
31	289	0	2	2	0	1	3	0	4	5	0	337
33	275	0	1	2	0	1	2	0	1	2	0	317
12	268	0	1	0	0	1	1	0	3	2	0	288
266	2363	0	16	13	0	8	16	0	24	31	0	2737
WEST LEG												
19	212	0	1	3	0	0	3	0	3	4	0	245
54	202	0	1	5	0	0	2	0	0	1	0	265
42	286	0	0	2	0	0	0	0	0	2	0	332
39	299	0	0	2	0	0	0	0	1	2	0	343
28	279	0	0	2	0	0	1	0	0	0	0	310
35	293	0	0	1	0	0	2	0	0	3	0	334
43	214	0	0	2	0	0	2	0	0	3	0	264
47	215	0	0	1	0	0	1	0	1	3	0	268
307	2000	0	2	18	0	0	11	0	5	18	0	2361

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 SB RAMPS

EAST-WEST STREET: OLIVE DR

TIME: 04:00PM-05:00PM DATE: 09-20-21

NORTH LEG

Rt	Thru	Lt	
136		8	Total
25		5	1st
53		3	2nd
30		0	3rd
28		0	4th

	1st	2nd	3rd	4th	Total
Rt	38	55	27	52	172
Thru	260	299	303	321	1183
Lt					

Total	1st	2nd	3rd	4th	
					Lt
1025	222	210	290	303	Thru
160	23	55	42	40	Rt

	Lt	Thru	Rt
1st			
2nd			
3rd			
4th			
Total			

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 SB RAMPS

EAST-WEST STREET: OLIVE DR

TIME: 05:00PM-06:00PM DATE: 09-20-21

NORTH LEG

203		21	Total
49		9	1st
92		9	2nd
11		3	3rd
51		0	4th
Rt	Thru	Lt	

Rt	51	38	36	17	142
Thru	389	299	281	271	1240
Lt					
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
					Lt
1022	282	299	221	220	Thru
154	28	35	43	48	Rt

	Lt	Thru	Rt
1st			
2nd			
3rd			
4th			
Total			

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: GOLDEN STATE HWY
EAST-WEST STREET: 7TH STANDARD RD DATE: 09-21-23
JURISDICTION: BAKERSFIELD

PEAK HOUR: 07:15AM

NORTH LEG

TOTAL: 385

Rt	Thru	Lt	
111	69	205	Total
16	8	51	1st
36	16	48	2nd
29	31	59	3rd
30	14	47	4th

EAST LEG TOTAL: 985

	1st	2nd	3rd	4th	Total
Rt	5	0	0	0	5
Thru	180	168	205	149	702
Lt	79	95	62	42	278

WEST LEG TOTAL: 656

Total	1st	2nd	3rd	4th	
				0	Lt
538	131	110	166	131	Thru
118	27	43	43	5	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.81
SOUTH LEG = 0.88
EAST LEG = 0.92
WEST LEG = 0.78

ALL LEGS = 0.86

SOUTH LEG

TOTAL: 277

	Lt	Thru	Rt
1st	30	0	35
2nd	37	0	42
3rd	23	0	50
4th	20	0	40
Total	110		167

HOUR TOTAL: 2,303

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : GOLDEN STATE HWY — BAKERSFIELD

EAST-WEST STREET : 7TH STANDARD RD — 09-21-23

BEGINNING TIME : 07:00AM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
6	0	38	1	0	0	2	0	0	1	0	0	48
15	7	48	0	1	1	0	0	0	1	0	2	75
34	16	46	0	0	0	1	0	1	1	0	1	100
27	27	59	1	3	0	0	1	0	1	0	0	119
23	14	47	2	0	0	5	0	0	0	0	0	91
36	16	48	0	0	0	2	1	1	6	0	0	110
32	10	28	0	7	1	0	0	0	0	0	0	78
26	7	16	2	7	2	0	2	0	0	0	3	65
199	97	330	6	18	4	10	4	2	10	0	6	686
SOUTH LEG												
23	0	16	0	0	0	3	0	0	1	0	0	43
32	0	28	0	0	0	2	0	1	1	0	1	65
38	0	37	0	0	0	3	0	0	1	0	0	79
47	0	23	2	0	0	0	0	0	1	0	0	73
36	0	20	3	0	0	0	0	0	1	0	0	60
39	0	24	0	0	0	0	0	0	0	0	0	63
34	0	26	0	0	0	1	0	0	1	0	0	62
21	0	9	0	0	0	0	0	2	0	0	2	34
270	0	183	5	0	0	9	0	3	6	0	3	479
EAST LEG												
0	133	47	0	3	3	0	2	1	0	8	2	199
5	173	78	0	1	1	0	1	0	0	5	0	264
0	158	95	0	1	0	0	1	0	0	8	0	263
0	198	59	0	2	3	0	1	0	0	4	0	267
0	138	42	0	3	0	0	3	0	0	5	0	191
0	152	6	0	2	0	0	3	0	0	3	0	166
0	130	44	0	3	1	0	0	1	0	5	1	185
0	91	56	0	0	0	0	0	1	0	1	1	150
5	1173	427	0	15	8	0	11	3	0	39	4	1685
WEST LEG												
18	101	0	0	4	0	0	1	0	1	1	0	126
27	125	0	0	1	0	0	2	0	0	3	0	158
43	95	0	0	0	0	0	5	0	0	10	0	153
43	143	0	0	5	0	0	6	0	0	12	0	209
5	128	0	0	0	0	0	0	0	0	3	0	136
54	97	0	0	5	0	0	5	0	0	5	0	166
31	85	0	0	3	0	0	2	0	0	5	0	126
31	66	0	0	3	0	0	6	0	1	10	0	117
252	840	0	0	21	0	0	27	0	2	49	0	1191

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: GOLDEN STATE HWY

EAST-WEST STREET: 7TH STANDARD RD

TIME: 07:00AM-08:00AM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
91	55	196	Total
10	0	38	1st
16	8	51	2nd
36	16	48	3rd
29	31	59	4th

	1st	2nd	3rd	4th	Total
Rt	0	5	0	0	5
Thru	146	180	168	205	699
Lt	53	79	95	62	289

Total	1st	2nd	3rd	4th	
					Lt
514	107	131	110	166	Thru
132	19	27	43	43	Rt

	Lt	Thru	Rt
1st	16	0	27
2nd	30	0	35
3rd	37	0	42
4th	23	0	50
Total	106	0	154

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: GOLDEN STATE HWY

EAST-WEST STREET: 7TH STANDARD RD

TIME: 08:00AM-09:00AM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
134	64	146	Total
30	14	47	1st
44	17	49	2nd
32	17	29	3rd
28	16	21	4th

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	0
Thru	149	160	138	92	539
Lt	42	6	47	58	153

Total	1st	2nd	3rd	4th	
0	0	0	0	0	Lt
423	131	112	95	85	Thru
122	5	54	31	32	Rt

	Lt	Thru	Rt
1st	20	0	40
2nd	24	0	39
3rd	26	0	36
4th	13	0	21
Total	83	0	136

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: GOLDEN STATE HWY
EAST-WEST STREET: 7TH STANDARD RD
JURISDICTION: BAKERSFIELD

DATE: 09-21-23

PEAK HOUR: 04:45PM

NORTH LEG

TOTAL: 386

Rt	Thru	Lt	
46	143	197	Total
15	36	34	1st
10	46	55	2nd
10	40	61	3rd
11	21	47	4th

EAST LEG TOTAL: 1,027

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	
Thru	243	221	172	120	756
Lt	59	67	112	33	271

WEST LEG TOTAL: 827

Total	1st	2nd	3rd	4th	
2	0	0	0	2	Lt
625	202	132	127	164	Thru
200	44	49	67	40	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.87
SOUTH LEG = 0.76
EAST LEG = 0.85
WEST LEG = 0.84

ALL LEGS = 0.89

SOUTH LEG

TOTAL: 810

	Lt	Thru	Rt
1st	30	0	64
2nd	29	108	77
3rd	76	136	54
4th	65	112	59
Total	200	356	254

HOUR TOTAL: 3,050

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : GOLDEN STATE HWY — BAKERSFIELD

EAST-WEST STREET : 7TH STANDARD RD — 09-21-23

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
						NORTH LEG						
11	16	23	0	0	0	0	0	0	0	0	0	50
15	19	16	1	0	0	0	0	0	0	0	0	51
6	11	13	1	0	1	1	0	0	0	0	0	33
11	36	30	2	0	2	1	0	0	1	0	2	85
8	46	51	0	0	1	0	0	3	2	0	0	111
5	40	58	3	0	2	2	0	0	0	0	1	111
11	21	46	0	0	0	0	0	0	0	0	1	79
8	29	38	0	0	1	0	0	0	0	0	1	77
75	218	275	7	0	7	4	0	3	3	0	5	597
						SOUTH LEG						
31	0	10	2	0	0	1	0	0	2	0	0	46
48	0	12	1	0	1	1	0	0	1	0	0	64
64	0	9	0	0	1	1	0	0	1	0	0	76
60	0	29	4	0	0	0	0	1	0	0	0	94
76	108	28	1	0	0	0	0	1	0	0	0	214
54	136	74	0	0	1	0	0	1	0	0	0	266
57	112	62	2	0	3	0	0	0	0	0	0	236
62	157	39	0	0	1	0	0	0	0	0	0	259
452	513	263	10	0	7	3	0	3	4	0	0	1255
						EAST LEG						
0	128	43	0	4	0	0	2	0	0	7	0	184
0	155	47	0	1	1	0	2	0	0	3	0	209
0	210	52	0	3	2	0	0	0	0	3	0	270
0	238	59	0	1	0	0	1	0	0	3	0	302
0	212	67	0	2	0	0	2	0	0	5	0	288
0	170	111	0	0	1	0	0	0	0	2	0	284
0	112	31	0	3	2	0	1	0	0	4	0	153
0	175	51	0	0	0	0	0	0	0	3	0	229
0	1400	461	0	14	6	0	8	0	0	30	0	1919
						WEST LEG						
21	119	0	0	2	0	0	1	0	0	3	0	146
18	168	0	2	1	0	0	1	0	0	3	0	193
19	175	0	1	3	0	0	1	0	0	3	0	202
44	199	0	0	0	0	0	0	0	0	3	0	246
49	124	0	0	1	0	0	3	0	0	4	0	181
67	123	0	0	2	0	0	0	0	0	2	0	194
39	159	2	0	1	0	1	2	0	0	2	0	206
38	88	0	0	2	0	0	0	0	0	5	0	133
295	1155	2	3	12	0	1	8	0	0	25	0	1501

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: GOLDEN STATE HWY

EAST-WEST STREET: 7TH STANDARD RD

TIME: 04:00PM-05:00PM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
50	82	87	Total
11	16	23	1st
16	19	16	2nd
8	11	14	3rd
15	36	34	4th

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	0
Thru	141	161	216	243	761
Lt	43	48	54	59	204

Total	1st	2nd	3rd	4th	
0	0	0	0	0	Lt
682	125	173	182	202	Thru
105	21	20	20	44	Rt

	Lt	Thru	Rt
1st	10	0	36
2nd	13	0	51
3rd	10	0	66
4th	30	0	64
Total	63	0	217

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: GOLDEN STATE HWY

EAST-WEST STREET: 7TH STANDARD RD

TIME: 05:00PM-06:00PM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
39	136	203	Total
10	46	55	1st
10	40	61	2nd
11	21	47	3rd
8	29	40	4th

	1st	2nd	3rd	4th	Total
Rt	0	0	0	0	0
Thru	221	172	120	178	691
Lt	67	112	33	51	263

Total	1st	2nd	3rd	4th	
2	0	0	2	0	Lt
518	132	127	164	95	Thru
194	49	67	40	38	Rt

	Lt	Thru	Rt
1st	29	108	77
2nd	76	136	54
3rd	65	112	59
4th	40	157	62
Total	210	513	252

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: SR-99 CONNECT
EAST-WEST STREET: MERLE HAGGARD DR DATE: 09-21-23
JURISDICTION: BAKERSFIELD

PEAK HOUR: 07:45AM

NORTH LEG

TOTAL: 693

Rt	Thru	Lt	
253	385	55	Total
63	105	20	1st
46	71	10	2nd
52	102	10	3rd
92	107	15	4th

EAST LEG TOTAL: 731

	1st	2nd	3rd	4th	Total
Rt	24	15	14	16	69
Thru	133	137	123	91	484
Lt	31	37	62	48	178

WEST LEG TOTAL: 794

Total	1st	2nd	3rd	4th	
158	64	27	45	22	Lt
491	154	137	97	103	Thru
145	45	35	39	26	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.81
SOUTH LEG = 0.75
EAST LEG = 0.92
WEST LEG = 0.75

ALL LEGS = 0.90

SOUTH LEG

TOTAL: 949

	Lt	Thru	Rt
1st	76	108	58
2nd	14	80	50
3rd	34	108	103
4th	50	150	118
Total	174	446	329

HOUR TOTAL: 3,167

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : SR-99 CONNECT — BAKERSFIELD

EAST-WEST STREET : MERLE HAGGARD DR — 09-21-23

BEGINNING TIME : 07:00AM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
26	28	8	2	1	1	2	1	0	3	13	2	87
63	25	5	0	0	0	0	4	0	3	36	8	144
31	51	31	0	0	0	0	2	0	4	47	3	169
55	72	17	5	0	0	1	0	0	2	33	3	188
43	55	8	0	0	0	1	0	0	2	16	2	127
52	74	6	0	0	0	0	0	0	0	28	4	164
88	77	12	0	0	0	0	0	0	4	30	3	214
46	118	1	0	0	0	0	0	0	2	21	3	191
404	500	88	7	1	1	4	7	0	20	224	28	1284
SOUTH LEG												
31	30	33	0	3	0	0	0	0	0	18	0	115
44	39	37	1	0	1	0	0	0	0	27	0	149
43	95	57	0	1	0	0	0	0	0	45	0	241
56	72	76	2	0	0	0	0	0	0	36	0	242
50	63	14	0	0	0	0	0	0	0	17	0	144
102	80	34	0	0	0	1	0	0	0	28	0	245
117	123	50	0	0	0	1	0	0	0	27	0	318
85	145	25	0	0	0	0	0	0	0	21	0	276
528	647	326	3	4	1	2	0	0	0	219	0	1730
EAST LEG												
4	95	9	4	6	2	0	3	3	2	9	2	139
5	126	62	4	2	2	0	0	0	1	3	0	205
18	131	9	0	0	3	0	0	0	3	8	2	174
21	128	27	0	1	2	0	0	0	3	4	2	188
13	129	29	0	3	3	0	1	1	2	4	4	189
11	115	59	1	4	0	0	1	1	2	3	2	199
10	86	39	3	2	4	1	0	2	2	3	3	155
2	59	73	0	0	0	0	0	0	2	2	0	138
84	869	307	12	18	16	1	5	7	17	36	15	1387
WEST LEG												
39	102	1	0	3	3	0	1	3	0	4	4	160
45	120	18	4	1	0	3	2	0	0	11	6	210
38	122	1	0	0	0	0	2	0	0	3	4	170
40	145	61	3	6	0	1	2	2	1	1	1	263
31	128	22	0	2	0	2	3	1	2	4	4	199
38	91	36	0	0	0	0	4	3	1	2	6	181
22	92	19	1	3	0	0	2	0	3	6	3	151
21	66	29	0	0	0	0	0	0	0	3	2	121
274	866	187	8	15	3	6	16	9	7	34	30	1455

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 CONNECT

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 07:00AM-08:00AM DATE: 09-21-23

NORTH LEG

197	313	78	Total
33	43	11	1st
66	65	13	2nd
35	100	34	3rd
63	105	20	4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt	10	10	21	24	65
Thru	113	131	139	133	516
Lt	16	64	14	31	125

Total	1st	2nd	3rd	4th	
104	11	24	5	64	Lt
525	110	134	127	154	Thru
174	39	52	38	45	Rt

	Lt	Thru	Rt
1st	33	51	31
2nd	38	66	45
3rd	57	141	43
4th	76	108	58
Total	204	366	177

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 CONNECT

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 08:00AM-09:00AM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
238	419	39	Total
46	71	10	1st
52	102	10	2nd
92	107	15	3rd
48	139	4	4th

	1st	2nd	3rd	4th	Total
Rt	15	14	16	4	49
Thru	137	123	91	61	412
Lt	37	62	48	73	220

Total	1st	2nd	3rd	4th	
125	27	45	22	31	Lt
406	137	97	103	69	Thru
121	35	39	26	21	Rt

	Lt	Thru	Rt
1st	14	80	50
2nd	34	108	103
3rd	50	150	118
4th	25	166	85
Total	123	504	356

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: SR-99 CONNECT
EAST-WEST STREET: MERLE HAGGARD DR DATE: 09-21-23
JURISDICTION: BAKERSFIELD

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 742

Rt	Thru	Lt	
161	496	85	Total
41	111	16	1st
45	118	20	2nd
51	153	38	3rd
24	114	11	4th

EAST LEG TOTAL: 1,448

	1st	2nd	3rd	4th	Total
Rt	41	45	60	17	163
Thru	229	266	287	173	955
Lt	69	52	87	122	330

Total	1st	2nd	3rd	4th	
123	22	45	28	28	Lt
734	166	169	202	197	Thru
140	33	39	55	13	Rt

WEST LEG TOTAL: 997

PEAK HOUR FACTORS

NORTH LEG = 0.77
SOUTH LEG = 0.80
EAST LEG = 0.83
WEST LEG = 0.87

ALL LEGS = 0.86

	Lt	Thru	Rt
1st	45	115	65
2nd	53	166	60
3rd	55	175	78
4th	95	174	97
Total	248	630	300

TOTAL: 1,178

SOUTH LEG

HOUR TOTAL: 4,365

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : SR-99 CONNECT — BAKERSFIELD

EAST-WEST STREET : MERLE HAGGARD DR — 09-21-23

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
32	89	15	0	1	0	0	0	0	0	6	0	143
39	88	12	1	0	0	0	0	0	1	23	4	168
42	106	19	3	0	0	0	1	0	0	11	1	183
49	143	38	1	0	0	0	0	0	1	10	0	242
22	98	11	0	1	0	0	0	0	2	15	0	149
36	111	1	2	0	0	0	1	0	2	10	4	167
84	77	2	0	0	0	0	0	0	0	16	1	180
69	122	10	0	0	0	0	0	0	0	10	0	211
373	834	108	7	2	0	0	2	0	6	101	10	1443
SOUTH LEG												
51	119	34	0	0	1	0	0	3	4	10	1	223
62	84	45	0	1	0	0	2	0	3	28	0	225
58	149	52	0	2	0	2	1	1	0	14	0	279
78	170	53	0	1	0	0	0	2	0	4	0	308
97	165	95	0	1	0	0	1	0	0	7	0	366
62	82	50	1	0	0	0	3	1	0	9	0	208
60	70	55	0	0	0	0	0	0	0	11	0	196
88	158	87	0	0	0	0	0	1	0	8	0	342
556	997	471	1	5	1	2	7	8	7	91	1	2147
EAST LEG												
29	226	43	0	1	0	0	0	0	0	3	0	302
37	219	69	3	1	0	0	3	0	1	6	0	339
45	261	51	0	1	0	0	1	0	0	3	1	363
60	284	85	0	1	0	0	0	0	0	2	2	434
14	168	117	1	1	3	0	1	0	2	3	2	312
18	174	85	0	3	0	2	4	2	0	5	0	293
7	187	126	0	0	0	0	0	0	0	1	1	322
9	168	105	0	0	0	0	0	1	0	1	0	284
219	1687	681	4	8	3	2	9	3	3	24	6	2649
WEST LEG												
19	135	17	0	0	0	0	0	0	0	2	2	175
32	161	13	0	3	3	0	1	2	1	1	4	221
39	168	43	0	1	0	0	0	1	0	0	1	253
54	200	24	0	0	0	0	0	2	1	2	2	285
12	193	23	1	0	0	0	1	2	0	3	3	238
15	147	51	4	0	1	1	1	4	1	2	0	227
41	193	42	0	0	0	0	0	1	0	1	0	278
5	159	33	0	0	0	0	0	0	0	1	1	199
217	1356	246	5	4	4	1	3	12	3	12	13	1876

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 CONNECT

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 04:00PM-05:00PM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
169	478	89	Total
32	96	15	1st
41	111	16	2nd
45	118	20	3rd
51	153	38	4th

	1st	2nd	3rd	4th	Total
Rt	29	41	45	60	175
Thru	230	229	266	287	1012
Lt	43	69	52	87	251

Total	1st	2nd	3rd	4th	
114	19	22	45	28	Lt
674	137	166	169	202	Thru
146	19	33	39	55	Rt

	Lt	Thru	Rt
1st	39	129	55
2nd	45	115	65
3rd	53	166	60
4th	55	175	78
Total	192	585	258

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: SR-99 CONNECT

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 05:00PM-06:00PM DATE: 09-21-23

NORTH LEG

217	461	29	Total
24	114	11	1st
40	122	5	2nd
84	93	3	3rd
69	132	10	4th
Rt	Thru	Lt	

Rt	17	20	7	9	53
Thru	173	186	188	169	716
Lt	122	87	127	106	442
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
161	28	56	43	34	Lt
701	197	150	194	160	Thru
80	13	21	41	5	Rt

	Lt	Thru	Rt
1st	95	174	97
2nd	51	94	63
3rd	55	81	60
4th	88	166	88
Total	289	515	308

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: WINGS WAY
EAST-WEST STREET: MERLE HAGGARD DR
JURISDICTION: BAKERSFIELD

DATE: 09-21-23

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 77

Rt	Thru	Lt	
69		8	Total
15	0	1	1st
15	0	2	2nd
18	0	2	3rd
21	0	3	4th

EAST LEG TOTAL: 657

	1st	2nd	3rd	4th	Total
Rt	8	10	10	11	39
Thru	137	153	136	149	575
Lt	10	10	11	12	43

WEST LEG TOTAL: 763

Total	1st	2nd	3rd	4th	
122	27	31	35	29	Lt
608	141	173	133	161	Thru
33	8	10	7	8	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.80
SOUTH LEG = 0.83
EAST LEG = 0.95
WEST LEG = 0.89

ALL LEGS = 0.93

SOUTH LEG

TOTAL: 50

	Lt	Thru	Rt
1st	11	0	0
2nd	10	1	3
3rd	7	0	3
4th	14	0	1
Total	42	1	7

HOUR TOTAL: 1,547

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : WINGS WAY — BAKERSFIELD

EAST-WEST STREET : MERLE HAGGARD DR — 09-21-23

BEGINNING TIME : 07:00AM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
8	0	1	0	0	0	1	0	0	0	0	0	10
9	0	0	0	0	0	1	0	0	1	0	1	12
13	0	1	0	0	0	0	0	0	2	0	0	16
13	0	0	0	0	0	1	0	0	1	0	2	17
15	0	2	0	0	0	2	0	0	1	0	0	20
20	0	3	0	0	0	1	0	0	0	0	0	24
11	0	1	0	0	0	2	0	0	1	0	0	15
11	0	0	0	0	0	2	0	0	0	0	1	14
100	0	8	0	0	0	10	0	0	6	0	4	128
SOUTH LEG												
1	0	0	0	0	0	0	0	1	0	0	0	2
1	0	1	0	0	0	0	0	1	0	0	0	3
0	0	11	0	0	0	0	0	0	0	0	0	11
3	1	9	0	0	0	0	0	1	0	0	0	14
3	0	7	0	0	0	0	0	0	0	0	0	10
1	0	14	0	0	0	0	0	0	0	0	0	15
1	0	9	0	0	0	0	0	1	0	0	0	11
3	0	5	0	0	0	0	0	1	0	0	0	9
13	1	56	0	0	0	0	0	5	0	0	0	75
EAST LEG												
6	83	3	0	5	0	0	4	0	0	7	0	108
8	166	2	0	2	0	0	0	0	0	5	0	183
8	126	10	0	1	0	0	1	0	0	9	0	155
10	145	10	0	4	0	0	1	0	0	3	0	173
10	131	11	0	2	0	0	0	0	0	3	0	157
11	145	12	0	2	0	0	0	0	0	2	0	172
5	116	9	0	2	0	0	1	0	1	3	0	137
9	107	3	0	0	0	0	1	0	0	4	0	124
67	1019	60	0	18	0	0	8	0	1	36	0	1209
WEST LEG												
3	76	21	0	3	0	0	1	0	0	3	0	107
3	115	29	0	1	0	0	2	0	0	10	0	160
8	135	26	0	2	0	0	1	0	0	3	1	176
10	163	30	0	6	0	0	1	0	0	3	1	214
7	127	33	0	2	0	0	1	0	0	3	2	175
8	157	29	0	0	0	0	2	0	0	2	0	198
5	152	19	0	2	0	0	1	0	1	4	2	186
7	106	33	0	1	0	0	1	0	0	3	0	151
51	1031	220	0	17	0	0	10	0	1	31	6	1367

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: WINGS WAY

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 07:00AM-08:00AM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
50	0	5	Total
9	0	1	1st
11	0	1	2nd
15	0	1	3rd
15	0	2	4th

	1st	2nd	3rd	4th	Total
Rt	6	8	8	10	32
Thru	99	173	137	153	562
Lt	3	2	10	10	25

Total	1st	2nd	3rd	4th	
108	21	29	27	31	Lt
525	83	128	141	173	Thru
24	3	3	8	10	Rt

	Lt	Thru	Rt
1st	1	0	1
2nd	2	0	1
3rd	11	0	0
4th	10	1	3
Total	24	1	5

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: WINGS WAY

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 08:00AM-09:00AM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
66	0	7	Total
18	0	2	1st
21	0	3	2nd
14	0	1	3rd
13	0	1	4th

	1st	2nd	3rd	4th	Total
Rt	10	11	6	9	36
Thru	136	149	122	112	519
Lt	11	12	9	3	35

Total	1st	2nd	3rd	4th	
118	35	29	21	33	Lt
564	133	161	159	111	Thru
28	7	8	6	7	Rt

	Lt	Thru	Rt
1st	7	0	3
2nd	14	0	1
3rd	10	0	1
4th	6	0	3
Total	37	0	8

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: WINGS WAY
EAST-WEST STREET: MERLE HAGGARD DR
JURISDICTION: BAKERSFIELD

DATE: 09-21-23

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 184

Rt	Thru	Lt	
159	2	23	Total
27	2	5	1st
43	0	8	2nd
21	0	5	3rd
68	0	5	4th

EAST LEG TOTAL: 1,143

	1st	2nd	3rd	4th	Total
Rt	1	0	1	2	4
Thru	283	285	366	198	1132
Lt	1	0	4	2	7

WEST LEG TOTAL: 1,027

Total	1st	2nd	3rd	4th	
183	36	45	41	61	Lt
829	188	181	249	211	Thru
15	2	8	3	2	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.63
SOUTH LEG = 0.80
EAST LEG = 0.77
WEST LEG = 0.88

ALL LEGS = 0.86

SOUTH LEG

TOTAL: 32

	Lt	Thru	Rt
1st	6	1	2
2nd	8	0	2
3rd	5	0	0
4th	7	0	1
Total	26	1	5

HOUR TOTAL: 2,386

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : WINGS WAY — BAKERSFIELD

EAST-WEST STREET : MERLE HAGGARD DR — 09-21-23

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
19	0	3	0	0	0	0	0	0	2	0	0	24
25	2	5	0	0	0	0	0	0	2	0	0	34
39	0	8	2	0	0	0	0	0	2	0	0	51
16	0	5	0	0	0	1	0	0	4	0	0	26
64	0	5	0	0	0	1	0	0	3	0	0	73
50	0	7	0	0	0	0	0	0	3	0	0	60
31	0	3	0	0	0	0	0	0	2	0	0	36
39	1	4	0	0	0	0	0	0	2	0	0	46
283	3	40	2	0	0	2	0	0	20	0	0	350
SOUTH LEG												
0	0	5	0	0	0	0	0	0	0	0	0	5
2	1	6	0	0	0	0	0	0	0	0	0	9
2	0	8	0	0	0	0	0	0	0	0	0	10
0	0	5	0	0	0	0	0	0	0	0	0	5
1	0	7	0	0	0	0	0	0	0	0	0	8
0	0	3	0	0	0	0	0	0	0	0	0	3
2	1	7	0	0	0	0	0	0	0	0	0	10
0	1	2	0	0	0	0	0	0	0	0	0	3
7	3	43	0	0	0	0	0	0	0	0	0	53
EAST LEG												
1	218	0	0	1	0	0	0	0	0	2	0	222
1	280	1	0	0	0	0	1	0	0	2	0	285
0	282	0	0	1	0	0	1	0	0	1	0	285
1	365	4	0	0	0	0	0	0	0	1	0	371
1	194	2	0	2	0	1	0	0	0	2	0	202
1	208	0	0	0	0	0	2	0	0	0	0	211
0	252	0	0	1	0	0	0	0	0	2	0	255
2	208	0	0	0	0	0	0	0	0	2	0	212
7	2007	7	0	5	0	1	4	0	0	12	0	2043
WEST LEG												
1	147	27	0	0	0	0	0	0	0	2	2	179
2	186	34	0	0	0	0	0	0	0	2	2	226
8	180	44	0	0	0	0	1	0	0	0	1	234
3	247	36	0	1	0	0	0	1	0	1	4	293
2	210	59	0	0	0	0	0	0	0	1	2	274
5	180	60	0	0	0	0	1	0	0	2	0	248
2	186	47	0	1	0	0	1	0	0	0	1	238
1	188	36	0	0	0	0	0	0	0	1	0	226
24	1524	343	0	2	0	0	3	1	0	9	12	1918

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: WINGS WAY

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 04:00PM-05:00PM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
112	2	21	Total
21	0	3	1st
27	2	5	2nd
43	0	8	3rd
21	0	5	4th

	1st	2nd	3rd	4th	Total
Rt	1	1	0	1	3
Thru	221	283	285	366	1155
Lt	0	1	0	4	5

Total	1st	2nd	3rd	4th	
151	29	36	45	41	Lt
767	149	188	181	249	Thru
14	1	2	8	3	Rt

	Lt	Thru	Rt
1st	5	0	0
2nd	6	1	2
3rd	8	0	2
4th	5	0	0
Total	24	1	4

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: WINGS WAY

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 05:00PM-06:00PM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
195	1	19	Total
68	0	5	1st
53	0	7	2nd
33	0	3	3rd
41	1	4	4th

	1st	2nd	3rd	4th	Total
Rt	2	1	0	2	5
Thru	198	210	255	210	873
Lt	2	0	0	0	2

Total	1st	2nd	3rd	4th	
205	61	60	48	36	Lt
771	211	183	188	189	Thru
10	2	5	2	1	Rt

	Lt	Thru	Rt
1st	7	0	1
2nd	3	0	0
3rd	7	1	2
4th	2	1	0
Total	19	2	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIPORT DR
EAST-WEST STREET: MERLE HAGGARD DR
JURISDICTION: BAKERSFIELD

DATE: 09-21-23

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 336

Rt	Thru	Lt	
57	272	7	Total
10	59	2	1st
16	88	3	2nd
19	63	2	3rd
12	62	0	4th

EAST LEG TOTAL: 547

	1st	2nd	3rd	4th	Total
Rt	1	1	0	0	2
Thru	131	139	120	131	521
Lt	5	7	8	4	24

WEST LEG TOTAL: 626

Total	1st	2nd	3rd	4th	
74	19	20	18	17	Lt
512	115	145	113	139	Thru
40	10	10	9	11	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.79
SOUTH LEG = 0.84
EAST LEG = 0.93
WEST LEG = 0.89

ALL LEGS = 0.87

SOUTH LEG

TOTAL: 378

	Lt	Thru	Rt
1st	16	59	7
2nd	19	83	10
3rd	17	66	9
4th	27	61	4
Total	79	269	30

HOUR TOTAL: 1,887

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIPORT DR — BAKERSFIELD

EAST-WEST STREET : MERLE HAGGARD DR — 09-21-23

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
5	40	0	0	0	0	1	0	0	0	0	0	46
11	60	0	0	0	0	0	0	0	0	0	0	71
10	59	2	0	0	0	0	0	0	0	0	0	71
13	85	3	0	1	0	1	0	0	2	2	0	107
13	62	2	3	1	0	2	0	0	1	0	0	84
7	62	0	3	0	0	0	0	0	2	0	0	74
10	45	2	0	0	0	0	0	0	0	0	0	57
10	32	0	0	0	0	0	0	0	0	0	0	42
79	445	9	6	2	0	4	0	0	5	2	0	552
					SOUTH LEG							
3	33	9	0	0	2	0	0	2	0	0	0	49
3	48	19	0	0	0	0	0	0	0	0	0	70
7	59	16	0	0	0	0	0	0	0	0	0	82
10	80	16	0	1	1	0	0	0	0	2	2	112
6	62	14	2	2	1	0	1	2	1	1	0	92
4	60	27	0	0	0	0	0	0	0	1	0	92
5	33	21	0	0	0	0	0	1	0	0	0	60
3	23	15	0	0	0	0	0	1	0	0	0	42
41	398	137	2	3	4	0	1	6	1	4	2	599
					EAST LEG							
0	77	1	0	3	0	0	1	0	0	7	0	89
0	137	3	0	2	0	0	0	0	0	5	0	147
1	120	5	0	1	0	0	1	0	0	9	0	137
1	134	7	0	3	0	0	0	0	0	2	0	147
0	119	8	0	0	0	0	0	0	0	1	0	128
0	129	4	0	1	0	0	0	0	0	1	0	135
1	102	3	0	2	0	0	0	0	0	2	0	110
0	95	3	0	1	0	0	0	0	0	3	0	102
3	913	34	0	13	0	0	2	0	0	30	0	995
					WEST LEG							
5	73	9	0	0	0	0	1	0	0	3	0	91
5	99	12	0	0	0	0	2	0	0	10	1	129
10	111	19	0	0	0	0	1	0	0	3	0	144
9	135	18	0	4	2	0	2	0	1	4	0	175
9	108	15	0	2	2	0	1	0	0	2	1	140
10	136	14	1	0	0	0	1	1	0	2	2	167
10	126	21	0	0	0	0	1	0	0	4	0	162
4	96	14	0	0	0	1	0	0	0	3	0	118
62	884	122	1	6	4	1	9	1	1	31	4	1126

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIPORT DR

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 07:00AM-08:00AM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
43	247	5	Total
6	40	0	1st
11	60	0	2nd
10	59	2	3rd
16	88	3	4th

	1st	2nd	3rd	4th	Total
Rt	0	0	1	1	2
Thru	88	144	131	139	502
Lt	1	3	5	7	16

Total	1st	2nd	3rd	4th	
61	9	13	19	20	Lt
448	77	111	115	145	Thru
30	5	5	10	10	Rt

	Lt	Thru	Rt
1st	13	33	3
2nd	19	48	3
3rd	16	59	7
4th	19	83	10
Total	67	223	23

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIPORT DR

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 08:00AM-09:00AM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
51	202	4	Total
19	63	2	1st
12	62	0	2nd
10	45	2	3rd
10	32	0	4th

	1st	2nd	3rd	4th	Total
Rt	0	0	1	0	1
Thru	120	131	106	99	456
Lt	8	4	3	3	18

Total	1st	2nd	3rd	4th	
70	18	17	21	14	Lt
482	113	139	131	99	Thru
35	9	11	10	5	Rt

	Lt	Thru	Rt
1st	17	66	9
2nd	27	61	4
3rd	22	33	5
4th	16	23	3
Total	82	183	21

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: AIPORT DR
EAST-WEST STREET: MERLE HAGGARD DR
JURISDICTION: BAKERSFIELD

DATE: 09-21-23

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 280

Rt	Thru	Lt	
48	203	29	Total
8	42	6	1st
11	58	5	2nd
14	55	8	3rd
15	48	10	4th

EAST LEG TOTAL: 1,011

	1st	2nd	3rd	4th	Total
Rt	3	3	6	5	17
Thru	244	244	315	149	952
Lt	7	11	11	13	42

WEST LEG TOTAL: 850

Total	1st	2nd	3rd	4th	
75	18	16	22	19	Lt
686	166	151	203	166	Thru
89	13	22	24	30	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.91
SOUTH LEG = 0.85
EAST LEG = 0.76
WEST LEG = 0.85

ALL LEGS = 0.82

SOUTH LEG

TOTAL: 342

	Lt	Thru	Rt
1st	30	21	11
2nd	26	40	16
3rd	38	38	21
4th	39	43	19
Total	133	142	67

HOUR TOTAL: 2,483

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : AIPORT DR — BAKERSFIELD

EAST-WEST STREET : MERLE HAGGARD DR — 09-21-23

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
8	35	3	0	0	0	0	0	0	0	0	0	46
8	42	6	0	0	0	0	0	0	0	0	0	56
11	58	5	0	0	0	0	0	0	0	0	0	74
14	55	8	0	0	0	0	0	0	0	0	0	77
15	48	10	0	0	0	0	0	0	0	0	0	73
9	53	6	0	0	0	0	0	0	0	0	0	68
10	33	5	0	0	0	0	0	0	1	0	0	49
9	28	5	0	0	0	0	0	0	0	0	0	42
84	352	48	0	0	0	0	0	0	1	0	0	485
SOUTH LEG												
11	41	22	0	0	0	0	0	0	0	0	0	74
11	21	30	0	0	0	0	0	0	0	0	0	62
16	40	25	0	0	0	0	0	1	0	0	0	82
21	38	38	0	0	0	0	0	0	0	0	0	97
19	43	37	0	0	0	0	0	0	0	0	2	101
10	22	35	0	0	0	0	0	0	0	1	1	69
13	21	28	0	0	0	0	0	0	0	1	1	64
11	21	22	0	0	0	0	0	0	0	0	0	54
112	247	237	0	0	0	0	0	1	0	2	4	603
EAST LEG												
1	188	5	0	1	0	0	0	0	0	2	0	197
3	241	7	0	0	0	0	1	0	0	2	0	254
3	242	11	0	1	0	0	0	0	0	1	0	258
6	314	11	0	0	0	0	0	0	0	1	0	332
5	147	13	0	2	0	0	0	0	0	0	0	167
1	164	9	1	0	0	0	0	0	0	1	0	176
3	206	8	0	1	0	0	2	0	0	1	0	221
2	178	6	0	0	0	0	0	0	0	1	0	187
24	1680	70	1	5	0	0	3	0	0	9	0	1792
WEST LEG												
16	120	13	0	0	0	0	0	0	0	2	0	151
13	164	18	0	0	0	0	0	0	0	2	0	197
22	150	16	0	0	0	0	1	0	0	0	0	189
24	201	22	0	1	0	0	0	0	0	1	0	249
30	165	19	0	0	0	0	0	0	0	1	0	215
31	144	13	0	0	0	0	0	0	0	1	2	191
20	153	16	0	1	0	0	2	0	0	0	0	192
16	163	11	0	0	0	0	0	0	0	1	0	191
172	1260	128	0	2	0	0	3	0	0	8	2	1575

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIPORT DR

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 04:00PM-05:00PM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
41	190	22	Total
8	35	3	1st
8	42	6	2nd
11	58	5	3rd
14	55	8	4th

	1st	2nd	3rd	4th	Total
Rt	1	3	3	6	13
Thru	191	244	244	315	994
Lt	5	7	11	11	34

Total	1st	2nd	3rd	4th	
69	13	18	16	22	Lt
642	122	166	151	203	Thru
75	16	13	22	24	Rt

	Lt	Thru	Rt
1st	22	41	11
2nd	30	21	11
3rd	26	40	16
4th	38	38	21
Total	116	140	59

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: AIPORT DR

EAST-WEST STREET: MERLE HAGGARD DR

TIME: 05:00PM-06:00PM DATE: 09-21-23

NORTH LEG

Rt	Thru	Lt	
44	162	26	Total
15	48	10	1st
9	53	6	2nd
11	33	5	3rd
9	28	5	4th

	1st	2nd	3rd	4th	Total
Rt	5	2	3	2	12
Thru	149	165	210	179	703
Lt	13	9	8	6	36

Total	1st	2nd	3rd	4th	
61	19	15	16	11	Lt
631	166	145	156	164	Thru
97	30	31	20	16	Rt

	Lt	Thru	Rt
1st	39	43	19
2nd	36	23	10
3rd	29	22	13
4th	22	21	11
Total	126	109	53

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: HANGER WAY
EAST-WEST STREET: BOUGHTON DR
JURISDICTION: BAKERSFIELD

DATE: 09-21-23

PEAK HOUR: 07:30AM

NORTH LEG

TOTAL: 0

Rt	Thru	Lt	
			Total
			1st
			2nd
			3rd
			4th

EAST LEG TOTAL: 60

	1st	2nd	3rd	4th	Total
Rt					
Thru	13	10	13	15	51
Lt	5	2	1	1	9

WEST LEG TOTAL: 12

Total	1st	2nd	3rd	4th	
					Lt
7	1	2	4	0	Thru
5	3	0	1	1	Rt

SOUTH LEG

	Lt	Thru	Rt
1st	2		1
2nd	0		0
3rd	0		0
4th	1		3
Total	3		4

TOTAL: 7

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.44
EAST LEG = 0.83
WEST LEG = 0.60

ALL LEGS = 0.79

HOUR TOTAL: 79

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : HANGER WAY BAKERSFIELD

EAST-WEST STREET : BOUGHTON DR 09-21-23

BEGINNING TIME : 07:00AM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	1	0	0	0	0	0	0	3
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	1	0	0	0	0	0	0	0	0	0	4
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	3	0	0	0	0	0	0	0	0	0	3
4	0	6	0	0	1	0	0	0	0	0	0	11
EAST LEG												
0	4	0	0	0	0	0	0	0	0	0	0	4
0	2	0	0	0	0	0	1	0	0	0	0	3
0	13	5	0	0	0	0	0	0	0	0	0	18
0	10	2	0	0	0	0	0	0	0	0	0	12
0	13	1	0	0	0	0	0	0	0	0	0	14
0	14	1	0	0	0	0	0	0	0	1	0	16
0	10	2	0	0	0	0	0	0	0	0	0	12
0	4	0	0	0	0	0	0	0	0	0	0	4
0	70	11	0	0	0	0	1	0	0	1	0	83
WEST LEG												
1	2	0	0	0	0	0	0	0	0	0	0	3
0	1	0	0	0	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	1	0	4
0	2	0	0	0	0	0	0	0	0	0	0	2
1	4	0	0	0	0	0	0	0	0	0	0	5
1	0	0	0	0	0	0	0	0	0	0	0	1
0	3	0	0	0	0	0	0	0	0	0	0	3
2	1	0	0	0	0	0	0	0	0	0	0	3
8	13	0	0	0	0	0	0	0	0	1	0	22

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: HANGER WAY

EAST-WEST STREET: BOUGHTON DR

TIME: 07:00AM-08:00AM **DATE: 09-21-23**

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

Rt					
Thru	4	3	13	10	30
Lt	0	0	5	2	7
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
					Lt
6	2	1	1	2	Thru
4	1	0	3	0	Rt

	Lt	Thru	Rt
1st	0		0
2nd	0		0
3rd	2		1
4th	0		0
Total	2		1

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: HANGER WAY

EAST-WEST STREET: BOUGHTON DR

TIME: 08:00AM-09:00AM DATE: 09-21-23

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

Rt					
Thru	13	15	10	4	42
Lt	1	1	2	0	4
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
					Lt
8	4	0	3	1	Thru
4	1	1	0	2	Rt

	Lt	Thru	Rt
1st	0		0
2nd	1		3
3rd	1		0
4th	3		0
Total	5		3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: HANGER WAY
EAST-WEST STREET: BOUGHTON DR
JURISDICTION: BAKERSFIELD

DATE: 09-21-23

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 0

	Rt	Thru	Lt
Total			
1st			
2nd			
3rd			
4th			

EAST LEG TOTAL: 8

	1st	2nd	3rd	4th	Total
Rt					
Thru	2	2	2	0	6
Lt	1	0	0	1	2

WEST LEG TOTAL: 29

	Total	1st	2nd	3rd	4th
Lt					
Thru	26	9	7	5	5
Rt	3	2	0	0	1

SOUTH LEG

	Lt	Thru	Rt
1st	1		0
2nd	0		3
3rd	1		3
4th	2		0
Total	4		6

TOTAL: 10

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.63
EAST LEG = 0.67
WEST LEG = 0.66

ALL LEGS = 0.78

HOUR TOTAL: 47

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : HANGER WAY BAKERSFIELD

EAST-WEST STREET : BOUGHTON DR 09-21-23

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
2	0	0	0	0	0	0	0	0	0	0	0	2
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	1	0	0	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	0	0	3
3	0	1	0	0	0	0	0	0	0	0	0	4
0	0	2	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	5	0	0	0	0	0	0	0	0	0	13
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
0	2	1	0	0	0	0	0	0	0	0	0	3
0	1	0	0	1	0	0	0	0	0	0	0	2
0	1	0	0	0	0	0	0	0	0	1	0	2
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	4	3	0	1	0	0	0	0	0	1	0	9
WEST LEG												
0	3	0	0	0	0	0	0	0	0	0	0	3
0	5	0	0	0	0	0	0	0	0	0	0	5
2	9	0	0	0	0	0	0	0	0	0	0	11
0	7	0	0	0	0	0	0	0	0	0	0	7
0	5	0	0	0	0	0	0	0	0	0	0	5
1	4	0	0	1	0	0	0	0	0	0	0	6
0	6	0	0	0	0	0	0	0	0	0	0	6
0	3	0	0	0	0	0	0	0	0	0	0	3
3	42	0	0	1	0	0	0	0	0	0	0	46

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: HANGER WAY

EAST-WEST STREET: BOUGHTON DR

TIME: 04:00PM-05:00PM DATE: 09-21-23

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt					
Thru	0	0	2	2	4
Lt	0	1	1	0	2

Total	1st	2nd	3rd	4th	
					Lt
24	3	5	9	7	Thru
2	0	0	2	0	Rt

	Lt	Thru	Rt
1st	0		2
2nd	1		0
3rd	1		0
4th	0		3
Total	2		5

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: HANGER WAY

EAST-WEST STREET: BOUGHTON DR

TIME: 05:00PM-06:00PM DATE: 09-21-23

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt					
Thru	2	0	0	0	2
Lt	0	1	0	0	1

Total	1st	2nd	3rd	4th	
					Lt
19	5	5	6	3	Thru
1	0	1	0	0	Rt

	Lt	Thru	Rt
1st	1		3
2nd	2		0
3rd	0		0
4th	0		0
Total	3		3

Prepared by NEWPORT TRAFFIC STUDIES

Appendix C: Forecast Model Plots and Volume Development

KernCOG Transportation Analysis 2020 Model

AM Peak Hour Volumes

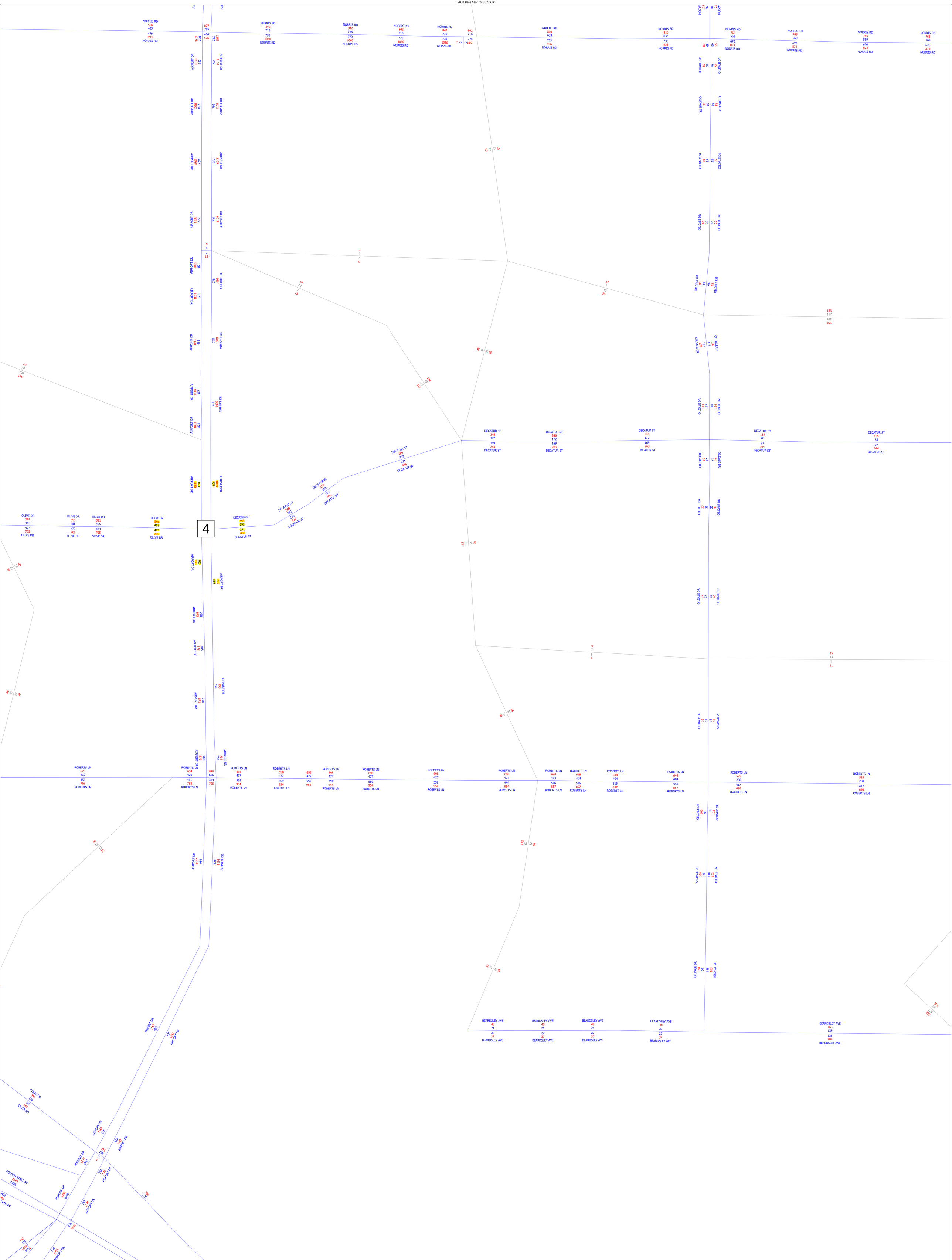
PM Peak Hour Volumes

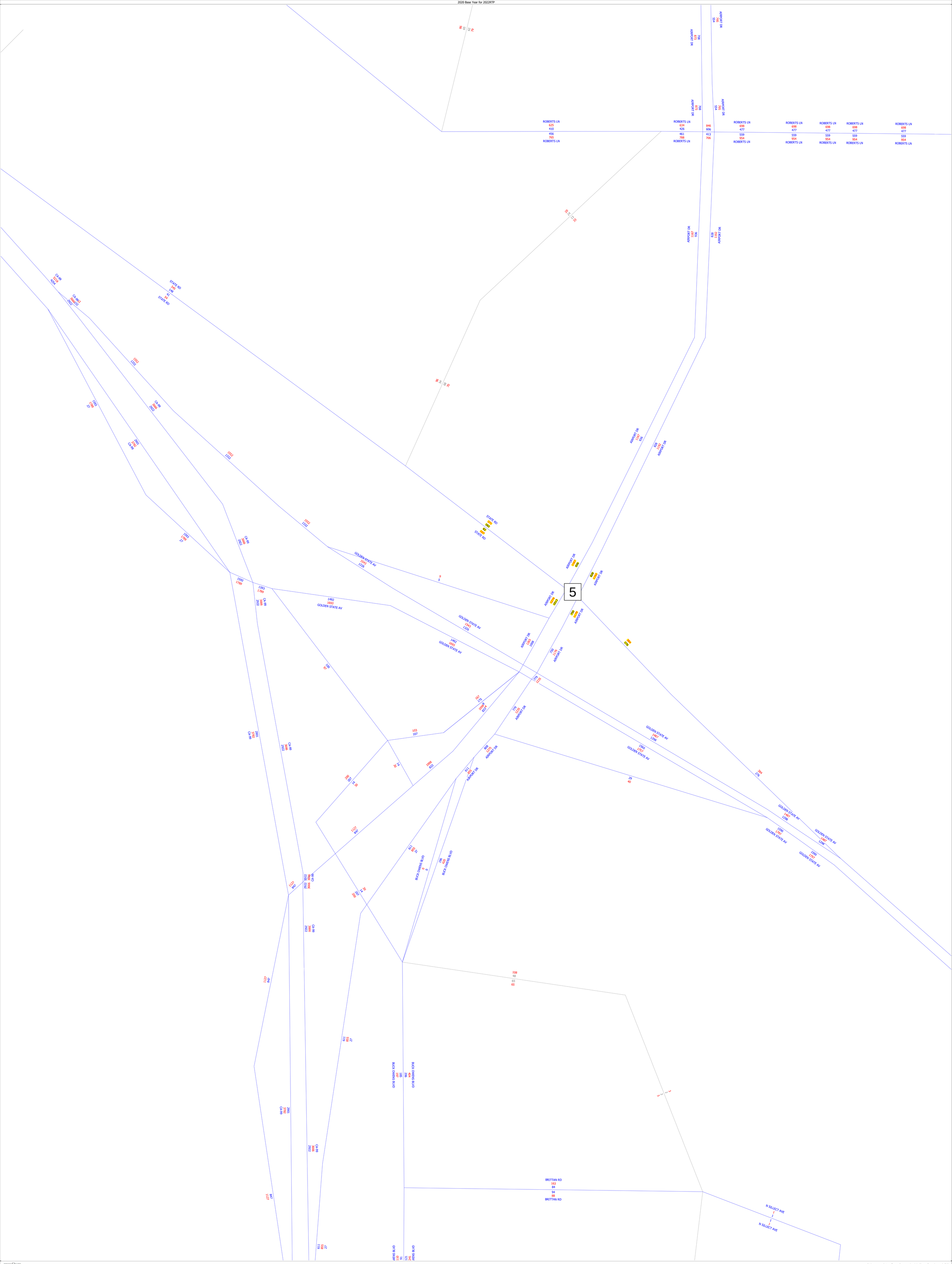
Legend:

- [#] Study Intersection
- Volumes Used

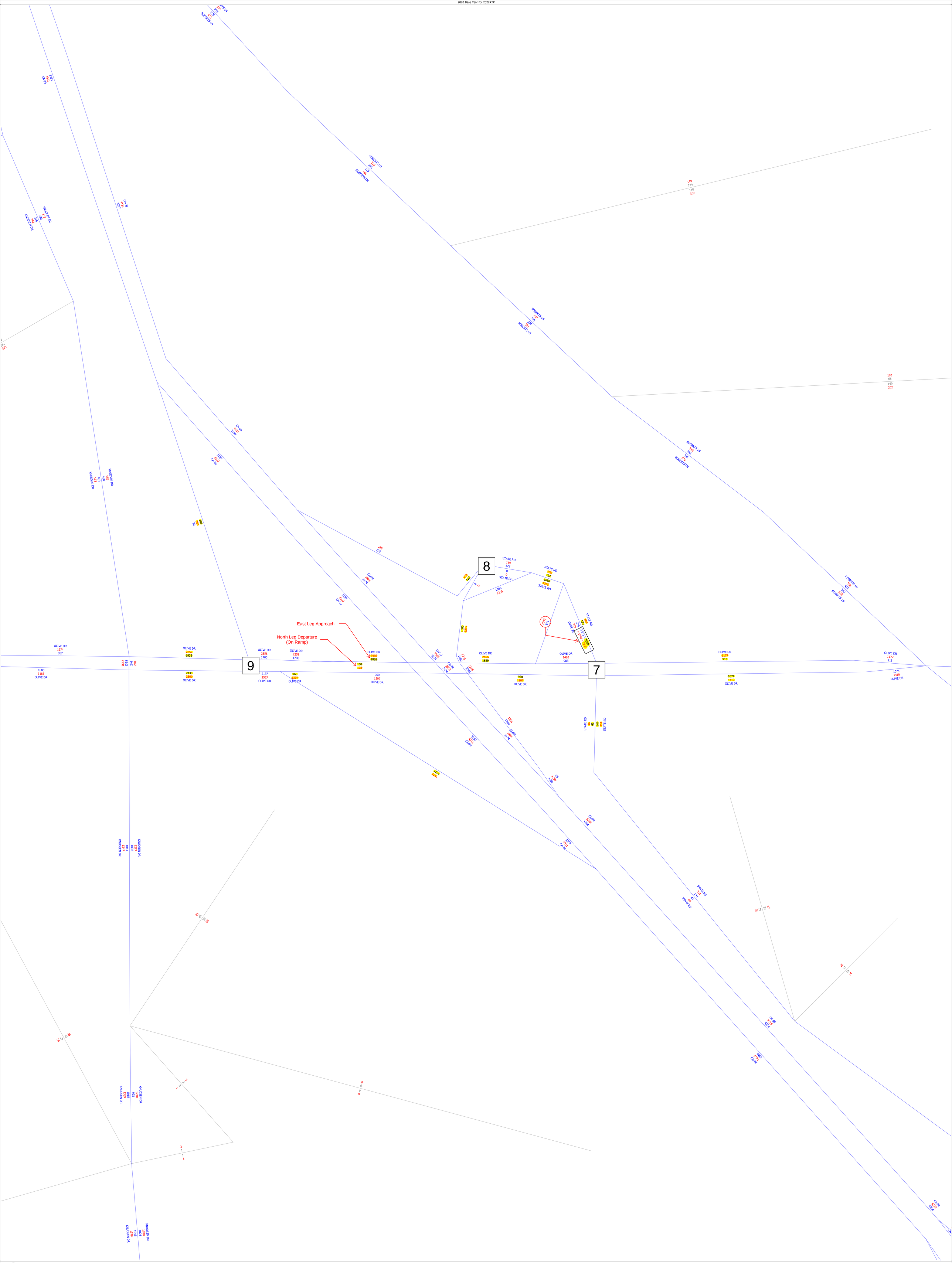
* Intersections 4,5,7,8, and 9 are in the subsequent pages.

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NORRIS RD
AIRPORT DR
OLDALE DR
DECATUR ST
OLIVE DR
ROBERTS LN
BEARDSLEY AVE
STATE RD
GOLDEN STATE AV
4



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cube (Licensed to San Joaquin Valley Regional Pl)

KernCOG Transportation Analysis 2046 Model

AM Peak Hour Volumes

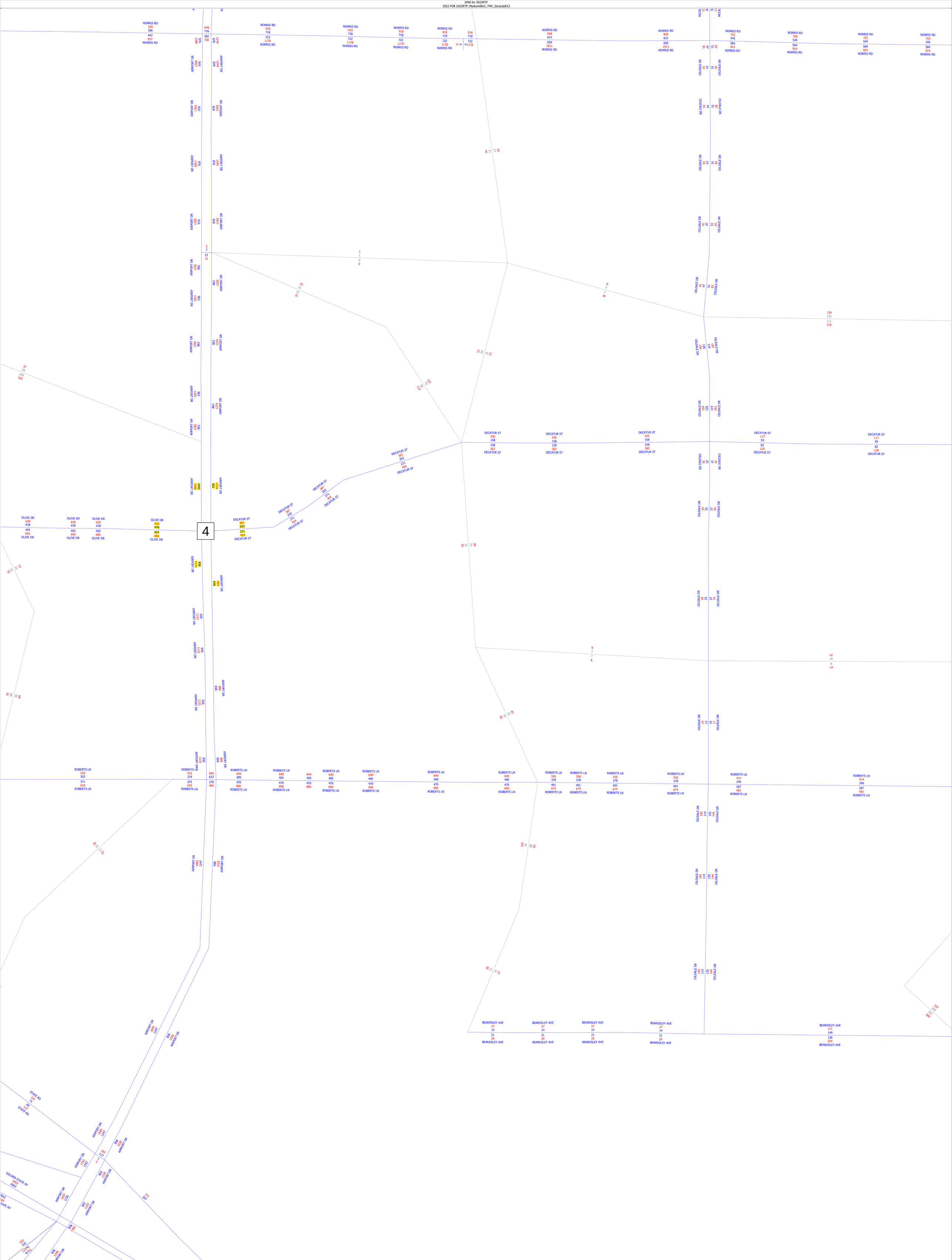
PM Peak Hour Volumes

Legend:

- [#] Study Intersection
- Volumes Used


* Intersections 4,5,7,8, and 9 are in the subsequent pages.

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cube
(Licensed to San Joaquin Valley Regional PI)

2046 for 2022RTP
2022 FOR 2022RTP_Medium08v2_TMV_ZeroLiteR13



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8

9

7

East Leg Approach

North Leg Departure
(On Ramp)

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Appendix D: Cumulative Projects List

Trisha Munoz

From: Paul Candelaria <paulc@kerncounty.com>
Sent: Tuesday, October 3, 2023 8:51 AM
To: Trisha Munoz
Cc: Jim Daisa; Cesar Ayon; Craig Murphy; Craig Wilde; Rodd Parke
Subject: Re: Scope Agreement for the Proposed Kern County Warehouse - APN: 492-010-17 / 492-010-13 (IPGIK52H-0001)

Good Morning Trisha,

Sorry for the delay. After discussing this with the Director of Public Works, he is good with the 3.5% annual growth rate to represent both ambient growth and other area development within the vicinity and the list to be included in the appendix.

Best Regards,

Paul Candelaria
Senior Engineer
Kern County Public Works Department.
(661) 862-8869 Direct
(661) 862-8851 Fax
paulc@kerncounty.com

From: Trisha Munoz <TMunoz@deainc.com>
Sent: Monday, September 25, 2023 12:51 PM
To: Paul Candelaria <paulc@kerncounty.com>
Cc: Jim Daisa <Jim.Daisa@deainc.com>; Cesar Ayon <AyonC@kerncounty.com>; Craig Murphy <Murphyc@kerncounty.com>; Craig Wilde <craig@industrialpg.com>
Subject: RE: Scope Agreement for the Proposed Kern County Warehouse - APN: 492-010-17 / 492-010-13 (IPGIK52H-0001)

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Paul,

As requested in the comments to the Approved Scope Agreement, we reached out to Planning for planned and approved development in the area of the proposed project. We received a cumulative project list; which did not include much of a project description, building floor area, or trip generation estimates. The projects listed are in a status of “Accepted”, “Applied”, or “In Review”.

We spoke with Planning to identify which project status type should we focus on? We were instructed that the planning department provides the Cumulative Projects list and that they do not require a quantitative analysis or the projects to be modeled. The list should be included in the body of the report with a discussion to explain that this list includes the anticipated development to occur in the area. To which we asked if we could apply 3.5% growth to the opening year, as

outlined in our approved scope agreement, to account for these anticipated projects and include the list in our appendix. We were told to reach out to Traffic to determine what should be included in the Traffic Report.

We are looking for approval, in the scope agreement we outlined that the Opening Year Conditions (Year 2025) would include an ambient growth. Is the traffic team in agreement with an annual growth rate in traffic of 3.5% used to represents both ambient growth and other area development with a discussion of anticipated development to occur in the area and the list to be included in the appendix?

Trisha Munoz, EIT | Engineering Designer II, Transportation
David Evans and Associates, Inc.
18484 Outer Highway 18 North, Suite 225 | Apple Valley, CA, 92307 | www.deainc.com
d: 760.524.9120 | c: 760.686.1215 | Cisco: 39120 | tnm@deainc.com

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From: Paul Candelaria <paulc@kerncounty.com>
Sent: Wednesday, August 16, 2023 1:24 PM
To: Craig Wilde <craig@industrialpg.com>; Trisha Munoz <TMunoz@deainc.com>
Cc: Jim Daisa <Jim.Daisa@deainc.com>; Cesar Ayon <AyonC@kerncounty.com>; Craig Murphy <Murphyc@kerncounty.com>
Subject: Re: Scope Agreement for the Proposed Kern County Warehouse - APN: 492-010-17 / 492-010-13 (IPGIK52H-0001)

Good Afternoon, Trisha,

Please see the attached PDF for the County's comments on the scoping for the subject project. If you have any questions, please call or email me.

Best Regards,

Paul Candelaria
Senior Engineer
Kern County Public Works Department.
(661) 862-8869 Direct
(661) 862-8851 Fax
paulc@kerncounty.com

From: Craig Wilde <craig@industrialpg.com>
Sent: Monday, August 14, 2023 6:00 AM
To: Trisha Munoz <TMunoz@deainc.com>; Paul Candelaria <paulc@kerncounty.com>
Cc: Jim Daisa <Jim.Daisa@deainc.com>; Cesar Ayon <AyonC@kerncounty.com>; Craig Murphy <Murphyc@kerncounty.com>
Subject: Re: Scope Agreement for the Proposed Kern County Warehouse - APN: 492-010-17 / 492-010-13 (IPGIK52H-0001)

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Paul,

Checking in on this review. We would appreciate an update as soon as you are able. Our CEQA team is waiting on this to begin their AQ/GHG analysis for the project and we are anxious to get that process underway. Thank you for your continued assistance and support.

Craig Wilde - Development Manager
Industrial Property Group, Inc
10515 20th Street Southeast
Lake Stevens, Washington 98258, United States
314-713-9516
https://industrialpg.com/

From: Craig Wilde <craig@industrialpg.com>
Sent: Tuesday, August 8, 2023 7:54 AM
To: Trisha Munoz <TMunoz@deainc.com>; Paul Candelaria <paulc@kerncounty.com>
Cc: Jim Daisa <Jim.Daisa@deainc.com>; Cesar Ayon <AyonC@kerncounty.com>; Craig Murphy <Murphyc@kerncounty.com>
Subject: Re: Scope Agreement for the Proposed Kern County Warehouse - APN: 492-010-17 / 492-010-13 (IPGIK52H-0001)

Paul,

Thank you for the update last week. Please let me know if there is anything else needed from me or my team to continue your review.

Craig Wilde - Development Manager
Industrial Property Group, Inc
10515 20th Street Southeast
Lake Stevens, Washington 98258, United States
314-713-9516
https://industrialpg.com/

From: Trisha Munoz <TMunoz@deainc.com>
Sent: Monday, July 31, 2023 7:12 PM
To: Paul Candelaria <paulc@kerncounty.com>; Craig Wilde <craig@industrialpg.com>
Cc: Jim Daisa <Jim.Daisa@deainc.com>; Cesar Ayon <AyonC@kerncounty.com>

Subject: RE: Scope Agreement for the Proposed Kern County Warehouse - APN: 492-010-17 / 492-010-13 (IPGIK52H-0001)

Paul,

Thank you for the update.

Trisha Munoz, EIT | Engineering Designer II, Transportation
David Evans and Associates, Inc.
18484 Outer Highway 18 North, Suite 225 | Apple Valley, CA, 92307 | www.deainc.com
d: 760.524.9120 | c: 760.686.1215 | Cisco: 39120 | tnm@deainc.com

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From: Paul Candelaria <paulc@kerncounty.com>
Sent: Monday, July 31, 2023 4:52 PM
To: Craig Wilde <craig@industrialpg.com>; Trisha Munoz <TMunoz@deainc.com>
Cc: Jim Daisa <Jim.Daisa@deainc.com>; Cesar Ayon <AyonC@kerncounty.com>
Subject: Re: Scope Agreement for the Proposed Kern County Warehouse - APN: 492-010-17 / 492-010-13 (IPGIK52H-0001)

Good afternoon, Trisha,

I did receive your voicemail. Currently, we are looking at 2-3 more weeks. I finally got a hold of the Planning Department, and they informed me that they are working on some things that will affect this project, as well as other projects in the vicinity and that they hopefully will get it to me by the end of this week. I am currently reviewing a traffic study I hope to have wrapped up this week and start your trip generation submittal. Once I am done, I give it to my manager to look over and then send comments back to the Planning Department. However, you will be kept in the loop with my correspondence to the Planning Department.

Best Regards,

Paul Candelaria
Senior Engineer
Kern County Public Works Department.
(661) 862-8869 Direct
(661) 862-8851 Fax
paulc@kerncounty.com

From: Craig Wilde <craig@industrialpg.com>
Sent: Monday, July 31, 2023 11:39 AM
To: Trisha Munoz <TMunoz@deainc.com>; Paul Candelaria <paulc@kerncounty.com>
Cc: Jim Daisa <Jim.Daisa@deainc.com>
Subject: Re: Scope Agreement for the Proposed Kern County Warehouse - APN: 492-010-17 / 492-010-13 (IPGIK52H-0001)

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Paul / Trisha - circling back here to see if you both had a chance to connect last week. Please let me know if there is anything I can do to move things along. Thanks!

Craig Wilde - Development Manager
Industrial Property Group, Inc
10515 20th Street Southeast
Lake Stevens, Washington 98258, United States
314-713-9516
https://industrialpg.com/

From: Trisha Munoz <TMunoz@deainc.com>
Sent: Tuesday, July 25, 2023 11:14:45 AM
To: PaulC@kerncounty.com <PaulC@kerncounty.com>
Cc: Jim Daisa <Jim.Daisa@deainc.com>; Craig Wilde <craig@industrialpg.com>
Subject: RE: Scope Agreement for the Proposed Kern County Warehouse - APN: 492-010-17 / 492-010-13 (IPGIK52H-0001)

Good Morning Paul,

Checking in with you on the review of the Scope Agreement for the Proposed Kern County Warehouse. Could you provide a timeline on your review? If I recall correctly, typical review period is 2-3 weeks. We would like to confirm the review is on schedule and the 2-3 week review period is from the submittal date of July 11th.

Trisha Munoz, EIT | Engineering Designer II, Transportation
David Evans and Associates, Inc.
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From: Trisha Munoz
Sent: Monday, July 17, 2023 10:36 AM
To: PaulC@kerncounty.com
Cc: Jim Daisa <Jim.Daisa@deainc.com>; Craig Wilde <craig@industrialpg.com>
Subject: RE: Scope Agreement for the Proposed Kern County Warehouse - APN: 492-010-17 / 492-010-13 (IPGIK52H-0001)

Paul,

Please confirm receipt of the Scope Agreement for the Proposed Kern County Warehouse.

Trisha Munoz, EIT | Engineering Designer II, Transportation
David Evans and Associates, Inc.
18484 Outer Highway 18 North, Suite 225 | Apple Valley, CA, 92307 | www.deainc.com
d: 760.524.9120 | c: 760.686.1215 | Cisco: 39120 | tnm@deainc.com

ENERGY | LAND DEVELOPMENT | MARINE SERVICES | SURVEYING AND GEOMATICS | TRANSPORTATION | WATER AND ENVIRONMENT

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From: Trisha Munoz
Sent: Tuesday, July 11, 2023 1:59 PM
To: PaulC@kerncounty.com
Cc: Jim Daisa <Jim.Daisa@deainc.com>; Craig Murphy <Murphyc@kerncounty.com>; Craig Wilde <craig@industrialpg.com>
Subject: Scope Agreement for the Proposed Kern County Warehouse - APN: 492-010-17 / 492-010-13 (IPGIK52H-0001)

Paul,

It was great talking with you on June 29th. As mentioned, we are preparing a traffic study for a warehouse project in Kern County near the Meadow Field Airport. Please see attached the scoping memorandum provided for review and comment by the county and Caltrans prior to beginning the study. We have submitted the scoping memorandum to District 6 Division of Planning. Local Programs & Environmental Analysis concurrently.

We are looking forward to working with you and your team.

Trisha Munoz, EIT | Engineering Designer II, Transportation
David Evans and Associates, Inc.
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B1_FILE_DD	Type	B1_PER_SUB_TYPE	B1_PER_CATEGORY	PermitNumber	Status	WorkDesc	CaseName	CaseNumber	ActivityNote	ApplicantFirstName	ApplicantLastName	ApplicantFullName	ApplicantBuisnessName	ApplicantAddress	ApplicantCity	ApplicantState	ApplicantZip	APN	New Apn	MapNumber	Section	Tract	Township	Range	CensusTract	ParcelArea	ZoneMap	GeneralLocation	Notes	ProjectAddress
12/10/2019	Ops	Project	NA	PLN19-02570	Applied	GPA/ZCC, Map 102-11 for Truck Parking.	General Plan Amendment, Zone Change			Jacob	Panero	Jacob Panero	Varner Bros., Inc	PO Box 80427	BAKERSFIELD	CA	93380	111-191-078		11119						1.69	102-11	North side of Lisle Street, northeast of Roberts lane		1700 LISLE ST, BAKERSFIELD, CA
4/8/2020	Ops	Project	NA	PLN20-01271	Closed	PD Map 102-11. A proposal to expand an existing truck parking lot.				Jacob	Pinero	Jacob Pinero	Varner Bros., Inc.	P.O. Box 80427	BAKERSFIELD	CA	93380	111-201-067		11120						0.14				1622 LISLE ST, BAKERSFIELD, CA
1/17/2023	Ops	Project	NA	PLN23-00320	Applied	PD Plan to construct a four warehouse buildings total 3,304,198 sq ft and surface parking for passenger vehicles and trailers in M-2 PD H zone and SI general plan designation on 266 acres.						Commerce Construction Co by John R Burroughs			BAKERSFIELD	CA		483-010-245		48301	34		28	27		21.83				
4/19/2019	Ops	Project	NA	PLN19-00809	Applied	GPA and Zone Change, Leasing of Office Building, change GPA from LMR to OC and zoning from A-1 to CO, Map 81-35, North of the River						NORTH RIVER MUNI WATER DIST		P O BOX 5638	BAKERSFIELD	CA	93308	483-040-226		48304	35		28	27	01.01	7	81-35			4000 RIO DEL NORTE ST, BAKERSFIELD, CA
6/30/2021	Ops	Project	NA	PLN21-00754	Applied	Map 81-35, PD Plan- Improvements on Gas Station	Precise Development					SSA Real Estate Holdings, LLC		12003 Mukilteo Speedway Suite 101	Mukilteo	WA	98275	483-040-26	483-040-44 through 46										
7/21/2023	Ops	Project	NA	PLN23-00829	Applied	GPA from to 7.2 ZCC from FPP & M-1 to M-2 PD Plan ?				Bryce	Holman	Bryce Holman	ACC Bakersfield JV LP	457 Jersey St	SAN FRANCISCO	CA	94114	483-040-291		48304	35					5.16				
9/13/2022	Ops	Project	NA	PLN22-00219	Applied	Map 81, PD 72 - Mod Master PD Convenience Store and Gas Station	Precise Development	72	Master PD Modification			K.T.P. Enterprises Inc. by Pasquini Engineering			BAKERSFIELD	CA		483-230-01											
4/5/2019	Ops	Project	NA	PLN19-00753	Applied	Master Precise Development Plan				Patricia	Newquist	McIntosh & Associates	2001 Wheelan Court		BAKERSFIELD	CA	93309	483-230-017		48323						1.19				
4/6/2023	Ops	Project	NA	PLN23-00743	Applied	CUP for cardroom, restaurant, lounge in M-2 PD District				Michael	Bowers		Kern County Associates LP	200 Spectrum Center Dr.	Irvine	CA	92618	483-230-116		48323						3.81				
8/25/2020	Ops	Project	NA	PLN20-01364	Applied	Map 102-12, PD 22, Mod - Restaurant Addition	Precise Development	22	Modification	Jose	Marcial			15930 Strebor Dr.	BAKERSFIELD	CA	93314	491-011-43												
7/14/2021	Ops	Project	NA	PLN21-00981	Applied	Map 102-1, PD - Plan for a new commercial multi-tenant building for restaurant development	Precise Development					Northview Meadows, LLC by Taylor Judkins		P.O. Box 1188	San Luis Obispo	CA	93401	491-590-02									102-01	S/S Merle Haggard Dr., 200 feet east of Airport Drive		
11/29/2022	Ops	Project	NA	PLN22-01027	Applied	Map 102, PD, ZV - Construct Two Office Warehouses and Variance for 56 feet height	Precise Development, Zone Variance					IPG Kern County 52 Holdings LLC by Craig Wilde			BAKERSFIELD	CA		492-010-13											
5/21/2019	Ops	Project	NA	PLN19-01044	In Review	CUP, Map 102 for Ind. Mfg. Assembly				Bob	Swanson	Bob Swanson	Swanson Engineering, Inc.	5500 Ming Ave., Suite 250	BAKERSFIELD	CA	93309	492-010-137		49201	2		29	27	01.01	38.34	102			
2/23/2021	Ops	Project	NA	PLN21-00025	Applied	Map 102, PD 67, Modification 19,600 SF. Warehouse	Precise Development	67	Modification 7			McIntosh & Associates	Silver Wings Real Estate, LLC	2001 Wheelan Court	BAKERSFIELD	CA	93309	492-010-38											
7/12/2022	Ops	Project	NA	PLN22-00157	Applied	Map 102, PD 67, Mod - Above Ground Fuel Tank	Precise Development	67	Modification				McIntosh & Associates		BAKERSFIELD	CA		492-010-38											
3/6/2023	Ops	Project	NA	PLN23-00718	Applied	Map 102, PD 67, Modification 10,760 Sq Ft Building (Phase 1) and 16,000 Sq Ft Building (Phase 2)						McIntosh Associates	Silver Wings Real Estate, LLC	2001 Wheelan Court	BAKERSFIELD	CA		492-010-384		49201	2		29	27		94.82				0 MERLE HAGGARD DR, BAKERSFIELD, CA
3/14/2023	Ops	Project	NA	PLN23-00726	Applied	Map 102, PD 67, Modification 10, APN 492-480-12, 10,760 sq. ft. bldg				Whitney	Jackson	Whitney Jackson	McIntosh Associates	P.O. Box 10868	BAKERSFIELD	CA		492-010-384		49201	2		29	27		94.82				0 MERLE HAGGARD DR, BAKERSFIELD, CA
3/14/2023	Ops	Project	NA	PLN23-00727	Applied	Map 102, PD 67, Modification 10(b), APN 492-480-23 and 24, 16,000 sq. ft building				Whitney	Jackson	Whitney Jackson	McIntosh Associates	P.O. Box 10868	BAKERSFIELD	CA		492-010-384		49201	2		29	27		94.82				0 MERLE HAGGARD DR, BAKERSFIELD, CA
9/22/2020	Ops	Project	NA	PLN20-01388	Applied	Map 102, PD 67, Modification - Silver Wings	Precise Development	67	Modification				Silver Wings Real Estate, LLC	3500 Shell Street	BAKERSFIELD	CA	93308	492-010-41	492-480-10											
6/16/2021	Ops	Project	NA	PLN21-00580	Applied	Map 102, PD 67, Mod - Construct 2 new Bldgs	Precise Development	67	Modification				Silver Wings Real Estate, LLC		BAKERSFIELD	CA		492-010-47											

B1_FILE_DD	Type	B1_PER_SUB_TYPE	B1_PER_CATEGORY	PermitNumber	Status	WorkDesc	CaseName	CaseNumber	ActivityNote	ApplicantFirstName	ApplicantLastName	ApplicantFullName	ApplicantBuisnessName	ApplicantAddress	ApplicantCity	ApplicantState	ApplicantZip	APN	New Apn	MapNumber	Section	Tract	Township	Range	CensusTract	ParcelArea	ZoneMap	GeneralLocation	Notes	ProjectAddress
2/18/2020	Ops	Project	NA	PLN20-00335	Applied	CUP, Map 124-6 - Tier 5 New Wells by Trio Petroleum LLC.	Conditional Use Permit						Trio Petroleum LLC	5401 Business Park South, Suite 115	BAKERSFIELD	CA	93309	011-300-03													
6/21/2022	Ops	Project	NA	PLN22-00149	Applied	Map 103-33, PD - 118 Unit MFR	Precise Development					Cesar Chavez Foundation by George Lopez			BAKERSFIELD	CA		019-210-07													
9/18/2019	Ops	Project	NA	PLN19-01885	Applied	2CC, GPA, Map 80 & 2CC, GPA, Map 81 for Industrial Park/Distribution Warehousing	General Plan Amendment, Zone Change			Pactricia	Newquist	Patricia Newquist	Malibu Vineyards, LP c/o McIntosh & Associates	2001 Wheelan Court	BAKERSFIELD	CA	93309	091-150-037		09115	24		28	26		8.73				34344 IMPERIAL AV, BAKERSFIELD, CA
2/22/2019	Ops	Project	NA	PLN19-00405	Applied	Modification for Conditional Use Permit # 6; Map 82-36, for permanent entitlement for a Wedding Venue						Meredith A. Carter	JBEH LLC	10421 ROUND MOUNTAIN RD	BAKERSFIELD	CA	933089774	093-200-160		09320	36		28	28	-	4.19	82-36			10421 ROUND MOUNTAIN RD, BAKERSFIELD, CA
5/16/2022	Ops	Project	NA	PLN22-00112	Applied	Maps 82, 82-34, 82-35, 103-2, 103-3, 103-4, 103-5, 103-9, 103-10, and 103-11; 2CC, CUP - Chevron Carbon Capture and Underground Storage Facility	Conditional Use Permit, Zone Change						Chevron New Energies, a division of Chevron U.S.A. Inc. by David Wessels		BAKERSFIELD	CA		093-210-17											
4/28/2023	Ops	Project	NA	PLN23-00762	Applied	Kern River Corridor (KRC) request for new garage/shop building				Karl	Johns			5501 Uplands of the Kern Drive	BAKERSFIELD	CA	93308	093-350-056		09335					-	3.16				5501 UPLANDS OF THE KERN DR, BAKERSFIELD, CA
1/18/2022	Ops	Project	NA	PLN22-00021	Applied	Map 82, CUP - New Wireless Communication Facility	Conditional Use Permit						T-Mobile, Ashley Davidson by Jeremy Siegel		BAKERSFIELD	CA		093-410-06												
7/27/2021	Ops	Project	NA	PLN21-01187	Applied	Map 102-30, CUP - Residential Accessory Structure	Conditional Use Permit					Jones Vernon Jr. by Aaron Keister			BAKERSFIELD	CA		110-030-04												
3/3/2020	Ops	Project	NA	PLN20-00542	Applied	Map 102-30, CUP - Contractors Storage Yard	Conditional Use Permit			Jarrett	Jamieson			7800 Meany Avenue #E	BAKERSFIELD	CA	93308	110-030-13									102-30			
7/19/2022	Ops	Project	NA	PLN22-00166	Applied	Map 102-30, CUP 31, 34, Mod - New Computer Lab Bldg	Conditional Use Permit	31, 34	Modification			Country Christian School by Jennifer Frey			BAKERSFIELD	CA		110-091-19												
9/7/2021	Ops	Project	NA	PLN21-01791	Accepted	Map 102-30, GPA - Change in designation from SR to HMR on 4.77 ac.; 2CC from E (1/2) RS to R-2 CL on 4.77 acres				Zeeya and Don	Drakhshandeh	Zeeya and Don Drakhshandeh		10400 Redbridge Way	BAKERSFIELD	CA	93311	110-130-218		11013					-	3.6				
9/15/2020	Ops	Project	NA	PLN20-01378	Applied	Map 102-30, CUP 46, EOT - Wireless Telecommunication Facility	Conditional Use Permit	46	Extension of Time	Matthew	Moore		Complete Wireless Consultating, Inc.	2009 V Street	Sacramento	CA	95818	110-170-31									102-30	10314 Brimhall Road		
4/29/2019	Ops	Project	NA	PLN19-00868	Applied	CUP, Map 102-30, for 70 Ft. Monopine Wireless communication facility.							Verizon Wireles	2009 V Street	Sacramento	CA	958	110-170-313		11017	30		29	27	38.00	2.44	102-30	Northeast corner of Brimhall and Verdugo Lane. West of Calloway		10314 BRIMHALL RD, BAKERSFIELD, CA
12/8/2022	Ops	Project	NA	PLN22-01115	Applied	Map 102-30, CUP - Cargo Container and New Garage	Conditional Use Permit					Robert Robinson			BAKERSFIELD	CA		110-170-40												
12/10/2019	Ops	Project	NA	PLN19-02570	Applied	GPA/ZCC, Map 102-11 for Truck Parking.	General Plan Amendment, Zone Change			Jacob	Panero	Jacob Panero	Varner Bros., Inc	PO Box 80427	BAKERSFIELD	CA	93380	111-191-078		11119						1.69	102-11	North side of Lisle Street, northeast of Roberts lane		1700 LISLE ST, BAKERSFIELD, CA
6/15/2023	Ops	Project	NA	PLN23-00803	Applied	ZCC & PO Plan for convenience store & laundromat				Yazan	Hawatmeh	Yazan Hawatmeh		13201 Michelangelo Dr	BAKERSFIELD	CA	93314	113-280-119		11328						0.14				801 N CHESTER AV, BAKERSFIELD, CA
11/9/2021	Ops	Project	NA	PLN21-02350	Applied	CUP to allow a new 1,190 sq. ft. SFR in a C-2 zone and GC general plan designation on a 5,662 sq. ft. parcel.				Todd	R. Burley				BAKERSFIELD	CA		114-021-28												
4/1/2019	Ops	Project	NA	PLN19-00698	Applied	Conditional Use Permit, Supportive Housing/Veteran's Housing, MAP 102-13, California Veterans Assistance Foundation, Inc.						CALIF VETS ASSISTANCE FOUNDTN INC		1400 EASTON DR STE 102	BAKERSFIELD	CA	93309	114-181-100		11418						0.69	102-13	604 Covey Ave., in Bakersfield (450 feet North of Belle Ave. on the East side of Covey Ave.)		604 COVEY AV, BAKERSFIELD, CA
5/5/2023	Ops	Project	NA	PLN23-00770	Applied	2CC from R-2 P to R-2				Michael	Hariri			6338 Wilshire	LOS ANGELES	CA	90048	114-193-253		11419	13		29	27		0.12				313 AIRPORT DR, BAKERSFIELD, CA
10/9/2019	Ops	Project	NA	PLN19-02050	Applied	EOT PD 22, Map 102-14 for Retail and Fast Food Restaurant	Precise Development	22	EOT				Mcintosh & Associates	2001 Wheelan Court	BAKERSFIELD	CA	93309	116-010-372		11601	14		29	27		13.63				
9/29/2021	Ops	Project	NA	PLN21-02250	Applied	PD Plan to permit the conversion of a single-family residence to food catering for take out and delivery only in a M-2 PD and SI general plan designation - Food Catering				Tim	Eilers			1545 Olive Dr.	BAKERSFIELD	CA		116-060-20												
6/1/2022	Ops	Project	NA	PLN22-00130	Applied	Map 102-14, PD 2, Mod - Install Perimeter Security Fencing	Precise Development	2	Modification			Amarok LLC by Parsh Davis			BAKERSFIELD	CA		116-060-24												
5/7/2020	Ops	Project	NA	PLN20-01283	Applied	Extension of Time, ZC 13, PD #6				Jaremy	Manning		Paul Dhanens Archerect Inc	1330 22nd Street, Ste. 101	BAKERSFIELD	CA	93309	117-173-013		11717						1.55				
5/20/2020	Ops	Project	NA	PLN20-01290	Applied	Conditional Use Permit, Map 103-7				Ben	Hackstedde		Sequoia Development	2785 Mitchell Drive, Walnut Creek #9	CA	CA	94598	118-061-217		11806					-	0.16				
11/2/2021	Ops	Project	NA	PLN21-02343	Applied	ZCC from A-1 to R-2 to facilitate multi-family development of duplex and fourplex's on 5 acres				Joseph	Leon			828 Iris St.	BAKERSFIELD	CA		118-120-27												
11/3/2022	Ops	Project	NA	PLN22-00270	Applied	Map #103-18 - CUP, KRD - to allow RV park to include 72 spaces, office/clubhouse with laundry facilities.	Conditional Use Permit, Kern River Development Permit					Joseph A Leon			BAKERSFIELD	CA		119-011-04												
10/4/2022	Ops	Project	NA	PLN22-00243	Applied	Map 103-18, CUP - Commercial Livestock Feed Storage Sales	Conditional Use Permit					Andrew Schuler by Paul Anchordoquy, Engil & Co.			BAKERSFIELD	CA		119-012-04												
3/9/2021	Ops	Project	NA	PLN21-00037	Applied	Map 103-18, CUP - Expansion Contractor Storage	Conditional Use Permit					Charles Evleth		2117 Diance Dr.	BAKERSFIELD	CA	93308	119-064-09									103	300 E Roberts Ln NW Corner of E Roberts Ln & Frontier St intersection Approx 1/4/ E of Roberts Ln & N Chester intersction		
2/12/2020	Ops	Project	NA	PLN20-00315	Applied	KRD, Map 103-18 to allow guest house accessory to existing residence.						ROMERO JOSE EDUARDO MARTINEZ		5045 FALCON AV	LONG BEACH	CA	908071109	119-100-196		11910						0.22				140 HOPKINS AV, BAKERSFIELD, CA
2/12/2020	Ops	Project	NA	PLN20-00316	Applied	KRD, Map 103-18 to allow a guest house with attached storage room accessory to existing residence.						ROMERO JOSE EDUARDO MARTINEZ		17450 DEERFIELD AV	BELLFLOWER	CA	907067404	119-100-212		11910					-	0.15				146 HOPKINS AV, BAKERSFIELD, CA
9/27/2022	Ops	Project	NA	PLN22-00233	Applied	Map 103-20, CUP - 84 Unit Multifamily/Apartment Development	Conditional Use Permit					Scott Hair by Bob Swanson, Swanson Engineering, Inc.			BAKERSFIELD	CA		124-110-04												

2/4/2020	Ops	Project	NA	PLN20-00256	Applied	CUP, Map 103-20 for Room and Board Housing	Conditional Use Permit			Bijan	Vahhaji	Bijan Vahhaji		340 S. Lemon Ave	Walnut	CA	91789	125-011-106		12501					0.19	103-20	Approximately 500 feet southwest of the Columbus St and River Blvd intersection		2614 N KING ST, BAKERSFIELD, CA
7/5/2022	Ops	Project	NA	PLN22-00154	Applied	Map 103-20, CUP - Transitional Housing Facility	Conditional Use Permit					Glendora Kirkpatrick			BAKERSFIELD	CA		125-070-02																
7/7/2021	Ops	Project	NA	PLN21-00878	Applied	Map 103-20, CUP- Room & Board/ Supportive Housing for senior citizens	Conditional Use Permit					Diggy Holdings LLC		340 Lemon Ave. #2909	Walnut	CA	91789	125-101-08																
10/27/2020	Ops	Project	NA	PLN20-01407	Applied	Map 103-21, CUP - 28 Unit MFR Apts.	Conditional Use Permit			Jeremy	Manning		Golden Empire Affordable Housing Inc.	601 - 24th Street	BAKERSFIELD	CA		126-042-06								103-21	250 feet east of River Blvd on the north side of Water Street		
8/9/2018	Ops	Project	NA	PLN18-01267	Applied	Extension of Time for CUP 96, Map 103-21				James	Ward		Jim Ward Architecture	8733 Oak Hills Avenue	BAKERSFIELD	CA	93312	126-042-068		12604					1.25						
7/16/2019	Ops	Project	NA	PLN19-01388	Applied	CUP 96, Map 103-21 for EOT - 32 Unit Res Dev	Conditional Use Permit	96	EOT - 32 Unit Res Dev	Jim	Ward	Jim E. Ward	Architect - NCARB		BAKERSFIELD	CA		126-042-068		12604					1.25						
8/18/2020	Ops	Project	NA	PLN20-01357	Applied	Map 103-21, CUP - 13 Unit Apartment Complex	Conditional Use Permit			Justin T.	Miller			4100 Easton Drive, Suite 2	BAKERSFIELD	CA	93309	126-081-15								103-21	2500 Haley St; Northwest Corner of Height St and Haley St.		
10/15/2020	Ops	Project	NA	PLN20-01403	Applied	Map 103-21, ZCC - Convenience Market	Zone Change			Hanish	Shamson			928 Flower Street	BAKERSFIELD	CA	93307	127-110-14														
7/13/2018	Ops	Project	NA	PLN18-01090	In Review	ZCC, Map 103-27 (ZCC/ C-2 to M-1), (APN 137-310-11)						Lourdes Morales		6735 Via Del Mar	BAKERSFIELD	CA	93307	137-310-11		103	27		295	28E				103-27	2406 Edison Hwy, Bakersfield, 93307		
9/28/2021	Ops	Project	NA	PLN21-02211	Applied	Map 103-27 PD - Add New Parcel A modification to PD Plan 5, Map 103-27 to permit the expansion of an existing recycling facility onto the adjoining parcel on SI and .42 acres						Roman Morales Gomez			BAKERSFIELD	CA		137-310-11								103-27	2406 EDISON HWY BAKERSFIELD		
5/3/2022	Ops	Project	NA	PLN22-00103	Applied	Convenience Store Fast Food Restaurant ZCC/PD, MAP 103-28				Jay	Hagan			14706 Sea Island Way	BAKERSFIELD	CA	93306	138-011-03														
12/14/2021	Ops	Project	NA	PLN21-02376	Applied	Map 103-28, ZCC - Used Auto Sales & Service	Zone Change					Pedro Pena Astora by Wiley D. Hughes Surveying, Inc.			BAKERSFIELD	CA		138-151-10														
11/22/2021	Ops	Project	NA	PLN21-02360	Applied	Map 103-28, PD - New MFR Units	Precise Development					BHT Engineering, Inc., Miguel Pantoja			BAKERSFIELD	CA		138-250-45														
10/5/2021	Ops	Project	NA	PLN21-02298	Applied	Prelim CUP. APN 138-382-04, 720 Mt. Vernon Ave, Vehicle Wreckage Yard				Rogelio	Tinoco			720 Mt. Vernon Ave.	BAKERSFIELD	CA	93307	138-382-04														
10/26/2021	Ops	Project	NA	PLN21-02338	Applied	Map 103-33, GPA/ZC; PROPOSAL: (a) Amend the Land Use Element of the Metropolitan Bakersfield General Plan from Map Code(s) SI (Service Industrial) to Map Code(s) HR (High-density Residential - Less Than or Equal to 29 Dwelling Units/Net Acre) on an approximate 1.57-acre parcel; (b) A change in zone classification from M-2 (Medium Industrial) to R-3 (High-density Residential) or a more restrictive district, on an approximate 1.57-acre parcel to facilitate the completion of the existing multifamily residential development on site	General Plan Amendment, Zone Change	16, 5	GPA 5, ZCC 16				SC Planners, Inc., Michael Norberg		BAKERSFIELD	CA		140-130-11								103-33	2010 LARCUS AV BAKERSFIELD		
1/4/2022	Ops	Project	NA	PLN22-00013	Applied	Map 103-34, GPA/ZCC - SFR & MFR Development	General Plan Amendment, Zone Change					Rajesh Kumra by LAV Consulting & Engineering, Scott Quintana			BAKERSFIELD	CA		141-130-21														
10/6/2020	Ops	Project	NA	PLN20-01395	Applied	Map 123-1, PD 34, Mod - MFR (HACK)	Precise Development	34	Modification				Housing Authority of the County of Kern	601 - 24th Street	BAKERSFIELD	CA	93301	147-170-03														
8/6/2019	Ops	Project	NA	PLN19-01527	Applied	PD, Map 123-1 for Housing Authority County of Kern	Precise Development			Stephen	Pelz	Stephen Pelz	Housing Authority County of Kern	601 24th Street	BAKERSFIELD	CA	93301	147-170-039		14717	1		30	27	27.0	2.85	123-1			2341 TERRACE WY, BAKERSFIELD, CA
12/20/2019	Ops	Project	NA	PLN19-02676	Accepted	GPA Map 123-1 - Change in general plan designation from LMR to HR				Louis	Duarte	Louis Duarte		PO Box 6554	Bakersfield	CA	93386	148-021-017		14802	1		30	27		0.66	123-1			1907 BELLE TERRACE, BAKERSFIELD, CA
11/20/2018	Ops	Project	NA	PLN18-02049	Applied	Conditional Use Permit, Map 123-2, 72' Monopalm by Powder River Development Services						Samantha Weight	American Tower Corporation	10 Presidential Way	Woburn	MA	01801	149-190-118		14919	2		30	27		0.33	123-2			3320 ELCIA DR, BAKERSFIELD, CA
8/9/2022	Ops	Project	NA	PLN22-00195	Applied	Map 123-2, PD 41, Mod - New Perimeter Wrought Iron Fence	Precise Development	41	Modification			Siraj Fahoum by Randy Soliman			BAKERSFIELD	CA		164-380-20														
8/17/2018	Ops	Project	NA	PLN18-01325	Applied	CUP for indoor auction facility with automobile storage.				Sean	Andrew		Bakersfield Public Auction	4400 Rosedale Hwy	BAKERSFIELD	CA	93308	332-020-163		33202					6.05	102			4400 ROSEDALE HY, BAKERSFIELD, CA
11/25/2019	Ops	Project	NA	PLN19-02475	Applied	PD 66, Map 102 for PD Mod in Change in Use.	Precise Development	66	MOD	Mark	Dobitz	Mark Dobitz		9205 TOTEM AVE	BAKERSFIELD	CA	93312	332-030-048		33203					1.99	102	3230 Fruitvale Ave., Bakersfield		3230 FRUITVALE AV, BAKERSFIELD, CA
9/4/2018	Ops	Project	NA	PLN18-01405	Applied	Precise Development, Map 102-22, Development of a warehouse/Outdoor industrial storage yard						Nick Sylvester		18053 Kratzmeyer Road	BAKERSFIELD	CA	93314	332-030-10		102	22		295	27E			102	6400 Price Way, Bakersfield, CA 93308		
2/13/2020	Ops	Project	NA	PLN20-00323	Applied	CUP, Map 102-26 - Auto Dismantling Facility	Conditional Use Permit						RPM Automotive	4052 Commercial Street	BAKERSFIELD	CA	93308	332-230-57								102-26	4100 BURR ST BAKERSFIELD		
6/13/2023	Ops	Project	NA	PLN23-00798	Applied	CUP for Personal Truck Parking				Eberardo	Lopez	Eberardo Moreno Lopez Jr		7105 Fruitvale Ave	BAKERSFIELD	CA	93308	361-010-283		36101				05.01	1.31				7105 FRUITVALE AV, BAKERSFIELD, CA
4/22/2019	Ops	Project	NA	PLN19-00816	Applied	PD. Review of a Precise Development Plan for a proposed locally owned and operated welding and industrial supply store to include one new 8,000 sq. ft. building (showroom and warehouse) with 1,800 st. ft. of outdoor covered truck storage.						John Knight		PO Box 803156	Santa Clarita	CA	91380-3156	363-011-230		36301	10		29	27		1.2	102-10			6928 GOLDEN STATE HW, BAKERSFIELD, CA
11/14/2020	Ops	Project	NA	PLN20-01419	Applied	Map 102-10, PD - New Bldgs; Project: A Precise Development Plan to allow a trucking facility (Section 19.38.020.E.2) including a 9,600 square-foot truck service and repair building including truck wash (Section 19.38.020.D.5) and 3,640-quare-foot office (Section 19.38.020.D.1) on an approximate 10.5-acre parcel in the M-2 PD (Medium Industrial - Precise Development Combining) District	Precise Development	34	PD 34	Kyle	Neal	CSI Contractors Inc.	United Group Links LLC	34766 Lencioni Ave	BAKERSFIELD	CA	93308	363-011-31								102-10	7117 Dole Court; approx 1/4 mile southeast of Snow Rd & Fruitvale Ave Intersection; West of Golden State Highway,		

3/9/2020	Ops	Project	NA	PLN20-00714	Applied	Mod PD 26, Map 102-10 - 3,000 sq. ft. Roof Canopy Bldg.	Precise Development	26	Modification				Hertz Rentals		BAKERSFIELD	CA		363-011-38																
6/8/2021	Ops	Project	NA	PLN21-00518	Applied	Map 102-10, CUP Modification - Temporary Modular Office	Conditional Use Permit		Modification				Legacy Christian Academy by Derrill G. Whitten Jr.		BAKERSFIELD	CA		364-010-41										102-10	5500 OLIVE DR BAKERSFIELD		
10/4/2022	Ops	Project	NA	PLN22-00240	Applied	Map 102-10, CUP 49, EOT - Temporary Modular Offices	Conditional Use Permit	49	EOT			Legacy Christian Academy by Jaime Murguia, Dewalt Corp.			BAKERSFIELD	CA		364-010-41															
11/29/2022	Ops	Project	NA	PLN22-01022	Applied	Map 102-10, PD 3, Mod - Change of Use Retail to Restaurant and Sports Bar	Precise Development	3	Modification			Daljit K. Grewal by Roberto Perez			BAKERSFIELD	CA		364-010-43															
10/5/2018	Ops	Project	NA	PLN18-01690	Applied	A zone change from E 2 1/2 RS to E 1/4 RS.				Jessica	Zepeda	Jessica Zepeda	Wiley D. Hughes Surveying Inc	P.O. Box 43133	BAKERSFIELD	CA	93384	364-010-660		36401						0.84	102-10	Ask for Title Report		
3/25/2020	Ops	Project	NA	PLN20-01251	Accepted	MOD, Map 102-10 - to allow reduction in minimum lot size requirement in an E (1/4) RS District				Jose	Escobedo	Jose Escobedo		9947 Babbit Avenue	Northridge	CA	91325	364-010-660		36401						0.84	102-10	North side of Olive Drive approximately 200 feet east of Oakhaven Street		
1/15/2020	Ops	Project	NA	PLN20-00079	Applied	ZCC, Map 102-10 from Highway Commercial to Light Industrial for industrial-retail operations.	Zone Change			Russel	Romandia	Russel Romandia		P.O. Box 81374	BAKERSFIELD	CA	93380	364-212-076		36421	11		29	27		0.6	102-10	5950 State Road, Bakersfield		5950 STATE RD, BAKERSFIELD, CA
8/17/2021	Ops	Project	NA	PLN21-01474	Applied	Map 102-15, PD 12 - Mod PD EV Charging Station	Precise Development	12	Modification			Whitney Harris			BAKERSFIELD	CA		365-020-32															
9/21/2021	Ops	Project	NA	PLN21-02013	Applied	Map 102, PD-Trucking Facility	Precise Development					Kulwant Sidhu			BAKERSFIELD	CA		368 050 13															
7/12/2022	Ops	Project	NA	PLN22-00161	Applied	Map 102, PD - New Office/Warehouse	Precise Development					GPK22 LLC by Kyle Neal, CSI Contractors, Inc.			BAKERSFIELD	CA		368-050-32									102-28	WEDDING LN, south of CHARITY AV		
9/4/2018	Ops	Project	NA	PLN18-01409	Applied	Precise Development, Map 102-28, Francisco Macedo						Francisco Macedo		3526 Cathedral Rose Ave.	BAKERSFIELD	CA	93313	368-060-20		102	28		295	27E			102	7321 Rosedale Hwy, Bakersfield, CA 93308		
5/17/2022	Ops	Project	NA	PLN22-00119	Applied	Map 102-29, PD 24, Mod - Electrified Perimeter Fencing	Precise Development	24	Modification			Amarok LLC by Parsh Davis			BAKERSFIELD	CA		368-082-42															
8/23/2022	Ops	Project	NA	PLN22-00204	Applied	Map 102-29, PD - New Dental Office Bldg.	Precise Development					Albert Ganjian by Ross Sweet - Skarphol/Frank Associates			BAKERSFIELD	CA		368-111-02															
12/15/2020	Ops	Project	NA	PLN20-01443	Applied	Map 102-29, ZCC - R-2 to CH Fastrip	Zone Change						Fastrip Oil Company, LP	P.O. Box 82515	BAKERSFIELD	CA	93380	368-111-03									102-29	2521 WHEELER ST BAKERSFIELD		
7/9/2019	Ops	Project	NA	PLN19-01359	Applied	PD, Map 102-29 for Two Medical Office Buildings	Precise Development			Jacob	Turner	Jacob Turner	Paul Dhanens Architect	5100 California Ave. Suite 107	BAKERSFIELD	CA	93309	368-190-575		36819					38.12	1.15	102-29	1710 CALLOWAY DR BAKERSFIELD		1710 CALLOWAY DR, BAKERSFIELD, CA
10/3/2018	Ops	Project	NA	PLN18-01652	Applied	Precise Development Plan, Map 103-9, Chevron, Drill 4 New Wells				Nadim	Hosn		Chevron U.S.A INC.	9525 Camino Media	BAKERSFIELD	CA	93311	436-053-01		103	9		29S	28E			103.9				
1/18/2022	Ops	Project	NA	PLN22-00020	Applied	Map 103-10, PD 4 - Modification Mini Storage	Precise Development	4	Modification				Derrel A. Ridenour by Cornerstone Engineering, Inc., Jason Marriott		BAKERSFIELD	CA		436-054-27														
10/6/2021	Ops	Project	NA	PLN21-02316	Applied	Other - Map 103-2 To convert garage to living space and reduced to 2. This permit will replace garage and bedroom.				Maurice	Etchechury			6329 Mandy Lane	BAKERSFIELD	CA	93308	436-070-05														
12/22/2020	Ops	Project	NA	PLN20-01447	Applied	Map 103-2, CUP - RV & Camping	Conditional Use Permit			Terry	Delamater			5437 Adolphus Avenue	BAKERSFIELD	CA	93308	436-080-28														
11/17/2021	Ops	Project	NA	PLN21-02356	In Review	Map 103-2, CUP - Camping Sites	Conditional Use Permit					Terry Delamater			BAKERSFIELD	CA		436-080-28														
6/21/2022	Ops	Project	NA	PLN22-00148	Applied	Map 103-2, CUP - Event Venues (Weddings, etc)	Conditional Use Permit					Riverbluff Ranch by Terry Delamater			BAKERSFIELD	CA		436-080-28														
11/8/2019	Ops	Project	NA	PLN19-02300	Applied	CUP, Map 103-2 for a single family residence in FPP & KRC.	Conditional Use Permit			Bryan	Watson	Bryan Watson		3160 Batch Lane	BAKERSFIELD	CA	93312	436-102-057	436-102-14	43610	2		29	28		9.96	103-02	6100 ALFRED HARRELL HWY BAKERSFIELD		6100 ALFRED HARRELL HY, BAKERSFIELD, CA
3/25/2019	Ops	Project	NA	PLN19-00659	Applied	Conditional Use Permit to allow a place of worship to operate, Zone Map # 102-19, Bassam Abed, Sunrise Community Center						Sam Abed		3877 Stockdale Hwy	BAKERSFIELD	CA	93309	450-020-011		45002	19		29	27	38.01	9.32	102-19			3212 JEWETTA AV, BAKERSFIELD, CA
1/6/2023	Ops	Project	NA	PLN23-00129	Applied	ZCC from E(10) RS to E1 RS in a SR general plan designation to facilitate a future residential subdivision of 4 parcels and one remainder on 2.77 acres.						Lisa Carter			BAKERSFIELD	CA		450-040-12													
10/4/2019	Ops	Project	NA	PLN19-02016	Applied	PD, Map 102-21 for Warehouse and Office Buildings	Precise Development						Jeffery Gutierrez Dewalt Corporation	1930 22nd Street	BAKERSFIELD	CA	93301	452-030-018		45203	21		29	27	05.02	3.51	102-21	1/4 Mile East of Coffee/Meany		0 DOWNING AV, BAKERSFIELD, CA
8/23/2022	Ops	Project	NA	PLN22-00202	Applied	Map 102-21, ZCC - E(5) RS to M-1	Zone Change					Athol J.E. Tekaat			BAKERSFIELD	CA		452-030-23									102-21	3500 PATTON WY, BAKERSFIELD		
8/3/2022	Ops	Project	NA	PLN22-00188	Applied	Map 102-21, PD 48, Mod - Security System Fencing	Precise Development	48	Modification			Amarok LLC by Parsh Davis			BAKERSFIELD	CA		452-030-37														
9/27/2022	Ops	Project	NA	PLN22-00235	Applied	Map 102-21, PD 40, Mod - Security Fence System	Precise Development	40	Modification			Amarok LLC by Parsh Davis			BAKERSFIELD	CA		452-030-38														
10/18/2022	Ops	Project	NA	PLN22-00254	Applied	Map 102-21, CUP - KCPWD Household Hazardous Waste Facility	Conditional Use Permit					Kern County Public Works Department by Dave Lee, Waste Management Supervisor			BAKERSFIELD	CA		452-070-20														

4/8/2021	Ops	Project	NA	PLN21-00133	Applied	Map 102-21, PD - Office Warehouse; Project: (a) A Precise Development Plan to develop six (6), 4,500-square-foot buildings for the following uses: three (3) buildings offering industrial services (Section 19.38.020.D.5), two (2) buildings offering indoor contractor storage (Section 19.38.020.E.2) and one (1) building offering indoor manufacture/assembly uses (Section 19.38.020.E.1) with associated parking and landscaping; and (b) A Zone Variance requesting a reduction in parking for a total of 96 parking spaces where 111 spaces are required (Section 19.106.040) on an approximate 2.38-acre parcel in a M-2 PD (Medium Industrial —Precise Development Combining) District. Project is proposed to be constructed in phases.	Precise Development, Zone Variance	24, 86	PD 86, ZV 24	Roy	Piker		Contractor's Equipment Rental	3017 Fruitvale Ave	BAKERSFIELD	CA	93313	452-070-32									102-21	3017 FRUITVALE AV BAKERSFIELD		
4/14/2020	Ops	Project	NA	PLN20-01274	Applied	A modification to PD 17, Map 102-21. A proposal to convert a carwash to an office/warehouse and construct a new 5,000 square foot warehouse. After review the project should NOT PD 32				Michael	Dhanens	Michael Dhanens	Michael Dhanens Architect	P.O. Box 82155	BAKERSFIELD	CA	93380	452-170-038		45217						1.29				3714 COFFEE RD, BAKERSFIELD, CA
11/19/2019	Ops	Project	NA	PLN19-02409	Applied	Zone Change 133, PD 72, Map 102 for Office/Medical Building	Precise Development						Downing IV, LLC	4805 Centennial Plaza Way, Suite 200	BAKERSFIELD	CA	93312	452-170-145		45217						1.11	102				
3/3/2021	Ops	Project	NA	PLN21-00030	Accepted	Map 101-24, PD				Sue	Brian	Sue Brian	Apex Management Group	4015 Coffee Road, Suite 200	BAKERSFIELD	CA	93308	465-240-067		46524						0.16				11709 CACTUS DR, BAKERSFIELD, CA
5/15/2023	Ops	Project	NA	PLN23-00775	Applied	Kern Front Oil Field, Zone Change and Conditional Use Permit for Oil & Gas (established oil & gas field)				Eric	Miner		California Resources Corporation	900 Old River Road	BAKERSFIELD	CA	93311	481-011-252		48101	2		28	27		160					S611 N CHESTER EXTENSION AV, BAKERSFIELD, CA
1/25/2022	Ops	Project	NA	PLN22-00027	Applied	Map 81, ZCC - Residential Lot Split	Zone Change					Rodney Goodman by Dewalt Corporation, Greg Owens			BAKERSFIELD	CA		481-100-24													
3/3/2020	Ops	Project	NA	PLN20-00549	Accepted	Map 81, ZCC - Oilfield Produced Water Treatment Facility; PROPOSAL: (a) A change in zone classification from A-I (Limited Agriculture) to A (Exclusive Agriculture) or a more restrictive district on 640.12 acres. Oilfield water treatment facility and oilfield operations.	Zone Change	93	ZCC 93, Map No. 81				Bellaire Oil Company	5299 DTC Blvd., Suite 1300	Greenwood Village	CO	80111	481-110-013		48111	27		28	27		264.06	81				19098 JAMES RD, BAKERSFIELD, CA
2/22/2023	Ops	Project	NA	PLN23-00715	Applied	Map 81, PD Plan0 for office addition to existing building				Jeffrey	Krausse			2798 Alta Drive	BAKERSFIELD	CA	93305	481-120-202		48112											
7/27/2021	Ops	Project	NA	PLN21-01194	Applied	Map 81, PD - Truck Parking Facility	Precise Development					Amarjit Singh by Swanson Engineering, Inc.			BAKERSFIELD	CA		481-120-23								81	W/S N. Chester Ave. ext		
8/24/2020	Ops	Project	NA	PLN20-01363	Applied	Map 81, PD 51, Mod - Additional Storage Bldgs	Precise Development	51	Modification	Roger	Holder			1140 Black Gold Road	BAKERSFIELD	CA	93308	481-200-22												
8/3/2022	Ops	Project	NA	PLN22-00186	Applied	Map 81, PD 51, Mod - Security System Fencing	Precise Development	51	Modification			Amarok LLC by Parsh Davis			BAKERSFIELD	CA		481-200-22												
9/6/2022	Ops	Project	NA	PLN22-00211	Applied	PD to install a 10ft perimeter security fence inside existing perimeter fence.				Parsh	Davis		Amarok LLC	550 Assembly St	Columbia	SC	29201	481-200-25												
2/10/2020	Ops	Project	NA	PLN20-00291	Applied	Modification of PD 66, Map 81						By Bruce Anderson	Bitco Inc./Eran Henderson	12102 Vista Montana Drive	BAKERSFIELD	CA	93306	481-200-29												
1/4/2022	Ops	Project	NA	PLN22-00010	Applied	Map 81, PD, Mod - Addition to Existing Warehouse	Precise Development		Modification			James Hickle by Engle & Company, Inc., Salvador A. Guevara			BAKERSFIELD	CA		481-200-32												
4/26/2022	Ops	Project	NA	PLN22-00101	Applied	Map 81, PD 76, Modification - WATT EV Truck Charging Station	Precise Development	76	Modification			WATT EV by Chris Mynk, QK			BAKERSFIELD	CA		482-010-22												
1/17/2023	Ops	Project	NA	PLN23-00320	Applied	PD Plan to construct a four warehouse buildings total 3,304,198 sq ft and surface parking for passenger vehicles and trailers in M-2 PD H zone and SI general plan designation on 266 acres.						Commerce Construction Co by John R Burroughs			BAKERSFIELD	CA		482-010-261		48201	33		28	27	39.00	27.26					
1/5/2021	Ops	Project	NA	PLN21-00002	Applied	Map 81, PD - Electric Truck Charging Station & 100 Acres Solar Array	Precise Development					Swanson Engineering, Inc.	WattEV, Inc., Salim Youssefzadeh	2000 Oak Street, Suite 150	BAKERSFIELD	CA	93301	482-020-16												
1/4/2022	Ops	Project	NA	PLN22-00008	Applied	Map 81, PD 1, Mod - WattEV Truck Charging Station	Precise Development	1	Modification				WattEV, Inc., Salim Youssefzadeh by Swanson Engineering, Inc., Bob Swanson		BAKERSFIELD	CA		482-020-16												
6/28/2022	Ops	Project	NA	PLN22-00153	Applied	Map 81, PD 76, Mod - WATT EV Truck Charging Station	Precise Development	76	Modification			WATT EV by Chris Mynk, QK			BAKERSFIELD	CA		482-020-16												
8/10/2021	Ops	Project	NA	PLN21-01379	Applied	Map 81, PD 36 - Modification to PD to modify rearrangement of 1.6 MW Ground Mount Solar facility for the existing Halliburton facility on M-2 PD zone and SI general plan designation.	Conditional Use Permit						Synapse Electric by Paul Brunner	280 Pacific Way	Muir Beach	CA	94965	482-070-35												
3/9/2021	Ops	Project	NA	PLN21-00036	Applied	Map 81, PD 30, Mod - 6,000 sf. Addition	Precise Development	30	Modification	Jim	Lehtinen		Midcal Management	18823 Rosedale Hwy	BAKERSFIELD	CA	93314	482-090-09												
1/19/2021	Ops	Project	NA	PLN21-00007	Applied	Map 81, PD 11, Mod - RV Repair Bldg.	Precise Development	11	Modification			Justin G. & Kate N. Lehrah	Michael Dhanens Architect	PO Box 82155	BAKERSFIELD	CA	93380	482-090-27								81				
5/20/2020	Ops	Project	NA	PLN20-01293	Applied	Minor Mod 7, PD 11, Map 81 (see case ZCC 31, Map 81)	Precise Development	11	Minor Mod 7	Joe	Harrison, Sr.		Coastline Equipment	4252 Saco Road	BAKERSFIELD	CA	93308	482-090-32												
8/31/2018	Ops	Project	NA	PLN18-01404	Applied	Precise Development, Map 81-32, New Warehouse/Outdoor industrial storage yard						Nick Sylvester		18053 Kratzmeyer Road	BAKERSFIELD	CA	93314	482-102-13		81	32		285	27E			81	34790 Lencioni Avenue, Bakersfield, 93308		
8/25/2021	Ops	Project	NA	PLN21-01613	Applied	Map 81, PD 24 - Modification to carwash PD Plan to allow change of use from self-service drive thru carwash to fast food take-out (840 sqft) in a M-2 PD and SI general plan designation.	Precise Development					Daljinder Chahan (Mike) by Vernon R. Stevens		35184 Merle Haggard Dr.	BAKERSFIELD	CA		482-120-21								81	35184 MERLE HAGGARD DR BAKERSFIELD		
5/19/2021	Ops	Project	NA	PLN21-00339	Applied	Map 81, PD 39 - Modification So. Cal Gas	Precise Development	39	Modification			Hayden Moore	Southern California Gas Company		BAKERSFIELD	CA		482-120-29												

7/31/2018	Ops	Project	NA	PLN18-01192	In Review	Precise Development Plan, Map 81-33, Proposed Retail, Office/Warehouse Reassigned to Mark on 9/18/2019						Jeffrey Krausse		2798 Alta Vista Drive	BAKERSFIELD	CA	93305	482-120-79								81	Southwest corner of McMurtrey Ave. and Wishon Drive.				
5/19/2023	Ops	Project	NA	PLN23-00777	Applied	PD 50, Map 81, modification to convert furniture warehouse to Kern County Coroner's Office and County morgue				Mandy	Freeland		Freeland Architecture	11810 Dell Rapids Court	BAKERSFIELD	CA	93312	482-120-821		48212					4.57						
4/15/2019	Ops	Project	NA	PLN19-00800	Applied	PDP approval for development of an office and warehouse building, parking, and landscaping.				Michael	Dhanens	Michael Dhanens Architect		PO Box 82155	BAKERSFIELD	CA	93380	482-170-081		48217					2.48	81					
9/20/2022	Ops	Project	NA	PLN22-00227	Applied	Map 81, PD 42, Mod - Install 3 EV Charging Stations	Precise Development	42	Modification			Britany Burks			BAKERSFIELD	CA		482-170-09													
1/4/2022	Ops	Project	NA	PLN22-00002	Applied	Map 81, PD CSI Contractors						Ron & Cara Faulk		7252 Fountain Valley Drive	BAKERSFIELD	CA	93308	482-170-10													
9/22/2020	Ops	Project	NA	PLN20-01387	Applied	Map 81, PD 57, Mod - Paint Spray Booth	Precise Development	57	Modification	Randy	Orozco		RPO Designs, Inc.	11662 West St.	Garden Grove	CA	92840	482-180-14													
7/24/2023	Ops	Project	NA	PLN23-00830	Applied	PD Modification to PD 42 Map 81 (Mod 12)				Paul	Anchordoquy	Paul Anchordoquy	Chuck Simmons	19252 Flightpath Way	BAKERSFIELD	CA	93308	482-180-163		48218					3.09					19252 FLIGHTPATH WY, BAKERSFIELD, CA
4/19/2019	Ops	Project	NA	PLN19-00809	Applied	GPA and Zone Change, Leasing of Office Building, change GPA from LMR to OC and zoning from A-1 to CO, Map 81-35, North of the River						NORTH RIVER MUNI WATER DIST		P O BOX 5638	BAKERSFIELD	CA	93308	483-040-226		48304	35		28	27	01.01	7	81-35				4000 RIO DEL NORTE ST, BAKERSFIELD, CA
6/30/2021	Ops	Project	NA	PLN21-00754	Applied	Map 81-35, PD Plan- Improvements on Gas Station	Precise Development					SSA Real Estate Holdings, LLC		12003 Mukilteo Speedway Suite 101	Mukilteo	WA	98275	483-040-26													
7/21/2023	Ops	Project	NA	PLN23-00829	Applied	GPA from to 7.2 ZCC from FPP & M-1 to M-2 PD Plan ?				Bryce	Holman	Bryce Holman	ACC Bakersfield JV LP	457 Jersey St	SAN FRANCISCO	CA	94114	483-040-291		48304	35				5.16						
8/25/2021	Ops	Project	NA	PLN21-01614	Applied	Map 100, PD 18 - Mod PD Plan to permit a 10 foot tall 844 linear ft electrified perimeter security fence system 12 inches from existing perimeter fence on 1.25 acres.	Precise Development					Total Landscape by Carol Bausinger		1108 Carrier Pkwy Ave	BAKERSFIELD	CA		483-220-09													
9/14/2021	Ops	Project	NA	PLN21-01876	Applied	Map 81-35, PD 30, Mod - Electrified Fencing	Precise Development	30	Modification				Total Landscaping by Carol Bausinger		BAKERSFIELD	CA		483-220-09													
7/7/2021	Ops	Project	NA	PLN21-00877	Applied	Map 81-35, PD Mod Plan for construction of 50 ft single-story concrete tilt-up warehouse	Precise Development					AOG Architecture Studio		23546 Newhall Avenue Suite #5	Newhall	CA	91321	483-220-19								81-35	SEC of CARRIER PARKWAY AVE and JAMES RD				
9/5/2018	Ops	Project	NA	PLN18-01415	Applied	CUP for indoor storage of explosives						Hunting Titan , Inc.		1133 Carrier Parkway Avenue	BAKERSFIELD	CA	93308	483-220-281		48322				01.01	1.26	81-35				1133 CARRIER PARKWAY AV, BAKERSFIELD, CA
9/13/2022	Ops	Project	NA	PLN22-00219	Applied	Map 81, PD 72 - Mod Master PD Convenience Store and Gas Station	Precise Development	72	Master PD Modification			K.T.P. Enterprises Inc. by Pasquini Engineering			BAKERSFIELD	CA		483-230-01													
4/5/2019	Ops	Project	NA	PLN19-00753	Applied	Master Precise Development Plan				Patricia	Newquist	McIntosh & Associates	2001 Wheelan Court		BAKERSFIELD	CA	93309	483-230-017		48323					1.19					
4/6/2023	Ops	Project	NA	PLN23-00743	Applied	CUP for cardroom, restaurant, lounge in M-2 PD District				Michael	Bowers		Kern County Associates LP	200 Spectrum Center Dr.	Irvine	CA	92618	483-230-116		48323					3.81					
7/14/2021	Ops	Project	NA	PLN21-00986	Applied	Map 81-36, PD - Mini Storage/ Gas Convenience Store & Retail	Precise Development					Nirmal S. Gill		9700 Rosedale Highway	BAKERSFIELD	CA	93312	484-010-23								81-36	NWC N. Chester Ave. and Petrol Rd. Bakers.				
3/16/2023	Ops	Project	NA	PLN23-00728	Applied	Map 81-36, Zone Change R-1 to R-2, Roberson Investments				Brandon	Roberson	Brandon Roberson	Roberson Investments LLC	P.O. Box 22377	BAKERSFIELD	CA		484-010-285		48401					18.06						
8/25/2020	Ops	Project	NA	PLN20-01364	Applied	Map 102-12, PD 22, Mod - Restaurant Addition	Precise Development	22	Modification	Jose	Marcial			15930 Strebor Dr.	BAKERSFIELD	CA	93314	491-011-43													
7/14/2021	Ops	Project	NA	PLN21-00981	Applied	Map 102-1, PD - Plan for a new commercial multi-tenant building for restaurant development	Precise Development					Northview Meadows, LLC by Taylor Judkins		P.O. Box 1188	San Luis Obispo	CA	93401	491-590-02								102-01	S/S Merle Haggard Dr., 200 feet east of Airport Drive				
11/29/2022	Ops	Project	NA	PLN22-01027	Applied	Map 102, PD, ZV - Construct Two Office Warehouses and Variance for 56 feet height	Precise Development, Zone Variance					IPG Kern County 52 Holdings LLC by Craig Wilde			BAKERSFIELD	CA		492-010-13													
5/21/2019	Ops	Project	NA	PLN19-01044	In Review	CUP, Map 102 for Ind. Mfg. Assembly					Bob	Swanson	Bob Swanson	Swanson Engineering, Inc.	3500 Ming Ave., Suite 250	BAKERSFIELD	CA	93309	492-010-137		49201	2		29	27	01.01	38.34	102				
2/23/2021	Ops	Project	NA	PLN21-00025	Applied	Map 102, PD 67, Modification 19,600 SF. Warehouse	Precise Development	67	Modification 7			McIntosh & Associates	Silver Wings Real Estate, LLC	2001 Wheelan Court	BAKERSFIELD	CA	93309	492-010-38													
7/12/2022	Ops	Project	NA	PLN22-00157	Applied	Map 102, PD 67, Mod - Above Ground Fuel Tank	Precise Development	67	Modification				McIntosh & Associates		BAKERSFIELD	CA		492-010-38													
3/6/2023	Ops	Project	NA	PLN23-00718	Applied	Map 102, PD 67, Modification 10,760 Sq Ft Building (Phase 1) and 16,000 Sq Ft Building (Phase 2)						McIntosh Associates	Silver Wings Real Estate, LLC	2001 Wheelan Court	BAKERSFIELD	CA		492-010-384		49201	2		29	27		94.82					0 MERLE HAGGARD DR, BAKERSFIELD, CA
3/14/2023	Ops	Project	NA	PLN23-00726	Applied	Map 102, PD 67, Modification 10, APN 492-480-12, 10,760 sq. ft. bldg				Whitney	Jackson	Whitney Jackson	McIntosh Associates	P.O. Box 10868	BAKERSFIELD	CA		492-010-384		49201	2		29	27		94.82					0 MERLE HAGGARD DR, BAKERSFIELD, CA
3/14/2023	Ops	Project	NA	PLN23-00727	Applied	Map 102, PD 67, Modification 10(b), APN 492-480-23 and 24, 16,000 sq. ft building				Whitney	Jackson	Whitney Jackson	McIntosh Associates	P.O. Box 10868	BAKERSFIELD	CA		492-010-384		49201	2		29	27		94.82					0 MERLE HAGGARD DR, BAKERSFIELD, CA
9/22/2020	Ops	Project	NA	PLN20-01388	Applied	Map 102, PD 67, Modification - Silver Wings	Precise Development	67	Modification				Silver Wings Real Estate, LLC	3500 Shell Street	BAKERSFIELD	CA	93308	492-010-41													
6/16/2021	Ops	Project	NA	PLN21-00580	Applied	Map 102, PD 67, Mod - Construct 2 new Bldgs	Precise Development	67	Modification				Silver Wings Real Estate, LLC		BAKERSFIELD	CA		492-010-47													
4/12/2022	Ops	Project	NA	PLN22-00089	Applied	Map 102-4, PD 12, Mod - Addition to Auto Repair Facility	Precise Development	12	Modification			Robert Kopp by Jeremy Manning			BAKERSFIELD	CA		492-030-26													
4/8/2021	Ops	Project	NA	PLN21-00134	Applied	Map 102-4, PD 14, Mod - Restroom Addition	Precise Development	14	Modification			Robert Vermeltfoort		8525 North Cedar Ave., Suite 106	Fresno	CA	93720	492-030-43													
3/7/2023	Ops	Project	NA	PLN23-00719	Applied	Map 102, PD 60, Modification to allow church expansion and classrooms				Whitney	Jackson		McIntosh Associates	P.O. Box 10868	BAKERSFIELD	CA	93390	492-090-204		49209	6		29	27		5.99	102	Northeast corner of Snow Road and Izaak Lane in Bakersfield			10902 SNOW RD, BAKERSFIELD, CA
7/27/2021	Ops	Project	NA	PLN21-01188	Applied	Map 102, CUP 59 - Mod Multifamily Development	Conditional Use Permit	59	Modification				RGF Properties, LLC by Tom Dee		BAKERSFIELD	CA		492-090-34													
8/10/2021	Ops	Project	NA	PLN21-01371	Applied	Map 102, CUP 59 - EOT for CUP 59, development of 144-unit luxury multifamily complex in a C-2 PD zone and GC general plan on 15.16 acres	Conditional Use Permit						RGF Properties, LLC by Tambra Strickland and Tom Dee	W/S Calloway Dr., 300 ft North of Snow Rd.	BAKERSFIELD	CA		49209034, 35, 36													
6/28/2022	Ops	Project	NA	PLN22-00151	Applied	Map 102, PD 70, Mod - Relocate Phase 4 Restaurant	Precise Development	70	Modification			Romar Partners by Anthony Oliveri			BAKERSFIELD	CA		492-090-37													
10/29/2019	Ops	Project	NA	PLN19-02210	In Review	ZCC, Map 102 to reflect consistency with the General Plan	Conditional Use Permit				Jim	Etcheverry	Jim Etcheverry	7805 Calloway Drive	BAKERSFIELD	CA	93314	492-090-634		49209	6		29	27		11.25	102				7805 CALLOWAY RD, BAKERSFIELD, CA

1/14/2022	Ops	Project	NA	PLN22-00017	Accepted	Map 102, GPA, ZCC, ZV - GPA SR to LMR; ZCC from A to R-2 and reduction in lot size in an R-2 District; minimum setbacks of 36 feet from centerline of private street (18-foot fy setback)					Tom	Dee	Tom Dee	RGF Properties, LLC	9100 Ming Avenue, Suite 100	BAKERSFIELD	CA	93311	492-090-634		49209	6		29	27		11.25				7805 CALLOWAY RD, BAKERSFIELD, CA
6/30/2021	Ops	Project	NA	PLN21-00757	Applied	Map 102, PD Plan- Gymnastics Academy (Health Club)	Precise Development						Matt Towry		2762 Unicorn Rd	BAKERSFIELD	CA	93308	492-120-48													
10/25/2022	Ops	Project	NA	PLN22-00263	Applied	Map 102, PD - Modification to PD 24 to permit the addition of canopy and roof mounted photovoltaic system for 6 EV charging stations on a M-2 PD H zone.	Precise Development							Sunworks	3430 Unicorn Rd	BAKERSFIELD	CA		492-150-02													
3/9/2020	Ops	Project	NA	PLN20-00702	Applied	Map 102, PD 24, Mod - Expand Mini Mart	Precise Development	24	Modification					Dillon & Sons Inc.		BAKERSFIELD	CA		492-150-12													
5/3/2023	Ops	Project	NA	PLN23-00766	Applied	PD Mod to PD 24 (ZCC 68) Map 102 for office/warehouse/contractor storage yard				Partick	Howes			Bram Investments LLC	16421 Johnson Road	BAKERSFIELD	CA	93314	492-160-015		49216						2.31						
8/3/2021	Ops	Project	NA	PLN21-01248	Applied	Map 102, PD 68 - Fabrication Shop Addition	Precise Development	68	Modification				Kerrie Roberts			BAKERSFIELD	CA		492-160-14								102	3500 PEGASUS RD BAKERSFIELD		
1/4/2022	Ops	Project	NA	PLN22-00001	Applied	Map 102-4, PD Approved Parcel Map Boundaries								CFT NV Development, LLC		BAKERSFIELD	CA		492-200-02													
12/19/2019	Ops	Project	NA	PLN19-02656	In Review	MOD PD 12, ZV, Map 102-24 for proposed change of use from General Retail to Shopping Center and reduced parking spaces.	Precise Development, Zone Variance	12	MOD	Jaremy	Manning		Jaremy Manning		5100 California Ave, Suite 107	BAKERSFIELD	CA	93309	492-200-175		49220	4		29	27	39.0	1.07				35171 MERLE HAGGARD DR, BAKERSFIELD, CA
8/3/2022	Ops	Project	NA	PLN22-00187	Applied	Map 102-4, PD 15, Mod - Security System Fencing	Precise Development	15	Modification				Amarok LLC by Parsh Davis			BAKERSFIELD	CA		492-200-22													
1/6/2023	Ops	Project	NA	PLN23-00131	Applied	Request: Mod PD 15, Map 102-4 to permit the installation of three (3) electric vehicle charging stations at existing Toyota Dealer on a M-2 PD H zone and SI general plan designation on 13.15 acres.							Lane-Valente Industries Inc - Jennifer Weiss			BAKERSFIELD	CA		492-200-22												
4/3/2023	Ops	Project	NA	PLN23-00735	Applied	Map 102-4 PD 15 Mod 2 to permit charging stations at existing car sales					Troy	Ulhrich			5825 Avenida Encinas	Carlsbad	CA	92008	492-200-225		49220					13.14				19651 INDUSTRY PARKWAY DR, BAKERSFIELD, CA
5/22/2023	Ops	Project	NA	PLN23-00778	Applied	Modification of PD 15 Map 102-4 to change location of pole sign					Lisandra	Lopez		Electra Media Inc	4737 W 156th Street	LAWNDALE	CA	90260	492-200-225		49220					13.14				19651 INDUSTRY PARKWAY DR, BAKERSFIELD, CA
7/17/2018	Ops	Project	NA	PLN18-01106	Applied	Precise Development Plan, Map 102-4, Plan for a Hotel							Preet Bhathal		PO Box 70254	BAKERSFIELD	CA	93387	492-200-24		102	4		295	27E			102	Spectrum Park Way, Lot 24, Bakersfield, CA 93308		
4/7/2021	Ops	Project	NA	PLN21-00082	Applied	Map 102-4, PD - Truck Service Center; Project: A Precise Development Plan for proposing a two-(2-) story convenience market with long hauler lounge (Section 19.38.020.D.3), and 12-pump auto fueling station (large) (Section 19.38.020.D.5), a drive-thru auto car wash (Section 19.3 8.020.D.5), semi-truck service center with office/storage and two (2) semi-truck repair service bays and two (2) semi-truck wash bays (Section 19.38.020.D.5), five (5) pump diesel fuel canopy including a truck scale and semi-truck parking (Section 19.38.020.D.5) located on an approximate 6.86-acre parcel in an M-2 PD H (Medium Industrial - Precise Development Combining — Air-port Approach Height Combining) District	Precise Development	22					Anant Singh	Panam Investments LLC	204 Somerford Drive	BAKERSFIELD	CA	93314	492-200-28								102-04	south of Merle Haggard along Industry Parkway Drive		
2/23/2021	Ops	Project	NA	PLN21-00027	Applied	Map 102, PD 60, Modification - Warehouse Expansion	Precise Development	60					Engel & Co.	Rodger Lee	4009 Union Ave.	BAKERSFIELD	CA	93305	492-210-20													
9/7/2022	Ops	Project	NA	PLN22-00215	Applied	Map 102, CUP - Crematory and Mortuary	Conditional Use Permit						Claramar Enterprises by Richard Woody			BAKERSFIELD	CA		492-350-02													
12/19/2019	Ops	Project	NA	PLN19-02660	Applied	CUP, Map 102-8 for Wireless Telecommunication Facility	Conditional Use Permit							Verizon Wireless	2785 Mitchell Dr. #9	Walnut Creek	CA	94598	494-030-059		49403	8		29	27	05.01	3.97	102-8	Approx 1/4 mile south of the Snow Rd & Coffee Rd intersection		6959 COFFEE RD, BAKERSFIELD, CA
11/20/2019	Ops	Project	NA	PLN19-02416	Applied	GPA/ZCC/PD, Mapp 101 to expand Mini-Storage	General Plan Amendment, Precise Development, Zone Change							J & M California Land Company c/o Mcintosh & Associates	2001 Wheelan Court	BAKERSFIELD	CA	93309	527-020-051	527-020-31	52702	13		29	26		4.68	101	Allen/Noriega - 93314		4704 ALLEN RD, BAKERSFIELD, CA
2/14/2022	Ops	Project	NA	PLN22-00039	Applied	GPA/ZCC to allow multi-family housing Map 101-13							James K. Delmarter	Mcintosh & Associates	2001 Wheelan Court	BAKERSFIELD	CA	93309	527-020-22													
10/25/2022	Ops	Project	NA	PLN22-00256	Applied	Map 101, ZCC - Future Lot Line Adjustment	Zone Change						Michael E Dauster			BAKERSFIELD	CA		530-050-01													
4/5/2023	Ops	Project	NA	PLN23-00742	Accepted	Map 101, ZCC requesting a change in zone classification on 1.8 acres (gr) from A to E (2 1/2) RS; APN 530-050-01				Michael E	Dauster		Michael E Dauster		4208 Rosedale Highway, Suite 302, Box 301	BAKERSFIELD	CA	93308	530-050-012		53005					38.0	1.84				7620 TRAVIS ST, BAKERSFIELD, CA

Appendix E: Intersection Capacity Analysis Worksheets

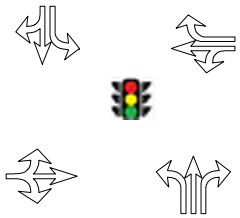
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : BOUGHTON DR / W DAY AVE
N/S STREET : AIRPORT DR
CONDITION : AM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
BOUGHTON DR / W DAY AVE							
EB LEFT	4	0	4	4	8	4	8
EB THRU	5	0	5	0	5	5	5
EB RIGHT	6	0	6	0	6	7	7
WB LEFT	126	9	135	0	135	145	145
WB THRU	12	1	13	0	13	11	11
WB RIGHT	6	0	6	0	6	6	6
AIRPORT DR							
NB LEFT	36	3	39	0	39	40	40
NB THRU	412	29	441	10	451	438	448
NB RIGHT	148	10	158	0	158	178	178
SB LEFT	39	3	42	0	42	40	40
SB THRU	331	23	354	29	383	375	404
SB RIGHT	14	1	15	10	25	13	23
TOTALS	**1139**	**79**	**1218**	**53**	**1271**	**1262**	**1315**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : BOUGHTON DR / W DAY AVE N/S STREET : AIRPORT DR
CONDITION : AM PEAK HOUR PHF : 0.79

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	66	10	0	0	0	0	1	0	0	0	0
2	120	8	0	0	0	0	0	0	0	1	0
1	80	10	0	1	0	0	0	0	0	0	0
3	52	11	0	1	0	0	1	0	0	1	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
40	86	5	0	1	0	0	1	0	0	0	0
41	126	5	0	1	0	0	0	0	0	1	0
37	82	6	0	2	0	0	1	0	0	1	0
30	100	4	0	1	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	0	26	0	0	0	0	0	0	0	0	0
2	1	31	0	0	0	0	0	0	0	0	0
1	3	33	0	0	0	0	0	0	0	0	0
1	3	36	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	0	2	0	0	0	0	0	0	0	0	0
2	3	1	0	0	0	0	0	0	0	0	0
3	1	0	0	0	0	0	0	0	0	0	0
0	1	1	0	0	0	0	0	0	0	0	0

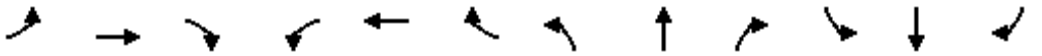
Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
BOUGHTON DR / W DAY A					
EB LEFT	0	4	**4**	**4**	**4**
EB THRU	0	5	**5**	**5**	**5**
EB RIGHT	0	6	**6**	**6**	**6**
WB LEFT	0	126	**126**	**126**	**126**
WB THRU	0	7	**7**	**7**	**12**
WB RIGHT	0	6	**6**	**6**	**6**
AIRPORT DR					
NB LEFT	0	20	**20**	**20**	**36**
NB THRU	9	394	**403**	**412**	**412**
NB RIGHT	0	148	**148**	**148**	**148**
SB LEFT	0	39	**39**	**39**	**39**
SB THRU	6	318	**324**	**331**	**331**
SB RIGHT	0	8	**8**	**8**	**14**

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	5	6	126	12	6	36	412	148	39	331	14
Future Volume (veh/h)	4	5	6	126	12	6	36	412	148	39	331	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	6	8	159	15	8	46	522	187	49	419	18
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	64	73	53	241	17	360	61	1090	923	63	1039	45
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.03	0.57	0.57	0.03	0.57	0.57
Sat Flow, veh/h	0	327	238	648	78	1610	1810	1900	1610	1810	1808	78
Grp Volume(v), veh/h	19	0	0	174	0	8	46	522	187	49	0	437
Grp Sat Flow(s),veh/h/ln	564	0	0	726	0	1610	1810	1900	1610	1810	0	1886
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.3	1.8	11.5	4.0	1.9	0.0	9.2
Cycle Q Clear(g_c), s	16.0	0.0	0.0	16.0	0.0	0.3	1.8	11.5	4.0	1.9	0.0	9.2
Prop In Lane	0.26		0.42	0.91		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	190	0	0	259	0	360	61	1090	923	63	0	1084
V/C Ratio(X)	0.10	0.00	0.00	0.67	0.00	0.02	0.76	0.48	0.20	0.78	0.00	0.40
Avail Cap(c_a), veh/h	190	0	0	259	0	360	152	1090	923	152	0	1084
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	0.0	28.2	0.0	21.6	34.3	9.0	7.4	34.2	0.0	8.4
Incr Delay (d2), s/veh	0.2	0.0	0.0	6.6	0.0	0.0	17.4	1.5	0.5	18.3	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	3.2	0.0	0.1	1.0	4.0	1.2	1.1	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	0.0	0.0	34.8	0.0	21.7	51.6	10.5	7.8	52.5	0.0	9.5
LnGrp LOS	C	A	A	C	A	C	D	B	A	D	A	A
Approach Vol, veh/h		19			182			755			486	
Approach Delay, s/veh		22.8			34.2			12.3			13.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	45.0		20.0	6.4	45.1		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		16.0	6.0	41.0		16.0				
Max Q Clear Time (g_c+I1), s	3.9	13.5		18.0	3.8	11.2		18.0				
Green Ext Time (p_c), s	0.0	3.8		0.0	0.0	2.6		0.0				

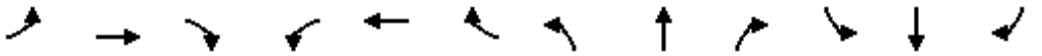
Intersection Summary			
HCM 6th Ctrl Delay		15.7	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	5	6	135	13	6	39	441	158	42	354	15
Future Volume (veh/h)	4	5	6	135	13	6	39	441	158	42	354	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	5	6	8	171	16	8	49	558	200	53	448	19
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	63	73	53	242	14	359	63	1087	921	67	1040	44
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.03	0.57	0.57	0.04	0.57	0.57
Sat Flow, veh/h	0	327	238	652	61	1610	1810	1900	1610	1810	1809	77
Grp Volume(v), veh/h	19	0	0	187	0	8	49	558	200	53	0	467
Grp Sat Flow(s),veh/h/ln	564	0	0	713	0	1610	1810	1900	1610	1810	0	1886
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.3	1.9	12.8	4.3	2.1	0.0	10.0
Cycle Q Clear(g_c), s	16.0	0.0	0.0	16.0	0.0	0.3	1.9	12.8	4.3	2.1	0.0	10.0
Prop In Lane	0.26		0.42	0.91		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	189	0	0	255	0	359	63	1087	921	67	0	1084
V/C Ratio(X)	0.10	0.00	0.00	0.73	0.00	0.02	0.78	0.51	0.22	0.79	0.00	0.43
Avail Cap(c_a), veh/h	189	0	0	255	0	359	151	1087	921	151	0	1084
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	0.0	29.0	0.0	21.7	34.3	9.3	7.5	34.2	0.0	8.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	10.3	0.0	0.0	18.4	1.7	0.5	17.9	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	3.8	0.0	0.1	1.1	4.4	1.3	1.2	0.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	0.0	39.4	0.0	21.8	52.7	11.0	8.0	52.1	0.0	9.9
LnGrp LOS	C	A	A	D	A	C	D	B	A	D	A	A
Approach Vol, veh/h		19			195			807			520	
Approach Delay, s/veh		22.9			38.6			12.8			14.2	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	45.0		20.0	6.5	45.2		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		16.0	6.0	41.0		16.0				
Max Q Clear Time (g_c+I1), s	4.1	14.8		18.0	3.9	12.0		18.0				
Green Ext Time (p_c), s	0.0	4.1		0.0	0.0	2.8		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		16.7	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	5	6	135	13	6	39	451	158	42	383	25
Future Volume (veh/h)	8	5	6	135	13	6	39	451	158	42	383	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	10	6	8	171	16	8	49	571	200	53	485	32
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	90	57	38	299	19	353	63	1093	926	67	1018	67
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.03	0.58	0.58	0.04	0.58	0.58
Sat Flow, veh/h	83	260	171	920	86	1610	1810	1900	1610	1810	1763	116
Grp Volume(v), veh/h	24	0	0	187	0	8	49	571	200	53	0	517
Grp Sat Flow(s),veh/h/ln	514	0	0	1006	0	1610	1810	1900	1610	1810	0	1879
Q Serve(g_s), s	0.2	0.0	0.0	0.0	0.0	0.3	1.9	13.0	4.3	2.1	0.0	11.4
Cycle Q Clear(g_c), s	13.8	0.0	0.0	13.7	0.0	0.3	1.9	13.0	4.3	2.1	0.0	11.4
Prop In Lane	0.42		0.33	0.91		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	184	0	0	317	0	353	63	1093	926	67	0	1085
V/C Ratio(X)	0.13	0.00	0.00	0.59	0.00	0.02	0.78	0.52	0.22	0.79	0.00	0.48
Avail Cap(c_a), veh/h	192	0	0	325	0	361	152	1093	926	152	0	1085
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	0.0	27.1	0.0	21.8	34.1	9.2	7.3	34.0	0.0	8.8
Incr Delay (d2), s/veh	0.3	0.0	0.0	2.7	0.0	0.0	18.2	1.8	0.5	17.9	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	3.1	0.0	0.1	1.1	4.5	1.2	1.2	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.2	0.0	0.0	29.7	0.0	21.9	52.3	11.0	7.9	52.0	0.0	10.3
LnGrp LOS	C	A	A	C	A	C	D	B	A	D	A	B
Approach Vol, veh/h		24			195			820			570	
Approach Delay, s/veh		23.2			29.4			12.7			14.2	
Approach LOS		C			C			B			B	

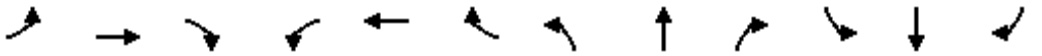
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	45.0		19.6	6.5	45.2		19.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		16.0	6.0	41.0		16.0				
Max Q Clear Time (g_c+I1), s	4.1	15.0		15.8	3.9	13.4		15.7				
Green Ext Time (p_c), s	0.0	4.2		0.0	0.0	3.1		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		15.4	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	5	7	145	11	6	40	438	178	40	375	13
Future Volume (veh/h)	4	5	7	145	11	6	40	438	178	40	375	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	5	7	153	12	6	42	461	187	42	395	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	63	75	58	241	15	362	57	1093	926	57	1049	37
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.03	0.58	0.58	0.03	0.58	0.58
Sat Flow, veh/h	0	335	260	638	69	1610	1810	1900	1610	1810	1824	65
Grp Volume(v), veh/h	16	0	0	165	0	6	42	461	187	42	0	409
Grp Sat Flow(s),veh/h/ln	595	0	0	707	0	1610	1810	1900	1610	1810	0	1888
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.2	1.6	9.7	4.0	1.6	0.0	8.4
Cycle Q Clear(g_c), s	16.0	0.0	0.0	16.0	0.0	0.2	1.6	9.7	4.0	1.6	0.0	8.4
Prop In Lane	0.25		0.44	0.93		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	197	0	0	256	0	362	57	1093	926	57	0	1087
V/C Ratio(X)	0.08	0.00	0.00	0.64	0.00	0.02	0.73	0.42	0.20	0.73	0.00	0.38
Avail Cap(c_a), veh/h	197	0	0	256	0	362	152	1093	926	152	0	1087
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.4	0.0	0.0	27.8	0.0	21.5	34.2	8.5	7.3	34.2	0.0	8.2
Incr Delay (d2), s/veh	0.2	0.0	0.0	5.4	0.0	0.0	16.3	1.2	0.5	16.3	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	3.0	0.0	0.1	0.9	3.3	1.1	0.9	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	0.0	0.0	33.2	0.0	21.5	50.5	9.7	7.8	50.5	0.0	9.2
LnGrp LOS	C	A	A	C	A	C	D	A	A	D	A	A
Approach Vol, veh/h		16			171			690			451	
Approach Delay, s/veh		22.6			32.8			11.6			13.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	45.0		20.0	6.3	45.0		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		16.0	6.0	41.0		16.0				
Max Q Clear Time (g_c+I1), s	3.6	11.7		18.0	3.6	10.4		18.0				
Green Ext Time (p_c), s	0.0	3.4		0.0	0.0	2.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		15.0	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	5	7	145	11	6	40	448	178	40	404	23
Future Volume (veh/h)	8	5	7	145	11	6	40	448	178	40	404	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	5	7	153	12	6	42	472	187	42	425	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	91	60	42	287	14	303	58	1145	971	58	1074	61
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.03	0.60	0.60	0.03	0.60	0.60
Sat Flow, veh/h	91	319	221	980	77	1610	1810	1900	1610	1810	1781	101
Grp Volume(v), veh/h	20	0	0	165	0	6	42	472	187	42	0	449
Grp Sat Flow(s),veh/h/ln	630	0	0	1057	0	1610	1810	1900	1610	1810	0	1882
Q Serve(g_s), s	0.1	0.0	0.0	0.0	0.0	0.2	1.6	8.9	3.5	1.6	0.0	8.5
Cycle Q Clear(g_c), s	11.1	0.0	0.0	11.0	0.0	0.2	1.6	8.9	3.5	1.6	0.0	8.5
Prop In Lane	0.40		0.35	0.93		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	193	0	0	301	0	303	58	1145	971	58	0	1135
V/C Ratio(X)	0.10	0.00	0.00	0.55	0.00	0.02	0.72	0.41	0.19	0.72	0.00	0.40
Avail Cap(c_a), veh/h	267	0	0	369	0	379	160	1145	971	160	0	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	0.0	26.8	0.0	22.5	32.6	7.1	6.1	32.6	0.0	7.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.6	0.0	0.0	15.3	1.1	0.4	15.3	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	2.5	0.0	0.1	0.9	2.8	1.0	0.9	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.4	0.0	0.0	28.4	0.0	22.5	47.9	8.2	6.5	47.9	0.0	8.1
LnGrp LOS	C	A	A	C	A	C	D	A	A	D	A	A
Approach Vol, veh/h		20			171			701			491	
Approach Delay, s/veh		23.4			28.2			10.2			11.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.2	45.0		16.8	6.2	45.0		16.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		16.0	6.0	41.0		16.0				
Max Q Clear Time (g_c+I1), s	3.6	10.9		13.1	3.6	10.5		13.0				
Green Ext Time (p_c), s	0.0	3.4		0.0	0.0	2.7		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		13.0	
HCM 6th LOS		B	

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : BOUGHTON DR / W DAY AVE
N/S STREET : AIRPORT DR
CONDITION : PM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
BOUGHTON DR / W DAY AVE							
EB LEFT	9	1	10	10	20	8	18
EB THRU	10	1	11	0	11	9	9
EB RIGHT	14	1	15	0	15	17	17
WB LEFT	138	10	148	0	148	185	185
WB THRU	11	1	12	0	12	13	13
WB RIGHT	22	2	24	0	24	22	22
AIRPORT DR							
NB LEFT	11	1	12	0	12	16	16
NB THRU	270	19	289	32	321	318	350
NB RIGHT	268	19	287	0	287	311	311
SB LEFT	75	5	80	0	80	73	73
SB THRU	279	20	299	14	313	370	384
SB RIGHT	12	1	13	4	17	14	18
TOTALS	**1119**	**81**	**1200**	**60**	**1260**	**1356**	**1416**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : BOUGHTON DR / W DAY AVE N/S STREET : AIRPORT DR
CONDITION : PM PEAK HOUR PHF : 0.91

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	81	18	0	1	0	0	0	0	0	0	0
3	72	16	0	0	0	0	1	0	0	0	0
4	57	20	0	1	0	0	1	0	0	0	0
4	59	21	0	0	0	0	0	0	0	1	0

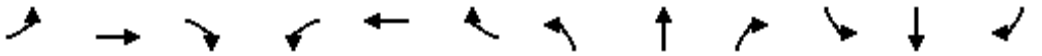
SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
62	69	2	0	0	0	1	0	0	0	0	0
70	79	4	0	0	0	1	0	0	0	0	0
69	61	3	0	2	0	0	0	0	0	0	0
63	52	2	0	2	0	0	0	0	0	1	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
5	2	32	0	0	0	0	0	0	0	0	0
5	4	41	0	0	0	0	0	0	0	0	0
7	2	35	0	0	0	0	0	0	0	0	0
5	3	30	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	0	3	0	0	0	0	0	0	0	0	0
4	3	2	0	0	0	0	0	0	0	0	0
4	4	3	0	0	0	0	0	0	0	0	0
4	2	1	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
BOUGHTON DR / W DAY A					
EB LEFT	0	9	**9**	**9**	**9**
EB THRU	0	9	**9**	**9**	**10**
EB RIGHT	0	13	**13**	**13**	**14**
WB LEFT	0	138	**138**	**138**	**138**
WB THRU	0	11	**11**	**11**	**11**
WB RIGHT	0	22	**22**	**22**	**22**
AIRPORT DR					
NB LEFT	0	11	**11**	**11**	**11**
NB THRU	5	261	**266**	**270**	**270**
NB RIGHT	2	264	**266**	**268**	**268**
SB LEFT	0	75	**75**	**75**	**75**
SB THRU	5	269	**274**	**279**	**279**
SB RIGHT	0	12	**12**	**12**	**12**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	10	14	138	11	22	11	270	268	75	279	12
Future Volume (veh/h)	9	10	14	138	11	22	11	270	268	75	279	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	10	11	15	152	12	24	12	297	295	82	307	13
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	66	71	52	247	16	357	21	1052	892	106	1087	46
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.01	0.55	0.55	0.06	0.60	0.60
Sat Flow, veh/h	8	320	234	680	72	1610	1810	1900	1610	1810	1810	77
Grp Volume(v), veh/h	36	0	0	164	0	24	12	297	295	82	0	320
Grp Sat Flow(s),veh/h/ln	562	0	0	753	0	1610	1810	1900	1610	1810	0	1886
Q Serve(g_s), s	0.2	0.0	0.0	0.1	0.0	0.9	0.5	6.0	7.2	3.2	0.0	5.9
Cycle Q Clear(g_c), s	15.9	0.0	0.0	15.8	0.0	0.9	0.5	6.0	7.2	3.2	0.0	5.9
Prop In Lane	0.28		0.42	0.93		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	188	0	0	263	0	357	21	1052	892	106	0	1133
V/C Ratio(X)	0.19	0.00	0.00	0.62	0.00	0.07	0.56	0.28	0.33	0.77	0.00	0.28
Avail Cap(c_a), veh/h	188	0	0	263	0	357	150	1052	892	175	0	1133
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	0.0	28.0	0.0	22.2	35.5	8.5	8.8	33.5	0.0	6.9
Incr Delay (d2), s/veh	0.5	0.0	0.0	4.6	0.0	0.1	20.9	0.7	1.0	11.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	2.9	0.0	0.3	0.3	2.1	2.2	1.6	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	0.0	32.5	0.0	22.3	56.4	9.2	9.8	44.7	0.0	7.6
LnGrp LOS	C	A	A	C	A	C	E	A	A	D	A	A
Approach Vol, veh/h		36			188			604			402	
Approach Delay, s/veh		23.7			31.2			10.4			15.1	
Approach LOS		C			C			B			B	

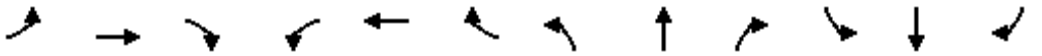
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	44.0		20.0	4.9	47.4		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	40.0		16.0	6.0	41.0		16.0				
Max Q Clear Time (g_c+I1), s	5.2	9.2		17.9	2.5	7.9		17.8				
Green Ext Time (p_c), s	0.0	2.7		0.0	0.0	1.8		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			15.5									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	11	15	148	12	24	12	289	287	80	299	13
Future Volume (veh/h)	10	11	15	148	12	24	12	289	287	80	299	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	11	12	16	163	13	26	13	318	315	88	329	14
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	64	68	47	244	12	355	23	1047	888	114	1088	46
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.01	0.55	0.55	0.06	0.60	0.60
Sat Flow, veh/h	0	309	215	675	56	1610	1810	1900	1610	1810	1809	77
Grp Volume(v), veh/h	39	0	0	176	0	26	13	318	315	88	0	343
Grp Sat Flow(s),veh/h/ln	523	0	0	731	0	1610	1810	1900	1610	1810	0	1886
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.9	0.5	6.5	7.9	3.5	0.0	6.4
Cycle Q Clear(g_c), s	16.0	0.0	0.0	16.0	0.0	0.9	0.5	6.5	7.9	3.5	0.0	6.4
Prop In Lane	0.28		0.41	0.93		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	179	0	0	257	0	355	23	1047	888	114	0	1134
V/C Ratio(X)	0.22	0.00	0.00	0.69	0.00	0.07	0.57	0.30	0.35	0.77	0.00	0.30
Avail Cap(c_a), veh/h	179	0	0	257	0	355	150	1047	888	175	0	1134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	0.0	28.9	0.0	22.4	35.6	8.8	9.1	33.5	0.0	7.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	7.4	0.0	0.1	20.0	0.7	1.1	10.8	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	3.4	0.0	0.3	0.3	2.3	2.4	1.8	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.0	0.0	0.0	36.3	0.0	22.5	55.6	9.5	10.2	44.3	0.0	7.7
LnGrp LOS	C	A	A	D	A	C	E	A	B	D	A	A
Approach Vol, veh/h		39			202			646			431	
Approach Delay, s/veh		24.0			34.5			10.8			15.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	44.0		20.0	4.9	47.6		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	40.0		16.0	6.0	41.0		16.0				
Max Q Clear Time (g_c+I1), s	5.5	9.9		18.0	2.5	8.4		18.0				
Green Ext Time (p_c), s	0.0	2.9		0.0	0.0	1.9		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			16.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	11	15	148	12	24	12	321	287	80	313	17
Future Volume (veh/h)	20	11	15	148	12	24	12	321	287	80	313	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	22	12	16	163	13	26	13	353	315	88	344	19
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	55	36	296	16	323	23	1076	912	114	1100	61
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.01	0.57	0.57	0.06	0.62	0.62
Sat Flow, veh/h	108	274	180	986	79	1610	1810	1900	1610	1810	1784	99
Grp Volume(v), veh/h	50	0	0	176	0	26	13	353	315	88	0	363
Grp Sat Flow(s),veh/h/ln	562	0	0	1064	0	1610	1810	1900	1610	1810	0	1882
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	0.9	0.5	7.0	7.5	3.4	0.0	6.5
Cycle Q Clear(g_c), s	12.3	0.0	0.0	12.0	0.0	0.9	0.5	7.0	7.5	3.4	0.0	6.5
Prop In Lane	0.44		0.32	0.93		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	186	0	0	312	0	323	23	1076	912	114	0	1160
V/C Ratio(X)	0.27	0.00	0.00	0.56	0.00	0.08	0.56	0.33	0.35	0.77	0.00	0.31
Avail Cap(c_a), veh/h	226	0	0	349	0	365	154	1076	912	179	0	1160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	27.3	0.0	22.9	34.7	8.2	8.3	32.6	0.0	6.4
Incr Delay (d2), s/veh	0.8	0.0	0.0	1.7	0.0	0.1	19.8	0.8	1.0	10.5	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	2.8	0.0	0.3	0.3	2.4	2.2	1.7	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	0.0	0.0	29.0	0.0	23.0	54.4	9.0	9.3	43.1	0.0	7.1
LnGrp LOS	C	A	A	C	A	C	D	A	A	D	A	A
Approach Vol, veh/h		50			202			681			451	
Approach Delay, s/veh		24.6			28.2			10.0			14.2	
Approach LOS		C			C			A			B	

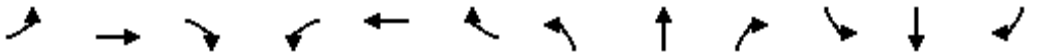
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	44.0		18.2	4.9	47.5		18.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	40.0		16.0	6.0	41.0		16.0				
Max Q Clear Time (g_c+I1), s	5.4	9.5		14.3	2.5	8.5		14.0				
Green Ext Time (p_c), s	0.0	3.1		0.0	0.0	2.1		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		14.5	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	9	17	185	13	22	16	318	311	73	370	14
Future Volume (veh/h)	8	9	17	185	13	22	16	318	311	73	370	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	9	18	195	14	23	17	335	327	77	389	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	61	69	73	234	10	358	29	1056	895	100	1081	42
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.02	0.56	0.56	0.06	0.59	0.59
Sat Flow, veh/h	0	312	330	620	44	1610	1810	1900	1610	1810	1817	70
Grp Volume(v), veh/h	35	0	0	209	0	23	17	335	327	77	0	404
Grp Sat Flow(s),veh/h/ln	642	0	0	664	0	1610	1810	1900	1610	1810	0	1887
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.8	0.7	6.8	8.1	3.0	0.0	7.9
Cycle Q Clear(g_c), s	16.0	0.0	0.0	16.0	0.0	0.8	0.7	6.8	8.1	3.0	0.0	7.9
Prop In Lane	0.23		0.51	0.93		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	204	0	0	244	0	358	29	1056	895	100	0	1123
V/C Ratio(X)	0.17	0.00	0.00	0.86	0.00	0.06	0.59	0.32	0.37	0.77	0.00	0.36
Avail Cap(c_a), veh/h	204	0	0	244	0	358	151	1056	895	176	0	1123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	0.0	30.3	0.0	22.1	35.2	8.6	8.9	33.6	0.0	7.5
Incr Delay (d2), s/veh	0.4	0.0	0.0	24.5	0.0	0.1	17.4	0.8	1.2	11.9	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	5.1	0.0	0.3	0.4	2.4	2.5	1.6	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	0.0	0.0	54.8	0.0	22.1	52.6	9.4	10.1	45.4	0.0	8.4
LnGrp LOS	C	A	A	D	A	C	D	A	B	D	A	A
Approach Vol, veh/h		35			232			679			481	
Approach Delay, s/veh		23.3			51.6			10.8			14.3	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	44.0		20.0	5.2	46.8		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	40.0		16.0	6.0	41.0		16.0				
Max Q Clear Time (g_c+I1), s	5.0	10.1		18.0	2.7	9.9		18.0				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	2.3		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			18.9									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	9	17	185	13	22	16	350	311	73	384	18
Future Volume (veh/h)	18	9	17	185	13	22	16	350	311	73	384	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	19	9	18	195	14	23	17	368	327	77	404	19
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	71	42	27	283	13	358	29	1056	895	100	1071	50
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.02	0.56	0.56	0.06	0.59	0.59
Sat Flow, veh/h	0	189	122	838	60	1610	1810	1900	1610	1810	1800	85
Grp Volume(v), veh/h	46	0	0	209	0	23	17	368	327	77	0	423
Grp Sat Flow(s),veh/h/ln	311	0	0	899	0	1610	1810	1900	1610	1810	0	1885
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.8	0.7	7.7	8.1	3.0	0.0	8.4
Cycle Q Clear(g_c), s	16.0	0.0	0.0	16.0	0.0	0.8	0.7	7.7	8.1	3.0	0.0	8.4
Prop In Lane	0.41		0.39	0.93		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	140	0	0	297	0	358	29	1056	895	100	0	1121
V/C Ratio(X)	0.33	0.00	0.00	0.70	0.00	0.06	0.59	0.35	0.37	0.77	0.00	0.38
Avail Cap(c_a), veh/h	140	0	0	297	0	358	151	1056	895	176	0	1121
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.5	0.0	0.0	28.3	0.0	22.1	35.2	8.8	8.9	33.6	0.0	7.6
Incr Delay (d2), s/veh	1.4	0.0	0.0	7.4	0.0	0.1	17.4	0.9	1.2	11.9	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	3.9	0.0	0.3	0.4	2.7	2.5	1.6	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	0.0	0.0	35.7	0.0	22.1	52.6	9.7	10.1	45.4	0.0	8.6
LnGrp LOS	C	A	A	D	A	C	D	A	B	D	A	A
Approach Vol, veh/h		46			232			712			500	
Approach Delay, s/veh		24.9			34.4			10.9			14.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	44.0		20.0	5.2	46.8		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	40.0		16.0	6.0	41.0		16.0				
Max Q Clear Time (g_c+I1), s	5.0	10.1		18.0	2.7	10.4		18.0				
Green Ext Time (p_c), s	0.0	3.3		0.0	0.0	2.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		16.1	
HCM 6th LOS		B	

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 1
North/South Street: AIRPORT DR
East/West Street: BOUGHTON DR / W DAY AVE

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	36	Approach	655	Left	39	40
NB	Through	412	Departure	525	Through	438	438
	Right	148			Right	178	178
North leg	Left	39	Approach	423	Left	40	40
SB	Through	331	Departure	446	Through	375	375
	Right	14			Right	13	13
West leg	Left	4	Approach	15	Left	4	4
EB	Through	5	Departure	62	Through	5	5
	Right	6			Right	7	7
East leg	Left	126	Approach	159	Left	145	145
WB	Through	12	Departure	222	Through	11	11
	Right	6			Right	6	6

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	11	Approach	647	Left	13	16
NB	Through	270	Departure	570	Through	318	318
	Right	268			Right	311	311
North leg	Left	75	Approach	453	Left	73	73
SB	Through	279	Departure	347	Through	370	370
	Right	12			Right	12	14
West leg	Left	9	Approach	33	Left	8	8
EB	Through	10	Departure	34	Through	9	9
	Right	14			Right	17	17
East leg	Left	138	Approach	216	Left	185	185
WB	Through	11	Departure	391	Through	11	13
	Right	22			Right	22	22

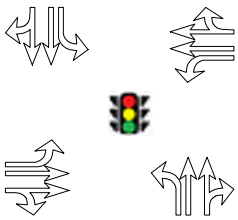
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : NORRIS RD
N/S STREET : AIRPORT DR
CONDITION : AM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
NORRIS RD							
EB LEFT	166	12	178	0	178	164	164
EB THRU	258	18	276	0	276	253	253
EB RIGHT	51	4	55	0	55	67	67
WB LEFT	109	8	117	0	117	130	130
WB THRU	236	17	253	0	253	227	227
WB RIGHT	5	0	5	2	7	5	7
AIRPORT DR							
NB LEFT	75	5	80	0	80	89	89
NB THRU	649	45	694	51	745	718	769
NB RIGHT	77	5	82	0	82	85	85
SB LEFT	15	1	16	1	17	14	15
SB THRU	554	39	593	16	609	655	671
SB RIGHT	78	5	83	0	83	75	75
TOTALS	**2273**	**159**	**2432**	**70**	**2502**	**2482**	**2552**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : NORRIS RD
CONDITION : AM PEAK HOUR
N/S STREET : AIRPORT DR
PHF : 0.80

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	115	4	0	0	0	0	0	0	0	1	0
22	177	4	0	0	0	0	0	0	0	1	0
25	103	5	0	1	0	0	1	0	0	1	0
21	137	2	0	1	0	0	1	0	0	2	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
14	145	12	0	3	1	0	1	0	0	2	1
20	224	17	0	1	1	0	0	1	0	1	1
23	136	16	0	0	0	0	2	0	0	1	2
20	106	10	0	2	0	0	4	0	0	1	1

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	42	18	0	0	0	0	0	1	0	0	1
2	65	22	0	0	1	0	0	1	0	0	1
0	68	23	0	0	2	0	0	1	0	1	0
1	56	21	0	1	0	0	0	1	0	0	2

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	59	37	0	0	0	0	0	0	0	0	0
16	66	44	0	0	0	0	0	0	0	0	0
14	71	49	0	0	0	0	0	0	0	0	0
9	62	31	1	0	0	0	0	1	0	0	1

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
NORRIS RD					
EB LEFT	2	161	**163**	**166**	**166**
EB THRU	0	258	**258**	**258**	**258**
EB RIGHT	1	49	**50**	**51**	**51**
WB LEFT	11	84	**95**	**109**	**109**
WB THRU	2	231	**233**	**236**	**236**
WB RIGHT	0	5	**5**	**5**	**5**
AIRPORT DR					
NB LEFT	8	55	**63**	**75**	**75**
NB THRU	18	611	**629**	**649**	**649**
NB RIGHT	0	77	**77**	**77**	**77**
SB LEFT	0	15	**15**	**15**	**15**
SB THRU	9	532	**541**	**554**	**554**
SB RIGHT	0	78	**78**	**78**	**78**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	258	51	109	236	5	75	649	77	15	554	78
Future Volume (veh/h)	166	258	51	109	236	5	75	649	77	15	554	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	208	322	64	136	295	6	94	811	96	19	692	98
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	172	469	92	174	569	12	121	1665	197	32	1470	208
Arrive On Green	0.10	0.16	0.16	0.10	0.16	0.16	0.07	0.51	0.51	0.02	0.46	0.46
Sat Flow, veh/h	1810	3008	591	1810	3618	73	1810	3251	385	1810	3175	449
Grp Volume(v), veh/h	208	192	194	136	147	154	94	450	457	19	393	397
Grp Sat Flow(s),veh/h/ln	1810	1805	1794	1810	1805	1887	1810	1805	1831	1810	1805	1819
Q Serve(g_s), s	7.0	7.4	7.5	5.4	5.5	5.5	3.8	11.9	11.9	0.8	11.0	11.0
Cycle Q Clear(g_c), s	7.0	7.4	7.5	5.4	5.5	5.5	3.8	11.9	11.9	0.8	11.0	11.0
Prop In Lane	1.00		0.33	1.00		0.04	1.00		0.21	1.00		0.25
Lane Grp Cap(c), veh/h	172	282	280	174	284	296	121	925	938	32	835	842
V/C Ratio(X)	1.21	0.68	0.69	0.78	0.52	0.52	0.78	0.49	0.49	0.60	0.47	0.47
Avail Cap(c_a), veh/h	172	737	733	345	909	950	148	925	938	148	835	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	29.3	29.3	32.4	28.4	28.4	33.7	11.6	11.6	35.8	13.5	13.6
Incr Delay (d2), s/veh	134.8	2.9	3.1	7.3	1.5	1.4	18.7	1.8	1.8	16.8	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	3.1	3.2	2.5	2.3	2.4	2.2	4.4	4.5	0.5	4.2	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	168.1	32.1	32.4	39.8	29.9	29.8	52.4	13.5	13.5	52.7	15.4	15.4
LnGrp LOS	F	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		594			437			1001			809	
Approach Delay, s/veh		79.8			32.9			17.1			16.3	
Approach LOS		E			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	41.6	11.1	15.5	8.9	38.0	11.0	15.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	34.0	14.0	30.0	6.0	34.0	7.0	37.0
Max Q Clear Time (g_c+I1), s	2.8	13.9	7.4	9.5	5.8	13.0	9.0	7.5
Green Ext Time (p_c), s	0.0	5.4	0.2	1.9	0.0	4.5	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	32.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	276	55	117	253	5	80	694	82	16	593	83
Future Volume (veh/h)	178	276	55	117	253	5	80	694	82	16	593	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	222	345	69	146	316	6	100	868	102	20	741	104
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	168	492	97	185	628	12	128	1638	193	33	1433	201
Arrive On Green	0.09	0.16	0.16	0.10	0.17	0.17	0.07	0.50	0.50	0.02	0.45	0.45
Sat Flow, veh/h	1810	3004	594	1810	3624	69	1810	3254	382	1810	3179	446
Grp Volume(v), veh/h	222	206	208	146	157	165	100	482	488	20	421	424
Grp Sat Flow(s),veh/h/ln	1810	1805	1793	1810	1805	1888	1810	1805	1831	1810	1805	1820
Q Serve(g_s), s	7.0	8.1	8.3	5.9	5.9	6.0	4.1	13.6	13.6	0.8	12.6	12.6
Cycle Q Clear(g_c), s	7.0	8.1	8.3	5.9	5.9	6.0	4.1	13.6	13.6	0.8	12.6	12.6
Prop In Lane	1.00		0.33	1.00		0.04	1.00		0.21	1.00		0.25
Lane Grp Cap(c), veh/h	168	296	294	185	313	327	128	909	922	33	814	820
V/C Ratio(X)	1.32	0.70	0.71	0.79	0.50	0.50	0.78	0.53	0.53	0.61	0.52	0.52
Avail Cap(c_a), veh/h	168	718	713	336	885	926	144	909	922	144	814	820
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	29.8	29.8	33.1	28.2	28.2	34.5	12.7	12.7	36.8	14.8	14.8
Incr Delay (d2), s/veh	180.3	2.9	3.2	7.2	1.2	1.2	21.3	2.2	2.2	16.8	2.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	3.5	3.5	2.8	2.5	2.6	2.5	5.2	5.3	0.5	4.9	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	214.5	32.7	33.0	40.3	29.5	29.4	55.7	14.9	14.9	53.6	17.2	17.2
LnGrp LOS	F	C	C	D	C	C	E	B	B	D	B	B
Approach Vol, veh/h		636			468			1070			865	
Approach Delay, s/veh		96.3			32.8			18.7			18.0	
Approach LOS		F			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	42.0	11.7	16.4	9.3	38.0	11.0	17.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	34.0	14.0	30.0	6.0	34.0	7.0	37.0
Max Q Clear Time (g_c+I1), s	2.8	15.6	7.9	10.3	6.1	14.6	9.0	8.0
Green Ext Time (p_c), s	0.0	5.7	0.2	2.1	0.0	4.7	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	276	55	117	253	7	80	745	82	17	609	83
Future Volume (veh/h)	178	276	55	117	253	7	80	745	82	17	609	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	222	345	69	146	316	9	100	931	102	21	761	104
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	168	492	97	185	622	18	128	1650	181	34	1438	196
Arrive On Green	0.09	0.16	0.16	0.10	0.17	0.17	0.07	0.50	0.50	0.02	0.45	0.45
Sat Flow, veh/h	1810	3004	594	1810	3585	102	1810	3281	359	1810	3191	436
Grp Volume(v), veh/h	222	206	208	146	159	166	100	512	521	21	430	435
Grp Sat Flow(s),veh/h/ln	1810	1805	1793	1810	1805	1882	1810	1805	1835	1810	1805	1822
Q Serve(g_s), s	7.0	8.1	8.3	5.9	6.0	6.0	4.1	14.9	14.9	0.9	13.0	13.0
Cycle Q Clear(g_c), s	7.0	8.1	8.3	5.9	6.0	6.0	4.1	14.9	14.9	0.9	13.0	13.0
Prop In Lane	1.00		0.33	1.00		0.05	1.00		0.20	1.00		0.24
Lane Grp Cap(c), veh/h	168	296	294	185	313	326	128	908	923	34	814	821
V/C Ratio(X)	1.32	0.70	0.71	0.79	0.51	0.51	0.78	0.56	0.56	0.61	0.53	0.53
Avail Cap(c_a), veh/h	168	718	713	336	885	923	144	908	923	144	814	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	29.8	29.8	33.1	28.3	28.3	34.5	13.0	13.0	36.7	14.9	14.9
Incr Delay (d2), s/veh	180.3	2.9	3.2	7.2	1.3	1.2	21.3	2.5	2.5	16.6	2.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	3.5	3.5	2.8	2.5	2.6	2.5	5.7	5.8	0.5	5.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	214.5	32.7	33.0	40.3	29.5	29.5	55.7	15.6	15.5	53.3	17.4	17.4
LnGrp LOS	F	C	C	D	C	C	E	B	B	D	B	B
Approach Vol, veh/h		636			471			1133			886	
Approach Delay, s/veh		96.3			32.9			19.1			18.2	
Approach LOS		F			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	41.9	11.7	16.4	9.3	38.0	11.0	17.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	34.0	14.0	30.0	6.0	34.0	7.0	37.0
Max Q Clear Time (g_c+I1), s	2.9	16.9	7.9	10.3	6.1	15.0	9.0	8.0
Green Ext Time (p_c), s	0.0	6.0	0.2	2.1	0.0	4.8	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	253	67	130	227	5	89	718	85	14	655	75
Future Volume (veh/h)	164	253	67	130	227	5	89	718	85	14	655	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	173	266	71	137	239	5	94	756	89	15	689	79
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	176	402	105	176	514	11	121	1706	201	26	1540	176
Arrive On Green	0.10	0.14	0.14	0.10	0.14	0.14	0.07	0.52	0.52	0.01	0.47	0.47
Sat Flow, veh/h	1810	2831	741	1810	3616	75	1810	3253	383	1810	3264	374
Grp Volume(v), veh/h	173	168	169	137	119	125	94	419	426	15	381	387
Grp Sat Flow(s),veh/h/ln	1810	1805	1767	1810	1805	1886	1810	1805	1831	1810	1805	1833
Q Serve(g_s), s	6.9	6.3	6.6	5.3	4.4	4.4	3.7	10.4	10.4	0.6	10.2	10.2
Cycle Q Clear(g_c), s	6.9	6.3	6.6	5.3	4.4	4.4	3.7	10.4	10.4	0.6	10.2	10.2
Prop In Lane	1.00		0.42	1.00		0.04	1.00		0.21	1.00		0.20
Lane Grp Cap(c), veh/h	176	256	251	176	256	268	121	946	960	26	852	865
V/C Ratio(X)	0.98	0.65	0.67	0.78	0.46	0.47	0.78	0.44	0.44	0.58	0.45	0.45
Avail Cap(c_a), veh/h	176	751	735	352	927	969	151	946	960	151	852	865
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	29.2	29.3	31.8	28.4	28.4	33.1	10.6	10.6	35.3	12.7	12.7
Incr Delay (d2), s/veh	63.1	2.8	3.1	7.2	1.3	1.3	18.0	1.5	1.5	18.5	1.7	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	2.7	2.8	2.5	1.8	1.9	2.1	3.8	3.8	0.4	3.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.5	32.1	32.5	39.0	29.7	29.7	51.0	12.1	12.1	53.8	14.4	14.4
LnGrp LOS	F	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		510			381			939			783	
Approach Delay, s/veh		53.7			33.0			16.0			15.2	
Approach LOS		D			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	41.8	11.0	14.2	8.8	38.0	11.0	14.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	34.0	14.0	30.0	6.0	34.0	7.0	37.0
Max Q Clear Time (g_c+I1), s	2.6	12.4	7.3	8.6	5.7	12.2	8.9	6.4
Green Ext Time (p_c), s	0.0	5.1	0.2	1.7	0.0	4.4	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	253	67	130	227	7	89	769	85	15	671	75
Future Volume (veh/h)	164	253	67	130	227	7	89	769	85	15	671	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	173	266	71	137	239	7	94	809	89	16	706	79
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	176	402	105	176	509	15	121	1717	189	28	1544	173
Arrive On Green	0.10	0.14	0.14	0.10	0.14	0.14	0.07	0.52	0.52	0.02	0.47	0.47
Sat Flow, veh/h	1810	2831	741	1810	3582	105	1810	3279	361	1810	3273	366
Grp Volume(v), veh/h	173	168	169	137	120	126	94	445	453	16	389	396
Grp Sat Flow(s),veh/h/ln	1810	1805	1767	1810	1805	1881	1810	1805	1835	1810	1805	1834
Q Serve(g_s), s	6.9	6.3	6.6	5.3	4.4	4.4	3.7	11.2	11.2	0.6	10.5	10.5
Cycle Q Clear(g_c), s	6.9	6.3	6.6	5.3	4.4	4.4	3.7	11.2	11.2	0.6	10.5	10.5
Prop In Lane	1.00		0.42	1.00		0.06	1.00		0.20	1.00		0.20
Lane Grp Cap(c), veh/h	176	256	251	176	256	267	121	945	961	28	852	865
V/C Ratio(X)	0.98	0.65	0.67	0.78	0.47	0.47	0.78	0.47	0.47	0.58	0.46	0.46
Avail Cap(c_a), veh/h	176	751	735	352	927	966	151	945	961	151	852	865
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	29.2	29.3	31.8	28.4	28.4	33.1	10.9	10.9	35.3	12.8	12.8
Incr Delay (d2), s/veh	63.1	2.8	3.1	7.2	1.3	1.3	18.0	1.7	1.7	17.9	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	2.7	2.8	2.5	1.8	1.9	2.1	4.1	4.2	0.4	3.9	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.5	32.1	32.5	39.0	29.7	29.7	51.0	12.5	12.5	53.2	14.6	14.6
LnGrp LOS	F	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		510			383			992			801	
Approach Delay, s/veh		53.7			33.0			16.2			15.3	
Approach LOS		D			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	41.7	11.0	14.2	8.8	38.0	11.0	14.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	34.0	14.0	30.0	6.0	34.0	7.0	37.0
Max Q Clear Time (g_c+I1), s	2.6	13.2	7.3	8.6	5.7	12.5	8.9	6.4
Green Ext Time (p_c), s	0.0	5.4	0.2	1.7	0.0	4.5	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	25.5
HCM 6th LOS	C

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : NORRIS RD
N/S STREET : AIRPORT DR
CONDITION : PM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
NORRIS RD							
EB LEFT	176	12	188	0	188	209	209
EB THRU	364	25	389	0	389	449	449
EB RIGHT	31	2	33	0	33	54	54
WB LEFT	118	8	126	0	126	166	166
WB THRU	267	19	286	0	286	293	293
WB RIGHT	42	3	45	1	46	41	42
AIRPORT DR							
NB LEFT	68	5	73	0	73	85	85
NB THRU	731	51	782	24	806	808	832
NB RIGHT	145	10	155	0	155	167	167
SB LEFT	11	1	12	3	15	10	13
SB THRU	713	50	763	55	818	883	938
SB RIGHT	85	6	91	0	91	83	83
TOTALS	**2751**	**192**	**2943**	**83**	**3026**	**3248**	**3331**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : NORRIS RD
CONDITION : PM PEAK HOUR
N/S STREET : AIRPORT DR
PHF : 0.95

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
20	158	1	0	1	0	0	0	0	0	0	0
27	158	3	0	0	0	0	1	0	0	0	0
22	198	4	0	0	0	0	0	0	0	1	0
16	189	3	0	0	0	0	0	0	0	1	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
41	145	17	0	0	1	0	1	0	0	0	0
35	185	16	0	2	1	1	1	0	1	0	0
33	200	15	0	3	0	0	0	0	0	1	1
31	184	9	0	0	1	0	1	0	0	0	1

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	69	30	0	0	0	0	0	0	0	0	0
11	73	31	0	0	0	0	0	1	0	0	0
10	64	30	0	0	0	0	0	0	0	0	0
11	61	25	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
7	96	44	0	0	0	0	0	0	1	0	0
6	101	48	0	0	0	0	1	0	1	3	2
6	83	42	0	0	0	0	0	0	0	0	0
6	73	36	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
NORRIS RD					
EB LEFT	2	170	**172**	**176**	**176**
EB THRU	4	353	**357**	**364**	**364**
EB RIGHT	2	25	**27**	**31**	**31**
WB LEFT	1	116	**117**	**118**	**118**
WB THRU	0	267	**267**	**267**	**267**
WB RIGHT	0	42	**42**	**42**	**42**
AIRPORT DR					
NB LEFT	5	57	**62**	**68**	**68**
NB THRU	9	714	**723**	**731**	**731**
NB RIGHT	2	140	**142**	**145**	**145**
SB LEFT	0	11	**11**	**11**	**11**
SB THRU	4	703	**707**	**713**	**713**
SB RIGHT	0	85	**85**	**85**	**85**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	176	364	31	118	267	42	68	731	145	11	713	85
Future Volume (veh/h)	176	364	31	118	267	42	68	731	145	11	713	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	185	383	33	124	281	44	72	769	153	12	751	89
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	176	555	48	160	489	76	93	1537	306	21	1537	182
Arrive On Green	0.10	0.16	0.16	0.09	0.16	0.16	0.05	0.51	0.51	0.01	0.47	0.47
Sat Flow, veh/h	1810	3365	289	1810	3133	485	1810	3001	597	1810	3251	385
Grp Volume(v), veh/h	185	205	211	124	160	165	72	463	459	12	417	423
Grp Sat Flow(s),veh/h/ln	1810	1805	1848	1810	1805	1813	1810	1805	1793	1810	1805	1831
Q Serve(g_s), s	7.0	7.7	7.8	4.8	5.9	6.1	2.8	12.1	12.1	0.5	11.4	11.4
Cycle Q Clear(g_c), s	7.0	7.7	7.8	4.8	5.9	6.1	2.8	12.1	12.1	0.5	11.4	11.4
Prop In Lane	1.00		0.16	1.00		0.27	1.00		0.33	1.00		0.21
Lane Grp Cap(c), veh/h	176	298	305	160	282	283	93	925	918	21	853	866
V/C Ratio(X)	1.05	0.69	0.69	0.77	0.57	0.58	0.78	0.50	0.50	0.56	0.49	0.49
Avail Cap(c_a), veh/h	176	778	797	327	929	933	151	925	918	151	853	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	28.3	28.3	32.1	28.1	28.2	33.7	11.5	11.5	35.3	13.0	13.0
Incr Delay (d2), s/veh	81.7	2.8	2.8	7.7	1.8	1.9	12.8	1.9	1.9	20.8	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	3.3	3.4	2.3	2.5	2.5	1.5	4.5	4.4	0.3	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	114.2	31.1	31.2	39.8	29.9	30.1	46.5	13.4	13.4	56.2	15.0	15.0
LnGrp LOS	F	C	C	D	C	C	D	B	B	E	B	B
Approach Vol, veh/h		601			449			994			852	
Approach Delay, s/veh		56.7			32.7			15.8			15.6	
Approach LOS		E			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	40.8	10.4	15.9	7.7	38.0	11.0	15.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.9	34.0	13.0	31.0	6.0	34.0	7.0	37.0
Max Q Clear Time (g_c+I1), s	2.5	14.1	6.8	9.8	4.8	13.4	9.0	8.1
Green Ext Time (p_c), s	0.0	5.6	0.1	2.1	0.0	4.8	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	389	33	126	286	45	73	782	155	12	763	91
Future Volume (veh/h)	188	389	33	126	286	45	73	782	155	12	763	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	198	409	35	133	301	47	77	823	163	13	803	96
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	172	581	49	170	538	83	99	1512	300	23	1498	179
Arrive On Green	0.09	0.17	0.17	0.09	0.17	0.17	0.05	0.50	0.50	0.01	0.46	0.46
Sat Flow, veh/h	1810	3367	287	1810	3134	484	1810	3003	595	1810	3247	388
Grp Volume(v), veh/h	198	218	226	133	172	176	77	495	491	13	446	453
Grp Sat Flow(s),veh/h/ln	1810	1805	1848	1810	1805	1813	1810	1805	1793	1810	1805	1830
Q Serve(g_s), s	7.0	8.4	8.5	5.3	6.4	6.6	3.1	13.8	13.8	0.5	13.0	13.0
Cycle Q Clear(g_c), s	7.0	8.4	8.5	5.3	6.4	6.6	3.1	13.8	13.8	0.5	13.0	13.0
Prop In Lane	1.00		0.16	1.00		0.27	1.00		0.33	1.00		0.21
Lane Grp Cap(c), veh/h	172	311	319	170	310	311	99	909	903	23	833	844
V/C Ratio(X)	1.15	0.70	0.71	0.78	0.55	0.57	0.77	0.54	0.54	0.57	0.54	0.54
Avail Cap(c_a), veh/h	172	759	777	319	906	910	147	909	903	147	833	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	28.7	28.7	32.6	27.9	28.0	34.4	12.5	12.5	36.2	14.2	14.2
Incr Delay (d2), s/veh	115.5	2.9	2.9	7.5	1.6	1.6	13.8	2.3	2.4	20.1	2.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	3.6	3.7	2.5	2.7	2.7	1.7	5.2	5.2	0.3	5.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	148.9	31.6	31.6	40.2	29.5	29.6	48.1	14.9	14.9	56.3	16.7	16.6
LnGrp LOS	F	C	C	D	C	C	D	B	B	E	B	B
Approach Vol, veh/h		642			481			1063			912	
Approach Delay, s/veh		67.8			32.5			17.3			17.2	
Approach LOS		E			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	41.1	10.9	16.7	8.1	38.0	11.0	16.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	34.0	13.0	31.0	6.0	34.0	7.0	37.0
Max Q Clear Time (g_c+I1), s	2.5	15.8	7.3	10.5	5.1	15.0	9.0	8.6
Green Ext Time (p_c), s	0.0	5.8	0.1	2.2	0.0	5.1	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	389	33	126	286	46	73	806	155	15	818	91
Future Volume (veh/h)	188	389	33	126	286	46	73	806	155	15	818	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	198	409	35	133	301	48	77	848	163	16	861	96
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	172	581	49	170	536	85	99	1513	291	27	1510	168
Arrive On Green	0.09	0.17	0.17	0.09	0.17	0.17	0.05	0.50	0.50	0.02	0.46	0.46
Sat Flow, veh/h	1810	3367	287	1810	3124	493	1810	3020	580	1810	3274	365
Grp Volume(v), veh/h	198	218	226	133	173	176	77	507	504	16	475	482
Grp Sat Flow(s),veh/h/ln	1810	1805	1848	1810	1805	1811	1810	1805	1796	1810	1805	1834
Q Serve(g_s), s	7.0	8.4	8.5	5.3	6.5	6.6	3.1	14.4	14.4	0.6	14.2	14.2
Cycle Q Clear(g_c), s	7.0	8.4	8.5	5.3	6.5	6.6	3.1	14.4	14.4	0.6	14.2	14.2
Prop In Lane	1.00		0.16	1.00		0.27	1.00		0.32	1.00		0.20
Lane Grp Cap(c), veh/h	172	311	319	170	310	311	99	904	900	27	833	846
V/C Ratio(X)	1.15	0.70	0.71	0.78	0.56	0.57	0.77	0.56	0.56	0.58	0.57	0.57
Avail Cap(c_a), veh/h	172	759	777	319	906	909	147	904	900	147	833	846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	28.7	28.7	32.6	28.0	28.0	34.4	12.8	12.8	36.1	14.5	14.5
Incr Delay (d2), s/veh	115.5	2.9	2.9	7.5	1.6	1.6	13.8	2.5	2.5	18.1	2.8	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	3.6	3.7	2.5	2.7	2.8	1.7	5.5	5.4	0.4	5.5	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	148.9	31.6	31.6	40.2	29.5	29.6	48.1	15.3	15.3	54.2	17.3	17.3
LnGrp LOS	F	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		642			482			1088			973	
Approach Delay, s/veh		67.8			32.5			17.6			17.9	
Approach LOS		E			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	40.9	10.9	16.7	8.1	38.0	11.0	16.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	34.0	13.0	31.0	6.0	34.0	7.0	37.0
Max Q Clear Time (g_c+I1), s	2.6	16.4	7.3	10.5	5.1	16.2	9.0	8.6
Green Ext Time (p_c), s	0.0	5.9	0.1	2.2	0.0	5.3	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	449	54	166	293	41	85	808	167	10	883	83
Future Volume (veh/h)	209	449	54	166	293	41	85	808	167	10	883	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	220	473	57	175	308	43	89	851	176	11	929	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	635	76	214	723	100	115	1417	293	20	1412	132
Arrive On Green	0.09	0.20	0.20	0.12	0.23	0.23	0.06	0.48	0.48	0.01	0.42	0.42
Sat Flow, veh/h	1810	3245	389	1810	3185	440	1810	2978	616	1810	3336	312
Grp Volume(v), veh/h	220	262	268	175	173	178	89	516	511	11	503	513
Grp Sat Flow(s),veh/h/ln	1810	1805	1830	1810	1805	1821	1810	1805	1789	1810	1805	1844
Q Serve(g_s), s	7.0	11.0	11.1	7.6	6.6	6.7	3.9	16.8	16.9	0.5	17.9	17.9
Cycle Q Clear(g_c), s	7.0	11.0	11.1	7.6	6.6	6.7	3.9	16.8	16.9	0.5	17.9	17.9
Prop In Lane	1.00		0.21	1.00		0.24	1.00		0.34	1.00		0.17
Lane Grp Cap(c), veh/h	158	353	358	214	410	414	115	859	851	20	764	780
V/C Ratio(X)	1.40	0.74	0.75	0.82	0.42	0.43	0.78	0.60	0.60	0.56	0.66	0.66
Avail Cap(c_a), veh/h	158	697	706	293	831	839	135	859	851	135	764	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	30.4	30.4	34.5	26.5	26.6	37.1	15.5	15.5	39.5	18.5	18.5
Incr Delay (d2), s/veh	211.7	3.1	3.1	12.0	0.7	0.7	21.0	3.1	3.1	22.7	4.4	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	4.7	4.8	3.8	2.7	2.8	2.3	6.8	6.7	0.3	7.4	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	248.4	33.5	33.6	46.5	27.2	27.3	58.1	18.6	18.6	62.3	22.9	22.8
LnGrp LOS	F	C	C	D	C	C	E	B	B	E	C	C
Approach Vol, veh/h		750			526			1116			1027	
Approach Delay, s/veh		96.5			33.7			21.7			23.3	
Approach LOS		F			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	42.2	13.5	19.7	9.1	38.0	11.0	22.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	34.0	13.0	31.0	6.0	34.0	7.0	37.0
Max Q Clear Time (g_c+I1), s	2.5	18.9	9.6	13.1	5.9	19.9	9.0	8.7
Green Ext Time (p_c), s	0.0	5.6	0.1	2.6	0.0	5.1	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	449	54	166	293	42	85	832	167	13	938	83
Future Volume (veh/h)	209	449	54	166	293	42	85	832	167	13	938	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	220	473	57	175	308	44	89	876	176	14	987	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	635	76	214	721	102	115	1417	285	24	1420	125
Arrive On Green	0.09	0.20	0.20	0.12	0.23	0.23	0.06	0.47	0.47	0.01	0.42	0.42
Sat Flow, veh/h	1810	3245	389	1810	3175	449	1810	2995	602	1810	3356	296
Grp Volume(v), veh/h	220	262	268	175	174	178	89	528	524	14	531	543
Grp Sat Flow(s),veh/h/ln	1810	1805	1830	1810	1805	1819	1810	1805	1792	1810	1805	1847
Q Serve(g_s), s	7.0	11.0	11.1	7.6	6.6	6.7	3.9	17.5	17.5	0.6	19.3	19.3
Cycle Q Clear(g_c), s	7.0	11.0	11.1	7.6	6.6	6.7	3.9	17.5	17.5	0.6	19.3	19.3
Prop In Lane	1.00		0.21	1.00		0.25	1.00		0.34	1.00		0.16
Lane Grp Cap(c), veh/h	158	353	358	214	410	413	115	854	848	24	764	782
V/C Ratio(X)	1.40	0.74	0.75	0.82	0.42	0.43	0.78	0.62	0.62	0.58	0.69	0.69
Avail Cap(c_a), veh/h	158	697	706	293	831	838	135	854	848	135	764	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	30.4	30.4	34.5	26.5	26.6	37.1	15.8	15.8	39.4	18.9	18.9
Incr Delay (d2), s/veh	211.7	3.1	3.1	12.0	0.7	0.7	21.0	3.3	3.4	20.0	5.2	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	4.7	4.8	3.8	2.7	2.8	2.3	7.1	7.0	0.4	8.1	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	248.4	33.5	33.6	46.5	27.2	27.3	58.1	19.1	19.1	59.4	24.1	24.0
LnGrp LOS	F	C	C	D	C	C	E	B	B	E	C	C
Approach Vol, veh/h		750			527			1141			1088	
Approach Delay, s/veh		96.5			33.7			22.2			24.5	
Approach LOS		F			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	42.0	13.5	19.7	9.1	38.0	11.0	22.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	34.0	13.0	31.0	6.0	34.0	7.0	37.0
Max Q Clear Time (g_c+I1), s	2.6	19.5	9.6	13.1	5.9	21.3	9.0	8.7
Green Ext Time (p_c), s	0.0	5.7	0.1	2.6	0.0	5.2	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	40.5
HCM 6th LOS	D

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 2
North/South Street: AIRPORT DR
East/West Street: NORRIS RD

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	75	Approach	878	Left	89	89
NB	Through	649	Departure	851	Through	718	718
	Right	77			Right	85	85
North leg	Left	15	Approach	722	Left	14	14
SB	Through	554	Departure	886	Through	655	655
	Right	78			Right	75	75
West leg	Left	166	Approach	475	Left	164	164
EB	Through	258	Departure	389	Through	253	253
	Right	51			Right	67	67
East leg	Left	109	Approach	352	Left	130	130
WB	Through	236	Departure	350	Through	227	227
	Right	5			Right	5	5

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	68	Approach	1,068	Left	85	85
NB	Through	731	Departure	1,101	Through	808	808
	Right	145			Right	167	167
North leg	Left	11	Approach	963	Left	10	10
SB	Through	713	Departure	1,057	Through	883	883
	Right	85			Right	83	83
West leg	Left	176	Approach	717	Left	209	209
EB	Through	364	Departure	459	Through	449	449
	Right	31			Right	54	54
East leg	Left	118	Approach	495	Left	166	166
WB	Through	267	Departure	625	Through	293	293
	Right	42			Right	41	41

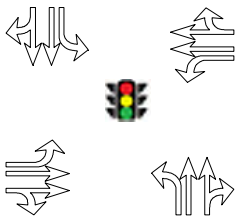
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TMO	17-Sep-24	IPGIK52H-0001	1 OF 2

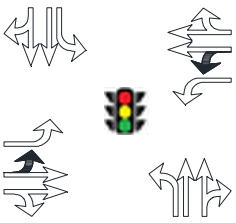
E/W STREET : OLIVE DR / DECATUR ST
N/S STREET : AIRPORT DR
CONDITION : AM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



PROPOSED GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
OLIVE DR / DECATUR ST							
EB LEFT	125	9	134	35	169	128	163
EB THRU	353	25	378	0	378	344	344
EB RIGHT	57	4	61	0	61	62	62
WB LEFT	103	7	110	0	110	108	108
WB THRU	313	22	335	0	335	308	308
WB RIGHT	30	2	32	0	32	30	30
AIRPORT DR							
NB LEFT	84	6	90	0	90	94	94
NB THRU	668	47	715	16	731	743	759
NB RIGHT	46	3	49	0	49	49	49
SB LEFT	77	5	82	0	82	85	85
SB THRU	482	34	516	5	521	587	592
SB RIGHT	115	8	123	11	134	132	143
TOTALS	**2453**	**172**	**2625**	**67**	**2692**	**2670**	**2737**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TMO	17-Sep-24	IPGIK52H-0001	2	OF 2

E/W STREET : OLIVE DR / DECATUR ST
N/S STREET : AIRPORT DR
CONDITION : AM PEAK HOUR
PHF : 0.87

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
35	158	13	0	1	1	0	1	0	1	1	0
24	94	18	0	3	1	0	2	0	0	2	0
31	107	23	0	2	0	0	1	0	0	1	0
22	89	20	0	0	0	0	1	0	0	1	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
12	218	15	0	2	2	0	1	0	0	2	1
9	147	22	0	2	0	0	3	0	0	3	1
14	104	7	0	2	1	0	2	2	0	3	1
9	147	17	1	3	0	0	1	1	0	0	1

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
6	83	25	0	0	1	0	0	0	0	0	0
8	66	29	0	0	0	0	0	0	0	0	0
8	71	22	0	0	0	0	0	0	0	0	0
8	93	24	0	0	1	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
7	59	37	2	0	1	0	0	0	0	0	0
11	89	26	1	0	0	1	0	0	1	0	0
13	99	29	0	0	0	0	0	0	1	0	0
10	106	31	0	0	0	0	0	0	1	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
OLIVE DR / DECATUR ST					
EB LEFT	1	123	**124**	**125**	**125**
EB THRU	0	353	**353**	**353**	**353**
EB RIGHT	7	41	**48**	**57**	**57**
WB LEFT	2	100	**102**	**103**	**103**
WB THRU	0	313	**313**	**313**	**313**
WB RIGHT	0	30	**30**	**30**	**30**
AIRPORT DR					
NB LEFT	10	61	**71**	**84**	**84**
NB THRU	24	616	**640**	**668**	**668**
NB RIGHT	1	44	**45**	**46**	**46**
SB LEFT	2	74	**76**	**77**	**77**
SB THRU	16	448	**464**	**482**	**482**
SB RIGHT	1	112	**113**	**115**	**115**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	353	57	103	313	30	84	668	46	77	482	115
Future Volume (veh/h)	125	353	57	103	313	30	84	668	46	77	482	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	144	406	66	118	360	34	97	768	53	89	554	132
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	180	566	91	150	551	52	125	1594	110	115	1329	316
Arrive On Green	0.10	0.18	0.18	0.08	0.17	0.17	0.07	0.47	0.47	0.06	0.46	0.46
Sat Flow, veh/h	1810	3112	502	1810	3335	313	1810	3426	236	1810	2894	687
Grp Volume(v), veh/h	144	234	238	118	194	200	97	405	416	89	345	341
Grp Sat Flow(s),veh/h/ln	1810	1805	1810	1810	1805	1844	1810	1805	1857	1810	1805	1776
Q Serve(g_s), s	6.0	9.4	9.6	5.0	7.8	7.9	4.1	12.0	12.0	3.7	9.9	9.9
Cycle Q Clear(g_c), s	6.0	9.4	9.6	5.0	7.8	7.9	4.1	12.0	12.0	3.7	9.9	9.9
Prop In Lane	1.00		0.28	1.00		0.17	1.00		0.13	1.00		0.39
Lane Grp Cap(c), veh/h	180	328	329	150	298	305	125	840	864	115	829	816
V/C Ratio(X)	0.80	0.71	0.72	0.79	0.65	0.66	0.77	0.48	0.48	0.78	0.42	0.42
Avail Cap(c_a), veh/h	210	910	912	187	886	905	187	840	864	140	829	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	29.8	29.8	34.8	30.2	30.2	35.4	14.3	14.3	35.7	14.0	14.0
Incr Delay (d2), s/veh	17.0	2.9	3.0	15.9	2.4	2.4	11.0	2.0	1.9	19.5	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	4.0	4.1	2.8	3.5	3.6	2.1	4.7	4.8	2.2	3.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	32.7	32.8	50.7	32.6	32.6	46.4	16.2	16.2	55.2	15.5	15.6
LnGrp LOS	D	C	C	D	C	C	D	B	B	E	B	B
Approach Vol, veh/h		616			512			918			775	
Approach Delay, s/veh		37.1			36.8			19.4			20.1	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	40.0	10.4	18.1	9.4	39.6	11.7	16.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.9	36.0	8.0	39.0	8.0	34.0	9.0	38.0
Max Q Clear Time (g_c+I1), s	7.7	14.0	7.0	11.6	6.1	11.9	8.0	9.9
Green Ext Time (p_c), s	0.0	4.9	0.0	2.5	0.0	3.9	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	378	61	110	335	32	90	715	49	82	516	123
Future Volume (veh/h)	134	378	61	110	335	32	90	715	49	82	516	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	154	434	70	126	385	37	103	822	56	94	593	141
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	190	594	95	159	578	55	132	1555	106	121	1294	307
Arrive On Green	0.10	0.19	0.19	0.09	0.17	0.17	0.07	0.45	0.45	0.07	0.45	0.45
Sat Flow, veh/h	1810	3116	499	1810	3329	318	1810	3429	234	1810	2895	687
Grp Volume(v), veh/h	154	250	254	126	208	214	103	433	445	94	369	365
Grp Sat Flow(s),veh/h/ln	1810	1805	1810	1810	1805	1843	1810	1805	1858	1810	1805	1776
Q Serve(g_s), s	6.6	10.3	10.5	5.4	8.5	8.6	4.4	13.7	13.7	4.1	11.3	11.4
Cycle Q Clear(g_c), s	6.6	10.3	10.5	5.4	8.5	8.6	4.4	13.7	13.7	4.1	11.3	11.4
Prop In Lane	1.00		0.28	1.00		0.17	1.00		0.13	1.00		0.39
Lane Grp Cap(c), veh/h	190	344	345	159	313	320	132	818	842	121	807	794
V/C Ratio(X)	0.81	0.73	0.74	0.79	0.66	0.67	0.78	0.53	0.53	0.78	0.46	0.46
Avail Cap(c_a), veh/h	205	886	889	182	864	882	182	818	842	137	807	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	30.2	30.3	35.5	30.7	30.7	36.2	15.6	15.6	36.5	15.3	15.3
Incr Delay (d2), s/veh	20.0	2.9	3.1	18.6	2.4	2.4	13.4	2.4	2.4	21.9	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	4.4	4.4	3.2	3.8	3.9	2.4	5.5	5.7	2.4	4.4	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	33.1	33.3	54.1	33.1	33.1	49.6	18.0	18.0	58.4	17.1	17.2
LnGrp LOS	D	C	C	D	C	C	D	B	B	E	B	B
Approach Vol, veh/h		658			548			981			828	
Approach Delay, s/veh		38.3			37.9			21.3			21.8	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	40.0	11.0	19.1	9.8	39.5	12.3	17.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	36.0	8.0	39.0	8.0	34.0	9.0	38.0
Max Q Clear Time (g_c+I1), s	6.1	15.7	7.4	12.5	6.4	13.4	8.6	10.6
Green Ext Time (p_c), s	0.0	5.2	0.0	2.7	0.0	4.1	0.0	2.6

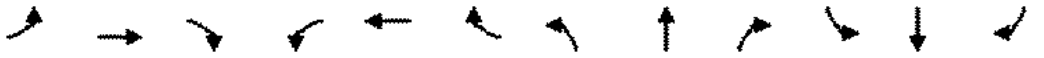
Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	378	61	110	335	32	90	731	49	82	521	134
Future Volume (veh/h)	169	378	61	110	335	32	90	731	49	82	521	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	194	434	70	126	385	37	103	840	56	94	599	154
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	205	600	96	159	557	53	132	1553	104	121	1268	325
Arrive On Green	0.11	0.19	0.19	0.09	0.17	0.17	0.07	0.45	0.45	0.07	0.45	0.45
Sat Flow, veh/h	1810	3116	499	1810	3329	318	1810	3435	229	1810	2844	730
Grp Volume(v), veh/h	194	250	254	126	208	214	103	441	455	94	380	373
Grp Sat Flow(s),veh/h/ln	1810	1805	1810	1810	1805	1843	1810	1805	1859	1810	1805	1769
Q Serve(g_s), s	8.5	10.4	10.5	5.4	8.6	8.7	4.5	14.1	14.1	4.1	11.8	11.8
Cycle Q Clear(g_c), s	8.5	10.4	10.5	5.4	8.6	8.7	4.5	14.1	14.1	4.1	11.8	11.8
Prop In Lane	1.00		0.28	1.00		0.17	1.00		0.12	1.00		0.41
Lane Grp Cap(c), veh/h	205	347	348	159	302	308	132	816	840	121	804	788
V/C Ratio(X)	0.95	0.72	0.73	0.79	0.69	0.69	0.78	0.54	0.54	0.78	0.47	0.47
Avail Cap(c_a), veh/h	205	884	886	182	861	879	182	816	840	136	804	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	30.1	30.2	35.6	31.2	31.2	36.3	15.8	15.8	36.6	15.5	15.5
Incr Delay (d2), s/veh	48.3	2.8	2.9	18.7	2.8	2.8	13.5	2.6	2.5	22.0	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	4.4	4.4	3.2	3.9	4.0	2.4	5.7	5.9	2.4	4.6	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.4	33.0	33.1	54.3	34.0	34.1	49.8	18.4	18.3	58.6	17.5	17.5
LnGrp LOS	F	C	C	D	C	C	D	B	B	E	B	B
Approach Vol, veh/h		698			548			999			847	
Approach Delay, s/veh		47.0			38.7			21.6			22.1	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	40.0	11.0	19.3	9.8	39.5	13.0	17.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.3	36.0	8.0	39.0	8.0	34.0	9.0	38.0
Max Q Clear Time (g_c+I1), s	6.7	16.1	7.4	12.5	6.5	13.8	10.5	10.7
Green Ext Time (p_c), s	0.0	5.3	0.0	2.7	0.0	4.2	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	30.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	378	61	110	335	32	90	731	49	82	521	134
Future Volume (veh/h)	169	378	61	110	335	32	90	731	49	82	521	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	194	434	70	126	385	37	103	840	56	94	599	154
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	336	593	95	291	550	53	132	1418	95	121	1157	297
Arrive On Green	0.19	0.19	0.19	0.16	0.16	0.16	0.07	0.41	0.41	0.07	0.41	0.41
Sat Flow, veh/h	1810	3196	512	1810	3415	326	1810	3435	229	1810	2844	730
Grp Volume(v), veh/h	194	257	247	126	213	209	103	441	455	94	380	373
Grp Sat Flow(s),veh/h/ln	1810	1900	1808	1810	1900	1841	1810	1805	1859	1810	1805	1769
Q Serve(g_s), s	9.0	11.7	11.9	5.8	9.8	9.9	5.1	17.5	17.5	4.7	14.5	14.6
Cycle Q Clear(g_c), s	9.0	11.7	11.9	5.8	9.8	9.9	5.1	17.5	17.5	4.7	14.5	14.6
Prop In Lane	1.00		0.28	1.00		0.18	1.00		0.12	1.00		0.41
Lane Grp Cap(c), veh/h	336	352	335	291	306	297	132	745	768	121	734	720
V/C Ratio(X)	0.58	0.73	0.74	0.43	0.70	0.70	0.78	0.59	0.59	0.78	0.52	0.52
Avail Cap(c_a), veh/h	767	805	766	747	785	760	216	745	768	177	734	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	35.3	35.4	34.8	36.5	36.5	41.9	21.0	21.0	42.3	20.5	20.5
Incr Delay (d2), s/veh	1.6	2.9	3.2	1.0	2.9	3.0	9.6	3.4	3.3	12.4	2.6	2.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	5.3	5.2	2.6	4.7	4.6	2.6	7.5	7.7	2.4	6.1	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.8	38.2	38.5	35.8	39.3	39.6	51.6	24.4	24.3	54.7	23.1	23.2
LnGrp LOS	D	D	D	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h		698			548			999			847	
Approach Delay, s/veh		37.6			38.6			27.2			26.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	42.0		21.1	10.7	41.4		18.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	9.0	38.0		39.0	11.0	36.0		38.0				
Max Q Clear Time (g_c+I1), s	6.7	19.5		13.9	7.1	16.6		11.9				
Green Ext Time (p_c), s	0.0	5.2		3.2	0.1	4.2		3.0				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh		31.4	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	344	62	108	308	30	94	743	49	85	587	132
Future Volume (veh/h)	128	344	62	108	308	30	94	743	49	85	587	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	135	362	65	114	324	32	99	782	52	89	618	139
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	170	516	92	146	515	50	128	1635	109	115	1373	308
Arrive On Green	0.09	0.17	0.17	0.08	0.16	0.16	0.07	0.48	0.48	0.06	0.47	0.47
Sat Flow, veh/h	1810	3062	545	1810	3321	326	1810	3435	228	1810	2929	658
Grp Volume(v), veh/h	135	212	215	114	175	181	99	411	423	89	380	377
Grp Sat Flow(s),veh/h/ln	1810	1805	1802	1810	1805	1841	1810	1805	1859	1810	1805	1782
Q Serve(g_s), s	5.5	8.4	8.5	4.7	6.9	7.0	4.1	11.7	11.7	3.7	10.7	10.8
Cycle Q Clear(g_c), s	5.5	8.4	8.5	4.7	6.9	7.0	4.1	11.7	11.7	3.7	10.7	10.8
Prop In Lane	1.00		0.30	1.00		0.18	1.00		0.12	1.00		0.37
Lane Grp Cap(c), veh/h	170	304	304	146	280	285	128	859	885	115	846	835
V/C Ratio(X)	0.79	0.70	0.71	0.78	0.63	0.63	0.77	0.48	0.48	0.78	0.45	0.45
Avail Cap(c_a), veh/h	215	931	929	191	907	925	191	859	885	144	846	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	29.6	29.7	34.1	29.9	29.9	34.6	13.5	13.5	34.9	13.5	13.5
Incr Delay (d2), s/veh	14.5	2.9	3.0	14.2	2.3	2.3	10.7	1.9	1.9	18.5	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.5	3.6	2.6	3.1	3.2	2.1	4.5	4.7	2.1	4.1	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	32.5	32.7	48.3	32.2	32.3	45.2	15.4	15.3	53.4	15.3	15.3
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		562			470			933			846	
Approach Delay, s/veh		36.3			36.1			18.5			19.3	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	40.0	10.1	16.8	9.3	39.5	11.1	15.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.8	36.0	8.0	39.0	8.0	34.0	9.0	38.0
Max Q Clear Time (g_c+I1), s	7.7	13.7	6.7	10.5	6.1	12.8	7.5	9.0
Green Ext Time (p_c), s	0.0	5.0	0.0	2.2	0.0	4.3	0.0	2.2

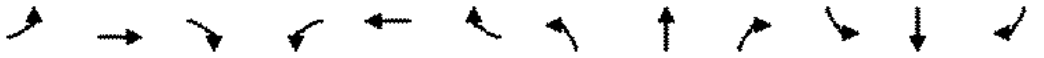
Intersection Summary	
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	344	62	108	308	30	94	759	49	85	592	143
Future Volume (veh/h)	163	344	62	108	308	30	94	759	49	85	592	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	172	362	65	114	324	32	99	799	52	89	623	151
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	210	558	99	146	488	48	128	1605	104	115	1324	320
Arrive On Green	0.12	0.18	0.18	0.08	0.15	0.15	0.07	0.47	0.47	0.06	0.46	0.46
Sat Flow, veh/h	1810	3062	545	1810	3321	326	1810	3441	224	1810	2882	697
Grp Volume(v), veh/h	172	212	215	114	175	181	99	419	432	89	390	384
Grp Sat Flow(s),veh/h/ln	1810	1805	1802	1810	1805	1841	1810	1805	1860	1810	1805	1774
Q Serve(g_s), s	7.2	8.4	8.6	4.8	7.1	7.2	4.2	12.4	12.5	3.7	11.5	11.5
Cycle Q Clear(g_c), s	7.2	8.4	8.6	4.8	7.1	7.2	4.2	12.4	12.5	3.7	11.5	11.5
Prop In Lane	1.00		0.30	1.00		0.18	1.00		0.12	1.00		0.39
Lane Grp Cap(c), veh/h	210	329	328	146	265	271	128	842	868	115	829	815
V/C Ratio(X)	0.82	0.64	0.65	0.78	0.66	0.67	0.78	0.50	0.50	0.78	0.47	0.47
Avail Cap(c_a), veh/h	211	912	911	188	889	907	188	842	868	141	829	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	29.2	29.3	34.8	31.1	31.1	35.3	14.3	14.3	35.6	14.4	14.4
Incr Delay (d2), s/veh	21.9	2.1	2.2	14.9	2.8	2.8	11.4	2.1	2.0	19.3	1.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	3.5	3.6	2.6	3.2	3.3	2.1	4.9	5.0	2.2	4.4	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.3	31.3	31.5	49.7	33.9	34.0	46.6	16.4	16.3	54.9	16.3	16.3
LnGrp LOS	E	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		599			470			950			863	
Approach Delay, s/veh		38.3			37.8			19.5			20.3	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	40.0	10.2	18.1	9.4	39.4	12.9	15.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.9	36.0	8.0	39.0	8.0	34.0	9.0	38.0
Max Q Clear Time (g_c+I1), s	5.7	14.5	6.8	10.6	6.2	13.5	9.2	9.2
Green Ext Time (p_c), s	0.0	5.1	0.0	2.2	0.0	4.4	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	344	62	108	308	30	94	759	49	85	592	143
Future Volume (veh/h)	163	344	62	108	308	30	94	759	49	85	592	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	172	362	65	114	324	32	99	799	52	89	623	151
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	300	520	92	260	490	48	128	1506	98	115	1241	300
Arrive On Green	0.17	0.17	0.17	0.14	0.14	0.14	0.07	0.44	0.44	0.06	0.43	0.43
Sat Flow, veh/h	1810	3141	558	1810	3406	334	1810	3441	224	1810	2882	697
Grp Volume(v), veh/h	172	218	209	114	180	176	99	419	432	89	390	384
Grp Sat Flow(s),veh/h/ln	1810	1900	1799	1810	1900	1840	1810	1805	1860	1810	1805	1774
Q Serve(g_s), s	7.4	9.1	9.3	4.9	7.6	7.7	4.5	14.4	14.4	4.1	13.3	13.3
Cycle Q Clear(g_c), s	7.4	9.1	9.3	4.9	7.6	7.7	4.5	14.4	14.4	4.1	13.3	13.3
Prop In Lane	1.00		0.31	1.00		0.18	1.00		0.12	1.00		0.39
Lane Grp Cap(c), veh/h	300	315	298	260	273	265	128	790	814	115	777	764
V/C Ratio(X)	0.57	0.69	0.70	0.44	0.66	0.67	0.77	0.53	0.53	0.77	0.50	0.50
Avail Cap(c_a), veh/h	835	876	830	813	854	827	235	790	814	214	777	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	33.2	33.3	33.1	34.2	34.3	38.6	17.4	17.4	39.0	17.5	17.5
Incr Delay (d2), s/veh	1.7	2.7	3.0	1.2	2.7	2.9	9.5	2.5	2.5	10.4	2.3	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	4.1	4.0	2.2	3.6	3.6	2.3	5.9	6.1	2.1	5.4	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.3	36.0	36.3	34.2	36.9	37.1	48.2	20.0	19.9	49.3	19.8	19.8
LnGrp LOS	C	D	D	C	D	D	D	B	B	D	B	B
Approach Vol, veh/h		599			470			950			863	
Approach Delay, s/veh		35.6			36.3			22.9			22.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	41.0		18.0	10.0	40.4		16.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	10.0	37.0		39.0	11.0	36.0		38.0				
Max Q Clear Time (g_c+I1), s	6.1	16.4		11.3	6.5	15.3		9.7				
Green Ext Time (p_c), s	0.1	5.0		2.7	0.1	4.4		2.5				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh		27.7	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TMO	17-Sep-24	IPGIK52H-0001	1 OF 2

E/W STREET : OLIVE DR / DECATUR ST
N/S STREET : AIRPORT DR
CONDITION : PM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
OLIVE DR / DECATUR ST							
EB LEFT	178	12	190	16	206	168	184
EB THRU	344	24	368	0	368	337	337
EB RIGHT	77	5	82	0	82	87	87
WB LEFT	85	6	91	0	91	101	101
WB THRU	386	27	413	0	413	390	390
WB RIGHT	45	3	48	0	48	45	45
AIRPORT DR							
NB LEFT	85	6	91	0	91	103	103
NB THRU	763	53	816	8	824	895	903
NB RIGHT	69	5	74	0	74	85	85
SB LEFT	61	4	65	0	65	70	70
SB THRU	676	47	723	18	741	881	899
SB RIGHT	123	9	132	37	169	137	174
TOTALS	**2892**	**201**	**3093**	**79**	**3172**	**3299**	**3378**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	TMO	17-Sep-24	IPGIK52H-0001	2	OF 2

E/W STREET : OLIVE DR / DECATUR ST
N/S STREET : AIRPORT DR
CONDITION : PM PEAK HOUR
PHF : 0.93

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
31	142	14	0	1	0	0	0	0	0	1	0
37	142	19	0	0	0	0	1	0	0	1	0
30	189	15	0	0	0	0	0	0	0	1	0
25	187	13	0	0	0	0	0	0	0	1	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
18	159	19	0	1	0	0	1	0	0	0	0
21	185	27	0	1	0	0	1	0	0	1	0
19	206	23	0	3	0	0	0	0	0	2	0
11	186	16	0	1	0	0	1	0	0	1	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	100	19	0	0	0	0	0	0	0	0	0
14	93	26	0	0	1	0	0	0	0	0	0
11	112	22	0	0	0	0	0	0	0	0	0
10	81	16	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
21	116	46	0	0	0	0	0	0	0	0	0
23	81	51	0	0	0	0	0	0	0	0	0
16	81	39	0	0	0	0	0	0	0	0	0
15	66	42	1	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
OLIVE DR / DECATUR ST					
EB LEFT	0	178	**178**	**178**	**178**
EB THRU	0	344	**344**	**344**	**344**
EB RIGHT	1	75	**76**	**77**	**77**
WB LEFT	1	83	**84**	**85**	**85**
WB THRU	0	386	**386**	**386**	**386**
WB RIGHT	0	45	**45**	**45**	**45**
AIRPORT DR					
NB LEFT	0	85	**85**	**85**	**85**
NB THRU	13	736	**749**	**763**	**763**
NB RIGHT	0	69	**69**	**69**	**69**
SB LEFT	0	61	**61**	**61**	**61**
SB THRU	6	660	**666**	**676**	**676**
SB RIGHT	0	123	**123**	**123**	**123**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	344	77	85	386	45	85	763	69	61	676	123
Future Volume (veh/h)	178	344	77	85	386	45	85	763	69	61	676	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	191	370	83	91	415	48	91	820	74	66	727	132
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	183	640	142	117	593	68	118	1566	141	85	1373	249
Arrive On Green	0.10	0.22	0.22	0.06	0.18	0.18	0.07	0.47	0.47	0.05	0.45	0.45
Sat Flow, veh/h	1810	2936	652	1810	3262	375	1810	3348	302	1810	3051	554
Grp Volume(v), veh/h	191	226	227	91	229	234	91	442	452	66	430	429
Grp Sat Flow(s),veh/h/ln	1810	1805	1783	1810	1805	1832	1810	1805	1846	1810	1805	1800
Q Serve(g_s), s	8.0	8.8	9.0	3.9	9.4	9.5	3.9	13.7	13.7	2.9	13.6	13.6
Cycle Q Clear(g_c), s	8.0	8.8	9.0	3.9	9.4	9.5	3.9	13.7	13.7	2.9	13.6	13.6
Prop In Lane	1.00		0.37	1.00		0.20	1.00		0.16	1.00		0.31
Lane Grp Cap(c), veh/h	183	393	389	117	328	333	118	844	863	85	812	810
V/C Ratio(X)	1.04	0.57	0.58	0.78	0.70	0.70	0.77	0.52	0.52	0.77	0.53	0.53
Avail Cap(c_a), veh/h	183	890	879	160	867	880	183	844	863	137	812	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	27.6	27.7	36.4	30.3	30.4	36.4	14.8	14.8	37.3	15.7	15.7
Incr Delay (d2), s/veh	78.5	1.3	1.4	14.9	2.7	2.7	10.3	2.3	2.3	13.8	2.5	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	3.6	3.6	2.2	4.2	4.3	2.0	5.4	5.5	1.5	5.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	114.0	29.0	29.1	51.3	33.0	33.1	46.7	17.2	17.1	51.1	18.2	18.2
LnGrp LOS	F	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		644			554			985			925	
Approach Delay, s/veh		54.2			36.0			19.9			20.5	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	41.0	9.1	21.2	9.1	39.6	12.0	18.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	37.0	7.0	39.0	8.0	35.0	8.0	38.0
Max Q Clear Time (g_c+I1), s	4.7	15.7	5.9	11.0	5.9	15.6	10.0	11.5
Green Ext Time (p_c), s	0.0	5.4	0.0	2.4	0.0	4.9	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	368	82	91	413	48	91	816	74	65	723	132
Future Volume (veh/h)	190	368	82	91	413	48	91	816	74	65	723	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	204	396	88	98	444	52	98	877	80	70	777	142
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	180	652	143	126	624	73	126	1539	140	90	1342	245
Arrive On Green	0.10	0.22	0.22	0.07	0.19	0.19	0.07	0.46	0.46	0.05	0.44	0.44
Sat Flow, veh/h	1810	2941	647	1810	3257	380	1810	3345	305	1810	3048	557
Grp Volume(v), veh/h	204	242	242	98	245	251	98	473	484	70	460	459
Grp Sat Flow(s),veh/h/ln	1810	1805	1783	1810	1805	1832	1810	1805	1845	1810	1805	1800
Q Serve(g_s), s	8.0	9.7	9.9	4.3	10.2	10.3	4.3	15.4	15.4	3.1	15.4	15.4
Cycle Q Clear(g_c), s	8.0	9.7	9.9	4.3	10.2	10.3	4.3	15.4	15.4	3.1	15.4	15.4
Prop In Lane	1.00		0.36	1.00		0.21	1.00		0.17	1.00		0.31
Lane Grp Cap(c), veh/h	180	400	395	126	346	351	126	830	849	90	795	792
V/C Ratio(X)	1.13	0.60	0.61	0.78	0.71	0.71	0.78	0.57	0.57	0.77	0.58	0.58
Avail Cap(c_a), veh/h	180	875	865	157	853	865	180	830	849	135	795	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	28.1	28.2	36.8	30.4	30.4	36.8	15.9	15.9	37.8	16.9	16.9
Incr Delay (d2), s/veh	107.5	1.5	1.5	17.5	2.7	2.7	12.6	2.8	2.8	14.6	3.1	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	4.0	4.0	2.5	4.6	4.7	2.2	6.2	6.4	1.7	6.2	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	143.8	29.6	29.8	54.3	33.1	33.2	49.4	18.7	18.7	52.4	20.0	20.0
LnGrp LOS	F	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		688			594			1055			989	
Approach Delay, s/veh		63.5			36.6			21.6			22.3	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	41.0	9.6	21.8	9.6	39.4	12.0	19.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	37.0	7.0	39.0	8.0	35.0	8.0	38.0
Max Q Clear Time (g_c+I1), s	5.1	17.4	6.3	11.9	6.3	17.4	10.0	12.3
Green Ext Time (p_c), s	0.0	5.7	0.0	2.6	0.0	5.1	0.0	3.1

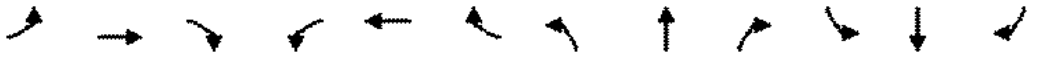
Intersection Summary	
HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	368	82	91	413	48	91	824	74	65	741	169
Future Volume (veh/h)	206	368	82	91	413	48	91	824	74	65	741	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	222	396	88	98	444	52	98	886	80	70	797	182
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	180	652	143	126	624	73	126	1540	139	90	1285	293
Arrive On Green	0.10	0.22	0.22	0.07	0.19	0.19	0.07	0.46	0.46	0.05	0.44	0.44
Sat Flow, veh/h	1810	2941	647	1810	3257	380	1810	3348	302	1810	2919	666
Grp Volume(v), veh/h	222	242	242	98	245	251	98	478	488	70	493	486
Grp Sat Flow(s),veh/h/ln	1810	1805	1783	1810	1805	1832	1810	1805	1846	1810	1805	1780
Q Serve(g_s), s	8.0	9.7	9.9	4.3	10.2	10.3	4.3	15.6	15.6	3.1	16.9	16.9
Cycle Q Clear(g_c), s	8.0	9.7	9.9	4.3	10.2	10.3	4.3	15.6	15.6	3.1	16.9	16.9
Prop In Lane	1.00		0.36	1.00		0.21	1.00		0.16	1.00		0.37
Lane Grp Cap(c), veh/h	180	400	395	126	346	351	126	830	849	90	795	784
V/C Ratio(X)	1.23	0.60	0.61	0.78	0.71	0.71	0.78	0.58	0.58	0.77	0.62	0.62
Avail Cap(c_a), veh/h	180	875	865	157	853	865	180	830	849	135	795	784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	28.1	28.2	36.8	30.4	30.4	36.8	15.9	15.9	37.8	17.3	17.3
Incr Delay (d2), s/veh	143.7	1.5	1.5	17.5	2.7	2.7	12.6	2.9	2.8	14.6	3.6	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	4.0	4.0	2.5	4.6	4.7	2.2	6.3	6.5	1.7	6.9	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	180.0	29.6	29.8	54.3	33.1	33.2	49.4	18.8	18.8	52.4	21.0	21.0
LnGrp LOS	F	C	C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h		706			594			1064			1049	
Approach Delay, s/veh		76.9			36.6			21.6			23.1	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	41.0	9.6	21.8	9.6	39.4	12.0	19.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	37.0	7.0	39.0	8.0	35.0	8.0	38.0
Max Q Clear Time (g_c+I1), s	5.1	17.6	6.3	11.9	6.3	18.9	10.0	12.3
Green Ext Time (p_c), s	0.0	5.8	0.0	2.6	0.0	5.3	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	368	82	91	413	48	91	824	74	65	741	169
Future Volume (veh/h)	206	368	82	91	413	48	91	824	74	65	741	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	222	396	88	98	444	52	98	886	80	70	797	182
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	324	540	119	328	606	71	125	1420	128	90	1183	270
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.07	0.42	0.42	0.05	0.41	0.41
Sat Flow, veh/h	1810	3017	664	1810	3341	389	1810	3348	302	1810	2919	666
Grp Volume(v), veh/h	222	248	236	98	252	244	98	478	488	70	493	486
Grp Sat Flow(s),veh/h/ln	1810	1900	1781	1810	1900	1830	1810	1805	1846	1810	1805	1780
Q Serve(g_s), s	11.1	11.9	12.1	4.5	12.1	12.2	5.2	20.0	20.0	3.7	21.6	21.6
Cycle Q Clear(g_c), s	11.1	11.9	12.1	4.5	12.1	12.2	5.2	20.0	20.0	3.7	21.6	21.6
Prop In Lane	1.00		0.37	1.00		0.21	1.00		0.16	1.00		0.37
Lane Grp Cap(c), veh/h	324	340	319	328	345	332	125	766	783	90	731	721
V/C Ratio(X)	0.69	0.73	0.74	0.30	0.73	0.74	0.79	0.62	0.62	0.77	0.67	0.67
Avail Cap(c_a), veh/h	730	767	718	711	747	719	150	766	783	112	731	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	37.5	37.6	34.2	37.3	37.4	44.3	21.8	21.8	45.4	23.5	23.5
Incr Delay (d2), s/veh	2.6	3.0	3.4	0.5	3.0	3.2	20.2	3.8	3.7	22.8	4.9	5.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	5.5	5.3	2.0	5.8	5.7	2.9	8.7	8.9	2.2	9.4	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.7	40.5	40.9	34.7	40.3	40.6	64.5	25.6	25.5	68.2	28.4	28.5
LnGrp LOS	D	D	D	C	D	D	E	C	C	E	C	C
Approach Vol, veh/h		706			594			1064			1049	
Approach Delay, s/veh		40.4			39.5			29.2			31.1	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	45.0		21.3	10.7	43.2		21.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		39.0	8.0	39.0		38.0				
Max Q Clear Time (g_c+I1), s	5.7	22.0		14.1	7.2	23.6		14.2				
Green Ext Time (p_c), s	0.0	5.7		3.2	0.0	5.2		3.3				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh		33.9	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	337	87	101	390	45	103	895	85	70	881	137
Future Volume (veh/h)	168	337	87	101	390	45	103	895	85	70	881	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	177	355	92	106	411	47	108	942	89	74	927	144
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	182	585	150	135	587	67	138	1552	147	96	1384	215
Arrive On Green	0.10	0.21	0.21	0.07	0.18	0.18	0.08	0.47	0.47	0.05	0.44	0.44
Sat Flow, veh/h	1810	2846	728	1810	3267	372	1810	3333	315	1810	3131	486
Grp Volume(v), veh/h	177	223	224	106	226	232	108	510	521	74	534	537
Grp Sat Flow(s),veh/h/ln	1810	1805	1769	1810	1805	1833	1810	1805	1843	1810	1805	1812
Q Serve(g_s), s	7.8	8.9	9.1	4.6	9.3	9.4	4.7	16.7	16.7	3.2	18.7	18.7
Cycle Q Clear(g_c), s	7.8	8.9	9.1	4.6	9.3	9.4	4.7	16.7	16.7	3.2	18.7	18.7
Prop In Lane	1.00		0.41	1.00		0.20	1.00		0.17	1.00		0.27
Lane Grp Cap(c), veh/h	182	371	364	135	324	330	138	840	858	96	798	801
V/C Ratio(X)	0.97	0.60	0.61	0.78	0.70	0.70	0.78	0.61	0.61	0.77	0.67	0.67
Avail Cap(c_a), veh/h	182	886	868	159	863	876	182	840	858	137	798	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	28.6	28.7	36.1	30.6	30.6	36.1	15.8	15.8	37.2	17.6	17.6
Incr Delay (d2), s/veh	58.3	1.6	1.7	19.0	2.7	2.7	14.7	3.3	3.2	15.7	4.4	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	3.7	3.7	2.7	4.2	4.3	2.5	6.8	6.9	1.8	7.6	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.9	30.2	30.4	55.1	33.3	33.4	50.7	19.1	19.0	52.9	22.0	22.0
LnGrp LOS	F	C	C	E	C	C	D	B	B	D	C	C
Approach Vol, veh/h		624			564			1139			1145	
Approach Delay, s/veh		48.3			37.4			22.0			24.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	41.0	10.0	20.3	10.1	39.1	12.0	18.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	37.0	7.0	39.0	8.0	35.0	8.0	38.0
Max Q Clear Time (g_c+I1), s	5.2	18.7	6.6	11.1	6.7	20.7	9.8	11.4
Green Ext Time (p_c), s	0.0	6.1	0.0	2.4	0.0	5.5	0.0	2.8

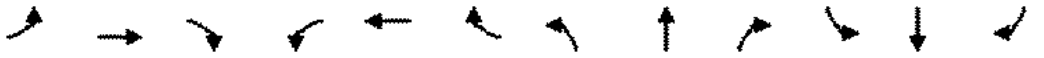
Intersection Summary	
HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	337	87	101	390	45	103	903	85	70	899	174
Future Volume (veh/h)	184	337	87	101	390	45	103	903	85	70	899	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	194	355	92	106	411	47	108	951	89	74	946	183
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	182	585	150	135	587	67	138	1553	145	96	1333	258
Arrive On Green	0.10	0.21	0.21	0.07	0.18	0.18	0.08	0.47	0.47	0.05	0.44	0.44
Sat Flow, veh/h	1810	2846	728	1810	3267	372	1810	3337	312	1810	3017	583
Grp Volume(v), veh/h	194	223	224	106	226	232	108	514	526	74	566	563
Grp Sat Flow(s),veh/h/ln	1810	1805	1769	1810	1805	1833	1810	1805	1844	1810	1805	1795
Q Serve(g_s), s	8.0	8.9	9.1	4.6	9.3	9.4	4.7	16.9	16.9	3.2	20.2	20.3
Cycle Q Clear(g_c), s	8.0	8.9	9.1	4.6	9.3	9.4	4.7	16.9	16.9	3.2	20.2	20.3
Prop In Lane	1.00		0.41	1.00		0.20	1.00		0.17	1.00		0.32
Lane Grp Cap(c), veh/h	182	371	364	135	324	330	138	840	858	96	798	793
V/C Ratio(X)	1.07	0.60	0.61	0.78	0.70	0.70	0.78	0.61	0.61	0.77	0.71	0.71
Avail Cap(c_a), veh/h	182	886	868	159	863	876	182	840	858	137	798	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	28.6	28.7	36.1	30.6	30.6	36.1	15.9	15.9	37.2	18.0	18.0
Incr Delay (d2), s/veh	85.1	1.6	1.7	19.0	2.7	2.7	14.7	3.3	3.3	15.7	5.3	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	3.7	3.7	2.7	4.2	4.3	2.5	6.9	7.0	1.8	8.4	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.8	30.2	30.4	55.1	33.3	33.4	50.7	19.2	19.1	52.9	23.3	23.4
LnGrp LOS	F	C	C	E	C	C	D	B	B	D	C	C
Approach Vol, veh/h		641			564			1148			1203	
Approach Delay, s/veh		57.7			37.4			22.1			25.2	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	41.0	10.0	20.3	10.1	39.1	12.0	18.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	37.0	7.0	39.0	8.0	35.0	8.0	38.0
Max Q Clear Time (g_c+I1), s	5.2	18.9	6.6	11.1	6.7	22.3	10.0	11.4
Green Ext Time (p_c), s	0.0	6.2	0.0	2.4	0.0	5.5	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	337	87	101	390	45	103	903	85	70	899	174
Future Volume (veh/h)	184	337	87	101	390	45	103	903	85	70	899	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	194	355	92	106	411	47	108	951	89	74	946	183
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	304	491	126	308	571	65	133	1470	138	95	1267	245
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.07	0.44	0.44	0.05	0.42	0.42
Sat Flow, veh/h	1810	2919	746	1810	3350	381	1810	3337	312	1810	3017	583
Grp Volume(v), veh/h	194	229	218	106	232	226	108	514	526	74	566	563
Grp Sat Flow(s),veh/h/ln	1810	1900	1766	1810	1900	1831	1810	1805	1844	1810	1805	1795
Q Serve(g_s), s	9.5	10.9	11.1	4.9	11.0	11.1	5.6	21.2	21.2	3.8	25.2	25.3
Cycle Q Clear(g_c), s	9.5	10.9	11.1	4.9	11.0	11.1	5.6	21.2	21.2	3.8	25.2	25.3
Prop In Lane	1.00		0.42	1.00		0.21	1.00		0.17	1.00		0.32
Lane Grp Cap(c), veh/h	304	320	297	308	324	312	133	795	812	95	758	754
V/C Ratio(X)	0.64	0.72	0.73	0.34	0.72	0.72	0.81	0.65	0.65	0.78	0.75	0.75
Avail Cap(c_a), veh/h	741	778	723	722	758	731	133	795	812	114	758	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	37.5	37.6	34.8	37.3	37.4	43.5	20.8	20.8	44.6	23.3	23.4
Incr Delay (d2), s/veh	2.2	3.0	3.5	0.7	3.0	3.2	30.4	4.0	4.0	23.7	6.6	6.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	5.0	4.8	2.2	5.3	5.2	3.6	9.1	9.3	2.3	11.1	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.1	40.5	41.1	35.5	40.3	40.6	73.9	24.9	24.8	68.3	30.0	30.0
LnGrp LOS	D	D	D	D	D	D	E	C	C	E	C	C
Approach Vol, veh/h		641			564			1148			1203	
Approach Delay, s/veh		40.3			39.5			29.5			32.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	46.0		20.0	11.0	44.0		20.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		39.0	7.0	40.0		38.0				
Max Q Clear Time (g_c+I1), s	5.8	23.2		13.1	7.6	27.3		13.1				
Green Ext Time (p_c), s	0.0	6.1		2.9	0.0	5.5		3.1				

Intersection Summary		
HCM 6th Ctrl Delay, s/veh		34.0
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 3
North/South Street: AIRPORT DR
East/West Street: OLIVE DR / DECATUR ST

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	84	Approach	890	Left	94	94
NB	Through	668	Departure	756	Through	743	743
	Right	46			Right	49	49
North leg	Left	77	Approach	806	Left	85	85
SB	Through	482	Departure	899	Through	587	587
	Right	115			Right	132	132
West leg	Left	125	Approach	535	Left	128	128
EB	Through	353	Departure	533	Through	344	344
	Right	57			Right	62	62
East leg	Left	103	Approach	447	Left	108	108
WB	Through	313	Departure	476	Through	308	308
	Right	30			Right	30	30

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	85	Approach	1,098	Left	103	103
NB	Through	763	Departure	1,068	Through	895	895
	Right	69			Right	85	85
North leg	Left	61	Approach	1,098	Left	70	70
SB	Through	676	Departure	1,106	Through	881	881
	Right	123			Right	137	137
West leg	Left	178	Approach	599	Left	168	168
EB	Through	344	Departure	629	Through	337	337
	Right	77			Right	87	87
East leg	Left	85	Approach	541	Left	101	101
WB	Through	386	Departure	490	Through	390	390
	Right	45			Right	45	45

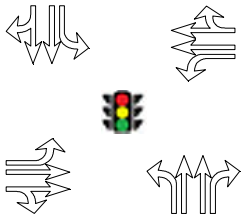
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : ROBERTS LN
N/S STREET : AIRPORT DR
CONDITION : AM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
ROBERTS LN							
EB LEFT	16	1	17	0	17	15	15
EB THRU	377	26	403	0	403	348	348
EB RIGHT	76	5	81	0	81	122	122
WB LEFT	280	20	300	0	300	356	356
WB THRU	272	19	291	0	291	231	231
WB RIGHT	13	1	14	0	14	10	10
AIRPORT DR							
NB LEFT	137	10	147	0	147	181	181
NB THRU	817	57	874	16	890	915	931
NB RIGHT	278	19	297	0	297	318	318
SB LEFT	40	3	43	0	43	31	31
SB THRU	510	36	546	5	551	666	671
SB RIGHT	14	1	15	0	15	13	13
TOTALS	**2830**	**198**	**3028**	**21**	**3049**	**3206**	**3227**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : ROBERTS LN
CONDITION : AM PEAK HOUR
N/S STREET : AIRPORT DR
PHF : 0.84

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
3	26	9	0	3	1	0	2	0	0	2	0
4	141	13	0	2	0	0	2	0	0	2	0
4	175	11	0	1	0	0	1	0	0	2	0
3	107	5	0	6	0	0	3	0	0	3	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
68	164	32	1	2	1	0	3	0	1	2	0
64	180	27	1	6	1	0	1	1	1	2	1
74	235	25	0	4	2	0	1	0	0	4	0
63	165	32	0	2	0	0	3	2	0	4	2

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	50	69	0	0	0	0	1	2	0	0	1
3	60	62	0	0	1	0	0	0	0	0	0
3	79	75	0	0	0	0	0	0	0	0	0
5	81	60	0	0	2	0	0	1	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
13	97	0	0	1	0	0	0	0	0	0	1
21	123	2	0	0	0	0	0	0	0	0	0
20	89	5	0	0	0	0	0	0	0	0	0
12	66	6	1	0	0	1	0	0	2	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
ROBERTS LN					
EB LEFT	1	13	**14**	**16**	**16**
EB THRU	1	375	**376**	**377**	**377**
EB RIGHT	4	66	**70**	**76**	**76**
WB LEFT	7	266	**273**	**280**	**280**
WB THRU	1	270	**271**	**272**	**272**
WB RIGHT	0	13	**13**	**13**	**13**
AIRPORT DR					
NB LEFT	10	116	**126**	**137**	**137**
NB THRU	34	744	**778**	**817**	**817**
NB RIGHT	4	269	**273**	**278**	**278**
SB LEFT	1	38	**39**	**40**	**40**
SB THRU	29	449	**478**	**510**	**510**
SB RIGHT	0	14	**14**	**14**	**14**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	377	76	280	272	13	137	817	278	40	510	14
Future Volume (veh/h)	16	377	76	280	272	13	137	817	278	40	510	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	19	449	90	333	324	15	163	973	331	48	607	17
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	30	532	106	371	1284	59	193	1492	665	62	1222	34
Arrive On Green	0.02	0.18	0.18	0.20	0.37	0.37	0.11	0.41	0.41	0.03	0.34	0.34
Sat Flow, veh/h	1810	3000	597	1810	3514	162	1810	3610	1610	1810	3587	100
Grp Volume(v), veh/h	19	269	270	333	166	173	163	973	331	48	305	319
Grp Sat Flow(s),veh/h/ln	1810	1805	1792	1810	1805	1871	1810	1805	1610	1810	1805	1882
Q Serve(g_s), s	1.0	13.5	13.7	16.8	6.0	6.1	8.3	20.3	14.3	2.5	12.6	12.6
Cycle Q Clear(g_c), s	1.0	13.5	13.7	16.8	6.0	6.1	8.3	20.3	14.3	2.5	12.6	12.6
Prop In Lane	1.00		0.33	1.00		0.09	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	30	320	318	371	660	684	193	1492	665	62	615	641
V/C Ratio(X)	0.63	0.84	0.85	0.90	0.25	0.25	0.85	0.65	0.50	0.78	0.50	0.50
Avail Cap(c_a), veh/h	116	365	363	443	692	717	193	1492	665	116	615	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	37.3	37.4	36.4	20.8	20.8	41.2	22.1	20.3	45.0	24.5	24.6
Incr Delay (d2), s/veh	19.7	14.4	15.6	18.6	0.2	0.2	27.7	2.2	2.6	18.7	2.8	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.9	7.1	9.0	2.5	2.6	5.0	8.3	5.5	1.4	5.5	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.6	51.8	53.0	54.9	21.0	21.0	68.9	24.3	23.0	63.7	27.4	27.3
LnGrp LOS	E	D	D	D	C	C	E	C	C	E	C	C
Approach Vol, veh/h		558			672			1467			672	
Approach Delay, s/veh		52.8			37.8			29.0			29.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	42.8	23.2	20.6	14.0	36.0	5.6	38.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	36.0	23.0	19.0	10.0	32.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	4.5	22.3	18.8	15.7	10.3	14.6	3.0	8.1
Green Ext Time (p_c), s	0.0	6.2	0.4	0.9	0.0	3.1	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	403	81	300	291	14	147	874	297	43	546	15
Future Volume (veh/h)	17	403	81	300	291	14	147	874	297	43	546	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	480	96	357	346	17	175	1040	354	51	650	18
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	31	551	110	391	1340	66	187	1438	641	66	1188	33
Arrive On Green	0.02	0.18	0.18	0.22	0.38	0.38	0.10	0.40	0.40	0.04	0.33	0.33
Sat Flow, veh/h	1810	3001	597	1810	3503	172	1810	3610	1610	1810	3588	99
Grp Volume(v), veh/h	20	288	288	357	178	185	175	1040	354	51	327	341
Grp Sat Flow(s),veh/h/ln	1810	1805	1793	1810	1805	1869	1810	1805	1610	1810	1805	1882
Q Serve(g_s), s	1.1	15.0	15.1	18.6	6.5	6.6	9.3	23.5	16.4	2.7	14.3	14.3
Cycle Q Clear(g_c), s	1.1	15.0	15.1	18.6	6.5	6.6	9.3	23.5	16.4	2.7	14.3	14.3
Prop In Lane	1.00		0.33	1.00		0.09	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	31	331	329	391	691	715	187	1438	641	66	598	623
V/C Ratio(X)	0.64	0.87	0.88	0.91	0.26	0.26	0.93	0.72	0.55	0.78	0.55	0.55
Avail Cap(c_a), veh/h	112	355	352	431	691	715	187	1438	641	112	598	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	38.3	38.4	37.0	20.4	20.4	43.0	24.6	22.4	46.2	26.4	26.4
Incr Delay (d2), s/veh	20.0	19.0	20.3	22.4	0.2	0.2	47.3	3.2	3.4	17.4	3.6	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	8.0	8.1	10.3	2.6	2.8	6.4	9.8	6.4	1.5	6.3	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	57.3	58.6	59.3	20.6	20.6	90.3	27.8	25.8	63.6	30.0	29.8
LnGrp LOS	E	E	E	E	C	C	F	C	C	E	C	C
Approach Vol, veh/h		596			720			1569			719	
Approach Delay, s/veh		58.3			39.8			34.3			32.3	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	42.5	24.9	21.7	14.0	36.0	5.7	41.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	36.0	23.0	19.0	10.0	32.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	4.7	25.5	20.6	17.1	11.3	16.3	3.1	8.6
Green Ext Time (p_c), s	0.0	5.6	0.3	0.6	0.0	3.3	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	39.0
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	403	81	300	291	14	147	890	297	43	551	15
Future Volume (veh/h)	17	403	81	300	291	14	147	890	297	43	551	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	20	480	96	357	346	17	175	1060	354	51	656	18
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	31	551	110	391	1340	66	187	1438	641	66	1188	33
Arrive On Green	0.02	0.18	0.18	0.22	0.38	0.38	0.10	0.40	0.40	0.04	0.33	0.33
Sat Flow, veh/h	1810	3001	597	1810	3503	172	1810	3610	1610	1810	3589	98
Grp Volume(v), veh/h	20	288	288	357	178	185	175	1060	354	51	330	344
Grp Sat Flow(s),veh/h/ln	1810	1805	1793	1810	1805	1869	1810	1805	1610	1810	1805	1882
Q Serve(g_s), s	1.1	15.0	15.1	18.6	6.5	6.6	9.3	24.2	16.4	2.7	14.5	14.5
Cycle Q Clear(g_c), s	1.1	15.0	15.1	18.6	6.5	6.6	9.3	24.2	16.4	2.7	14.5	14.5
Prop In Lane	1.00		0.33	1.00		0.09	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	31	331	329	391	691	715	187	1438	641	66	598	623
V/C Ratio(X)	0.64	0.87	0.88	0.91	0.26	0.26	0.93	0.74	0.55	0.78	0.55	0.55
Avail Cap(c_a), veh/h	112	355	352	431	691	715	187	1438	641	112	598	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	38.3	38.4	37.0	20.4	20.4	43.0	24.8	22.4	46.2	26.5	26.5
Incr Delay (d2), s/veh	20.0	19.0	20.3	22.4	0.2	0.2	47.3	3.4	3.4	17.4	3.6	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	8.0	8.1	10.3	2.6	2.8	6.4	10.1	6.4	1.5	6.4	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	57.3	58.6	59.3	20.6	20.6	90.3	28.2	25.8	63.6	30.1	30.0
LnGrp LOS	E	E	E	E	C	C	F	C	C	E	C	C
Approach Vol, veh/h		596			720			1589			725	
Approach Delay, s/veh		58.3			39.8			34.5			32.4	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	42.5	24.9	21.7	14.0	36.0	5.7	41.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	36.0	23.0	19.0	10.0	32.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	4.7	26.2	20.6	17.1	11.3	16.5	3.1	8.6
Green Ext Time (p_c), s	0.0	5.5	0.3	0.6	0.0	3.3	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	39.0
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	348	122	356	231	10	181	915	318	31	666	13
Future Volume (veh/h)	15	348	122	356	231	10	181	915	318	31	666	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	366	128	375	243	11	191	963	335	33	701	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	26	442	152	408	1333	60	189	1497	668	44	1211	24
Arrive On Green	0.01	0.17	0.17	0.23	0.38	0.38	0.10	0.41	0.41	0.02	0.33	0.33
Sat Flow, veh/h	1810	2634	908	1810	3518	159	1810	3610	1610	1810	3620	72
Grp Volume(v), veh/h	16	249	245	375	124	130	191	963	335	33	349	366
Grp Sat Flow(s),veh/h/ln	1810	1805	1737	1810	1805	1871	1810	1805	1610	1810	1805	1887
Q Serve(g_s), s	0.8	12.7	13.1	19.4	4.4	4.4	10.0	20.4	14.7	1.7	15.3	15.3
Cycle Q Clear(g_c), s	0.8	12.7	13.1	19.4	4.4	4.4	10.0	20.4	14.7	1.7	15.3	15.3
Prop In Lane	1.00		0.52	1.00		0.08	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	26	303	292	408	684	709	189	1497	668	44	604	631
V/C Ratio(X)	0.61	0.82	0.84	0.92	0.18	0.18	1.01	0.64	0.50	0.75	0.58	0.58
Avail Cap(c_a), veh/h	114	359	345	435	684	709	189	1497	668	114	604	631
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	38.4	38.5	36.2	19.8	19.8	42.8	22.3	20.7	46.4	26.3	26.3
Incr Delay (d2), s/veh	20.8	12.4	14.6	23.7	0.1	0.1	67.9	2.1	2.7	21.8	4.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.4	6.5	10.8	1.8	1.9	7.8	8.3	5.7	1.0	6.8	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	50.8	53.2	59.8	19.9	19.9	110.7	24.5	23.4	68.1	30.3	30.1
LnGrp LOS	E	D	D	E	B	B	F	C	C	E	C	C
Approach Vol, veh/h		510			629			1489			748	
Approach Delay, s/veh		52.5			43.7			35.3			31.9	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	43.7	25.6	20.1	14.0	36.0	5.4	40.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	36.0	23.0	19.0	10.0	32.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	3.7	22.4	21.4	15.1	12.0	17.3	2.8	6.4
Green Ext Time (p_c), s	0.0	6.2	0.2	1.0	0.0	3.4	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	348	122	356	231	10	181	931	318	31	671	13
Future Volume (veh/h)	15	348	122	356	231	10	181	931	318	31	671	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	16	366	128	375	243	11	191	980	335	33	706	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	26	442	152	408	1333	60	189	1497	668	44	1211	24
Arrive On Green	0.01	0.17	0.17	0.23	0.38	0.38	0.10	0.41	0.41	0.02	0.33	0.33
Sat Flow, veh/h	1810	2634	908	1810	3518	159	1810	3610	1610	1810	3620	72
Grp Volume(v), veh/h	16	249	245	375	124	130	191	980	335	33	352	368
Grp Sat Flow(s),veh/h/ln	1810	1805	1737	1810	1805	1871	1810	1805	1610	1810	1805	1887
Q Serve(g_s), s	0.8	12.7	13.1	19.4	4.4	4.4	10.0	20.9	14.7	1.7	15.4	15.4
Cycle Q Clear(g_c), s	0.8	12.7	13.1	19.4	4.4	4.4	10.0	20.9	14.7	1.7	15.4	15.4
Prop In Lane	1.00		0.52	1.00		0.08	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	26	303	292	408	684	709	189	1497	668	44	604	631
V/C Ratio(X)	0.61	0.82	0.84	0.92	0.18	0.18	1.01	0.65	0.50	0.75	0.58	0.58
Avail Cap(c_a), veh/h	114	359	345	435	684	709	189	1497	668	114	604	631
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	38.4	38.5	36.2	19.8	19.8	42.8	22.5	20.7	46.4	26.3	26.3
Incr Delay (d2), s/veh	20.8	12.4	14.6	23.7	0.1	0.1	67.9	2.2	2.7	21.8	4.1	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	6.4	6.5	10.8	1.8	1.9	7.8	8.5	5.7	1.0	6.9	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.7	50.8	53.2	59.8	19.9	19.9	110.7	24.7	23.4	68.1	30.4	30.2
LnGrp LOS	E	D	D	E	B	B	F	C	C	E	C	C
Approach Vol, veh/h		510			629			1506			753	
Approach Delay, s/veh		52.5			43.7			35.3			31.9	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	43.7	25.6	20.1	14.0	36.0	5.4	40.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	36.0	23.0	19.0	10.0	32.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	3.7	22.9	21.4	15.1	12.0	17.4	2.8	6.4
Green Ext Time (p_c), s	0.0	6.2	0.2	1.0	0.0	3.5	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : ROBERTS LN
N/S STREET : AIRPORT DR
CONDITION : PM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
ROBERTS LN							
EB LEFT	8	1	9	0	9	8	8
EB THRU	432	30	462	0	462	385	385
EB RIGHT	125	9	134	0	134	180	180
WB LEFT	238	17	255	0	255	308	308
WB THRU	451	32	483	0	483	402	402
WB RIGHT	55	4	59	0	59	45	45
AIRPORT DR							
NB LEFT	137	10	147	0	147	188	188
NB THRU	825	58	883	8	891	1018	1026
NB RIGHT	263	18	281	0	281	324	324
SB LEFT	74	5	79	0	79	62	62
SB THRU	765	54	819	18	837	1029	1047
SB RIGHT	16	1	17	0	17	15	15
TOTALS	**3389**	**239**	**3628**	**26**	**3654**	**3964**	**3990**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : ROBERTS LN
N/S STREET : AIRPORT DR
CONDITION : PM PEAK HOUR
PHF : 0.89

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
5	164	20	0	1	0	0	0	0	0	1	0
7	174	16	0	1	0	0	1	0	0	0	0
4	202	23	0	0	0	0	0	0	0	1	0
0	209	15	0	1	0	0	0	0	0	1	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
65	184	29	0	2	0	0	2	1	0	1	0
71	167	37	0	1	0	0	0	0	0	2	0
65	233	33	1	2	0	0	0	0	0	1	0
60	208	36	0	1	0	0	1	0	0	2	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	123	63	0	0	0	0	0	0	0	0	0
19	110	55	0	0	0	0	0	0	0	0	0
16	129	69	0	0	0	0	0	0	0	0	0
10	89	51	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
28	111	2	1	0	0	0	0	0	1	0	0
29	100	4	0	0	0	0	0	0	0	0	0
33	131	1	0	0	0	0	0	0	0	0	0
30	90	1	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
ROBERTS LN					
EB LEFT	0	8	**8**	**8**	**8**
EB THRU	0	432	**432**	**432**	**432**
EB RIGHT	2	120	**122**	**125**	**125**
WB LEFT	0	238	**238**	**238**	**238**
WB THRU	0	451	**451**	**451**	**451**
WB RIGHT	0	55	**55**	**55**	**55**
AIRPORT DR					
NB LEFT	1	135	**136**	**137**	**137**
NB THRU	15	792	**807**	**825**	**825**
NB RIGHT	1	261	**262**	**263**	**263**
SB LEFT	0	74	**74**	**74**	**74**
SB THRU	7	749	**756**	**765**	**765**
SB RIGHT	0	16	**16**	**16**	**16**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	432	125	238	451	55	137	825	263	74	765	16
Future Volume (veh/h)	8	432	125	238	451	55	137	825	263	74	765	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	9	485	140	267	507	62	154	927	296	83	860	18
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	16	578	166	305	1193	145	187	1410	629	107	1253	26
Arrive On Green	0.01	0.21	0.21	0.17	0.37	0.37	0.10	0.39	0.39	0.06	0.35	0.35
Sat Flow, veh/h	1810	2768	794	1810	3239	395	1810	3610	1610	1810	3616	76
Grp Volume(v), veh/h	9	315	310	267	282	287	154	927	296	83	429	449
Grp Sat Flow(s),veh/h/ln	1810	1805	1757	1810	1805	1829	1810	1805	1610	1810	1805	1886
Q Serve(g_s), s	0.5	15.5	15.6	13.3	10.8	10.9	7.7	19.5	12.7	4.2	18.8	18.8
Cycle Q Clear(g_c), s	0.5	15.5	15.6	13.3	10.8	10.9	7.7	19.5	12.7	4.2	18.8	18.8
Prop In Lane	1.00		0.45	1.00		0.22	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	16	377	367	305	665	674	187	1410	629	107	625	653
V/C Ratio(X)	0.56	0.84	0.84	0.88	0.42	0.43	0.82	0.66	0.47	0.78	0.69	0.69
Avail Cap(c_a), veh/h	118	449	437	372	703	713	196	1410	629	137	625	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.6	35.0	35.1	37.5	21.8	21.9	40.6	23.1	21.0	42.9	25.9	25.9
Incr Delay (d2), s/veh	26.7	11.2	12.3	17.7	0.4	0.4	23.3	2.4	2.5	18.8	6.0	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.6	7.5	7.1	4.4	4.5	4.5	8.0	4.9	2.3	8.5	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.3	46.3	47.4	55.2	22.3	22.3	63.9	25.5	23.5	61.7	31.9	31.7
LnGrp LOS	E	D	D	E	C	C	E	C	C	E	C	C
Approach Vol, veh/h		634			836			1377			961	
Approach Delay, s/veh		47.2			32.8			29.4			34.4	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	40.1	19.6	23.3	13.5	36.0	4.8	38.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	35.0	19.0	23.0	10.0	32.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	6.2	21.5	15.3	17.6	9.7	20.8	2.5	12.9
Green Ext Time (p_c), s	0.0	5.8	0.3	1.6	0.0	3.8	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	462	134	255	483	59	147	883	281	79	819	17
Future Volume (veh/h)	9	462	134	255	483	59	147	883	281	79	819	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	10	519	151	287	543	66	165	992	316	89	920	19
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	18	598	173	322	1247	151	189	1356	605	114	1208	25
Arrive On Green	0.01	0.22	0.22	0.18	0.38	0.38	0.10	0.38	0.38	0.06	0.33	0.33
Sat Flow, veh/h	1810	2761	800	1810	3241	393	1810	3610	1610	1810	3617	75
Grp Volume(v), veh/h	10	338	332	287	302	307	165	992	316	89	459	480
Grp Sat Flow(s),veh/h/ln	1810	1805	1756	1810	1805	1829	1810	1805	1610	1810	1805	1887
Q Serve(g_s), s	0.5	17.3	17.5	14.8	11.8	11.9	8.6	22.7	14.6	4.6	21.8	21.8
Cycle Q Clear(g_c), s	0.5	17.3	17.5	14.8	11.8	11.9	8.6	22.7	14.6	4.6	21.8	21.8
Prop In Lane	1.00		0.46	1.00		0.21	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	18	391	380	322	694	704	189	1356	605	114	603	630
V/C Ratio(X)	0.57	0.87	0.87	0.89	0.43	0.44	0.87	0.73	0.52	0.78	0.76	0.76
Avail Cap(c_a), veh/h	113	433	422	359	694	704	189	1356	605	132	603	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	36.2	36.2	38.5	21.8	21.8	42.3	25.7	23.2	44.2	28.5	28.5
Incr Delay (d2), s/veh	25.5	15.5	16.6	21.9	0.4	0.4	33.2	3.5	3.2	22.5	8.8	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	8.9	8.8	8.3	4.8	4.9	5.4	9.6	5.8	2.7	10.2	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	51.6	52.8	60.4	22.2	22.2	75.5	29.3	26.4	66.7	37.3	36.9
LnGrp LOS	E	D	D	E	C	C	E	C	C	E	D	D
Approach Vol, veh/h		680			896			1473			1028	
Approach Delay, s/veh		52.5			34.4			33.8			39.7	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	40.0	21.0	24.7	14.0	36.0	4.9	40.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	35.0	19.0	23.0	10.0	32.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	6.6	24.7	16.8	19.5	10.6	23.8	2.5	13.9
Green Ext Time (p_c), s	0.0	5.3	0.2	1.3	0.0	3.4	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	462	134	255	483	59	147	891	281	79	837	17
Future Volume (veh/h)	9	462	134	255	483	59	147	891	281	79	837	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	10	519	151	287	543	66	165	1001	316	89	940	19
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	18	598	173	322	1247	151	189	1356	605	114	1209	24
Arrive On Green	0.01	0.22	0.22	0.18	0.38	0.38	0.10	0.38	0.38	0.06	0.33	0.33
Sat Flow, veh/h	1810	2761	800	1810	3241	393	1810	3610	1610	1810	3619	73
Grp Volume(v), veh/h	10	338	332	287	302	307	165	1001	316	89	469	490
Grp Sat Flow(s),veh/h/ln	1810	1805	1756	1810	1805	1829	1810	1805	1610	1810	1805	1887
Q Serve(g_s), s	0.5	17.3	17.5	14.8	11.8	11.9	8.6	22.9	14.6	4.6	22.4	22.4
Cycle Q Clear(g_c), s	0.5	17.3	17.5	14.8	11.8	11.9	8.6	22.9	14.6	4.6	22.4	22.4
Prop In Lane	1.00		0.46	1.00		0.21	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	18	391	380	322	694	704	189	1356	605	114	603	630
V/C Ratio(X)	0.57	0.87	0.87	0.89	0.43	0.44	0.87	0.74	0.52	0.78	0.78	0.78
Avail Cap(c_a), veh/h	113	433	422	359	694	704	189	1356	605	132	603	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	36.2	36.2	38.5	21.8	21.8	42.3	25.8	23.2	44.2	28.7	28.7
Incr Delay (d2), s/veh	25.5	15.5	16.6	21.9	0.4	0.4	33.2	3.6	3.2	22.5	9.5	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	8.9	8.8	8.3	4.8	4.9	5.4	9.7	5.8	2.7	10.6	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	51.6	52.8	60.4	22.2	22.2	75.5	29.5	26.4	66.7	38.2	37.8
LnGrp LOS	E	D	D	E	C	C	E	C	C	E	D	D
Approach Vol, veh/h		680			896			1482			1048	
Approach Delay, s/veh		52.5			34.4			33.9			40.4	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	40.0	21.0	24.7	14.0	36.0	4.9	40.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	35.0	19.0	23.0	10.0	32.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	6.6	24.9	16.8	19.5	10.6	24.4	2.5	13.9
Green Ext Time (p_c), s	0.0	5.2	0.2	1.3	0.0	3.3	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	38.8
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	385	180	308	402	45	188	1018	324	62	1029	15
Future Volume (veh/h)	8	385	180	308	402	45	188	1018	324	62	1029	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	405	189	324	423	47	198	1072	341	65	1083	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	14	483	223	355	1276	141	188	1407	628	84	1211	18
Arrive On Green	0.01	0.20	0.20	0.20	0.39	0.39	0.10	0.39	0.39	0.05	0.33	0.33
Sat Flow, veh/h	1810	2399	1106	1810	3277	362	1810	3610	1610	1810	3642	54
Grp Volume(v), veh/h	8	303	291	324	232	238	198	1072	341	65	537	562
Grp Sat Flow(s),veh/h/ln	1810	1805	1701	1810	1805	1835	1810	1805	1610	1810	1805	1890
Q Serve(g_s), s	0.4	15.5	15.8	16.9	8.7	8.8	10.0	24.8	15.8	3.4	27.2	27.2
Cycle Q Clear(g_c), s	0.4	15.5	15.8	16.9	8.7	8.8	10.0	24.8	15.8	3.4	27.2	27.2
Prop In Lane	1.00		0.65	1.00		0.20	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	14	363	342	355	703	715	188	1407	628	84	600	628
V/C Ratio(X)	0.55	0.84	0.85	0.91	0.33	0.33	1.05	0.76	0.54	0.77	0.89	0.89
Avail Cap(c_a), veh/h	113	431	406	357	703	715	188	1407	628	132	600	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	36.9	37.0	37.9	20.6	20.6	43.1	25.5	22.7	45.4	30.5	30.5
Incr Delay (d2), s/veh	29.0	11.6	13.6	26.9	0.3	0.3	80.4	3.9	3.4	13.8	18.3	17.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.7	7.5	9.8	3.5	3.6	8.5	10.5	6.2	1.8	14.0	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.6	48.6	50.7	64.7	20.9	20.9	123.5	29.4	26.1	59.2	48.9	48.2
LnGrp LOS	E	D	D	E	C	C	F	C	C	E	D	D
Approach Vol, veh/h		602			794			1611			1164	
Approach Delay, s/veh		49.9			38.8			40.3			49.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	41.5	22.9	23.4	14.0	36.0	4.8	41.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	35.0	19.0	23.0	10.0	32.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	5.4	26.8	18.9	17.8	12.0	29.2	2.4	10.8
Green Ext Time (p_c), s	0.0	4.8	0.0	1.5	0.0	1.7	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	43.9
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	385	180	308	402	45	188	1026	324	62	1047	15
Future Volume (veh/h)	8	385	180	308	402	45	188	1026	324	62	1047	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	8	405	189	324	423	47	198	1080	341	65	1102	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	14	483	223	355	1276	141	188	1407	628	84	1211	18
Arrive On Green	0.01	0.20	0.20	0.20	0.39	0.39	0.10	0.39	0.39	0.05	0.33	0.33
Sat Flow, veh/h	1810	2399	1106	1810	3277	362	1810	3610	1610	1810	3643	53
Grp Volume(v), veh/h	8	303	291	324	232	238	198	1080	341	65	546	572
Grp Sat Flow(s),veh/h/ln	1810	1805	1701	1810	1805	1835	1810	1805	1610	1810	1805	1890
Q Serve(g_s), s	0.4	15.5	15.8	16.9	8.7	8.8	10.0	25.1	15.8	3.4	27.9	27.9
Cycle Q Clear(g_c), s	0.4	15.5	15.8	16.9	8.7	8.8	10.0	25.1	15.8	3.4	27.9	27.9
Prop In Lane	1.00		0.65	1.00		0.20	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	14	363	342	355	703	715	188	1407	628	84	600	628
V/C Ratio(X)	0.55	0.84	0.85	0.91	0.33	0.33	1.05	0.77	0.54	0.77	0.91	0.91
Avail Cap(c_a), veh/h	113	431	406	357	703	715	188	1407	628	132	600	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	36.9	37.0	37.9	20.6	20.6	43.1	25.6	22.7	45.4	30.7	30.8
Incr Delay (d2), s/veh	29.0	11.6	13.6	26.9	0.3	0.3	80.4	4.1	3.4	13.8	20.2	19.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	7.7	7.5	9.8	3.5	3.6	8.5	10.6	6.2	1.8	14.5	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.6	48.6	50.7	64.7	20.9	20.9	123.5	29.6	26.1	59.2	51.0	50.3
LnGrp LOS	E	D	D	E	C	C	F	C	C	E	D	D
Approach Vol, veh/h		602			794			1619			1183	
Approach Delay, s/veh		49.9			38.8			40.4			51.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	41.5	22.9	23.4	14.0	36.0	4.8	41.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	35.0	19.0	23.0	10.0	32.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	5.4	27.1	18.9	17.8	12.0	29.9	2.4	10.8
Green Ext Time (p_c), s	0.0	4.7	0.0	1.5	0.0	1.3	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 4
North/South Street: AIRPORT DR
East/West Street: ROBERTS LN

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	137	Approach	1,383	Left	181	181
NB	Through	817	Departure	1,142	Through	915	915
	Right	278			Right	318	318
North leg	Left	40	Approach	678	Left	31	31
SB	Through	510	Departure	938	Through	666	666
	Right	14			Right	13	13
West leg	Left	16	Approach	469	Left	15	15
EB	Through	377	Departure	423	Through	348	348
	Right	76			Right	122	122
East leg	Left	280	Approach	573	Left	356	356
WB	Through	272	Departure	695	Through	231	231
	Right	13			Right	10	10

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	137	Approach	1,524	Left	188	188
NB	Through	825	Departure	1,516	Through	1,018	1,018
	Right	263			Right	324	324
North leg	Left	74	Approach	1,085	Left	62	62
SB	Through	765	Departure	1,069	Through	1,029	1,029
	Right	16			Right	15	15
West leg	Left	8	Approach	565	Left	8	8
EB	Through	432	Departure	604	Through	385	385
	Right	125			Right	180	180
East leg	Left	238	Approach	744	Left	308	308
WB	Through	451	Departure	769	Through	402	402
	Right	55			Right	45	45

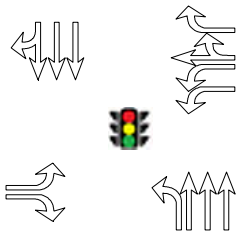
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : STATE RD / SR-99 NB OFF RAMP
N/S STREET : AIRPORT DR
CONDITION : AM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
STATE RD / SR-99 NB OFF RAMP							
EB LEFT	32	2	34	0	34	42	42
EB THRU	0	0	0	0	0	0	0
EB RIGHT	44	3	47	0	47	44	44
WB LEFT	439	31	470	0	470	453	453
WB THRU	93	7	100	0	100	87	87
WB RIGHT	118	8	126	14	140	160	174
AIRPORT DR							
NB LEFT	12	1	13	0	13	10	10
NB THRU	1078	75	1153	2	1155	1178	1180
NB RIGHT	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	0	0	0
SB THRU	737	52	789	5	794	1029	1034
SB RIGHT	38	3	41	0	41	48	48
TOTALS	**2591**	**182**	**2773**	**21**	**2794**	**3051**	**3072**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : STATE RD / SR-99 NB OFF RAMP N/S STREET : AIRPORT DR
CONDITION : AM PEAK HOUR PHF : 0.86

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
13	139	0	3	0	0	0	4	0	1	3	0
1	168	0	3	0	0	0	2	0	0	2	0
8	187	0	0	1	0	0	1	0	0	2	0
4	168	0	0	9	0	0	5	0	0	5	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	227	7	0	1	0	0	2	0	0	2	0
0	229	2	0	5	0	0	2	0	0	2	0
0	325	1	0	2	0	0	1	0	0	2	0
0	238	2	0	0	0	0	2	0	0	5	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
23	23	65	1	0	0	1	0	0	0	0	0
29	38	122	4	0	0	0	0	0	1	0	0
21	10	136	4	1	0	0	1	0	1	0	0
15	15	114	2	0	0	1	0	1	1	1	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	0	10	0	0	0	0	0	0	0	0	1
8	0	5	0	0	0	0	0	0	1	0	1
7	0	4	1	0	0	0	0	0	1	0	1
11	0	4	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STATE RD / SR-99 NB OFF					
EB LEFT	3	23	**26**	**32**	**32**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	3	36	**39**	**44**	**44**
WB LEFT	1	437	**438**	**439**	**439**
WB THRU	3	86	**89**	**93**	**93**
WB RIGHT	16	88	**104**	**118**	**118**
AIRPORT DR					
NB LEFT	0	12	**12**	**12**	**12**
NB THRU	26	1019	**1,045**	**1078**	**1078**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	34	662	**696**	**737**	**737**
SB RIGHT	7	26	**33**	**38**	**38**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	0	44	439	93	118	12	1078	0	0	737	38
Future Volume (veh/h)	32	0	44	439	93	118	12	1078	0	0	737	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h	37	0	51	510	130	122	14	1253	0	0	857	44
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	51	0	0	655	215	183	24	3555	0	0	3104	159
Arrive On Green	0.03	0.00	0.00	0.18	0.11	0.11	0.01	0.69	0.00	0.00	0.61	0.61
Sat Flow, veh/h	1810	37		3619	1900	1610	1810	5358	0	0	5224	259
Grp Volume(v), veh/h	37	55.1		510	130	122	14	1253	0	0	586	315
Grp Sat Flow(s),veh/h/ln	1810	E		1810	1900	1610	1810	1729	0	0	1729	1853
Q Serve(g_s), s	1.6			10.5	5.1	5.7	0.6	7.8	0.0	0.0	6.1	6.2
Cycle Q Clear(g_c), s	1.6			10.5	5.1	5.7	0.6	7.8	0.0	0.0	6.1	6.2
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		0.14
Lane Grp Cap(c), veh/h	51			655	215	183	24	3555	0	0	2124	1139
V/C Ratio(X)	0.72			0.78	0.60	0.67	0.58	0.35	0.00	0.00	0.28	0.28
Avail Cap(c_a), veh/h	151			1229	1132	959	128	3555	0	0	2124	1139
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	37.6			30.5	32.9	33.2	38.3	5.1	0.0	0.0	7.0	7.0
Incr Delay (d2), s/veh	17.4			2.1	2.7	4.2	19.8	0.3	0.0	0.0	0.3	0.6
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9			4.6	2.4	2.4	0.4	1.9	0.0	0.0	1.8	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1			32.5	35.6	37.4	58.1	5.4	0.0	0.0	7.3	7.6
LnGrp LOS	E			C	D	D	E	A	A	A	A	A
Approach Vol, veh/h					762			1267			901	
Approach Delay, s/veh					33.8			5.9			7.4	
Approach LOS					C			A			A	

Timer - Assigned Phs	2	3		5	6	7	8
Phs Duration (G+Y+Rc), s	58.0	18.6		5.5	52.5	6.7	13.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	53.5	26.5		5.5	43.5	6.5	46.5
Max Q Clear Time (g_c+I1), s	9.8	12.5		2.6	8.2	3.6	7.7
Green Ext Time (p_c), s	10.7	1.6		0.0	6.1	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	0	47	470	100	126	13	1153	0	0	789	41
Future Volume (veh/h)	34	0	47	470	100	126	13	1153	0	0	789	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h	40	0	55	547	139	132	15	1341	0	0	917	48
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	54	0	0	692	228	193	26	3522	0	0	3067	160
Arrive On Green	0.03	0.00	0.00	0.19	0.12	0.12	0.01	0.68	0.00	0.00	0.61	0.61
Sat Flow, veh/h	1810	40		3619	1900	1610	1810	5358	0	0	5218	264
Grp Volume(v), veh/h	40	56.3		547	139	132	15	1341	0	0	628	337
Grp Sat Flow(s),veh/h/ln	1810	E		1810	1900	1610	1810	1729	0	0	1729	1853
Q Serve(g_s), s	1.7			11.3	5.5	6.2	0.6	8.8	0.0	0.0	6.9	6.9
Cycle Q Clear(g_c), s	1.7			11.3	5.5	6.2	0.6	8.8	0.0	0.0	6.9	6.9
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		0.14
Lane Grp Cap(c), veh/h	54			692	228	193	26	3522	0	0	2101	1126
V/C Ratio(X)	0.75			0.79	0.61	0.68	0.58	0.38	0.00	0.00	0.30	0.30
Avail Cap(c_a), veh/h	149			1217	1121	950	126	3522	0	0	2101	1126
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	37.9			30.3	32.9	33.2	38.6	5.5	0.0	0.0	7.4	7.4
Incr Delay (d2), s/veh	18.4			2.1	2.6	4.2	19.2	0.3	0.0	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0			5.0	2.6	2.6	0.4	2.2	0.0	0.0	2.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3			32.4	35.5	37.4	57.8	5.8	0.0	0.0	7.8	8.1
LnGrp LOS	E			C	D	D	E	A	A	A	A	A
Approach Vol, veh/h					818			1356			965	
Approach Delay, s/veh					33.8			6.4			7.9	
Approach LOS					C			A			A	

Timer - Assigned Phs	2	3		5	6	7	8
Phs Duration (G+Y+Rc), s	58.0	19.6		5.6	52.4	6.8	14.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	53.5	26.5		5.5	43.5	6.5	46.5
Max Q Clear Time (g_c+I1), s	10.8	13.3		2.6	8.9	3.7	8.2
Green Ext Time (p_c), s	11.8	1.7		0.0	6.6	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	0	47	470	100	140	13	1155	0	0	794	41
Future Volume (veh/h)	34	0	47	470	100	140	13	1155	0	0	794	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h	40	0	55	547	151	140	15	1343	0	0	923	48
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	53	0	0	691	239	203	26	3499	0	0	3047	158
Arrive On Green	0.03	0.00	0.00	0.19	0.13	0.13	0.01	0.67	0.00	0.00	0.60	0.60
Sat Flow, veh/h	1810	40		3619	1900	1610	1810	5358	0	0	5220	262
Grp Volume(v), veh/h	40	56.8		547	151	140	15	1343	0	0	632	339
Grp Sat Flow(s),veh/h/ln	1810	E		1810	1900	1610	1810	1729	0	0	1729	1853
Q Serve(g_s), s	1.7			11.4	6.0	6.6	0.7	9.0	0.0	0.0	7.0	7.1
Cycle Q Clear(g_c), s	1.7			11.4	6.0	6.6	0.7	9.0	0.0	0.0	7.0	7.1
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		0.14
Lane Grp Cap(c), veh/h	53			691	239	203	26	3499	0	0	2087	1118
V/C Ratio(X)	0.75			0.79	0.63	0.69	0.58	0.38	0.00	0.00	0.30	0.30
Avail Cap(c_a), veh/h	148			1209	1114	944	125	3499	0	0	2087	1118
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	38.2			30.6	32.9	33.2	38.9	5.7	0.0	0.0	7.6	7.6
Incr Delay (d2), s/veh	18.6			2.1	2.7	4.2	19.3	0.3	0.0	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0			5.0	2.9	2.7	0.4	2.3	0.0	0.0	2.1	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8			32.7	35.7	37.4	58.1	6.0	0.0	0.0	8.0	8.3
LnGrp LOS	E			C	D	D	E	A	A	A	A	A
Approach Vol, veh/h					838			1358			971	
Approach Delay, s/veh					34.0			6.6			8.1	
Approach LOS					C			A			A	

Timer - Assigned Phs	2	3		5	6	7	8
Phs Duration (G+Y+Rc), s	58.0	19.7		5.6	52.4	6.8	14.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	53.5	26.5		5.5	43.5	6.5	46.5
Max Q Clear Time (g_c+I1), s	11.0	13.4		2.7	9.1	3.7	8.6
Green Ext Time (p_c), s	11.8	1.7		0.0	6.7	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	44	453	87	160	10	1178	0	0	1029	48
Future Volume (veh/h)	42	0	44	453	87	160	10	1178	0	0	1029	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h	44	0	46	477	149	130	11	1240	0	0	1083	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	57	0	0	618	227	192	20	3517	0	0	3097	146
Arrive On Green	0.03	0.00	0.00	0.17	0.12	0.12	0.01	0.68	0.00	0.00	0.61	0.61
Sat Flow, veh/h	1810	44		3619	1900	1610	1810	5358	0	0	5247	239
Grp Volume(v), veh/h	44	57.7		477	149	130	11	1240	0	0	738	396
Grp Sat Flow(s),veh/h/ln	1810	E		1810	1900	1610	1810	1729	0	0	1729	1857
Q Serve(g_s), s	1.9			9.9	5.9	6.1	0.5	8.0	0.0	0.0	8.3	8.4
Cycle Q Clear(g_c), s	1.9			9.9	5.9	6.1	0.5	8.0	0.0	0.0	8.3	8.4
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		0.13
Lane Grp Cap(c), veh/h	57			618	227	192	20	3517	0	0	2110	1133
V/C Ratio(X)	0.78			0.77	0.66	0.68	0.56	0.35	0.00	0.00	0.35	0.35
Avail Cap(c_a), veh/h	149			1215	1120	949	126	3517	0	0	2110	1133
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	37.9			31.3	33.2	33.3	38.8	5.4	0.0	0.0	7.6	7.6
Incr Delay (d2), s/veh	19.8			2.1	3.2	4.1	22.6	0.3	0.0	0.0	0.5	0.9
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1			4.4	2.9	2.5	0.3	2.0	0.0	0.0	2.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7			33.3	36.4	37.4	61.4	5.7	0.0	0.0	8.1	8.5
LnGrp LOS	E			C	D	D	E	A	A	A	A	A
Approach Vol, veh/h					756			1251			1134	
Approach Delay, s/veh					34.6			6.1			8.2	
Approach LOS					C			A			A	

Timer - Assigned Phs	2	3		5	6	7	8
Phs Duration (G+Y+Rc), s	58.0	18.0		5.4	52.6	7.0	13.9
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	53.5	26.5		5.5	43.5	6.5	46.5
Max Q Clear Time (g_c+I1), s	10.0	11.9		2.5	10.4	3.9	8.1
Green Ext Time (p_c), s	10.5	1.5		0.0	8.1	0.0	1.3

Intersection Summary		
HCM 6th Ctrl Delay		14.4
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	44	453	87	174	10	1180	0	0	1034	48
Future Volume (veh/h)	42	0	44	453	87	174	10	1180	0	0	1034	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h	44	0	46	477	160	138	11	1242	0	0	1088	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	57	0	0	617	238	201	20	3494	0	0	3077	144
Arrive On Green	0.03	0.00	0.00	0.17	0.13	0.13	0.01	0.67	0.00	0.00	0.61	0.61
Sat Flow, veh/h	1810	44		3619	1900	1610	1810	5358	0	0	5248	238
Grp Volume(v), veh/h	44	58.2		477	160	138	11	1242	0	0	741	398
Grp Sat Flow(s),veh/h/ln	1810	E		1810	1900	1610	1810	1729	0	0	1729	1857
Q Serve(g_s), s	1.9			10.0	6.4	6.5	0.5	8.2	0.0	0.0	8.5	8.5
Cycle Q Clear(g_c), s	1.9			10.0	6.4	6.5	0.5	8.2	0.0	0.0	8.5	8.5
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		0.13
Lane Grp Cap(c), veh/h	57			617	238	201	20	3494	0	0	2096	1126
V/C Ratio(X)	0.78			0.77	0.67	0.68	0.56	0.36	0.00	0.00	0.35	0.35
Avail Cap(c_a), veh/h	148			1208	1112	943	125	3494	0	0	2096	1126
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	38.2			31.5	33.2	33.2	39.1	5.6	0.0	0.0	7.8	7.8
Incr Delay (d2), s/veh	20.0			2.1	3.3	4.1	22.6	0.3	0.0	0.0	0.5	0.9
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1			4.4	3.1	2.7	0.3	2.1	0.0	0.0	2.5	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2			33.6	36.5	37.3	61.7	5.8	0.0	0.0	8.3	8.7
LnGrp LOS	E			C	D	D	E	A	A	A	A	A
Approach Vol, veh/h					775			1253			1139	
Approach Delay, s/veh					34.9			6.3			8.5	
Approach LOS					C			A			A	

Timer - Assigned Phs	2	3		5	6	7	8
Phs Duration (G+Y+Rc), s	58.0	18.0		5.4	52.6	7.0	14.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	53.5	26.5		5.5	43.5	6.5	46.5
Max Q Clear Time (g_c+I1), s	10.2	12.0		2.5	10.5	3.9	8.5
Green Ext Time (p_c), s	10.5	1.5		0.0	8.2	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : STATE RD / SR-99 NB OFF RAMP
N/S STREET : AIRPORT DR
CONDITION : PM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
STATE RD / SR-99 NB OFF RAMP							
EB LEFT	27	2	29	0	29	37	37
EB THRU	0	0	0	0	0	0	0
EB RIGHT	37	3	40	0	40	41	41
WB LEFT	489	34	523	0	523	496	496
WB THRU	215	15	230	0	230	199	199
WB RIGHT	270	19	289	7	296	335	342
AIRPORT DR							
NB LEFT	37	3	40	0	40	34	34
NB THRU	1109	78	1187	1	1188	1335	1336
NB RIGHT	0	0	0	0	0	0	0
SB LEFT	0	0	0	0	0	0	0
SB THRU	948	66	1014	18	1032	1388	1406
SB RIGHT	63	4	67	0	67	84	84
TOTALS	**3195**	**224**	**3419**	**26**	**3445**	**3949**	**3975**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : STATE RD / SR-99 NB OFF RAMP N/S STREET : AIRPORT DR
CONDITION : PM PEAK HOUR PHF : 0.77

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
19	241	0	0	1	0	0	1	0	0	1	0
25	267	0	0	0	0	0	0	0	0	1	0
14	269	0	0	1	0	0	0	0	0	1	0
5	154	0	0	0	0	0	0	0	0	1	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	211	9	0	1	1	0	0	0	0	1	0
0	342	9	0	1	0	0	0	0	0	1	0
0	197	10	0	1	0	0	1	0	0	1	0
0	340	7	0	0	0	0	0	0	0	1	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
62	51	110	0	0	0	0	0	0	1	0	0
88	97	172	2	1	0	0	0	1	0	0	0
82	40	128	0	1	0	0	0	0	1	0	0
27	24	77	1	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	0	10	0	0	0	0	0	0	0	0	0
11	0	7	0	0	0	0	0	0	0	0	0
10	0	8	0	0	0	0	0	0	0	0	0
6	0	2	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STATE RD / SR-99 NB OFF					
EB LEFT	0	27	**27**	**27**	**27**
EB THRU	0	0	**0**	**0**	**0**
EB RIGHT	0	37	**37**	**37**	**37**
WB LEFT	1	487	**488**	**489**	**489**
WB THRU	2	212	**214**	**215**	**215**
WB RIGHT	5	259	**264**	**270**	**270**
AIRPORT DR					
NB LEFT	1	35	**36**	**37**	**37**
NB THRU	8	1090	**1,098**	**1109**	**1109**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	7	931	**938**	**948**	**948**
SB RIGHT	0	63	**63**	**63**	**63**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	0	37	489	215	270	37	1109	0	0	948	63
Future Volume (veh/h)	27	0	37	489	215	270	37	1109	0	0	948	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h	35	0	48	635	333	315	48	1440	0	0	1231	82
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	47	0	0	765	460	390	62	3032	0	0	2490	166
Arrive On Green	0.03	0.00	0.00	0.21	0.24	0.24	0.03	0.58	0.00	0.00	0.50	0.50
Sat Flow, veh/h	1810	35		3619	1900	1610	1810	5358	0	0	5139	331
Grp Volume(v), veh/h	35	65.5		635	333	315	48	1440	0	0	857	456
Grp Sat Flow(s),veh/h/ln	1810	E		1810	1900	1610	1810	1729	0	0	1729	1840
Q Serve(g_s), s	1.8			15.4	14.7	16.9	2.4	14.6	0.0	0.0	15.0	15.0
Cycle Q Clear(g_c), s	1.8			15.4	14.7	16.9	2.4	14.6	0.0	0.0	15.0	15.0
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		0.18
Lane Grp Cap(c), veh/h	47			765	460	390	62	3032	0	0	1734	923
V/C Ratio(X)	0.75			0.83	0.72	0.81	0.78	0.47	0.00	0.00	0.49	0.49
Avail Cap(c_a), veh/h	129			1167	965	818	168	3032	0	0	1734	923
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	44.3			34.5	31.9	32.7	43.9	10.9	0.0	0.0	15.1	15.1
Incr Delay (d2), s/veh	21.2			3.1	2.2	4.0	18.6	0.5	0.0	0.0	1.0	1.9
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0			6.9	6.9	6.8	1.4	4.8	0.0	0.0	5.4	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.5			37.6	34.0	36.7	62.4	11.5	0.0	0.0	16.1	17.0
LnGrp LOS	E			D	C	D	E	B	A	A	B	B
Approach Vol, veh/h					1283			1488			1313	
Approach Delay, s/veh					36.5			13.1			16.4	
Approach LOS					D			B			B	

Timer - Assigned Phs	2	3		5	6	7	8
Phs Duration (G+Y+Rc), s	58.0	23.9		7.6	50.4	6.9	26.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	53.5	29.5		8.5	40.5	6.5	46.5
Max Q Clear Time (g_c+I1), s	16.6	17.4		4.4	17.0	3.8	18.9
Green Ext Time (p_c), s	12.6	2.0		0.0	8.9	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	0	40	523	230	289	40	1187	0	0	1014	67
Future Volume (veh/h)	29	0	40	523	230	289	40	1187	0	0	1014	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h	38	0	52	679	356	337	52	1542	0	0	1317	87
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	49	0	0	806	487	412	67	2970	0	0	2422	160
Arrive On Green	0.03	0.00	0.00	0.22	0.26	0.26	0.04	0.57	0.00	0.00	0.49	0.49
Sat Flow, veh/h	1810	38		3619	1900	1610	1810	5358	0	0	5142	328
Grp Volume(v), veh/h	38	68.4		679	356	337	52	1542	0	0	916	488
Grp Sat Flow(s),veh/h/ln	1810	E		1810	1900	1610	1810	1729	0	0	1729	1841
Q Serve(g_s), s	2.0			16.8	16.0	18.4	2.7	16.9	0.0	0.0	17.3	17.3
Cycle Q Clear(g_c), s	2.0			16.8	16.0	18.4	2.7	16.9	0.0	0.0	17.3	17.3
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		0.18
Lane Grp Cap(c), veh/h	49			806	487	412	67	2970	0	0	1685	897
V/C Ratio(X)	0.78			0.84	0.73	0.82	0.77	0.52	0.00	0.00	0.54	0.54
Avail Cap(c_a), veh/h	126			1143	946	801	165	2970	0	0	1685	897
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	45.2			34.7	31.8	32.7	44.6	12.1	0.0	0.0	16.7	16.7
Incr Delay (d2), s/veh	23.3			4.1	2.1	4.0	17.0	0.7	0.0	0.0	1.3	2.4
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2			7.7	7.5	7.5	1.5	5.7	0.0	0.0	6.4	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.4			38.8	34.0	36.7	61.6	12.8	0.0	0.0	18.0	19.1
LnGrp LOS	E			D	C	D	E	B	A	A	B	B
Approach Vol, veh/h					1372			1594			1404	
Approach Delay, s/veh					37.0			14.4			18.4	
Approach LOS					D			B			B	

Timer - Assigned Phs	2	3	5	6	7	8
Phs Duration (G+Y+Rc), s	58.0	25.3	8.0	50.0	7.0	28.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	53.5	29.5	8.5	40.5	6.5	46.5
Max Q Clear Time (g_c+I1), s	18.9	18.8	4.7	19.3	4.0	20.4
Green Ext Time (p_c), s	13.6	2.0	0.0	9.2	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	23.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	0	40	523	230	296	40	1188	0	0	1032	67
Future Volume (veh/h)	29	0	40	523	230	296	40	1188	0	0	1032	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h	38	0	52	679	363	342	52	1543	0	0	1340	87
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	48	0	0	805	493	418	67	2956	0	0	2413	157
Arrive On Green	0.03	0.00	0.00	0.22	0.26	0.26	0.04	0.57	0.00	0.00	0.48	0.48
Sat Flow, veh/h	1810	38		3619	1900	1610	1810	5358	0	0	5148	323
Grp Volume(v), veh/h	38	68.8		679	363	342	52	1543	0	0	931	496
Grp Sat Flow(s),veh/h/ln	1810	E		1810	1900	1610	1810	1729	0	0	1729	1842
Q Serve(g_s), s	2.0			16.9	16.4	18.7	2.7	17.1	0.0	0.0	17.8	17.8
Cycle Q Clear(g_c), s	2.0			16.9	16.4	18.7	2.7	17.1	0.0	0.0	17.8	17.8
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		0.18
Lane Grp Cap(c), veh/h	48			805	493	418	67	2956	0	0	1677	893
V/C Ratio(X)	0.78			0.84	0.74	0.82	0.77	0.52	0.00	0.00	0.56	0.56
Avail Cap(c_a), veh/h	125			1137	941	798	164	2956	0	0	1677	893
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	45.4			34.9	31.8	32.7	44.8	12.4	0.0	0.0	17.0	17.0
Incr Delay (d2), s/veh	23.4			4.2	2.2	4.0	17.0	0.7	0.0	0.0	1.3	2.5
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2			7.7	7.7	7.6	1.5	5.8	0.0	0.0	6.6	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.8			39.1	34.0	36.7	61.8	13.0	0.0	0.0	18.4	19.5
LnGrp LOS	E			D	C	D	E	B	A	A	B	B
Approach Vol, veh/h					1384			1595			1427	
Approach Delay, s/veh					37.2			14.6			18.8	
Approach LOS					D			B			B	

Timer - Assigned Phs	2	3		5	6	7	8
Phs Duration (G+Y+Rc), s	58.0	25.4		8.0	50.0	7.0	28.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	53.5	29.5		8.5	40.5	6.5	46.5
Max Q Clear Time (g_c+I1), s	19.1	18.9		4.7	19.8	4.0	20.7
Green Ext Time (p_c), s	13.6	2.0		0.0	9.3	0.0	3.6

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	0	41	496	199	335	34	1335	0	0	1388	84
Future Volume (veh/h)	37	0	41	496	199	335	34	1335	0	0	1388	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h	39	0	43	522	317	281	36	1405	0	0	1461	88
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	50	0	0	651	420	356	48	3111	0	0	2615	158
Arrive On Green	0.03	0.00	0.00	0.18	0.22	0.22	0.03	0.60	0.00	0.00	0.52	0.52
Sat Flow, veh/h	1810	39		3619	1900	1610	1810	5358	0	0	5173	301
Grp Volume(v), veh/h	39	65.1		522	317	281	36	1405	0	0	1010	539
Grp Sat Flow(s),veh/h/ln	1810	E		1810	1900	1610	1810	1729	0	0	1729	1846
Q Serve(g_s), s	1.9			12.3	13.9	14.7	1.8	13.3	0.0	0.0	17.6	17.6
Cycle Q Clear(g_c), s	1.9			12.3	13.9	14.7	1.8	13.3	0.0	0.0	17.6	17.6
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		0.16
Lane Grp Cap(c), veh/h	50			651	420	356	48	3111	0	0	1808	965
V/C Ratio(X)	0.78			0.80	0.75	0.79	0.75	0.45	0.00	0.00	0.56	0.56
Avail Cap(c_a), veh/h	132			1197	990	839	172	3111	0	0	1808	965
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	43.1			35.1	32.5	32.8	43.1	9.8	0.0	0.0	14.3	14.4
Incr Delay (d2), s/veh	22.0			2.3	2.8	3.9	20.7	0.5	0.0	0.0	1.3	2.3
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1			5.5	6.6	6.0	1.0	4.2	0.0	0.0	6.2	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1			37.4	35.2	36.7	63.9	10.3	0.0	0.0	15.6	16.7
LnGrp LOS	E			D	D	D	E	B	A	A	B	B
Approach Vol, veh/h					1120			1441			1549	
Approach Delay, s/veh					36.6			11.6			16.0	
Approach LOS					D			B			B	

Timer - Assigned Phs	2	3	5	6	7	8
Phs Duration (G+Y+Rc), s	58.0	20.6	6.9	51.1	7.0	24.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	53.5	29.5	8.5	40.5	6.5	46.5
Max Q Clear Time (g_c+I1), s	15.3	14.3	3.8	19.6	3.9	16.7
Green Ext Time (p_c), s	12.3	1.7	0.0	10.3	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	20.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	0	41	496	199	342	34	1336	0	0	1406	84
Future Volume (veh/h)	37	0	41	496	199	342	34	1336	0	0	1406	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h	39	0	43	522	322	284	36	1406	0	0	1480	88
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	50	0	0	651	424	360	48	3102	0	0	2610	155
Arrive On Green	0.03	0.00	0.00	0.18	0.22	0.22	0.03	0.60	0.00	0.00	0.52	0.52
Sat Flow, veh/h	1810	39		3619	1900	1610	1810	5358	0	0	5178	298
Grp Volume(v), veh/h	39	65.3		522	322	284	36	1406	0	0	1022	546
Grp Sat Flow(s),veh/h/ln	1810	E		1810	1900	1610	1810	1729	0	0	1729	1846
Q Serve(g_s), s	1.9			12.4	14.2	14.9	1.8	13.4	0.0	0.0	18.0	18.0
Cycle Q Clear(g_c), s	1.9			12.4	14.2	14.9	1.8	13.4	0.0	0.0	18.0	18.0
Prop In Lane	1.00			1.00		1.00	1.00		0.00	0.00		0.16
Lane Grp Cap(c), veh/h	50			651	424	360	48	3102	0	0	1803	963
V/C Ratio(X)	0.78			0.80	0.76	0.79	0.75	0.45	0.00	0.00	0.57	0.57
Avail Cap(c_a), veh/h	131			1193	988	837	172	3102	0	0	1803	963
HCM Platoon Ratio	1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00			1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	43.2			35.2	32.5	32.8	43.3	9.9	0.0	0.0	14.6	14.6
Incr Delay (d2), s/veh	22.1			2.4	2.8	3.9	20.8	0.5	0.0	0.0	1.3	2.4
Initial Q Delay(d3),s/veh	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1			5.5	6.7	6.0	1.0	4.3	0.0	0.0	6.4	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.3			37.5	35.3	36.7	64.1	10.4	0.0	0.0	15.8	17.0
LnGrp LOS	E			D	D	D	E	B	A	A	B	B
Approach Vol, veh/h					1128			1442			1568	
Approach Delay, s/veh					36.7			11.7			16.2	
Approach LOS					D			B			B	

Timer - Assigned Phs	2	3		5	6	7	8
Phs Duration (G+Y+Rc), s	58.0	20.6		6.9	51.1	7.0	24.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	53.5	29.5		8.5	40.5	6.5	46.5
Max Q Clear Time (g_c+I1), s	15.4	14.4		3.8	20.0	3.9	16.9
Green Ext Time (p_c), s	12.3	1.7		0.0	10.3	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 5
North/South Street: AIRPORT DR
East/West Street: STATE RD / SR-99 NB OFF RAMP

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	12	Approach	1,137	Left	10	10
NB	Through	1,078	Departure	1,525	Through	1,178	1,178
	Right	0			Right	0	0
North leg	Left	0	Approach	1,051	Left	0	0
SB	Through	737	Departure	1,379	Through	1,029	1,029
	Right	38			Right	48	48
West leg	Left	32	Approach	83	Left	42	42
EB	Through	0	Departure	143	Through	0	0
	Right	44			Right	44	44
East leg	Left	439	Approach	678	Left	453	453
WB	Through	93	Departure	0	Through	87	87
	Right	118			Right	160	160

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	37	Approach	1,288	Left	34	34
NB	Through	1,109	Departure	1,924	Through	1,335	1,335
	Right	0			Right	0	0
North leg	Left	0	Approach	1,399	Left	0	0
SB	Through	948	Departure	1,705	Through	1,388	1,388
	Right	63			Right	84	84
West leg	Left	27	Approach	73	Left	37	37
EB	Through	0	Departure	315	Through	0	0
	Right	37			Right	41	41
East leg	Left	489	Approach	974	Left	496	496
WB	Through	215	Departure	0	Through	199	199
	Right	270			Right	335	335

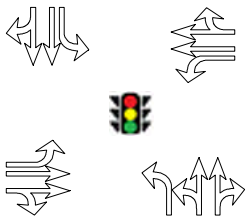
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : OLIVE DR
N/S STREET : ROBERTS LN
CONDITION : AM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
OLIVE DR							
EB LEFT	106	7	113	0	113	121	121
EB THRU	421	29	450	35	485	415	450
EB RIGHT	288	20	308	0	308	278	278
WB LEFT	10	1	11	0	11	10	10
WB THRU	433	30	463	11	474	439	450
WB RIGHT	81	6	87	0	87	94	94
ROBERTS LN							
NB LEFT	211	15	226	0	226	196	196
NB THRU	250	18	268	0	268	265	265
NB RIGHT	5	0	5	0	5	5	5
SB LEFT	77	5	82	0	82	84	84
SB THRU	175	12	187	0	187	186	186
SB RIGHT	108	8	116	0	116	118	118
TOTALS	**2165**	**151**	**2316**	**46**	**2362**	**2211**	**2257**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : OLIVE DR
CONDITION : AM PEAK HOUR
N/S STREET : ROBERTS LN
PHF : 0.91

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
20	47	20	3	1	0	1	0	0	0	0	0
19	54	48	2	2	1	3	0	0	1	0	0
14	23	5	2	1	0	0	0	0	2	0	0
19	43	2	3	0	0	2	1	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	53	70	0	1	0	0	0	0	0	1	1
1	80	40	1	0	0	0	0	0	0	1	1
1	68	54	0	1	0	0	1	1	0	2	0
1	29	37	0	0	0	0	0	1	0	1	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
8	89	0	1	3	1	1	1	0	3	3	0
28	100	4	1	6	1	0	1	0	0	0	0
10	88	0	0	5	0	1	5	0	0	1	0
17	96	0	0	5	0	1	1	0	0	1	1

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
80	42	22	0	5	0	0	5	0	0	3	0
81	44	27	0	5	0	0	1	0	0	5	0
66	119	31	0	5	0	0	1	0	0	3	0
61	127	26	0	4	0	0	2	0	0	3	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
OLIVE DR					
EB LEFT	0	106	**106**	**106**	**106**
EB THRU	42	332	**374**	**421**	**421**
EB RIGHT	0	288	**288**	**288**	**288**
WB LEFT	3	4	**7**	**10**	**10**
WB THRU	32	373	**405**	**433**	**433**
WB RIGHT	8	63	**71**	**81**	**81**
ROBERTS LN					
NB LEFT	4	201	**205**	**211**	**211**
NB THRU	8	230	**238**	**250**	**250**
NB RIGHT	1	3	**4**	**5**	**5**
SB LEFT	1	75	**76**	**77**	**77**
SB THRU	5	167	**172**	**175**	**175**
SB RIGHT	19	72	**91**	**108**	**108**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	421	288	10	433	81	211	250	5	77	175	108
Future Volume (veh/h)	106	421	288	10	433	81	211	250	5	77	175	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	116	463	316	11	476	89	171	361	5	85	192	119
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	151	684	464	21	792	147	320	662	9	288	348	205
Arrive On Green	0.08	0.33	0.33	0.01	0.26	0.26	0.18	0.18	0.18	0.16	0.16	0.16
Sat Flow, veh/h	1810	2056	1397	1810	3038	565	1810	3739	52	1810	2183	1290
Grp Volume(v), veh/h	116	406	373	11	282	283	171	183	183	85	157	154
Grp Sat Flow(s),veh/h/ln	1810	1805	1649	1810	1805	1798	1810	1900	1891	1810	1805	1668
Q Serve(g_s), s	3.1	9.7	9.8	0.3	6.8	6.9	4.3	4.4	4.4	2.1	4.0	4.3
Cycle Q Clear(g_c), s	3.1	9.7	9.8	0.3	6.8	6.9	4.3	4.4	4.4	2.1	4.0	4.3
Prop In Lane	1.00		0.85	1.00		0.31	1.00		0.03	1.00		0.77
Lane Grp Cap(c), veh/h	151	600	548	21	470	469	320	336	335	288	288	266
V/C Ratio(X)	0.77	0.68	0.68	0.54	0.60	0.60	0.53	0.54	0.55	0.29	0.55	0.58
Avail Cap(c_a), veh/h	289	1660	1516	217	1588	1582	1664	1747	1739	579	577	533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	14.4	14.4	24.6	16.2	16.2	18.7	18.7	18.7	18.5	19.4	19.5
Incr Delay (d2), s/veh	8.0	1.3	1.5	20.0	1.2	1.3	1.4	1.4	1.4	0.6	1.6	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.1	2.9	0.2	2.3	2.3	1.6	1.7	1.7	0.8	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	15.7	15.9	44.6	17.4	17.5	20.1	20.1	20.1	19.1	21.0	21.5
LnGrp LOS	C	B	B	D	B	B	C	C	C	B	C	C
Approach Vol, veh/h		895			576			537			396	
Approach Delay, s/veh		17.7			18.0			20.1			20.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.6	20.6		12.0	8.2	17.0		12.9
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	46.0		16.0	8.0	44.0		46.0
Max Q Clear Time (g_c+I1), s	2.3	11.8		6.3	5.1	8.9		6.4
Green Ext Time (p_c), s	0.0	4.9		1.3	0.1	3.2		2.5

Intersection Summary	
HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	450	308	11	463	87	226	268	5	82	187	116
Future Volume (veh/h)	113	450	308	11	463	87	226	268	5	82	187	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	124	495	338	12	509	96	183	386	5	90	205	127
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	161	712	485	22	818	154	330	682	9	281	339	201
Arrive On Green	0.09	0.35	0.35	0.01	0.27	0.27	0.18	0.18	0.18	0.16	0.16	0.16
Sat Flow, veh/h	1810	2054	1399	1810	3033	569	1810	3743	48	1810	2181	1292
Grp Volume(v), veh/h	124	435	398	12	302	303	183	196	195	90	168	164
Grp Sat Flow(s),veh/h/ln	1810	1805	1648	1810	1805	1798	1810	1900	1891	1810	1805	1667
Q Serve(g_s), s	3.5	10.9	11.0	0.3	7.7	7.8	4.8	5.0	5.0	2.3	4.6	4.9
Cycle Q Clear(g_c), s	3.5	10.9	11.0	0.3	7.7	7.8	4.8	5.0	5.0	2.3	4.6	4.9
Prop In Lane	1.00		0.85	1.00		0.32	1.00		0.03	1.00		0.77
Lane Grp Cap(c), veh/h	161	625	571	22	487	485	330	346	345	281	281	259
V/C Ratio(X)	0.77	0.70	0.70	0.54	0.62	0.62	0.55	0.57	0.57	0.32	0.60	0.63
Avail Cap(c_a), veh/h	275	1575	1438	206	1507	1500	1579	1658	1651	549	548	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.5	14.8	14.8	25.9	16.9	16.9	19.6	19.6	19.7	19.8	20.7	20.8
Incr Delay (d2), s/veh	7.6	1.4	1.6	19.1	1.3	1.3	1.5	1.5	1.5	0.6	2.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.6	3.3	0.2	2.7	2.7	1.8	2.0	2.0	0.9	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	16.2	16.4	44.9	18.2	18.2	21.1	21.1	21.1	20.4	22.8	23.4
LnGrp LOS	C	B	B	D	B	B	C	C	C	C	C	C
Approach Vol, veh/h		957			617			574			422	
Approach Delay, s/veh		18.2			18.7			21.1			22.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.6	22.3		12.2	8.7	18.2		13.6
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	46.0		16.0	8.0	44.0		46.0
Max Q Clear Time (g_c+I1), s	2.3	13.0		6.9	5.5	9.8		7.0
Green Ext Time (p_c), s	0.0	5.3		1.4	0.1	3.4		2.6

Intersection Summary	
HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	485	308	11	474	87	226	268	5	82	187	116
Future Volume (veh/h)	113	485	308	11	474	87	226	268	5	82	187	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	124	533	338	12	521	96	183	386	5	90	205	127
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	161	756	479	22	853	157	326	675	9	279	336	199
Arrive On Green	0.09	0.36	0.36	0.01	0.28	0.28	0.18	0.18	0.18	0.15	0.15	0.15
Sat Flow, veh/h	1810	2120	1343	1810	3046	559	1810	3743	48	1810	2181	1292
Grp Volume(v), veh/h	124	454	417	12	308	309	183	196	195	90	168	164
Grp Sat Flow(s),veh/h/ln	1810	1805	1658	1810	1805	1799	1810	1900	1891	1810	1805	1667
Q Serve(g_s), s	3.6	11.7	11.7	0.4	8.0	8.1	5.0	5.1	5.1	2.4	4.7	5.0
Cycle Q Clear(g_c), s	3.6	11.7	11.7	0.4	8.0	8.1	5.0	5.1	5.1	2.4	4.7	5.0
Prop In Lane	1.00		0.81	1.00		0.31	1.00		0.03	1.00		0.77
Lane Grp Cap(c), veh/h	161	644	592	22	506	504	326	343	341	279	278	257
V/C Ratio(X)	0.77	0.70	0.71	0.54	0.61	0.61	0.56	0.57	0.57	0.32	0.60	0.64
Avail Cap(c_a), veh/h	268	1539	1414	201	1472	1467	1543	1620	1612	537	535	494
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	14.9	14.9	26.5	16.9	16.9	20.2	20.2	20.2	20.3	21.3	21.4
Incr Delay (d2), s/veh	7.6	1.4	1.6	19.2	1.2	1.2	1.5	1.5	1.5	0.7	2.1	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.8	3.5	0.3	2.8	2.8	1.9	2.0	2.0	0.9	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	16.3	16.5	45.7	18.0	18.1	21.7	21.7	21.7	21.0	23.4	24.0
LnGrp LOS	C	B	B	D	B	B	C	C	C	C	C	C
Approach Vol, veh/h		995			629			574			422	
Approach Delay, s/veh		18.3			18.6			21.7			23.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	23.2		12.3	8.8	19.1		13.7
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	46.0		16.0	8.0	44.0		46.0
Max Q Clear Time (g_c+I1), s	2.4	13.7		7.0	5.6	10.1		7.1
Green Ext Time (p_c), s	0.0	5.6		1.4	0.1	3.5		2.6

Intersection Summary	
HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	415	278	10	439	94	196	265	5	84	186	118
Future Volume (veh/h)	121	415	278	10	439	94	196	265	5	84	186	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	127	437	293	11	462	99	163	339	5	88	196	124
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	165	676	450	21	729	155	309	639	9	296	354	214
Arrive On Green	0.09	0.33	0.33	0.01	0.25	0.25	0.17	0.17	0.17	0.16	0.16	0.16
Sat Flow, veh/h	1810	2075	1381	1810	2961	630	1810	3735	55	1810	2164	1306
Grp Volume(v), veh/h	127	380	350	11	280	281	163	172	172	88	162	158
Grp Sat Flow(s),veh/h/ln	1810	1805	1651	1810	1805	1787	1810	1900	1890	1810	1805	1665
Q Serve(g_s), s	3.3	8.8	8.8	0.3	6.8	6.8	4.0	4.0	4.0	2.1	4.0	4.3
Cycle Q Clear(g_c), s	3.3	8.8	8.8	0.3	6.8	6.8	4.0	4.0	4.0	2.1	4.0	4.3
Prop In Lane	1.00		0.84	1.00		0.35	1.00		0.03	1.00		0.78
Lane Grp Cap(c), veh/h	165	588	538	21	444	440	309	325	323	296	295	272
V/C Ratio(X)	0.77	0.65	0.65	0.54	0.63	0.64	0.53	0.53	0.53	0.30	0.55	0.58
Avail Cap(c_a), veh/h	297	1704	1559	223	1630	1613	1708	1794	1784	594	593	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	14.0	14.1	24.0	16.4	16.4	18.4	18.4	18.4	17.9	18.7	18.8
Incr Delay (d2), s/veh	7.4	1.2	1.3	19.9	1.5	1.5	1.4	1.3	1.4	0.6	1.6	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	2.8	2.6	0.2	2.3	2.3	1.5	1.6	1.6	0.8	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	15.2	15.4	43.9	17.9	18.0	19.8	19.8	19.8	18.5	20.3	20.8
LnGrp LOS	C	B	B	D	B	B	B	B	B	B	C	C
Approach Vol, veh/h		857			572			507			408	
Approach Delay, s/veh		17.3			18.4			19.8			20.1	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.6	19.9		12.0	8.4	16.0		12.3
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	46.0		16.0	8.0	44.0		46.0
Max Q Clear Time (g_c+I1), s	2.3	10.8		6.3	5.3	8.8		6.0
Green Ext Time (p_c), s	0.0	4.5		1.4	0.1	3.1		2.3

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	450	278	10	450	94	196	265	5	84	186	118
Future Volume (veh/h)	121	450	278	10	450	94	196	265	5	84	186	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	127	474	293	11	474	99	163	339	5	88	196	124
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	165	707	435	21	743	154	308	637	9	294	352	212
Arrive On Green	0.09	0.33	0.33	0.01	0.25	0.25	0.17	0.17	0.17	0.16	0.16	0.16
Sat Flow, veh/h	1810	2147	1321	1810	2976	618	1810	3735	55	1810	2164	1306
Grp Volume(v), veh/h	127	398	369	11	286	287	163	172	172	88	162	158
Grp Sat Flow(s),veh/h/ln	1810	1805	1662	1810	1805	1789	1810	1900	1890	1810	1805	1665
Q Serve(g_s), s	3.4	9.3	9.4	0.3	6.9	7.0	4.0	4.1	4.1	2.1	4.0	4.3
Cycle Q Clear(g_c), s	3.4	9.3	9.4	0.3	6.9	7.0	4.0	4.1	4.1	2.1	4.0	4.3
Prop In Lane	1.00		0.79	1.00		0.35	1.00		0.03	1.00		0.78
Lane Grp Cap(c), veh/h	165	594	547	21	451	447	308	324	322	294	293	271
V/C Ratio(X)	0.77	0.67	0.67	0.54	0.64	0.64	0.53	0.53	0.53	0.30	0.55	0.58
Avail Cap(c_a), veh/h	295	1693	1559	221	1620	1605	1698	1782	1773	590	589	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	14.1	14.2	24.1	16.4	16.4	18.5	18.6	18.6	18.1	18.9	19.0
Incr Delay (d2), s/veh	7.4	1.3	1.5	19.9	1.5	1.5	1.4	1.4	1.4	0.6	1.6	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	2.9	2.8	0.2	2.4	2.4	1.5	1.6	1.6	0.8	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	15.5	15.6	44.0	17.9	18.0	19.9	19.9	19.9	18.6	20.5	21.0
LnGrp LOS	C	B	B	D	B	B	B	B	B	B	C	C
Approach Vol, veh/h		894			584			507			408	
Approach Delay, s/veh		17.5			18.4			19.9			20.3	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.6	20.2		12.0	8.5	16.2		12.4
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	46.0		16.0	8.0	44.0		46.0
Max Q Clear Time (g_c+I1), s	2.3	11.4		6.3	5.4	9.0		6.1
Green Ext Time (p_c), s	0.0	4.8		1.4	0.1	3.2		2.3

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : OLIVE DR
N/S STREET : ROBERTS LN
CONDITION : PM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
OLIVE DR							
EB LEFT	265	19	284	0	284	308	308
EB THRU	521	36	557	16	573	506	522
EB RIGHT	323	23	346	0	346	299	299
WB LEFT	2	0	2	0	2	2	2
WB THRU	485	34	519	37	556	499	536
WB RIGHT	119	8	127	0	127	139	139
ROBERTS LN							
NB LEFT	345	24	369	0	369	325	325
NB THRU	361	25	386	0	386	385	385
NB RIGHT	13	1	14	0	14	12	12
SB LEFT	147	10	157	0	157	165	165
SB THRU	379	27	406	0	406	404	404
SB RIGHT	237	17	254	0	254	280	280
TOTALS	**3197**	**224**	**3421**	**53**	**3474**	**3324**	**3377**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : OLIVE DR
N/S STREET : ROBERTS LN
CONDITION : PM PEAK HOUR
PHF : 0.91

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
58	86	54	0	2	0	0	0	0	1	1	0
47	89	34	1	0	0	1	0	0	1	0	0
73	87	14	1	0	0	0	0	0	0	0	0
48	111	45	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
4	68	101	0	0	0	0	0	0	0	2	0
1	83	72	0	1	0	0	0	0	0	0	0
3	70	89	0	0	0	0	0	0	0	1	0
5	126	83	0	0	0	0	0	0	0	1	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
20	87	0	0	4	0	1	4	0	0	2	0
39	93	0	0	1	0	0	0	0	0	5	0
36	113	0	0	0	0	0	2	0	0	3	0
22	128	2	0	1	0	0	2	0	0	3	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
58	83	67	0	4	0	0	2	0	1	1	0
85	129	63	0	3	0	0	0	0	0	2	0
79	155	64	0	2	0	0	0	0	1	2	0
95	104	71	0	2	0	0	1	0	0	4	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
OLIVE DR					
EB LEFT	0	265	**265**	**265**	**265**
EB THRU	23	471	**494**	**521**	**521**
EB RIGHT	2	317	**319**	**323**	**323**
WB LEFT	0	2	**2**	**2**	**2**
WB THRU	27	421	**448**	**485**	**485**
WB RIGHT	1	117	**118**	**119**	**119**
ROBERTS LN					
NB LEFT	0	345	**345**	**345**	**345**
NB THRU	5	347	**352**	**361**	**361**
NB RIGHT	0	13	**13**	**13**	**13**
SB LEFT	0	147	**147**	**147**	**147**
SB THRU	3	373	**376**	**379**	**379**
SB RIGHT	5	226	**231**	**237**	**237**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	521	323	2	485	119	345	361	13	147	379	237
Future Volume (veh/h)	265	521	323	2	485	119	345	361	13	147	379	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	291	573	355	2	533	131	263	559	14	162	416	260
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	328	879	544	4	665	163	365	744	19	415	491	304
Arrive On Green	0.18	0.41	0.41	0.00	0.23	0.23	0.20	0.20	0.20	0.23	0.23	0.23
Sat Flow, veh/h	1810	2141	1326	1810	2875	704	1810	3691	92	1810	2141	1325
Grp Volume(v), veh/h	291	483	445	2	334	330	263	288	285	162	350	326
Grp Sat Flow(s),veh/h/ln	1810	1805	1661	1810	1805	1773	1810	1900	1883	1810	1805	1661
Q Serve(g_s), s	16.0	22.0	22.0	0.1	17.8	18.0	13.9	14.6	14.6	7.8	19.0	19.2
Cycle Q Clear(g_c), s	16.0	22.0	22.0	0.1	17.8	18.0	13.9	14.6	14.6	7.8	19.0	19.2
Prop In Lane	1.00		0.80	1.00		0.40	1.00		0.05	1.00		0.80
Lane Grp Cap(c), veh/h	328	741	682	4	418	410	365	383	380	415	414	381
V/C Ratio(X)	0.89	0.65	0.65	0.51	0.80	0.80	0.72	0.75	0.75	0.39	0.85	0.86
Avail Cap(c_a), veh/h	460	1147	1056	106	794	780	814	854	847	478	476	439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	24.3	24.3	51.0	37.1	37.1	38.1	38.4	38.4	33.4	37.7	37.8
Incr Delay (d2), s/veh	14.2	1.0	1.1	77.1	3.6	3.7	2.7	3.0	3.0	0.6	11.9	13.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	8.7	8.1	0.1	7.8	7.8	6.2	6.8	6.8	3.3	9.3	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	25.2	25.3	128.1	40.6	40.9	40.8	41.4	41.4	34.0	49.6	51.7
LnGrp LOS	E	C	C	F	D	D	D	D	D	C	D	D
Approach Vol, veh/h		1219			666			836			838	
Approach Delay, s/veh		32.4			41.0			41.2			47.4	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	46.0		27.4	22.6	27.7		24.6
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	65.0		27.0	26.0	45.0		46.0
Max Q Clear Time (g_c+I1), s	2.1	24.0		21.2	18.0	20.0		16.6
Green Ext Time (p_c), s	0.0	6.3		2.2	0.5	3.7		4.0

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	557	346	2	519	127	369	386	14	157	406	254
Future Volume (veh/h)	284	557	346	2	519	127	369	386	14	157	406	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	312	612	380	2	570	140	281	597	15	173	446	279
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	342	911	566	4	687	168	375	765	19	411	486	302
Arrive On Green	0.19	0.43	0.43	0.00	0.24	0.24	0.21	0.21	0.21	0.23	0.23	0.23
Sat Flow, veh/h	1810	2138	1328	1810	2874	704	1810	3691	93	1810	2138	1328
Grp Volume(v), veh/h	312	517	475	2	357	353	281	307	305	173	376	349
Grp Sat Flow(s),veh/h/ln	1810	1805	1661	1810	1805	1773	1810	1900	1883	1810	1805	1661
Q Serve(g_s), s	19.7	26.8	26.8	0.1	21.9	22.0	17.0	17.8	17.8	9.5	23.7	23.9
Cycle Q Clear(g_c), s	19.7	26.8	26.8	0.1	21.9	22.0	17.0	17.8	17.8	9.5	23.7	23.9
Prop In Lane	1.00		0.80	1.00		0.40	1.00		0.05	1.00		0.80
Lane Grp Cap(c), veh/h	342	769	708	4	431	424	375	394	390	411	410	378
V/C Ratio(X)	0.91	0.67	0.67	0.51	0.83	0.83	0.75	0.78	0.78	0.42	0.92	0.92
Avail Cap(c_a), veh/h	404	1007	927	93	697	685	714	750	743	419	418	385
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	26.9	26.9	58.1	42.1	42.1	43.3	43.7	43.7	38.5	43.9	44.0
Incr Delay (d2), s/veh	22.3	1.1	1.2	77.8	4.5	4.8	3.0	3.4	3.4	0.7	24.6	27.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	10.9	10.1	0.1	9.8	9.7	7.7	8.5	8.4	4.2	13.0	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.6	28.0	28.1	135.9	46.6	46.9	46.4	47.1	47.1	39.2	68.5	71.5
LnGrp LOS	E	C	C	F	D	D	D	D	D	D	E	E
Approach Vol, veh/h		1304			712			893			898	
Approach Delay, s/veh		37.8			47.0			46.9			64.0	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.3	53.6		30.5	26.1	31.8		28.1
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	65.0		27.0	26.0	45.0		46.0
Max Q Clear Time (g_c+I1), s	12.1	28.8		25.9	21.7	24.0		19.8
Green Ext Time (p_c), s	0.0	6.8		0.5	0.4	3.8		4.3

Intersection Summary		
HCM 6th Ctrl Delay	47.8	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	284	573	346	2	556	127	369	386	14	157	406	254
Future Volume (veh/h)	284	573	346	2	556	127	369	386	14	157	406	254
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	312	630	380	2	611	140	281	597	15	173	446	279
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	341	942	568	4	727	166	372	759	19	405	479	297
Arrive On Green	0.19	0.44	0.44	0.00	0.25	0.25	0.21	0.21	0.21	0.22	0.22	0.22
Sat Flow, veh/h	1810	2165	1305	1810	2918	667	1810	3691	93	1810	2138	1328
Grp Volume(v), veh/h	312	525	485	2	378	373	281	307	305	173	376	349
Grp Sat Flow(s),veh/h/ln	1810	1805	1665	1810	1805	1780	1810	1900	1883	1810	1805	1661
Q Serve(g_s), s	20.3	27.9	27.9	0.1	23.9	24.0	17.6	18.4	18.4	9.9	24.6	24.8
Cycle Q Clear(g_c), s	20.3	27.9	27.9	0.1	23.9	24.0	17.6	18.4	18.4	9.9	24.6	24.8
Prop In Lane	1.00		0.78	1.00		0.37	1.00		0.05	1.00		0.80
Lane Grp Cap(c), veh/h	341	786	725	4	449	443	372	391	387	405	404	372
V/C Ratio(X)	0.92	0.67	0.67	0.51	0.84	0.84	0.75	0.79	0.79	0.43	0.93	0.94
Avail Cap(c_a), veh/h	391	976	900	90	675	666	692	727	720	406	405	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	27.0	27.1	59.9	42.9	42.9	44.9	45.3	45.3	40.1	45.8	45.9
Incr Delay (d2), s/veh	23.9	1.3	1.4	78.0	6.0	6.2	3.1	3.5	3.6	0.7	28.0	31.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	11.5	10.6	0.1	10.9	10.8	8.0	8.8	8.7	4.4	13.8	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.8	28.3	28.4	137.9	48.9	49.1	48.0	48.8	48.8	40.8	73.8	77.1
LnGrp LOS	E	C	C	F	D	D	D	D	D	D	E	E
Approach Vol, veh/h		1322			753			893			898	
Approach Delay, s/veh		38.6			49.2			48.6			68.7	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.3	56.3		30.9	26.7	33.9		28.7
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	65.0		27.0	26.0	45.0		46.0
Max Q Clear Time (g_c+I1), s	2.1	29.9		26.8	22.3	26.0		20.4
Green Ext Time (p_c), s	0.0	6.9		0.1	0.3	4.0		4.3

Intersection Summary	
HCM 6th Ctrl Delay	50.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	308	506	299	2	499	139	325	385	12	165	404	280
Future Volume (veh/h)	308	506	299	2	499	139	325	385	12	165	404	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	324	533	315	2	525	146	253	529	13	174	425	295
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	357	932	550	4	646	179	342	699	17	424	479	330
Arrive On Green	0.20	0.43	0.43	0.00	0.23	0.23	0.19	0.19	0.19	0.23	0.23	0.23
Sat Flow, veh/h	1810	2184	1289	1810	2793	773	1810	3693	91	1810	2044	1408
Grp Volume(v), veh/h	324	440	408	2	338	333	253	272	270	174	375	345
Grp Sat Flow(s),veh/h/ln	1810	1805	1668	1810	1805	1761	1810	1900	1884	1810	1805	1647
Q Serve(g_s), s	19.0	20.0	20.1	0.1	19.2	19.4	14.3	14.7	14.7	8.8	21.8	22.0
Cycle Q Clear(g_c), s	19.0	20.0	20.1	0.1	19.2	19.4	14.3	14.7	14.7	8.8	21.8	22.0
Prop In Lane	1.00		0.77	1.00		0.44	1.00		0.05	1.00		0.85
Lane Grp Cap(c), veh/h	357	770	712	4	418	408	342	359	356	424	423	386
V/C Ratio(X)	0.91	0.57	0.57	0.51	0.81	0.82	0.74	0.76	0.76	0.41	0.89	0.89
Avail Cap(c_a), veh/h	434	1082	1000	100	749	731	768	806	799	451	450	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	23.6	23.6	54.0	39.4	39.5	41.4	41.6	41.6	35.2	40.1	40.2
Incr Delay (d2), s/veh	20.0	0.7	0.7	77.4	3.8	4.0	3.1	3.3	3.3	0.6	18.1	20.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	8.0	7.4	0.1	8.5	8.4	6.4	6.9	6.9	3.8	11.4	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.5	24.2	24.3	131.4	43.2	43.5	44.6	44.9	44.9	35.8	58.2	60.9
LnGrp LOS	E	C	C	F	D	D	D	D	D	D	E	E
Approach Vol, veh/h		1172			673			795			894	
Approach Delay, s/veh		34.8			43.6			44.8			54.9	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.2	50.3		29.4	25.4	29.1		24.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	65.0		27.0	26.0	45.0		46.0
Max Q Clear Time (g_c+I1), s	12.1	22.1		24.0	21.0	21.4		16.7
Green Ext Time (p_c), s	0.0	5.5		1.4	0.4	3.7		3.8

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	308	522	299	2	536	139	325	385	12	165	404	280
Future Volume (veh/h)	308	522	299	2	536	139	325	385	12	165	404	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	324	549	315	2	564	146	253	529	13	174	425	295
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	356	963	552	4	685	177	340	693	17	418	473	326
Arrive On Green	0.20	0.44	0.44	0.00	0.24	0.24	0.19	0.19	0.19	0.23	0.23	0.23
Sat Flow, veh/h	1810	2210	1267	1810	2840	733	1810	3693	91	1810	2044	1408
Grp Volume(v), veh/h	324	448	416	2	358	352	253	272	270	174	375	345
Grp Sat Flow(s),veh/h/ln	1810	1805	1672	1810	1805	1768	1810	1900	1884	1810	1805	1647
Q Serve(g_s), s	19.6	20.8	20.9	0.1	21.0	21.1	14.8	15.2	15.2	9.1	22.5	22.8
Cycle Q Clear(g_c), s	19.6	20.8	20.9	0.1	21.0	21.1	14.8	15.2	15.2	9.1	22.5	22.8
Prop In Lane	1.00		0.76	1.00		0.41	1.00		0.05	1.00		0.85
Lane Grp Cap(c), veh/h	356	787	729	4	436	427	340	357	354	418	417	381
V/C Ratio(X)	0.91	0.57	0.57	0.51	0.82	0.83	0.74	0.76	0.76	0.42	0.90	0.91
Avail Cap(c_a), veh/h	421	1049	972	97	727	712	745	782	775	437	436	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	23.7	23.7	55.7	40.1	40.2	42.9	43.0	43.1	36.5	41.7	41.8
Incr Delay (d2), s/veh	21.5	0.7	0.7	77.6	3.9	4.1	3.3	3.4	3.4	0.7	20.5	23.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	8.3	7.7	0.1	9.3	9.2	6.7	7.2	7.2	4.0	12.0	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.4	24.3	24.4	133.3	44.1	44.3	46.1	46.4	46.5	37.2	62.2	65.1
LnGrp LOS	E	C	C	F	D	D	D	D	D	D	E	E
Approach Vol, veh/h		1188			712			795			894	
Approach Delay, s/veh		35.6			44.4			46.4			58.5	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.2	52.7		29.9	26.0	31.0		25.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	65.0		27.0	26.0	45.0		46.0
Max Q Clear Time (g_c+I1), s	12.1	22.9		24.8	21.6	23.1		17.2
Green Ext Time (p_c), s	0.0	5.7		1.1	0.4	3.9		3.8

Intersection Summary		
HCM 6th Ctrl Delay	45.4	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 6
North/South Street: ROBERTS LN
East/West Street: OLIVE DR

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	211	Approach	466	Left	196	196
NB	Through	250	Departure	473	Through	265	265
	Right	5			Right	5	5
North leg	Left	77	Approach	389	Left	84	84
SB	Through	175	Departure	479	Through	186	186
	Right	108			Right	118	118
West leg	Left	106	Approach	815	Left	121	121
EB	Through	421	Departure	752	Through	415	415
	Right	288			Right	278	278
East leg	Left	10	Approach	544	Left	10	10
WB	Through	433	Departure	503	Through	439	439
	Right	81			Right	94	94

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	345	Approach	719	Left	325	325
NB	Through	361	Departure	704	Through	385	385
	Right	13			Right	12	12
North leg	Left	147	Approach	846	Left	165	165
SB	Through	379	Departure	831	Through	404	404
	Right	237			Right	280	280
West leg	Left	265	Approach	1,109	Left	308	308
EB	Through	521	Departure	1,103	Through	506	506
	Right	323			Right	299	299
East leg	Left	2	Approach	638	Left	2	2
WB	Through	485	Departure	681	Through	499	499
	Right	119			Right	139	139

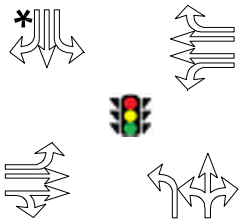
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : OLIVE DR
N/S STREET : STATE RD
CONDITION : AM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
OLIVE DR							
EB LEFT	99	7	106	0	106	137	137
EB THRU	830	58	888	14	902	826	840
EB RIGHT	11	1	12	0	12	12	12
WB LEFT	3	0	3	0	3	4	4
WB THRU	672	47	719	8	727	663	671
WB RIGHT	81	6	87	3	90	116	119
STATE RD							
NB LEFT	19	1	20	0	20	20	20
NB THRU	1	0	1	0	1	2	2
NB RIGHT	5	0	5	0	5	6	6
SB LEFT	60	4	64	21	85	65	86
SB THRU	22	2	24	0	24	26	26
SB RIGHT	451	32	483	0	483	461	461
TOTALS	**2254**	**158**	**2412**	**46**	**2458**	**2338**	**2384**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : OLIVE DR
CONDITION : AM PEAK HOUR
N/S STREET : STATE RD
PHF : 0.95

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
110	0	4	4	0	0	1	0	1	1	0	0
99	5	5	3	0	1	1	0	0	1	0	0
127	14	26	2	0	0	2	0	0	0	0	1
85	3	17	0	0	1	1	0	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	0	1	0	0	0	0	0	0
0	0	1	0	0	2	0	0	0	0	0	0
1	0	3	0	0	1	0	0	0	0	0	0
4	0	9	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
22	130	1	0	6	1	0	6	0	0	6	0
9	134	0	2	6	0	0	3	0	0	9	0
20	125	0	1	6	0	0	5	0	0	6	0
18	126	0	0	5	0	2	5	0	1	7	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
3	214	5	0	4	0	0	1	0	0	3	1
2	206	16	0	4	0	0	2	0	0	3	0
0	164	26	0	12	0	0	6	0	0	2	0
6	133	46	0	3	0	0	12	0	0	4	1

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
OLIVE DR					
EB LEFT	2	93	**95**	**99**	**99**
EB THRU	56	717	**773**	**830**	**830**
EB RIGHT	0	11	**11**	**11**	**11**
WB LEFT	1	1	**2**	**3**	**3**
WB THRU	70	515	**585**	**672**	**672**
WB RIGHT	6	69	**75**	**81**	**81**
STATE RD					
NB LEFT	4	13	**17**	**19**	**19**
NB THRU	0	1	**1**	**1**	**1**
NB RIGHT	0	5	**5**	**5**	**5**
SB LEFT	4	52	**56**	**60**	**60**
SB THRU	0	22	**22**	**22**	**22**
SB RIGHT	16	421	**437**	**451**	**451**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	830	11	3	672	81	19	1	5	60	22	451
Future Volume (veh/h)	99	830	11	3	672	81	19	1	5	60	22	451
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	104	874	12	3	2688	85	13	11	5	63	23	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.25	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	106	3038	42	6	2808	1253	60	41	19	82	86	
Arrive On Green	0.06	0.83	0.83	0.00	0.78	0.78	0.03	0.03	0.03	0.05	0.05	0.00
Sat Flow, veh/h	1810	3646	50	1810	3610	1610	1810	1237	562	1810	1900	1610
Grp Volume(v), veh/h	104	433	453	3	2688	85	13	0	16	63	23	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1891	1810	1805	1610	1810	0	1799	1810	1900	1610
Q Serve(g_s), s	10.8	9.9	9.9	0.3	121.6	2.3	1.3	0.0	1.6	6.5	2.2	0.0
Cycle Q Clear(g_c), s	10.8	9.9	9.9	0.3	121.6	2.3	1.3	0.0	1.6	6.5	2.2	0.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	106	1504	1576	6	2808	1253	60	0	60	82	86	
V/C Ratio(X)	0.98	0.29	0.29	0.54	0.96	0.07	0.22	0.00	0.27	0.77	0.27	
Avail Cap(c_a), veh/h	106	1504	1576	58	2864	1277	366	0	364	154	162	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	88.3	3.4	3.4	93.5	18.1	4.9	88.4	0.0	88.6	88.7	86.7	0.0
Incr Delay (d2), s/veh	81.2	0.1	0.1	62.3	8.9	0.0	1.8	0.0	2.4	14.1	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	2.8	3.0	0.2	44.6	0.7	0.6	0.0	0.8	3.3	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	169.5	3.5	3.5	155.7	27.0	4.9	90.2	0.0	90.9	102.8	88.3	0.0
LnGrp LOS	F	A	A	F	C	A	F	A	F	F	F	
Approach Vol, veh/h		990			2776			29			86	
Approach Delay, s/veh		21.0			26.5			90.6			99.0	
Approach LOS		C			C			F			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.6	160.5		12.5	15.0	150.1		10.2
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	154.0		16.0	11.0	149.0		38.0
Max Q Clear Time (g_c+I1), s	12.3	11.9		8.5	12.8	123.6		3.6
Green Ext Time (p_c), s	0.0	5.6		0.1	0.0	22.5		0.1

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	888	12	3	719	87	20	1	5	64	24	483
Future Volume (veh/h)	106	888	12	3	719	87	20	1	5	64	24	483
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	112	935	13	3	2876	92	14	11	5	67	25	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.25	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	104	3035	42	6	2810	1253	60	41	19	86	90	
Arrive On Green	0.06	0.83	0.83	0.00	0.78	0.78	0.03	0.03	0.03	0.05	0.05	0.00
Sat Flow, veh/h	1810	3645	51	1810	3610	1610	1810	1237	562	1810	1900	1610
Grp Volume(v), veh/h	112	463	485	3	2876	92	14	0	16	67	25	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1891	1810	1805	1610	1810	0	1799	1810	1900	1610
Q Serve(g_s), s	11.0	11.0	11.0	0.3	149.0	2.6	1.4	0.0	1.7	7.0	2.4	0.0
Cycle Q Clear(g_c), s	11.0	11.0	11.0	0.3	149.0	2.6	1.4	0.0	1.7	7.0	2.4	0.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	104	1503	1575	6	2810	1253	60	0	60	86	90	
V/C Ratio(X)	1.08	0.31	0.31	0.54	1.02	0.07	0.23	0.00	0.27	0.78	0.28	
Avail Cap(c_a), veh/h	104	1503	1575	57	2810	1253	359	0	357	151	159	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	90.2	3.6	3.6	95.3	21.2	5.0	90.1	0.0	90.2	90.2	88.0	0.0
Incr Delay (d2), s/veh	110.6	0.1	0.1	62.5	23.3	0.0	1.9	0.0	2.3	14.3	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	3.2	3.4	0.2	59.9	0.8	0.7	0.0	0.8	3.6	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	200.8	3.7	3.7	157.8	44.5	5.0	92.1	0.0	92.6	104.5	89.7	0.0
LnGrp LOS	F	A	A	F	F	A	F	A	F	F	F	
Approach Vol, veh/h		1060			2971			30			92	
Approach Delay, s/veh		24.5			43.4			92.4			100.5	
Approach LOS		C			D			F			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.6	163.4		13.1	15.0	153.0		10.4
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	154.0		16.0	11.0	149.0		38.0
Max Q Clear Time (g_c+I1), s	2.3	13.0		9.0	13.0	151.0		3.7
Green Ext Time (p_c), s	0.0	6.2		0.1	0.0	0.0		0.1

Intersection Summary	
HCM 6th Ctrl Delay	40.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	902	12	3	727	90	20	1	5	85	24	483
Future Volume (veh/h)	106	902	12	3	727	90	20	1	5	85	24	483
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	112	949	13	3	2908	95	14	11	5	89	25	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.25	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	103	2997	41	6	2774	1237	60	41	19	107	113	
Arrive On Green	0.06	0.82	0.82	0.00	0.77	0.77	0.03	0.03	0.03	0.06	0.06	0.00
Sat Flow, veh/h	1810	3646	50	1810	3610	1610	1810	1237	562	1810	1900	1610
Grp Volume(v), veh/h	112	470	492	3	2908	95	14	0	16	89	25	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1891	1810	1805	1610	1810	0	1799	1810	1900	1610
Q Serve(g_s), s	11.0	12.1	12.1	0.3	149.0	2.8	1.5	0.0	1.7	9.4	2.4	0.0
Cycle Q Clear(g_c), s	11.0	12.1	12.1	0.3	149.0	2.8	1.5	0.0	1.7	9.4	2.4	0.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	103	1484	1554	6	2774	1237	60	0	59	107	113	
V/C Ratio(X)	1.09	0.32	0.32	0.54	1.05	0.08	0.23	0.00	0.27	0.83	0.22	
Avail Cap(c_a), veh/h	103	1484	1554	56	2774	1237	355	0	352	149	157	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	91.5	4.2	4.2	96.5	22.5	5.5	91.4	0.0	91.5	90.2	86.9	0.0
Incr Delay (d2), s/veh	115.5	0.1	0.1	62.6	31.5	0.0	2.0	0.0	2.4	22.9	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	3.7	3.9	0.2	64.3	0.9	0.7	0.0	0.8	5.1	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	207.0	4.3	4.3	159.2	54.0	5.6	93.3	0.0	93.9	113.1	87.9	0.0
LnGrp LOS	F	A	A	F	F	A	F	A	F	F	F	
Approach Vol, veh/h		1074			3006			30			114	
Approach Delay, s/veh		25.4			52.5			93.6			107.6	
Approach LOS		C			D			F			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	163.4		15.5	15.0	153.0		10.4
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	154.0		16.0	11.0	149.0		38.0
Max Q Clear Time (g_c+I1), s	12.3	14.1		11.4	13.0	151.0		3.7
Green Ext Time (p_c), s	0.0	6.3		0.1	0.0	0.0		0.1

Intersection Summary	
HCM 6th Ctrl Delay	47.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	826	12	4	663	116	20	2	6	65	26	461
Future Volume (veh/h)	137	826	12	4	663	116	20	2	6	65	26	461
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	144	869	13	4	698	122	14	11	6	68	27	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	189	1572	24	8	1196	534	105	67	36	230	242	
Arrive On Green	0.10	0.43	0.43	0.00	0.33	0.33	0.06	0.06	0.06	0.13	0.13	0.00
Sat Flow, veh/h	1810	3641	54	1810	3610	1610	1810	1156	631	1810	1900	1610
Grp Volume(v), veh/h	144	431	451	4	698	122	14	0	17	68	27	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1890	1810	1805	1610	1810	0	1787	1810	1900	1610
Q Serve(g_s), s	3.3	7.5	7.5	0.1	6.8	2.3	0.3	0.0	0.4	1.4	0.5	0.0
Cycle Q Clear(g_c), s	3.3	7.5	7.5	0.1	6.8	2.3	0.3	0.0	0.4	1.4	0.5	0.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	189	779	816	8	1196	534	105	0	103	230	242	
V/C Ratio(X)	0.76	0.55	0.55	0.51	0.58	0.23	0.13	0.00	0.16	0.30	0.11	
Avail Cap(c_a), veh/h	471	6583	6894	257	12738	5682	1628	0	1608	686	720	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.4	9.0	9.0	21.0	11.7	10.2	18.9	0.0	18.9	16.7	16.3	0.0
Incr Delay (d2), s/veh	6.2	0.6	0.6	43.0	0.5	0.2	0.6	0.0	0.7	0.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.7	1.8	0.1	1.8	0.6	0.1	0.0	0.1	0.5	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	9.6	9.5	64.0	12.2	10.4	19.5	0.0	19.7	17.4	16.5	0.0
LnGrp LOS	C	A	A	E	B	B	B	A	B	B	B	
Approach Vol, veh/h		1026			824			31			95	
Approach Delay, s/veh		11.7			12.2			19.6			17.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	22.2		9.4	8.4	18.0		6.4
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	154.0		16.0	11.0	149.0		38.0
Max Q Clear Time (g_c+I1), s	2.1	9.5		3.4	5.3	8.8		2.4
Green Ext Time (p_c), s	0.0	5.6		0.2	0.2	5.2		0.1

Intersection Summary	
HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	840	12	4	671	119	20	2	6	86	26	461
Future Volume (veh/h)	137	840	12	4	671	119	20	2	6	86	26	461
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	144	884	13	4	706	125	14	11	6	91	27	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	189	1569	23	8	1194	532	104	66	36	253	265	
Arrive On Green	0.10	0.43	0.43	0.00	0.33	0.33	0.06	0.06	0.06	0.14	0.14	0.00
Sat Flow, veh/h	1810	3642	54	1810	3610	1610	1810	1156	631	1810	1900	1610
Grp Volume(v), veh/h	144	438	459	4	706	125	14	0	17	91	27	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1890	1810	1805	1610	1810	0	1787	1810	1900	1610
Q Serve(g_s), s	3.4	7.9	7.9	0.1	7.1	2.5	0.3	0.0	0.4	2.0	0.5	0.0
Cycle Q Clear(g_c), s	3.4	7.9	7.9	0.1	7.1	2.5	0.3	0.0	0.4	2.0	0.5	0.0
Prop In Lane	1.00		0.03	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	189	778	815	8	1194	532	104	0	103	253	265	
V/C Ratio(X)	0.76	0.56	0.56	0.51	0.59	0.23	0.13	0.00	0.17	0.36	0.10	
Avail Cap(c_a), veh/h	457	6387	6689	249	12359	5512	1580	0	1560	665	698	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.0	9.3	9.3	21.6	12.1	10.6	19.5	0.0	19.5	17.0	16.3	0.0
Incr Delay (d2), s/veh	6.2	0.6	0.6	43.1	0.5	0.2	0.6	0.0	0.8	0.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.9	2.0	0.1	2.0	0.6	0.1	0.0	0.2	0.7	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	9.9	9.9	64.7	12.6	10.8	20.1	0.0	20.3	17.8	16.5	0.0
LnGrp LOS	C	A	A	E	B	B	C	A	C	B	B	
Approach Vol, veh/h		1041			835			31			118	
Approach Delay, s/veh		12.0			12.6			20.2			17.5	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	22.8		10.1	8.6	18.4		6.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	154.0		16.0	11.0	149.0		38.0
Max Q Clear Time (g_c+I1), s	2.1	9.9		4.0	5.4	9.1		2.4
Green Ext Time (p_c), s	0.0	5.7		0.2	0.1	5.3		0.1

Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : OLIVE DR
N/S STREET : STATE RD
CONDITION : PM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
OLIVE DR							
EB LEFT	145	10	155	0	155	169	169
EB THRU	992	69	1061	6	1067	983	989
EB RIGHT	22	2	24	0	24	21	21
WB LEFT	61	4	65	0	65	63	63
WB THRU	909	64	973	27	1000	920	947
WB RIGHT	111	8	119	10	129	144	154
STATE RD							
NB LEFT	150	11	161	0	161	144	144
NB THRU	32	2	34	0	34	40	40
NB RIGHT	4	0	4	0	4	5	5
SB LEFT	114	8	122	10	132	124	134
SB THRU	44	3	47	0	47	45	45
SB RIGHT	510	36	546	0	546	506	506
TOTALS	**3094**	**217**	**3311**	**53**	**3364**	**3164**	**3217**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : OLIVE DR
CONDITION : PM PEAK HOUR
N/S STREET : STATE RD
PHF : 0.88

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
112	9	29	1	0	0	1	0	0	5	0	1
101	9	27	1	1	0	0	0	0	5	0	1
120	12	22	2	1	0	0	0	0	2	0	1
113	11	21	2	0	0	1	0	0	5	0	2

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	61	0	0	0	0	0	0	0	0	0
1	8	29	0	0	0	0	0	0	0	0	0
2	14	44	0	0	0	0	0	0	0	0	0
1	2	16	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
12	140	52	1	2	0	0	4	0	0	6	0
24	237	5	0	1	0	0	1	0	0	4	0
20	263	4	0	4	0	0	1	0	0	3	0
26	186	0	0	2	0	0	3	0	0	4	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
8	249	21	0	2	0	0	0	0	0	2	0
5	170	29	0	2	0	0	0	0	0	0	1
6	259	33	0	2	0	0	1	0	0	3	0
3	274	21	0	2	0	0	1	1	0	3	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
OLIVE DR					
EB LEFT	2	104	**106**	**109**	**145**
EB THRU	18	952	**970**	**992**	**992**
EB RIGHT	0	22	**22**	**22**	**22**
WB LEFT	0	61	**61**	**61**	**61**
WB THRU	35	826	**861**	**909**	**909**
WB RIGHT	1	82	**83**	**84**	**111**
STATE RD					
NB LEFT	0	150	**150**	**150**	**150**
NB THRU	0	24	**24**	**24**	**32**
NB RIGHT	0	4	**4**	**4**	**4**
SB LEFT	5	99	**104**	**114**	**114**
SB THRU	2	41	**43**	**44**	**44**
SB RIGHT	25	446	**471**	**510**	**510**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	992	22	61	909	111	150	32	4	114	44	510
Future Volume (veh/h)	145	992	22	61	909	111	150	32	4	114	44	510
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	165	1127	25	69	1033	126	106	126	5	130	50	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	210	1642	36	88	1400	624	224	225	9	218	229	
Arrive On Green	0.12	0.45	0.45	0.05	0.39	0.39	0.12	0.12	0.12	0.12	0.12	0.00
Sat Flow, veh/h	1810	3611	80	1810	3610	1610	1810	1815	72	1810	1900	1610
Grp Volume(v), veh/h	165	563	589	69	1033	126	106	0	131	130	50	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1886	1810	1805	1610	1810	0	1887	1810	1900	1610
Q Serve(g_s), s	5.6	15.7	15.7	2.4	15.6	3.3	3.5	0.0	4.2	4.3	1.5	0.0
Cycle Q Clear(g_c), s	5.6	15.7	15.7	2.4	15.6	3.3	3.5	0.0	4.2	4.3	1.5	0.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	210	821	857	88	1400	624	224	0	234	218	229	
V/C Ratio(X)	0.79	0.69	0.69	0.78	0.74	0.20	0.47	0.00	0.56	0.60	0.22	
Avail Cap(c_a), veh/h	342	1250	1305	171	2159	963	1082	0	1128	456	478	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.3	13.7	13.7	29.9	16.7	12.9	25.9	0.0	26.2	26.5	25.2	0.0
Incr Delay (d2), s/veh	6.4	1.0	1.0	13.7	0.8	0.2	1.5	0.0	2.1	2.6	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	5.0	5.2	1.3	5.2	1.0	1.4	0.0	1.8	1.8	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	14.8	14.7	43.6	17.5	13.1	27.4	0.0	28.3	29.1	25.7	0.0
LnGrp LOS	C	B	B	D	B	B	C	A	C	C	C	
Approach Vol, veh/h		1317			1228			237			180	
Approach Delay, s/veh		17.1			18.5			27.9			28.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.1	32.9		11.7	11.4	28.6		11.9
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	44.0		16.0	12.0	38.0		38.0
Max Q Clear Time (g_c+I1), s	4.4	17.7		6.3	7.6	17.6		6.2
Green Ext Time (p_c), s	0.0	7.4		0.4	0.1	7.0		0.9

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	1061	24	65	973	119	161	34	4	122	47	546
Future Volume (veh/h)	155	1061	24	65	973	119	161	34	4	122	47	546
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	176	1206	27	74	1106	135	114	136	5	139	53	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	221	1705	38	95	1455	649	215	216	8	211	221	
Arrive On Green	0.12	0.47	0.47	0.05	0.40	0.40	0.12	0.12	0.12	0.12	0.12	0.00
Sat Flow, veh/h	1810	3610	81	1810	3610	1610	1810	1821	67	1810	1900	1610
Grp Volume(v), veh/h	176	603	630	74	1106	135	114	0	141	139	53	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1885	1810	1805	1610	1810	0	1888	1810	1900	1610
Q Serve(g_s), s	6.3	17.7	17.7	2.7	17.6	3.6	4.0	0.0	4.7	4.9	1.7	0.0
Cycle Q Clear(g_c), s	6.3	17.7	17.7	2.7	17.6	3.6	4.0	0.0	4.7	4.9	1.7	0.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	221	853	891	95	1455	649	215	0	224	211	221	
V/C Ratio(X)	0.80	0.71	0.71	0.78	0.76	0.21	0.53	0.00	0.63	0.66	0.24	
Avail Cap(c_a), veh/h	325	1190	1243	163	2055	917	1030	0	1075	434	455	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.5	14.0	14.0	31.2	17.1	13.0	27.7	0.0	28.0	28.2	26.8	0.0
Incr Delay (d2), s/veh	8.3	1.1	1.1	12.6	1.1	0.2	2.0	0.0	2.9	3.5	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	5.7	5.9	1.4	6.0	1.1	1.7	0.0	2.1	2.1	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	15.1	15.1	43.8	18.2	13.1	29.7	0.0	30.9	31.7	27.4	0.0
LnGrp LOS	D	B	B	D	B	B	C	A	C	C	C	
Approach Vol, veh/h		1409			1315			255			192	
Approach Delay, s/veh		17.8			19.1			30.4			30.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	35.5		11.8	12.1	30.9		11.9
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	44.0		16.0	12.0	38.0		38.0
Max Q Clear Time (g_c+I1), s	4.7	19.7		6.9	8.3	19.6		6.7
Green Ext Time (p_c), s	0.0	8.0		0.4	0.1	7.3		1.0

Intersection Summary	
HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	1067	24	65	1000	129	161	34	4	132	47	546
Future Volume (veh/h)	155	1067	24	65	1000	129	161	34	4	132	47	546
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	176	1212	27	74	1136	147	114	136	5	150	53	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	220	1729	38	95	1480	660	212	213	8	209	219	
Arrive On Green	0.12	0.48	0.48	0.05	0.41	0.41	0.12	0.12	0.12	0.12	0.12	0.00
Sat Flow, veh/h	1810	3610	80	1810	3610	1610	1810	1821	67	1810	1900	1610
Grp Volume(v), veh/h	176	606	633	74	1136	147	114	0	141	150	53	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1886	1810	1805	1610	1810	0	1888	1810	1900	1610
Q Serve(g_s), s	6.4	17.8	17.9	2.7	18.4	4.0	4.0	0.0	4.8	5.4	1.7	0.0
Cycle Q Clear(g_c), s	6.4	17.8	17.9	2.7	18.4	4.0	4.0	0.0	4.8	5.4	1.7	0.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	220	864	903	95	1480	660	212	0	221	209	219	
V/C Ratio(X)	0.80	0.70	0.70	0.78	0.77	0.22	0.54	0.00	0.64	0.72	0.24	
Avail Cap(c_a), veh/h	320	1171	1224	160	2023	903	1014	0	1058	427	448	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.0	13.9	13.9	31.7	17.2	13.0	28.2	0.0	28.6	28.9	27.3	0.0
Incr Delay (d2), s/veh	8.7	1.2	1.1	12.6	1.2	0.2	2.1	0.0	3.0	4.6	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.8	6.1	1.4	6.3	1.2	1.7	0.0	2.2	2.4	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	15.0	15.0	44.3	18.5	13.2	30.3	0.0	31.6	33.5	27.8	0.0
LnGrp LOS	D	B	B	D	B	B	C	A	C	C	C	
Approach Vol, veh/h		1415			1357			255			203	
Approach Delay, s/veh		17.8			19.3			31.0			32.0	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.6	36.5		11.8	12.2	31.8		11.9
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	44.0		16.0	12.0	38.0		38.0
Max Q Clear Time (g_c+I1), s	4.7	19.9		7.4	8.4	20.4		6.8
Green Ext Time (p_c), s	0.0	8.0		0.4	0.1	7.4		1.0

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	983	21	63	920	144	144	40	5	124	45	506
Future Volume (veh/h)	169	983	21	63	920	144	144	40	5	124	45	506
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	178	1035	22	66	968	152	100	115	5	131	47	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	225	1622	34	84	1340	598	227	227	10	222	233	
Arrive On Green	0.12	0.45	0.45	0.05	0.37	0.37	0.13	0.13	0.13	0.12	0.12	0.00
Sat Flow, veh/h	1810	3614	77	1810	3610	1610	1810	1807	79	1810	1900	1610
Grp Volume(v), veh/h	178	517	540	66	968	152	100	0	120	131	47	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1886	1810	1805	1610	1810	0	1886	1810	1900	1610
Q Serve(g_s), s	6.0	13.8	13.8	2.3	14.4	4.1	3.2	0.0	3.7	4.3	1.4	0.0
Cycle Q Clear(g_c), s	6.0	13.8	13.8	2.3	14.4	4.1	3.2	0.0	3.7	4.3	1.4	0.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	225	810	847	84	1340	598	227	0	237	222	233	
V/C Ratio(X)	0.79	0.64	0.64	0.78	0.72	0.25	0.44	0.00	0.51	0.59	0.20	
Avail Cap(c_a), veh/h	348	1274	1331	174	2200	981	1103	0	1149	464	488	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.5	13.3	13.3	29.4	16.8	13.6	25.2	0.0	25.5	25.9	24.6	0.0
Incr Delay (d2), s/veh	6.7	0.8	0.8	14.5	0.8	0.2	1.3	0.0	1.7	2.5	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.4	4.5	1.2	4.8	1.2	1.3	0.0	1.6	1.8	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	14.1	14.1	43.9	17.6	13.8	26.6	0.0	27.1	28.4	25.0	0.0
LnGrp LOS	C	B	B	D	B	B	C	A	C	C	C	
Approach Vol, veh/h		1235			1186			220			178	
Approach Delay, s/veh		16.8			18.6			26.9			27.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.9	32.0		11.6	11.7	27.1		11.8
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	44.0		16.0	12.0	38.0		38.0
Max Q Clear Time (g_c+I1), s	4.3	15.8		6.3	8.0	16.4		5.7
Green Ext Time (p_c), s	0.0	6.7		0.3	0.2	6.8		0.9

Intersection Summary	
HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	989	21	63	947	154	144	40	5	134	45	506
Future Volume (veh/h)	169	989	21	63	947	154	144	40	5	134	45	506
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	178	1041	22	66	997	162	100	115	5	141	47	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	224	1648	35	84	1367	610	224	223	10	220	231	
Arrive On Green	0.12	0.46	0.46	0.05	0.38	0.38	0.12	0.12	0.12	0.12	0.12	0.00
Sat Flow, veh/h	1810	3615	76	1810	3610	1610	1810	1807	79	1810	1900	1610
Grp Volume(v), veh/h	178	520	543	66	997	162	100	0	120	141	47	0
Grp Sat Flow(s),veh/h/ln	1810	1805	1886	1810	1805	1610	1810	0	1886	1810	1900	1610
Q Serve(g_s), s	6.1	14.0	14.0	2.3	15.0	4.4	3.3	0.0	3.8	4.7	1.4	0.0
Cycle Q Clear(g_c), s	6.1	14.0	14.0	2.3	15.0	4.4	3.3	0.0	3.8	4.7	1.4	0.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	224	823	860	84	1367	610	224	0	233	220	231	
V/C Ratio(X)	0.79	0.63	0.63	0.78	0.73	0.27	0.45	0.00	0.52	0.64	0.20	
Avail Cap(c_a), veh/h	342	1253	1309	171	2164	965	1084	0	1130	457	479	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.0	13.2	13.2	29.9	16.9	13.6	25.8	0.0	26.0	26.5	25.1	0.0
Incr Delay (d2), s/veh	7.1	0.8	0.8	14.4	0.8	0.2	1.4	0.0	1.8	3.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.4	4.6	1.2	5.1	1.3	1.3	0.0	1.6	2.0	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	14.0	14.0	44.3	17.7	13.8	27.2	0.0	27.8	29.6	25.5	0.0
LnGrp LOS	C	B	B	D	B	B	C	A	C	C	C	
Approach Vol, veh/h		1241			1225			220			188	
Approach Delay, s/veh		16.9			18.6			27.5			28.6	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.0	32.9		11.7	11.9	28.0		11.8
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	44.0		16.0	12.0	38.0		38.0
Max Q Clear Time (g_c+I1), s	4.3	16.0		6.7	8.1	17.0		5.8
Green Ext Time (p_c), s	0.0	6.7		0.4	0.2	7.0		0.9

Intersection Summary		
HCM 6th Ctrl Delay	19.2	
HCM 6th LOS	B	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 7
North/South Street: STATE RD
East/West Street: OLIVE DR

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	19	Approach	25	Left	20	20
NB	Through	1	Departure	41	Through	2	2
	Right	5			Right	6	6
North leg	Left	60	Approach	533	Left	65	65
SB	Through	22	Departure	253	Through	26	26
	Right	451			Right	461	461
West leg	Left	99	Approach	940	Left	137	137
EB	Through	830	Departure	1,142	Through	826	826
	Right	11			Right	12	12
East leg	Left	3	Approach	756	Left	4	4
WB	Through	672	Departure	895	Through	663	663
	Right	81			Right	116	116

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	150	Approach	186	Left	144	144
NB	Through	32	Departure	127	Through	40	40
	Right	4			Right	5	5
North leg	Left	114	Approach	668	Left	124	124
SB	Through	44	Departure	351	Through	45	45
	Right	510			Right	506	506
West leg	Left	145	Approach	1,159	Left	169	169
EB	Through	992	Departure	1,569	Through	983	983
	Right	22			Right	21	21
East leg	Left	61	Approach	1,117	Left	63	63
WB	Through	909	Departure	1,110	Through	920	920
	Right	111			Right	144	144

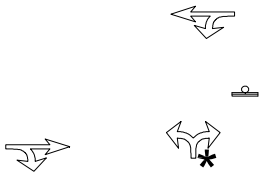
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : STATE RD
N/S STREET : SR-99 NB RAMPS
CONDITION : AM PEAK HOUR

INTERSECTION : 8
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
STATE RD							
EB LEFT	0	0	0	0	0	0	0
EB THRU	56	4	60	0	60	57	57
EB RIGHT	21	1	22	0	22	23	23
WB LEFT	156	11	167	3	170	227	230
WB THRU	25	2	27	0	27	28	28
WB RIGHT	0	0	0	0	0	0	0
SR-99 NB RAMPS							
NB LEFT	18	1	19	0	19	16	16
NB THRU	0	0	0	0	0	0	0
NB RIGHT	477	33	510	21	531	495	516
SB LEFT	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0
TOTALS	**753**	**52**	**805**	**24**	**829**	**846**	**870**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : STATE RD
N/S STREET : SR-99 NB RAMPS
CONDITION : AM PEAK HOUR
PHF : 0.84

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
104	0	5	4	0	1	2	0	0	1	0	0
89	0	6	2	0	0	1	0	0	1	0	0
145	0	4	1	0	0	2	0	0	1	0	0
104	0	0	2	0	1	1	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	10	20	0	0	0	0	0	0	0	0	1
0	6	19	0	0	2	0	0	0	0	0	0
0	3	42	0	0	1	0	0	0	0	0	0
0	6	58	0	0	0	0	0	2	0	0	1

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
7	9	0	0	0	0	0	0	0	0	0	0
7	23	0	0	0	0	0	0	0	0	0	0
3	14	0	0	0	0	0	0	0	0	0	0
4	10	0	0	0	0	0	0	0	0	0	0

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STATE RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	56	**56**	**56**	**56**
EB RIGHT	0	21	**21**	**21**	**21**
WB LEFT	7	139	**146**	**154**	**156**
WB THRU	0	25	**25**	**25**	**25**
WB RIGHT	0	0	**0**	**0**	**0**
SR-99 NB RAMPS					
NB LEFT	2	15	**17**	**18**	**18**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	18	442	**460**	**477**	**477**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	56	21	156	25	18	477
Future Vol, veh/h	56	21	156	25	18	477
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	67	25	186	30	21	568

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	67	0	469	-
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	402	-
Critical Hdwy	-	-	4.1	-	6.4	-
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	-
Pot Cap-1 Maneuver	-	0	1547	-	556	0
Stage 1	-	0	-	-	961	0
Stage 2	-	0	-	-	680	0
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1547	-	488	-
Mov Cap-2 Maneuver	-	-	-	-	488	-
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	597	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.6	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	488	-	1547	-
HCM Lane V/C Ratio	0.044	-	0.12	-
HCM Control Delay (s)	12.7	-	7.6	0
HCM Lane LOS	B	-	A	A
HCM 95th %tile Q(veh)	0.1	-	0.4	-

Intersection	
Int Delay, s/veh	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	60	22	167	27	19	510
Future Vol, veh/h	60	22	167	27	19	510
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	71	26	199	32	23	607

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	71	0	501	-
Stage 1	-	-	-	-	71	-
Stage 2	-	-	-	-	430	-
Critical Hdwy	-	-	4.1	-	6.4	-
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	-
Pot Cap-1 Maneuver	-	0	1542	-	533	0
Stage 1	-	0	-	-	957	0
Stage 2	-	0	-	-	660	0
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1542	-	463	-
Mov Cap-2 Maneuver	-	-	-	-	463	-
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	574	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.6	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	463	-	1542	-
HCM Lane V/C Ratio	0.049	-	0.129	-
HCM Control Delay (s)	13.2	-	7.7	0
HCM Lane LOS	B	-	A	A
HCM 95th %tile Q(veh)	0.2	-	0.4	-

Intersection	
Int Delay, s/veh	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	60	22	170	27	19	531
Future Vol, veh/h	60	22	170	27	19	531
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	71	26	202	32	23	632

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	71	0	507	-
Stage 1	-	-	-	-	71	-
Stage 2	-	-	-	-	436	-
Critical Hdwy	-	-	4.1	-	6.4	-
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	-
Pot Cap-1 Maneuver	-	0	1542	-	529	0
Stage 1	-	0	-	-	957	0
Stage 2	-	0	-	-	656	0
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1542	-	459	-
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	569	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.6	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	459	-	1542	-
HCM Lane V/C Ratio	0.049	-	0.131	-
HCM Control Delay (s)	13.2	-	7.7	0
HCM Lane LOS	B	-	A	A
HCM 95th %tile Q(veh)	0.2	-	0.5	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	23	227	28	16	495
Future Vol, veh/h	57	23	227	28	16	495
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	60	24	239	29	17	521

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	60	0	567	-
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	507	-
Critical Hdwy	-	-	4.1	-	6.4	-
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	-
Pot Cap-1 Maneuver	-	0	1556	-	488	0
Stage 1	-	0	-	-	968	0
Stage 2	-	0	-	-	609	0
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1556	-	412	-
Mov Cap-2 Maneuver	-	-	-	-	412	-
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	514	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.9	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	412	-	1556	-
HCM Lane V/C Ratio	0.041	-	0.154	-
HCM Control Delay (s)	14.1	-	7.7	0
HCM Lane LOS	B	-	A	A
HCM 95th %tile Q(veh)	0.1	-	0.5	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	23	230	28	16	516
Future Vol, veh/h	57	23	230	28	16	516
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	60	24	242	29	17	543

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	60	0	573	-
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	513	-
Critical Hdwy	-	-	4.1	-	6.4	-
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	-
Pot Cap-1 Maneuver	-	0	1556	-	484	0
Stage 1	-	0	-	-	968	0
Stage 2	-	0	-	-	605	0
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1556	-	408	-
Mov Cap-2 Maneuver	-	-	-	-	408	-
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	509	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.9	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	408	-	1556	-
HCM Lane V/C Ratio	0.041	-	0.156	-
HCM Control Delay (s)	14.2	-	7.7	0
HCM Lane LOS	B	-	A	A
HCM 95th %tile Q(veh)	0.1	-	0.6	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : STATE RD
N/S STREET : SR-99 NB RAMPS
CONDITION : PM PEAK HOUR

INTERSECTION : 8
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
STATE RD							
EB LEFT	0	0	0	0	0	0	0
EB THRU	22	2	24	0	24	22	22
EB RIGHT	11	1	12	0	12	12	12
WB LEFT	255	18	273	10	283	318	328
WB THRU	33	2	35	0	35	35	35
WB RIGHT	0	0	0	0	0	0	0
SR-99 NB RAMPS							
NB LEFT	9	1	10	0	10	8	8
NB THRU	0	0	0	0	0	0	0
NB RIGHT	646	45	691	10	701	653	663
SB LEFT	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0
TOTALS	**976**	**69**	**1045**	**20**	**1065**	**1048**	**1068**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : STATE RD
CONDITION : PM PEAK HOUR
N/S STREET : SR-99 NB RAMPS
PHF : 0.79

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
154	0	2	1	0	0	1	0	0	3	0	0
129	0	1	5	0	0	0	0	0	1	0	0
145	0	3	1	0	0	1	0	0	6	0	0
131	0	3	1	0	0	0	0	0	6	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	4	114	0	0	0	0	0	0	0	0	2
0	8	54	0	0	0	0	0	0	0	0	1
0	6	28	0	0	1	0	0	0	0	0	0
0	15	48	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	5	0	0	0	0	0	0	0	0	0	0
2	5	0	0	0	0	0	0	0	0	0	0
2	3	0	0	0	0	0	0	0	0	0	0
5	8	0	0	0	0	0	0	0	0	0	0

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
STATE RD					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	0	21	**21**	**21**	**22**
EB RIGHT	0	11	**11**	**11**	**11**
WB LEFT	4	244	**248**	**255**	**255**
WB THRU	0	33	**33**	**33**	**33**
WB RIGHT	0	0	**0**	**0**	**0**
SR-99 NB RAMPS					
NB LEFT	0	9	**9**	**9**	**9**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	26	559	**585**	**623**	**646**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	6.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	11	255	33	9	646
Future Vol, veh/h	22	11	255	33	9	646
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	28	14	323	42	11	818

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	28	0	716	-
Stage 1	-	-	-	-	28	-
Stage 2	-	-	-	-	688	-
Critical Hdwy	-	-	4.1	-	6.4	-
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	-
Pot Cap-1 Maneuver	-	0	1599	-	400	0
Stage 1	-	0	-	-	1000	0
Stage 2	-	0	-	-	503	0
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1599	-	317	-
Mov Cap-2 Maneuver	-	-	-	-	317	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	399	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.9	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	317	-	1599	-
HCM Lane V/C Ratio	0.036	-	0.202	-
HCM Control Delay (s)	16.8	-	7.8	0
HCM Lane LOS	C	-	A	A
HCM 95th %tile Q(veh)	0.1	-	0.8	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	12	273	35	10	691
Future Vol, veh/h	24	12	273	35	10	691
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	30	15	346	44	13	875

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	30	0	766	-
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	736	-
Critical Hdwy	-	-	4.1	-	6.4	-
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	-
Pot Cap-1 Maneuver	-	0	1596	-	374	0
Stage 1	-	0	-	-	998	0
Stage 2	-	0	-	-	477	0
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1596	-	291	-
Mov Cap-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	371	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7	17.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	291	-	1596	-
HCM Lane V/C Ratio	0.043	-	0.217	-
HCM Control Delay (s)	17.9	-	7.9	0
HCM Lane LOS	C	-	A	A
HCM 95th %tile Q(veh)	0.1	-	0.8	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	12	283	35	10	701
Future Vol, veh/h	24	12	283	35	10	701
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	30	15	358	44	13	887

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	30	0	790	-
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	760	-
Critical Hdwy	-	-	4.1	-	6.4	-
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	-
Pot Cap-1 Maneuver	-	0	1596	-	362	0
Stage 1	-	0	-	-	998	0
Stage 2	-	0	-	-	465	0
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1596	-	279	-
Mov Cap-2 Maneuver	-	-	-	-	279	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	358	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	279	-	1596	-
HCM Lane V/C Ratio	0.045	-	0.224	-
HCM Control Delay (s)	18.5	-	7.9	0
HCM Lane LOS	C	-	A	A
HCM 95th %tile Q(veh)	0.1	-	0.9	-

Intersection	
Int Delay, s/veh	6.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	12	318	35	8	653
Future Vol, veh/h	22	12	318	35	8	653
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	13	335	37	8	687

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	23	0	730	-
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	707	-
Critical Hdwy	-	-	4.1	-	6.4	-
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	-
Pot Cap-1 Maneuver	-	0	1605	-	392	0
Stage 1	-	0	-	-	1005	0
Stage 2	-	0	-	-	493	0
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1605	-	309	-
Mov Cap-2 Maneuver	-	-	-	-	309	-
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	388	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.1	17
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	309	-	1605	-
HCM Lane V/C Ratio	0.027	-	0.209	-
HCM Control Delay (s)	17	-	7.8	0
HCM Lane LOS	C	-	A	A
HCM 95th %tile Q(veh)	0.1	-	0.8	-

Intersection	
Int Delay, s/veh	6.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	22	12	328	35	8	663
Future Vol, veh/h	22	12	328	35	8	663
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	13	345	37	8	698

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	23	0	750	-
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	727	-
Critical Hdwy	-	-	4.1	-	6.4	-
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	-
Pot Cap-1 Maneuver	-	0	1605	-	382	0
Stage 1	-	0	-	-	1005	0
Stage 2	-	0	-	-	482	0
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1605	-	298	-
Mov Cap-2 Maneuver	-	-	-	-	298	-
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	376	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.1	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	298	-	1605	-
HCM Lane V/C Ratio	0.028	-	0.215	-
HCM Control Delay (s)	17.4	-	7.9	0
HCM Lane LOS	C	-	A	A
HCM 95th %tile Q(veh)	0.1	-	0.8	-

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 8
North/South Street: SR-99 NB RAMPS
East/West Street: STATE RD

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	18	Approach	495	Left	16	16
NB	Through	0	Departure	249	Through	0	0
	Right	477			Right	479	495
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
West leg	Left	0	Approach	77	Left	0	0
EB	Through	56	Departure	43	Through	55	57
	Right	21			Right	23	23
East leg	Left	156	Approach	253	Left	227	227
WB	Through	25	Departure	533	Through	28	28
	Right	0			Right	0	0

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	9	Approach	655	Left	8	8
NB	Through	0	Departure	329	Through	0	0
	Right	646			Right	647	653
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
West leg	Left	0	Approach	33	Left	0	0
EB	Through	22	Departure	42	Through	22	22
	Right	11			Right	12	12
East leg	Left	255	Approach	351	Left	318	318
WB	Through	33	Departure	668	Through	35	35
	Right	0			Right	0	0

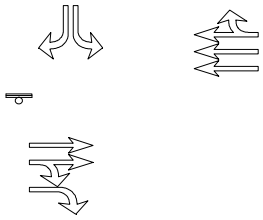
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : OLIVE DR
N/S STREET : SR-99 SB RAMPS
CONDITION : AM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
OLIVE DR							
EB LEFT	0	0	0	0	0	0	0
EB THRU	895	63	958	5	963	895	900
EB RIGHT	157	11	168	0	168	157	157
WB LEFT	0	0	0	0	0	0	0
WB THRU	934	65	999	2	1001	934	936
WB RIGHT	195	14	209	6	215	195	201
SR-99 SB RAMPS							
NB LEFT	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0
SB LEFT	23	2	25	9	34	23	32
SB THRU	0	0	0	0	0	0	0
SB RIGHT	79	6	85	0	85	79	79
TOTALS	**2283**	**161**	**2444**	**22**	**2466**	**2283**	**2305**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : OLIVE DR
CONDITION : AM PEAK HOUR
N/S STREET : SR-99 SB RAMPS
PHF : 0.92

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	0	5	0	0	1	0	0	0	2	0	0
5	0	3	0	0	1	0	0	0	0	0	0
43	0	5	3	0	1	0	0	0	0	0	0
10	0	5	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
17	219	0	8	5	0	1	5	0	4	3	0
16	216	0	4	7	0	2	2	0	6	4	0
49	204	0	4	5	0	3	4	0	2	4	0
11	198	0	2	3	0	3	3	0	7	2	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
36	207	0	1	3	0	3	1	0	2	4	0
23	215	0	1	3	0	2	2	0	2	2	0
26	178	0	7	11	0	2	6	0	2	5	0
17	173	0	3	3	0	1	13	0	1	5	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
OLIVE DR					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	58	773	**831**	**895**	**895**
EB RIGHT	27	102	**129**	**157**	**157**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	47	837	**884**	**934**	**934**
WB RIGHT	46	93	**139**	**195**	**195**
SR-99 SB RAMPS					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	3	18	**21**	**23**	**23**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	5	68	**73**	**79**	**79**

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↳	↱		↑↑↑↳					↰		↱
Traffic Vol, veh/h	0	895	157	0	934	195	0	0	0	23	0	79
Future Vol, veh/h	0	895	157	0	934	195	0	0	0	23	0	79
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	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	973	171	0	1015	212	0	0	0	25	0	86

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	-	-	-	0		1502	-	508
Stage 1	-	-	-	-	-	-		1015	-	-
Stage 2	-	-	-	-	-	-		487	-	-
Critical Hdwy	-	-	-	-	-	-		6.25	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-		6.6	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.8	-	-
Follow-up Hdwy	-	-	-	-	-	-		3.65	-	3.9
Pot Cap-1 Maneuver	0	-	0	0	-	0		142	0	441
Stage 1	0	-	0	0	-	0		246	0	-
Stage 2	0	-	0	0	-	0		570	0	-
Platoon blocked, %		-			-					
Mov Cap-1 Maneuver	-	-	-	-	-	-		142	0	441
Mov Cap-2 Maneuver	-	-	-	-	-	-		206	0	-
Stage 1	-	-	-	-	-	-		246	0	-
Stage 2	-	-	-	-	-	-		570	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	206	441
HCM Lane V/C Ratio	-	-	0.121	0.195
HCM Control Delay (s)	-	-	24.9	15.1
HCM Lane LOS	-	-	C	C
HCM 95th %tile Q(veh)	-	-	0.4	0.7

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	958	168	0	999	209	0	0	0	25	0	85
Future Vol, veh/h	0	958	168	0	999	209	0	0	0	25	0	85
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	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	1041	183	0	1086	227	0	0	0	27	0	92

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	-	-	0	1607	-	543
Stage 1	-	-	-	-	-	-	1086	-	-
Stage 2	-	-	-	-	-	-	521	-	-
Critical Hdwy	-	-	-	-	-	-	6.25	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-	-
Follow-up Hdwy	-	-	-	-	-	-	3.65	-	3.9
Pot Cap-1 Maneuver	0	-	0	0	-	0	123	0	418
Stage 1	0	-	0	0	-	0	222	0	-
Stage 2	0	-	0	0	-	0	548	0	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	-	-	-	123	0	418
Mov Cap-2 Maneuver	-	-	-	-	-	-	186	0	-
Stage 1	-	-	-	-	-	-	222	0	-
Stage 2	-	-	-	-	-	-	548	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	186	418
HCM Lane V/C Ratio	-	-	0.146	0.221
HCM Control Delay (s)	-	-	27.6	16
HCM Lane LOS	-	-	D	C
HCM 95th %tile Q(veh)	-	-	0.5	0.8

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↳	↱		↑↑↑↳					↰		↱
Traffic Vol, veh/h	0	963	168	0	1001	215	0	0	0	34	0	85
Future Vol, veh/h	0	963	168	0	1001	215	0	0	0	34	0	85
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	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	1047	183	0	1088	234	0	0	0	37	0	92

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	-	-	-	0		1612	-	544
Stage 1	-	-	-	-	-	-		1088	-	-
Stage 2	-	-	-	-	-	-		524	-	-
Critical Hdwy	-	-	-	-	-	-		6.25	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-		6.6	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.8	-	-
Follow-up Hdwy	-	-	-	-	-	-		3.65	-	3.9
Pot Cap-1 Maneuver	0	-	0	0	-	0		122	0	418
Stage 1	0	-	0	0	-	0		222	0	-
Stage 2	0	-	0	0	-	0		547	0	-
Platoon blocked, %		-			-					
Mov Cap-1 Maneuver	-	-	-	-	-	-		122	0	418
Mov Cap-2 Maneuver	-	-	-	-	-	-		185	0	-
Stage 1	-	-	-	-	-	-		222	0	-
Stage 2	-	-	-	-	-	-		547	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	19.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	185	418
HCM Lane V/C Ratio	-	-	0.2	0.221
HCM Control Delay (s)	-	-	29.3	16
HCM Lane LOS	-	-	D	C
HCM 95th %tile Q(veh)	-	-	0.7	0.8

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	895	157	0	934	195	0	0	0	23	0	79
Future Vol, veh/h	0	895	157	0	934	195	0	0	0	23	0	79
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	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	942	165	0	983	205	0	0	0	24	0	83

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	-	-	-	0		1454	-	492
Stage 1	-	-	-	-	-	-		983	-	-
Stage 2	-	-	-	-	-	-		471	-	-
Critical Hdwy	-	-	-	-	-	-		6.25	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-		6.6	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.8	-	-
Follow-up Hdwy	-	-	-	-	-	-		3.65	-	3.9
Pot Cap-1 Maneuver	0	-	0	0	-	0		151	0	451
Stage 1	0	-	0	0	-	0		257	0	-
Stage 2	0	-	0	0	-	0		581	0	-
Platoon blocked, %		-			-					
Mov Cap-1 Maneuver	-	-	-	-	-	-		151	0	451
Mov Cap-2 Maneuver	-	-	-	-	-	-		215	0	-
Stage 1	-	-	-	-	-	-		257	0	-
Stage 2	-	-	-	-	-	-		581	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	215	451
HCM Lane V/C Ratio	-	-	0.113	0.184
HCM Control Delay (s)	-	-	23.9	14.8
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.4	0.7

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↳	↱		↑↑↑↳					↰		↱
Traffic Vol, veh/h	0	900	157	0	936	201	0	0	0	32	0	79
Future Vol, veh/h	0	900	157	0	936	201	0	0	0	32	0	79
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	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	947	165	0	985	212	0	0	0	34	0	83

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	-	-	-	0		1459	-	493
Stage 1	-	-	-	-	-	-		985	-	-
Stage 2	-	-	-	-	-	-		474	-	-
Critical Hdwy	-	-	-	-	-	-		6.25	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-		6.6	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.8	-	-
Follow-up Hdwy	-	-	-	-	-	-		3.65	-	3.9
Pot Cap-1 Maneuver	0	-	0	0	-	0		150	0	451
Stage 1	0	-	0	0	-	0		256	0	-
Stage 2	0	-	0	0	-	0		579	0	-
Platoon blocked, %		-			-					
Mov Cap-1 Maneuver	-	-	-	-	-	-		150	0	451
Mov Cap-2 Maneuver	-	-	-	-	-	-		215	0	-
Stage 1	-	-	-	-	-	-		256	0	-
Stage 2	-	-	-	-	-	-		579	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	215	451
HCM Lane V/C Ratio	-	-	0.157	0.184
HCM Control Delay (s)	-	-	24.8	14.8
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.5	0.7

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : OLIVE DR
N/S STREET : SR-99 SB RAMPS
CONDITION : PM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
OLIVE DR							
EB LEFT	0	0	0	0	0	0	0
EB THRU	1189	83	1272	2	1274	1,195	1197
EB RIGHT	147	10	157	0	157	147	147
WB LEFT	0	0	0	0	0	0	0
WB THRU	1361	95	1456	5	1461	1,340	1345
WB RIGHT	206	14	220	22	242	350	372
SR-99 SB RAMPS							
NB LEFT	0	0	0	0	0	0	0
NB THRU	0	0	0	0	0	0	0
NB RIGHT	0	0	0	0	0	0	0
SB LEFT	19	1	20	4	24	14	18
SB THRU	0	0	0	0	0	0	0
SB RIGHT	204	14	218	0	218	226	226
TOTALS	**3126**	**217**	**3343**	**33**	**3376**	**3272**	**3305**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : OLIVE DR
N/S STREET : SR-99 SB RAMPS
CONDITION : PM PEAK HOUR
PHF : 0.93

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
30	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	1	0	0
47	0	9	2	0	0	0	0	0	0	0	0
89	0	8	2	0	0	1	0	1	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
17	294	0	2	1	0	2	3	0	6	5	0
48	313	0	2	0	0	0	1	0	2	7	0
45	383	0	3	3	0	0	1	0	3	2	0
31	289	0	2	2	0	1	3	0	4	5	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
42	286	0	0	2	0	0	0	0	0	0	0
39	299	0	0	2	0	0	0	0	1	2	0
28	279	0	0	2	0	0	1	0	0	0	0
35	293	0	0	1	0	0	2	0	0	3	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
OLIVE DR					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	15	1157	**1,172**	**1189**	**1189**
EB RIGHT	1	144	**145**	**147**	**147**
WB LEFT	0	0	**0**	**0**	**0**
WB THRU	33	1279	**1,312**	**1361**	**1361**
WB RIGHT	27	141	**168**	**206**	**206**
SR-99 SB RAMPS					
NB LEFT	0	0	**0**	**0**	**0**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	0	**0**	**0**	**0**
SB LEFT	1	17	**18**	**19**	**19**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	6	193	**199**	**204**	**204**

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1189	147	0	1361	206	0	0	0	19	0	204
Future Vol, veh/h	0	1189	147	0	1361	206	0	0	0	19	0	204
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	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	1278	158	0	1463	222	0	0	0	20	0	219

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	-	-	0	2102	-	732
Stage 1	-	-	-	-	-	-	1463	-	-
Stage 2	-	-	-	-	-	-	639	-	-
Critical Hdwy	-	-	-	-	-	-	6.25	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-	-
Follow-up Hdwy	-	-	-	-	-	-	3.65	-	3.9
Pot Cap-1 Maneuver	0	-	0	0	-	0	62	0	316
Stage 1	0	-	0	0	-	0	129	0	-
Stage 2	0	-	0	0	-	0	479	0	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	-	-	-	62	0	316
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	0	-
Stage 1	-	-	-	-	-	-	129	0	-
Stage 2	-	-	-	-	-	-	479	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	39.3
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	109	316
HCM Lane V/C Ratio	-	-	0.187	0.694
HCM Control Delay (s)	-	-	45.5	38.7
HCM Lane LOS	-	-	E	E
HCM 95th %tile Q(veh)	-	-	0.7	4.9

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↳	↱		↑↑↑↳					↰		↱
Traffic Vol, veh/h	0	1272	157	0	1456	220	0	0	0	20	0	218
Future Vol, veh/h	0	1272	157	0	1456	220	0	0	0	20	0	218
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	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	1368	169	0	1566	237	0	0	0	22	0	234

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	-	-	-	0		2250	-	783
Stage 1	-	-	-	-	-	-		1566	-	-
Stage 2	-	-	-	-	-	-		684	-	-
Critical Hdwy	-	-	-	-	-	-		6.25	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-		6.6	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.8	-	-
Follow-up Hdwy	-	-	-	-	-	-		3.65	-	3.9
Pot Cap-1 Maneuver	0	-	0	0	-	0		50	0	292
Stage 1	0	-	0	0	-	0		111	0	-
Stage 2	0	-	0	0	-	0		454	0	-
Platoon blocked, %		-			-					
Mov Cap-1 Maneuver	-	-	-	-	-	-		50	0	292
Mov Cap-2 Maneuver	-	-	-	-	-	-		94	0	-
Stage 1	-	-	-	-	-	-		111	0	-
Stage 2	-	-	-	-	-	-		454	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	53.2
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	94	292
HCM Lane V/C Ratio	-	-	0.229	0.803
HCM Control Delay (s)	-	-	54.3	53.1
HCM Lane LOS	-	-	F	F
HCM 95th %tile Q(veh)	-	-	0.8	6.4

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↱	↱		↑↑↑↱					↰		↱
Traffic Vol, veh/h	0	1274	157	0	1461	242	0	0	0	24	0	218
Future Vol, veh/h	0	1274	157	0	1461	242	0	0	0	24	0	218
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	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	1370	169	0	1571	260	0	0	0	26	0	234

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	-	-	0	2256	-	786
Stage 1	-	-	-	-	-	-	1571	-	-
Stage 2	-	-	-	-	-	-	685	-	-
Critical Hdwy	-	-	-	-	-	-	6.25	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-	-
Follow-up Hdwy	-	-	-	-	-	-	3.65	-	3.9
Pot Cap-1 Maneuver	0	-	0	0	-	0	50	0	291
Stage 1	0	-	0	0	-	0	111	0	-
Stage 2	0	-	0	0	-	0	454	0	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	-	-	-	50	0	291
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	0	-
Stage 1	-	-	-	-	-	-	111	0	-
Stage 2	-	-	-	-	-	-	454	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	54
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	94	291
HCM Lane V/C Ratio	-	-	0.275	0.806
HCM Control Delay (s)	-	-	57.2	53.6
HCM Lane LOS	-	-	F	F
HCM 95th %tile Q(veh)	-	-	1	6.5

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1195	147	0	1340	350	0	0	0	14	0	226
Future Vol, veh/h	0	1195	147	0	1340	350	0	0	0	14	0	226
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	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	1258	155	0	1411	368	0	0	0	15	0	238

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	-	-	0	2040	-	706
Stage 1	-	-	-	-	-	-	1411	-	-
Stage 2	-	-	-	-	-	-	629	-	-
Critical Hdwy	-	-	-	-	-	-	6.25	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-	-
Follow-up Hdwy	-	-	-	-	-	-	3.65	-	3.9
Pot Cap-1 Maneuver	0	-	0	0	-	0	68	0	328
Stage 1	0	-	0	0	-	0	140	0	-
Stage 2	0	-	0	0	-	0	484	0	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	-	-	-	68	0	328
Mov Cap-2 Maneuver	-	-	-	-	-	-	118	0	-
Stage 1	-	-	-	-	-	-	140	0	-
Stage 2	-	-	-	-	-	-	484	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	40.2
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	118	328
HCM Lane V/C Ratio	-	-	0.125	0.725
HCM Control Delay (s)	-	-	39.8	40.2
HCM Lane LOS	-	-	E	E
HCM 95th %tile Q(veh)	-	-	0.4	5.4

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↳	↱		↑↑↑↳					↰		↱
Traffic Vol, veh/h	0	1197	147	0	1345	372	0	0	0	18	0	226
Future Vol, veh/h	0	1197	147	0	1345	372	0	0	0	18	0	226
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	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	0	-	50
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	1260	155	0	1416	392	0	0	0	19	0	238

Major/Minor	Major1			Major2				Minor2		
Conflicting Flow All	-	0	-	-	-	0		2046	-	708
Stage 1	-	-	-	-	-	-		1416	-	-
Stage 2	-	-	-	-	-	-		630	-	-
Critical Hdwy	-	-	-	-	-	-		6.25	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-		6.6	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.8	-	-
Follow-up Hdwy	-	-	-	-	-	-		3.65	-	3.9
Pot Cap-1 Maneuver	0	-	0	0	-	0		67	0	327
Stage 1	0	-	0	0	-	0		139	0	-
Stage 2	0	-	0	0	-	0		484	0	-
Platoon blocked, %		-			-					
Mov Cap-1 Maneuver	-	-	-	-	-	-		67	0	327
Mov Cap-2 Maneuver	-	-	-	-	-	-		117	0	-
Stage 1	-	-	-	-	-	-		139	0	-
Stage 2	-	-	-	-	-	-		484	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	40.6
HCM LOS			E

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	117	327
HCM Lane V/C Ratio	-	-	0.162	0.728
HCM Control Delay (s)	-	-	41.6	40.5
HCM Lane LOS	-	-	E	E
HCM 95th %tile Q(veh)	-	-	0.6	5.4

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 9
North/South Street: SR-99 SB RAMPS
East/West Street: OLIVE DR

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Balanced Volume
South leg	Left	0	Approach	0	Left	0	0
NB	Through	0	Departure	157	Through	0	0
	Right	0			Right	0	0
North leg	Left	23	Approach	102	Left	23	23
SB	Through	0	Departure	195	Through	0	0
	Right	79			Right	79	79
West leg	Left	0	Approach	1,052	Left	0	0
EB	Through	895	Departure	1,013	Through	895	895
	Right	157			Right	157	157
East leg	Left	0	Approach	1,129	Left	0	0
WB	Through	934	Departure	918	Through	934	934
	Right	195			Right	195	195

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Balanced Volume
South leg	Left	0	Approach	0	Left	0	0
NB	Through	0	Departure	147	Through	0	0
	Right	0			Right	0	0
North leg	Left	19	Approach	223	Left	14	14
SB	Through	0	Departure	350	Through	0	0
	Right	204			Right	226	226
West leg	Left	0	Approach	1,336	Left	0	0
EB	Through	1,189	Departure	1,565	Through	1,195	1,195
	Right	147			Right	147	147
East leg	Left	0	Approach	1,567	Left	0	0
WB	Through	1,361	Departure	1,208	Through	1,340	1,340
	Right	206			Right	350	350

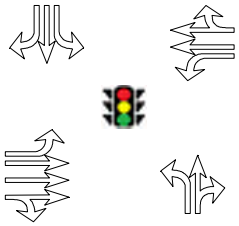
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : 7TH STANDARD RD
N/S STREET : GOLDEN STATE HWY SB RAMPS
CONDITION : AM PEAK HOUR

INTERSECTION : 10
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
7TH STANDARD RD							
EB LEFT	1	0	1	0	1	2	2
EB THRU	610	43	653	4	657	797	801
EB RIGHT	118	8	126	0	126	231	231
WB LEFT	282	20	302	0	302	233	233
WB THRU	756	53	809	2	811	1,018	1020
WB RIGHT	5	0	5	0	5	5	5
GOLDEN STATE HWY SB RAMPS							
NB LEFT	113	8	121	0	121	195	195
NB THRU	1	0	1	0	1	2	2
NB RIGHT	183	13	196	0	196	130	130
SB LEFT	213	15	228	30	258	125	155
SB THRU	72	5	77	0	77	64	64
SB RIGHT	125	9	134	0	134	179	179
TOTALS	**2479**	**174**	**2653**	**36**	**2689**	**2981**	**3017**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : 7TH STANDARD RD
N/S STREET : GOLDEN STATE HWY SB RAMPS
CONDITION : AM PEAK HOUR
PHF : 0.86

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
15	7	48	0	1	1	0	0	0	1	0	2
34	16	46	0	0	0	1	0	1	1	0	1
27	27	59	1	3	0	0	1	0	1	0	0
23	14	47	2	0	0	5	0	0	0	0	0

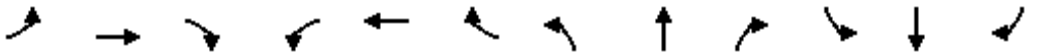
SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
32	0	28	0	0	0	2	0	1	1	0	1
38	0	37	0	0	0	3	0	0	1	0	0
47	0	23	2	0	0	0	0	0	1	0	0
36	0	20	3	0	0	0	0	0	1	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
5	173	78	0	1	1	0	1	0	0	5	0
0	158	95	0	1	0	0	1	0	0	8	0
0	198	59	0	2	3	0	1	0	0	4	0
0	138	42	0	3	1	0	3	0	0	5	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
27	125	0	0	1	0	0	2	0	0	3	0
43	95	0	0	0	0	0	5	0	0	10	0
43	143	0	0	5	0	0	6	0	0	12	0
5	128	0	0	0	0	0	0	0	0	3	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

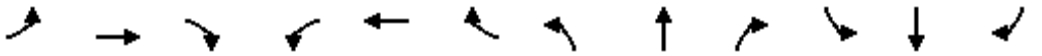
	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
7TH STANDARD RD					
EB LEFT	0	0	**0**	**1**	**1**
EB THRU	47	491	**538**	**610**	**610**
EB RIGHT	0	118	**118**	**118**	**118**
WB LEFT	5	274	**279**	**282**	**282**
WB THRU	35	667	**702**	**756**	**756**
WB RIGHT	0	5	**5**	**5**	**5**
GOLDEN STATE HWY SB I					
NB LEFT	2	108	**110**	**113**	**113**
NB THRU	0	0	**0**	**1**	**1**
NB RIGHT	14	153	**167**	**183**	**183**
SB LEFT	5	200	**205**	**213**	**213**
SB THRU	5	64	**69**	**72**	**72**
SB RIGHT	12	99	**111**	**125**	**125**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	610	118	282	756	5	113	1	183	213	72	125
Future Volume (veh/h)	1	610	118	282	756	5	113	1	183	213	72	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	709	137	328	879	6	131	1	213	248	84	145
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	2	875	167	336	1414	10	156	3	573	258	786	666
Arrive On Green	0.00	0.20	0.20	0.19	0.38	0.38	0.09	0.36	0.36	0.14	0.41	0.41
Sat Flow, veh/h	1810	4372	835	1810	3675	25	1810	8	1604	1810	1900	1610
Grp Volume(v), veh/h	1	559	287	328	432	453	131	0	214	248	84	145
Grp Sat Flow(s),veh/h/ln	1810	1729	1750	1810	1805	1895	1810	0	1611	1810	1900	1610
Q Serve(g_s), s	0.1	21.6	22.0	25.2	27.1	27.1	10.0	0.0	13.8	19.1	3.8	8.1
Cycle Q Clear(g_c), s	0.1	21.6	22.0	25.2	27.1	27.1	10.0	0.0	13.8	19.1	3.8	8.1
Prop In Lane	1.00		0.48	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2	692	350	336	695	729	156	0	575	258	786	666
V/C Ratio(X)	0.51	0.81	0.82	0.98	0.62	0.62	0.84	0.00	0.37	0.96	0.11	0.22
Avail Cap(c_a), veh/h	78	938	475	336	748	785	233	0	575	258	786	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.9	53.4	53.6	56.7	34.8	34.8	63.0	0.0	33.4	59.6	25.2	26.4
Incr Delay (d2), s/veh	128.5	3.8	8.0	42.6	1.4	1.4	15.8	0.0	1.8	44.8	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	9.4	10.1	15.2	11.8	12.4	5.2	0.0	5.6	12.0	1.8	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	198.4	57.3	61.6	99.3	36.3	36.2	78.8	0.0	35.2	104.4	25.4	27.2
LnGrp LOS	F	E	E	F	D	D	E	A	D	F	C	C
Approach Vol, veh/h		847			1213			345			477	
Approach Delay, s/veh		58.9			53.3			51.8			67.0	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	32.0	16.1	61.9	4.2	57.9	24.0	54.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	26.0	38.0	18.0	52.0	6.0	58.0	20.0	50.0
Max Q Clear Time (g_c+I1), s	27.2	24.0	12.0	10.1	2.1	29.1	21.1	15.8
Green Ext Time (p_c), s	0.0	4.1	0.1	1.0	0.0	5.5	0.0	1.3

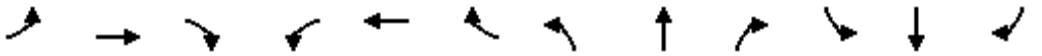
Intersection Summary	
HCM 6th Ctrl Delay	57.0
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	653	126	302	809	5	121	1	196	228	77	134
Future Volume (veh/h)	1	653	126	302	809	5	121	1	196	228	77	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	759	147	351	941	6	141	1	228	265	90	156
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	2	921	177	332	1445	9	166	2	565	255	763	647
Arrive On Green	0.00	0.21	0.21	0.18	0.39	0.39	0.09	0.35	0.35	0.14	0.40	0.40
Sat Flow, veh/h	1810	4369	838	1810	3677	23	1810	7	1604	1810	1900	1610
Grp Volume(v), veh/h	1	599	307	351	462	485	141	0	229	265	90	156
Grp Sat Flow(s),veh/h/ln	1810	1729	1749	1810	1805	1896	1810	0	1611	1810	1900	1610
Q Serve(g_s), s	0.1	23.5	23.8	26.0	29.6	29.6	10.9	0.0	15.2	20.0	4.2	9.1
Cycle Q Clear(g_c), s	0.1	23.5	23.8	26.0	29.6	29.6	10.9	0.0	15.2	20.0	4.2	9.1
Prop In Lane	1.00		0.48	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2	729	369	332	709	745	166	0	568	255	763	647
V/C Ratio(X)	0.51	0.82	0.83	1.06	0.65	0.65	0.85	0.00	0.40	1.04	0.12	0.24
Avail Cap(c_a), veh/h	77	926	468	332	738	775	230	0	568	255	763	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.8	53.5	53.6	58.0	35.1	35.1	63.5	0.0	34.7	61.0	26.6	28.1
Incr Delay (d2), s/veh	128.5	4.8	9.8	65.7	1.9	1.8	19.2	0.0	2.1	66.9	0.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	10.3	11.1	17.7	13.0	13.7	5.8	0.0	6.2	13.9	2.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	199.4	58.3	63.4	123.7	37.1	37.0	82.7	0.0	36.8	127.9	27.0	29.0
LnGrp LOS	F	E	E	F	D	D	F	A	D	F	C	C
Approach Vol, veh/h		907			1298			370			511	
Approach Delay, s/veh		60.2			60.5			54.3			79.9	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	33.9	17.0	61.0	4.2	59.7	24.0	54.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	26.0	38.0	18.0	52.0	6.0	58.0	20.0	50.0
Max Q Clear Time (g_c+I1), s	28.0	25.8	12.9	11.1	2.1	31.6	22.0	17.2
Green Ext Time (p_c), s	0.0	4.1	0.1	1.1	0.0	5.9	0.0	1.4

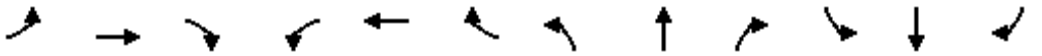
Intersection Summary	
HCM 6th Ctrl Delay	62.9
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	657	126	302	811	5	121	1	196	258	77	134
Future Volume (veh/h)	1	657	126	302	811	5	121	1	196	258	77	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	764	147	351	943	6	141	1	228	300	90	156
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	2	925	176	331	1447	9	166	2	565	255	763	646
Arrive On Green	0.00	0.21	0.21	0.18	0.39	0.39	0.09	0.35	0.35	0.14	0.40	0.40
Sat Flow, veh/h	1810	4374	834	1810	3677	23	1810	7	1604	1810	1900	1610
Grp Volume(v), veh/h	1	603	308	351	463	486	141	0	229	300	90	156
Grp Sat Flow(s),veh/h/ln	1810	1729	1750	1810	1805	1896	1810	0	1611	1810	1900	1610
Q Serve(g_s), s	0.1	23.6	24.0	26.0	29.7	29.7	10.9	0.0	15.2	20.0	4.2	9.1
Cycle Q Clear(g_c), s	0.1	23.6	24.0	26.0	29.7	29.7	10.9	0.0	15.2	20.0	4.2	9.1
Prop In Lane	1.00		0.48	1.00		0.01	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	2	731	370	331	710	746	166	0	567	255	763	646
V/C Ratio(X)	0.51	0.82	0.83	1.06	0.65	0.65	0.85	0.00	0.40	1.18	0.12	0.24
Avail Cap(c_a), veh/h	76	925	468	331	737	774	229	0	567	255	763	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.9	53.5	53.6	58.0	35.1	35.1	63.6	0.0	34.8	61.0	26.7	28.2
Incr Delay (d2), s/veh	128.5	4.9	10.0	66.1	2.0	1.9	19.2	0.0	2.1	113.0	0.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	10.4	11.2	17.7	13.1	13.7	5.8	0.0	6.2	17.2	2.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	199.4	58.4	63.6	124.1	37.1	37.0	82.8	0.0	36.9	174.0	27.0	29.1
LnGrp LOS	F	E	E	F	D	D	F	A	D	F	C	C
Approach Vol, veh/h		912			1300			370			546	
Approach Delay, s/veh		60.3			60.6			54.4			108.4	
Approach LOS		E			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	34.0	17.0	61.0	4.2	59.9	24.0	54.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	26.0	38.0	18.0	52.0	6.0	58.0	20.0	50.0
Max Q Clear Time (g_c+I1), s	28.0	26.0	12.9	11.1	2.1	31.7	22.0	17.2
Green Ext Time (p_c), s	0.0	4.1	0.1	1.1	0.0	5.9	0.0	1.4

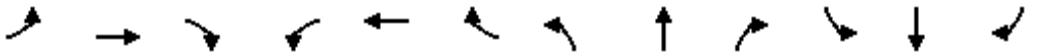
Intersection Summary	
HCM 6th Ctrl Delay	68.1
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	797	231	233	1018	5	195	2	130	125	64	179
Future Volume (veh/h)	2	797	231	233	1018	5	195	2	130	125	64	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	839	243	245	1072	5	205	2	137	132	67	188
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	4	970	279	271	1436	7	228	9	649	157	700	594
Arrive On Green	0.00	0.24	0.24	0.15	0.39	0.39	0.13	0.41	0.41	0.09	0.37	0.37
Sat Flow, veh/h	1810	4000	1151	1810	3685	17	1810	23	1590	1810	1900	1610
Grp Volume(v), veh/h	2	725	357	245	525	552	205	0	139	132	67	188
Grp Sat Flow(s),veh/h/ln	1810	1729	1693	1810	1805	1897	1810	0	1614	1810	1900	1610
Q Serve(g_s), s	0.2	28.3	28.6	18.8	35.3	35.3	15.8	0.0	7.9	10.1	3.3	11.8
Cycle Q Clear(g_c), s	0.2	28.3	28.6	18.8	35.3	35.3	15.8	0.0	7.9	10.1	3.3	11.8
Prop In Lane	1.00		0.68	1.00		0.01	1.00		0.99	1.00		1.00
Lane Grp Cap(c), veh/h	4	838	410	271	704	739	228	0	658	157	700	594
V/C Ratio(X)	0.52	0.86	0.87	0.91	0.75	0.75	0.90	0.00	0.21	0.84	0.10	0.32
Avail Cap(c_a), veh/h	77	932	456	334	742	780	231	0	658	257	700	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.3	51.2	51.3	59.0	37.0	37.0	60.8	0.0	27.1	63.4	29.1	31.8
Incr Delay (d2), s/veh	79.0	7.9	15.4	23.8	3.9	3.8	33.5	0.0	0.7	12.3	0.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	12.7	13.4	10.2	15.8	16.6	9.2	0.0	3.1	5.2	1.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	149.3	59.1	66.7	82.8	41.0	40.8	94.3	0.0	27.8	75.7	29.4	33.2
LnGrp LOS	F	E	E	F	D	D	F	A	C	E	C	C
Approach Vol, veh/h		1084			1322			344			387	
Approach Delay, s/veh		61.8			48.6			67.4			47.1	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.1	38.2	21.8	56.0	4.3	59.0	16.2	61.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	26.0	38.0	18.0	52.0	6.0	58.0	20.0	50.0
Max Q Clear Time (g_c+I1), s	20.8	30.6	17.8	13.8	2.2	37.3	12.1	9.9
Green Ext Time (p_c), s	0.3	3.6	0.0	1.0	0.0	6.5	0.2	0.8

Intersection Summary	
HCM 6th Ctrl Delay	55.0
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	801	231	233	1020	5	195	2	130	155	64	179
Future Volume (veh/h)	2	801	231	233	1020	5	195	2	130	155	64	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	843	243	245	1074	5	205	2	137	163	67	188
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	4	973	279	271	1438	7	228	9	621	188	700	593
Arrive On Green	0.00	0.24	0.24	0.15	0.39	0.39	0.13	0.39	0.39	0.10	0.37	0.37
Sat Flow, veh/h	1810	4004	1147	1810	3685	17	1810	23	1590	1810	1900	1610
Grp Volume(v), veh/h	2	727	359	245	526	553	205	0	139	163	67	188
Grp Sat Flow(s),veh/h/ln	1810	1729	1694	1810	1805	1897	1810	0	1614	1810	1900	1610
Q Serve(g_s), s	0.2	28.5	28.7	18.8	35.4	35.4	15.8	0.0	8.1	12.5	3.3	11.8
Cycle Q Clear(g_c), s	0.2	28.5	28.7	18.8	35.4	35.4	15.8	0.0	8.1	12.5	3.3	11.8
Prop In Lane	1.00		0.68	1.00		0.01	1.00		0.99	1.00		1.00
Lane Grp Cap(c), veh/h	4	840	411	271	704	740	228	0	630	188	700	593
V/C Ratio(X)	0.52	0.87	0.87	0.91	0.75	0.75	0.90	0.00	0.22	0.87	0.10	0.32
Avail Cap(c_a), veh/h	77	931	456	333	742	779	231	0	630	256	700	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.4	51.2	51.3	59.1	37.0	37.0	60.8	0.0	28.7	62.3	29.2	31.9
Incr Delay (d2), s/veh	79.0	8.0	15.6	23.9	4.0	3.8	33.6	0.0	0.8	19.9	0.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	12.8	13.5	10.2	15.9	16.7	9.2	0.0	3.2	6.8	1.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	149.3	59.3	67.0	82.9	41.0	40.8	94.4	0.0	29.5	82.2	29.5	33.3
LnGrp LOS	F	E	E	F	D	D	F	A	C	F	C	C
Approach Vol, veh/h		1088			1324			344			418	
Approach Delay, s/veh		62.0			48.7			68.2			51.7	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.1	38.3	21.8	56.0	4.3	59.1	18.7	59.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	26.0	38.0	18.0	52.0	6.0	58.0	20.0	50.0
Max Q Clear Time (g_c+I1), s	20.8	30.7	17.8	13.8	2.2	37.4	14.5	10.1
Green Ext Time (p_c), s	0.3	3.6	0.0	1.0	0.0	6.5	0.2	0.8

Intersection Summary	
HCM 6th Ctrl Delay	55.8
HCM 6th LOS	E

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : 7TH STANDARD RD
N/S STREET : GOLDEN STATE HWY SB RAMPS
CONDITION : PM PEAK HOUR

INTERSECTION : 10
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
7TH STANDARD RD							
EB LEFT	2	0	2	0	2	4	4
EB THRU	654	46	700	2	702	783	785
EB RIGHT	201	14	215	0	215	271	271
WB LEFT	273	19	292	0	292	259	259
WB THRU	791	55	846	5	851	1,108	1113
WB RIGHT	1	0	1	0	1	2	2
GOLDEN STATE HWY SB RAMPS							
NB LEFT	205	14	219	0	219	227	227
NB THRU	356	25	381	0	381	355	355
NB RIGHT	258	18	276	0	276	172	172
SB LEFT	211	15	226	14	240	170	184
SB THRU	143	10	153	0	153	129	129
SB RIGHT	58	4	62	0	62	78	78
TOTALS	**3153**	**220**	**3373**	**21**	**3394**	**3558**	**3579**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : 7TH STANDARD RD
CONDITION : PM PEAK HOUR
N/S STREET : GOLDEN STATE HWY SB RAMPS
PHF : 0.89

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
11	36	30	2	0	2	1	0	0	1	0	2
8	46	51	0	0	1	0	0	3	2	0	0
5	40	58	3	0	2	2	0	0	0	0	1
11	21	46	0	0	0	0	0	0	0	0	1

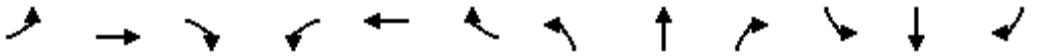
SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
60	0	29	4	0	0	0	0	1	0	0	0
76	108	28	1	0	0	0	0	1	0	0	0
54	136	74	0	0	1	0	0	1	0	0	0
57	112	62	2	0	3	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	238	59	0	1	0	0	1	0	0	3	0
0	212	67	0	2	0	0	2	0	0	5	0
0	170	111	0	0	1	0	0	0	0	2	0
0	112	31	0	3	2	0	1	0	0	4	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
44	199	0	0	0	0	0	0	0	0	3	0
49	124	0	0	1	0	0	3	0	0	4	0
67	123	0	0	2	0	0	0	0	0	2	0
39	159	2	0	1	0	1	2	0	0	2	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

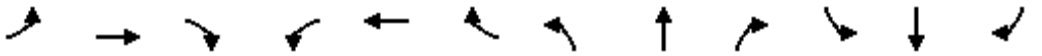
	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
7TH STANDARD RD					
EB LEFT	0	2	**2**	**2**	**2**
EB THRU	20	605	**625**	**654**	**654**
EB RIGHT	1	199	**200**	**201**	**201**
WB LEFT	3	268	**271**	**273**	**273**
WB THRU	24	732	**756**	**791**	**791**
WB RIGHT	0	0	**0**	**1**	**1**
GOLDEN STATE HWY SB I					
NB LEFT	7	193	**200**	**205**	**205**
NB THRU	0	356	**356**	**356**	**356**
NB RIGHT	7	247	**254**	**258**	**258**
SB LEFT	12	185	**197**	**211**	**211**
SB THRU	0	143	**143**	**143**	**143**
SB RIGHT	11	35	**46**	**58**	**58**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	654	201	273	791	1	205	356	258	211	143	58
Future Volume (veh/h)	2	654	201	273	791	1	205	356	258	211	143	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	735	226	307	889	1	230	400	290	237	161	65
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	4	875	266	302	1430	2	257	384	279	226	681	577
Arrive On Green	0.00	0.22	0.22	0.17	0.39	0.39	0.14	0.38	0.38	0.13	0.36	0.36
Sat Flow, veh/h	1810	3944	1199	1810	3700	4	1810	1024	742	1810	1900	1610
Grp Volume(v), veh/h	2	643	318	307	434	456	230	0	690	237	161	65
Grp Sat Flow(s),veh/h/ln	1810	1729	1684	1810	1805	1899	1810	0	1766	1810	1900	1610
Q Serve(g_s), s	0.2	25.6	26.0	24.0	27.9	27.9	18.0	0.0	54.0	18.0	8.6	3.9
Cycle Q Clear(g_c), s	0.2	25.6	26.0	24.0	27.9	27.9	18.0	0.0	54.0	18.0	8.6	3.9
Prop In Lane	1.00		0.71	1.00		0.00	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	4	767	374	302	698	734	257	0	663	226	681	577
V/C Ratio(X)	0.52	0.84	0.85	1.02	0.62	0.62	0.90	0.00	1.04	1.05	0.24	0.11
Avail Cap(c_a), veh/h	75	913	445	302	702	739	377	0	663	226	681	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.7	53.5	53.7	60.0	35.7	35.7	60.7	0.0	45.0	63.0	32.4	30.9
Incr Delay (d2), s/veh	79.1	6.0	12.7	56.4	1.7	1.6	17.2	0.0	46.1	72.8	0.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	11.4	11.9	15.5	12.3	12.9	9.3	0.0	31.2	12.9	4.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	150.9	59.6	66.4	116.3	37.3	37.3	77.9	0.0	91.1	135.8	33.2	31.3
LnGrp LOS	F	E	E	F	D	D	E	A	F	F	C	C
Approach Vol, veh/h		963			1197			920			463	
Approach Delay, s/veh		62.0			57.6			87.8			85.4	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	35.9	24.4	55.6	4.3	59.6	22.0	58.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	24.0	38.0	30.0	42.0	6.0	56.0	18.0	54.0
Max Q Clear Time (g_c+I1), s	26.0	28.0	20.0	10.6	2.2	29.9	20.0	56.0
Green Ext Time (p_c), s	0.0	3.9	0.4	1.1	0.0	5.4	0.0	0.0

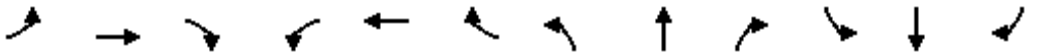
Intersection Summary	
HCM 6th Ctrl Delay	70.3
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	700	215	292	846	1	219	381	276	226	153	62
Future Volume (veh/h)	2	700	215	292	846	1	219	381	276	226	153	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	787	242	328	951	1	246	428	310	254	172	70
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	4	914	278	298	1459	2	272	379	275	223	653	553
Arrive On Green	0.00	0.23	0.23	0.16	0.39	0.39	0.15	0.37	0.37	0.12	0.34	0.34
Sat Flow, veh/h	1810	3941	1201	1810	3700	4	1810	1024	742	1810	1900	1610
Grp Volume(v), veh/h	2	690	339	328	464	488	246	0	738	254	172	70
Grp Sat Flow(s),veh/h/ln	1810	1729	1684	1810	1805	1899	1810	0	1766	1810	1900	1610
Q Serve(g_s), s	0.2	27.9	28.3	24.0	30.5	30.5	19.5	0.0	54.0	18.0	9.5	4.4
Cycle Q Clear(g_c), s	0.2	27.9	28.3	24.0	30.5	30.5	19.5	0.0	54.0	18.0	9.5	4.4
Prop In Lane	1.00		0.71	1.00		0.00	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	4	802	390	298	712	749	272	0	654	223	653	553
V/C Ratio(X)	0.52	0.86	0.87	1.10	0.65	0.65	0.90	0.00	1.13	1.14	0.26	0.13
Avail Cap(c_a), veh/h	74	901	439	298	712	749	372	0	654	223	653	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.7	53.7	53.9	60.9	36.0	36.0	60.9	0.0	45.9	63.9	34.6	32.9
Incr Delay (d2), s/veh	79.2	7.8	15.6	82.0	2.1	2.0	20.0	0.0	76.0	102.1	1.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	12.5	13.2	17.6	13.5	14.2	10.3	0.0	36.6	14.6	4.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	151.9	61.5	69.5	142.9	38.1	38.0	80.9	0.0	121.9	166.0	35.5	33.3
LnGrp LOS	F	E	E	F	D	D	F	A	F	F	D	C
Approach Vol, veh/h		1031			1280			984			496	
Approach Delay, s/veh		64.3			64.9			111.7			102.0	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	37.8	25.9	54.1	4.3	61.5	22.0	58.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	24.0	38.0	30.0	42.0	6.0	56.0	18.0	54.0
Max Q Clear Time (g_c+I1), s	26.0	30.3	21.5	11.5	2.2	32.5	20.0	56.0
Green Ext Time (p_c), s	0.0	3.5	0.4	1.2	0.0	5.7	0.0	0.0

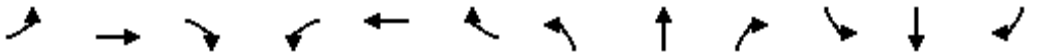
Intersection Summary	
HCM 6th Ctrl Delay	81.7
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	702	215	292	851	1	219	381	276	240	153	62
Future Volume (veh/h)	2	702	215	292	851	1	219	381	276	240	153	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2	789	242	328	956	1	246	428	310	270	172	70
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	4	915	278	298	1460	2	272	379	275	223	652	553
Arrive On Green	0.00	0.23	0.23	0.16	0.39	0.39	0.15	0.37	0.37	0.12	0.34	0.34
Sat Flow, veh/h	1810	3943	1199	1810	3700	4	1810	1024	742	1810	1900	1610
Grp Volume(v), veh/h	2	691	340	328	466	491	246	0	738	270	172	70
Grp Sat Flow(s),veh/h/ln	1810	1729	1684	1810	1805	1899	1810	0	1766	1810	1900	1610
Q Serve(g_s), s	0.2	28.0	28.3	24.0	30.8	30.8	19.5	0.0	54.0	18.0	9.5	4.4
Cycle Q Clear(g_c), s	0.2	28.0	28.3	24.0	30.8	30.8	19.5	0.0	54.0	18.0	9.5	4.4
Prop In Lane	1.00		0.71	1.00		0.00	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	4	803	391	298	712	749	272	0	654	223	652	553
V/C Ratio(X)	0.52	0.86	0.87	1.10	0.65	0.65	0.90	0.00	1.13	1.21	0.26	0.13
Avail Cap(c_a), veh/h	74	901	439	298	712	749	372	0	654	223	652	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.7	53.7	53.9	60.9	36.0	36.0	60.9	0.0	45.9	63.9	34.6	32.9
Incr Delay (d2), s/veh	79.2	7.8	15.7	82.2	2.2	2.1	20.0	0.0	76.2	128.3	1.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	12.6	13.2	17.6	13.6	14.3	10.3	0.0	36.6	16.3	4.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	151.9	61.6	69.5	143.1	38.2	38.1	80.9	0.0	122.1	192.2	35.6	33.3
LnGrp LOS	F	E	E	F	D	D	F	A	F	F	D	C
Approach Vol, veh/h		1033			1285			984			512	
Approach Delay, s/veh		64.4			64.9			111.8			117.9	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	37.9	25.9	54.1	4.3	61.5	22.0	58.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	24.0	38.0	30.0	42.0	6.0	56.0	18.0	54.0
Max Q Clear Time (g_c+I1), s	26.0	30.3	21.5	11.5	2.2	32.8	20.0	56.0
Green Ext Time (p_c), s	0.0	3.5	0.4	1.2	0.0	5.8	0.0	0.0

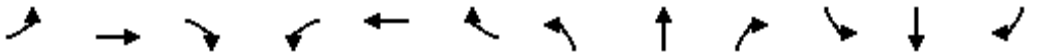
Intersection Summary	
HCM 6th Ctrl Delay	84.0
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	783	271	259	1108	2	227	355	172	170	129	78
Future Volume (veh/h)	4	783	271	259	1108	2	227	355	172	170	129	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	824	285	273	1166	2	239	374	181	179	136	82
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	7	930	320	294	1489	3	265	449	217	202	640	542
Arrive On Green	0.00	0.24	0.24	0.16	0.40	0.40	0.15	0.37	0.37	0.11	0.34	0.34
Sat Flow, veh/h	1810	3812	1310	1810	3698	6	1810	1209	585	1810	1900	1610
Grp Volume(v), veh/h	4	747	362	273	569	599	239	0	555	179	136	82
Grp Sat Flow(s),veh/h/ln	1810	1729	1664	1810	1805	1899	1810	0	1795	1810	1900	1610
Q Serve(g_s), s	0.3	30.3	30.6	21.6	40.0	40.0	18.9	0.0	40.9	14.2	7.4	5.2
Cycle Q Clear(g_c), s	0.3	30.3	30.6	21.6	40.0	40.0	18.9	0.0	40.9	14.2	7.4	5.2
Prop In Lane	1.00		0.79	1.00		0.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	7	844	406	294	727	765	265	0	667	202	640	542
V/C Ratio(X)	0.54	0.89	0.89	0.93	0.78	0.78	0.90	0.00	0.83	0.89	0.21	0.15
Avail Cap(c_a), veh/h	75	904	435	299	727	765	373	0	667	224	640	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.3	53.0	53.1	60.0	37.9	37.9	61.0	0.0	41.6	63.7	34.5	33.7
Incr Delay (d2), s/veh	49.4	10.0	19.2	33.3	5.6	5.3	18.9	0.0	11.6	29.8	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	13.8	14.5	12.5	18.2	19.1	9.9	0.0	19.7	8.2	3.6	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.7	63.0	72.3	93.4	43.5	43.2	79.9	0.0	53.2	93.4	35.2	34.3
LnGrp LOS	F	E	E	F	D	D	E	A	D	F	D	C
Approach Vol, veh/h		1113			1441			794			397	
Approach Delay, s/veh		66.3			52.8			61.3			61.3	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.7	39.5	25.3	52.9	4.6	62.6	20.3	58.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	24.0	38.0	30.0	42.0	6.0	56.0	18.0	54.0
Max Q Clear Time (g_c+I1), s	23.6	32.6	20.9	9.4	2.3	42.0	16.2	42.9
Green Ext Time (p_c), s	0.0	2.9	0.4	1.0	0.0	6.0	0.1	2.5

Intersection Summary	
HCM 6th Ctrl Delay	59.5
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	785	271	259	1113	2	227	355	172	184	129	78
Future Volume (veh/h)	4	785	271	259	1113	2	227	355	172	184	129	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	4	826	285	273	1172	2	239	374	181	194	136	82
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	7	927	318	294	1484	3	265	443	215	216	645	547
Arrive On Green	0.00	0.24	0.24	0.16	0.40	0.40	0.15	0.37	0.37	0.12	0.34	0.34
Sat Flow, veh/h	1810	3815	1308	1810	3698	6	1810	1209	585	1810	1900	1610
Grp Volume(v), veh/h	4	748	363	273	572	602	239	0	555	194	136	82
Grp Sat Flow(s),veh/h/ln	1810	1729	1665	1810	1805	1899	1810	0	1795	1810	1900	1610
Q Serve(g_s), s	0.3	30.8	31.1	21.9	40.9	40.9	19.1	0.0	41.8	15.6	7.5	5.2
Cycle Q Clear(g_c), s	0.3	30.8	31.1	21.9	40.9	40.9	19.1	0.0	41.8	15.6	7.5	5.2
Prop In Lane	1.00		0.79	1.00		0.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	7	840	404	294	724	762	265	0	658	216	645	547
V/C Ratio(X)	0.54	0.89	0.90	0.93	0.79	0.79	0.90	0.00	0.84	0.90	0.21	0.15
Avail Cap(c_a), veh/h	74	892	429	295	724	762	369	0	658	221	645	547
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.2	53.9	54.0	60.8	38.7	38.7	61.8	0.0	42.8	64.0	34.6	33.8
Incr Delay (d2), s/veh	49.5	10.7	20.4	34.2	5.9	5.6	19.5	0.0	12.5	34.0	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	14.1	14.8	12.7	18.7	19.6	10.1	0.0	20.2	9.2	3.7	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.7	64.6	74.4	95.0	44.6	44.3	81.4	0.0	55.3	97.9	35.3	34.4
LnGrp LOS	F	E	E	F	D	D	F	A	E	F	D	C
Approach Vol, veh/h		1115			1447			794			412	
Approach Delay, s/veh		68.0			54.0			63.1			64.6	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.9	39.8	25.6	54.0	4.6	63.1	21.6	58.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	24.0	38.0	30.0	42.0	6.0	56.0	18.0	54.0
Max Q Clear Time (g_c+I1), s	23.9	33.1	21.1	9.5	2.3	42.9	17.6	43.8
Green Ext Time (p_c), s	0.0	2.7	0.4	1.0	0.0	5.8	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	61.2
HCM 6th LOS	E

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 10
North/South Street: GOLDEN STATE HWY SB RAMPS
East/West Street: 7TH STANDARD RD

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	113	Approach	363	Left	195	195
NB	Through	1	Departure	526	Through	2	2
	Right	183			Right	130	130
North leg	Left	213	Approach	410	Left	125	125
SB	Through	72	Departure	7	Through	64	64
	Right	125			Right	179	179
West leg	Left	1	Approach	1,159	Left	2	2
EB	Through	610	Departure	1,391	Through	797	797
	Right	118			Right	231	231
East leg	Left	282	Approach	1,395	Left	233	233
WB	Through	756	Departure	1,050	Through	1,018	1,018
	Right	5			Right	5	5

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	205	Approach	824	Left	227	227
NB	Through	356	Departure	658	Through	355	355
	Right	258			Right	172	172
North leg	Left	211	Approach	412	Left	170	170
SB	Through	143	Departure	359	Through	129	129
	Right	58			Right	78	78
West leg	Left	2	Approach	1,162	Left	4	4
EB	Through	654	Departure	1,412	Through	783	783
	Right	201			Right	271	271
East leg	Left	273	Approach	1,494	Left	259	259
WB	Through	791	Departure	1,123	Through	1,108	1,108
	Right	1			Right	2	2

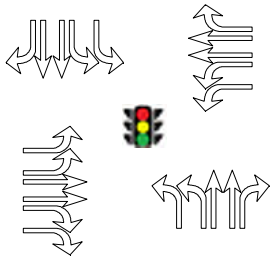
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : SR-99 CONNECTOR TO HWY 65
CONDITION : AM PEAK HOUR

INTERSECTION : 11
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
MERLE HAGGARD DR							
EB LEFT	192	13	205	0	205	213	213
EB THRU	534	37	571	34	605	589	623
EB RIGHT	164	11	175	0	175	175	175
WB LEFT	209	15	224	2	226	229	231
WB THRU	519	36	555	12	567	550	562
WB RIGHT	90	6	96	0	96	103	103
SR-99 CONNECTOR TO HWY 65							
NB LEFT	174	12	186	0	186	183	183
NB THRU	662	46	708	0	708	745	745
NB RIGHT	332	23	355	5	360	372	377
SB LEFT	79	6	85	0	85	89	89
SB THRU	599	42	641	0	641	651	651
SB RIGHT	274	19	293	0	293	289	289
TOTALS	**3828**	**266**	**4094**	**53**	**4147**	**4188**	**4241**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : SR-99 CONNECTOR TO HWY 65
CONDITION : AM PEAK HOUR
PHF : 0.90

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
55	72	17	5	0	0	1	0	0	2	33	3
43	55	8	0	0	0	1	0	0	2	16	2
52	74	6	0	0	0	0	0	0	0	28	4
88	77	12	0	0	0	0	0	0	4	30	3

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
56	72	76	2	0	0	0	0	0	0	36	0
50	63	14	0	0	0	0	0	0	0	17	0
102	80	34	0	0	0	1	0	0	0	28	0
117	123	50	0	0	0	1	0	0	0	27	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
21	128	27	0	1	2	0	0	0	3	4	2
13	129	29	0	3	3	0	1	1	2	4	4
11	115	59	1	4	0	0	1	1	2	3	2
10	86	39	3	2	4	1	0	2	2	3	3

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
40	145	61	3	6	0	1	2	2	1	1	1
31	128	22	0	2	0	2	3	1	2	4	4
38	91	36	0	0	0	0	4	3	1	2	6
22	92	19	1	3	0	0	2	0	3	6	3

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
MERLE HAGGARD DR					
EB LEFT	20	138	**158**	**192**	**192**
EB THRU	35	456	**491**	**534**	**534**
EB RIGHT	14	131	**145**	**164**	**164**
WB LEFT	24	154	**178**	**209**	**209**
WB THRU	26	458	**484**	**519**	**519**
WB RIGHT	14	55	**69**	**90**	**90**
SR-99 CONNECTOR TO HV					
NB LEFT	0	174	**174**	**174**	**174**
NB THRU	108	338	**446**	**662**	**662**
NB RIGHT	4	325	**329**	**332**	**332**
SB LEFT	12	43	**55**	**79**	**79**
SB THRU	107	278	**385**	**599**	**599**
SB RIGHT	15	238	**253**	**274**	**274**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	534	164	209	519	90	174	662	332	79	599	274
Future Volume (veh/h)	192	534	164	209	519	90	174	662	332	79	599	274
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	213	593	182	232	577	100	193	736	369	88	666	304
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	305	797	853	327	819	365	282	1560	696	155	1430	638
Arrive On Green	0.09	0.22	0.22	0.09	0.23	0.23	0.08	0.43	0.43	0.04	0.40	0.40
Sat Flow, veh/h	3510	3610	2834	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	213	593	182	232	577	100	193	736	369	88	666	304
Grp Sat Flow(s),veh/h/ln	1755	1805	1417	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.5	11.7	3.7	4.9	11.2	3.9	4.1	11.1	12.9	1.9	10.4	10.7
Cycle Q Clear(g_c), s	4.5	11.7	3.7	4.9	11.2	3.9	4.1	11.1	12.9	1.9	10.4	10.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	305	797	853	327	819	365	282	1560	696	155	1430	638
V/C Ratio(X)	0.70	0.74	0.21	0.71	0.70	0.27	0.68	0.47	0.53	0.57	0.47	0.48
Avail Cap(c_a), veh/h	460	1135	1118	506	1182	527	414	1560	696	276	1430	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	27.7	19.9	33.6	27.2	24.3	34.2	15.5	16.0	35.8	17.1	17.2
Incr Delay (d2), s/veh	2.9	1.6	0.1	2.8	1.1	0.4	2.9	1.0	2.9	3.2	1.1	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	4.8	1.1	2.0	4.5	1.4	1.7	3.9	4.5	0.8	3.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	29.4	20.1	36.4	28.3	24.7	37.1	16.5	18.8	39.0	18.2	19.7
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		988			909			1298			1058	
Approach Delay, s/veh		29.2			30.0			20.2			20.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	37.0	11.1	20.9	10.1	34.2	10.6	21.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	33.0	11.0	24.0	9.0	30.0	10.0	25.0
Max Q Clear Time (g_c+I1), s	3.9	14.9	6.9	13.7	6.1	12.7	6.5	13.2
Green Ext Time (p_c), s	0.0	5.4	0.3	3.2	0.2	4.6	0.2	2.9

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	571	175	224	555	96	186	708	355	85	641	293
Future Volume (veh/h)	205	571	175	224	555	96	186	708	355	85	641	293
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	228	634	194	249	617	107	207	787	394	94	712	326
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	319	831	890	342	855	381	295	1524	680	160	1385	618
Arrive On Green	0.09	0.23	0.23	0.10	0.24	0.24	0.08	0.42	0.42	0.05	0.38	0.38
Sat Flow, veh/h	3510	3610	2834	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	228	634	194	249	617	107	207	787	394	94	712	326
Grp Sat Flow(s),veh/h/ln	1755	1805	1417	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.9	12.8	3.9	5.4	12.3	4.2	4.5	12.6	14.6	2.1	11.8	12.2
Cycle Q Clear(g_c), s	4.9	12.8	3.9	5.4	12.3	4.2	4.5	12.6	14.6	2.1	11.8	12.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	319	831	890	342	855	381	295	1524	680	160	1385	618
V/C Ratio(X)	0.72	0.76	0.22	0.73	0.72	0.28	0.70	0.52	0.58	0.59	0.51	0.53
Avail Cap(c_a), veh/h	449	1108	1108	494	1155	515	404	1524	680	269	1385	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	28.1	19.7	34.3	27.5	24.4	34.9	16.7	17.3	36.6	18.5	18.6
Incr Delay (d2), s/veh	3.2	2.2	0.1	3.0	1.5	0.4	3.3	1.3	3.6	3.4	1.4	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.3	1.2	2.3	4.9	1.5	1.9	4.6	5.2	0.9	4.4	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	30.4	19.9	37.3	28.9	24.8	38.2	17.9	20.9	40.0	19.9	21.8
LnGrp LOS	D	C	B	D	C	C	D	B	C	D	B	C
Approach Vol, veh/h		1056			973			1388			1132	
Approach Delay, s/veh		30.0			30.6			21.8			22.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	37.0	11.6	22.0	10.6	34.0	11.1	22.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	33.0	11.0	24.0	9.0	30.0	10.0	25.0
Max Q Clear Time (g_c+I1), s	4.1	16.6	7.4	14.8	6.5	14.2	6.9	14.3
Green Ext Time (p_c), s	0.0	5.6	0.3	3.2	0.1	4.8	0.2	3.0

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	605	175	226	567	96	186	708	360	85	641	293
Future Volume (veh/h)	205	605	175	226	567	96	186	708	360	85	641	293
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	228	672	194	251	630	107	207	787	400	94	712	326
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	317	861	913	343	887	396	294	1504	671	159	1366	609
Arrive On Green	0.09	0.24	0.24	0.10	0.25	0.25	0.08	0.42	0.42	0.05	0.38	0.38
Sat Flow, veh/h	3510	3610	2834	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	228	672	194	251	630	107	207	787	400	94	712	326
Grp Sat Flow(s),veh/h/ln	1755	1805	1417	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	5.0	13.8	3.9	5.5	12.6	4.3	4.6	12.9	15.3	2.1	12.1	12.5
Cycle Q Clear(g_c), s	5.0	13.8	3.9	5.5	12.6	4.3	4.6	12.9	15.3	2.1	12.1	12.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	861	913	343	887	396	294	1504	671	159	1366	609
V/C Ratio(X)	0.72	0.78	0.21	0.73	0.71	0.27	0.71	0.52	0.60	0.59	0.52	0.54
Avail Cap(c_a), veh/h	443	1093	1095	487	1138	508	399	1504	671	266	1366	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	28.2	19.6	34.8	27.3	24.2	35.4	17.2	17.9	37.1	19.1	19.2
Incr Delay (d2), s/veh	3.4	2.9	0.1	3.4	1.5	0.4	3.5	1.3	3.9	3.4	1.4	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	5.8	1.2	2.3	5.1	1.5	1.9	4.7	5.5	0.9	4.6	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	31.1	19.7	38.1	28.8	24.5	38.9	18.6	21.8	40.6	20.5	22.5
LnGrp LOS	D	C	B	D	C	C	D	B	C	D	C	C
Approach Vol, veh/h		1094			988			1394			1132	
Approach Delay, s/veh		30.6			30.7			22.5			22.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	37.0	11.7	22.9	10.6	34.0	11.2	23.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	33.0	11.0	24.0	9.0	30.0	10.0	25.0
Max Q Clear Time (g_c+I1), s	4.1	17.3	7.5	15.8	6.6	14.5	7.0	14.6
Green Ext Time (p_c), s	0.0	5.5	0.3	3.1	0.1	4.8	0.2	3.0

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	589	175	229	550	103	183	745	372	89	651	289
Future Volume (veh/h)	213	589	175	229	550	103	183	745	372	89	651	289
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	224	620	184	241	579	108	193	784	392	94	685	304
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	315	819	870	335	839	374	281	1537	685	160	1413	630
Arrive On Green	0.09	0.23	0.23	0.10	0.23	0.23	0.08	0.43	0.43	0.05	0.39	0.39
Sat Flow, veh/h	3510	3610	2834	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	224	620	184	241	579	108	193	784	392	94	685	304
Grp Sat Flow(s),veh/h/ln	1755	1805	1417	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.8	12.4	3.7	5.2	11.4	4.3	4.1	12.3	14.3	2.0	11.0	11.0
Cycle Q Clear(g_c), s	4.8	12.4	3.7	5.2	11.4	4.3	4.1	12.3	14.3	2.0	11.0	11.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	819	870	335	839	374	281	1537	685	160	1413	630
V/C Ratio(X)	0.71	0.76	0.21	0.72	0.69	0.29	0.69	0.51	0.57	0.59	0.48	0.48
Avail Cap(c_a), veh/h	453	1118	1104	498	1164	519	408	1537	685	272	1413	630
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	28.0	19.9	34.1	27.2	24.5	34.7	16.3	16.9	36.3	17.7	17.7
Incr Delay (d2), s/veh	3.0	2.0	0.1	2.9	1.0	0.4	3.0	1.2	3.4	3.4	1.2	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	5.1	1.1	2.2	4.5	1.5	1.7	4.4	5.1	0.9	4.1	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	30.0	20.0	37.0	28.2	24.9	37.7	17.5	20.3	39.7	18.9	20.3
LnGrp LOS	D	C	C	D	C	C	D	B	C	D	B	C
Approach Vol, veh/h		1028			928			1369			1083	
Approach Delay, s/veh		29.8			30.1			21.2			21.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	37.0	11.4	21.6	10.2	34.3	11.0	22.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	33.0	11.0	24.0	9.0	30.0	10.0	25.0
Max Q Clear Time (g_c+I1), s	4.0	16.3	7.2	14.4	6.1	13.0	6.8	13.4
Green Ext Time (p_c), s	0.0	5.6	0.3	3.2	0.2	4.7	0.2	2.9

Intersection Summary	
HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	623	175	231	562	103	183	745	377	89	651	289
Future Volume (veh/h)	213	623	175	231	562	103	183	745	377	89	651	289
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	224	656	184	243	592	108	193	784	397	94	685	304
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	314	848	892	336	871	388	280	1517	677	160	1393	621
Arrive On Green	0.09	0.24	0.24	0.10	0.24	0.24	0.08	0.42	0.42	0.05	0.39	0.39
Sat Flow, veh/h	3510	3610	2834	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	224	656	184	243	592	108	193	784	397	94	685	304
Grp Sat Flow(s),veh/h/ln	1755	1805	1417	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.9	13.3	3.7	5.3	11.7	4.3	4.2	12.6	14.9	2.1	11.3	11.2
Cycle Q Clear(g_c), s	4.9	13.3	3.7	5.3	11.7	4.3	4.2	12.6	14.9	2.1	11.3	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	848	892	336	871	388	280	1517	677	160	1393	621
V/C Ratio(X)	0.71	0.77	0.21	0.72	0.68	0.28	0.69	0.52	0.59	0.59	0.49	0.49
Avail Cap(c_a), veh/h	447	1103	1092	492	1149	513	402	1517	677	268	1393	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	28.1	19.7	34.5	27.0	24.2	35.2	16.9	17.5	36.8	18.3	18.3
Incr Delay (d2), s/veh	3.0	2.6	0.1	3.0	1.0	0.4	3.0	1.3	3.7	3.4	1.2	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.6	1.1	2.2	4.6	1.5	1.8	4.6	5.4	0.9	4.2	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	30.7	19.8	37.5	28.1	24.6	38.2	18.1	21.2	40.2	19.5	21.0
LnGrp LOS	D	C	B	D	C	C	D	B	C	D	B	C
Approach Vol, veh/h		1064			943			1374			1083	
Approach Delay, s/veh		30.3			30.1			21.8			21.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	37.0	11.5	22.5	10.3	34.3	11.0	22.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	33.0	11.0	24.0	9.0	30.0	10.0	25.0
Max Q Clear Time (g_c+I1), s	4.1	16.9	7.3	15.3	6.2	13.3	6.9	13.7
Green Ext Time (p_c), s	0.0	5.5	0.3	3.1	0.1	4.7	0.2	3.0

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : SR-99 CONNECTOR TO HWY 65
CONDITION : PM PEAK HOUR

INTERSECTION : 11
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
MERLE HAGGARD DR							
EB LEFT	152	11	163	0	163	162	162
EB THRU	750	53	803	16	819	748	764
EB RIGHT	145	10	155	0	155	149	149
WB LEFT	342	24	366	5	371	368	373
WB THRU	990	69	1059	37	1096	1,040	1077
WB RIGHT	171	12	183	0	183	191	191
SR-99 CONNECTOR TO HWY 65							
NB LEFT	251	18	269	0	269	273	273
NB THRU	743	52	795	0	795	853	853
NB RIGHT	308	22	330	2	332	332	334
SB LEFT	95	7	102	0	102	121	121
SB THRU	616	43	659	0	659	805	805
SB RIGHT	172	12	184	0	184	220	220
TOTALS	**4735**	**333**	**5068**	**60**	**5128**	**5262**	**5322**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : SR-99 CONNECTOR TO HWY 65
CONDITION : PM PEAK HOUR
PHF : 0.86

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
39	88	12	1	0	0	0	0	0	1	23	4
42	106	19	3	0	0	0	1	0	0	11	1
49	143	38	1	0	0	0	0	0	1	10	0
22	98	11	0	1	0	0	0	0	2	15	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
62	84	45	0	1	0	0	2	0	3	28	0
58	149	52	0	2	0	2	1	1	0	14	0
78	170	53	0	1	0	0	0	2	0	4	0
97	165	95	0	1	0	0	1	0	0	7	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
37	219	69	3	1	0	0	3	0	1	6	0
45	261	51	0	1	0	0	1	0	0	3	1
60	284	85	0	1	0	0	0	0	0	2	2
14	168	117	1	1	3	0	1	0	2	3	2

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
32	161	13	0	3	3	0	1	2	1	1	4
39	168	43	0	1	0	0	0	1	0	0	1
54	200	24	0	0	0	0	0	2	1	2	2
12	193	23	1	0	0	0	1	2	0	3	3

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
MERLE HAGGARD DR					
EB LEFT	20	103	**123**	**152**	**152**
EB THRU	12	722	**734**	**750**	**750**
EB RIGHT	3	137	**140**	**145**	**145**
WB LEFT	8	322	**330**	**342**	**342**
WB THRU	23	932	**955**	**990**	**990**
WB RIGHT	7	156	**163**	**171**	**171**
SR-99 CONNECTOR TO HV					
NB LEFT	3	245	**248**	**251**	**251**
NB THRU	62	568	**630**	**743**	**743**
NB RIGHT	5	295	**300**	**308**	**308**
SB LEFT	5	80	**85**	**95**	**95**
SB THRU	61	435	**496**	**616**	**616**
SB RIGHT	9	152	**161**	**172**	**172**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	750	145	342	990	171	251	743	308	95	616	172
Future Volume (veh/h)	152	750	145	342	990	171	251	743	308	95	616	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	177	872	169	398	1151	199	292	864	358	110	716	200
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	243	1074	1142	478	1316	587	370	1197	534	177	999	445
Arrive On Green	0.07	0.30	0.30	0.14	0.36	0.36	0.11	0.33	0.33	0.05	0.28	0.28
Sat Flow, veh/h	3510	3610	2834	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	177	872	169	398	1151	199	292	864	358	110	716	200
Grp Sat Flow(s),veh/h/ln	1755	1805	1417	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.3	19.4	3.3	9.6	25.8	7.8	7.0	18.2	16.6	2.7	15.5	8.9
Cycle Q Clear(g_c), s	4.3	19.4	3.3	9.6	25.8	7.8	7.0	18.2	16.6	2.7	15.5	8.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	243	1074	1142	478	1316	587	370	1197	534	177	999	445
V/C Ratio(X)	0.73	0.81	0.15	0.83	0.87	0.34	0.79	0.72	0.67	0.62	0.72	0.45
Avail Cap(c_a), veh/h	243	1124	1180	526	1415	631	405	1197	534	243	999	445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	28.2	16.4	36.5	25.7	20.0	37.9	25.5	24.9	40.4	28.3	25.9
Incr Delay (d2), s/veh	10.6	4.5	0.1	10.2	6.1	0.3	9.4	3.8	6.6	3.6	4.4	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	8.3	1.0	4.5	10.9	2.7	3.3	7.5	6.6	1.2	6.6	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.1	32.7	16.5	46.7	31.8	20.3	47.3	29.3	31.5	43.9	32.7	29.2
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1218			1748			1514			1026	
Approach Delay, s/veh		33.0			33.9			33.3			33.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	32.8	15.8	29.8	13.1	28.0	10.0	35.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	28.0	13.0	27.0	10.0	24.0	6.0	34.0
Max Q Clear Time (g_c+I1), s	4.3	20.2	11.6	21.4	9.0	17.5	6.3	27.8
Green Ext Time (p_c), s	0.0	3.8	0.2	2.9	0.1	2.6	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	803	155	366	1059	183	269	795	330	102	659	184
Future Volume (veh/h)	163	803	155	366	1059	183	269	795	330	102	659	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	190	934	180	426	1231	213	313	924	384	119	766	214
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	237	1076	1156	498	1345	600	386	1180	526	186	975	435
Arrive On Green	0.07	0.30	0.30	0.14	0.37	0.37	0.11	0.33	0.33	0.05	0.27	0.27
Sat Flow, veh/h	3510	3610	2834	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	190	934	180	426	1231	213	313	924	384	119	766	214
Grp Sat Flow(s),veh/h/ln	1755	1805	1417	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.7	21.8	3.6	10.5	28.9	8.5	7.7	20.6	18.7	3.0	17.5	9.9
Cycle Q Clear(g_c), s	4.7	21.8	3.6	10.5	28.9	8.5	7.7	20.6	18.7	3.0	17.5	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	237	1076	1156	498	1345	600	386	1180	526	186	975	435
V/C Ratio(X)	0.80	0.87	0.16	0.85	0.92	0.36	0.81	0.78	0.73	0.64	0.79	0.49
Avail Cap(c_a), veh/h	237	1097	1173	514	1381	616	395	1180	526	237	975	435
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	29.5	16.6	37.2	26.6	20.2	38.6	27.1	26.4	41.2	30.1	27.3
Incr Delay (d2), s/veh	17.7	7.5	0.1	13.0	9.6	0.4	11.9	5.2	8.6	3.7	6.4	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	9.8	1.0	5.1	12.7	2.9	3.7	8.7	7.7	1.3	7.7	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	37.1	16.7	50.2	36.2	20.5	50.5	32.3	35.0	44.9	36.4	31.2
LnGrp LOS	E	D	B	D	D	C	D	C	D	D	D	C
Approach Vol, veh/h		1304			1870			1621			1099	
Approach Delay, s/veh		37.4			37.6			36.5			36.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	33.1	16.6	30.5	13.8	28.0	10.0	37.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	28.0	13.0	27.0	10.0	24.0	6.0	34.0
Max Q Clear Time (g_c+I1), s	5.7	22.6	12.5	23.8	9.7	19.5	6.7	30.9
Green Ext Time (p_c), s	0.0	3.1	0.1	1.9	0.0	2.1	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	819	155	371	1096	183	269	795	332	102	659	184
Future Volume (veh/h)	163	819	155	371	1096	183	269	795	332	102	659	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	190	952	180	431	1274	213	313	924	386	119	766	214
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	235	1084	1162	502	1357	605	385	1173	523	186	969	432
Arrive On Green	0.07	0.30	0.30	0.14	0.38	0.38	0.11	0.33	0.33	0.05	0.27	0.27
Sat Flow, veh/h	3510	3610	2834	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	190	952	180	431	1274	213	313	924	386	119	766	214
Grp Sat Flow(s),veh/h/ln	1755	1805	1417	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.8	22.4	3.6	10.7	30.4	8.5	7.8	20.8	19.0	3.0	17.6	10.0
Cycle Q Clear(g_c), s	4.8	22.4	3.6	10.7	30.4	8.5	7.8	20.8	19.0	3.0	17.6	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	1084	1162	502	1357	605	385	1173	523	186	969	432
V/C Ratio(X)	0.81	0.88	0.15	0.86	0.94	0.35	0.81	0.79	0.74	0.64	0.79	0.50
Avail Cap(c_a), veh/h	235	1090	1166	510	1372	612	392	1173	523	235	969	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	29.7	16.6	37.5	26.9	20.1	38.9	27.4	26.8	41.5	30.4	27.6
Incr Delay (d2), s/veh	18.4	8.4	0.1	13.6	12.4	0.3	12.1	5.4	9.0	3.8	6.6	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	10.2	1.1	5.2	13.9	2.9	3.8	8.8	7.9	1.3	7.8	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	38.1	16.7	51.1	39.3	20.4	51.0	32.8	35.8	45.3	37.0	31.6
LnGrp LOS	E	D	B	D	D	C	D	C	D	D	D	C
Approach Vol, veh/h		1322			1918			1623			1099	
Approach Delay, s/veh		38.3			39.9			37.0			36.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	33.1	16.8	30.9	13.8	28.0	10.0	37.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	28.0	13.0	27.0	10.0	24.0	6.0	34.0
Max Q Clear Time (g_c+I1), s	5.0	22.8	12.7	24.4	9.8	19.6	6.8	32.4
Green Ext Time (p_c), s	0.0	3.0	0.1	1.6	0.0	2.1	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	748	149	368	1040	191	273	853	332	121	805	220
Future Volume (veh/h)	162	748	149	368	1040	191	273	853	332	121	805	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	171	787	157	387	1095	201	287	898	349	127	847	232
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	245	1056	1125	470	1287	574	367	1190	531	198	1016	453
Arrive On Green	0.07	0.29	0.29	0.13	0.36	0.36	0.10	0.33	0.33	0.06	0.28	0.28
Sat Flow, veh/h	3510	3610	2834	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	171	787	157	387	1095	201	287	898	349	127	847	232
Grp Sat Flow(s),veh/h/ln	1755	1805	1417	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.1	16.8	3.0	9.1	23.9	7.8	6.8	18.9	15.8	3.0	18.8	10.3
Cycle Q Clear(g_c), s	4.1	16.8	3.0	9.1	23.9	7.8	6.8	18.9	15.8	3.0	18.8	10.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	245	1056	1125	470	1287	574	367	1190	531	198	1016	453
V/C Ratio(X)	0.70	0.75	0.14	0.82	0.85	0.35	0.78	0.75	0.66	0.64	0.83	0.51
Avail Cap(c_a), veh/h	247	1143	1193	535	1439	642	412	1190	531	247	1016	453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	27.3	16.4	35.9	25.3	20.2	37.2	25.5	24.5	39.4	28.8	25.7
Incr Delay (d2), s/veh	8.3	2.5	0.1	9.0	4.7	0.4	8.5	4.5	6.3	3.8	8.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	7.0	0.9	4.2	9.8	2.7	3.1	7.8	6.3	1.3	8.3	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	29.8	16.5	45.0	30.0	20.5	45.8	30.0	30.7	43.2	36.8	29.8
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	D	C
Approach Vol, veh/h		1115			1683			1534			1206	
Approach Delay, s/veh		30.6			32.3			33.1			36.1	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	32.1	15.4	28.9	12.9	28.0	10.0	34.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.8	28.0	13.0	27.0	10.0	24.0	6.0	34.0
Max Q Clear Time (g_c+I1), s	5.0	20.9	11.1	18.8	8.8	20.8	6.1	25.9
Green Ext Time (p_c), s	0.0	3.7	0.3	3.5	0.1	1.8	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	764	149	373	1077	191	273	853	334	121	805	220
Future Volume (veh/h)	162	764	149	373	1077	191	273	853	334	121	805	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	171	804	157	393	1134	201	287	898	352	127	847	232
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	244	1072	1137	474	1308	584	366	1178	525	197	1005	448
Arrive On Green	0.07	0.30	0.30	0.14	0.36	0.36	0.10	0.33	0.33	0.06	0.28	0.28
Sat Flow, veh/h	3510	3610	2834	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	171	804	157	393	1134	201	287	898	352	127	847	232
Grp Sat Flow(s),veh/h/ln	1755	1805	1417	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.1	17.4	3.0	9.4	25.2	7.8	6.9	19.2	16.3	3.1	19.1	10.5
Cycle Q Clear(g_c), s	4.1	17.4	3.0	9.4	25.2	7.8	6.9	19.2	16.3	3.1	19.1	10.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	244	1072	1137	474	1308	584	366	1178	525	197	1005	448
V/C Ratio(X)	0.70	0.75	0.14	0.83	0.87	0.34	0.78	0.76	0.67	0.64	0.84	0.52
Avail Cap(c_a), veh/h	244	1130	1182	529	1423	635	407	1178	525	244	1005	448
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	27.4	16.4	36.3	25.6	20.0	37.7	26.0	25.0	39.9	29.3	26.2
Incr Delay (d2), s/veh	8.6	2.7	0.1	9.7	5.6	0.3	8.8	4.7	6.7	4.0	8.6	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	7.3	0.9	4.4	10.5	2.7	3.2	8.0	6.5	1.3	8.5	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	30.1	16.4	46.1	31.1	20.4	46.5	30.7	31.7	43.8	37.9	30.5
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	D	C
Approach Vol, veh/h		1132			1728			1537			1206	
Approach Delay, s/veh		30.9			33.3			33.9			37.1	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	32.1	15.6	29.6	13.0	28.0	10.0	35.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.8	28.0	13.0	27.0	10.0	24.0	6.0	34.0
Max Q Clear Time (g_c+I1), s	5.1	21.2	11.4	19.4	8.9	21.1	6.1	27.2
Green Ext Time (p_c), s	0.0	3.6	0.2	3.4	0.1	1.6	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 11
North/South Street: SR-99 CONNECTOR TO HWY 65
East/West Street: MERLE HAGGARD DR

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	174	Approach	1,298	Left	183	183
NB	Through	662	Departure	1,054	Through	745	745
	Right	332			Right	372	372
North leg	Left	79	Approach	1,028	Left	89	89
SB	Through	599	Departure	1,059	Through	651	651
	Right	274			Right	289	289
West leg	Left	192	Approach	976	Left	213	213
EB	Through	534	Departure	1,020	Through	589	589
	Right	164			Right	175	175
East leg	Left	209	Approach	880	Left	229	229
WB	Through	519	Departure	1,049	Through	550	550
	Right	90			Right	103	103

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	251	Approach	1,456	Left	273	273
NB	Through	743	Departure	1,321	Through	853	853
	Right	308			Right	332	332
North leg	Left	95	Approach	1,145	Left	121	121
SB	Through	616	Departure	1,204	Through	805	805
	Right	172			Right	220	220
West leg	Left	152	Approach	1,057	Left	162	162
EB	Through	750	Departure	1,532	Through	748	748
	Right	145			Right	149	149
East leg	Left	342	Approach	1,597	Left	368	368
WB	Through	990	Departure	1,199	Through	1,040	1,040
	Right	171			Right	191	191

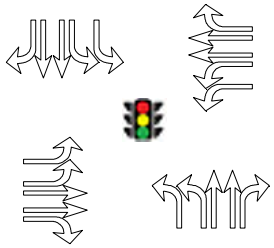
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : WINGS WAY
CONDITION : AM PEAK HOUR

INTERSECTION : 12
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
MERLE HAGGARD DR							
EB LEFT	130	9	139	0	139	133	133
EB THRU	640	45	685	39	724	742	781
EB RIGHT	33	2	35	0	35	40	40
WB LEFT	43	3	46	0	46	48	48
WB THRU	616	43	659	14	673	673	687
WB RIGHT	39	3	42	0	42	37	37
WINGS WAY							
NB LEFT	43	3	46	0	46	50	50
NB THRU	1	0	1	0	1	2	2
NB RIGHT	7	0	7	0	7	9	9
SB LEFT	12	1	13	0	13	12	12
SB THRU	1	0	1	0	1	2	2
SB RIGHT	81	6	87	0	87	82	82
TOTALS	**1646**	**115**	**1761**	**53**	**1814**	**1830**	**1883**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : WINGS WAY
CONDITION : AM PEAK HOUR
PHF : 0.93

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
13	0	1	0	0	0	0	0	0	2	0	0
13	0	0	0	0	0	1	0	0	1	0	2
15	0	2	0	0	0	2	0	0	1	0	0
20	0	3	0	0	0	1	0	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	11	0	0	0	0	0	0	0	0	0
3	1	9	0	0	0	0	0	1	0	0	0
3	0	7	0	0	0	0	0	0	0	0	0
1	0	14	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
8	126	10	0	1	0	0	1	0	0	9	0
10	145	10	0	4	0	0	1	0	0	3	0
10	131	11	0	2	0	0	0	0	0	3	0
11	145	12	0	2	0	0	0	0	0	2	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
8	135	26	0	2	0	0	1	0	0	3	1
10	163	30	0	6	0	0	1	0	0	3	1
7	127	33	0	2	0	0	1	0	0	3	2
8	157	29	0	0	0	0	2	0	0	2	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
MERLE HAGGARD DR					
EB LEFT	4	118	**122**	**130**	**130**
EB THRU	26	582	**608**	**640**	**640**
EB RIGHT	0	33	**33**	**33**	**33**
WB LEFT	0	43	**43**	**43**	**43**
WB THRU	28	547	**575**	**616**	**616**
WB RIGHT	0	39	**39**	**39**	**39**
WINGS WAY					
NB LEFT	1	41	**42**	**43**	**43**
NB THRU	0	1	**1**	**1**	**1**
NB RIGHT	0	7	**7**	**7**	**7**
SB LEFT	2	6	**8**	**12**	**12**
SB THRU	0	0	**0**	**1**	**1**
SB RIGHT	8	61	**69**	**81**	**81**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	640	33	43	616	39	43	1	7	12	1	81
Future Volume (veh/h)	130	640	33	43	616	39	43	1	7	12	1	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	140	688	35	46	662	42	46	1	8	13	1	87
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	256	1588	708	136	1465	653	136	568	253	47	476	212
Arrive On Green	0.07	0.44	0.44	0.04	0.41	0.41	0.04	0.16	0.16	0.01	0.13	0.13
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	140	688	35	46	662	42	46	1	8	13	1	87
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	1.8	6.0	0.6	0.6	6.1	0.7	0.6	0.0	0.2	0.2	0.0	2.3
Cycle Q Clear(g_c), s	1.8	6.0	0.6	0.6	6.1	0.7	0.6	0.0	0.2	0.2	0.0	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	256	1588	708	136	1465	653	136	568	253	47	476	212
V/C Ratio(X)	0.55	0.43	0.05	0.34	0.45	0.06	0.34	0.00	0.03	0.28	0.00	0.41
Avail Cap(c_a), veh/h	462	1588	708	462	1465	653	462	1465	653	462	1465	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	8.8	7.3	21.3	9.9	8.3	21.3	16.2	16.3	22.3	17.2	18.2
Incr Delay (d2), s/veh	1.8	0.9	0.1	1.5	1.0	0.2	1.5	0.0	0.1	3.2	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	0.2	0.2	1.6	0.2	0.2	0.0	0.1	0.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.2	9.7	7.4	22.8	10.9	8.5	22.8	16.2	16.3	25.5	17.2	19.4
LnGrp LOS	C	A	A	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h		863			750			55			101	
Approach Delay, s/veh		11.6			11.5			21.7			20.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	24.1	5.8	10.0	7.3	22.5	4.6	11.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	18.5	6.0	18.5	6.0	18.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.6	8.0	2.6	4.3	3.8	8.1	2.2	2.2
Green Ext Time (p_c), s	0.0	3.1	0.0	0.2	0.1	2.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	685	35	46	659	42	46	1	7	13	1	87
Future Volume (veh/h)	139	685	35	46	659	42	46	1	7	13	1	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	149	737	38	49	709	45	49	1	8	14	1	94
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	260	1573	702	142	1452	648	142	584	260	50	489	218
Arrive On Green	0.07	0.44	0.44	0.04	0.40	0.40	0.04	0.16	0.16	0.01	0.14	0.14
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	149	737	38	49	709	45	49	1	8	14	1	94
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	1.9	6.7	0.6	0.6	6.7	0.8	0.6	0.0	0.2	0.2	0.0	2.5
Cycle Q Clear(g_c), s	1.9	6.7	0.6	0.6	6.7	0.8	0.6	0.0	0.2	0.2	0.0	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	1573	702	142	1452	648	142	584	260	50	489	218
V/C Ratio(X)	0.57	0.47	0.05	0.34	0.49	0.07	0.34	0.00	0.03	0.28	0.00	0.43
Avail Cap(c_a), veh/h	458	1573	702	458	1452	648	458	1452	648	458	1452	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	9.2	7.5	21.5	10.2	8.5	21.5	16.2	16.2	22.4	17.2	18.3
Incr Delay (d2), s/veh	2.0	1.0	0.1	1.4	1.2	0.2	1.4	0.0	0.0	3.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.8	0.2	0.2	1.8	0.3	0.3	0.0	0.1	0.1	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	10.2	7.6	22.9	11.4	8.7	22.9	16.2	16.3	25.4	17.2	19.6
LnGrp LOS	C	B	A	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h		924			803			58			109	
Approach Delay, s/veh		12.1			12.0			21.9			20.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	24.0	5.9	10.2	7.4	22.5	4.7	11.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	18.5	6.0	18.5	6.0	18.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.6	8.7	2.6	4.5	3.9	8.7	2.2	2.2
Green Ext Time (p_c), s	0.0	3.2	0.0	0.2	0.1	3.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	724	35	46	673	42	46	1	7	13	1	87
Future Volume (veh/h)	139	724	35	46	673	42	46	1	7	13	1	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	149	778	38	49	724	45	49	1	8	14	1	94
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	260	1573	702	142	1452	648	142	584	260	50	489	218
Arrive On Green	0.07	0.44	0.44	0.04	0.40	0.40	0.04	0.16	0.16	0.01	0.14	0.14
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	149	778	38	49	724	45	49	1	8	14	1	94
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	1.9	7.1	0.6	0.6	6.9	0.8	0.6	0.0	0.2	0.2	0.0	2.5
Cycle Q Clear(g_c), s	1.9	7.1	0.6	0.6	6.9	0.8	0.6	0.0	0.2	0.2	0.0	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	1573	702	142	1452	648	142	584	260	50	489	218
V/C Ratio(X)	0.57	0.49	0.05	0.34	0.50	0.07	0.34	0.00	0.03	0.28	0.00	0.43
Avail Cap(c_a), veh/h	458	1573	702	458	1452	648	458	1452	648	458	1452	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	9.3	7.5	21.5	10.3	8.5	21.5	16.2	16.2	22.4	17.2	18.3
Incr Delay (d2), s/veh	2.0	1.1	0.1	1.4	1.2	0.2	1.4	0.0	0.0	3.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.9	0.2	0.2	1.9	0.3	0.3	0.0	0.1	0.1	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	10.4	7.6	22.9	11.5	8.7	22.9	16.2	16.3	25.4	17.2	19.6
LnGrp LOS	C	B	A	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h		965			818			58			109	
Approach Delay, s/veh		12.2			12.0			21.9			20.3	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	24.0	5.9	10.2	7.4	22.5	4.7	11.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	18.5	6.0	18.5	6.0	18.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.6	9.1	2.6	4.5	3.9	8.9	2.2	2.2
Green Ext Time (p_c), s	0.0	3.3	0.0	0.2	0.1	3.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	742	40	48	673	37	50	2	9	12	2	82
Future Volume (veh/h)	133	742	40	48	673	37	50	2	9	12	2	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	140	781	42	51	708	39	53	2	9	13	2	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	255	1567	699	146	1456	649	150	585	261	47	478	213
Arrive On Green	0.07	0.43	0.43	0.04	0.40	0.40	0.04	0.16	0.16	0.01	0.13	0.13
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	140	781	42	51	708	39	53	2	9	13	2	86
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	1.8	7.2	0.7	0.6	6.7	0.7	0.7	0.0	0.2	0.2	0.0	2.2
Cycle Q Clear(g_c), s	1.8	7.2	0.7	0.6	6.7	0.7	0.7	0.0	0.2	0.2	0.0	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	1567	699	146	1456	649	150	585	261	47	478	213
V/C Ratio(X)	0.55	0.50	0.06	0.35	0.49	0.06	0.35	0.00	0.03	0.28	0.00	0.40
Avail Cap(c_a), veh/h	459	1567	699	459	1456	649	459	1456	649	459	1456	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	9.4	7.5	21.4	10.2	8.4	21.3	16.1	16.2	22.4	17.3	18.2
Incr Delay (d2), s/veh	1.8	1.1	0.2	1.4	1.2	0.2	1.4	0.0	0.1	3.2	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.0	0.2	0.2	1.8	0.2	0.3	0.0	0.1	0.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	10.5	7.7	22.8	11.3	8.5	22.7	16.1	16.2	25.6	17.3	19.5
LnGrp LOS	C	B	A	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h		963			798			64			101	
Approach Delay, s/veh		12.1			11.9			21.6			20.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	23.9	6.0	10.1	7.3	22.5	4.6	11.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	18.5	6.0	18.5	6.0	18.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.6	9.2	2.7	4.2	3.8	8.7	2.2	2.2
Green Ext Time (p_c), s	0.0	3.3	0.0	0.2	0.1	3.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	781	40	48	687	37	50	2	9	12	2	82
Future Volume (veh/h)	133	781	40	48	687	37	50	2	9	12	2	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	140	822	42	51	723	39	53	2	9	13	2	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	255	1567	699	146	1456	649	150	585	261	47	478	213
Arrive On Green	0.07	0.43	0.43	0.04	0.40	0.40	0.04	0.16	0.16	0.01	0.13	0.13
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	140	822	42	51	723	39	53	2	9	13	2	86
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	1.8	7.7	0.7	0.6	6.9	0.7	0.7	0.0	0.2	0.2	0.0	2.2
Cycle Q Clear(g_c), s	1.8	7.7	0.7	0.6	6.9	0.7	0.7	0.0	0.2	0.2	0.0	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	1567	699	146	1456	649	150	585	261	47	478	213
V/C Ratio(X)	0.55	0.52	0.06	0.35	0.50	0.06	0.35	0.00	0.03	0.28	0.00	0.40
Avail Cap(c_a), veh/h	459	1567	699	459	1456	649	459	1456	649	459	1456	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	9.5	7.5	21.4	10.2	8.4	21.3	16.1	16.2	22.4	17.3	18.2
Incr Delay (d2), s/veh	1.8	1.3	0.2	1.4	1.2	0.2	1.4	0.0	0.1	3.2	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.1	0.2	0.2	1.9	0.2	0.3	0.0	0.1	0.1	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	10.8	7.7	22.8	11.4	8.5	22.7	16.1	16.2	25.6	17.3	19.5
LnGrp LOS	C	B	A	C	B	A	C	B	B	C	B	B
Approach Vol, veh/h		1004			813			64			101	
Approach Delay, s/veh		12.3			12.0			21.6			20.2	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	23.9	6.0	10.1	7.3	22.5	4.6	11.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	18.5	6.0	18.5	6.0	18.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.6	9.7	2.7	4.2	3.8	8.9	2.2	2.2
Green Ext Time (p_c), s	0.0	3.4	0.0	0.2	0.1	3.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : WINGS WAY
CONDITION : PM PEAK HOUR

INTERSECTION : 12
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
MERLE HAGGARD DR							
EB LEFT	202	14	216	0	216	202	202
EB THRU	839	59	898	18	916	852	870
EB RIGHT	15	1	16	0	16	20	20
WB LEFT	7	0	7	0	7	10	10
WB THRU	1148	80	1228	42	1270	1,305	1347
WB RIGHT	5	0	5	0	5	6	6
WINGS WAY							
NB LEFT	26	2	28	0	28	36	36
NB THRU	1	0	1	0	1	2	2
NB RIGHT	5	0	5	0	5	7	7
SB LEFT	23	2	25	0	25	23	23
SB THRU	2	0	2	0	2	3	3
SB RIGHT	184	13	197	0	197	185	185
TOTALS	**2457**	**171**	**2628**	**60**	**2688**	**2651**	**2711**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : WINGS WAY
CONDITION : PM PEAK HOUR
PHF : 0.86

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
25	2	5	0	0	0	0	0	0	2	0	0
39	0	8	2	0	0	0	0	0	2	0	0
16	0	5	0	0	0	1	0	0	4	0	0
64	0	5	0	0	0	1	0	0	3	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	1	6	0	0	0	0	0	0	0	0	0
2	0	8	0	0	0	0	0	0	0	0	0
0	0	5	0	0	0	0	0	0	0	0	0
1	0	7	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	280	1	0	0	0	0	1	0	0	2	0
0	282	0	0	1	0	0	1	0	0	1	0
1	365	4	0	0	0	0	0	0	0	1	0
1	194	2	0	2	0	1	0	0	0	2	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	186	34	0	0	0	0	0	0	0	2	2
8	180	44	0	0	0	0	1	0	0	0	1
3	247	36	0	1	0	0	0	1	0	1	4
2	210	59	0	0	0	0	0	0	0	1	2

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
MERLE HAGGARD DR					
EB LEFT	10	173	**183**	**202**	**202**
EB THRU	6	823	**829**	**839**	**839**
EB RIGHT	0	15	**15**	**15**	**15**
WB LEFT	0	7	**7**	**7**	**7**
WB THRU	11	1121	**1,132**	**1148**	**1148**
WB RIGHT	1	3	**4**	**5**	**5**
WINGS WAY					
NB LEFT	0	26	**26**	**26**	**26**
NB THRU	0	1	**1**	**1**	**1**
NB RIGHT	0	5	**5**	**5**	**5**
SB LEFT	0	23	**23**	**23**	**23**
SB THRU	0	2	**2**	**2**	**2**
SB RIGHT	15	144	**159**	**184**	**184**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	839	15	7	1148	5	26	1	5	23	2	184
Future Volume (veh/h)	202	839	15	7	1148	5	26	1	5	23	2	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	235	976	17	8	1335	6	30	1	6	27	2	214
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	308	2057	918	29	1770	790	89	593	264	82	586	261
Arrive On Green	0.09	0.57	0.57	0.01	0.49	0.49	0.03	0.16	0.16	0.02	0.16	0.16
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	235	976	17	8	1335	6	30	1	6	27	2	214
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.5	10.9	0.3	0.2	20.4	0.1	0.6	0.0	0.2	0.5	0.0	8.8
Cycle Q Clear(g_c), s	4.5	10.9	0.3	0.2	20.4	0.1	0.6	0.0	0.2	0.5	0.0	8.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	308	2057	918	29	1770	790	89	593	264	82	586	261
V/C Ratio(X)	0.76	0.47	0.02	0.28	0.75	0.01	0.34	0.00	0.02	0.33	0.00	0.82
Avail Cap(c_a), veh/h	308	2057	918	308	1770	790	308	978	436	308	978	436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	8.7	6.4	33.7	14.1	8.9	32.7	23.9	24.0	32.8	24.0	27.7
Incr Delay (d2), s/veh	10.7	0.8	0.0	5.1	3.0	0.0	2.2	0.0	0.0	2.3	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	3.1	0.1	0.1	6.8	0.0	0.3	0.0	0.1	0.2	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	9.4	6.4	38.7	17.1	8.9	34.9	23.9	24.0	35.1	24.0	33.9
LnGrp LOS	D	A	A	D	B	A	C	C	C	D	C	C
Approach Vol, veh/h		1228			1349			37			243	
Approach Delay, s/veh		15.5			17.2			32.8			34.0	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	42.9	5.7	15.1	10.0	37.5	5.6	15.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	33.5	6.0	18.5	6.0	33.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.2	12.9	2.6	10.8	6.5	22.4	2.5	2.2
Green Ext Time (p_c), s	0.0	6.2	0.0	0.4	0.0	6.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	898	16	7	1228	5	28	1	5	25	2	197
Future Volume (veh/h)	216	898	16	7	1228	5	28	1	5	25	2	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	251	1044	19	8	1428	6	33	1	6	29	2	229
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	304	2030	905	29	1747	779	95	627	280	87	618	276
Arrive On Green	0.09	0.56	0.56	0.01	0.48	0.48	0.03	0.17	0.17	0.02	0.17	0.17
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	251	1044	19	8	1428	6	33	1	6	29	2	229
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.9	12.3	0.4	0.2	23.4	0.1	0.6	0.0	0.2	0.6	0.0	9.5
Cycle Q Clear(g_c), s	4.9	12.3	0.4	0.2	23.4	0.1	0.6	0.0	0.2	0.6	0.0	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	304	2030	905	29	1747	779	95	627	280	87	618	276
V/C Ratio(X)	0.83	0.51	0.02	0.28	0.82	0.01	0.35	0.00	0.02	0.33	0.00	0.83
Avail Cap(c_a), veh/h	304	2030	905	304	1747	779	304	965	430	304	965	430
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	9.3	6.7	34.1	15.3	9.3	33.1	23.6	23.7	33.2	23.8	27.7
Incr Delay (d2), s/veh	16.7	0.9	0.0	5.1	4.4	0.0	2.1	0.0	0.0	2.2	0.0	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.7	0.1	0.1	8.1	0.0	0.3	0.0	0.1	0.3	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	10.3	6.8	39.2	19.6	9.3	35.2	23.6	23.8	35.4	23.8	35.4
LnGrp LOS	D	B	A	D	B	A	D	C	C	D	C	D
Approach Vol, veh/h		1314			1442			40			260	
Approach Delay, s/veh		17.4			19.7			33.2			35.4	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	42.9	5.9	15.9	10.0	37.5	5.7	16.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	33.5	6.0	18.5	6.0	33.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.2	14.3	2.6	11.5	6.9	25.4	2.6	2.2
Green Ext Time (p_c), s	0.0	6.6	0.0	0.4	0.0	5.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	916	16	7	1270	5	28	1	5	25	2	197
Future Volume (veh/h)	216	916	16	7	1270	5	28	1	5	25	2	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	251	1065	19	8	1477	6	33	1	6	29	2	229
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	304	2030	905	29	1747	779	95	627	280	87	618	276
Arrive On Green	0.09	0.56	0.56	0.01	0.48	0.48	0.03	0.17	0.17	0.02	0.17	0.17
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	251	1065	19	8	1477	6	33	1	6	29	2	229
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.9	12.7	0.4	0.2	24.7	0.1	0.6	0.0	0.2	0.6	0.0	9.5
Cycle Q Clear(g_c), s	4.9	12.7	0.4	0.2	24.7	0.1	0.6	0.0	0.2	0.6	0.0	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	304	2030	905	29	1747	779	95	627	280	87	618	276
V/C Ratio(X)	0.83	0.52	0.02	0.28	0.85	0.01	0.35	0.00	0.02	0.33	0.00	0.83
Avail Cap(c_a), veh/h	304	2030	905	304	1747	779	304	965	430	304	965	430
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	9.4	6.7	34.1	15.6	9.3	33.1	23.6	23.7	33.2	23.8	27.7
Incr Delay (d2), s/veh	16.7	1.0	0.0	5.1	5.2	0.0	2.1	0.0	0.0	2.2	0.0	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.8	0.1	0.1	8.7	0.0	0.3	0.0	0.1	0.3	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	10.4	6.8	39.2	20.9	9.3	35.2	23.6	23.8	35.4	23.8	35.4
LnGrp LOS	D	B	A	D	C	A	D	C	C	D	C	D
Approach Vol, veh/h		1335			1491			40			260	
Approach Delay, s/veh		17.4			20.9			33.2			35.4	
Approach LOS		B			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.6	42.9	5.9	15.9	10.0	37.5	5.7	16.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.6	33.5	6.0	18.5	6.0	33.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.2	14.7	2.6	11.5	6.9	26.7	2.6	2.2
Green Ext Time (p_c), s	0.0	6.7	0.0	0.4	0.0	4.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	852	20	10	1305	6	36	2	7	23	3	185
Future Volume (veh/h)	202	852	20	10	1305	6	36	2	7	23	3	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	213	897	21	11	1374	6	38	2	7	24	3	195
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	305	2063	920	39	1789	798	106	575	256	75	543	242
Arrive On Green	0.09	0.57	0.57	0.01	0.50	0.50	0.03	0.16	0.16	0.02	0.15	0.15
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	213	897	21	11	1374	6	38	2	7	24	3	195
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.0	9.6	0.4	0.2	20.9	0.1	0.7	0.0	0.2	0.5	0.0	7.9
Cycle Q Clear(g_c), s	4.0	9.6	0.4	0.2	20.9	0.1	0.7	0.0	0.2	0.5	0.0	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	305	2063	920	39	1789	798	106	575	256	75	543	242
V/C Ratio(X)	0.70	0.43	0.02	0.28	0.77	0.01	0.36	0.00	0.03	0.32	0.01	0.81
Avail Cap(c_a), veh/h	312	2063	920	312	1789	798	312	988	441	312	988	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	8.3	6.3	33.2	13.9	8.6	32.1	23.9	24.0	32.6	24.4	27.8
Incr Delay (d2), s/veh	6.5	0.7	0.0	3.9	3.2	0.0	2.0	0.0	0.0	2.4	0.0	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	2.7	0.1	0.1	6.9	0.0	0.3	0.0	0.1	0.2	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	8.9	6.3	37.1	17.1	8.6	34.2	23.9	24.0	35.0	24.4	33.9
LnGrp LOS	D	A	A	D	B	A	C	C	C	C	C	C
Approach Vol, veh/h		1131			1391			47			222	
Approach Delay, s/veh		14.1			17.2			32.2			33.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	42.6	6.0	14.2	9.9	37.5	5.5	14.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	33.5	6.0	18.5	6.0	33.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.2	11.6	2.7	9.9	6.0	22.9	2.5	2.2
Green Ext Time (p_c), s	0.0	5.8	0.0	0.4	0.0	6.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	870	20	10	1347	6	36	2	7	23	3	185
Future Volume (veh/h)	202	870	20	10	1347	6	36	2	7	23	3	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	213	916	21	11	1418	6	38	2	7	24	3	195
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	305	2063	920	39	1789	798	106	575	256	75	543	242
Arrive On Green	0.09	0.57	0.57	0.01	0.50	0.50	0.03	0.16	0.16	0.02	0.15	0.15
Sat Flow, veh/h	3510	3610	1610	3510	3610	1610	3510	3610	1610	3510	3610	1610
Grp Volume(v), veh/h	213	916	21	11	1418	6	38	2	7	24	3	195
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1610	1755	1805	1610	1755	1805	1610
Q Serve(g_s), s	4.0	9.8	0.4	0.2	22.0	0.1	0.7	0.0	0.2	0.5	0.0	7.9
Cycle Q Clear(g_c), s	4.0	9.8	0.4	0.2	22.0	0.1	0.7	0.0	0.2	0.5	0.0	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	305	2063	920	39	1789	798	106	575	256	75	543	242
V/C Ratio(X)	0.70	0.44	0.02	0.28	0.79	0.01	0.36	0.00	0.03	0.32	0.01	0.81
Avail Cap(c_a), veh/h	312	2063	920	312	1789	798	312	988	441	312	988	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	8.3	6.3	33.2	14.2	8.6	32.1	23.9	24.0	32.6	24.4	27.8
Incr Delay (d2), s/veh	6.5	0.7	0.0	3.9	3.7	0.0	2.0	0.0	0.0	2.4	0.0	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	2.8	0.1	0.1	7.3	0.0	0.3	0.0	0.1	0.2	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	9.0	6.3	37.1	17.8	8.6	34.2	23.9	24.0	35.0	24.4	33.9
LnGrp LOS	D	A	A	D	B	A	C	C	C	C	C	C
Approach Vol, veh/h		1150			1435			47			222	
Approach Delay, s/veh		14.1			18.0			32.2			33.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	42.6	6.0	14.2	9.9	37.5	5.5	14.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	33.5	6.0	18.5	6.0	33.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.2	11.8	2.7	9.9	6.0	24.0	2.5	2.2
Green Ext Time (p_c), s	0.0	5.9	0.0	0.4	0.0	5.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 12
North/South Street: WINGS WAY
East/West Street: MERLE HAGGARD DR

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	43	Approach	59	Left	50	50
NB	Through	1	Departure	88	Through	2	2
	Right	7			Right	9	9
North leg	Left	12	Approach	94	Left	12	12
SB	Through	1	Departure	170	Through	2	2
	Right	81			Right	82	82
West leg	Left	130	Approach	914	Left	133	133
EB	Through	640	Departure	804	Through	742	742
	Right	33			Right	40	40
East leg	Left	43	Approach	757	Left	48	48
WB	Through	616	Departure	761	Through	673	673
	Right	39			Right	37	37

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	26	Approach	44	Left	36	36
NB	Through	1	Departure	32	Through	2	2
	Right	5			Right	7	7
North leg	Left	23	Approach	209	Left	23	23
SB	Through	2	Departure	208	Through	3	3
	Right	184			Right	185	185
West leg	Left	202	Approach	1,074	Left	202	202
EB	Through	839	Departure	1,525	Through	852	852
	Right	15			Right	20	20
East leg	Left	7	Approach	1,319	Left	10	10
WB	Through	1,148	Departure	881	Through	1,305	1,305
	Right	5			Right	6	6

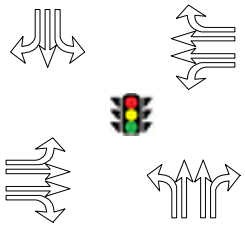
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : AIRPORT DR
CONDITION : AM PEAK HOUR

INTERSECTION : 13
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
MERLE HAGGARD DR							
EB LEFT	83	6	89	0	89	70	70
EB THRU	542	38	580	0	580	565	565
EB RIGHT	43	3	46	39	85	49	88
WB LEFT	24	2	26	0	26	36	36
WB THRU	551	39	590	0	590	599	599
WB RIGHT	3	0	3	0	3	4	4
AIRPORT DR							
NB LEFT	86	6	92	14	106	89	103
NB THRU	280	20	300	0	300	294	294
NB RIGHT	33	2	35	0	35	43	43
SB LEFT	7	0	7	0	7	7	7
SB THRU	277	19	296	0	296	299	299
SB RIGHT	73	5	78	0	78	57	57
TOTALS	**2002**	**140**	**2142**	**53**	**2195**	**2112**	**2165**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : AIRPORT DR
CONDITION : AM PEAK HOUR
PHF : 0.87

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	59	2	0	0	0	0	0	0	0	0	0
13	85	3	0	1	0	1	0	0	2	2	0
13	62	2	3	1	0	2	0	0	1	0	0
7	62	0	3	0	0	0	0	0	2	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
7	59	16	0	0	0	0	0	0	0	0	0
10	80	16	0	1	1	0	0	0	0	2	2
6	62	14	2	2	1	0	1	2	1	1	0
4	60	27	0	0	0	0	0	0	0	1	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	120	5	0	1	0	0	1	0	0	9	0
1	134	7	0	3	0	0	0	0	0	2	0
0	119	8	0	0	0	0	0	0	0	1	0
1	129	4	0	1	0	0	0	0	0	1	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	111	19	0	0	0	0	1	0	0	3	0
9	135	18	0	4	2	0	2	0	1	4	0
9	108	15	0	2	2	0	1	0	0	2	1
10	136	14	1	0	0	0	1	1	0	2	2

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
MERLE HAGGARD DR					
EB LEFT	8	66	**74**	**83**	**83**
EB THRU	22	490	**512**	**542**	**542**
EB RIGHT	2	38	**40**	**43**	**43**
WB LEFT	0	24	**24**	**24**	**24**
WB THRU	19	502	**521**	**551**	**551**
WB RIGHT	0	3	**3**	**3**	**3**
AIRPORT DR					
NB LEFT	6	73	**79**	**86**	**86**
NB THRU	8	261	**269**	**280**	**280**
NB RIGHT	3	27	**30**	**33**	**33**
SB LEFT	0	7	**7**	**7**	**7**
SB THRU	4	268	**272**	**277**	**277**
SB RIGHT	14	43	**57**	**73**	**73**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	542	43	24	551	3	86	280	33	7	277	73
Future Volume (veh/h)	83	542	43	24	551	3	86	280	33	7	277	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	95	623	49	28	633	3	99	322	38	8	318	84
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	122	1017	454	46	864	385	128	1429	638	15	634	537
Arrive On Green	0.07	0.28	0.28	0.03	0.24	0.24	0.07	0.40	0.40	0.01	0.33	0.33
Sat Flow, veh/h	1810	3610	1610	1810	3610	1610	1810	3610	1610	1810	1900	1610
Grp Volume(v), veh/h	95	623	49	28	633	3	99	322	38	8	318	84
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1610	1810	1805	1610	1810	1900	1610
Q Serve(g_s), s	2.9	8.3	1.2	0.8	9.0	0.1	3.0	3.3	0.8	0.2	7.4	2.0
Cycle Q Clear(g_c), s	2.9	8.3	1.2	0.8	9.0	0.1	3.0	3.3	0.8	0.2	7.4	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	1017	454	46	864	385	128	1429	638	15	634	537
V/C Ratio(X)	0.78	0.61	0.11	0.61	0.73	0.01	0.78	0.23	0.06	0.53	0.50	0.16
Avail Cap(c_a), veh/h	196	1205	537	196	1205	537	196	1429	638	196	634	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	17.3	14.7	26.7	19.4	16.1	25.3	11.1	10.4	27.4	14.8	13.0
Incr Delay (d2), s/veh	10.0	0.7	0.1	12.5	1.4	0.0	9.9	0.4	0.2	25.7	2.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.8	0.4	0.5	3.3	0.0	1.5	1.1	0.3	0.2	3.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	18.0	14.8	39.3	20.9	16.1	35.3	11.5	10.5	53.1	17.6	13.6
LnGrp LOS	D	B	B	D	C	B	D	B	B	D	B	B
Approach Vol, veh/h		767			664			459			410	
Approach Delay, s/veh		19.9			21.6			16.5			17.5	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	19.6	7.9	22.5	7.8	17.3	4.5	25.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	18.5	6.0	18.5	6.0	18.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.8	10.3	5.0	9.4	4.9	11.0	2.2	5.3
Green Ext Time (p_c), s	0.0	2.4	0.0	1.3	0.0	2.3	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	580	46	26	590	3	92	300	35	7	296	78
Future Volume (veh/h)	89	580	46	26	590	3	92	300	35	7	296	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	102	667	53	30	678	3	106	345	40	8	340	90
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	132	1063	474	48	896	400	137	1411	629	15	615	521
Arrive On Green	0.07	0.29	0.29	0.03	0.25	0.25	0.08	0.39	0.39	0.01	0.32	0.32
Sat Flow, veh/h	1810	3610	1610	1810	3610	1610	1810	3610	1610	1810	1900	1610
Grp Volume(v), veh/h	102	667	53	30	678	3	106	345	40	8	340	90
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1610	1810	1805	1610	1810	1900	1610
Q Serve(g_s), s	3.2	9.1	1.4	0.9	9.9	0.1	3.3	3.7	0.9	0.3	8.4	2.3
Cycle Q Clear(g_c), s	3.2	9.1	1.4	0.9	9.9	0.1	3.3	3.7	0.9	0.3	8.4	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	132	1063	474	48	896	400	137	1411	629	15	615	521
V/C Ratio(X)	0.78	0.63	0.11	0.63	0.76	0.01	0.78	0.24	0.06	0.53	0.55	0.17
Avail Cap(c_a), veh/h	190	1168	521	190	1168	521	190	1411	629	190	615	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	17.5	14.7	27.5	19.9	16.2	25.9	11.7	10.9	28.2	15.9	13.8
Incr Delay (d2), s/veh	11.6	0.9	0.1	12.6	2.1	0.0	12.4	0.4	0.2	25.8	3.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.1	0.4	0.5	3.7	0.0	1.7	1.2	0.3	0.2	3.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	18.4	14.8	40.1	22.0	16.2	38.4	12.1	11.1	54.1	19.5	14.6
LnGrp LOS	D	B	B	D	C	B	D	B	B	D	B	B
Approach Vol, veh/h		822			711			491			438	
Approach Delay, s/veh		20.5			22.7			17.7			19.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	20.8	8.3	22.5	8.2	18.2	4.5	26.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	18.5	6.0	18.5	6.0	18.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	2.9	11.1	5.3	10.4	5.2	11.9	2.3	5.7
Green Ext Time (p_c), s	0.0	2.4	0.0	1.3	0.0	2.3	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	580	85	26	590	3	106	300	35	7	296	78
Future Volume (veh/h)	89	580	85	26	590	3	106	300	35	7	296	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	102	667	98	30	678	3	122	345	40	8	340	90
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	132	1057	472	48	890	397	157	1432	639	15	605	513
Arrive On Green	0.07	0.29	0.29	0.03	0.25	0.25	0.09	0.40	0.40	0.01	0.32	0.32
Sat Flow, veh/h	1810	3610	1610	1810	3610	1610	1810	3610	1610	1810	1900	1610
Grp Volume(v), veh/h	102	667	98	30	678	3	122	345	40	8	340	90
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1610	1810	1805	1610	1810	1900	1610
Q Serve(g_s), s	3.2	9.3	2.7	1.0	10.1	0.1	3.8	3.7	0.9	0.3	8.6	2.3
Cycle Q Clear(g_c), s	3.2	9.3	2.7	1.0	10.1	0.1	3.8	3.7	0.9	0.3	8.6	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	132	1057	472	48	890	397	157	1432	639	15	605	513
V/C Ratio(X)	0.78	0.63	0.21	0.63	0.76	0.01	0.78	0.24	0.06	0.53	0.56	0.18
Avail Cap(c_a), veh/h	187	1150	513	187	1150	513	187	1432	639	187	605	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	17.8	15.5	28.0	20.3	16.5	26.0	11.7	10.8	28.7	16.4	14.3
Incr Delay (d2), s/veh	12.1	1.0	0.2	12.7	2.3	0.0	15.9	0.4	0.2	25.9	3.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.2	0.8	0.5	3.9	0.0	2.2	1.3	0.3	0.2	3.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	18.8	15.7	40.7	22.5	16.5	41.9	12.1	11.0	54.6	20.2	15.0
LnGrp LOS	D	B	B	D	C	B	D	B	B	D	C	B
Approach Vol, veh/h		867			711			507			438	
Approach Delay, s/veh		20.8			23.3			19.2			19.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	21.0	9.0	22.5	8.2	18.3	4.5	27.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	18.5	6.0	18.5	6.0	18.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	3.0	11.3	5.8	10.6	5.2	12.1	2.3	5.7
Green Ext Time (p_c), s	0.0	2.4	0.0	1.3	0.0	2.2	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	21.0
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	565	49	36	599	4	89	294	43	7	299	57
Future Volume (veh/h)	70	565	49	36	599	4	89	294	43	7	299	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	74	595	52	38	631	4	94	309	45	7	315	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	94	944	421	58	872	389	121	1453	648	13	652	552
Arrive On Green	0.05	0.26	0.26	0.03	0.24	0.24	0.07	0.40	0.40	0.01	0.34	0.34
Sat Flow, veh/h	1810	3610	1610	1810	3610	1610	1810	3610	1610	1810	1900	1610
Grp Volume(v), veh/h	74	595	52	38	631	4	94	309	45	7	315	60
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1610	1810	1805	1610	1810	1900	1610
Q Serve(g_s), s	2.2	7.9	1.3	1.1	8.7	0.1	2.8	3.0	0.9	0.2	7.0	1.4
Cycle Q Clear(g_c), s	2.2	7.9	1.3	1.1	8.7	0.1	2.8	3.0	0.9	0.2	7.0	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	94	944	421	58	872	389	121	1453	648	13	652	552
V/C Ratio(X)	0.78	0.63	0.12	0.65	0.72	0.01	0.78	0.21	0.07	0.52	0.48	0.11
Avail Cap(c_a), veh/h	201	1238	552	201	1238	552	201	1453	648	201	652	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.3	17.6	15.2	25.8	18.8	15.6	24.8	10.5	9.9	26.7	14.0	12.1
Incr Delay (d2), s/veh	13.2	0.7	0.1	11.7	1.2	0.0	10.1	0.3	0.2	28.3	2.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.6	0.4	0.6	3.1	0.0	1.4	1.0	0.3	0.2	2.8	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	18.3	15.3	37.5	20.0	15.6	34.9	10.9	10.1	55.0	16.5	12.5
LnGrp LOS	D	B	B	D	C	B	C	B	B	D	B	B
Approach Vol, veh/h		721			673			448			382	
Approach Delay, s/veh		20.2			21.0			15.8			16.6	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	18.1	7.6	22.5	6.8	17.0	4.4	25.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	18.5	6.0	18.5	6.0	18.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	3.1	9.9	4.8	9.0	4.2	10.7	2.2	5.0
Green Ext Time (p_c), s	0.0	2.3	0.0	1.3	0.0	2.4	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	565	88	36	599	4	103	294	43	7	299	57
Future Volume (veh/h)	70	565	88	36	599	4	103	294	43	7	299	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	74	595	93	38	631	4	108	309	45	7	315	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	94	939	419	58	867	387	139	1472	657	13	643	545
Arrive On Green	0.05	0.26	0.26	0.03	0.24	0.24	0.08	0.41	0.41	0.01	0.34	0.34
Sat Flow, veh/h	1810	3610	1610	1810	3610	1610	1810	3610	1610	1810	1900	1610
Grp Volume(v), veh/h	74	595	93	38	631	4	108	309	45	7	315	60
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1610	1810	1805	1610	1810	1900	1610
Q Serve(g_s), s	2.2	8.0	2.5	1.1	8.8	0.1	3.2	3.0	0.9	0.2	7.2	1.4
Cycle Q Clear(g_c), s	2.2	8.0	2.5	1.1	8.8	0.1	3.2	3.0	0.9	0.2	7.2	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	94	939	419	58	867	387	139	1472	657	13	643	545
V/C Ratio(X)	0.78	0.63	0.22	0.65	0.73	0.01	0.78	0.21	0.07	0.52	0.49	0.11
Avail Cap(c_a), veh/h	198	1221	545	198	1221	545	198	1472	657	198	643	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	17.9	15.9	26.2	19.1	15.8	24.8	10.5	9.9	27.1	14.4	12.4
Incr Delay (d2), s/veh	13.1	0.7	0.3	11.8	1.3	0.0	11.4	0.3	0.2	28.3	2.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.7	0.8	0.6	3.2	0.0	1.6	1.0	0.3	0.2	2.9	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.7	18.6	16.1	38.0	20.5	15.8	36.2	10.8	10.1	55.4	17.0	12.9
LnGrp LOS	D	B	B	D	C	B	D	B	B	E	B	B
Approach Vol, veh/h		762			673			462			382	
Approach Delay, s/veh		20.3			21.4			16.7			17.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	18.2	8.2	22.5	6.9	17.1	4.4	26.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	18.5	6.0	18.5	6.0	18.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	3.1	10.0	5.2	9.2	4.2	10.8	2.2	5.0
Green Ext Time (p_c), s	0.0	2.4	0.0	1.2	0.0	2.3	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	19.4
HCM 6th LOS	B

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : AIRPORT DR
CONDITION : PM PEAK HOUR

INTERSECTION : 13
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
MERLE HAGGARD DR							
EB LEFT	75	5	80	0	80	67	67
EB THRU	696	49	745	0	745	724	724
EB RIGHT	89	6	95	18	113	132	150
WB LEFT	42	3	45	0	45	64	64
WB THRU	963	67	1030	0	1030	953	953
WB RIGHT	17	1	18	0	18	16	16
AIRPORT DR							
NB LEFT	138	10	148	42	190	162	204
NB THRU	142	10	152	0	152	153	153
NB RIGHT	67	5	72	0	72	85	85
SB LEFT	29	2	31	0	31	23	23
SB THRU	203	14	217	0	217	227	227
SB RIGHT	48	3	51	0	51	35	35
TOTALS	**2509**	**175**	**2684**	**60**	**2744**	**2641**	**2701**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : MERLE HAGGARD DR
N/S STREET : AIRPORT DR
CONDITION : PM PEAK HOUR
PHF : 0.82

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
8	42	6	0	0	0	0	0	0	0	0	0
11	58	5	0	0	0	0	0	0	0	0	0
14	55	8	0	0	0	0	0	0	0	0	0
15	48	10	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
11	21	30	0	0	0	0	0	0	0	0	0
16	40	25	0	0	0	0	0	1	0	0	0
21	38	38	0	0	0	0	0	0	0	0	0
19	43	37	0	0	0	0	0	0	0	0	2

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
3	241	7	0	0	0	0	0	0	0	2	0
3	242	11	0	1	0	0	1	0	0	1	0
6	314	11	0	0	0	0	0	0	0	1	0
5	147	13	0	2	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
13	164	18	0	0	0	0	0	0	0	2	0
22	150	16	0	0	0	0	1	0	0	0	0
24	201	22	0	1	0	0	0	0	0	1	0
30	165	19	0	0	0	0	0	0	0	1	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
MERLE HAGGARD DR					
EB LEFT	0	75	**75**	**75**	**75**
EB THRU	6	680	**686**	**696**	**696**
EB RIGHT	0	89	**89**	**89**	**89**
WB LEFT	0	42	**42**	**42**	**42**
WB THRU	8	944	**952**	**963**	**963**
WB RIGHT	0	17	**17**	**17**	**17**
AIRPORT DR					
NB LEFT	3	130	**133**	**138**	**138**
NB THRU	0	142	**142**	**142**	**142**
NB RIGHT	0	67	**67**	**67**	**67**
SB LEFT	0	29	**29**	**29**	**29**
SB THRU	0	203	**203**	**203**	**203**
SB RIGHT	0	48	**48**	**48**	**48**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	696	89	42	963	17	138	142	67	29	203	48
Future Volume (veh/h)	75	696	89	42	963	17	138	142	67	29	203	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	91	849	109	51	1174	21	168	173	82	35	248	59
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	117	1346	600	66	1243	554	208	1185	528	51	459	389
Arrive On Green	0.06	0.37	0.37	0.04	0.34	0.34	0.11	0.33	0.33	0.03	0.24	0.24
Sat Flow, veh/h	1810	3610	1610	1810	3610	1610	1810	3610	1610	1810	1900	1610
Grp Volume(v), veh/h	91	849	109	51	1174	21	168	173	82	35	248	59
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1610	1810	1805	1610	1810	1900	1610
Q Serve(g_s), s	3.4	13.2	3.1	1.9	21.6	0.6	6.2	2.3	2.5	1.3	7.8	2.0
Cycle Q Clear(g_c), s	3.4	13.2	3.1	1.9	21.6	0.6	6.2	2.3	2.5	1.3	7.8	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	117	1346	600	66	1243	554	208	1185	528	51	459	389
V/C Ratio(X)	0.77	0.63	0.18	0.78	0.94	0.04	0.81	0.15	0.16	0.68	0.54	0.15
Avail Cap(c_a), veh/h	159	1346	600	159	1243	554	212	1185	528	159	459	389
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	17.6	14.4	32.6	21.8	14.9	29.5	16.2	16.2	32.9	22.6	20.4
Incr Delay (d2), s/veh	15.1	1.0	0.1	17.5	14.4	0.0	19.9	0.3	0.6	14.6	4.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	4.6	1.0	1.1	10.2	0.2	3.6	0.9	0.9	0.7	3.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	18.5	14.5	50.1	36.1	14.9	49.4	16.4	16.9	47.5	27.1	21.2
LnGrp LOS	D	B	B	D	D	B	D	B	B	D	C	C
Approach Vol, veh/h		1049			1246			423			342	
Approach Delay, s/veh		20.5			36.3			29.6			28.2	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	29.5	11.8	20.5	8.4	27.5	5.9	26.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	23.5	8.0	16.5	6.0	23.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	3.4	15.2	8.2	9.8	5.4	23.6	3.3	4.5
Green Ext Time (p_c), s	0.0	3.4	0.0	0.8	0.0	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	745	95	45	1030	18	148	152	72	31	217	51
Future Volume (veh/h)	80	745	95	45	1030	18	148	152	72	31	217	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	98	909	116	55	1256	22	180	185	88	38	265	62
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	126	1345	600	70	1233	550	210	1177	525	54	456	386
Arrive On Green	0.07	0.37	0.37	0.04	0.34	0.34	0.12	0.33	0.33	0.03	0.24	0.24
Sat Flow, veh/h	1810	3610	1610	1810	3610	1610	1810	3610	1610	1810	1900	1610
Grp Volume(v), veh/h	98	909	116	55	1256	22	180	185	88	38	265	62
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1610	1810	1805	1610	1810	1900	1610
Q Serve(g_s), s	3.7	14.5	3.4	2.1	23.5	0.6	6.7	2.5	2.7	1.4	8.5	2.1
Cycle Q Clear(g_c), s	3.7	14.5	3.4	2.1	23.5	0.6	6.7	2.5	2.7	1.4	8.5	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	126	1345	600	70	1233	550	210	1177	525	54	456	386
V/C Ratio(X)	0.78	0.68	0.19	0.79	1.02	0.04	0.86	0.16	0.17	0.70	0.58	0.16
Avail Cap(c_a), veh/h	158	1345	600	158	1233	550	210	1177	525	158	456	386
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	18.1	14.6	32.8	22.6	15.1	29.8	16.5	16.5	33.1	23.1	20.7
Incr Delay (d2), s/veh	17.2	1.4	0.2	17.4	30.4	0.0	27.5	0.3	0.7	15.0	5.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	5.1	1.1	1.2	13.6	0.2	4.3	1.0	1.0	0.8	4.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	19.4	14.7	50.2	53.0	15.1	57.3	16.8	17.2	48.1	28.4	21.6
LnGrp LOS	D	B	B	D	F	B	E	B	B	D	C	C
Approach Vol, veh/h		1123			1333			453			365	
Approach Delay, s/veh		21.5			52.3			33.0			29.3	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	29.6	12.0	20.5	8.8	27.5	6.1	26.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	23.5	8.0	16.5	6.0	23.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	4.1	16.5	8.7	10.5	5.7	25.5	3.4	4.7
Green Ext Time (p_c), s	0.0	3.2	0.0	0.8	0.0	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	36.5
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	745	113	45	1030	18	190	152	72	31	217	51
Future Volume (veh/h)	80	745	113	45	1030	18	190	152	72	31	217	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	98	909	138	55	1256	22	232	185	88	38	265	62
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	126	1345	600	70	1233	550	210	1177	525	54	456	386
Arrive On Green	0.07	0.37	0.37	0.04	0.34	0.34	0.12	0.33	0.33	0.03	0.24	0.24
Sat Flow, veh/h	1810	3610	1610	1810	3610	1610	1810	3610	1610	1810	1900	1610
Grp Volume(v), veh/h	98	909	138	55	1256	22	232	185	88	38	265	62
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1610	1810	1805	1610	1810	1900	1610
Q Serve(g_s), s	3.7	14.5	4.0	2.1	23.5	0.6	8.0	2.5	2.7	1.4	8.5	2.1
Cycle Q Clear(g_c), s	3.7	14.5	4.0	2.1	23.5	0.6	8.0	2.5	2.7	1.4	8.5	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	126	1345	600	70	1233	550	210	1177	525	54	456	386
V/C Ratio(X)	0.78	0.68	0.23	0.79	1.02	0.04	1.10	0.16	0.17	0.70	0.58	0.16
Avail Cap(c_a), veh/h	158	1345	600	158	1233	550	210	1177	525	158	456	386
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	18.1	14.8	32.8	22.6	15.1	30.4	16.5	16.5	33.1	23.1	20.7
Incr Delay (d2), s/veh	17.2	1.4	0.2	17.4	30.4	0.0	92.2	0.3	0.7	15.0	5.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	5.1	1.3	1.2	13.6	0.2	8.6	1.0	1.0	0.8	4.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	19.4	15.0	50.2	53.0	15.1	122.6	16.8	17.2	48.1	28.4	21.6
LnGrp LOS	D	B	B	D	F	B	F	B	B	D	C	C
Approach Vol, veh/h		1145			1333			505			365	
Approach Delay, s/veh		21.4			52.3			65.5			29.3	
Approach LOS		C			D			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	29.6	12.0	20.5	8.8	27.5	6.1	26.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	23.5	8.0	16.5	6.0	23.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	4.1	16.5	10.0	10.5	5.7	25.5	3.4	4.7
Green Ext Time (p_c), s	0.0	3.3	0.0	0.8	0.0	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	41.2
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	724	132	64	953	16	162	153	85	23	227	35
Future Volume (veh/h)	67	724	132	64	953	16	162	153	85	23	227	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	71	762	139	67	1003	17	171	161	89	24	239	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	91	1200	535	86	1190	531	212	1267	565	39	485	411
Arrive On Green	0.05	0.33	0.33	0.05	0.33	0.33	0.12	0.35	0.35	0.02	0.26	0.26
Sat Flow, veh/h	1810	3610	1610	1810	3610	1610	1810	3610	1610	1810	1900	1610
Grp Volume(v), veh/h	71	762	139	67	1003	17	171	161	89	24	239	37
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1610	1810	1805	1610	1810	1900	1610
Q Serve(g_s), s	2.5	11.5	4.1	2.4	16.7	0.5	6.0	2.0	2.5	0.9	6.9	1.1
Cycle Q Clear(g_c), s	2.5	11.5	4.1	2.4	16.7	0.5	6.0	2.0	2.5	0.9	6.9	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	91	1200	535	86	1190	531	212	1267	565	39	485	411
V/C Ratio(X)	0.78	0.63	0.26	0.78	0.84	0.03	0.81	0.13	0.16	0.61	0.49	0.09
Avail Cap(c_a), veh/h	168	1312	585	168	1312	585	224	1267	565	168	485	411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.3	18.3	15.8	30.5	20.1	14.7	27.8	14.3	14.4	31.4	20.5	18.4
Incr Delay (d2), s/veh	13.2	0.9	0.3	14.1	4.8	0.0	18.2	0.2	0.6	14.5	3.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.0	1.3	1.3	6.7	0.1	3.4	0.7	0.9	0.5	3.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	19.1	16.0	44.6	24.9	14.7	46.1	14.5	15.0	45.8	24.1	18.8
LnGrp LOS	D	B	B	D	C	B	D	B	B	D	C	B
Approach Vol, veh/h		972			1087			421			300	
Approach Delay, s/veh		20.5			26.0			27.4			25.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	25.5	11.6	20.5	7.3	25.3	5.4	26.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	23.5	8.0	16.5	6.0	23.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	4.5	13.5	8.0	8.9	4.5	18.7	2.9	4.5
Green Ext Time (p_c), s	0.0	3.5	0.0	0.7	0.0	2.6	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	724	150	64	953	16	204	153	85	23	227	35
Future Volume (veh/h)	67	724	150	64	953	16	204	153	85	23	227	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	71	762	158	67	1003	17	215	161	89	24	239	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	91	1196	533	86	1185	529	222	1279	570	39	481	408
Arrive On Green	0.05	0.33	0.33	0.05	0.33	0.33	0.12	0.35	0.35	0.02	0.25	0.25
Sat Flow, veh/h	1810	3610	1610	1810	3610	1610	1810	3610	1610	1810	1900	1610
Grp Volume(v), veh/h	71	762	158	67	1003	17	215	161	89	24	239	37
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1610	1810	1805	1610	1810	1900	1610
Q Serve(g_s), s	2.5	11.7	4.7	2.4	16.8	0.5	7.7	2.0	2.5	0.9	7.0	1.1
Cycle Q Clear(g_c), s	2.5	11.7	4.7	2.4	16.8	0.5	7.7	2.0	2.5	0.9	7.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	91	1196	533	86	1185	529	222	1279	570	39	481	408
V/C Ratio(X)	0.78	0.64	0.30	0.78	0.85	0.03	0.97	0.13	0.16	0.61	0.50	0.09
Avail Cap(c_a), veh/h	167	1301	580	167	1301	580	222	1279	570	167	481	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	18.5	16.2	30.7	20.4	14.9	28.5	14.2	14.4	31.6	20.8	18.6
Incr Delay (d2), s/veh	13.2	0.9	0.3	14.1	5.0	0.0	51.2	0.2	0.6	14.5	3.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.1	1.5	1.3	6.8	0.2	6.2	0.7	0.9	0.5	3.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	19.4	16.5	44.8	25.4	14.9	79.7	14.4	15.0	46.2	24.4	19.0
LnGrp LOS	D	B	B	D	C	B	E	B	B	D	C	B
Approach Vol, veh/h		991			1087			465			300	
Approach Delay, s/veh		20.7			26.4			44.7			25.5	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	25.6	12.0	20.5	7.3	25.4	5.4	27.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	23.5	8.0	16.5	6.0	23.5	6.0	18.5
Max Q Clear Time (g_c+I1), s	4.5	13.7	9.7	9.0	4.5	18.8	2.9	4.5
Green Ext Time (p_c), s	0.0	3.5	0.0	0.7	0.0	2.6	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	27.3
HCM 6th LOS	C

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 13
North/South Street: AIRPORT DR
East/West Street: MERLE HAGGARD DR

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	86	Approach	423	Left	89	89
NB	Through	280	Departure	383	Through	294	294
	Right	33			Right	43	43
North leg	Left	7	Approach	360	Left	7	7
SB	Through	277	Departure	366	Through	299	299
	Right	73			Right	57	57
West leg	Left	83	Approach	677	Left	70	70
EB	Through	542	Departure	744	Through	565	565
	Right	43			Right	49	49
East leg	Left	24	Approach	638	Left	36	36
WB	Through	551	Departure	614	Through	599	599
	Right	3			Right	4	4

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	138	Approach	393	Left	162	162
NB	Through	142	Departure	421	Through	153	153
	Right	67			Right	85	85
North leg	Left	29	Approach	280	Left	23	23
SB	Through	203	Departure	234	Through	227	227
	Right	48			Right	35	35
West leg	Left	75	Approach	908	Left	67	67
EB	Through	696	Departure	1,149	Through	724	724
	Right	89			Right	132	132
East leg	Left	42	Approach	1,022	Left	64	64
WB	Through	963	Departure	831	Through	953	953
	Right	17			Right	16	16

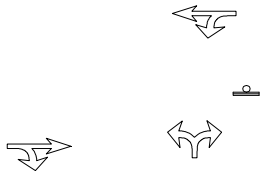
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : BOUGHTON DR
N/S STREET : HANGER WAY
CONDITION : AM PEAK HOUR

INTERSECTION : 14
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	1		3		5	7	9
BOUGHTON DR							
EB LEFT	0	0	0	0	0	0	0
EB THRU	10	1	11	0	11	15	15
EB RIGHT	5	0	5	0	5	17	17
WB LEFT	9	1	10	10	20	2	12
WB THRU	53	4	57	0	57	62	62
WB RIGHT	0	0	0	0	0	0	0
HANGER WAY							
NB LEFT	4	0	4	0	4	12	12
NB THRU	0	0	0	0	0	0	0
NB RIGHT	5	0	5	4	9	1	5
SB LEFT	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0
TOTALS	**86**	**6**	**92**	**14**	**106**	**109**	**123**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : BOUGHTON DR
CONDITION : AM PEAK HOUR
N/S STREET : HANGER WAY
PHF : 0.79

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	0	1	0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
3	0	1	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	13	5	0	0	0	0	0	0	0	0	0
0	10	2	0	0	0	0	0	0	0	0	0
0	13	1	0	0	0	0	0	0	0	0	0
0	14	1	0	0	0	0	0	0	0	1	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
3	0	0	0	0	0	0	0	0	0	1	0
0	2	0	0	0	0	0	0	0	0	0	0
1	4	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
BOUGHTON DR					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	1	6	**7**	**9**	**10**
EB RIGHT	0	5	**5**	**5**	**5**
WB LEFT	0	9	**9**	**9**	**9**
WB THRU	1	50	**51**	**53**	**53**
WB RIGHT	0	0	**0**	**0**	**0**
HANGER WAY					
NB LEFT	1	2	**3**	**4**	**4**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	4	**4**	**4**	**5**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	10	5	9	53	4	5
Future Vol, veh/h	10	5	9	53	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	6	11	67	5	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	19	0	105	16
Stage 1	-	-	-	-	16	-
Stage 2	-	-	-	-	89	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1611	-	898	1069
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1611	-	892	1069
Mov Cap-2 Maneuver	-	-	-	-	892	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	982	-	-	1611	-
HCM Lane V/C Ratio	0.012	-	-	0.007	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	5	10	57	4	5
Future Vol, veh/h	11	5	10	57	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	6	13	72	5	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	20	0	115	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1609	-	886	1068
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	931	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1609	-	879	1068
Mov Cap-2 Maneuver	-	-	-	-	879	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	924	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	975	-	-	1609	-
HCM Lane V/C Ratio	0.012	-	-	0.008	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	5	20	57	4	9
Future Vol, veh/h	11	5	20	57	4	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	6	25	72	5	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	20	0	139	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1609	-	859	1068
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	908	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1609	-	845	1068
Mov Cap-2 Maneuver	-	-	-	-	845	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	893	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	988	-	-	1609	-
HCM Lane V/C Ratio	0.017	-	-	0.016	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	17	2	62	12	1
Future Vol, veh/h	15	17	2	62	12	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	18	2	65	13	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	34	0	94	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	69	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1591	-	911	1057
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1591	-	910	1057
Mov Cap-2 Maneuver	-	-	-	-	910	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	958	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	920	-	-	1591	-
HCM Lane V/C Ratio	0.015	-	-	0.001	-
HCM Control Delay (s)	9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	17	12	62	12	5
Future Vol, veh/h	15	17	12	62	12	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	18	13	65	13	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	34	0	116	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1591	-	885	1057
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	938	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1591	-	878	1057
Mov Cap-2 Maneuver	-	-	-	-	878	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	930	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	924	-	-	1591	-
HCM Lane V/C Ratio	0.019	-	-	0.008	-
HCM Control Delay (s)	9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	20-Nov-23	IPGIK52H-0001	1 OF 2

E/W STREET : BOUGHTON DR
N/S STREET : HANGER WAY
CONDITION : PM PEAK HOUR

INTERSECTION : 14
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition	Year 2025 Ambient Growth	Opening Year Condition	Project Trips	Opening Year + Project Condition	Cumulative Condition	Cumulative + Project Condition
Scenario #	2		4		6	8	10
BOUGHTON DR							
EB LEFT	0	0	0	0	0	0	0
EB THRU	27	2	29	0	29	33	33
EB RIGHT	3	0	3	0	3	13	13
WB LEFT	6	0	6	4	10	1	5
WB THRU	28	2	30	0	30	42	42
WB RIGHT	0	0	0	0	0	0	0
HANGER WAY							
NB LEFT	4	0	4	0	4	18	18
NB THRU	0	0	0	0	0	0	0
NB RIGHT	6	0	6	10	16	1	11
SB LEFT	0	0	0	0	0	0	0
SB THRU	0	0	0	0	0	0	0
SB RIGHT	0	0	0	0	0	0	0
TOTALS	**74**	**4**	**78**	**14**	**92**	**108**	**122**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	20-Nov-23	IPGIK52H-0001	2	OF 2

E/W STREET : BOUGHTON DR
CONDITION : PM PEAK HOUR
N/S STREET : HANGER WAY
PHF : 0.78

NORTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	1	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0
3	0	1	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	2	1	0	0	0	0	0	0	0	0	0
0	1	0	0	1	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	1	0
0	0	1	0	0	0	0	0	0	0	0	0

WEST LEG											
AUTO			LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	9	0	0	0	0	0	0	0	0	0	0
0	7	0	0	0	0	0	0	0	0	0	0
0	5	0	0	0	0	0	0	0	0	0	0
1	4	0	0	1	0	0	0	0	0	0	0

Number of Axles	2-Axle Trucks	3-Axle Trucks	4+ Axle Trucks
PCE factor	1.5	2	3

	Truck Volumes	Auto Volumes	Vehicle Totals	PCE Totals	Balanced PCE Totals
BOUGHTON DR					
EB LEFT	0	0	**0**	**0**	**0**
EB THRU	1	25	**26**	**27**	**27**
EB RIGHT	0	3	**3**	**3**	**3**
WB LEFT	0	2	**2**	**2**	**6**
WB THRU	2	4	**6**	**9**	**28**
WB RIGHT	0	0	**0**	**0**	**0**
HANGER WAY					
NB LEFT	0	4	**4**	**4**	**4**
NB THRU	0	0	**0**	**0**	**0**
NB RIGHT	0	6	**6**	**6**	**6**
SB LEFT	0	0	**0**	**0**	**0**
SB THRU	0	0	**0**	**0**	**0**
SB RIGHT	0	0	**0**	**0**	**0**

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	27	3	6	28	4	6
Future Vol, veh/h	27	3	6	28	4	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	35	4	8	36	5	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	39	0	89	37
Stage 1	-	-	-	-	37	-
Stage 2	-	-	-	-	52	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1584	-	917	1041
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	976	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1584	-	912	1041
Mov Cap-2 Maneuver	-	-	-	-	912	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	985	-	-	1584	-
HCM Lane V/C Ratio	0.013	-	-	0.005	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	29	3	6	30	4	6
Future Vol, veh/h	29	3	6	30	4	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	37	4	8	38	5	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	41	0	93	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	54	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1581	-	912	1038
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	974	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1581	-	907	1038
Mov Cap-2 Maneuver	-	-	-	-	907	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	969	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	981	-	-	1581	-
HCM Lane V/C Ratio	0.013	-	-	0.005	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	29	3	10	30	4	16
Future Vol, veh/h	29	3	10	30	4	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	37	4	13	38	5	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	41	0	103	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1581	-	900	1038
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	964	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1581	-	893	1038
Mov Cap-2 Maneuver	-	-	-	-	893	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	956	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1005	-	-	1581	-
HCM Lane V/C Ratio	0.026	-	-	0.008	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	33	13	1	42	18	1
Future Vol, veh/h	33	13	1	42	18	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	35	14	1	44	19	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	49	0	88	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	46	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1571	-	918	1034
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	982	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1571	-	917	1034
Mov Cap-2 Maneuver	-	-	-	-	917	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	981	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	922	-	-	1571	-
HCM Lane V/C Ratio	0.022	-	-	0.001	-
HCM Control Delay (s)	9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	33	13	5	42	18	11
Future Vol, veh/h	33	13	5	42	18	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	35	14	5	44	19	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	49	0	96	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	54	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1571	-	908	1034
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	974	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1571	-	905	1034
Mov Cap-2 Maneuver	-	-	-	-	905	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	950	-	-	1571	-
HCM Lane V/C Ratio	0.032	-	-	0.003	-
HCM Control Delay (s)	8.9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 14
North/South Street: HANGER WAY
East/West Street: BOUGHTON DR

Analysis Condition: YEAR 2046 FUTURE TRAFFIC

A.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	4	Approach	12	Left	12	12
NB	Through	0	Departure	18	Through	0	0
	Right	5			Right	1	1
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
West leg	Left	0	Approach	35	Left	0	0
EB	Through	10	Departure	73	Through	15	15
	Right	5			Right	17	17
East leg	Left	9	Approach	62	Left	2	2
WB	Through	53	Departure	15	Through	62	62
	Right	0			Right	0	0

P.M. Peak Hour

			Forecast Future Year				
Approach Direction		**Base Year Count**		**Link Volume**		**Turn Volume**	**Balanced Volume**
South leg	Left	4	Approach	15	Left	18	18
NB	Through	0	Departure	13	Through	0	0
	Right	6			Right	1	1
North leg	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
West leg	Left	0	Approach	50	Left	0	0
EB	Through	27	Departure	59	Through	33	33
	Right	3			Right	13	13
East leg	Left	6	Approach	34	Left	1	1
WB	Through	28	Departure	33	Through	42	42
	Right	0			Right	0	0

Appendix F: Traffic Signal Warrant Analysis Worksheet and counts

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

COUNT DATE 09-04-24

DIST ____ CO ____ RTE ____ PM ____

CALC TNM DATE 09-17-24

CHK ____ DATE ____

Major St: OLIVE DRIVE — Critical Approach Speed 50 mph

Minor St: SR 99 SB RAMPS — Critical Approach Speed ____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐ } RURAL (R)

☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☒
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				4:00 - 5:00 PM	3:00 - 4:00 PM	5:00 - 6:00 PM	7:00 - 8:00 AM	2:00 - 3:00 PM	8:00 - 9:00 AM	12:00 - 1:00 PM	1:00 - 2:00 PM
	U	R	U	R								Hour
APPROACH LANES	1		2 or More									
Both Approaches Major Street	500 (400)	350 (280)	600 (480)	420 (336)	3819	3798	3828	3665	3414	3187	3053	2924
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	~~74~~	~~81~~	~~49~~	~~53~~	~~65~~	~~38~~	~~96~~	~~65~~

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☐ NO ☒

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				4:00 - 5:00 PM	3:00 - 4:00 PM	5:00 - 6:00 PM	7:00 - 8:00 AM	2:00 - 3:00 PM	8:00 - 9:00 AM	12:00 - 1:00 PM	1:00 - 2:00 PM
	U	R	U	R								Hour
APPROACH LANES	1		2 or More									
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)	3819	3798	3828	3665	3414	3187	3053	2924
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	74	81	~~49~~	53	65	~~38~~	96	65

Combination of Conditions A & B SATISFIED YES ☐ NO ☒

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☒
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC		
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED YES ☐ NO ☒**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	4:00 - 5:00 PM	3:00 - 4:00 PM	5:00 - 6:00 PM	7:00 - 8:00 PM
			Hour			
Both Approaches - Major Street		X	3819	3798	3828	3665
Higher Approach - Minor Street	X		74	81	~~49~~	~~53~~

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☐
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐	No ☒

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐	No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒	No ☐

PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	4:00 - 5:00 PM
			Hour
Both Approaches - Major Street		X	3819
Higher Approach - Minor Street	X		74

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐	No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 3 of 5)

WARRANT 4 - Pedestrian Volume
(Parts 1 and 2 Must Be Satisfied)

SATISFIED YES ☐ NO ☐ N/A

Part 1 (Parts A or B must be satisfied)

	Hours - - ->				
A.	Vehicles per hour for any 4 hours				
	Pedestrians per hour for any 4 hours				

Figure 4C-5 or Figure 4C-6
SATISFIED YES ☐ NO ☐

	Hours - - ->				
B.	Vehicles per hour for any 1 hour				
	Pedestrians per hour for any 1 hour				

Figure 4C-7 or Figure 4C-8
SATISFIED YES ☐ NO ☐

Part 2 **SATISFIED YES ☐ NO ☐**

AND, The distance to the nearest traffic signal along the major street is greater than 300 ft	Yes ☐ No ☐
OR, The proposed traffic signal will not restrict progressive traffic flow along the major street.	Yes ☐ No ☐

WARRANT 5 - School Crossing
(Parts A and B Must Be Satisfied)

SATISFIED YES ☐ NO ☐ N/A

Part A
Gap/Minutes and # of Children

SATISFIED YES ☐ NO ☐

Gaps vs Minutes	Hour
Minutes Children Using Crossing	
Number of Adequate Gaps	
School Age Pedestrians Crossing Street / hr	

Gaps < Minutes YES ☐ NO ☐
AND Children > 20/hr YES ☐ NO ☐

AND, Consideration has been given to less restrictive remedial measures.	Yes ☐ No ☐

Part B **SATISFIED YES ☐ NO ☐**

The distance to the nearest traffic signal along the major street is greater than 300 ft	Yes ☐ No ☐
OR, The proposed signal will not restrict the progressive movement of traffic.	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 4 of 5)

WARRANT 6 - Coordinated Signal System **SATISFIED YES ☐ NO ☒**
(All Parts Must Be Satisfied)

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	
≥ 1000 ft	N _____ ft, S _____ ft, E 1323 ft, W 455 ft	Yes ☐ No ☒
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.		Yes ☐ No ☒
OR, On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.		

WARRANT 7 - Crash Experience Warrant **SATISFIED YES ☐ NO ☒**
(All Parts Must Be Satisfied)

Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency.			Yes ☐ No ☒
REQUIREMENTS	Number of crashes reported within a 12 month period susceptible to correction by a traffic signal, and involving injury or damage exceeding the requirements for a reportable crash.		Yes ☐ No ☒
5 OR MORE			
REQUIREMENTS	CONDITIONS	✓	Yes ☐ No ☒
ONE CONDITION SATISFIED 80%	Warrant 1, Condition A - Minimum Vehicular Volume		
	OR, Warrant 1, Condition B - Interruption of Continuous Traffic		
	OR, Warrant 4, Pedestrian Volume Condition Ped Vol ≥ 80% of Figure 4C-5 through Figure 4C-8		

WARRANT 8 - Roadway Network **SATISFIED YES ☐ NO ☒**
(All Parts Must Be Satisfied)

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour _____ Veh/Hr and has 5-year projected traffic volumes that meet one or more of Warrants 1, 2, and 3 during an average weekday.		Yes ☐ No ☒
	OR During Each of Any 5 Hrs. of a Sat. or Sun _____ Veh/Hr		

CHARACTERISTICS OF MAJOR ROUTES	MAJOR ROUTE A	MAJOR ROUTE B
Hwy. System Serving as Principal Network for Through Traffic		
Rural or Suburban Highway Outside Of, Entering, or Traversing a City		
Appears as Major Route on an Official Plan		
Any Major Route Characteristics Met, Both Streets		Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 5 of 5)

WARRANT 9 - Intersection Near a Grade Crossing **SATISFIED YES ☐ NO ☐** N/A
(Both Parts A and B Must Be Satisfied)

PART A A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach. Track Center Line to Limit Line _____ ft	Yes ☐ No ☐
PART B **There is one minor street approach lane at the track crossing -** During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point falls above the applicable curve in Figure 4C-9. Major Street - Total of both approaches: _____ VPH Minor Street - Crosses the track (one direction only, approaching the intersection): _____ VPH X AF (Use Tables 4C-2, 3, & 4 below to calculate AF) = _____ VPH	Yes ☐ No ☐
OR, There are two or more minor street approach lanes at the track crossing - During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point falls above the applicable curve in Figure 4C-10. Major Street - Total of both approaches : _____ VPH Minor Street - Crosses the track (one direction only, approaching the intersection): _____ VPH X AF (Use Tables 4C-2, 3, & 4 below to calcualte AF) = _____ VPH	

The minor street approach volume may be multiplied by up to three following adjustment factors (AF) as described in Section 4C.10.

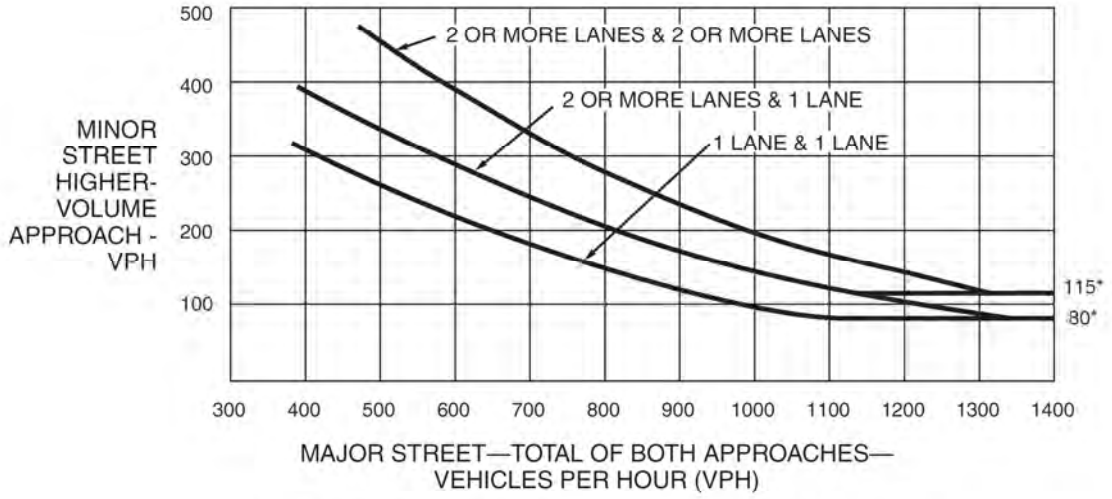
1- Number of Rail Traffic per Day_____ Adjustment factor from table 4C-2____

2- Percentage of High-Occupancy Buses on Minor Street Approach_____ Adjustment factor from table 4C-3____

3- Percentage of Tractor-Trailer Trucks on Minor Street Approach_____ Adjustment factor from table 4C-4____

NOTE: If no data is availale or known, then use AF = 1 (no adjustment)

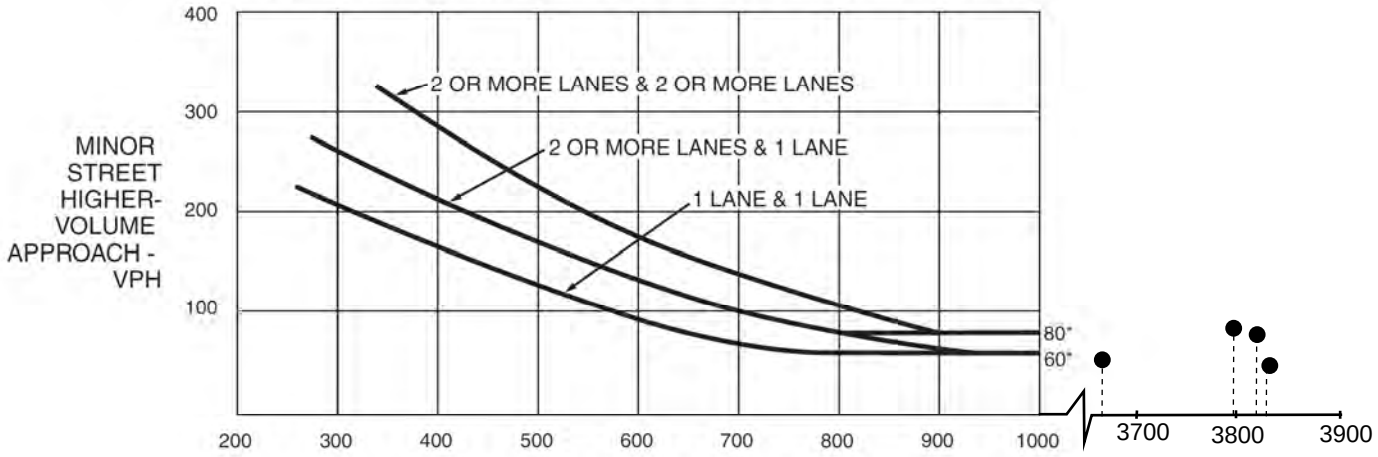
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

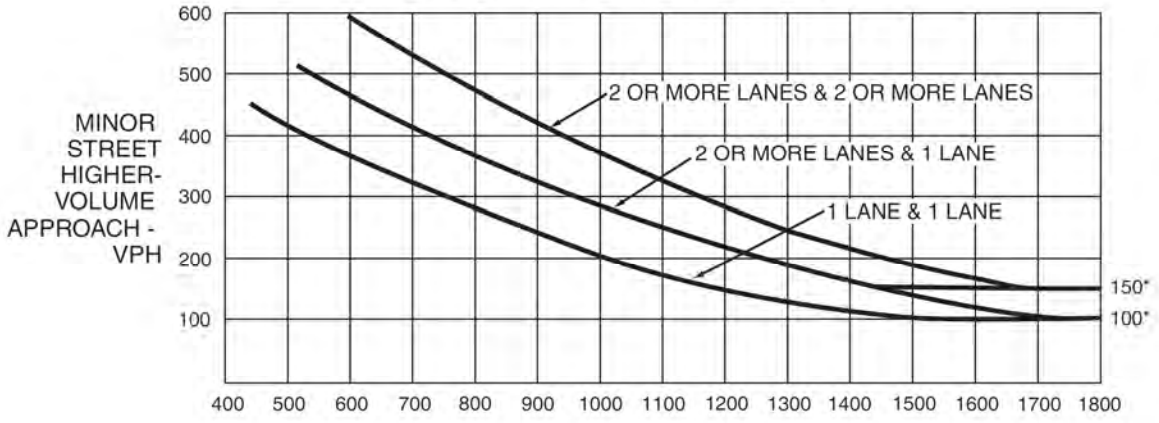
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

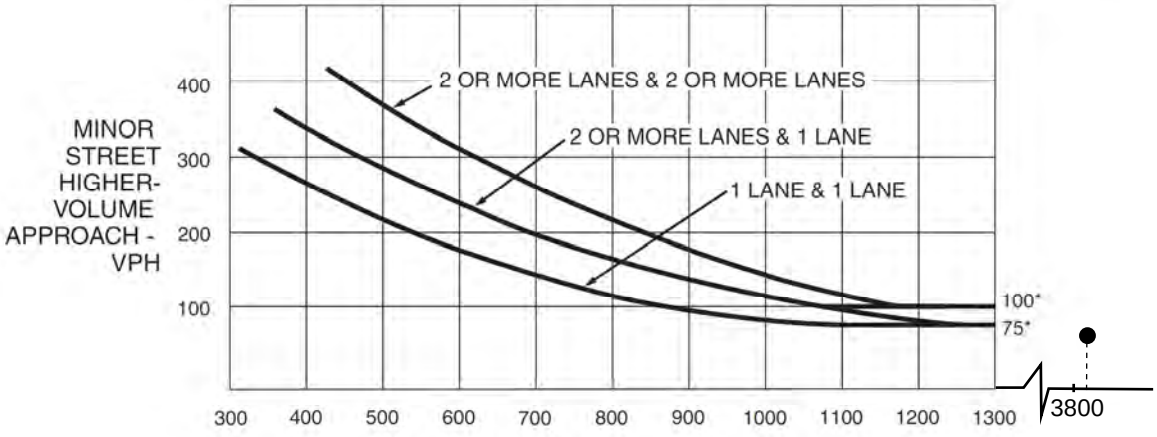
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
24 HOUR VOLUMES	TMO	17-Sep-24	IPGIK52H-0001	1 OF 1

E/W STREET : OLIVE DR

N/S STREET : SR-99 SB RAMPS

DIRECTION	N	S	MAX	E	W	TOTAL	8 HOURS
12:00 AM	0	18	18	141	152	293	
1:00 AM	0	10	10	118	107	225	
2:00 AM	0	10	10	110	96	206	
3:00 AM	0	16	16	173	118	291	
4:00 AM	0	30	30	369	221	590	
5:00 AM	0	32	32	766	515	1281	
6:00 AM	0	44	44	1357	756	2113	
7:00 AM	0	53	53	2306	1359	3665	4
8:00 AM	0	38	38	2065	1122	3187	6
9:00 AM	0	53	53	1612	1171	2783	
10:00 AM	0	58	58	1455	1144	2599	
11:00 AM	0	53	53	1466	1143	2609	
12:00 PM	0	96	96	1711	1342	3053	7
1:00 PM	0	65	65	1493	1431	2924	8
2:00 PM	0	65	65	1807	1607	3414	5
3:00 PM	0	81	81	1860	1938	3798	2
4:00 PM	0	74	74	1763	2056	3819	1
5:00 PM	0	49	49	1924	1904	3828	3
6:00 PM	0	36	36	1433	1250	2683	
7:00 PM	0	38	38	1141	1048	2189	
8:00 PM	0	30	30	790	822	1612	
9:00 PM	0	28	28	595	575	1170	
10:00 PM	0	23	23	378	398	776	
11:00 PM	0	13	13	275	242	517	
TOTALS	0	1,013	1,013	27,108	22,517	49,625	

DIRECTION	8 HOURS	MULTIWAY WARRANT		TRAFFIC SIGNAL CONDITION A		TRAFFIC SIGNAL CONDITION B		TRAFFIC SIGNAL CONDITION C			
		MAJ	MIN	MAJ	MIN	MAJ	MIN	MAJ	MIN	MAJ	MIN
		210	140	420	105	630	53	336	84	504	43
4:00 PM	1	YES	NO	YES	NO	YES	YES	YES	NO	YES	YES
3:00 PM	2	YES	NO	YES	NO	YES	YES	YES	NO	YES	YES
5:00 PM	3	YES	NO	YES	NO	YES	NO	YES	NO	YES	YES
7:00 AM	4	YES	NO	YES	NO	YES	NO	YES	NO	YES	YES
2:00 PM	5	YES	NO	YES	NO	YES	YES	YES	NO	YES	YES
8:00 AM	6	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
12:00 PM	7	YES	NO	YES	NO	YES	YES	YES	YES	YES	YES
1:00 PM	8	YES	NO	YES	NO	YES	YES	YES	NO	YES	YES

Counts Unimited, Inc.

PO Box 1178
Corona, CA 92878
(951) 268-6268
email: counts@countsunlimited.com

County of Kern
N/S: State Route 99 Southbound Ramps
E/W: Olive Drive
24 Hour Entering Volume Count

KCO001NS
Site Code: 130-24767

Start Time	9/4/24 Wed	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon	Morning	Afternoon
12:00		7	**27**			0	0				
12:15		4	**17**			0	0				
12:30		5	**24**			0	0				
12:45		2	**28**	18	96	0	0	0	0	18	96
01:00		3	19			0	0				
01:15		2	9			0	0				
01:30		1	19			0	0				
01:45		4	18	10	65	0	0	0	0	10	65
02:00		1	15			0	0				
02:15		4	17			0	0				
02:30		3	17			0	0				
02:45		2	16	10	65	0	0	0	0	10	65
03:00		0	19			0	0				
03:15		5	17			0	0				
03:30		7	24			0	0				
03:45		4	21	16	81	0	0	0	0	16	81
04:00		4	22			0	0				
04:15		10	21			0	0				
04:30		9	13			0	0				
04:45		7	18	30	74	0	0	0	0	30	74
05:00		10	17			0	0				
05:15		8	10			0	0				
05:30		5	12			0	0				
05:45		9	10	32	49	0	0	0	0	32	49
06:00		16	10			0	0				
06:15		5	8			0	0				
06:30		8	10			0	0				
06:45		15	8	44	36	0	0	0	0	44	36
07:00		11	6			0	0				
07:15		17	10			0	0				
07:30		10	11			0	0				
07:45		15	11	53	38	0	0	0	0	53	38
08:00		9	4			0	0				
08:15		8	11			0	0				
08:30		6	6			0	0				
08:45		15	9	38	30	0	0	0	0	38	30
09:00		13	9			0	0				
09:15		16	6			0	0				
09:30		15	5			0	0				
09:45		9	8	53	28	0	0	0	0	53	28
10:00		9	4			0	0				
10:15		**12**	10			0	0				
10:30		**19**	3			0	0				
10:45		**18**	6	58	23	0	0	0	0	58	23
11:00		**15**	3			0	0				
11:15		8	2			0	0				
11:30		21	5			0	0				
11:45		9	3	53	13	0	0	0	0	53	13
Total		415	598	415	598	0	0	0	0	415	598
Combined Total		1013		1013		0		0		1013	
AM Peak	-	10:15	-	-	-	-	-	-	-	-	-
Vol.	-	64	-	-	-	-	-	-	-	-	-
P.H.F.		0.842									
PM Peak	-	-	12:00	-	-	-	-	-	-	-	-
Vol.	-	-	96	-	-	-	-	-	-	-	-
P.H.F.			0.857								
Percentage		41.0%	59.0%			0.0%	0.0%				
ADT/AADT		ADT 1,013		AADT 1,013							

Counts Unimited, Inc.

PO Box 1178
Corona, CA 92878
(951) 268-6268
email: counts@countsunlimited.com

County of Kern
N/S: State Route 99 Southbound Ramps
E/W: Olive Drive
24 Hour Entering Volume Count

KCO001EW
Site Code: 130-24767

Start Time	9/4/24 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		37	412			48	348				
12:15		40	420			37	343				
12:30		40	428			45	312				
12:45		24	451	141	1711	22	339	152	1342	293	3053
01:00		28	362			27	383				
01:15		33	328			30	363				
01:30		25	396			29	323				
01:45		32	407	118	1493	21	362	107	1431	225	2924
02:00		30	422			24	333				
02:15		16	454			25	347				
02:30		31	484			19	459				
02:45		33	447	110	1807	28	468	96	1607	206	3414
03:00		46	429			16	424				
03:15		27	448			23	497				
03:30		46	454			26	529				
03:45		54	529	173	1860	53	488	118	1938	291	3798
04:00		71	466			48	494				
04:15		69	442			30	482				
04:30		99	409			69	**541**				
04:45		130	**446**	369	1763	74	**539**	221	2056	590	3819
05:00		120	**535**			86	**562**				
05:15		156	**518**			104	**547**				
05:30		214	**431**			132	408				
05:45		276	440	766	1924	193	387	515	1904	1281	3828
06:00		240	372			158	361				
06:15		250	378			126	314				
06:30		383	361			207	311				
06:45		484	322	1357	1433	265	264	756	1250	2113	2683
07:00		444	269			217	297				
07:15		**628**	290			**287**	259				
07:30		**617**	264			**392**	253				
07:45		**617**	318	2306	1141	**463**	239	1359	1048	3665	2189
08:00		**554**	217			**297**	253				
08:15		563	200			284	163				
08:30		504	189			261	196				
08:45		444	184	2065	790	280	210	1122	822	3187	1612
09:00		451	176			300	190				
09:15		375	145			290	149				
09:30		378	146			267	117				
09:45		408	128	1612	595	314	119	1171	575	2783	1170
10:00		346	115			263	115				
10:15		362	107			292	82				
10:30		372	85			301	102				
10:45		375	71	1455	378	288	99	1144	398	2599	776
11:00		334	94			279	51				
11:15		358	69			302	71				
11:30		376	47			237	65				
11:45		398	65	1466	275	325	55	1143	242	2609	517
Total		11938	15170	11938	15170	7904	14613	7904	14613	19842	29783
Combined Total		27108		27108		22517		22517		49625	
AM Peak	-	07:15	-	-	-	07:15	-	-	-	-	-
Vol.	-	2416	-	-	-	1439	-	-	-	-	-
P.H.F.		0.962				0.777					
PM Peak	-	-	04:45	-	-	-	04:30	-	-	-	-
Vol.	-	-	1930	-	-	-	2189	-	-	-	-
P.H.F.			0.902				0.974				
Percentage		44.0%	56.0%			35.1%	64.9%				
ADT/AADT		ADT 49,625		AADT 49,625							

BerkeleySafeTREC

Crash Details for: Case ID 91043627

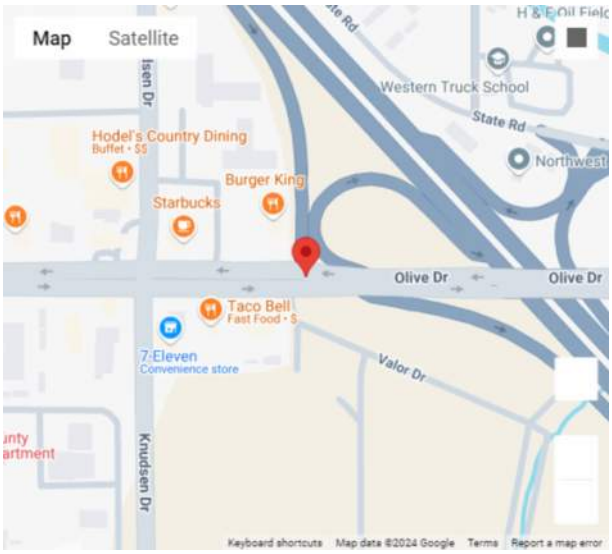
Crash Information

County	Kern
City	Unincorporated
Date & Time (M/D/Y)	07/25/2019 17:35
Location (Intersection)	Olive Dr & Sr-99 Sb To Olive Drive
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	35.412365, -119.057196

Type of Crash	B - Sideswipe
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	09 - Automobile Right of Way
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View



Parties: 4

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	E - Making Left Turn
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	West	B - Proceeding Straight
3	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	West	B - Proceeding Straight
4	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	West	A - Stopped

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	1 - Driver	F - Female	68	7 - Possible Injury

BerkeleySafeTREC

Crash Details for: Case ID 91601776

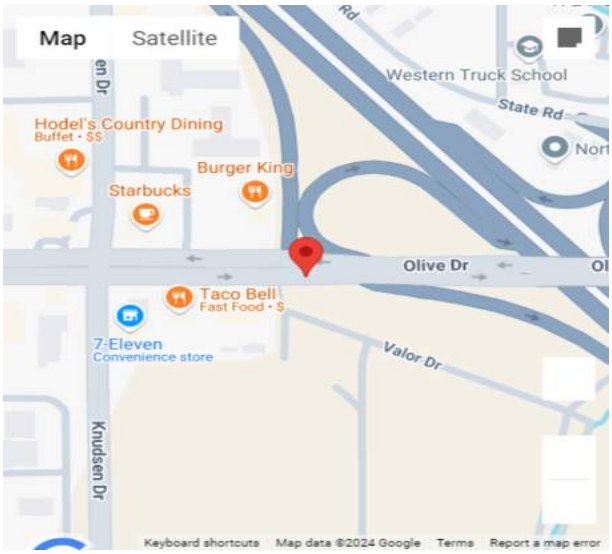
Crash Information

County	Kern
City	Unincorporated
Date & Time (M/D/Y)	10/14/2021 16:35
Location (Intersection)	Olive Dr & Knudsen Dr
Dist. & Dir. from Intersection	500.00 ft East
State Highway	No
Geocoded Location	35.4122696, -119.057106

Type of Crash	C - Rear End
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	03 - Unsafe Speed
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View



Parties: 3

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	D - Pickup or Panel Truck	Yes	West	B - Proceeding Straight
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	West	A - Stopped
3	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	West	A - Stopped

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
3	1 - Driver	F - Female	33	7 - Possible Injury

Appendix G: Vehicle Miles Traveled (VMT) Analysis

DAVID EVANS
AND ASSOCIATES INC.

MEMORANDUM

Project No: IPGIK52H-0001

Date: May 10, 2024

To: Paul Candelaria, Senior Engineer
Kern County Public Works Department

From: James M. Daisa, PE, Project Manager
David Evans and Associates, Inc.

Copy: Craig Wilde, Development Manager
Industrial Property Group, Inc

RE: FINAL VEHICLE MILES TRAVELED (VMT) ANALYSIS FOR THEFOR PROPOSED WAREHOUSE DEVELOPMENT LOCATED AT THE SOUTHWEST CORNER OF AIRPORT DRIVE AND BOUGHTON DRIVE IN UNINCORPORATED KERN COUNTY, CA (APN: 492-010-13, 17)

David Evans and Associates, Inc. (DEA) is pleased to submit this Vehicle Miles Traveled (VMT) analysis for the proposed warehouse development located on Airport Drive in Kern County. The analysis summarized in this memorandum is consistent with the California Governor's Office of Planning & Research guidelines in the publication *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) and meets the requirements for the evaluation of potentially significant transportation impacts under the California Environmental Quality Act (CEQA). The approach, analysis, and outcomes of the VMT analysis with respect to potentially significant environmental impacts are described in the following sections.

APPROACH

In 2013, the State of California approved legislation (SB 743) to change the primary basis of evaluation of traffic impacts in CEQA from Level of Service (LOS) to Vehicle Miles Traveled (VMT). CEQA Guidelines section 15064.3 was approved in December 2018, and became effective in early 2019. Section 15064.3 required agencies to implement the new VMT requirement no later than July 1, 2020.

The Governor's Office of Planning and Research (OPR) released a *Technical Advisory on Evaluating Transportation Impacts in CEQA* in December 2018, which provides guidelines and recommendations for VMT evaluation and thresholds. Kern County and KernCOG have not adopted any policies establishing a threshold of significance for determining VMT analysis under CEQA, nor any guidelines / methodologies for screening projects from requiring VMT analyses. Therefore, the OPR Technical Advisory was used as the basis for establishing a threshold of significance and screening criteria.

The calculation of VMT uses the KernCOG MIP II regional travel demand model and, if requested by the consultant analyzing the project's impacts, KernCOG will run the model with the proposed project and provide the resulting model output containing VMT data. The VMT data is extracted and used in the calculation of the metrics OPR recommends for identifying significant VMT impacts on the environment.

SCREENING THE PROJECT

Kern County allows screening of land use development to identify when a development project should be expected to cause a less-than-significant impact without conducting a detailed study of VMT. Without adopted

guidelines, Kern County supports the use of the screening criteria published in OPR's *Technical Advisory* which suggests that lead agencies may screen out VMT impacts using project size, maps of low-VMT generating areas, high frequency transit availability, and provision of affordable housing.

The screening evaluation using the criteria listed above, which was included in the Scoping Agreement submitted to the county on July 10, 2023, determined that a VMT analysis was required for the project. The full screening evaluation is included in **Appendix A** of this memorandum.

SIGNIFICANCE THRESHOLD

The Technical Advisory provides initial screening criteria and thresholds of significance for the VMT evaluation, which is limited to automobiles and light trucks generated by the project[1]. For non-residential development (except retail) OPR recommends a threshold of significance at 15% below the baseline metric of countywide VMT per Employee. Specifically, for office land uses, OPR recommends calculating VMT from only the Home-Based-Work trip purpose.

While no specific recommendations are provided for industrial land use, the trip-making characteristics of warehousing are very similar to those of office buildings where most of the passenger vehicle trips are generated by employees. Therefore, a metric consistent with office land uses was used for evaluating the proposed industrial /warehouse project—Home-based-Work VMT per Employee.

VMT ANALYSIS FINDINGS

The Kern Council of Governments (KernCOG) regional transportation model, used to estimate baseline VMT and project VMT for existing and future cumulative scenarios, was developed for use in adoption of the Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS). The regional model does not stop forecasting trips (and VMT) at the Kern County limits—it is linked to the State's transportation model data and accounts for the longer distance trips from Statewide travel.

The current model baseline year is 2020, and the cumulative future year is 2046. The output from the KernCOG model provides a detailed breakdown of the number of employees and trips and VMT by trip purpose and by TAZ county wide.

Table 1 on the following page presents the baseline (2020) and future cumulative (2046) metrics for countywide average home-based-work VMT per employee. This metric is the basis for determining the threshold of significance for employment-based land uses (i.e., office, industrial, warehousing, etc.) which is 15% less than the baseline (2020) countywide metric as stated in the following quote from OPR's Technical Advisory:

> *OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development may be a reasonable threshold.*

For purposes of this study, the year 2020 baseline model represents "existing development". Based on this guidance the threshold significance for industrial / warehousing development is 31.94 Home-Based-Work VMT / Employee as calculated countywide in **Table 1**. The metric for the year 2046 is shown for informational purposes but is not used in establishing the significance threshold for VMT impacts.

[1] Note that VMT analyses of industrial /warehouse land uses exclude heavy trucks. CEQA guidelines (Proposed Section 15064.3, subdivision (a)) states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks.

Table 1: Kern County Average Home-Based-Work VMT Per Employee and Related Significance Threshold

Year	Countywide Home to Work VMT [a]	Countywide Employment [b]	Countywide Average VMT Per Employee	Significance Threshold (85% of Baseline (2020) Countywide VMT / Emp) [c]
2020	11,327,204	301,397	37.58	31.94
2046	12,706,296	358,956	35.40	Not Applicable

Notes:
Sources of data:
[a] Countywide daily VMT for Home to Work trip purpose (2020 and 2046) is from KernCOG. Includes VMT associated with trips that have one end in Kern County and the other end outside of the county (IX-XI trips) but excludes traffic passing through Kern County without stopping (X-X trips).
[b] Countywide employment (2020 and 2046) is from KernCOG model output.
[c] Significance Threshold (85% of countywide baseline VMT / Employee) is based on the recommendations in the California Office of Planning and Research (OPR) Technical Advisory (Dec. 2018). This study used OPR's threshold recommendation for office land uses which is based on employee commute trips and very similar to industrial land uses. The OPR recommended significance threshold requires that project-generated VMT/ Employee not exceed 15 percent less than countywide average baseline home-to-work-based VMT/employee metric.

Table 2 compares project-generated VMT and project VMT / Employee metric to the significance threshold described earlier. The KernCOG model estimates the 437 project employees generate about 7,280 home-based-work vehicle miles of travel daily in baseline conditions. The resulting project metric of 16.65 Home-based-Work VMT/Employee is approximately half of the significance threshold of 31.94 VMT / Employee.

Table 2: Comparison of Project-Generated Home-Based-Work VMT Per Employee with Significance Threshold

Year	Home to Work Project Generated VMT [a]	Project Employment [b]	Project VMT Per Employee	Significance Threshold (VMT Per Employee) [c]	Exceed Significance Threshold?
2020	7,280	437	16.65	31.94	NO
2046	6,605	437	15.11		NO

Notes:
Sources of data:
[a] Daily project VMT for Home to Work trip purpose (2020 and 2046) is from KernCOG.
[b] Source of conversion from building floor area to employees: Southern California Association of Governments (SCAG) Employment Density Study Summary Report, October 31, 2001. Table 7A (Derivation of Square Feet per Employee Based on Median Employees Per Acre and Median Floor Area Ratio (FAR) in San Bernardino County). For warehousing, Table 7A provides a conversion of 2,111 square feet per employee.
[c] Significance Threshold (85% of countywide baseline VMT / Employee) is based on the recommendations in the California Office of Planning and Research (OPR) Technical Advisory (Dec. 2018). This study used OPR's threshold recommendation for office land uses which is based on employee commute trips and very similar to industrial land uses. The OPR recommended significance threshold requires that project-generated VMT/ Employee not exceed 15 percent less than countywide average baseline home-to-work-based VMT/employee metric.

Table 2 also compares project-generated VMT and the project VMT / Employee metric to the significance threshold under future cumulative (2046) conditions. As expected, project-generated VMT reduces slightly in the future reflecting the maturation of development in the vicinity of the project providing opportunities for employees to reside closer to the workplace. The home-based-work project-generated VMT / Employee metric in 2046 drops to 15.11, less than half of the baseline significance threshold of 31.94 VMT / Employee.

APPENDIX A

VEHICLE MILES TRAVELED (VMT) ANALYSIS SCREENING OF PROPOSED WAREHOUSE PROJECT

Kern County and KernCOG allow screening of land use development to identify when a development project should be expected to cause a less-than-significant impact without conducting a detailed study of VMT. (See CEQA Guidelines, §§15063(c)(3)(C), 15128). Since neither agency has adopted guidelines for conducting VMT analyses and criteria for identifying significant impacts, both agencies support the use of the screening criteria published in *Technical Advisory on Evaluating Transportation Impacts* in CEQA (Governor's Office of Planning and Research (OPR)).

As explained below, this technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps of low-VMT generating areas, high frequency transit availability, and provision of affordable housing. Applicable OPR criteria are used to screen the proposed warehouse project in the following sections.

Screening Threshold for Small Projects

The OPR's Technical Advisory guidelines include a screening criterion that a project, absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, may be assumed to cause a less-than-significant transportation impact if the project generates or attracts fewer than 110 trips per day.

The proposed project generates about 1,430 trips per day, exceeding OPR's threshold of 110 daily trips. As a result, the proposed project is not screened from conducting a VMT analysis based on this criterion.

Map-Based Screening for Employment Projects

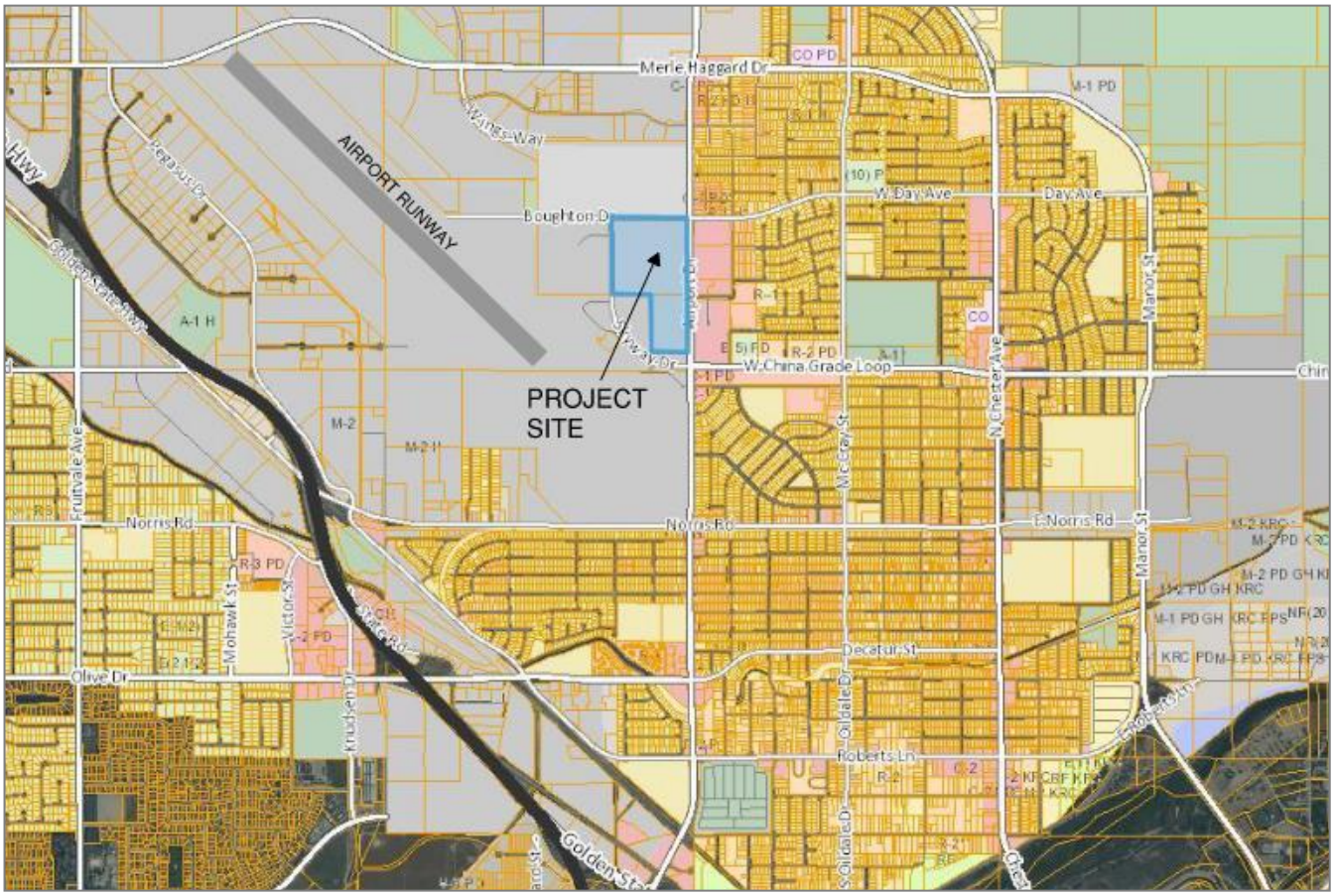
Office and other employment-generating land uses (excluding retail) located in areas with existing low VMT (or projected to generate low VMT in the future), and that incorporate similar features (i.e., density, mix of uses, transit accessibility) as the existing low VMT generating uses, will tend to exhibit similarly low VMT. The OPR guidance suggests reviewing maps created with VMT data, for example from a travel survey or a travel demand model, illustrating areas that are currently below threshold VMT to screen out projects from needing to prepare a detailed VMT analysis.

Because a low-VMT generating area map does not exist for Kern County, this screening assessment draws conclusions regarding this criterion based on a qualitative review of the land uses surrounding proposed project site.

The proposed project site is adjacent to the County's Meadow Field Airport and within the airport's sphere of influence (SOI) and land use plan, which makes the site subject to specific regulatory requirements. The map on the following page shows Kern County Zoning. The land uses within these zoning districts (light industrial and low density residential) are typically not associated with low-VMT generating uses. Both uses tend to generate a large proportion of commuter traffic. For purposes of this screening analysis, it is assumed that the project site is not located in a low-VMT generating area and, therefore, not screened from requiring a VMT analysis based on this criterion.

Proximity to a Transit Priority Area

CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office [or employment] projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor will have a less-than-significant impact on VMT. A major transit stop is defined as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. A high-quality transit corridor is defined as a corridor with fixed route bus service with frequencies of 15 minutes or less during peak commute hours.



The site is zoned Light Industrial (M-1) and is on the eastern edge of a very large area of light industrial zoned land surrounding the airport (shown in grey). To the east and south of the site the land is zoned low density residential (primarily R-1 and R-2) with community serving retail (pink) placed to serve the residential uses.

Public Transportation does serve the area where the project is located. The Golden Empire Transit District (GETBus) operates fixed bus routes serving destinations in nearby Oildale. The nearest bus stop, however, does not meet the definition of a major bus stop. The 45 Route (Oildale / Foothill) has stops on McCray Street (east of Airport Drive) and a peak hour service frequency of no less than 30 minutes. Further, the closest stop by walking is over 3,000 feet from the nearest corner of the proposed project, which exceeds the ½-mile limit.

Given the frequency of service and the distance to the nearest stop, the project cannot be screened from requiring a VMT analysis based on the proximity to transit criterion.

<u>Affordable Housing in Infill Development Areas</u>

This final screening criterion in OPR's Technical Advisory on Evaluating Transportation Impacts is not applicable to the proposed project.

<u>VMT Screening Conclusion</u>

The proposed project is not screened from requiring a VMT analysis based on the criteria found in the guidelines presented in the Governor's Office of Planning and Research. A VMT analysis of the proposed project is required.

Appendix K

Tribal Cultural

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Lorelei H. Oviatt, AICP, Director
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
Phone: (661) 862-8600
Fax: (661) 862-8601 TTY Relay 1-800-735-2929
Email: planning@kerncounty.com
Web Address: http://kernplanning.com/

PLANNING AND NATURAL RESOURCES DEPARTMENT

Planning
Community Development
Administrative Operations

Certified Mail <9589 0710 5270 0616 3151 44>

August 8, 2023

FILE: PD Plan No. 72, Map 102

Tejon Indian Tribe
Attn: Candice Garza
4941 David Road
Bakersfield, CA 93307

RE: AB 52 Tribal Consultation –PD Plan by IPG Kern County 52 Holdings, LLC for the IPG Industrial Project (PP23405)

Dear Mrs. Garza,

The Kern County Planning and Natural Resources Department is in receipt of a request to process an application for a proposed warehouse facility. The proposed project, the IPG Industrial Project, would allow for the construction and operation of an 888,872 square-foot warehouse facility consisting of two (2) buildings. The proposed project is situated on approximately 52 acres of privately-owned land.

The proposed project is located within the Metropolitan Bakersfield General Plan, at the southwest corner of Boughton Drive and Airport Drive. The project site is located in Section 2 of Township 29 South, Range 27 East in the Mount Diablo Base and Meridian (MBB&M).

In compliance with California Assembly Bill No. 52 (AB 52), this Department is requesting your review and comments on the potential impacts on cultural places associated with your tribe by this proposal. Your participation is important at this early stage of processing to ensure that cultural places important to your tribe are identified, and the potential impacts associated with implementation of the project are mitigated.

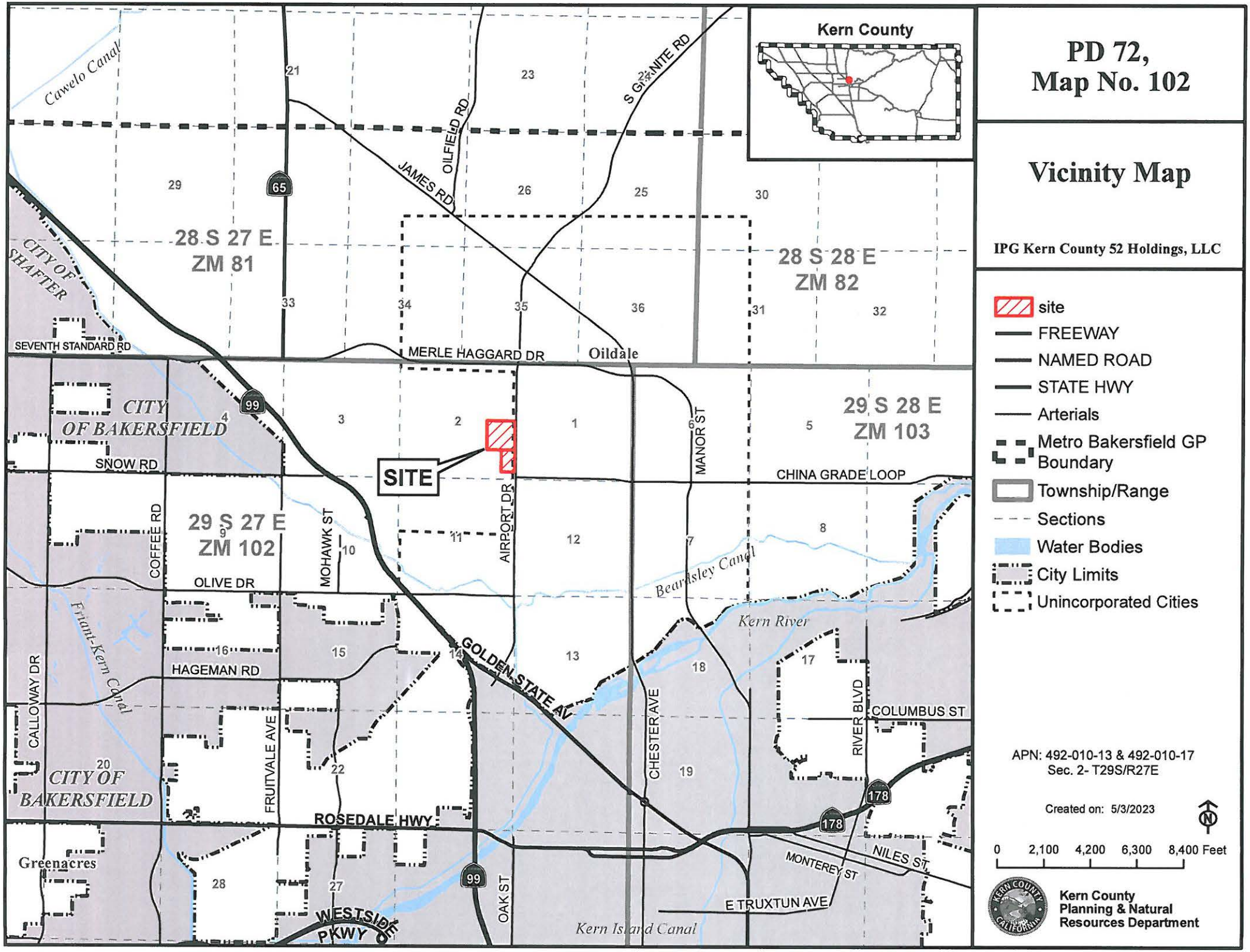
If you have not responded by **Friday, September 8, 2023**, this Department will assume your tribe has declined consultation as per Public Resources Code (PRC) 21080.3.1.

If you have any questions, comments or wish to request a consultation regarding this proposal please contact me at (661) 862-5029 or by email at BritoAL@kerncounty.com.

Sincerely,

Alexis Brito
Planner I, Advanced Planning
Planning and Natural Resources Department

Enclosure: Vicinity Map


Kern County
PD 72,
Map No. 102
Vicinity Map
IPG Kern County 52 Holdings, LLC
site
FREEWAY
NAMED ROAD
STATE HWY
Arterials
Metro Bakersfield GP Boundary
Township/Range
Sections
Water Bodies
City Limits
Unincorporated Cities
APN: 492-010-13 & 492-010-17
Sec. 2- T29S/R27E
Created on: 5/3/2023
0 2,100 4,200 6,300 8,400 Feet
Kern County Planning & Natural Resources Department
28 S 27 E ZM 81
28 S 28 E ZM 82
29 S 28 E ZM 103
29 S 27 E ZM 102
SITE
CITY OF SHAFTER
CITY OF BAKERSFIELD
CITY OF BAKERSFIELD
Greenacres
Oildale
SEVENTH STANDARD RD
MERLE HAGGARD DR
JAMES RD
OILFIELD RD
S GOSNITE RD
SNOW RD
CHINA GRADE LOOP
MANOR ST
AIRPORT DR
MOHAWK ST
COFFEE RD
OLIVE DR
HAGEMAN RD
GOLDEN STATE AV
CALLOWAY DR
FRUITVALE AVE
CHESTER AVE
RIVER BLVD
COLUMBUS ST
ROSEDALE HWY
MONTEREY ST
NILES ST
E TRUXTUN AVE
OAK ST
WESTSIDE PKWY
Cawelo Canal
Friant-Kern Canal
Beardsley Canal
Kern River
Kern Island Canal
65
99
178

Lorelei H. Oviatt, AICP, Director
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
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PLANNING AND NATURAL RESOURCES DEPARTMENT

Planning
Community Development
Administrative Operations

August 8, 2023

FILE: PD Plan No. 72, Map 102

Torres Martinez Desert Cahuilla Indians
Attn: Michael Mirelez, Cultural Resources Coordinator
P.O. Box 1160
Thermal, CA 92274

RE: AB 52 Tribal Consultation –PD Plan by IPG Kern County 52 Holdings, LLC for the IPG Industrial Project (PP23405)

Dear Mr. Mirelez,

The Kern County Planning and Natural Resources Department is in receipt of a request to process an application for a proposed warehouse facility. The proposed project, the IPG Industrial Project, would allow for the construction and operation of an 888,872 square-foot warehouse facility consisting of two (2) buildings. The proposed project is situated on approximately 52 acres of privately-owned land.

The proposed project is located within the Metropolitan Bakersfield General Plan, at the southwest corner of Boughton Drive and Airport Drive. The project site is located in Section 2 of Township 29 South, Range 27 East in the Mount Diablo Base and Meridian (MBB&M).

In compliance with California Assembly Bill No. 52 (AB 52), this Department is requesting your review and comments on the potential impacts on cultural places associated with your tribe by this proposal. Your participation is important at this early stage of processing to ensure that cultural places important to your tribe are identified, and the potential impacts associated with implementation of the project are mitigated.

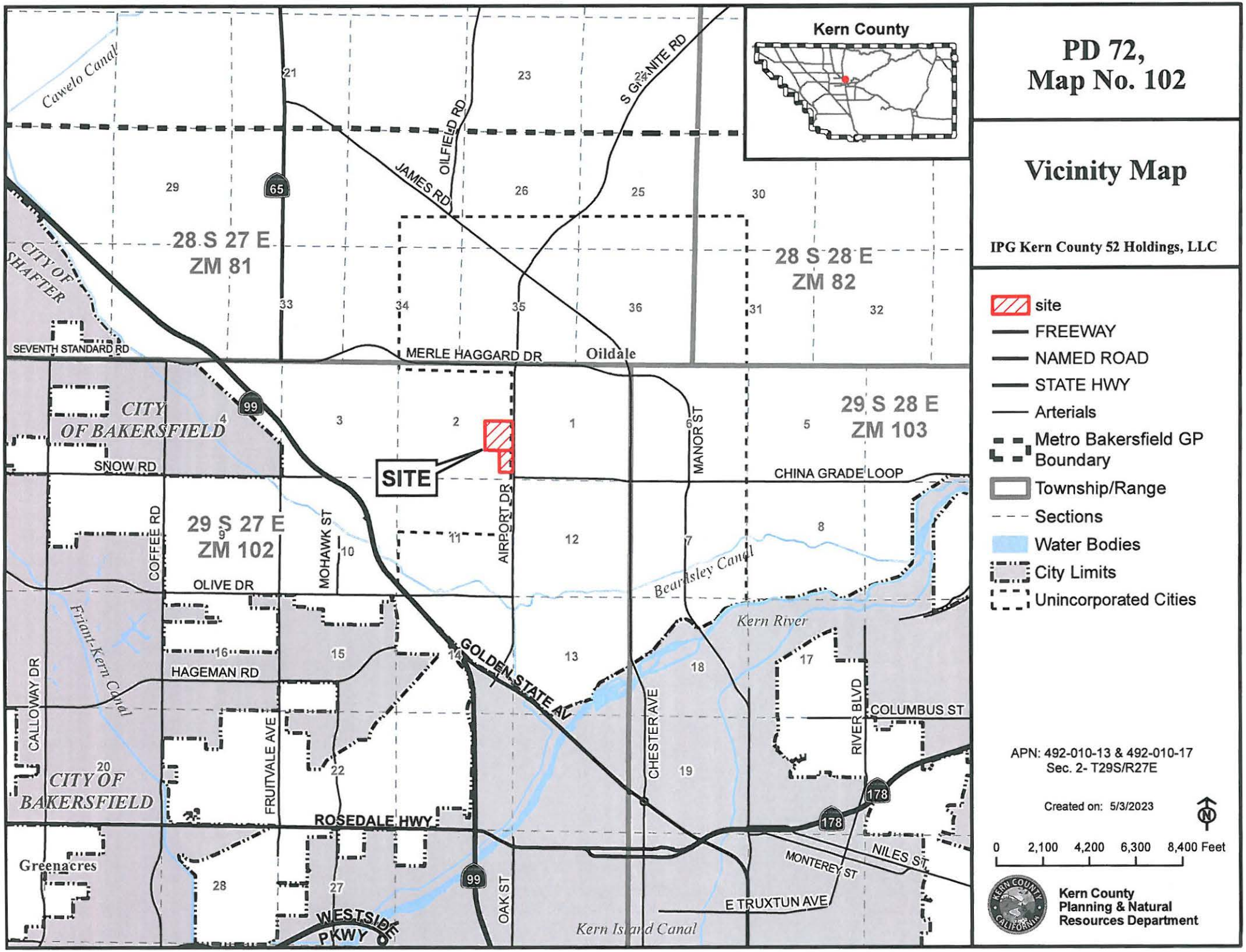
If you have not responded by **Friday, September 8, 2023**, this Department will assume your tribe has declined consultation as per Public Resources Code (PRC) 21080.3.1.

If you have any questions, comments or wish to request a consultation regarding this proposal please contact me at (661) 862-5029 or by email at BritoAL@kerncounty.com.

Sincerely,

Alexis Brito
Planner I, Advanced Planning
Planning and Natural Resources Department

Enclosure: Vicinity Map


Kern County
PD 72,
Map No. 102
Vicinity Map
IPG Kern County 52 Holdings, LLC
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FREEWAY
NAMED ROAD
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OILFIELD RD
S GRANITE RD
SEVENTH STANDARD RD
MERLE HAGGARD DR
SNOW RD
CHINA GRADE LOOP
MANOR ST
AIRPORT DR
MOHAWK ST
COFFEE RD
OLIVE DR
HAGEMAN RD
GOLDEN STATE AV
CALLOWAY DR
FRUITVALE AVE
CHESTER AVE
RIVER BLVD
COLUMBUS ST
ROSEDALE HWY
WESTSIDE PKWY
OAK ST
MONTEREY ST
NILES ST
E TRUXTUN AVE
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99
178

Lorelei H. Oviatt, AICP, Director
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PLANNING AND NATURAL RESOURCES DEPARTMENT

Planning
Community Development
Administrative Operations

Certified Mail <7015 1520 0000 8797 9357>

August 8, 2023

FILE: PD Plan No. 72, Map 102

Twenty-Nine Palms Band
of Mission Indians
Attn: Darrell Mike, Tribal Chairman
46-200 Harrison Place
Coachella, CA 92236

RE: AB 52 Tribal Consultation –PD Plan by IPG Kern County 52 Holdings, LLC for the IPG Industrial Project (PP23405)

Dear Mr. Mike,

The Kern County Planning and Natural Resources Department is in receipt of a request to process an application for a proposed warehouse facility. The proposed project, the IPG Industrial Project, would allow for the construction and operation of an 888,872 square-foot warehouse facility consisting of two (2) buildings. The proposed project is situated on approximately 52 acres of privately-owned land.

The proposed project is located within the Metropolitan Bakersfield General Plan, at the southwest corner of Boughton Drive and Airport Drive. The project site is located in Section 2 of Township 29 South, Range 27 East in the Mount Diablo Base and Meridian (MBB&M).

In compliance with California Assembly Bill No. 52 (AB 52), this Department is requesting your review and comments on the potential impacts on cultural places associated with your tribe by this proposal. Your participation is important at this early stage of processing to ensure that cultural places important to your tribe are identified, and the potential impacts associated with implementation of the project are mitigated.

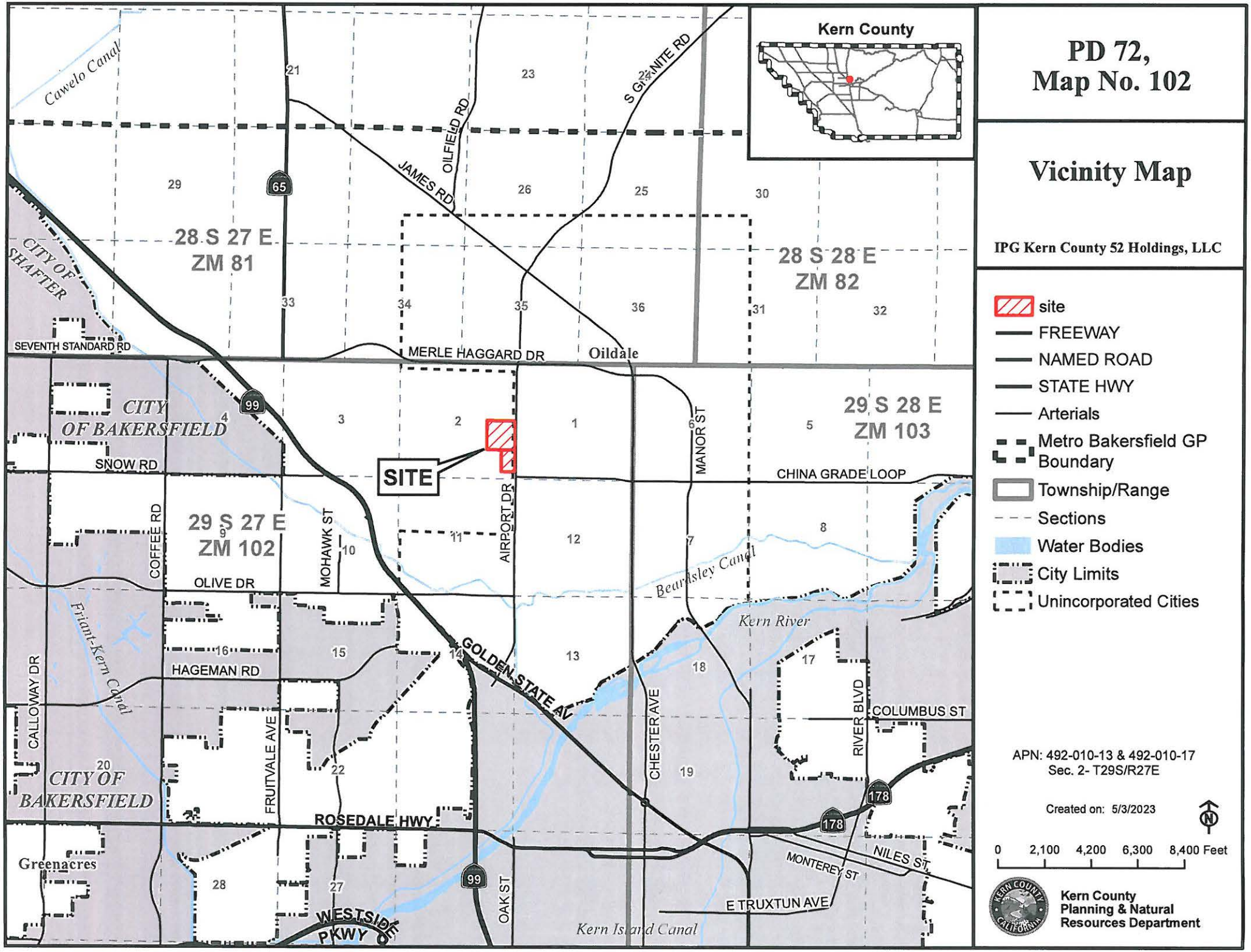
If you have not responded by **Friday, September 8, 2023**, this Department will assume your tribe has declined consultation as per Public Resources Code (PRC) 21080.3.1.

If you have any questions, comments or wish to request a consultation regarding this proposal please contact me at (661) 862-5029 or by email at BritoAL@kerncounty.com.

Sincerely,

Alexis Brito
Planner I, Advanced Planning
Planning and Natural Resources Department

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Kern County
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Vicinity Map
IPG Kern County 52 Holdings, LLC
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NAMED ROAD
STATE HWY
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Metro Bakersfield GP Boundary
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Oildale
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Cawelo Canal
Friant-Kern Canal
Bear Creek
Kern River
Kern Island Canal
JAMES RD
OILFIELD RD
S GIANNINI RD
SEVENTH STANDARD RD
MERLE HAGGARD DR
SNOW RD
CHINA GRADE LOOP
MANOR ST
AIRPORT DR
MOHAWK ST
COFFEE RD
OLIVE DR
HAGEMAN RD
GOLDEN STATE AV
CALLOWAY DR
FRUITVALE AVE
ROSEDALE HWY
CHESTER AVE
RIVER BLVD
COLUMBUS ST
NILES ST
MONTEREY ST
E TRUXTUN AVE
OAK ST
WESTSIDE PKWY
65
99
178

Lorelei H. Oviatt, AICP, Director
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
Phone: (661) 862-8600
Fax: (661) 862-8601 TTY Relay 1-800-735-2929
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PLANNING AND NATURAL RESOURCES DEPARTMENT

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Certified Mail <7015 1520 0000 8797 9333>

August 8, 2023

FILE: PD Plan No. 72, Map 102

Twenty-Nine Palms Band
of Mission Indians
Attn: Anthony Madrigal Jr., Tribal Grants Administrator
46-200 Harrison Place
Coachella, CA 92236

RE: AB 52 Tribal Consultation –PD Plan by IPG Kern County 52 Holdings, LLC for the IPG Industrial Project (PP23405)

Dear Mr. Madrigal,

The Kern County Planning and Natural Resources Department is in receipt of a request to process an application for a proposed warehouse facility. The proposed project, the IPG Industrial Project, would allow for the construction and operation of an 888,872 square-foot warehouse facility consisting of two (2) buildings. The proposed project is situated on approximately 52 acres of privately-owned land.

The proposed project is located within the Metropolitan Bakersfield General Plan, at the southwest corner of Boughton Drive and Airport Drive. The project site is located in Section 2 of Township 29 South, Range 27 East in the Mount Diablo Base and Meridian (MBB&M).

In compliance with California Assembly Bill No. 52 (AB 52), this Department is requesting your review and comments on the potential impacts on cultural places associated with your tribe by this proposal. Your participation is important at this early stage of processing to ensure that cultural places important to your tribe are identified, and the potential impacts associated with implementation of the project are mitigated.

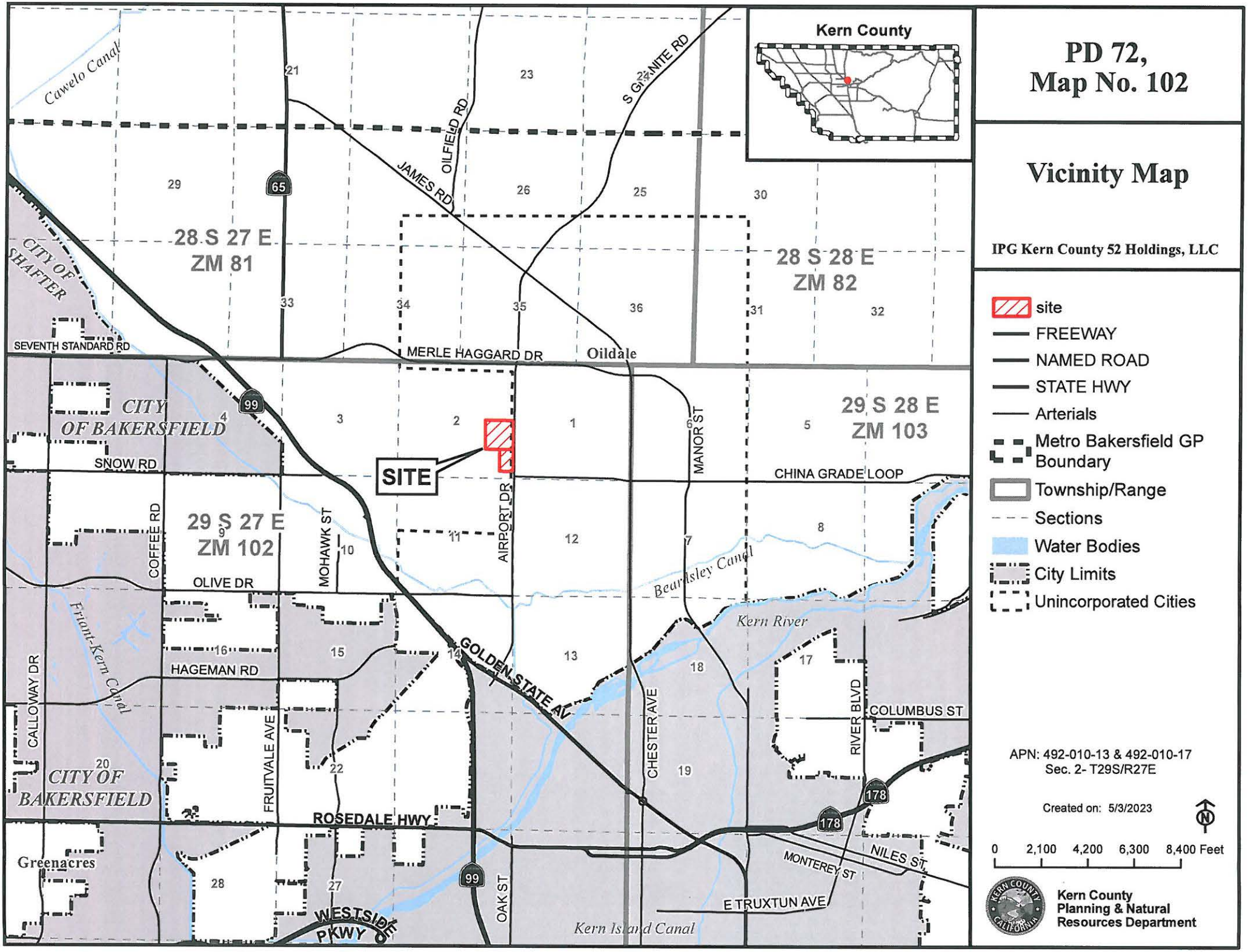
If you have not responded by **Friday, September 8, 2023**, this Department will assume your tribe has declined consultation as per Public Resources Code (PRC) 21080.3.1.

If you have any questions, comments or wish to request a consultation regarding this proposal please contact me at (661) 862-5029 or by email at BritoAL@kerncounty.com.

Sincerely,

Alexis Brito
Planner I, Advanced Planning
Planning and Natural Resources Department

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29 S 27 E ZM 102
SITE
CITY OF SHAFTER
CITY OF BAKERSFIELD
CITY OF BAKERSFIELD
Greenacres
Oildale
Cawelo Canal
Friant-Kern Canal
Beardsley Canal
Kern River
Kern Island Canal
JAMES RD
OILFIELD RD
S GRANITE RD
SEVENTH STANDARD RD
MERLE HAGGARD DR
SNOW RD
COFFEE RD
MOHAWK ST
AIRPORT DR
MANOR ST
CHINA GRADE LOOP
OLIVE DR
HAGEMAN RD
CALLOWAY DR
FRUITVALE AVE
GOLDEN STATE AV
CHESTER AVE
RIVER BLVD
COLUMBUS ST
ROSEDALE HWY
WESTSIDE PKWY
OAK ST
MONTEREY ST
NILES ST
E TRUXTUN AVE
65
99
178

Lorelei H. Oviatt, AICP, Director
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
Phone: (661) 862-8600
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PLANNING AND NATURAL RESOURCES DEPARTMENT

Planning
Community Development
Administrative Operations

Certified Mail <7015 1520 0000 8797 9364>

August 8, 2023

FILE: PD Plan No. 72, Map 102

Yuhaaviatam of San Manuel Nation
Attn: Alexandra McCleary, Ph.D.
26569 Community Center Drive
Highland, CA 92346

RE: AB 52 Tribal Consultation –PD Plan by IPG Kern County 52 Holdings, LLC for the IPG Industrial Project (PP23405)

Dear Dr. McCleary,

The Kern County Planning and Natural Resources Department is in receipt of a request to process an application for a proposed warehouse facility. The proposed project, the IPG Industrial Project, would allow for the construction and operation of an 888,872 square-foot warehouse facility consisting of two (2) buildings. The proposed project is situated on approximately 52 acres of privately-owned land.

The proposed project is located within the Metropolitan Bakersfield General Plan, at the southwest corner of Boughton Drive and Airport Drive. The project site is located in Section 2 of Township 29 South, Range 27 East in the Mount Diablo Base and Meridian (MBB&M).

In compliance with California Assembly Bill No. 52 (AB 52), this Department is requesting your review and comments on the potential impacts on cultural places associated with your tribe by this proposal. Your participation is important at this early stage of processing to ensure that cultural places important to your tribe are identified, and the potential impacts associated with implementation of the project are mitigated.

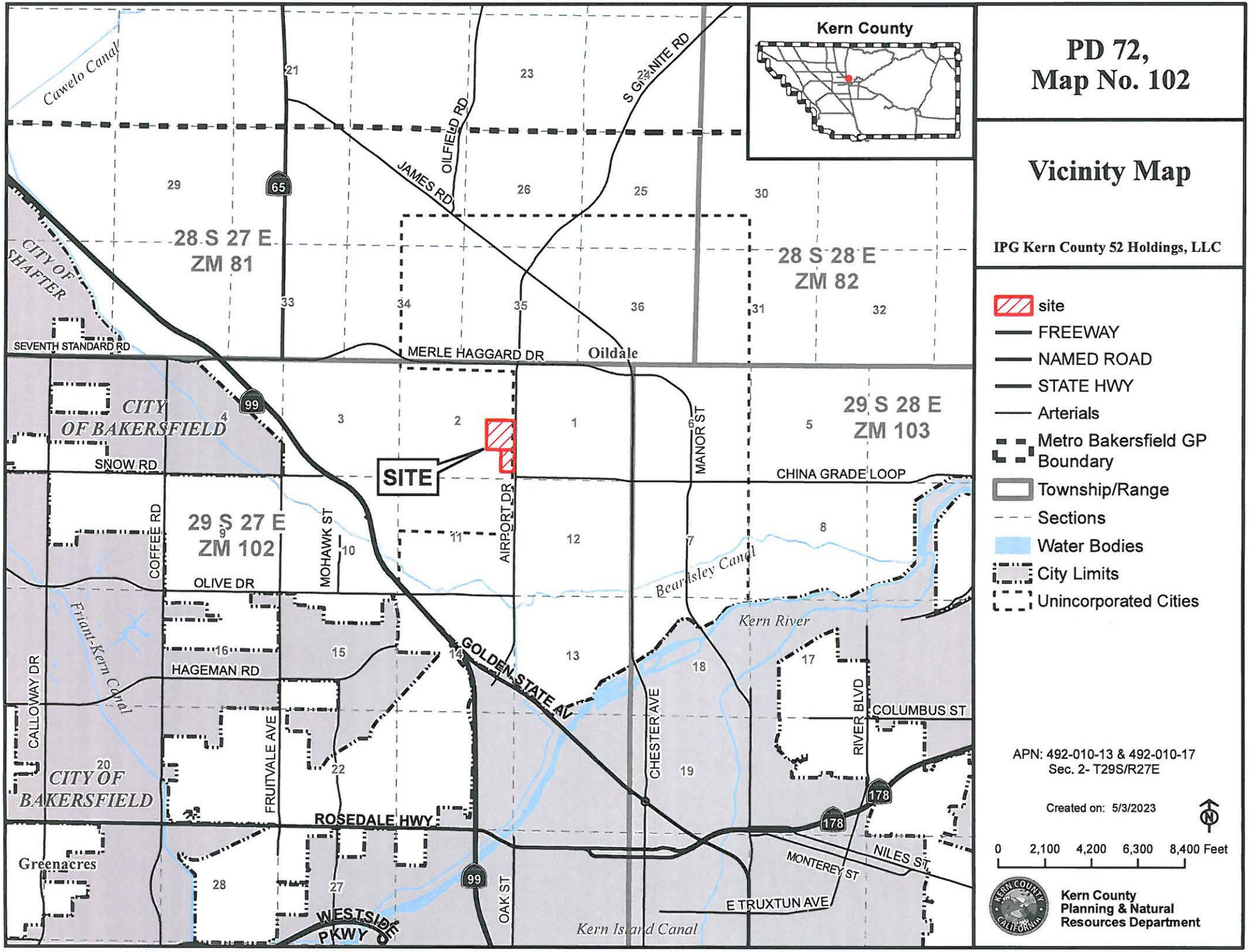
If you have not responded by **Friday, September 8, 2023**, this Department will assume your tribe has declined consultation as per Public Resources Code (PRC) 21080.3.1.

If you have any questions, comments or wish to request a consultation regarding this proposal please contact me at (661) 862-5029 or by email at BritoAL@kerncounty.com.

Sincerely,

Alexis Brito
Planner I, Advanced Planning
Planning and Natural Resources Department

Enclosure: Vicinity Map


Kern County
PD 72,
Map No. 102
Vicinity Map
IPG Kern County 52 Holdings, LLC
site
FREEWAY
NAMED ROAD
STATE HWY
Arterials
Metro Bakersfield GP Boundary
Township/Range
Sections
Water Bodies
City Limits
Unincorporated Cities
APN: 492-010-13 & 492-010-17
Sec. 2- T29S/R27E
Created on: 5/3/2023
0 2,100 4,200 6,300 8,400 Feet
Kern County Planning & Natural Resources Department
28 S 27 E ZM 81
28 S 28 E ZM 82
29 S 27 E ZM 102
29 S 28 E ZM 103
SITE
CITY OF BAKERSFIELD
CITY OF SHAFTER
Oildale
Greenacres
Cawelo Canal
Friant-Kern Canal
Bear Isley Canal
Kern River
Kern Island Canal
JAMES RD
OILFIELD RD
S GOSNITE RD
SEVENTH STANDARD RD
MERLE HAGGARD DR
SNOW RD
COFFEE RD
MOHAWK ST
AIRPORT DR
MANOR ST
CHINA GRADE LOOP
OLIVE DR
HAGEMAN RD
CALLOWAY DR
FRUITVALE AVE
GOLDEN STATE AV
CHESTER AVE
RIVER BLVD
COLUMBUS ST
ROSEDALE HWY
WESTSIDE PKWY
OAK ST
MONTEREY ST
NILES ST
E TRUXTUN AVE
65
99
178

Appendix L

Economic and Fiscal Impact Analysis

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ECONOMIC AND FISCAL IMPACT ANALYSIS

IPG Industrial Warehouse Facility

July 3, 2024

Prepared for:

IPG KERN COUNTY 52 HOLDINGS, LLC

Prepared by:

THE NATELSON DALE GROUP, INC.
P.O. Box 489
Yorba Linda, CA 92885
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Web: www.natelsondale.com

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1. Introduction

This report evaluates the direct fiscal impacts and the broader economic benefits that would result from development and operation of the IPG industrial warehouse facility project in unincorporated Kern County ("County"). The proposed project site consists of two parcels totaling 49.05 acres. A detailed project description is provided below.

Organization of the Report

This introduction summarizes the project description and describes the scope of the study. Chapter 2 provides a brief summary of the fiscal and economic benefits that the proposed project would generate. Chapter 3 evaluates the project's recurring fiscal impacts to the County. Chapter 4 examines the regional economic benefits that would result from the project's construction phase, while Chapter 5 provides further details on the ongoing economic impacts. Appendix A fully documents the technical details of the fiscal analysis. Appendices B through E provide further technical documentation of the economic impact analysis.

Scope of the study

The County is the primary jurisdiction that would experience significant fiscal impacts as a result of the project. This report quantifies direct revenue and cost impacts to the County based on standard fiscal impact analysis methodologies.

The regional economic benefits analysis considers the temporary impacts associated with project construction, along with the ongoing (permanent) impacts resulting from business operations at the project site. For the construction-phase and ongoing impacts, the analysis considers direct (i.e., on-site) impacts as well as indirect or "multiplier" benefits in the regional (County) economy.

Project Description

Table 1-1, on the following page, summarizes the specific land uses assumed for development on the project site. As shown in the table, the project would include a 908,130 square feet class "A" industrial warehouse facility, along with 15,000 square feet of ancillary office space. Thus, the total building space is approximately 923,130 square feet.

Table 1-1: Summary Project Description – IPG Industrial Warehouse Project

Project Variable	Amount	
Approximate Net Site Area	49.05	AC
Building Area		
Industrial Warehouse Facility	908,130	SF
Ancillary Office Space	15,000	SF
Total	923,130	
Estimated Assessed Value		
Land	$11,500,000	
Building Space/Sitework	97,750,000	
Total Assessed Value	$109,250,000	
Less Existing Pre-development Assessed Value	(6,000,000)	
Net Increase in Assessed Valuation	$103,250,000	

Source: Applicant; TNDG.
Notes: SF = Square Feet; AC = Acres

Categories of Fiscal Impacts Considered in the Study

The fiscal impact analysis focuses on permanent, annually-recurring impacts resulting from ongoing operation of the development project.

The following categories of fiscal revenues are considered in the analysis:

- Property Tax
- Property Tax in lieu of VLF
- Property Transfer Tax
- Other Taxes (Hazardous Waste / Franchise Fees)
- Miscellaneous General Fund revenues

The following categories of municipal costs are included in the analysis:

- Public Protection
- Public Ways and Facilities
- Health and Sanitation
- Public Assistance
- Education
- Debt Service
- General Government (administration)

Categories of Regional Economic Benefits Considered in the Study

The proposed project will generate the following types of economic benefits in the regional economy:

- Direct Benefits. Direct benefits relate to the following: a) short-term business activity of general contractors and associated business (architecture services, engineering services, etc.) involved in the project construction and b) the ongoing business activity of the tenants that will locate within the project's warehouse building.
- Indirect Benefits. Indirect benefits would result when local firms directly impacted by the project in turn purchase materials, supplies or services from other firms. An example would include increased sales of building materials as a result of construction activity.
- Induced Benefits. Induced benefits relate to the consumption spending of employees of firms that are directly or indirectly affected by the project. These would include all of the goods and services normally associated with household consumption (e.g., retail purchases, local services, etc.).

The analysis quantifies the above benefits in terms of the following measures:

- Total industry output – The increase in gross industry receipts, representing the total economic activity generated by the construction phase and from business operations of new site tenants
- Value added – The portion of total output that most accurately reflects local economic activity (i.e., local payrolls, profits, taxes, as distinct from gross output which includes the value of intermediate goods [construction raw materials] purchased outside the region)
- Jobs – expressed in this analysis in terms of both full-time and part-time jobs lasting one year
- Payroll and benefits – the total employee compensation[1] associated with the created jobs

Study Methodology – Regional Economic Benefits

This analysis used the IMPLAN (Impact Analysis for Planning) economic impact modeling software to evaluate the project's one-time construction impacts, along with ongoing impacts resulting from new resident local spending. This software is classified as an "Input-Output" (IO) model that computes all of the economic impacts of industries in a user-defined region (in this case, Kern County), including the estimated local expenditures of employees of both project-direct and supplier firms. The current version of the IMPLAN model divides the economy into 534 sectors that correspond to 4-digit and 5-digit NAICS codes. For construction activity, the IMPLAN modeling system relies on data from the compiled U.S. Census Bureau instead of the NAICS system.

[1] Employee compensation includes total payroll cost of the employee paid by the employer. This includes wage and salary, all benefits (e.g., health, retirement) and payroll taxes (both sides of social security, unemployment taxes, etc.)

2. Executive Summary

Highlights of the Economic Benefits of the Proposed Project

The economic benefits of the proposed project are detailed in below and highlighted as follows:

- Development of the project would generate a total of ***671 construction-related jobs*** in Kern County
- Ongoing operation of the project would support a total of ***596 permanent jobs*** in Kern County
- The project would generate a ***net fiscal benefit of approximately $260,100*** to Kern County

Short-term (Construction) Impacts to Regional Economy

This section provides a summary of the project's construction-phase impacts to Kern County. The summary includes the sum of all direct, indirect, and induced impacts, as shown on Table 2-1 on the following page. The total construction-related impacts would include the following:

Output: At buildout the project's one-time construction activities would generate approximately $128.8 million in total economic activity in the County, through direct, indirect, and induced impacts.

Value Added: At buildout the project's one-time construction activities would generate approximately $71.8 million in total value added in the County, through direct, indirect, and induced impacts.

Employment: At buildout the project's one-time construction activities would generate approximately 671.3 jobs in the County, through direct, indirect, and induced impacts[2].

Employee Compensation: At buildout the project's one-time construction activities would generate about $43.8 million in total employee compensation in the County[3].

[2] As noted above, this total includes both part- and full-time wage and salary (W&S) employees. Based on factors provided in the IMPLAN model, the construction phase would generate approximately 671 full-time equivalent (FTE) jobs in the County.

[3] Employee compensation is a "fully loaded" payroll estimate, including all benefits (e.g., health, retirement) and payroll taxes (both sides of social security, unemployment taxes, etc.). Based on factors provided in the IMPLAN model, the project would generate approximately $36.9 million in salaries/wages in Kern County.

Table 2-1: Summary of Construction Phase Impacts (Sum of Direct, Indirect, and Induced)
IPG Industrial Warehouse Project

Category	County Total
Output (000s)	$128,854
Value Added (000s)	$71,817
Employees[1]	671.3
Employee Compensation (000s)	$43,846

1. Part-time and full-time wage and salary (W&S) employees

Source: TNDG; IMPLAN

Permanent Impacts to Regional Economy

This section provides a summary of the permanent benefits to the County. These benefits would result from the ongoing business operations of tenants at the project site. The summary includes the sum of all direct, indirect, and induced impacts, as shown on Table 2-2 on the following page. The permanent impacts would include the following:

Output: On an annual basis, project tenants would generate approximately $86.6 million in total economic activity in the County, through direct, indirect, and induced impacts.

Value Added: On an annual basis, project tenants would generate approximately $50.7 million in total value added in the County, through direct, indirect, and induced impacts.

Employment: On an annual basis, project tenants would generate approximately 595.8 jobs in the County, through direct, indirect, and induced impacts[4].

Employee Compensation: On an annual basis, project tenants would generate about $39.3 million in total employee compensation in the County, through direct, indirect, and induced impacts[5].

[4] As noted above, this total includes both part- and full-time W&S employees. Based on factors provided in the IMPLAN model, the project's ongoing operations would generate approximately 596 full-time equivalent (FTE) jobs in the County.

[5] Employee compensation is a "fully loaded" payroll estimate, including all benefits (e.g., health, retirement) and payroll taxes (both sides of social security, unemployment taxes, etc.). Based on factors provided in the IMPLAN model, the project would generate approximately $33.7 million in salaries/wages in Kern County on an annual basis.

Table 2-2: Summary of Ongoing Impacts (Sum of Direct, Indirect, and Induced)
IPG Industrial Warehouse Project

Category	County Total
Output (000s)	$86,633
Value Added (000s)	$50,716
Employees[1]	595.8
Employee Compensation (000s)	$39,347

1. Part-time and full-time wage and salary (W&S) employees

Source: TNDG; IMPLAN

Annually-recurring Impacts to the County's General Fund

Table 2-3 below, summarizes the project's recurring fiscal impacts to the County. As shown on the table, at full buildout the project would generate a net surplus of approximately $260,100 per year to the County's General Fund.

Table 2-3: Summary of Annually-Recurring Fiscal Impacts to County's General Fund
IPG Industrial Warehouse Project

General Fund Category	County Total
Revenues	$309,600
Expenditures	49,500
Net Fiscal Impact	$260,100

Source: TNDG, Appendix A.

3. Fiscal Impacts

Annually Recurring Net Fiscal Impacts to General Fund (by Budget Category)

Table 3-1, below, shows the breakdown of the annual General Fund revenues and costs that would be generated by the proposed project. As shown on the table, at full buildout the project would generate a net surplus of approximately $260,100 per year to the County's General Fund.

Table 3-1: Summary of Fiscal Impacts by General Fund Category – Kern County
IPG Industrial Warehouse Project

Category	Amount
Discretionary Revenue	
Current Secured, Unsecured, Unitary	$182,800
VLF/Property Tax Swap	110,600
Property Transfer Tax	7,600
Hazardous Waste Facilities Tax	100
Franchise Fees	3,400
Miscellaneous Revenue	5,100
Total Revenue	$309,600
Net Service Costs	
General Government	$12,500
Public Protection	32,600
Public Ways and Facilities	3,000
Health and Sanitation	0
Public Assistance	0
Education	0
Debt Service	1,400
Total Costs	$49,500
Net Fiscal Impact	**$260,100**

Source: TNDG, Appendix A.

Overview of Forecasting Methodology

The basic methodology for developing revenue and cost projections is summarized in Appendix A, and is summarized in the following bullet points:

- The Model is consistent with the accepted fiscal annexation methodology used in previous analyses (years 2020 and 2021) for the cities of Arvin, McFarland, Delano, and Kern County. In this case, the model has been adapted to analyze impacts in the unincorporated county.
- The Model projects revenue and cost impacts based on the marginal per capita method (per resident and employee) using actual fiscal year 2021-22 actual budget amounts for each relevant budget category. As shown in Appendix A, the Model uses a case study approach for specific revenue categories, such as property taxes and vehicle license fees in-lieu of property taxes.
- Appendix A, Table A-2 provides the fiscal model input table based on the proposed project evaluated in the Model. The input factors include assumptions related to assessed valuation numbers of employees, both of which drive the net fiscal impact projections in the Model.
- Appendix A, Tables A-3 to A-9, show the fiscal model assumptions related to the per capita (employee and resident) revenue and cost estimates for the County. The tables include the budget revenue and expenditure totals, along with the allocation of costs between employees and residents, in addition to the allocation of County costs among the total County area and the unincorporated area. As discussed above, these allocation assumptions are based on those used in previous City/County Master Tax-Sharing Agreements prepared for Kern County. For this project, the cost and revenue projection methodology has been adapted to evaluate fiscal impacts to the unincorporated county.
- Appendix A, Tables A-10 to A-12, provide revenue projections for categories based on a case study approach, as opposed to the marginal per capita method. For the County, Property Tax, Property Transfer Tax, and VLF / Property Tax Swap revenue projections are based on the case study approach.
- Appendix A, Tables A-13 to A-14, provide additional documentation on the derivation of various fiscal model input factors. These include inputs related to the project area's existing assessed valuation and property tax increment factors.

4. Economic Impacts – Construction Impacts to Local Economy

The project's construction phase would create a substantial number of jobs and fuel the regional Kern County economy. To illustrate the economic impacts of the project's construction phase, this study uses an econometric tool known as an "Input-Output" (IO) model, which computes all of the construction-related impacts of the affected industries in the County, including the estimated local expenditures of employees of both the construction and supplier firms.

These economic benefits are expressed in terms of increased economic activity ("output"), value added, job creation, and employee compensation. See Table 2-1 on page 5 for a summary of the economic benefits for the total project. The discussion below summarizes the total project construction-related impacts. Appendix B provides economic impacts by industry sector.

Industry Output and Value Added

During the construction phase, the project is projected to directly generate approximately $88.3 million in total economic activity in Kern County, resulting in about $48.8 million in value added. In addition to its direct impacts, the indirect/induced impacts during project construction would include approximately $40.5 million in total economic activity and $23.0 million in value added (see page 3 for definitions of "direct", "indirect" and "induced"). Thus, accounting for the full range of economic benefits in the County, during its construction phase the project will generate a grand total of about $128.8 billion in total industry output and approximately $71.8 billion in value added.

Jobs Created and Employee Compensation

During the construction phase the project is projected to generate approximately 503 directly related average annual jobs onsite and approximately 168 average annual jobs through indirect and induced economic activity. These are quantified as full-time, part-time and temporary jobs. Thus, accounting for the full range of economic benefits in Kern County – through direct, indirect, and induced activity – the project will generate about 671 average annual jobs during the construction phase. The employee compensation associated with these jobs would total approximately $43.8 million.

Table 4-1. Summary of Economic Impacts by Impact Category, CONSTRUCTION PHASE
IPG Industrial Warehouse Project

Category	Direct	Indirect	Induced	Total
Output (000s)	$88,328	$15,848	$24,679	$128,854
Value Added (000s)	$48,810	$8,199	$14,808	$71,817
Employee Compensation (000s)	$33,291	$3,621	$6,933	$43,846
Employees	503.4	46.1	121.7	671.3

Source: TNDG; IMPLAN

5. Economic Impacts – Ongoing Economic Benefits to Local Economy

The proposed project will generate ongoing benefits to the regional Kern County economy. These benefits would result from the ongoing business operations of tenants at the project site.

These economic benefits are expressed in terms of increased economic activity ("output"), value added, job creation, and employee compensation. See Table 5-1 on page 12 for a summary of the annual economic benefits for the total project. The discussion below summarizes the total ongoing economic benefits from ongoing business operations of tenants at the project site. Appendix C provides economic impacts by industry sector.

Industry Output and Value Added

The project's direct annual impact, from new onsite businesses, to the regional economy would include approximately $53.3 million in total economic activity and approximately $32.2 million in value added. In addition to its direct impacts, the indirect/induced impacts of the project would include approximately to $33.6 million in total economic activity and approximately $18.5 million in value added (see page 3 for definitions of "direct", "indirect" and "induced"). Thus, accounting for the full range of economic benefits in the County, on an annual basis the project will generate a grand total of about $86.6 million in total industry output and approximately $50.7 million in value added.

Jobs Created and Employee Compensation

The project, from new onsite businesses at the project site, would directly support approximately 437 jobs and a total annual payroll of approximately $29.4 million. In addition to direct impacts, the indirect/induced economic impacts from the project would support approximately 159 jobs and a total annual payroll (including benefits) of approximately $9.9 million in the County. Thus, the direct, indirect, and induced economic activity associated with the project would support approximately 596 jobs and a total annual payroll (including benefits) of about $39.3 million in the County.

Table 5-1: Summary of Economic Impacts by Impact Category, ANNUALLY-RECURRING
IPG Industrial Warehouse Project

Category	Direct	Indirect	Induced	Total
Output (000s)	$53,328	$16,153	$17,152	$86,633
Value Added (000s)	$32,201	$8,223	$10,292	$50,716
Employee Compensation (000s)	$29,391	$5,135	$4,821	$39,347
Employees	437.0	74.4	84.5	595.8

Source: TNDG; IMPLAN

APPENDIX A:

Detailed Calculations for Fiscal Impact Analysis

Table A-1
Summary Fiscal Impacts to Kern County
IPG Fiscal Impact Analysis

Category	Amount
Discretionary Revenue	
Current Secured, Unsecured, Unitary	$182,800
VLF/Property Tax Swap	110,600
Property Transfer Tax	7,600
Hazardous Waste Facilities Tax	100
Franchise Fees	3,400
Miscellaneous Revenue	5,100
Total Revenue	$309,600
Net Service Costs	
General Government	$12,500
Public Protection	32,600
Public Ways and Facilities	3,000
Health and Sanitation	0
Public Assistance	0
Education	0
Debt Service	1,400
Total Costs	$49,500
Net Fiscal Impact	**$260,100**

Source: TNDG, Tables A-2 to A-14

Table A-2
Project Summary and Fiscal Model Input Factors (Employees)
IPG Fiscal Impact Analysis

Land Use Type	Developed Acres	Building Sq. Ft.[1]	Assessed Value	Employees
Industrial Warehouse	49.05	923,130	$109,250,000	437

Source: Applicant

1. Includes 15,000 square feet of ancillary office space.

Table A-3
Summary of General Population-Related Assumptions
IPG Fiscal Impact Analysis

Variable	
Population	
Total County resident population	917,553
Total County persons per household	3.22
Unincorporated area resident population	320,299
Unincorporated area persons per household	3.13
Total City Population	53,032
City Population per Household	4.19
Employment	
Total County employment	339,396
Unincorporated County employment	118,428

Source: State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State, January 2021-2023 with 2020 Benchmark, Sacramento, California, May 2020;* Kern Council of Governments (KCOG), 2022 RTP/SCS

Table A-4
Discretionary Use County General Fund and Local Public Safety Fund Revenue
IPG Fiscal Impact Analysis

	FY 2021-22 Actual	Allocation by Service Area		Allocation by Service Area Population	
		Total County	Unincorporated	Resident	Employee
Countywide Discretionary Revenue					
Property Related Revenue:					
Current Secured, Unsecured, Unitary	$173,655,620		-- Case Study (Table C-1) --		
VLF/Property Tax Swap	111,532,218		-- Case Study (Table C-6) --		
Supplemental Property Tax	4,134,406		-- Case Study (Table C-1) --		
Property Transfer Tax	7,657,713		-- Case Study (Table C-3) --		
Penalty on Current Taxes	2,709,411		-- Case Study (Table C-2) --		
Prior Property Taxes, Penalties and Interest	5,534,003		-- Case Study (Table C-2) --		
Total Property Tax Related Revenue	$305,223,371				
Sales and Other Taxes:					
Sales and Use Taxes	$66,214,440		-- Case Study (Table C-4) --		
Transient Occupancy Motel Tax	4,066,541		-- No Fiscal Impact --		
Hazardous Waste Facilities Tax	988,116	100%	0%	1.00	0.24
Franchise Fees	11,281,988	0%	100%	1.00	0.24
Other Taxes	180,452		-- No Fiscal Impact --		
Total Sales and Other Taxes	$82,731,537				
Miscellaneous Revenue					
Net Interest Earnings, Rental Income and Royalties	$7,072,884	75%	25%	1.00	0.24
Countywide Cost Allocation Plan (CWCAP)	4,869,126	75%	25%	1.00	0.24
State and Federal Aid	21,785,918	100%	0%	1.00	0.24
Other Revenue	630,348	75%	25%	1.00	0.24
Operating Transfers-In	6,000,000	75%	25%	1.00	0.24
Total Miscellaneous Revenue	$40,358,276				
Proposition 172 Revenue (Public Safety Sales Tax)	$85,351,553		-- Case Study (Table C-5) --		
Total Countywide Discretionary Revenue	$513,664,737				

Source: County of Kern, FY 2022-23 Recommended Budget; TNDG.

Table A-5
Discretionary Use County General Fund Revenue Per Capita Amounts
IPG Fiscal Impact Analysis

	Total County Allocation			Unincorporated Allocation		
		Per Capita Revenues			Per Capita Revenues	
	Total County Revenues	Per Resident	Per Employee	Unincorp. Revenues	Per Resident	Per Employee
Countywide Discretionary Revenue						
Property Related Revenue:						
Current Secured, Unsecured, Unitary			-- Case Study (Table A-10) --			
VLF/Property Tax Swap			-- Case Study (Table A-12) --			
Supplemental Property Tax			-- Case Study (Table A-10) --			
Property Transfer Tax			-- Case Study (Table C-11) --			
Penalty on Current Taxes			-- No Fiscal Impact --			
Prior Property Taxes, Penalties and Interest			-- No Fiscal Impact --			
Total Property Tax Related Revenue						
Sales and Other Taxes:						
Sales and Use Taxes			-- Case Study (Table C-4) --			
Transient Occupancy Motel Tax			-- No Fiscal Impact --			
Hazardous Waste Facilities Tax	$988,116	$0.99	$0.24	$0	$0.00	$0.00
Franchise Fees	0	0.00	0.00	11,281,988	32.35	7.76
Other Taxes			-- No Fiscal Impact --			
Total Sales and Other Taxes	$988,116	$0.99	$0.24	$11,281,988	$32.35	$7.76
Miscellaneous Revenue						
Net Interest Earnings, Rental Income and Royalties	$5,304,663	$5.31	$1.27	$1,768,221	$5.07	$1.22
Countywide Cost Allocation Plan (CWCAP)	3,651,845	3.66	0.88	1,217,282	3.49	0.84
State and Federal Aid	21,785,918	21.81	5.23	0	0.00	0.00
Other Revenue	472,761	0.47	0.11	157,587	0.45	0.11
Operating Transfers-In	4,500,000	4.50	1.08	1,500,000	4.30	1.03
Total Miscellaneous Revenue	$35,715,187	$36	$9	$4,643,090	$13	$3
Proposition 172 Revenue (Public Safety Sales Tax)			-- Case Study (Table C-5) --			

Source: County of Kern, FY 2022-23 Recommended Budget; TNDG.

Table A-6
Net County General Fund and Local Public Safety Fund Expenditures
IPG Fiscal Impact Analysis

Unit	Department Title	FY 2021-22 Actual	Allocation by Service Area		Allocation by Service Area Population	
			Total County	Unin-corporated	Resident	Employee
1011	Board Of Supervisors-Dist 1	$412,867	75%	25%	1.00	0.24
1012	Board Of Supervisors-Dist 2	435,979	75%	25%	1.00	0.24
1013	Board Of Supervisors-Dist 3	449,616	75%	25%	1.00	0.24
1014	Board Of Supervisors-Dist 4	438,717	75%	25%	1.00	0.24
1015	Board Of Supervisors-Dist 5	433,990	75%	25%	1.00	0.24
1020	Administrative Office	2,700,624	75%	25%	1.00	0.24
1030	Clerk Of The Board	613,466	75%	25%	1.00	0.24
1040	Special Services	5,439,334	75%	25%	1.00	0.24
1110	Auditor-Controller	2,758,180	100%	0%	1.00	0.24
1120	Treasurer-Tax Collector	248,554	100%	0%	1.00	0.24
1130	Assessor	5,707,923	100%	0%	1.00	0.24
1160	Information Technology Service	7,114,336	75%	25%	1.00	0.24
1210	County Counsel	3,444,982	75%	25%	1.00	0.24
1310	Personnel	2,404,625	75%	25%	1.00	0.24
1420	Elections	6,788,726	100%	0%	1.00	0.24
1610	General Services	14,518,315	75%	25%	1.00	0.24
1615	Utility Payments-Div Gen Serv	10,803,415	75%	25%	1.00	0.24
1640	Construction Serv-Div Gen Serv	19,293	75%	25%	1.00	0.24
1650	General Srvcs-Major Maint	3,055,650	75%	25%	1.00	0.24
1812	Countywide Communications	680,133	100%	0%	-	1.00
1910	Risk Management	0	100%	0%	1.00	0.24
1960	Capital Projects	12,478,566	75%	25%	1.00	0.24
	General Government Subtotal:	$80,947,291				
2110	Contri-Trial Court Funding	$11,218,629	100%	0%	1.00	0.24
2120	Local Emergency Relief	30,829	100%	0%	1.00	0.24
2160	Grand Jury	143,348	100%	0%	1.00	0.24
2170	Indigent Defense Services	5,785,666	100%	0%	1.00	0.24
2180	District Attorney	14,327,723	100%	0%	1.00	0.24
2190	Public Defender	6,745,097	100%	0%	1.00	0.24
2200	Forensic Sciences-Div Of D.A.	4,299,926	100%	0%	1.00	0.24
2210	Sheriff-Coroner	121,793,121	50%	50%	1.00	0.24
2340	Probation	24,226,469	100%	0%	1.00	0.24
2416	Contribution To Fire	0	100%	0%	1.00	0.69
2610	Agriculture & Measure Standards	966,984	100%	0%	1.00	0.24
2705	Contribution to Recorder	0	100%	0%	1.00	0.24
2750	Planning & Natural Resources	2,552,225	0%	100%	1.00	0.24
2760	Animal Services	5,433,311	100%	0%	1.00	-
	Public Protection Subtotal:	$197,523,328				
3016	Contribution To Public Works	$9,283,534	0%	100%	1.00	0.24
3201	Contribution To Airports	551,364	0%	100%	1.00	0.24
	Public Ways and Facilities Subtotal:	$9,834,898				
4110	Public Health	$0	100%	0%	1.00	0.24
4127	Contribution to Behavorial Health	980,648	100%	0%	1.00	-
4134	Contrib. to Environmental	0	100%	0%	1.00	-
4202	KMC-County Contribution	31,832,488	100%	0%	1.00	-
4300	California Children Services	448,955	100%	0%	1.00	-
	Health and Sanitation Subtotal:	$33,262,091				
5121	Contribution For Human Service	$14,185,796	100%	0%	1.00	-
5125	Contribution to Human Services-Direct	7,262,511	100%	0%	1.00	-
5510	Veterans Service	698,747	100%	0%	1.00	-
5611	Aging & Adult-County Contrib	626,897	100%	0%	1.00	-
5810	IHSS-County Contribution	373,270	100%	0%	1.00	-
5923	Employers Trng Resource-Adm	313,040	100%	0%	1.00	-
5940	Community Development Prog	561	100%	0%	1.00	-
	Public Assistance Subtotal:	$23,147,221				
6210	Library	$6,230,511	100%	0%	1.00	-
6310	Farm & Home Advisor	447,485	100%	0%	1.00	0.24
	Education Subtotal:	$6,677,996				
8120	Debt Service - General Fund	$9,131,631	75%	25%	1.00	0.24
	Debt Service Subtotal:	$9,131,631				
GENERAL FUND DEPARTMENT SUBTOTAL:		$360,524,456				

Source: County of Kern, FY 2022-23 Recommended Budget; TNDG.

Table A-7
Net County General Fund and Local Public Safety Fund Expenditures
IPG Fiscal Impact Analysis

		Total County Allocation			Unincorporated Allocation		
			Per Capita Costs			Per Capita Costs	
Unit	Department Title	Total County Costs	Per Resident	Per Employee	Unincorp. Costs	Per Resident	Per Employee
1011	Board Of Supervisors-Dist 1	$309,650	$0.31	$0.07	$103,217	$0.30	$0.07
1012	Board Of Supervisors-Dist 2	326,984	0.33	0.08	108,995	0.31	0.08
1013	Board Of Supervisors-Dist 3	337,212	0.34	0.08	112,404	0.32	0.08
1014	Board Of Supervisors-Dist 4	329,038	0.33	0.08	109,679	0.31	0.08
1015	Board Of Supervisors-Dist 5	325,493	0.33	0.08	108,498	0.31	0.07
1020	Administrative Office	2,025,468	2.03	0.49	675,156	1.94	0.46
1030	Clerk Of The Board	460,100	0.46	0.11	153,367	0.44	0.11
1040	Special Services	4,079,501	4.08	0.98	1,359,834	3.90	0.94
1110	Auditor-Controller	2,758,180	2.76	0.66	0	0.00	0.00
1120	Treasurer-Tax Collector	248,554	0.25	0.06	0	0.00	0.00
1130	Assessor	5,707,923	5.71	1.37	0	0.00	0.00
1160	Information Technology Service	5,335,752	5.34	1.28	1,778,584	5.10	1.22
1210	County Counsel	2,583,737	2.59	0.62	861,246	2.47	0.59
1310	Personnel	1,803,469	1.81	0.43	601,156	1.72	0.41
1420	Elections	6,788,726	6.80	1.63	0	0.00	0.00
1610	General Services	10,888,736	10.90	2.62	3,629,579	10.41	2.50
1615	Utility Payments-Div Gen Serv	8,102,561	8.11	1.95	2,700,854	7.75	1.86
1640	Construction Serv-Div Gen Serv	14,470	0.01	0.00	4,823	0.01	0.00
1650	General Srvcs-Major Maint	2,291,738	2.29	0.55	763,913	2.19	0.53
1812	Countywide Communications	680,133	0.00	2.00	0	0.00	0.00
1910	Risk Management	0	0.00	0.00	0	0.00	0.00
1960	Capital Projects	9,358,925	9.37	2.25	3,119,642	8.95	2.15
	General Government Subtotal:	$64,756,347	$64.14	$17.40	$16,190,944	$46.43	$11.14
2110	Contri-Trial Court Funding	$11,218,629	$11.23	$2.70	$0	$0.00	$0.00
2120	Local Emergency Relief	30,829	0.03	0.01	0	0.00	0.00
2160	Grand Jury	143,348	0.14	0.03	0	0.00	0.00
2170	Indigent Defense Services	5,785,666	5.79	1.39	0	0.00	0.00
2180	District Attorney	14,327,723	14.34	3.44	0	0.00	0.00
2190	Public Defender	6,745,097	6.75	1.62	0	0.00	0.00
2200	Forensic Sciences-Div Of D.A.	4,299,926	4.30	1.03	0	0.00	0.00
2210	Sheriff-Coroner	60,896,561	60.96	14.63	60,896,561	174.63	41.91
2340	Probation	24,226,469	24.25	5.82	0	0.00	0.00
2416	Contribution To Fire	0	0.00	0.00	0	0.00	0.00
2610	Agriculture & Measure Standards	966,984	0.97	0.23	0	0.00	0.00
2705	Contribution to Recorder	0	0.00	0.00	0	0.00	0.00
2750	Planning & Natural Resources	0	0.00	0.00	2,552,225	7.32	1.76
2760	Animal Services	5,433,311	5.92	0.00	0	0.00	0.00
	Public Protection Subtotal:	$134,074,543	$134.69	$30.90	$63,448,786	$181.95	$43.67
3016	Contribution To Public Works	$0	$0.00	$0.00	$9,283,534	$26.62	$6.39
3201	Contribution To Airports	0	0.00	0.00	551,364	1.58	0.38
	Public Ways and Facilities Subtotal:	$0	$0.00	$0.00	$9,834,898	$28.20	$6.77
4110	Public Health	$0	$0.00	$0.00	$0	$0.00	$0.00
4127	Contribution to Behavorial Health	980,648	1.07	0.00	0	0.00	0.00
4134	Contrib. to Environmental	0	0.00	0.00	0	0.00	0.00
4202	KMC-County Contribution	31,832,488	34.69	0.00	0	0.00	0.00
4300	California Children Services	448,955	0.49	0.00	0	0.00	0.00
	Health and Sanitation Subtotal:	$33,262,091	$36.25	$0.00	$0	$0.00	$0.00
5121	Contribution For Human Service	$14,185,796	$15.46	$0.00	$0	$0.00	$0.00
5125	Contribution to Human Services-Direct	7,262,511	7.92	0.00	0	0.00	0.00
5510	Veterans Service	698,747	0.76	0.00	0	0.00	0.00
5611	Aging & Adult-County Contrib	626,897	0.68	0.00	0	0.00	0.00
5810	IHSS-County Contribution	373,270	0.41	0.00	0	0.00	0.00
5923	Employers Trng Resource-Adm	313,040	0.34	0.00	0	0.00	0.00
5940	Community Development Prog	561	0.00	0.00	0	0.00	0.00
	Public Assistance Subtotal:	$23,147,221	$25.23	$0.00	$0	$0.00	$0.00
6210	Library	$6,230,511	$6.79	$0.00	$0	$0.00	$0.00
6310	Farm & Home Advisor	447,485	0.45	0.11	0	0.00	0.00
	Education Subtotal:	$6,677,996	$7.24	$0.11	$0	$0.00	$0.00
8120	Debt Service - General Fund	$6,848,723	$6.86	$1.65	$2,282,908	$6.55	$1.57
	Debt Service Subtotal:	$6,848,723	$6.86	$1.65	$2,282,908	$6.55	$1.57
GENERAL FUND DEPARTMENT SUBTOTAL:		$268,766,921	$274.40	$50.05	$91,757,535	$263.13	$63.15

Source: County of Kern, FY 2022-23 Recommended Budget; TNDG.

Table A-8
Per Capita Revenue Estimates - Kern County
IPG Fiscal Impact Analysis

	Residents	Employees	Total
Service Population	0	437	
Kern County - Revenues per Capita			
Sales and Other Taxes			
Hazardous Waste Facilities Tax	$0.99	$0.24	$104
Franchise Fees	32.35	7.76	3,393
Total	$33.34	$8.00	$3,497
Miscellaneous Revenue			
Net Interest Earnings, Rental Income and Royalties	$10.38	$2.49	$1,089
Countywide Cost Allocation Plan (CWCAP)	7.15	1.72	749
State and Federal Aid	21.81	5.23	2,287
Other Revenue	0.93	0.22	97
Operating Transfers-In	8.81	2.11	924
Total	$49.07	$11.78	$5,146

Source: TNDG, Tables A-2 and A-5.

Table A-9
Per Capita Cost Estimates - Kern County
IPG Fiscal Impact Analysis

	Residents	Employees	Project Cost
Service Population	0	437	
Kern County - Costs per Capita			
General Government	$110.57	$28.54	$12,472
Public Protection	316.64	74.57	32,588
Public Ways and Facilities	28.20	6.77	2,958
Health and Sanitation	36.25	0.00	0
Public Assistance	25.23	0.00	0
Education	7.24	0.11	47
Debt Service	13.40	3.22	1,406
Total	$537.53	$113.20	$49,471

Source: TNDG, Tables A-2 and A-7

Table A-10
Estimated Property Tax Revenue
IPG Fiscal Impact Analysis

		Amount
Estimated Property Value ($000s)	*A*	$109,250
Existing Assessed Value ($000s)	*B*	$6,000
Net Increase in Taxable Assessed Value ($000s)	*C = A - B*	$103,250
Base Property Tax Rate	*D*	1.0%
Total Property Tax Revenue	*E = D x C*	$1,032,500
Taxing Agencies	*Tax Increment Factor*	
County General Fund	0.17702	$182,774
County Fire Fund	0.09367	96,715
ERAF	0.15607	161,146
Education/School Districts	0.48937	505,277
Other Taxing Agencies	0.08386	86,588
Total	1.00000	$1,032,500

Source: TNDG, Tables A-2, A-13 and A-14.

Table A-11
Estimated Property Transfer Tax Revenue
IPG Fiscal Impact Analysis

		Project Total
Estimated Property Value ($000s)	*A*	$103,250
Average Holding Period (years)	*B*	15
Tax Rate[1]	*C*	0.110%
Annual Property Transfer Tax Revenue	***D = A / B x C***	**$7,572**

Source: TNDG, Table A-10.

1. Kern County receives Property Transfer Tax at a rate of 0..110% of the sales price of all real estate transactions in unincorporated Kern County.

Table A-12
Estimated Vehicle License Fee (VLF) / Property Tax Swap
IPG Fiscal Impact Analysis

		Total Amount
Incremental Assessed Value from Project ($000s)	*A*	$103,250
Kern County		
VLF/Property Tax Swap	*B*	$111,532,218
Kern County Assessed Valuation (AV), FY 2022-23 ($000s)	*C*	$104,099,958
Percentage Increase over FY 2022-23 Base Assessed Value	*D = C / A*	0.1%
New VLF/Property Tax Swap	***E = D x B***	**$110,622**

Source: TNDG, Tables A-4 and A-10; Kern County, FY 2022-23 Recommended Budget; County of Kern County Auditor-Controller-County Clerk, District Assessed Values 2022-23.

Table A-13
Estimate of Existing Assessed Valuation
IPG Fiscal Impact Analysis

Parcel Number	TRA	Acres	Assessed Value
492-010-13-00	057-055	38.34	$4,400,000
492-010-17-00	057-055	13.75	1,600,000
Total		52.09	$6,000,000

Source: Kern County Assessor.

Table A-14
Tax Increment Factors - Tax Rate Area (TRA) 057-055
IPG Fiscal Impact Analysis

Fund #	Fund Name	Factor
00001	CO. GENERAL FUND	0.1770
00002	CO ADVERTISING	0.0007
00007	CO. ROADS	0.0000
00011	CO. FIRE FUND	0.0937
24203	EDUCATION REV AUGMENTATION FND	0.1561
40279	NORSD	0.0000
40566	* CSA 12.7 BRDSLY	0.0000
42315	KERN VECTOR CONT	0.0080
42411	NOR REC & PK DIST	0.0394
42530	BKSFLD SEP GR	0.0009
42915	GOLDEN EM TRAN DT	0.0000
60220	KERN CO WATER AGN	0.0064
60229	KCWA ZN 7 DEBT	0.0000
60239	KCWA ZN 17 DEBT	0.0000
60241	KCWA ZN 19 DEBT	0.0000
60264	KCWA IMP #4 DEBT	0.0000
60960	NOR MUNI WATER	0.0285
60964	NOR WTR AD A RED	0.0000
80008	BEARDSLEY	0.2097
81038	KERN JT UNION HI	0.2003
84038	KERN JT COMM COLL	0.0600
86010	EDUCATION	0.0194
Total		1.0000

Source: Kern County Auditor-Controller-County Clerk, TRA 1% Factors, 2021-2022

Note: ERAF = Educational Research Augmentation Fund.

APPENDIX B:

Economic Impacts by Industry Sector – Construction Phase

Table B-1
Output Impacts by Category - Kern County
IPG Industrial Warehouse Project - CONSTRUCTION PHASE

Industry Sector	Direct	Indirect	Induced	Total Impact
55 - Construction of new commercial structures, including farm structures	$88,000,000	$0	$0	$88,000,000
449 - Owner-occupied dwellings	$0	$0	$4,087,656	$4,087,656
396 - Wholesale - Other durable goods merchant wholesalers	$0	$1,927,096	$146,152	$2,073,248
417 - Truck transportation	$0	$1,646,408	$337,585	$1,983,993
154 - Petroleum refineries	$0	$1,431,026	$390,622	$1,821,648
490 - Hospitals	$0	$0	$1,721,554	$1,721,554
447 - Other real estate	$0	$887,175	$609,635	$1,496,810
510 - Limited-service restaurants	$0	$19,114	$1,293,508	$1,312,622
395 - Wholesale - Machinery, equipment, and supplies	$0	$1,242,192	$51,354	$1,293,546
453 - Commercial and industrial machinery and equipment rental and leasing	$0	$1,029,935	$46,568	$1,076,503
483 - Offices of physicians	$0	$0	$778,082	$778,082
469 - Management of companies and enterprises	$0	$448,784	$307,838	$756,622
399 - Wholesale - Petroleum and petroleum products	$0	$533,368	$179,146	$712,514
472 - Employment services	$0	$351,899	$326,706	$678,605
448 - Tenant-occupied housing	$0	$0	$645,643	$645,643
509 - Full-service restaurants	$0	$34,250	$605,079	$639,329
405 - Retail - Building material and garden equipment and supplies stores	$0	$417,883	$173,875	$591,758
441 - Monetary authorities and depository credit intermediation	$0	$238,274	$346,716	$584,991
411 - Retail - General merchandise stores	$0	$22,532	$530,177	$552,709
406 - Retail - Food and beverage stores	$0	$3,856	$523,951	$527,807
28 - Stone mining and quarrying	$0	$515,179	$2,863	$518,042
413 - Retail - Nonstore retailers	$0	$24,169	$457,254	$481,423
444 - Insurance carriers, except direct life	$0	$61,402	$417,393	$478,795
486 - Outpatient care centers	$0	$0	$471,742	$471,742
512 - Automotive repair and maintenance, except car washes	$0	$127,618	$323,262	$450,880
156 - Asphalt shingle and coating materials manufacturing	$0	$438,369	$3,645	$442,014
521 - Religious organizations	$0	$0	$409,938	$409,938
456 - Accounting, tax preparation, bookkeeping, and payroll services	$0	$267,996	$141,191	$409,187
400 - Wholesale - Other nondurable goods merchant wholesalers	$0	$196,572	$204,024	$400,596
445 - Insurance agencies, brokerages, and related activities	$0	$63,436	$317,125	$380,561
394 - Wholesale - Household appliances and electrical and electronic goods	$0	$335,072	$40,375	$375,448
446 - Funds, trusts, and other financial vehicles	$0	$1,016	$342,199	$343,216
485 - Offices of other health practitioners	$0	$0	$340,780	$340,780
422 - Warehousing and storage	$0	$147,158	$187,120	$334,278
513 - Car washes	$0	$47,491	$269,922	$317,413
511 - All other food and drinking places	$0	$29,014	$283,695	$312,708
463 - Environmental and other technical consulting services	$250,000	$21,420	$39,695	$311,114
493 - Individual and family services	$0	$0	$304,767	$304,767
402 - Retail - Motor vehicle and parts dealers	$0	$32,093	$268,512	$300,605
534 - Other local government enterprises	$0	$50,450	$238,224	$288,674
408 - Retail - Gasoline stores	$0	$47,941	$232,898	$280,839
477 - Landscape and horticultural services	$0	$199,298	$77,987	$277,285
409 - Retail - Clothing and clothing accessories stores	$0	$49	$273,368	$273,416
479 - Waste management and remediation services	$0	$169,754	$100,030	$269,785
440 - Securities and commodity contracts intermediation and brokerage	$0	$91,450	$165,863	$257,313
431 - Radio and television broadcasting	$0	$138,593	$118,504	$257,097
421 - Couriers and messengers	$0	$153,740	$101,948	$255,688
433 - Wired telecommunications carriers	$0	$81,876	$170,159	$252,035
407 - Retail - Health and personal care stores	$0	$1,175	$249,731	$250,907
484 - Offices of dentists	$0	$0	$231,195	$231,195
20 - Oil and gas extraction	$0	$172,360	$48,299	$220,659
515 - Commercial and industrial machinery and equipment repair and maintenanc	$0	$168,168	$46,808	$214,976
61 - Maintenance and repair construction of residential structures	$0	$649	$191,544	$192,193
412 - Retail - Miscellaneous store retailers	$0	$4,945	$183,274	$188,219
439 - Nondepository credit intermediation and related activities	$0	$36,431	$148,657	$185,088
48 - Natural gas distribution	$0	$54,650	$124,703	$179,353

Industry Sector	Direct	Indirect	Induced	Total Impact
60 - Maintenance and repair construction of nonresidential structures	$0	$96,537	$80,090	$176,627
49 - Water, sewage and other systems	$0	$38,555	$136,593	$175,149
420 - Scenic and sightseeing transportation and support activities for transportatio	$0	$108,238	$61,904	$170,142
476 - Services to buildings	$0	$77,130	$92,853	$169,983
491 - Nursing and community care facilities	$0	$0	$168,452	$168,452
457 - Architectural, engineering, and related services	$67,500	$51,706	$38,225	$157,432
455 - Legal services	$10,000	$26,486	$113,897	$150,383
392 - Wholesale - Motor vehicle and motor vehicle parts and supplies	$0	$78,934	$69,130	$148,064
442 - Other financial investment activities	$0	$13,471	$132,018	$145,489
47 - Electric power transmission and distribution	$0	$64,315	$75,709	$140,024
418 - Transit and ground passenger transportation	$0	$52,239	$87,129	$139,367
524 - Labor and civic organizations	$0	$0	$138,699	$138,699
495 - Community food, housing, and other relief services, including rehabilitation s	$0	$0	$137,350	$137,350
415 - Rail transportation	$0	$111,836	$24,691	$136,527
494 - Child day care services	$0	$0	$133,768	$133,768
475 - Investigation and security services	$0	$77,769	$55,138	$132,907
470 - Office administrative services	$0	$91,827	$37,858	$129,685
488 - Home health care services	$0	$0	$126,892	$126,892
522 - Grantmaking, giving, and social advocacy organizations	$0	$37	$121,784	$121,822
487 - Medical and diagnostic laboratories	$0	$4	$121,784	$121,788
398 - Wholesale - Grocery and related product wholesalers	$0	$9,487	$109,257	$118,744
410 - Retail - Sporting goods, hobby, musical instrument and book stores	$0	$2,815	$104,927	$107,742
492 - Residential mental retardation, mental health, substance abuse and other fa	$0	$0	$106,521	$106,521
403 - Retail - Furniture and home furnishings stores	$0	$2,775	$102,625	$105,400
526 - Postal service	$0	$51,948	$51,509	$103,457
404 - Retail - Electronics and appliance stores	$0	$2,563	$95,908	$98,471
434 - Wireless telecommunications carriers (except satellite)	$0	$40,106	$52,864	$92,969
482 - Other educational services	$0	$1,032	$87,573	$88,606
450 - Automotive equipment rental and leasing	$0	$17,137	$68,446	$85,583
464 - Scientific research and development services	$0	$4,069	$80,917	$84,986
401 - Wholesale - Wholesale electronic markets and agents and brokers	$0	$67,830	$13,902	$81,732
462 - Management consulting services	$0	$46,290	$34,158	$80,448
473 - Business support services	$0	$53,433	$21,721	$75,155
489 - Other ambulatory health care services	$0	$27	$74,448	$74,475
516 - Personal and household goods repair and maintenance	$0	$25,083	$41,571	$66,654
468 - Marketing research and all other miscellaneous professional, scientific, and	$0	$38,443	$27,425	$65,867
451 - General and consumer goods rental except video tapes and discs	$0	$18,875	$42,206	$61,081
523 - Business and professional associations	$0	$27,206	$31,994	$59,200
203 - Cement manufacturing	$0	$54,466	$538	$55,004
520 - Other personal services	$0	$2,766	$51,422	$54,188
465 - Advertising, public relations, and related services	$0	$30,957	$21,431	$52,388
393 - Wholesale - Professional and commercial equipment and supplies	$0	$28,813	$22,717	$51,530
155 - Asphalt paving mixture and block manufacturing	$0	$49,812	$1,311	$51,123
525 - Private households	$0	$0	$50,647	$50,647
517 - Personal care services	$0	$0	$50,368	$50,368
478 - Other support services	$0	$28,887	$19,534	$48,421
503 - Gambling industries (except casino hotels)	$0	$9	$45,493	$45,502
419 - Pipeline transportation	$0	$31,534	$12,814	$44,348
460 - Computer systems design services	$0	$31,317	$9,526	$40,842
467 - Veterinary services	$0	$11	$40,784	$40,794
43 - Electric power generation - Wind	$0	$18,514	$21,793	$40,307
458 - Specialized design services	$0	$27,786	$10,383	$38,169
500 - Promoters of performing arts and sports and agents for public figures	$0	$4,204	$32,006	$36,210
481 - Junior colleges, colleges, universities, and professional schools	$0	$708	$35,323	$36,031
505 - Fitness and recreational sports centers	$0	$2,509	$32,904	$35,413
471 - Facilities support services	$0	$17,205	$17,409	$34,614
436 - Data processing, hosting, and related services	$0	$10,208	$23,839	$34,047
443 - Direct life insurance carriers	$0	$104	$30,750	$30,854
514 - Electronic and precision equipment repair and maintenance	$0	$19,358	$10,357	$29,715
504 - Other amusement and recreation industries	$0	$1,356	$28,264	$29,621

Industry Sector	Direct	Indirect	Induced	Total Impact
518 - Death care services	$0	$0	$29,600	$29,600
519 - Dry-cleaning and laundry services	$0	$2,674	$25,160	$27,834
452 - Video tape and disc rental	$0	$5	$27,189	$27,193
480 - Elementary and secondary schools	$0	$0	$26,389	$26,389
461 - Other computer related services, including facilities management	$0	$20,649	$5,343	$25,992
40 - Electric power generation - Fossil fuel	$0	$11,791	$13,880	$25,672
236 - Fabricated structural metal manufacturing	$0	$25,533	$69	$25,603
466 - Photographic services	$0	$6,341	$19,149	$25,490
528 - Other federal government enterprises	$0	$3,962	$20,584	$24,546
438 - Internet publishing and broadcasting and web search portals	$0	$10,712	$13,367	$24,079
459 - Custom computer programming services	$0	$18,756	$4,974	$23,730
435 - Satellite, telecommunications resellers, and all other telecommunications	$0	$11,064	$10,032	$21,096
416 - Water transportation	$0	$12,959	$7,786	$20,745
31 - Potash, soda, and borate mineral mining	$0	$19,143	$72	$19,215
397 - Wholesale - Drugs and druggists' sundries	$0	$1,739	$15,080	$16,819
414 - Air transportation	$0	$2,996	$13,090	$16,087
10 - All other crop farming	$0	$8,107	$6,780	$14,887
532 - Local government passenger transit	$0	$5,138	$8,552	$13,690
34 - Other nonmetallic minerals	$0	$13,536	$49	$13,585
429 - Motion picture and video industries	$0	$1,525	$11,643	$13,168
42 - Electric power generation - Solar	$0	$5,182	$6,100	$11,282
428 - Software publishers	$0	$1,499	$9,693	$11,192
423 - Newspaper publishers	$0	$4,443	$5,332	$9,776
498 - Racing and Track Operation	$0	$14	$9,759	$9,773
167 - Nitrogenous fertilizer manufacturing	$0	$8,099	$234	$8,333
3 - Vegetable and melon farming	$0	$329	$7,421	$7,750
152 - Printing	$0	$4,524	$3,159	$7,684
38 - Other nonmetallic minerals services	$0	$7,229	$40	$7,268
5 - Tree nut farming	$0	$316	$6,636	$6,951
499 - Independent artists, writers, and performers	$0	$3,001	$3,862	$6,863
97 - Roasted nuts and peanut butter manufacturing	$0	$21	$6,194	$6,215
204 - Ready-mix concrete manufacturing	$0	$6,039	$54	$6,093
474 - Travel arrangement and reservation services	$0	$917	$4,948	$5,865
496 - Performing arts companies	$0	$423	$4,512	$4,935
193 - Other plastics product manufacturing	$0	$4,229	$569	$4,798
37 - Metal mining services	$0	$4,577	$111	$4,687
19 - Support activities for agriculture and forestry	$0	$731	$3,712	$4,444
454 - Lessors of nonfinancial intangible assets	$0	$2,682	$1,734	$4,417
497 - Commercial Sports Except Racing	$0	$1,095	$3,109	$4,204
4 - Fruit farming	$0	$186	$3,982	$4,168
188 - Plastics pipe and pipe fitting manufacturing	$0	$3,813	$34	$3,847
169 - Fertilizer mixing	$0	$3,524	$95	$3,619
103 - All other food manufacturing	$0	$5	$3,467	$3,472
426 - Directory, mailing list, and other publishers	$0	$1,295	$2,137	$3,432
29 - Sand and gravel mining	$0	$3,163	$25	$3,189
501 - Museums, historical sites, zoos, and parks	$0	$0	$3,026	$3,026
239 - Sheet metal work manufacturing	$0	$2,996	$15	$3,011
157 - Petroleum lubricating oil and grease manufacturing	$0	$2,189	$780	$2,969
84 - Fluid milk manufacturing	$0	$6	$2,774	$2,780
190 - Polystyrene foam product manufacturing	$0	$2,189	$144	$2,333
205 - Concrete block and brick manufacturing	$0	$2,170	$20	$2,190
12 - Dairy cattle and milk production	$0	$100	$2,065	$2,165
175 - Paint and coating manufacturing	$0	$1,839	$138	$1,976
86 - Ice cream and frozen dessert manufacturing	$0	$16	$1,722	$1,737
98 - Other snack food manufacturing	$0	$4	$1,733	$1,737
424 - Periodical publishers	$0	$657	$1,038	$1,695
385 - Sign manufacturing	$0	$958	$653	$1,610
506 - Bowling centers	$0	$0	$1,501	$1,501
104 - Bottled and canned soft drinks & water	$0	$5	$1,446	$1,451
365 - Wood kitchen cabinet and countertop manufacturing	$0	$1,384	$55	$1,439

Industry Sector	Direct	Indirect	Induced	Total Impact
247 - Machine shops	$0	$1,313	$123	$1,436
6 - Greenhouse, nursery, and floriculture production	$0	$171	$1,231	$1,403
24 - Gold ore mining	$0	$769	$583	$1,352
176 - Adhesive manufacturing	$0	$902	$357	$1,258
207 - Other concrete product manufacturing	$0	$1,222	$4	$1,226
214 - Miscellaneous nonmetallic mineral products manufacturing	$0	$1,147	$5	$1,153
93 - Bread and bakery product, except frozen, manufacturing	$0	$3	$1,117	$1,120
230 - Crown and closure manufacturing and metal stamping	$0	$1,046	$16	$1,062
238 - Metal window and door manufacturing	$0	$1,040	$5	$1,045
502 - Amusement parks and arcades	$0	$4	$1,016	$1,019
430 - Sound recording industries	$0	$54	$960	$1,014
507 - Hotels and motels, including casino hotels	$0	$93	$864	$957
253 - Plumbing fixture fitting and trim manufacturing	$0	$847	$10	$857
252 - Valve and fittings, other than plumbing, manufacturing	$0	$695	$10	$705
258 - Fabricated pipe and pipe fitting manufacturing	$0	$698	$5	$703
163 - Other basic organic chemical manufacturing	$0	$384	$304	$688
135 - Engineered wood member and truss manufacturing	$0	$671	$4	$675
106 - Breweries	$0	$3	$626	$630
11 - Beef cattle ranching and farming, including feedlots and dual-purpose ranchin	$0	$28	$583	$611
196 - Other rubber product manufacturing	$0	$559	$45	$603
30 - Other clay, ceramic, refractory minerals mining	$0	$592	$2	$595
209 - Gypsum product manufacturing	$0	$522	$17	$539
8 - Cotton farming	$0	$25	$508	$533
180 - Toilet preparation manufacturing	$0	$8	$515	$523
215 - Iron and steel mills and ferroalloy manufacturing	$0	$376	$123	$499
340 - Automobile manufacturing	$0	$3	$451	$454
87 - Frozen cakes and other pastries manufacturing	$0	$1	$440	$441
36 - Support activities for oil and gas operations	$0	$395	$39	$435
202 - Glass product manufacturing made of purchased glass	$0	$332	$8	$340
2 - Grain farming	$0	$7	$330	$337
437 - News syndicates, libraries, archives and all other information services	$0	$8	$320	$328
240 - Ornamental and architectural metal work manufacturing	$0	$326	$2	$328
191 - Urethane and other foam product (except polystyrene) manufacturing	$0	$204	$100	$304
211 - Cut stone and stone product manufacturing	$0	$283	$4	$287
250 - Metal coating and nonprecious engraving	$0	$268	$12	$280
162 - Other basic inorganic chemical manufacturing	$0	$165	$111	$275
77 - Frozen fruits, juices and vegetables manufacturing	$0	$1	$250	$251
383 - Doll, toy, and game manufacturing	$0	$138	$104	$241
508 - Other accommodations	$0	$4	$235	$240
264 - Oil and gas field machinery and equipment manufacturing	$0	$195	$10	$205
140 - Wood container and pallet manufacturing	$0	$81	$111	$192
147 - Paperboard container manufacturing	$0	$107	$80	$187
13 - Poultry and egg production	$0	$5	$181	$186
79 - Canned fruits and vegetables manufacturing	$0	$1	$175	$175
246 - Spring and wire product manufacturing	$0	$160	$5	$165
381 - Jewelry and silverware manufacturing	$0	$3	$154	$157
74 - Nonchocolate confectionery manufacturing	$0	$0	$146	$146
64 - Other animal food manufacturing	$0	$6	$127	$134
46 - Electric power generation - All other	$0	$59	$70	$129
259 - Other fabricated metal manufacturing	$0	$118	$6	$123
185 - Other miscellaneous chemical product manufacturing	$0	$83	$38	$121
107 - Wineries	$0	$1	$117	$118
371 - Custom architectural woodwork and millwork	$0	$106	$2	$108
142 - Prefabricated wood building manufacturing	$0	$101	$1	$102
145 - Paper mills	$0	$34	$67	$101
100 - Flavoring syrup and concentrate manufacturing	$0	$1	$99	$101
213 - Mineral wool manufacturing	$0	$99	$1	$100
187 - Unlaminated plastics profile shape manufacturing	$0	$80	$14	$94
99 - Coffee and tea manufacturing	$0	$1	$91	$91
346 - Travel trailer and camper manufacturing	$0	$13	$78	$91

Industry Sector	Direct	Indirect	Induced	Total Impact
292 - Welding and soldering equipment manufacturing	$0	$89	$1	$90
237 - Plate work manufacturing	$0	$87	$2	$89
367 - Nonupholstered wood household furniture manufacturing	$0	$43	$44	$88
14 - Animal production, except cattle and poultry and eggs	$0	$3	$84	$87
212 - Ground or treated mineral and earth manufacturing	$0	$82	$5	$86
313 - Automatic environmental control manufacturing	$0	$79	$1	$80
285 - Pump and pumping equipment manufacturing	$0	$75	$2	$76
272 - Other commercial service industry machinery manufacturing	$0	$62	$1	$64
94 - Cookie and cracker manufacturing	$0	$0	$60	$60
189 - Laminated plastics plate, sheet (except packaging), and shape manufacturin	$0	$46	$13	$59
377 - Surgical appliance and supplies manufacturing	$0	$20	$38	$58
170 - Pesticide and other agricultural chemical manufacturing	$0	$35	$18	$52
90 - Meat processed from carcasses	$0	$0	$49	$49
62 - Maintenance and repair construction of highways, streets, bridges, and tunne	$0	$1	$47	$48
368 - Other household nonupholstered furniture manufacturing	$0	$3	$45	$48
251 - Electroplating, anodizing, and coloring metal	$0	$44	$2	$47
35 - Drilling oil and gas wells	$0	$44	$1	$46
248 - Turned product and screw, nut, and bolt manufacturing	$0	$42	$3	$45
242 - Metal tank (heavy gauge) manufacturing	$0	$45	$0	$45
352 - Other motor vehicle parts manufacturing	$0	$19	$25	$44
89 - Animal, except poultry, slaughtering	$0	$0	$44	$44
234 - Handtool manufacturing	$0	$30	$11	$41
137 - Wood windows and door manufacturing	$0	$40	$0	$41
121 - Other textile product mills	$0	$30	$10	$40
117 - Carpet and rug mills	$0	$36	$4	$40
81 - Dehydrated food products manufacturing	$0	$0	$39	$39
179 - Surface active agent manufacturing	$0	$11	$28	$39
314 - Industrial process variable instruments manufacturing	$0	$33	$1	$34
380 - Dental laboratories	$0	$0	$28	$28
105 - Manufactured ice	$0	$0	$25	$25
200 - Other pressed and blown glass and glassware manufacturing	$0	$18	$5	$23
108 - Distilleries	$0	$0	$20	$20
119 - Textile bag and canvas mills	$0	$15	$4	$18
216 - Iron, steel pipe and tube manufacturing from purchased steel	$0	$14	$3	$17
143 - All other miscellaneous wood product manufacturing	$0	$14	$1	$15
297 - Scales, balances, and miscellaneous general purpose machinery manufactu	$0	$14	$0	$14
257 - Small arms, ordnance, and accessories manufacturing	$0	$7	$6	$13
171 - Medicinal and botanical manufacturing	$0	$0	$12	$12
91 - Rendering and meat byproduct processing	$0	$0	$12	$12
254 - Ball and roller bearing manufacturing	$0	$7	$4	$10
222 - Other aluminum rolling, drawing and extruding	$0	$10	$0	$10
356 - Other aircraft parts and auxiliary equipment manufacturing	$0	$7	$3	$10
348 - Motor vehicle electrical and electronic equipment manufacturing	$0	$3	$6	$9
391 - All other miscellaneous manufacturing	$0	$2	$8	$9
353 - Motor vehicle steering, suspension component (except spring), and brake sy	$0	$3	$5	$8
324 - Small electrical appliance manufacturing	$0	$7	$2	$8
17 - Commercial fishing	$0	$0	$8	$8
303 - Other communications equipment manufacturing	$0	$7	$0	$7
116 - Fabric coating mills	$0	$4	$2	$6
1 - Oilseed farming	$0	$0	$6	$6
244 - Metal barrels, drums and pails manufacturing	$0	$4	$2	$6
354 - Aircraft manufacturing	$0	$4	$2	$6
290 - Industrial truck, trailer, and stacker manufacturing	$0	$5	$0	$6
96 - Tortilla manufacturing	$0	$0	$5	$5
319 - Watch, clock, and other measuring and controlling device manufacturing	$0	$1	$4	$5
298 - Electronic computer manufacturing	$0	$1	$4	$5
375 - Blind and shade manufacturing	$0	$1	$4	$5
269 - All other industrial machinery manufacturing	$0	$5	$0	$5
126 - Women's and girls' cut and sew apparel manufacturing	$0	$0	$4	$4
153 - Support activities for printing	$0	$2	$2	$4

Industry Sector	Direct	Indirect	Induced	Total Impact
333 - Storage battery manufacturing	$0	$2	$2	$4
362 - Motorcycle, bicycle, and parts manufacturing	$0	$0	$4	$4
128 - Apparel accessories and other apparel manufacturing	$0	$0	$3	$3
122 - Hosiery and sock mills	$0	$0	$3	$3
118 - Curtain and linen mills	$0	$0	$3	$3
260 - Farm machinery and equipment manufacturing	$0	$3	$1	$3
312 - Search, detection, and navigation instruments manufacturing	$0	$3	$0	$3
358 - Propulsion units and parts for space vehicles and guided missiles manufactu	$0	$3	$1	$3
304 - Audio and video equipment manufacturing	$0	$0	$3	$3
125 - Men's and boys' cut and sew apparel manufacturing	$0	$0	$3	$3
127 - Other cut and sew apparel manufacturing	$0	$0	$3	$3
288 - Conveyor and conveying equipment manufacturing	$0	$2	$0	$3
123 - Other apparel knitting mills	$0	$0	$2	$2
344 - Truck trailer manufacturing	$0	$1	$1	$2
355 - Aircraft engine and engine parts manufacturing	$0	$2	$0	$2
130 - Footwear manufacturing	$0	$0	$2	$2
279 - Machine tool manufacturing	$0	$1	$0	$2
268 - Printing machinery and equipment manufacturing	$0	$1	$0	$2
343 - Motor vehicle body manufacturing	$0	$1	$1	$2
317 - Analytical laboratory instrument manufacturing	$0	$1	$1	$1
364 - All other transportation equipment manufacturing	$0	$0	$1	$1
228 - Nonferrous metal foundries	$0	$1	$0	$1
293 - Packaging machinery manufacturing	$0	$1	$0	$1
284 - Other engine equipment manufacturing	$0	$1	$0	$1
305 - Printed circuit assembly (electronic assembly) manufacturing	$0	$1	$0	$1
124 - Cut and sew apparel contractors	$0	$0	$1	$1
329 - Power, distribution, and specialty transformer manufacturing	$0	$1	$0	$1
357 - Guided missile and space vehicle manufacturing	$0	$0	$1	$1
278 - Cutting tool and machine tool accessory manufacturing	$0	$1	$0	$1
226 - Secondary processing of other nonferrous metals	$0	$0	$0	$1
15 - Forestry, forest products, and timber tract production	$0	$0	$0	$1
141 - Manufactured home (mobile home) manufacturing	$0	$0	$0	$0.41
291 - Power-driven handtool manufacturing	$0	$0	$0	$0.35
281 - Turbine and turbine generator set units manufacturing	$0	$0	$0	$0.34
302 - Broadcast and wireless communications equipment manufacturing	$0	$0	$0	$0.07
16 - Commercial logging	$0	$0	$0	$0.02
Total	$88,327,500	$15,848,276	$24,678,718	$128,854,494

Source: IMPLAN

Table B-2
Value Added Impacts by Category - Kern County
IPG Industrial Warehouse Project - CONSTRUCTION PHASE

Industry Sector	Direct	Indirect	Induced	Total Impact
55 - Construction of new commercial structures, including farm structures	$48,603,710	$0	$0	$48,603,710
449 - Owner-occupied dwellings	$0	$0	$3,231,858	$3,231,858
396 - Wholesale - Other durable goods merchant wholesalers	$0	$1,004,451	$76,178	$1,080,630
417 - Truck transportation	$0	$841,000	$172,442	$1,013,442
490 - Hospitals	$0	$0	$997,189	$997,189
395 - Wholesale - Machinery, equipment, and supplies	$0	$724,338	$29,945	$754,283
399 - Wholesale - Petroleum and petroleum products	$0	$499,760	$167,857	$667,617
453 - Commercial and industrial machinery and equipment rental and leasing	$0	$618,019	$27,943	$645,962
510 - Limited-service restaurants	$0	$8,903	$602,502	$611,405
448 - Tenant-occupied housing	$0	$0	$583,236	$583,236
447 - Other real estate	$0	$299,678	$205,928	$505,607
483 - Offices of physicians	$0	$0	$495,407	$495,407
469 - Management of companies and enterprises	$0	$281,531	$193,113	$474,644
405 - Retail - Building material and garden equipment and supplies stores	$0	$296,008	$123,164	$419,172
441 - Monetary authorities and depository credit intermediation	$0	$163,367	$237,718	$401,085
472 - Employment services	$0	$204,837	$190,172	$395,009
509 - Full-service restaurants	$0	$19,788	$349,585	$369,373
28 - Stone mining and quarrying	$0	$364,139	$2,024	$366,163
411 - Retail - General merchandise stores	$0	$14,552	$342,400	$356,951
406 - Retail - Food and beverage stores	$0	$2,592	$352,211	$354,803
486 - Outpatient care centers	$0	$0	$311,491	$311,491
512 - Automotive repair and maintenance, except car washes	$0	$84,852	$214,935	$299,787
485 - Offices of other health practitioners	$0	$0	$296,684	$296,684
456 - Accounting, tax preparation, bookkeeping, and payroll services	$0	$187,116	$98,580	$285,696
154 - Petroleum refineries	$0	$223,223	$60,932	$284,155
400 - Wholesale - Other nondurable goods merchant wholesalers	$0	$123,764	$128,456	$252,220
402 - Retail - Motor vehicle and parts dealers	$0	$23,337	$195,247	$218,584
513 - Car washes	$0	$32,311	$183,646	$215,958
511 - All other food and drinking places	$0	$19,588	$191,530	$211,118
493 - Individual and family services	$0	$0	$203,972	$203,972
422 - Warehousing and storage	$0	$88,859	$112,990	$201,849
463 - Environmental and other technical consulting services	$160,108	$13,718	$25,422	$199,248
408 - Retail - Gasoline stores	$0	$32,067	$155,783	$187,850
413 - Retail - Nonstore retailers	$0	$9,335	$176,604	$185,939
407 - Retail - Health and personal care stores	$0	$818	$173,803	$174,621
484 - Offices of dentists	$0	$0	$172,451	$172,451
394 - Wholesale - Household appliances and electrical and electronic goods	$0	$149,070	$17,963	$167,033
20 - Oil and gas extraction	$0	$125,435	$35,150	$160,585
477 - Landscape and horticultural services	$0	$106,517	$41,681	$148,198
515 - Commercial and industrial machinery and equipment repair and maintenanc	$0	$112,283	$31,253	$143,536
444 - Insurance carriers, except direct life	$0	$18,278	$124,251	$142,530
479 - Waste management and remediation services	$0	$88,077	$51,901	$139,977
420 - Scenic and sightseeing transportation and support activities for transportatio	$0	$88,997	$50,899	$139,896
409 - Retail - Clothing and clothing accessories stores	$0	$25	$139,614	$139,639
534 - Other local government enterprises	$0	$24,287	$114,682	$138,969
421 - Couriers and messengers	$0	$77,050	$51,093	$128,144
412 - Retail - Miscellaneous store retailers	$0	$3,350	$124,168	$127,518
433 - Wired telecommunications carriers	$0	$41,139	$85,497	$126,635
49 - Water, sewage and other systems	$0	$26,186	$92,772	$118,958
431 - Radio and television broadcasting	$0	$63,961	$54,690	$118,651
445 - Insurance agencies, brokerages, and related activities	$0	$19,477	$97,367	$116,843
439 - Nondepository credit intermediation and related activities	$0	$22,445	$91,588	$114,033
491 - Nursing and community care facilities	$0	$0	$111,557	$111,557
48 - Natural gas distribution	$0	$32,857	$74,974	$107,830
494 - Child day care services	$0	$0	$105,997	$105,997
156 - Asphalt shingle and coating materials manufacturing	$0	$104,882	$872	$105,755

Industry Sector	Direct	Indirect	Induced	Total Impact
487 - Medical and diagnostic laboratories	$0	$3	$101,312	$101,315
455 - Legal services	$6,624	$17,544	$75,445	$99,614
488 - Home health care services	$0	$0	$97,819	$97,819
526 - Postal service	$0	$47,193	$46,794	$93,987
457 - Architectural, engineering, and related services	$39,243	$30,061	$22,224	$91,528
446 - Funds, trusts, and other financial vehicles	$0	$246	$82,899	$83,145
476 - Services to buildings	$0	$36,853	$44,365	$81,218
475 - Investigation and security services	$0	$47,112	$33,402	$80,514
61 - Maintenance and repair construction of residential structures	$0	$271	$79,864	$80,135
521 - Religious organizations	$0	$0	$79,535	$79,535
60 - Maintenance and repair construction of nonresidential structures	$0	$39,439	$32,720	$72,159
418 - Transit and ground passenger transportation	$0	$27,009	$45,048	$72,057
403 - Retail - Furniture and home furnishings stores	$0	$1,840	$68,037	$69,876
524 - Labor and civic organizations	$0	$0	$69,391	$69,391
410 - Retail - Sporting goods, hobby, musical instrument and book stores	$0	$1,795	$66,901	$68,696
492 - Residential mental retardation, mental health, substance abuse and other fa	$0	$0	$67,714	$67,714
522 - Grantmaking, giving, and social advocacy organizations	$0	$21	$67,619	$67,639
401 - Wholesale - Wholesale electronic markets and agents and brokers	$0	$54,538	$11,178	$65,716
392 - Wholesale - Motor vehicle and motor vehicle parts and supplies	$0	$34,467	$30,186	$64,654
47 - Electric power transmission and distribution	$0	$27,143	$31,952	$59,095
398 - Wholesale - Grocery and related product wholesalers	$0	$4,669	$53,766	$58,435
415 - Rail transportation	$0	$47,559	$10,500	$58,059
404 - Retail - Electronics and appliance stores	$0	$1,509	$56,480	$57,989
495 - Community food, housing, and other relief services, including rehabilitation s	$0	$0	$52,919	$52,919
440 - Securities and commodity contracts intermediation and brokerage	$0	$18,535	$33,616	$52,151
489 - Other ambulatory health care services	$0	$19	$52,001	$52,020
525 - Private households	$0	$0	$50,647	$50,647
450 - Automotive equipment rental and leasing	$0	$9,578	$38,255	$47,834
516 - Personal and household goods repair and maintenance	$0	$17,490	$28,986	$46,476
464 - Scientific research and development services	$0	$2,207	$43,895	$46,102
470 - Office administrative services	$0	$32,462	$13,383	$45,845
462 - Management consulting services	$0	$24,736	$18,253	$42,988
468 - Marketing research and all other miscellaneous professional, scientific, and	$0	$23,997	$17,119	$41,116
482 - Other educational services	$0	$479	$40,628	$41,107
517 - Personal care services	$0	$0	$39,032	$39,032
473 - Business support services	$0	$27,194	$11,055	$38,249
520 - Other personal services	$0	$1,922	$35,735	$37,658
434 - Wireless telecommunications carriers (except satellite)	$0	$14,944	$19,698	$34,642
523 - Business and professional associations	$0	$15,657	$18,412	$34,069
451 - General and consumer goods rental except video tapes and discs	$0	$10,260	$22,942	$33,202
460 - Computer systems design services	$0	$24,779	$7,537	$32,316
467 - Veterinary services	$0	$7	$28,585	$28,593
458 - Specialized design services	$0	$19,778	$7,390	$27,168
419 - Pipeline transportation	$0	$19,194	$7,800	$26,994
393 - Wholesale - Professional and commercial equipment and supplies	$0	$14,535	$11,460	$25,995
478 - Other support services	$0	$14,927	$10,094	$25,020
203 - Cement manufacturing	$0	$24,017	$237	$24,254
43 - Electric power generation - Wind	$0	$10,943	$12,882	$23,825
503 - Gambling industries (except casino hotels)	$0	$5	$23,796	$23,801
465 - Advertising, public relations, and related services	$0	$14,007	$9,697	$23,704
480 - Elementary and secondary schools	$0	$0	$23,050	$23,050
481 - Junior colleges, colleges, universities, and professional schools	$0	$451	$22,475	$22,926
518 - Death care services	$0	$0	$20,676	$20,676
519 - Dry-cleaning and laundry services	$0	$1,977	$18,598	$20,575
442 - Other financial investment activities	$0	$1,772	$17,366	$19,138
443 - Direct life insurance carriers	$0	$63	$18,684	$18,747
505 - Fitness and recreational sports centers	$0	$1,244	$16,309	$17,552
452 - Video tape and disc rental	$0	$3	$17,282	$17,285
514 - Electronic and precision equipment repair and maintenance	$0	$11,260	$6,024	$17,285
459 - Custom computer programming services	$0	$13,395	$3,552	$16,947

Industry Sector	Direct	Indirect	Induced	Total Impact
471 - Facilities support services	$0	$8,183	$8,279	$16,462
504 - Other amusement and recreation industries	$0	$706	$14,709	$15,415
466 - Photographic services	$0	$3,605	$10,886	$14,491
40 - Electric power generation - Fossil fuel	$0	$6,122	$7,207	$13,329
528 - Other federal government enterprises	$0	$2,070	$10,752	$12,821
416 - Water transportation	$0	$7,043	$4,232	$11,275
461 - Other computer related services, including facilities management	$0	$8,588	$2,222	$10,810
155 - Asphalt paving mixture and block manufacturing	$0	$10,330	$272	$10,602
10 - All other crop farming	$0	$5,197	$4,346	$9,542
31 - Potash, soda, and borate mineral mining	$0	$9,457	$35	$9,493
34 - Other nonmetallic minerals	$0	$8,536	$31	$8,567
428 - Software publishers	$0	$1,114	$7,205	$8,319
236 - Fabricated structural metal manufacturing	$0	$7,732	$21	$7,753
500 - Promoters of performing arts and sports and agents for public figures	$0	$870	$6,622	$7,492
423 - Newspaper publishers	$0	$3,200	$3,840	$7,040
397 - Wholesale - Drugs and druggists' sundries	$0	$624	$5,410	$6,034
436 - Data processing, hosting, and related services	$0	$1,722	$4,021	$5,743
38 - Other nonmetallic minerals services	$0	$5,219	$29	$5,247
42 - Electric power generation - Solar	$0	$2,324	$2,736	$5,061
5 - Tree nut farming	$0	$222	$4,664	$4,885
3 - Vegetable and melon farming	$0	$197	$4,440	$4,637
19 - Support activities for agriculture and forestry	$0	$714	$3,625	$4,339
435 - Satellite, telecommunications resellers, and all other telecommunications	$0	$2,271	$2,060	$4,331
498 - Racing and Track Operation	$0	$6	$4,209	$4,215
414 - Air transportation	$0	$705	$3,078	$3,783
37 - Metal mining services	$0	$3,407	$82	$3,489
4 - Fruit farming	$0	$141	$3,010	$3,150
167 - Nitrogenous fertilizer manufacturing	$0	$2,942	$85	$3,027
152 - Printing	$0	$1,695	$1,184	$2,879
97 - Roasted nuts and peanut butter manufacturing	$0	$9	$2,517	$2,525
474 - Travel arrangement and reservation services	$0	$350	$1,885	$2,235
204 - Ready-mix concrete manufacturing	$0	$2,013	$18	$2,031
29 - Sand and gravel mining	$0	$1,971	$16	$1,987
429 - Motion picture and video industries	$0	$222	$1,695	$1,917
454 - Lessors of nonfinancial intangible assets	$0	$1,158	$749	$1,906
499 - Independent artists, writers, and performers	$0	$788	$1,014	$1,802
169 - Fertilizer mixing	$0	$1,587	$43	$1,629
426 - Directory, mailing list, and other publishers	$0	$608	$1,004	$1,611
193 - Other plastics product manufacturing	$0	$1,320	$178	$1,498
496 - Performing arts companies	$0	$111	$1,182	$1,292
438 - Internet publishing and broadcasting and web search portals	$0	$536	$669	$1,206
239 - Sheet metal work manufacturing	$0	$1,175	$6	$1,180
501 - Museums, historical sites, zoos, and parks	$0	$0	$1,095	$1,095
188 - Plastics pipe and pipe fitting manufacturing	$0	$981	$9	$989
6 - Greenhouse, nursery, and floriculture production	$0	$113	$811	$923
497 - Commercial Sports Except Racing	$0	$228	$648	$876
24 - Gold ore mining	$0	$482	$365	$847
205 - Concrete block and brick manufacturing	$0	$797	$7	$804
506 - Bowling centers	$0	$0	$783	$783
175 - Paint and coating manufacturing	$0	$689	$52	$741
247 - Machine shops	$0	$649	$61	$710
214 - Miscellaneous nonmetallic mineral products manufacturing	$0	$696	$3	$699
424 - Periodical publishers	$0	$269	$425	$694
103 - All other food manufacturing	$0	$1	$666	$667
502 - Amusement parks and arcades	$0	$2	$653	$655
157 - Petroleum lubricating oil and grease manufacturing	$0	$463	$165	$627
507 - Hotels and motels, including casino hotels	$0	$59	$548	$607
365 - Wood kitchen cabinet and countertop manufacturing	$0	$554	$22	$576
190 - Polystyrene foam product manufacturing	$0	$534	$35	$569
84 - Fluid milk manufacturing	$0	$1	$563	$565

Industry Sector	Direct	Indirect	Induced	Total Impact
385 - Sign manufacturing	$0	$326	$222	$548
98 - Other snack food manufacturing	$0	$1	$525	$526
93 - Bread and bakery product, except frozen, manufacturing	$0	$1	$481	$482
12 - Dairy cattle and milk production	$0	$22	$451	$473
207 - Other concrete product manufacturing	$0	$439	$2	$441
176 - Adhesive manufacturing	$0	$315	$124	$439
86 - Ice cream and frozen dessert manufacturing	$0	$4	$420	$424
8 - Cotton farming	$0	$19	$395	$414
230 - Crown and closure manufacturing and metal stamping	$0	$376	$6	$382
30 - Other clay, ceramic, refractory minerals mining	$0	$351	$1	$353
104 - Bottled and canned soft drinks & water	$0	$1	$349	$350
180 - Toilet preparation manufacturing	$0	$5	$323	$328
238 - Metal window and door manufacturing	$0	$310	$1	$311
253 - Plumbing fixture fitting and trim manufacturing	$0	$283	$3	$286
87 - Frozen cakes and other pastries manufacturing	$0	$1	$267	$267
11 - Beef cattle ranching and farming, including feedlots and dual-purpose ranchin	$0	$12	$241	$253
36 - Support activities for oil and gas operations	$0	$228	$23	$251
258 - Fabricated pipe and pipe fitting manufacturing	$0	$245	$2	$247
252 - Valve and fittings, other than plumbing, manufacturing	$0	$230	$3	$233
106 - Breweries	$0	$1	$231	$233
430 - Sound recording industries	$0	$12	$210	$221
135 - Engineered wood member and truss manufacturing	$0	$190	$1	$191
508 - Other accommodations	$0	$3	$187	$190
196 - Other rubber product manufacturing	$0	$154	$12	$167
211 - Cut stone and stone product manufacturing	$0	$146	$2	$148
209 - Gypsum product manufacturing	$0	$140	$5	$145
163 - Other basic organic chemical manufacturing	$0	$72	$57	$129
437 - News syndicates, libraries, archives and all other information services	$0	$3	$113	$116
162 - Other basic inorganic chemical manufacturing	$0	$69	$46	$115
250 - Metal coating and nonprecious engraving	$0	$103	$5	$107
240 - Ornamental and architectural metal work manufacturing	$0	$101	$1	$101
2 - Grain farming	$0	$2	$97	$99
202 - Glass product manufacturing made of purchased glass	$0	$97	$2	$99
264 - Oil and gas field machinery and equipment manufacturing	$0	$80	$4	$84
14 - Animal production, except cattle and poultry and eggs	$0	$3	$80	$83
215 - Iron and steel mills and ferroalloy manufacturing	$0	$62	$20	$82
383 - Doll, toy, and game manufacturing	$0	$46	$35	$81
77 - Frozen fruits, juices and vegetables manufacturing	$0	$0	$75	$75
191 - Urethane and other foam product (except polystyrene) manufacturing	$0	$49	$24	$74
140 - Wood container and pallet manufacturing	$0	$26	$36	$62
259 - Other fabricated metal manufacturing	$0	$58	$3	$60
381 - Jewelry and silverware manufacturing	$0	$1	$55	$56
246 - Spring and wire product manufacturing	$0	$52	$2	$53
213 - Mineral wool manufacturing	$0	$49	$1	$49
340 - Automobile manufacturing	$0	$0	$46	$47
79 - Canned fruits and vegetables manufacturing	$0	$0	$46	$46
313 - Automatic environmental control manufacturing	$0	$44	$0	$44
212 - Ground or treated mineral and earth manufacturing	$0	$41	$2	$43
107 - Wineries	$0	$0	$42	$43
142 - Prefabricated wood building manufacturing	$0	$42	$0	$43
147 - Paperboard container manufacturing	$0	$24	$18	$42
100 - Flavoring syrup and concentrate manufacturing	$0	$1	$38	$39
74 - Nonchocolate confectionery manufacturing	$0	$0	$38	$39
237 - Plate work manufacturing	$0	$37	$1	$38
185 - Other miscellaneous chemical product manufacturing	$0	$24	$11	$35
367 - Nonupholstered wood household furniture manufacturing	$0	$17	$17	$34
371 - Custom architectural woodwork and millwork	$0	$32	$1	$32
285 - Pump and pumping equipment manufacturing	$0	$32	$1	$32
187 - Unlaminated plastics profile shape manufacturing	$0	$24	$4	$28
35 - Drilling oil and gas wells	$0	$26	$1	$27

Industry Sector	Direct	Indirect	Induced	Total Impact
292 - Welding and soldering equipment manufacturing	$0	$26	$0	$26
145 - Paper mills	$0	$9	$17	$26
272 - Other commercial service industry machinery manufacturing	$0	$24	$0	$25
13 - Poultry and egg production	$0	$1	$23	$23
179 - Surface active agent manufacturing	$0	$6	$17	$23
170 - Pesticide and other agricultural chemical manufacturing	$0	$14	$7	$22
377 - Surgical appliance and supplies manufacturing	$0	$7	$14	$22
64 - Other animal food manufacturing	$0	$1	$19	$20
62 - Maintenance and repair construction of highways, streets, bridges, and tunne	$0	$1	$20	$20
251 - Electroplating, anodizing, and coloring metal	$0	$19	$1	$20
189 - Laminated plastics plate, sheet (except packaging), and shape manufacturin	$0	$15	$4	$19
121 - Other textile product mills	$0	$14	$5	$19
99 - Coffee and tea manufacturing	$0	$0	$15	$15
346 - Travel trailer and camper manufacturing	$0	$2	$13	$15
234 - Handtool manufacturing	$0	$11	$4	$15
380 - Dental laboratories	$0	$0	$14	$14
314 - Industrial process variable instruments manufacturing	$0	$14	$0	$14
248 - Turned product and screw, nut, and bolt manufacturing	$0	$13	$1	$14
81 - Dehydrated food products manufacturing	$0	$0	$14	$14
242 - Metal tank (heavy gauge) manufacturing	$0	$13	$0	$13
368 - Other household nonupholstered furniture manufacturing	$0	$1	$12	$13
137 - Wood windows and door manufacturing	$0	$12	$0	$12
108 - Distilleries	$0	$0	$11	$11
94 - Cookie and cracker manufacturing	$0	$0	$10	$10
117 - Carpet and rug mills	$0	$8	$1	$9
105 - Manufactured ice	$0	$0	$8	$8
46 - Electric power generation - All other	$0	$4	$4	$8
90 - Meat processed from carcasses	$0	$0	$8	$8
171 - Medicinal and botanical manufacturing	$0	$0	$8	$8
200 - Other pressed and blown glass and glassware manufacturing	$0	$5	$2	$7
89 - Animal, except poultry, slaughtering	$0	$0	$6	$7
17 - Commercial fishing	$0	$0	$6	$6
143 - All other miscellaneous wood product manufacturing	$0	$6	$0	$6
257 - Small arms, ordnance, and accessories manufacturing	$0	$3	$3	$6
119 - Textile bag and canvas mills	$0	$5	$1	$6
297 - Scales, balances, and miscellaneous general purpose machinery manufactu	$0	$6	$0	$6
216 - Iron, steel pipe and tube manufacturing from purchased steel	$0	$5	$1	$6
1 - Oilseed farming	$0	$0	$5	$5
356 - Other aircraft parts and auxiliary equipment manufacturing	$0	$4	$1	$5
254 - Ball and roller bearing manufacturing	$0	$3	$2	$5
352 - Other motor vehicle parts manufacturing	$0	$2	$2	$4
319 - Watch, clock, and other measuring and controlling device manufacturing	$0	$1	$2	$3
324 - Small electrical appliance manufacturing	$0	$2	$1	$3
91 - Rendering and meat byproduct processing	$0	$0	$3	$3
354 - Aircraft manufacturing	$0	$2	$1	$3
269 - All other industrial machinery manufacturing	$0	$2	$0	$3
222 - Other aluminum rolling, drawing and extruding	$0	$2	$0	$2
116 - Fabric coating mills	$0	$1	$1	$2
153 - Support activities for printing	$0	$1	$1	$2
303 - Other communications equipment manufacturing	$0	$2	$0	$2
312 - Search, detection, and navigation instruments manufacturing	$0	$1	$0	$2
348 - Motor vehicle electrical and electronic equipment manufacturing	$0	$1	$1	$2
391 - All other miscellaneous manufacturing	$0	$0	$1	$2
122 - Hosiery and sock mills	$0	$0	$2	$2
358 - Propulsion units and parts for space vehicles and guided missiles manufactu	$0	$1	$0	$2
290 - Industrial truck, trailer, and stacker manufacturing	$0	$1	$0	$2
333 - Storage battery manufacturing	$0	$1	$1	$1
298 - Electronic computer manufacturing	$0	$0	$1	$1
244 - Metal barrels, drums and pails manufacturing	$0	$1	$0	$1
304 - Audio and video equipment manufacturing	$0	$0	$1	$1

Industry Sector	Direct	Indirect	Induced	Total Impact
128 - Apparel accessories and other apparel manufacturing	$0	$0	$1	$1
118 - Curtain and linen mills	$0	$0	$1	$1
362 - Motorcycle, bicycle, and parts manufacturing	$0	$0	$1	$1
375 - Blind and shade manufacturing	$0	$0	$1	$1
96 - Tortilla manufacturing	$0	$0	$1	$1
355 - Aircraft engine and engine parts manufacturing	$0	$1	$0	$1
127 - Other cut and sew apparel manufacturing	$0	$0	$1	$1
125 - Men's and boys' cut and sew apparel manufacturing	$0	$0	$1	$1
123 - Other apparel knitting mills	$0	$0	$1	$1
260 - Farm machinery and equipment manufacturing	$0	$1	$0	$1
288 - Conveyor and conveying equipment manufacturing	$0	$1	$0	$1
126 - Women's and girls' cut and sew apparel manufacturing	$0	$0	$1	$1
353 - Motor vehicle steering, suspension component (except spring), and brake sy	$0	$0	$0	$1
268 - Printing machinery and equipment manufacturing	$0	$1	$0	$1
293 - Packaging machinery manufacturing	$0	$1	$0	$1
317 - Analytical laboratory instrument manufacturing	$0	$0	$0	$1
279 - Machine tool manufacturing	$0	$0	$0	$0.46
15 - Forestry, forest products, and timber tract production	$0	$0	$0	$0.43
343 - Motor vehicle body manufacturing	$0	$0	$0	$0.42
344 - Truck trailer manufacturing	$0	$0	$0	$0.40
357 - Guided missile and space vehicle manufacturing	$0	$0	$0	$0.36
124 - Cut and sew apparel contractors	$0	$0	$0	$0.35
228 - Nonferrous metal foundries	$0	$0	$0	$0.32
329 - Power, distribution, and specialty transformer manufacturing	$0	$0	$0	$0.28
305 - Printed circuit assembly (electronic assembly) manufacturing	$0	$0	$0	$0.25
284 - Other engine equipment manufacturing	$0	$0	$0	$0.24
278 - Cutting tool and machine tool accessory manufacturing	$0	$0	$0	$0.21
141 - Manufactured home (mobile home) manufacturing	$0	$0	$0	$0.18
291 - Power-driven handtool manufacturing	$0	$0	$0	$0.18
226 - Secondary processing of other nonferrous metals	$0	$0	$0	$0.12
364 - All other transportation equipment manufacturing	$0	$0	$0	$0.11
281 - Turbine and turbine generator set units manufacturing	$0	$0	$0	$0.10
302 - Broadcast and wireless communications equipment manufacturing	$0	$0	$0	$0.02
16 - Commercial logging	$0	$0	$0	$0.01
130 - Footwear manufacturing	$0	$(0)	$(0)	$(0.07)
532 - Local government passenger transit	$0	$(6,744)	$(11,226)	$(17,970)
Total	$48,809,685	$8,199,247	$14,808,258	$71,817,191

Source: IMPLAN

Table B-3
Wage and Salary Employment Impacts by Category - Kern County
IPG Industrial Warehouse Project - CONSTRUCTION PHASE

Industry Sector	Direct	Indirect	Induced	Total Impact
55 - Construction of new commercial structures, including farm structures	501.8	0.0	0.0	501.8
463 - Environmental and other technical consulting services	1.3	0.1	0.2	1.6
457 - Architectural, engineering, and related services	0.3	0.2	0.2	0.7
455 - Legal services	0.0	0.1	0.4	0.6
417 - Truck transportation	0.0	5.6	1.1	6.7
396 - Wholesale - Other durable goods merchant wholesalers	0.0	5.7	0.4	6.1
447 - Other real estate	0.0	0.9	0.6	1.6
395 - Wholesale - Machinery, equipment, and supplies	0.0	3.6	0.1	3.8
472 - Employment services	0.0	2.2	2.0	4.2
405 - Retail - Building material and garden equipment and supplies stores	0.0	2.7	1.1	3.9
453 - Commercial and industrial machinery and equipment rental and leasing	0.0	2.1	0.1	2.2
421 - Couriers and messengers	0.0	0.9	0.6	1.5
456 - Accounting, tax preparation, bookkeeping, and payroll services	0.0	1.6	0.8	2.4
477 - Landscape and horticultural services	0.0	1.3	0.5	1.8
469 - Management of companies and enterprises	0.0	1.7	1.1	2.8
418 - Transit and ground passenger transportation	0.0	0.1	0.1	0.2
515 - Commercial and industrial machinery and equipment repair and maintenanc	0.0	0.9	0.3	1.2
512 - Automotive repair and maintenance, except car washes	0.0	1.0	2.6	3.6
470 - Office administrative services	0.0	0.6	0.3	0.9
422 - Warehousing and storage	0.0	1.2	1.5	2.7
475 - Investigation and security services	0.0	0.9	0.6	1.5
440 - Securities and commodity contracts intermediation and brokerage	0.0	0.1	0.1	0.2
441 - Monetary authorities and depository credit intermediation	0.0	0.8	1.1	1.8
473 - Business support services	0.0	0.5	0.2	0.7
476 - Services to buildings	0.0	0.5	0.6	1.2
420 - Scenic and sightseeing transportation and support activities for transportatio	0.0	0.6	0.3	0.9
28 - Stone mining and quarrying	0.0	0.6	0.0	0.6
479 - Waste management and remediation services	0.0	0.6	0.4	1.0
394 - Wholesale - Household appliances and electrical and electronic goods	0.0	0.6	0.1	0.7
526 - Postal service	0.0	0.5	0.5	0.9
400 - Wholesale - Other nondurable goods merchant wholesalers	0.0	0.4	0.4	0.9
509 - Full-service restaurants	0.0	0.4	6.8	7.1
462 - Management consulting services	0.0	0.3	0.2	0.5
460 - Computer systems design services	0.0	0.2	0.1	0.3
60 - Maintenance and repair construction of nonresidential structures	0.0	0.3	0.2	0.5
511 - All other food and drinking places	0.0	0.4	3.4	3.8
156 - Asphalt shingle and coating materials manufacturing	0.0	0.4	0.0	0.4
401 - Wholesale - Wholesale electronic markets and agents and brokers	0.0	0.3	0.1	0.4
513 - Car washes	0.0	0.3	1.7	2.0
415 - Rail transportation	0.0	0.2	0.1	0.3
431 - Radio and television broadcasting	0.0	0.2	0.2	0.4
411 - Retail - General merchandise stores	0.0	0.2	5.4	5.6
408 - Retail - Gasoline stores	0.0	0.2	1.1	1.3
445 - Insurance agencies, brokerages, and related activities	0.0	0.2	0.8	1.0
402 - Retail - Motor vehicle and parts dealers	0.0	0.2	1.6	1.7
459 - Custom computer programming services	0.0	0.1	0.0	0.2
478 - Other support services	0.0	0.1	0.1	0.2
465 - Advertising, public relations, and related services	0.0	0.1	0.1	0.2
392 - Wholesale - Motor vehicle and motor vehicle parts and supplies	0.0	0.2	0.2	0.3
510 - Limited-service restaurants	0.0	0.2	11.6	11.8
399 - Wholesale - Petroleum and petroleum products	0.0	0.2	0.1	0.2
439 - Nondepository credit intermediation and related activities	0.0	0.1	0.6	0.7
433 - Wired telecommunications carriers	0.0	0.2	0.3	0.5
516 - Personal and household goods repair and maintenance	0.0	0.1	0.2	0.3
154 - Petroleum refineries	0.0	0.2	0.0	0.2
532 - Local government passenger transit	0.0	0.1	0.2	0.4

Industry Sector	Direct	Indirect	Induced	Total Impact
458 - Specialized design services	0.0	0.1	0.0	0.2
514 - Electronic and precision equipment repair and maintenance	0.0	0.1	0.0	0.1
413 - Retail - Nonstore retailers	0.0	0.0	0.3	0.3
468 - Marketing research and all other miscellaneous professional, scientific, and	0.0	0.1	0.1	0.2
534 - Other local government enterprises	0.0	0.1	0.6	0.7
451 - General and consumer goods rental except video tapes and discs	0.0	0.1	0.2	0.3
461 - Other computer related services, including facilities management	0.0	0.1	0.0	0.1
523 - Business and professional associations	0.0	0.1	0.1	0.2
444 - Insurance carriers, except direct life	0.0	0.1	0.5	0.6
519 - Dry-cleaning and laundry services	0.0	0.0	0.2	0.3
393 - Wholesale - Professional and commercial equipment and supplies	0.0	0.1	0.1	0.1
20 - Oil and gas extraction	0.0	0.1	0.0	0.1
471 - Facilities support services	0.0	0.1	0.1	0.1
203 - Cement manufacturing	0.0	0.1	0.0	0.1
442 - Other financial investment activities	0.0	0.0	0.1	0.1
500 - Promoters of performing arts and sports and agents for public figures	0.0	0.0	0.1	0.1
10 - All other crop farming	0.0	0.0	0.0	0.1
236 - Fabricated structural metal manufacturing	0.0	0.1	0.0	0.1
49 - Water, sewage and other systems	0.0	0.1	0.2	0.3
499 - Independent artists, writers, and performers	0.0	0.0	0.0	0.0
412 - Retail - Miscellaneous store retailers	0.0	0.0	1.1	1.1
450 - Automotive equipment rental and leasing	0.0	0.0	0.2	0.2
31 - Potash, soda, and borate mineral mining	0.0	0.0	0.0	0.0
520 - Other personal services	0.0	0.0	0.4	0.4
155 - Asphalt paving mixture and block manufacturing	0.0	0.1	0.0	0.1
497 - Commercial Sports Except Racing	0.0	0.0	0.0	0.0
47 - Electric power transmission and distribution	0.0	0.0	0.1	0.1
505 - Fitness and recreational sports centers	0.0	0.0	0.5	0.6
423 - Newspaper publishers	0.0	0.0	0.0	0.1
398 - Wholesale - Grocery and related product wholesalers	0.0	0.0	0.4	0.5
406 - Retail - Food and beverage stores	0.0	0.0	4.8	4.9
48 - Natural gas distribution	0.0	0.0	0.1	0.1
419 - Pipeline transportation	0.0	0.0	0.0	0.0
435 - Satellite, telecommunications resellers, and all other telecommunications	0.0	0.0	0.0	0.1
410 - Retail - Sporting goods, hobby, musical instrument and book stores	0.0	0.0	0.9	0.9
34 - Other nonmetallic minerals	0.0	0.0	0.0	0.0
152 - Printing	0.0	0.0	0.0	0.0
404 - Retail - Electronics and appliance stores	0.0	0.0	0.9	0.9
504 - Other amusement and recreation industries	0.0	0.0	0.4	0.5
436 - Data processing, hosting, and related services	0.0	0.0	0.0	0.0
403 - Retail - Furniture and home furnishings stores	0.0	0.0	0.6	0.6
466 - Photographic services	0.0	0.0	0.1	0.1
434 - Wireless telecommunications carriers (except satellite)	0.0	0.0	0.0	0.0
464 - Scientific research and development services	0.0	0.0	0.3	0.3
19 - Support activities for agriculture and forestry	0.0	0.0	0.1	0.1
193 - Other plastics product manufacturing	0.0	0.0	0.0	0.0
482 - Other educational services	0.0	0.0	0.9	0.9
204 - Ready-mix concrete manufacturing	0.0	0.0	0.0	0.0
481 - Junior colleges, colleges, universities, and professional schools	0.0	0.0	0.5	0.5
528 - Other federal government enterprises	0.0	0.0	0.1	0.1
239 - Sheet metal work manufacturing	0.0	0.0	0.0	0.0
416 - Water transportation	0.0	0.0	0.0	0.0
407 - Retail - Health and personal care stores	0.0	0.0	2.0	2.0
414 - Air transportation	0.0	0.0	0.0	0.0
438 - Internet publishing and broadcasting and web search portals	0.0	0.0	0.0	0.0
474 - Travel arrangement and reservation services	0.0	0.0	0.0	0.0
365 - Wood kitchen cabinet and countertop manufacturing	0.0	0.0	0.0	0.0
496 - Performing arts companies	0.0	0.0	0.0	0.0
247 - Machine shops	0.0	0.0	0.0	0.0
428 - Software publishers	0.0	0.0	0.0	0.0

Industry Sector	Direct	Indirect	Induced	Total Impact
188 - Plastics pipe and pipe fitting manufacturing	0.0	0.0	0.0	0.0
29 - Sand and gravel mining	0.0	0.0	0.0	0.0
426 - Directory, mailing list, and other publishers	0.0	0.0	0.0	0.0
429 - Motion picture and video industries	0.0	0.0	0.0	0.0
205 - Concrete block and brick manufacturing	0.0	0.0	0.0	0.0
40 - Electric power generation - Fossil fuel	0.0	0.0	0.0	0.0
42 - Electric power generation - Solar	0.0	0.0	0.0	0.0
385 - Sign manufacturing	0.0	0.0	0.0	0.0
43 - Electric power generation - Wind	0.0	0.0	0.0	0.0
190 - Polystyrene foam product manufacturing	0.0	0.0	0.0	0.0
167 - Nitrogenous fertilizer manufacturing	0.0	0.0	0.0	0.0
38 - Other nonmetallic minerals services	0.0	0.0	0.0	0.0
207 - Other concrete product manufacturing	0.0	0.0	0.0	0.0
169 - Fertilizer mixing	0.0	0.0	0.0	0.0
424 - Periodical publishers	0.0	0.0	0.0	0.0
238 - Metal window and door manufacturing	0.0	0.0	0.0	0.0
454 - Lessors of nonfinancial intangible assets	0.0	0.0	0.0	0.0
230 - Crown and closure manufacturing and metal stamping	0.0	0.0	0.0	0.0
446 - Funds, trusts, and other financial vehicles	0.0	0.0	0.5	0.5
258 - Fabricated pipe and pipe fitting manufacturing	0.0	0.0	0.0	0.0
37 - Metal mining services	0.0	0.0	0.0	0.0
397 - Wholesale - Drugs and druggists' sundries	0.0	0.0	0.0	0.0
135 - Engineered wood member and truss manufacturing	0.0	0.0	0.0	0.0
61 - Maintenance and repair construction of residential structures	0.0	0.0	0.6	0.6
252 - Valve and fittings, other than plumbing, manufacturing	0.0	0.0	0.0	0.0
214 - Miscellaneous nonmetallic mineral products manufacturing	0.0	0.0	0.0	0.0
157 - Petroleum lubricating oil and grease manufacturing	0.0	0.0	0.0	0.0
175 - Paint and coating manufacturing	0.0	0.0	0.0	0.0
196 - Other rubber product manufacturing	0.0	0.0	0.0	0.0
5 - Tree nut farming	0.0	0.0	0.0	0.0
240 - Ornamental and architectural metal work manufacturing	0.0	0.0	0.0	0.0
30 - Other clay, ceramic, refractory minerals mining	0.0	0.0	0.0	0.0
202 - Glass product manufacturing made of purchased glass	0.0	0.0	0.0	0.0
211 - Cut stone and stone product manufacturing	0.0	0.0	0.0	0.0
253 - Plumbing fixture fitting and trim manufacturing	0.0	0.0	0.0	0.0
176 - Adhesive manufacturing	0.0	0.0	0.0	0.0
209 - Gypsum product manufacturing	0.0	0.0	0.0	0.0
3 - Vegetable and melon farming	0.0	0.0	0.0	0.0
36 - Support activities for oil and gas operations	0.0	0.0	0.0	0.0
250 - Metal coating and nonprecious engraving	0.0	0.0	0.0	0.0
4 - Fruit farming	0.0	0.0	0.0	0.0
24 - Gold ore mining	0.0	0.0	0.0	0.0
507 - Hotels and motels, including casino hotels	0.0	0.0	0.0	0.0
6 - Greenhouse, nursery, and floriculture production	0.0	0.0	0.0	0.0
371 - Custom architectural woodwork and millwork	0.0	0.0	0.0	0.0
246 - Spring and wire product manufacturing	0.0	0.0	0.0	0.0
191 - Urethane and other foam product (except polystyrene) manufacturing	0.0	0.0	0.0	0.0
140 - Wood container and pallet manufacturing	0.0	0.0	0.0	0.0
264 - Oil and gas field machinery and equipment manufacturing	0.0	0.0	0.0	0.0
409 - Retail - Clothing and clothing accessories stores	0.0	0.0	1.9	1.9
383 - Doll, toy, and game manufacturing	0.0	0.0	0.0	0.0
46 - Electric power generation - All other	0.0	0.0	0.0	0.0
215 - Iron and steel mills and ferroalloy manufacturing	0.0	0.0	0.0	0.0
142 - Prefabricated wood building manufacturing	0.0	0.0	0.0	0.0
259 - Other fabricated metal manufacturing	0.0	0.0	0.0	0.0
443 - Direct life insurance carriers	0.0	0.0	0.0	0.0
237 - Plate work manufacturing	0.0	0.0	0.0	0.0
251 - Electroplating, anodizing, and coloring metal	0.0	0.0	0.0	0.0
163 - Other basic organic chemical manufacturing	0.0	0.0	0.0	0.0
313 - Automatic environmental control manufacturing	0.0	0.0	0.0	0.0

Industry Sector	Direct	Indirect	Induced	Total Impact
292 - Welding and soldering equipment manufacturing	0.0	0.0	0.0	0.0
367 - Nonupholstered wood household furniture manufacturing	0.0	0.0	0.0	0.0
489 - Other ambulatory health care services	0.0	0.0	0.5	0.5
498 - Racing and Track Operation	0.0	0.0	0.1	0.1
147 - Paperboard container manufacturing	0.0	0.0	0.0	0.0
162 - Other basic inorganic chemical manufacturing	0.0	0.0	0.0	0.0
522 - Grantmaking, giving, and social advocacy organizations	0.0	0.0	0.6	0.6
248 - Turned product and screw, nut, and bolt manufacturing	0.0	0.0	0.0	0.0
213 - Mineral wool manufacturing	0.0	0.0	0.0	0.0
242 - Metal tank (heavy gauge) manufacturing	0.0	0.0	0.0	0.0
187 - Unlaminated plastics profile shape manufacturing	0.0	0.0	0.0	0.0
272 - Other commercial service industry machinery manufacturing	0.0	0.0	0.0	0.0
137 - Wood windows and door manufacturing	0.0	0.0	0.0	0.0
8 - Cotton farming	0.0	0.0	0.0	0.0
285 - Pump and pumping equipment manufacturing	0.0	0.0	0.0	0.0
212 - Ground or treated mineral and earth manufacturing	0.0	0.0	0.0	0.0
430 - Sound recording industries	0.0	0.0	0.0	0.0
189 - Laminated plastics plate, sheet (except packaging), and shape manufacturin	0.0	0.0	0.0	0.0
121 - Other textile product mills	0.0	0.0	0.0	0.0
234 - Handtool manufacturing	0.0	0.0	0.0	0.0
185 - Other miscellaneous chemical product manufacturing	0.0	0.0	0.0	0.0
467 - Veterinary services	0.0	0.0	0.4	0.4
117 - Carpet and rug mills	0.0	0.0	0.0	0.0
12 - Dairy cattle and milk production	0.0	0.0	0.0	0.0
314 - Industrial process variable instruments manufacturing	0.0	0.0	0.0	0.0
119 - Textile bag and canvas mills	0.0	0.0	0.0	0.0
35 - Drilling oil and gas wells	0.0	0.0	0.0	0.0
200 - Other pressed and blown glass and glassware manufacturing	0.0	0.0	0.0	0.0
502 - Amusement parks and arcades	0.0	0.0	0.0	0.0
503 - Gambling industries (except casino hotels)	0.0	0.0	0.3	0.3
377 - Surgical appliance and supplies manufacturing	0.0	0.0	0.0	0.0
508 - Other accommodations	0.0	0.0	0.0	0.0
143 - All other miscellaneous wood product manufacturing	0.0	0.0	0.0	0.0
352 - Other motor vehicle parts manufacturing	0.0	0.0	0.0	0.0
145 - Paper mills	0.0	0.0	0.0	0.0
297 - Scales, balances, and miscellaneous general purpose machinery manufactu	0.0	0.0	0.0	0.0
346 - Travel trailer and camper manufacturing	0.0	0.0	0.0	0.0
86 - Ice cream and frozen dessert manufacturing	0.0	0.0	0.0	0.0
97 - Roasted nuts and peanut butter manufacturing	0.0	0.0	0.0	0.0
437 - News syndicates, libraries, archives and all other information services	0.0	0.0	0.0	0.0
452 - Video tape and disc rental	0.0	0.0	0.1	0.1
216 - Iron, steel pipe and tube manufacturing from purchased steel	0.0	0.0	0.0	0.0
153 - Support activities for printing	0.0	0.0	0.0	0.0
222 - Other aluminum rolling, drawing and extruding	0.0	0.0	0.0	0.0
11 - Beef cattle ranching and farming, including feedlots and dual-purpose ranchin	0.0	0.0	0.0	0.0
356 - Other aircraft parts and auxiliary equipment manufacturing	0.0	0.0	0.0	0.0
487 - Medical and diagnostic laboratories	0.0	0.0	0.6	0.6
254 - Ball and roller bearing manufacturing	0.0	0.0	0.0	0.0
17 - Commercial fishing	0.0	0.0	0.0	0.0
170 - Pesticide and other agricultural chemical manufacturing	0.0	0.0	0.0	0.0
303 - Other communications equipment manufacturing	0.0	0.0	0.0	0.0
93 - Bread and bakery product, except frozen, manufacturing	0.0	0.0	0.0	0.0
290 - Industrial truck, trailer, and stacker manufacturing	0.0	0.0	0.0	0.0
244 - Metal barrels, drums and pails manufacturing	0.0	0.0	0.0	0.0
381 - Jewelry and silverware manufacturing	0.0	0.0	0.0	0.0
257 - Small arms, ordnance, and accessories manufacturing	0.0	0.0	0.0	0.0
103 - All other food manufacturing	0.0	0.0	0.0	0.0
324 - Small electrical appliance manufacturing	0.0	0.0	0.0	0.0
116 - Fabric coating mills	0.0	0.0	0.0	0.0
269 - All other industrial machinery manufacturing	0.0	0.0	0.0	0.0

Industry Sector	Direct	Indirect	Induced	Total Impact
106 - Breweries	0.0	0.0	0.0	0.0
288 - Conveyor and conveying equipment manufacturing	0.0	0.0	0.0	0.0
2 - Grain farming	0.0	0.0	0.0	0.0
87 - Frozen cakes and other pastries manufacturing	0.0	0.0	0.0	0.0
368 - Other household nonupholstered furniture manufacturing	0.0	0.0	0.0	0.0
84 - Fluid milk manufacturing	0.0	0.0	0.0	0.0
353 - Motor vehicle steering, suspension component (except spring), and brake sy	0.0	0.0	0.0	0.0
391 - All other miscellaneous manufacturing	0.0	0.0	0.0	0.0
348 - Motor vehicle electrical and electronic equipment manufacturing	0.0	0.0	0.0	0.0
104 - Bottled and canned soft drinks & water	0.0	0.0	0.0	0.0
358 - Propulsion units and parts for space vehicles and guided missiles manufactu	0.0	0.0	0.0	0.0
98 - Other snack food manufacturing	0.0	0.0	0.0	0.0
354 - Aircraft manufacturing	0.0	0.0	0.0	0.0
180 - Toilet preparation manufacturing	0.0	0.0	0.0	0.0
179 - Surface active agent manufacturing	0.0	0.0	0.0	0.0
279 - Machine tool manufacturing	0.0	0.0	0.0	0.0
64 - Other animal food manufacturing	0.0	0.0	0.0	0.0
260 - Farm machinery and equipment manufacturing	0.0	0.0	0.0	0.0
312 - Search, detection, and navigation instruments manufacturing	0.0	0.0	0.0	0.0
268 - Printing machinery and equipment manufacturing	0.0	0.0	0.0	0.0
14 - Animal production, except cattle and poultry and eggs	0.0	0.0	0.0	0.0
62 - Maintenance and repair construction of highways, streets, bridges, and tunne	0.0	0.0	0.0	0.0
333 - Storage battery manufacturing	0.0	0.0	0.0	0.0
375 - Blind and shade manufacturing	0.0	0.0	0.0	0.0
228 - Nonferrous metal foundries	0.0	0.0	0.0	0.0
13 - Poultry and egg production	0.0	0.0	0.0	0.0
344 - Truck trailer manufacturing	0.0	0.0	0.0	0.0
278 - Cutting tool and machine tool accessory manufacturing	0.0	0.0	0.0	0.0
355 - Aircraft engine and engine parts manufacturing	0.0	0.0	0.0	0.0
340 - Automobile manufacturing	0.0	0.0	0.0	0.0
329 - Power, distribution, and specialty transformer manufacturing	0.0	0.0	0.0	0.0
319 - Watch, clock, and other measuring and controlling device manufacturing	0.0	0.0	0.0	0.0
501 - Museums, historical sites, zoos, and parks	0.0	0.0	0.0	0.0
293 - Packaging machinery manufacturing	0.0	0.0	0.0	0.0
107 - Wineries	0.0	0.0	0.0	0.0
124 - Cut and sew apparel contractors	0.0	0.0	0.0	0.0
77 - Frozen fruits, juices and vegetables manufacturing	0.0	0.0	0.0	0.0
343 - Motor vehicle body manufacturing	0.0	0.0	0.0	0.0
141 - Manufactured home (mobile home) manufacturing	0.0	0.0	0.0	0.0
305 - Printed circuit assembly (electronic assembly) manufacturing	0.0	0.0	0.0	0.0
317 - Analytical laboratory instrument manufacturing	0.0	0.0	0.0	0.0
99 - Coffee and tea manufacturing	0.0	0.0	0.0	0.0
298 - Electronic computer manufacturing	0.0	0.0	0.0	0.0
118 - Curtain and linen mills	0.0	0.0	0.0	0.0
79 - Canned fruits and vegetables manufacturing	0.0	0.0	0.0	0.0
125 - Men's and boys' cut and sew apparel manufacturing	0.0	0.0	0.0	0.0
100 - Flavoring syrup and concentrate manufacturing	0.0	0.0	0.0	0.0
15 - Forestry, forest products, and timber tract production	0.0	0.0	0.0	0.0
127 - Other cut and sew apparel manufacturing	0.0	0.0	0.0	0.0
284 - Other engine equipment manufacturing	0.0	0.0	0.0	0.0
226 - Secondary processing of other nonferrous metals	0.0	0.0	0.0	0.0
123 - Other apparel knitting mills	0.0	0.0	0.0	0.0
281 - Turbine and turbine generator set units manufacturing	0.0	0.0	0.0	0.0
105 - Manufactured ice	0.0	0.0	0.0	0.0
108 - Distilleries	0.0	0.0	0.0	0.0
74 - Nonchocolate confectionery manufacturing	0.0	0.0	0.0	0.0
128 - Apparel accessories and other apparel manufacturing	0.0	0.0	0.0	0.0
89 - Animal, except poultry, slaughtering	0.0	0.0	0.0	0.0
122 - Hosiery and sock mills	0.0	0.0	0.0	0.0
362 - Motorcycle, bicycle, and parts manufacturing	0.0	0.0	0.0	0.0

Industry Sector	Direct	Indirect	Induced	Total Impact
484 - Offices of dentists	0.0	0.0	1.9	1.9
171 - Medicinal and botanical manufacturing	0.0	0.0	0.0	0.0
81 - Dehydrated food products manufacturing	0.0	0.0	0.0	0.0
357 - Guided missile and space vehicle manufacturing	0.0	0.0	0.0	0.0
291 - Power-driven handtool manufacturing	0.0	0.0	0.0	0.0
94 - Cookie and cracker manufacturing	0.0	0.0	0.0	0.0
126 - Women's and girls' cut and sew apparel manufacturing	0.0	0.0	0.0	0.0
91 - Rendering and meat byproduct processing	0.0	0.0	0.0	0.0
302 - Broadcast and wireless communications equipment manufacturing	0.0	0.0	0.0	0.0
1 - Oilseed farming	0.0	0.0	0.0	0.0
304 - Audio and video equipment manufacturing	0.0	0.0	0.0	0.0
16 - Commercial logging	0.0	0.0	0.0	0.0
96 - Tortilla manufacturing	0.0	0.0	0.0	0.0
364 - All other transportation equipment manufacturing	0.0	0.0	0.0	0.0
506 - Bowling centers	0.0	0.0	0.0	0.0
90 - Meat processed from carcasses	0.0	0.0	0.0	0.0
130 - Footwear manufacturing	0.0	0.0	0.0	0.0
380 - Dental laboratories	0.0	0.0	0.0	0.0
493 - Individual and family services	0.0	0.0	7.1	7.1
490 - Hospitals	0.0	0.0	8.2	8.2
483 - Offices of physicians	0.0	0.0	4.9	4.9
521 - Religious organizations	0.0	0.0	4.6	4.6
486 - Outpatient care centers	0.0	0.0	3.0	3.0
525 - Private households	0.0	0.0	3.0	3.0
485 - Offices of other health practitioners	0.0	0.0	2.2	2.2
517 - Personal care services	0.0	0.0	0.8	0.8
491 - Nursing and community care facilities	0.0	0.0	1.9	1.9
494 - Child day care services	0.0	0.0	1.4	1.4
488 - Home health care services	0.0	0.0	1.4	1.4
495 - Community food, housing, and other relief services, including rehabilitation s	0.0	0.0	1.3	1.3
492 - Residential mental retardation, mental health, substance abuse and other fa	0.0	0.0	1.4	1.4
448 - Tenant-occupied housing	0.0	0.0	0.3	0.3
518 - Death care services	0.0	0.0	0.2	0.2
524 - Labor and civic organizations	0.0	0.0	0.8	0.8
480 - Elementary and secondary schools	0.0	0.0	0.5	0.5
Total	503.4	46.1	121.7	671.3

Source: IMPLAN

Table B-4
Employee Compensation Impacts by Category - Kern County
IPG Industrial Warehouse Project - CONSTRUCTION PHASE

Industry Sector	Direct	Indirect	Induced	Total Impact
55 - Construction of new commercial structures, including farm structures	$33,137,143	$0	$0	$33,137,143
490 - Hospitals	$0	$0	$796,963	$796,963
417 - Truck transportation	$0	$432,523	$88,686	$521,209
396 - Wholesale - Other durable goods merchant wholesalers	$0	$466,928	$35,412	$502,340
483 - Offices of physicians	$0	$0	$450,963	$450,963
469 - Management of companies and enterprises	$0	$241,001	$165,312	$406,313
395 - Wholesale - Machinery, equipment, and supplies	$0	$324,076	$13,398	$337,474
510 - Limited-service restaurants	$0	$4,821	$326,222	$331,043
486 - Outpatient care centers	$0	$0	$287,114	$287,114
521 - Religious organizations	$0	$0	$256,719	$256,719
509 - Full-service restaurants	$0	$12,874	$227,441	$240,315
472 - Employment services	$0	$121,890	$113,164	$235,054
512 - Automotive repair and maintenance, except car washes	$0	$63,495	$160,836	$224,330
411 - Retail - General merchandise stores	$0	$9,005	$211,881	$220,886
453 - Commercial and industrial machinery and equipment rental and leasing	$0	$200,725	$9,076	$209,801
493 - Individual and family services	$0	$0	$196,175	$196,175
406 - Retail - Food and beverage stores	$0	$1,403	$190,600	$192,003
405 - Retail - Building material and garden equipment and supplies stores	$0	$134,383	$55,915	$190,298
422 - Warehousing and storage	$0	$80,219	$102,004	$182,223
511 - All other food and drinking places	$0	$14,008	$136,967	$150,974
463 - Environmental and other technical consulting services	$120,994	$10,367	$19,211	$150,572
485 - Offices of other health practitioners	$0	$0	$143,604	$143,604
441 - Monetary authorities and depository credit intermediation	$0	$56,462	$82,159	$138,621
402 - Retail - Motor vehicle and parts dealers	$0	$14,763	$123,516	$138,279
456 - Accounting, tax preparation, bookkeeping, and payroll services	$0	$88,624	$46,690	$135,314
513 - Car washes	$0	$19,084	$108,467	$127,551
484 - Offices of dentists	$0	$0	$124,896	$124,896
407 - Retail - Health and personal care stores	$0	$555	$117,949	$118,504
420 - Scenic and sightseeing transportation and support activities for transportatio	$0	$67,208	$38,438	$105,646
477 - Landscape and horticultural services	$0	$75,897	$29,699	$105,596
534 - Other local government enterprises	$0	$17,146	$80,962	$98,108
470 - Office administrative services	$0	$69,135	$28,503	$97,638
526 - Postal service	$0	$47,109	$46,710	$93,819
515 - Commercial and industrial machinery and equipment repair and maintenanc	$0	$73,042	$20,331	$93,373
491 - Nursing and community care facilities	$0	$0	$91,891	$91,891
447 - Other real estate	$0	$54,280	$37,300	$91,580
445 - Insurance agencies, brokerages, and related activities	$0	$14,901	$74,492	$89,393
488 - Home health care services	$0	$0	$89,326	$89,326
400 - Wholesale - Other nondurable goods merchant wholesalers	$0	$42,478	$44,088	$86,566
479 - Waste management and remediation services	$0	$51,566	$30,386	$81,952
439 - Nondepository credit intermediation and related activities	$0	$16,002	$65,297	$81,299
421 - Couriers and messengers	$0	$45,400	$30,106	$75,506
457 - Architectural, engineering, and related services	$29,719	$22,765	$16,830	$69,313
492 - Residential mental retardation, mental health, substance abuse and other fa	$0	$0	$64,900	$64,900
475 - Investigation and security services	$0	$36,657	$25,990	$62,647
444 - Insurance carriers, except direct life	$0	$7,812	$53,105	$60,917
494 - Child day care services	$0	$0	$60,446	$60,446
409 - Retail - Clothing and clothing accessories stores	$0	$11	$59,103	$59,114
404 - Retail - Electronics and appliance stores	$0	$1,514	$56,669	$58,183
446 - Funds, trusts, and other financial vehicles	$0	$170	$57,385	$57,556
394 - Wholesale - Household appliances and electrical and electronic goods	$0	$50,592	$6,096	$56,688
49 - Water, sewage and other systems	$0	$11,549	$40,914	$52,463
455 - Legal services	$3,423	$9,067	$38,991	$51,481
495 - Community food, housing, and other relief services, including rehabilitation s	$0	$0	$51,118	$51,118
525 - Private households	$0	$0	$50,647	$50,647
476 - Services to buildings	$0	$22,664	$27,284	$49,947

Industry Sector	Direct	Indirect	Induced	Total Impact
28 - Stone mining and quarrying	$0	$49,555	$275	$49,831
408 - Retail - Gasoline stores	$0	$8,362	$40,621	$48,983
433 - Wired telecommunications carriers	$0	$15,594	$32,408	$48,001
401 - Wholesale - Wholesale electronic markets and agents and brokers	$0	$39,205	$8,035	$47,240
487 - Medical and diagnostic laboratories	$0	$1	$46,329	$46,331
440 - Securities and commodity contracts intermediation and brokerage	$0	$15,916	$28,866	$44,782
154 - Petroleum refineries	$0	$34,461	$9,407	$43,868
415 - Rail transportation	$0	$35,822	$7,909	$43,731
156 - Asphalt shingle and coating materials manufacturing	$0	$42,807	$356	$43,163
412 - Retail - Miscellaneous store retailers	$0	$1,091	$40,438	$41,529
403 - Retail - Furniture and home furnishings stores	$0	$1,090	$40,298	$41,387
482 - Other educational services	$0	$458	$38,814	$39,271
61 - Maintenance and repair construction of residential structures	$0	$126	$37,229	$37,355
462 - Management consulting services	$0	$21,120	$15,585	$36,705
489 - Other ambulatory health care services	$0	$13	$36,249	$36,262
60 - Maintenance and repair construction of nonresidential structures	$0	$19,551	$16,220	$35,771
398 - Wholesale - Grocery and related product wholesalers	$0	$2,821	$32,492	$35,313
473 - Business support services	$0	$23,723	$9,644	$33,367
464 - Scientific research and development services	$0	$1,521	$30,242	$31,763
532 - Local government passenger transit	$0	$11,568	$19,256	$30,824
48 - Natural gas distribution	$0	$9,105	$20,776	$29,880
410 - Retail - Sporting goods, hobby, musical instrument and book stores	$0	$772	$28,793	$29,565
431 - Radio and television broadcasting	$0	$15,720	$13,441	$29,161
522 - Grantmaking, giving, and social advocacy organizations	$0	$8	$27,854	$27,862
524 - Labor and civic organizations	$0	$0	$25,696	$25,696
460 - Computer systems design services	$0	$18,990	$5,776	$24,766
517 - Personal care services	$0	$0	$24,646	$24,646
480 - Elementary and secondary schools	$0	$0	$24,331	$24,331
399 - Wholesale - Petroleum and petroleum products	$0	$17,177	$5,769	$22,946
392 - Wholesale - Motor vehicle and motor vehicle parts and supplies	$0	$12,038	$10,543	$22,580
467 - Veterinary services	$0	$5	$20,829	$20,835
20 - Oil and gas extraction	$0	$15,901	$4,456	$20,357
523 - Business and professional associations	$0	$9,341	$10,985	$20,326
413 - Retail - Nonstore retailers	$0	$995	$18,826	$19,821
451 - General and consumer goods rental except video tapes and discs	$0	$5,986	$13,385	$19,371
478 - Other support services	$0	$10,875	$7,354	$18,228
520 - Other personal services	$0	$915	$17,018	$17,933
47 - Electric power transmission and distribution	$0	$8,006	$9,424	$17,430
516 - Personal and household goods repair and maintenance	$0	$6,362	$10,544	$16,906
448 - Tenant-occupied housing	$0	$0	$16,775	$16,775
481 - Junior colleges, colleges, universities, and professional schools	$0	$324	$16,156	$16,480
504 - Other amusement and recreation industries	$0	$745	$15,522	$16,267
450 - Automotive equipment rental and leasing	$0	$3,253	$12,991	$16,244
519 - Dry-cleaning and laundry services	$0	$1,407	$13,238	$14,645
459 - Custom computer programming services	$0	$11,152	$2,957	$14,110
505 - Fitness and recreational sports centers	$0	$977	$12,813	$13,790
518 - Death care services	$0	$0	$13,700	$13,700
443 - Direct life insurance carriers	$0	$43	$12,604	$12,647
393 - Wholesale - Professional and commercial equipment and supplies	$0	$6,727	$5,304	$12,031
468 - Marketing research and all other miscellaneous professional, scientific, and	$0	$6,581	$4,695	$11,277
442 - Other financial investment activities	$0	$1,000	$9,802	$10,803
458 - Specialized design services	$0	$7,563	$2,826	$10,389
471 - Facilities support services	$0	$5,149	$5,210	$10,359
465 - Advertising, public relations, and related services	$0	$5,747	$3,979	$9,726
203 - Cement manufacturing	$0	$9,346	$92	$9,438
503 - Gambling industries (except casino hotels)	$0	$2	$9,063	$9,065
155 - Asphalt paving mixture and block manufacturing	$0	$8,305	$219	$8,523
419 - Pipeline transportation	$0	$5,909	$2,401	$8,310
452 - Video tape and disc rental	$0	$1	$8,114	$8,116
514 - Electronic and precision equipment repair and maintenance	$0	$5,170	$2,766	$7,935

Industry Sector	Direct	Indirect	Induced	Total Impact
500 - Promoters of performing arts and sports and agents for public figures	$0	$859	$6,539	$7,398
418 - Transit and ground passenger transportation	$0	$2,714	$4,527	$7,241
461 - Other computer related services, including facilities management	$0	$5,154	$1,334	$6,487
236 - Fabricated structural metal manufacturing	$0	$5,138	$14	$5,152
10 - All other crop farming	$0	$2,801	$2,342	$5,143
19 - Support activities for agriculture and forestry	$0	$701	$3,559	$4,261
31 - Potash, soda, and borate mineral mining	$0	$3,891	$15	$3,905
423 - Newspaper publishers	$0	$1,765	$2,118	$3,883
528 - Other federal government enterprises	$0	$590	$3,064	$3,654
40 - Electric power generation - Fossil fuel	$0	$1,556	$1,831	$3,387
434 - Wireless telecommunications carriers (except satellite)	$0	$1,408	$1,856	$3,264
435 - Satellite, telecommunications resellers, and all other telecommunications	$0	$1,658	$1,503	$3,161
498 - Racing and Track Operation	$0	$4	$3,039	$3,044
436 - Data processing, hosting, and related services	$0	$847	$1,979	$2,826
428 - Software publishers	$0	$372	$2,408	$2,780
474 - Travel arrangement and reservation services	$0	$391	$2,109	$2,500
34 - Other nonmetallic minerals	$0	$2,466	$9	$2,475
497 - Commercial Sports Except Racing	$0	$614	$1,743	$2,357
414 - Air transportation	$0	$418	$1,825	$2,242
43 - Electric power generation - Wind	$0	$1,029	$1,211	$2,240
466 - Photographic services	$0	$516	$1,557	$2,073
152 - Printing	$0	$1,192	$833	$2,025
397 - Wholesale - Drugs and druggists' sundries	$0	$179	$1,554	$1,733
5 - Tree nut farming	$0	$66	$1,397	$1,463
501 - Museums, historical sites, zoos, and parks	$0	$0	$1,216	$1,216
3 - Vegetable and melon farming	$0	$50	$1,122	$1,172
42 - Electric power generation - Solar	$0	$535	$629	$1,164
204 - Ready-mix concrete manufacturing	$0	$1,140	$10	$1,150
193 - Other plastics product manufacturing	$0	$958	$129	$1,086
416 - Water transportation	$0	$676	$406	$1,082
496 - Performing arts companies	$0	$89	$949	$1,038
429 - Motion picture and video industries	$0	$118	$899	$1,017
499 - Independent artists, writers, and performers	$0	$433	$557	$990
239 - Sheet metal work manufacturing	$0	$879	$4	$883
97 - Roasted nuts and peanut butter manufacturing	$0	$3	$813	$815
38 - Other nonmetallic minerals services	$0	$797	$4	$802
4 - Fruit farming	$0	$30	$639	$668
29 - Sand and gravel mining	$0	$611	$5	$616
247 - Machine shops	$0	$547	$51	$598
385 - Sign manufacturing	$0	$353	$240	$593
426 - Directory, mailing list, and other publishers	$0	$219	$361	$580
167 - Nitrogenous fertilizer manufacturing	$0	$555	$16	$571
438 - Internet publishing and broadcasting and web search portals	$0	$250	$312	$562
506 - Bowling centers	$0	$0	$509	$509
502 - Amusement parks and arcades	$0	$2	$504	$506
169 - Fertilizer mixing	$0	$454	$12	$466
37 - Metal mining services	$0	$449	$11	$460
103 - All other food manufacturing	$0	$1	$456	$457
188 - Plastics pipe and pipe fitting manufacturing	$0	$424	$4	$428
424 - Periodical publishers	$0	$162	$257	$419
205 - Concrete block and brick manufacturing	$0	$411	$4	$415
365 - Wood kitchen cabinet and countertop manufacturing	$0	$369	$15	$383
190 - Polystyrene foam product manufacturing	$0	$344	$23	$366
84 - Fluid milk manufacturing	$0	$1	$338	$339
230 - Crown and closure manufacturing and metal stamping	$0	$300	$5	$305
6 - Greenhouse, nursery, and floriculture production	$0	$37	$264	$300
8 - Cotton farming	$0	$14	$282	$295
86 - Ice cream and frozen dessert manufacturing	$0	$3	$289	$291
157 - Petroleum lubricating oil and grease manufacturing	$0	$211	$75	$287
507 - Hotels and motels, including casino hotels	$0	$28	$258	$286

Industry Sector	Direct	Indirect	Induced	Total Impact
207 - Other concrete product manufacturing	$0	$283	$1	$284
93 - Bread and bakery product, except frozen, manufacturing	$0	$1	$275	$276
214 - Miscellaneous nonmetallic mineral products manufacturing	$0	$255	$1	$256
98 - Other snack food manufacturing	$0	$1	$243	$243
238 - Metal window and door manufacturing	$0	$199	$1	$200
258 - Fabricated pipe and pipe fitting manufacturing	$0	$194	$1	$195
175 - Paint and coating manufacturing	$0	$173	$13	$186
508 - Other accommodations	$0	$3	$178	$181
46 - Electric power generation - All other	$0	$82	$96	$178
104 - Bottled and canned soft drinks & water	$0	$1	$171	$171
176 - Adhesive manufacturing	$0	$114	$45	$159
87 - Frozen cakes and other pastries manufacturing	$0	$0	$147	$147
24 - Gold ore mining	$0	$80	$61	$141
252 - Valve and fittings, other than plumbing, manufacturing	$0	$137	$2	$139
196 - Other rubber product manufacturing	$0	$122	$10	$132
36 - Support activities for oil and gas operations	$0	$114	$11	$125
211 - Cut stone and stone product manufacturing	$0	$111	$2	$112
12 - Dairy cattle and milk production	$0	$5	$102	$107
30 - Other clay, ceramic, refractory minerals mining	$0	$102	$0	$102
135 - Engineered wood member and truss manufacturing	$0	$97	$1	$97
253 - Plumbing fixture fitting and trim manufacturing	$0	$91	$1	$92
240 - Ornamental and architectural metal work manufacturing	$0	$81	$0	$81
106 - Breweries	$0	$0	$78	$78
250 - Metal coating and nonprecious engraving	$0	$58	$3	$61
454 - Lessors of nonfinancial intangible assets	$0	$36	$23	$59
202 - Glass product manufacturing made of purchased glass	$0	$52	$1	$54
437 - News syndicates, libraries, archives and all other information services	$0	$1	$52	$53
209 - Gypsum product manufacturing	$0	$51	$2	$53
140 - Wood container and pallet manufacturing	$0	$22	$30	$52
383 - Doll, toy, and game manufacturing	$0	$29	$22	$51
191 - Urethane and other foam product (except polystyrene) manufacturing	$0	$30	$15	$45
163 - Other basic organic chemical manufacturing	$0	$25	$20	$44
259 - Other fabricated metal manufacturing	$0	$42	$2	$44
264 - Oil and gas field machinery and equipment manufacturing	$0	$38	$2	$39
180 - Toilet preparation manufacturing	$0	$1	$38	$39
246 - Spring and wire product manufacturing	$0	$37	$1	$38
215 - Iron and steel mills and ferroalloy manufacturing	$0	$28	$9	$37
237 - Plate work manufacturing	$0	$36	$1	$37
313 - Automatic environmental control manufacturing	$0	$34	$0	$35
77 - Frozen fruits, juices and vegetables manufacturing	$0	$0	$34	$34
371 - Custom architectural woodwork and millwork	$0	$32	$1	$32
162 - Other basic inorganic chemical manufacturing	$0	$19	$13	$32
2 - Grain farming	$0	$1	$29	$30
381 - Jewelry and silverware manufacturing	$0	$1	$28	$29
147 - Paperboard container manufacturing	$0	$15	$12	$27
367 - Nonupholstered wood household furniture manufacturing	$0	$13	$14	$27
340 - Automobile manufacturing	$0	$0	$27	$27
107 - Wineries	$0	$0	$24	$24
74 - Nonchocolate confectionery manufacturing	$0	$0	$23	$23
142 - Prefabricated wood building manufacturing	$0	$23	$0	$23
79 - Canned fruits and vegetables manufacturing	$0	$0	$22	$22
430 - Sound recording industries	$0	$1	$19	$21
251 - Electroplating, anodizing, and coloring metal	$0	$17	$1	$18
212 - Ground or treated mineral and earth manufacturing	$0	$16	$1	$17
213 - Mineral wool manufacturing	$0	$16	$0	$16
292 - Welding and soldering equipment manufacturing	$0	$16	$0	$16
121 - Other textile product mills	$0	$11	$4	$15
346 - Travel trailer and camper manufacturing	$0	$2	$12	$14
187 - Unlaminated plastics profile shape manufacturing	$0	$12	$2	$14
285 - Pump and pumping equipment manufacturing	$0	$13	$0	$14

Industry Sector	Direct	Indirect	Induced	Total Impact
272 - Other commercial service industry machinery manufacturing	$0	$13	$0	$13
13 - Poultry and egg production	$0	$0	$13	$13
185 - Other miscellaneous chemical product manufacturing	$0	$9	$4	$13
380 - Dental laboratories	$0	$0	$13	$13
377 - Surgical appliance and supplies manufacturing	$0	$4	$8	$13
189 - Laminated plastics plate, sheet (except packaging), and shape manufacturin	$0	$9	$3	$12
11 - Beef cattle ranching and farming, including feedlots and dual-purpose ranchin	$0	$1	$11	$11
35 - Drilling oil and gas wells	$0	$11	$0	$11
242 - Metal tank (heavy gauge) manufacturing	$0	$10	$0	$11
248 - Turned product and screw, nut, and bolt manufacturing	$0	$10	$1	$10
145 - Paper mills	$0	$3	$7	$10
62 - Maintenance and repair construction of highways, streets, bridges, and tunne	$0	$0	$10	$10
105 - Manufactured ice	$0	$0	$10	$10
64 - Other animal food manufacturing	$0	$0	$8	$9
14 - Animal production, except cattle and poultry and eggs	$0	$0	$8	$9
314 - Industrial process variable instruments manufacturing	$0	$8	$0	$8
99 - Coffee and tea manufacturing	$0	$0	$8	$8
234 - Handtool manufacturing	$0	$6	$2	$8
368 - Other household nonupholstered furniture manufacturing	$0	$0	$7	$7
81 - Dehydrated food products manufacturing	$0	$0	$7	$7
137 - Wood windows and door manufacturing	$0	$7	$0	$7
90 - Meat processed from carcasses	$0	$0	$7	$7
94 - Cookie and cracker manufacturing	$0	$0	$6	$6
117 - Carpet and rug mills	$0	$5	$1	$6
100 - Flavoring syrup and concentrate manufacturing	$0	$0	$5	$5
89 - Animal, except poultry, slaughtering	$0	$0	$5	$5
119 - Textile bag and canvas mills	$0	$3	$1	$4
356 - Other aircraft parts and auxiliary equipment manufacturing	$0	$3	$1	$4
200 - Other pressed and blown glass and glassware manufacturing	$0	$3	$1	$4
297 - Scales, balances, and miscellaneous general purpose machinery manufactu	$0	$4	$0	$4
143 - All other miscellaneous wood product manufacturing	$0	$3	$0	$4
170 - Pesticide and other agricultural chemical manufacturing	$0	$2	$1	$3
352 - Other motor vehicle parts manufacturing	$0	$1	$2	$3
179 - Surface active agent manufacturing	$0	$1	$2	$3
216 - Iron, steel pipe and tube manufacturing from purchased steel	$0	$2	$1	$3
254 - Ball and roller bearing manufacturing	$0	$2	$1	$3
171 - Medicinal and botanical manufacturing	$0	$0	$2	$2
91 - Rendering and meat byproduct processing	$0	$0	$2	$2
257 - Small arms, ordnance, and accessories manufacturing	$0	$1	$1	$2
354 - Aircraft manufacturing	$0	$1	$1	$2
319 - Watch, clock, and other measuring and controlling device manufacturing	$0	$1	$1	$2
324 - Small electrical appliance manufacturing	$0	$1	$0	$2
269 - All other industrial machinery manufacturing	$0	$1	$0	$2
116 - Fabric coating mills	$0	$1	$0	$1
222 - Other aluminum rolling, drawing and extruding	$0	$1	$0	$1
153 - Support activities for printing	$0	$1	$1	$1
348 - Motor vehicle electrical and electronic equipment manufacturing	$0	$0	$1	$1
108 - Distilleries	$0	$0	$1	$1
391 - All other miscellaneous manufacturing	$0	$0	$1	$1
333 - Storage battery manufacturing	$0	$0	$1	$1
244 - Metal barrels, drums and pails manufacturing	$0	$1	$0	$1
358 - Propulsion units and parts for space vehicles and guided missiles manufactu	$0	$1	$0	$1
375 - Blind and shade manufacturing	$0	$0	$1	$1
303 - Other communications equipment manufacturing	$0	$1	$0	$1
290 - Industrial truck, trailer, and stacker manufacturing	$0	$1	$0	$1
312 - Search, detection, and navigation instruments manufacturing	$0	$1	$0	$1
298 - Electronic computer manufacturing	$0	$0	$1	$1
122 - Hosiery and sock mills	$0	$0	$1	$1
118 - Curtain and linen mills	$0	$0	$1	$1
288 - Conveyor and conveying equipment manufacturing	$0	$1	$0	$1

Industry Sector	Direct	Indirect	Induced	Total Impact
128 - Apparel accessories and other apparel manufacturing	$0	$0	$1	$1
17 - Commercial fishing	$0	$0	$1	$1
96 - Tortilla manufacturing	$0	$0	$1	$1
304 - Audio and video equipment manufacturing	$0	$0	$1	$1
355 - Aircraft engine and engine parts manufacturing	$0	$1	$0	$1
353 - Motor vehicle steering, suspension component (except spring), and brake sy	$0	$0	$0	$1
268 - Printing machinery and equipment manufacturing	$0	$1	$0	$1
127 - Other cut and sew apparel manufacturing	$0	$0	$1	$1
125 - Men's and boys' cut and sew apparel manufacturing	$0	$0	$1	$1
126 - Women's and girls' cut and sew apparel manufacturing	$0	$0	$1	$1
123 - Other apparel knitting mills	$0	$0	$0	$0.49
260 - Farm machinery and equipment manufacturing	$0	$0	$0	$0.41
343 - Motor vehicle body manufacturing	$0	$0	$0	$0.39
344 - Truck trailer manufacturing	$0	$0	$0	$0.37
362 - Motorcycle, bicycle, and parts manufacturing	$0	$0	$0	$0.36
279 - Machine tool manufacturing	$0	$0	$0	$0.36
317 - Analytical laboratory instrument manufacturing	$0	$0	$0	$0.32
293 - Packaging machinery manufacturing	$0	$0	$0	$0.31
15 - Forestry, forest products, and timber tract production	$0	$0	$0	$0.31
124 - Cut and sew apparel contractors	$0	$0	$0	$0.30
228 - Nonferrous metal foundries	$0	$0	$0	$0.24
329 - Power, distribution, and specialty transformer manufacturing	$0	$0	$0	$0.21
357 - Guided missile and space vehicle manufacturing	$0	$0	$0	$0.19
278 - Cutting tool and machine tool accessory manufacturing	$0	$0	$0	$0.18
305 - Printed circuit assembly (electronic assembly) manufacturing	$0	$0	$0	$0.12
141 - Manufactured home (mobile home) manufacturing	$0	$0	$0	$0.11
284 - Other engine equipment manufacturing	$0	$0	$0	$0.10
281 - Turbine and turbine generator set units manufacturing	$0	$0	$0	$0.08
364 - All other transportation equipment manufacturing	$0	$0	$0	$0.07
291 - Power-driven handtool manufacturing	$0	$0	$0	$0.05
226 - Secondary processing of other nonferrous metals	$0	$0	$0	$0.05
1 - Oilseed farming	$0	$0	$0	$0.02
302 - Broadcast and wireless communications equipment manufacturing	$0	$0	$0	$0.01
16 - Commercial logging	$0	$0	$0	$0.01
Total	$33,291,279	$3,621,465	$6,932,823	$43,845,568

Source: IMPLAN

APPENDIX C:

Economic Impacts by Industry Sector – Operations Phase

Table C-1
Output Impacts by Category - Kern County
IPG Industrial Warehouse Project - OPERATIONS PHASE

Industry Sector	Direct	Indirect	Induced	Total Impact
422 - Warehousing and storage	$53,327,547	$4,545,161	$130,389	$58,003,096
447 - Other real estate	$0	$3,510,218	$423,333	$3,933,552
449 - Owner-occupied dwellings	$0	$0	$2,807,779	$2,807,779
472 - Employment services	$0	$1,329,055	$227,344	$1,556,399
490 - Hospitals	$0	$0	$1,208,254	$1,208,254
510 - Limited-service restaurants	$0	$36,174	$906,369	$942,543
47 - Electric power transmission and distribution	$0	$593,991	$53,161	$647,152
483 - Offices of physicians	$0	$0	$541,932	$541,932
445 - Insurance agencies, brokerages, and related activities	$0	$307,071	$220,832	$527,903
469 - Management of companies and enterprises	$0	$282,662	$214,191	$496,853
509 - Full-service restaurants	$0	$67,371	$418,084	$485,455
444 - Insurance carriers, except direct life	$0	$175,256	$291,251	$466,507
448 - Tenant-occupied housing	$0	$0	$465,754	$465,754
154 - Petroleum refineries	$0	$160,908	$274,188	$435,095
441 - Monetary authorities and depository credit intermediation	$0	$178,323	$243,616	$421,939
421 - Couriers and messengers	$0	$343,091	$70,978	$414,070
60 - Maintenance and repair construction of nonresidential structures	$0	$349,777	$55,834	$405,611
411 - Retail - General merchandise stores	$0	$5,429	$369,531	$374,960
417 - Truck transportation	$0	$140,446	$234,237	$374,683
479 - Waste management and remediation services	$0	$296,601	$70,113	$366,715
406 - Retail - Food and beverage stores	$0	$1,071	$365,233	$366,304
534 - Other local government enterprises	$0	$192,567	$167,544	$360,111
476 - Services to buildings	$0	$292,035	$64,121	$356,156
486 - Outpatient care centers	$0	$0	$327,183	$327,183
413 - Retail - Nonstore retailers	$0	$7,033	$318,621	$325,654
512 - Automotive repair and maintenance, except car washes	$0	$81,574	$227,022	$308,596
521 - Religious organizations	$0	$0	$281,277	$281,277
511 - All other food and drinking places	$0	$78,833	$194,748	$273,582
456 - Accounting, tax preparation, bookkeeping, and payroll services	$0	$152,208	$97,621	$249,829
446 - Funds, trusts, and other financial vehicles	$0	$4,880	$238,096	$242,976
485 - Offices of other health practitioners	$0	$0	$233,695	$233,695
513 - Car washes	$0	$42,174	$189,657	$231,831
402 - Retail - Motor vehicle and parts dealers	$0	$27,411	$187,190	$214,600
493 - Individual and family services	$0	$0	$209,108	$209,108
409 - Retail - Clothing and clothing accessories stores	$0	$31	$190,560	$190,590
43 - Electric power generation - Wind	$0	$170,984	$15,303	$186,287
477 - Landscape and horticultural services	$0	$127,353	$53,528	$180,881
392 - Wholesale - Motor vehicle and motor vehicle parts and supplies	$0	$131,905	$48,299	$180,205
453 - Commercial and industrial machinery and equipment rental and leasing	$0	$144,149	$32,427	$176,577
400 - Wholesale - Other nondurable goods merchant wholesalers	$0	$33,423	$142,521	$175,944
407 - Retail - Health and personal care stores	$0	$85	$174,082	$174,166
399 - Wholesale - Petroleum and petroleum products	$0	$48,096	$125,162	$173,258
433 - Wired telecommunications carriers	$0	$51,157	$120,254	$171,411
408 - Retail - Gasoline stores	$0	$7,632	$162,319	$169,952
470 - Office administrative services	$0	$143,199	$26,376	$169,575
515 - Commercial and industrial machinery and equipment repair and maintenanc	$0	$136,595	$32,636	$169,231
48 - Natural gas distribution	$0	$80,527	$87,379	$167,906
431 - Radio and television broadcasting	$0	$85,345	$82,456	$167,801
526 - Postal service	$0	$130,905	$35,856	$166,761
484 - Offices of dentists	$0	$0	$163,058	$163,058
395 - Wholesale - Machinery, equipment, and supplies	$0	$126,287	$35,869	$162,156
396 - Wholesale - Other durable goods merchant wholesalers	$0	$59,905	$102,047	$161,952
405 - Retail - Building material and garden equipment and supplies stores	$0	$34,135	$120,723	$154,858
420 - Scenic and sightseeing transportation and support activities for transportatio	$0	$103,808	$43,209	$147,017
49 - Water, sewage and other systems	$0	$50,576	$95,875	$146,451
457 - Architectural, engineering, and related services	$0	$114,415	$26,581	$140,996
440 - Securities and commodity contracts intermediation and brokerage	$0	$28,217	$111,688	$139,905

Industry Sector	Direct	Indirect	Induced	Total Impact
61 - Maintenance and repair construction of residential structures	$0	$2,477	$132,046	$134,522
455 - Legal services	$0	$53,402	$79,388	$132,790
439 - Nondepository credit intermediation and related activities	$0	$29,042	$102,764	$131,806
412 - Retail - Miscellaneous store retailers	$0	$1,329	$127,743	$129,072
491 - Nursing and community care facilities	$0	$0	$121,061	$121,061
40 - Electric power generation - Fossil fuel	$0	$108,901	$9,746	$118,647
475 - Investigation and security services	$0	$79,624	$37,996	$117,620
463 - Environmental and other technical consulting services	$0	$67,480	$27,553	$95,032
524 - Labor and civic organizations	$0	$0	$95,026	$95,026
495 - Community food, housing, and other relief services, including rehabilitation s	$0	$0	$94,205	$94,205
442 - Other financial investment activities	$0	$5,487	$87,828	$93,315
494 - Child day care services	$0	$0	$88,788	$88,788
462 - Management consulting services	$0	$62,808	$23,737	$86,545
488 - Home health care services	$0	$0	$86,357	$86,357
487 - Medical and diagnostic laboratories	$0	$1	$85,676	$85,677
522 - Grantmaking, giving, and social advocacy organizations	$0	$8	$83,511	$83,519
418 - Transit and ground passenger transportation	$0	$18,645	$60,864	$79,509
398 - Wholesale - Grocery and related product wholesalers	$0	$2,416	$76,340	$78,755
450 - Automotive equipment rental and leasing	$0	$31,038	$47,465	$78,503
492 - Residential mental retardation, mental health, substance abuse and other fa	$0	$0	$75,618	$75,618
471 - Facilities support services	$0	$63,090	$12,112	$75,202
410 - Retail - Sporting goods, hobby, musical instrument and book stores	$0	$789	$73,135	$73,924
403 - Retail - Furniture and home furnishings stores	$0	$775	$71,530	$72,305
519 - Dry-cleaning and laundry services	$0	$52,827	$17,595	$70,422
404 - Retail - Electronics and appliance stores	$0	$671	$66,848	$67,519
393 - Wholesale - Professional and commercial equipment and supplies	$0	$46,283	$15,872	$62,155
482 - Other educational services	$0	$1,587	$59,500	$61,087
478 - Other support services	$0	$46,883	$13,523	$60,407
451 - General and consumer goods rental except video tapes and discs	$0	$30,785	$29,541	$60,326
394 - Wholesale - Household appliances and electrical and electronic goods	$0	$31,819	$28,206	$60,025
464 - Scientific research and development services	$0	$3,928	$55,575	$59,503
516 - Personal and household goods repair and maintenance	$0	$30,200	$28,751	$58,951
434 - Wireless telecommunications carriers (except satellite)	$0	$19,287	$37,205	$56,492
468 - Marketing research and all other miscellaneous professional, scientific, and	$0	$36,481	$18,977	$55,458
20 - Oil and gas extraction	$0	$20,563	$33,901	$54,464
42 - Electric power generation - Solar	$0	$47,861	$4,283	$52,144
489 - Other ambulatory health care services	$0	$46	$51,617	$51,663
473 - Business support services	$0	$34,520	$15,094	$49,615
500 - Promoters of performing arts and sports and agents for public figures	$0	$15,107	$22,122	$37,229
520 - Other personal services	$0	$828	$35,663	$36,491
517 - Personal care services	$0	$0	$34,958	$34,958
465 - Advertising, public relations, and related services	$0	$19,068	$14,913	$33,981
525 - Private households	$0	$0	$33,689	$33,689
503 - Gambling industries (except casino hotels)	$0	$34	$32,284	$32,317
415 - Rail transportation	$0	$13,769	$17,113	$30,881
467 - Veterinary services	$0	$10	$28,473	$28,483
514 - Electronic and precision equipment repair and maintenance	$0	$20,950	$7,240	$28,189
436 - Data processing, hosting, and related services	$0	$11,130	$16,596	$27,726
523 - Business and professional associations	$0	$5,530	$21,962	$27,492
528 - Other federal government enterprises	$0	$10,005	$14,136	$24,141
481 - Junior colleges, colleges, universities, and professional schools	$0	$125	$23,616	$23,741
505 - Fitness and recreational sports centers	$0	$757	$22,353	$23,110
460 - Computer systems design services	$0	$15,814	$6,623	$22,437
443 - Direct life insurance carriers	$0	$502	$21,023	$21,525
518 - Death care services	$0	$0	$21,231	$21,231
504 - Other amusement and recreation industries	$0	$565	$19,203	$19,768
452 - Video tape and disc rental	$0	$2	$19,046	$19,047
466 - Photographic services	$0	$4,587	$13,172	$17,760
480 - Elementary and secondary schools	$0	$0	$17,283	$17,283
419 - Pipeline transportation	$0	$7,536	$8,965	$16,501
438 - Internet publishing and broadcasting and web search portals	$0	$7,168	$9,303	$16,471

Industry Sector	Direct	Indirect	Induced	Total Impact
401 - Wholesale - Wholesale electronic markets and agents and brokers	$0	$5,296	$9,708	$15,004
458 - Specialized design services	$0	$5,870	$7,147	$13,017
435 - Satellite, telecommunications resellers, and all other telecommunications	$0	$5,723	$7,070	$12,792
414 - Air transportation	$0	$3,585	$8,905	$12,490
461 - Other computer related services, including facilities management	$0	$7,946	$3,715	$11,661
397 - Wholesale - Drugs and druggists' sundries	$0	$190	$10,540	$10,730
459 - Custom computer programming services	$0	$7,017	$3,461	$10,479
429 - Motion picture and video industries	$0	$1,048	$8,095	$9,143
428 - Software publishers	$0	$1,939	$6,731	$8,670
532 - Local government passenger transit	$0	$1,826	$5,974	$7,800
156 - Asphalt shingle and coating materials manufacturing	$0	$4,900	$2,524	$7,424
28 - Stone mining and quarrying	$0	$5,401	$1,987	$7,388
498 - Racing and Track Operation	$0	$244	$6,732	$6,976
423 - Newspaper publishers	$0	$2,728	$3,715	$6,443
499 - Independent artists, writers, and performers	$0	$3,680	$2,690	$6,370
416 - Water transportation	$0	$482	$5,310	$5,791
3 - Vegetable and melon farming	$0	$137	$5,055	$5,192
474 - Travel arrangement and reservation services	$0	$1,747	$3,443	$5,190
152 - Printing	$0	$2,787	$2,198	$4,985
10 - All other crop farming	$0	$99	$4,748	$4,848
5 - Tree nut farming	$0	$130	$4,512	$4,641
97 - Roasted nuts and peanut butter manufacturing	$0	$28	$4,334	$4,362
454 - Lessors of nonfinancial intangible assets	$0	$2,573	$1,206	$3,779
496 - Performing arts companies	$0	$435	$3,122	$3,557
4 - Fruit farming	$0	$76	$2,708	$2,785
497 - Commercial Sports Except Racing	$0	$544	$2,148	$2,691
19 - Support activities for agriculture and forestry	$0	$54	$2,561	$2,615
103 - All other food manufacturing	$0	$7	$2,426	$2,433
426 - Directory, mailing list, and other publishers	$0	$834	$1,487	$2,321
155 - Asphalt paving mixture and block manufacturing	$0	$1,380	$908	$2,288
501 - Museums, historical sites, zoos, and parks	$0	$0	$2,085	$2,085
84 - Fluid milk manufacturing	$0	$11	$1,947	$1,957
193 - Other plastics product manufacturing	$0	$1,089	$396	$1,484
12 - Dairy cattle and milk production	$0	$41	$1,403	$1,444
86 - Ice cream and frozen dessert manufacturing	$0	$29	$1,204	$1,233
98 - Other snack food manufacturing	$0	$8	$1,212	$1,220
424 - Periodical publishers	$0	$491	$723	$1,214
37 - Metal mining services	$0	$1,080	$77	$1,157
385 - Sign manufacturing	$0	$580	$454	$1,035
104 - Bottled and canned soft drinks & water	$0	$7	$1,017	$1,024
506 - Bowling centers	$0	$0	$1,019	$1,019
203 - Cement manufacturing	$0	$580	$373	$953
6 - Greenhouse, nursery, and floriculture production	$0	$104	$844	$948
157 - Petroleum lubricating oil and grease manufacturing	$0	$381	$548	$929
175 - Paint and coating manufacturing	$0	$785	$96	$881
140 - Wood container and pallet manufacturing	$0	$767	$76	$844
93 - Bread and bakery product, except frozen, manufacturing	$0	$3	$783	$787
507 - Hotels and motels, including casino hotels	$0	$196	$579	$776
24 - Gold ore mining	$0	$338	$402	$740
502 - Amusement parks and arcades	$0	$4	$721	$724
430 - Sound recording industries	$0	$41	$668	$709
46 - Electric power generation - All other	$0	$546	$49	$595
106 - Breweries	$0	$6	$438	$444
247 - Machine shops	$0	$355	$85	$440
176 - Adhesive manufacturing	$0	$161	$248	$409
11 - Beef cattle ranching and farming, including feedlots and dual-purpose ranchin	$0	$12	$396	$408
180 - Toilet preparation manufacturing	$0	$8	$360	$368
8 - Cotton farming	$0	$10	$345	$356
340 - Automobile manufacturing	$0	$29	$312	$341
167 - Nitrogenous fertilizer manufacturing	$0	$155	$163	$318
87 - Frozen cakes and other pastries manufacturing	$0	$1	$309	$310

Industry Sector	Direct	Indirect	Induced	Total Impact
163 - Other basic organic chemical manufacturing	$0	$59	$213	$272
147 - Paperboard container manufacturing	$0	$213	$56	$269
437 - News syndicates, libraries, archives and all other information services	$0	$12	$223	$235
2 - Grain farming	$0	$1	$231	$232
352 - Other motor vehicle parts manufacturing	$0	$189	$18	$206
77 - Frozen fruits, juices and vegetables manufacturing	$0	$1	$175	$176
215 - Iron and steel mills and ferroalloy manufacturing	$0	$79	$86	$165
236 - Fabricated structural metal manufacturing	$0	$117	$48	$165
190 - Polystyrene foam product manufacturing	$0	$60	$101	$161
508 - Other accommodations	$0	$3	$158	$160
383 - Doll, toy, and game manufacturing	$0	$85	$72	$157
145 - Paper mills	$0	$103	$47	$150
169 - Fertilizer mixing	$0	$80	$66	$146
162 - Other basic inorganic chemical manufacturing	$0	$55	$77	$133
13 - Poultry and egg production	$0	$2	$125	$127
79 - Canned fruits and vegetables manufacturing	$0	$1	$122	$123
381 - Jewelry and silverware manufacturing	$0	$0	$107	$107
74 - Nonchocolate confectionery manufacturing	$0	$0	$103	$103
204 - Ready-mix concrete manufacturing	$0	$66	$37	$103
38 - Other nonmetallic minerals services	$0	$69	$28	$97
191 - Urethane and other foam product (except polystyrene) manufacturing	$0	$27	$70	$97
348 - Motor vehicle electrical and electronic equipment manufacturing	$0	$87	$4	$92
64 - Other animal food manufacturing	$0	$2	$89	$92
107 - Wineries	$0	$1	$79	$81
34 - Other nonmetallic minerals	$0	$42	$34	$76
100 - Flavoring syrup and concentrate manufacturing	$0	$3	$69	$72
31 - Potash, soda, and borate mineral mining	$0	$20	$51	$71
252 - Valve and fittings, other than plumbing, manufacturing	$0	$64	$7	$70
250 - Metal coating and nonprecious engraving	$0	$57	$8	$65
246 - Spring and wire product manufacturing	$0	$62	$3	$65
99 - Coffee and tea manufacturing	$0	$1	$63	$64
185 - Other miscellaneous chemical product manufacturing	$0	$34	$27	$60
346 - Travel trailer and camper manufacturing	$0	$8	$51	$59
14 - Animal production, except cattle and poultry and eggs	$0	$1	$58	$59
196 - Other rubber product manufacturing	$0	$23	$31	$54
29 - Sand and gravel mining	$0	$34	$17	$52
353 - Motor vehicle steering, suspension component (except spring), and brake sy	$0	$48	$4	$52
188 - Plastics pipe and pipe fitting manufacturing	$0	$27	$24	$50
36 - Support activities for oil and gas operations	$0	$19	$28	$47
365 - Wood kitchen cabinet and countertop manufacturing	$0	$6	$38	$44
179 - Surface active agent manufacturing	$0	$23	$20	$42
94 - Cookie and cracker manufacturing	$0	$0	$42	$42
264 - Oil and gas field machinery and equipment manufacturing	$0	$30	$7	$37
248 - Turned product and screw, nut, and bolt manufacturing	$0	$33	$2	$35
290 - Industrial truck, trailer, and stacker manufacturing	$0	$34	$0	$34
90 - Meat processed from carcasses	$0	$0	$34	$34
62 - Maintenance and repair construction of highways, streets, bridges, and tunne	$0	$0	$33	$33
377 - Surgical appliance and supplies manufacturing	$0	$6	$27	$33
259 - Other fabricated metal manufacturing	$0	$29	$4	$33
89 - Animal, except poultry, slaughtering	$0	$0	$31	$31
368 - Other household nonupholstered furniture manufacturing	$0	$0	$31	$31
367 - Nonupholstered wood household furniture manufacturing	$0	$0	$31	$31
239 - Sheet metal work manufacturing	$0	$18	$10	$28
81 - Dehydrated food products manufacturing	$0	$0	$28	$28
209 - Gypsum product manufacturing	$0	$14	$12	$26
258 - Fabricated pipe and pipe fitting manufacturing	$0	$22	$3	$25
189 - Laminated plastics plate, sheet (except packaging), and shape manufacturin	$0	$15	$9	$24
205 - Concrete block and brick manufacturing	$0	$9	$14	$23
380 - Dental laboratories	$0	$0	$20	$20
187 - Unlaminated plastics profile shape manufacturing	$0	$10	$10	$19
105 - Manufactured ice	$0	$0	$18	$18

Industry Sector	Direct	Indirect	Induced	Total Impact
230 - Crown and closure manufacturing and metal stamping	$0	$5	$11	$16
253 - Plumbing fixture fitting and trim manufacturing	$0	$9	$7	$15
108 - Distilleries	$0	$0	$14	$14
170 - Pesticide and other agricultural chemical manufacturing	$0	$1	$12	$14
121 - Other textile product mills	$0	$5	$7	$12
214 - Miscellaneous nonmetallic mineral products manufacturing	$0	$8	$4	$12
251 - Electroplating, anodizing, and coloring metal	$0	$10	$2	$11
234 - Handtool manufacturing	$0	$3	$8	$11
272 - Other commercial service industry machinery manufacturing	$0	$10	$1	$11
35 - Drilling oil and gas wells	$0	$9	$1	$10
356 - Other aircraft parts and auxiliary equipment manufacturing	$0	$7	$2	$9
391 - All other miscellaneous manufacturing	$0	$4	$5	$9
171 - Medicinal and botanical manufacturing	$0	$0	$9	$9
91 - Rendering and meat byproduct processing	$0	$0	$9	$9
238 - Metal window and door manufacturing	$0	$6	$3	$9
216 - Iron, steel pipe and tube manufacturing from purchased steel	$0	$6	$2	$8
254 - Ball and roller bearing manufacturing	$0	$5	$3	$8
202 - Glass product manufacturing made of purchased glass	$0	$2	$5	$7
207 - Other concrete product manufacturing	$0	$3	$3	$6
30 - Other clay, ceramic, refractory minerals mining	$0	$4	$1	$6
17 - Commercial fishing	$0	$0	$5	$6
135 - Engineered wood member and truss manufacturing	$0	$3	$3	$6
344 - Truck trailer manufacturing	$0	$5	$1	$5
343 - Motor vehicle body manufacturing	$0	$4	$1	$5
257 - Small arms, ordnance, and accessories manufacturing	$0	$0	$4	$5
200 - Other pressed and blown glass and glassware manufacturing	$0	$1	$4	$5
237 - Plate work manufacturing	$0	$3	$2	$5
211 - Cut stone and stone product manufacturing	$0	$1	$3	$4
1 - Oilseed farming	$0	$0	$4	$4
244 - Metal barrels, drums and pails manufacturing	$0	$3	$1	$4
298 - Electronic computer manufacturing	$0	$1	$3	$4
354 - Aircraft manufacturing	$0	$2	$1	$4
96 - Tortilla manufacturing	$0	$0	$4	$4
212 - Ground or treated mineral and earth manufacturing	$0	$0	$3	$4
240 - Ornamental and architectural metal work manufacturing	$0	$2	$1	$3
285 - Pump and pumping equipment manufacturing	$0	$2	$1	$3
119 - Textile bag and canvas mills	$0	$1	$3	$3
314 - Industrial process variable instruments manufacturing	$0	$3	$0	$3
117 - Carpet and rug mills	$0	$0	$3	$3
375 - Blind and shade manufacturing	$0	$0	$3	$3
319 - Watch, clock, and other measuring and controlling device manufacturing	$0	$0	$2	$3
126 - Women's and girls' cut and sew apparel manufacturing	$0	$0	$3	$3
371 - Custom architectural woodwork and millwork	$0	$1	$1	$3
362 - Motorcycle, bicycle, and parts manufacturing	$0	$0	$3	$3
153 - Support activities for printing	$0	$1	$1	$3
128 - Apparel accessories and other apparel manufacturing	$0	$0	$2	$2
122 - Hosiery and sock mills	$0	$0	$2	$2
118 - Curtain and linen mills	$0	$0	$2	$2
333 - Storage battery manufacturing	$0	$0	$2	$2
304 - Audio and video equipment manufacturing	$0	$0	$2	$2
125 - Men's and boys' cut and sew apparel manufacturing	$0	$0	$2	$2
127 - Other cut and sew apparel manufacturing	$0	$0	$2	$2
242 - Metal tank (heavy gauge) manufacturing	$0	$1	$0	$2
292 - Welding and soldering equipment manufacturing	$0	$1	$0	$2
116 - Fabric coating mills	$0	$0	$1	$2
279 - Machine tool manufacturing	$0	$1	$0	$2
143 - All other miscellaneous wood product manufacturing	$0	$1	$1	$2
123 - Other apparel knitting mills	$0	$0	$1	$1
269 - All other industrial machinery manufacturing	$0	$1	$0	$1
324 - Small electrical appliance manufacturing	$0	$0	$1	$1
130 - Footwear manufacturing	$0	$0	$1	$1

Industry Sector	Direct	Indirect	Induced	Total Impact
313 - Automatic environmental control manufacturing	$0	$1	$0	$1
142 - Prefabricated wood building manufacturing	$0	$1	$0	$1
222 - Other aluminum rolling, drawing and extruding	$0	$1	$0	$1
358 - Propulsion units and parts for space vehicles and guided missiles manufactu	$0	$1	$0	$1
213 - Mineral wool manufacturing	$0	$0	$1	$1
317 - Analytical laboratory instrument manufacturing	$0	$1	$0	$1
297 - Scales, balances, and miscellaneous general purpose machinery manufactu	$0	$1	$0	$1
260 - Farm machinery and equipment manufacturing	$0	$1	$0	$1
281 - Turbine and turbine generator set units manufacturing	$0	$1	$0	$1
312 - Search, detection, and navigation instruments manufacturing	$0	$1	$0	$1
137 - Wood windows and door manufacturing	$0	$1	$0	$1
284 - Other engine equipment manufacturing	$0	$0	$0	$1
364 - All other transportation equipment manufacturing	$0	$0	$1	$1
357 - Guided missile and space vehicle manufacturing	$0	$0	$0	$1
124 - Cut and sew apparel contractors	$0	$0	$0	$1
228 - Nonferrous metal foundries	$0	$0	$0	$0
355 - Aircraft engine and engine parts manufacturing	$0	$0	$0	$0
303 - Other communications equipment manufacturing	$0	$0	$0	$0
15 - Forestry, forest products, and timber tract production	$0	$0	$0	$0
268 - Printing machinery and equipment manufacturing	$0	$0	$0	$0
305 - Printed circuit assembly (electronic assembly) manufacturing	$0	$0	$0	$0
293 - Packaging machinery manufacturing	$0	$0	$0	$0
226 - Secondary processing of other nonferrous metals	$0	$0	$0	$0
288 - Conveyor and conveying equipment manufacturing	$0	$0	$0	$0
291 - Power-driven handtool manufacturing	$0	$0	$0	$0
278 - Cutting tool and machine tool accessory manufacturing	$0	$0	$0	$0
329 - Power, distribution, and specialty transformer manufacturing	$0	$0	$0	$0
302 - Broadcast and wireless communications equipment manufacturing	$0	$0	$0	$0
16 - Commercial logging	$0	$0	$0	$0
141 - Manufactured home (mobile home) manufacturing	$0	$0	$0	$0
Total	$53,327,547	$16,153,268	$17,152,355	$86,633,170

Source: IMPLAN

Table C-2
Value Added Impacts by Category - Kern County
IPG Industrial Warehouse Project - OPERATIONS PHASE

Industry Sector	Direct	Indirect	Induced	Total Impact
422 - Warehousing and storage	$32,201,120	$2,744,534	$78,734	$35,024,388
449 - Owner-occupied dwellings	$0	$0	$2,219,938	$2,219,938
447 - Other real estate	$0	$1,185,715	$142,997	$1,328,712
472 - Employment services	$0	$773,629	$132,334	$905,963
490 - Hospitals	$0	$0	$699,866	$699,866
510 - Limited-service restaurants	$0	$16,849	$422,177	$439,026
448 - Tenant-occupied housing	$0	$0	$420,734	$420,734
483 - Offices of physicians	$0	$0	$345,050	$345,050
469 - Management of companies and enterprises	$0	$177,319	$134,367	$311,686
441 - Monetary authorities and depository credit intermediation	$0	$122,263	$167,030	$289,293
509 - Full-service restaurants	$0	$38,924	$241,548	$280,472
47 - Electric power transmission and distribution	$0	$250,686	$22,436	$273,122
406 - Retail - Food and beverage stores	$0	$720	$245,517	$246,237
411 - Retail - General merchandise stores	$0	$3,506	$238,651	$242,157
486 - Outpatient care centers	$0	$0	$216,039	$216,039
421 - Couriers and messengers	$0	$171,948	$35,572	$207,520
512 - Automotive repair and maintenance, except car washes	$0	$54,238	$150,945	$205,183
485 - Offices of other health practitioners	$0	$0	$203,455	$203,455
417 - Truck transportation	$0	$71,741	$119,650	$191,391
479 - Waste management and remediation services	$0	$153,891	$36,378	$190,269
511 - All other food and drinking places	$0	$53,222	$131,480	$184,702
456 - Accounting, tax preparation, bookkeeping, and payroll services	$0	$106,272	$68,159	$174,431
534 - Other local government enterprises	$0	$92,703	$80,657	$173,359
476 - Services to buildings	$0	$139,534	$30,637	$170,171
60 - Maintenance and repair construction of nonresidential structures	$0	$142,898	$22,810	$165,708
399 - Wholesale - Petroleum and petroleum products	$0	$45,065	$117,275	$162,340
445 - Insurance agencies, brokerages, and related activities	$0	$94,280	$67,802	$162,082
513 - Car washes	$0	$28,694	$129,037	$157,730
402 - Retail - Motor vehicle and parts dealers	$0	$19,932	$136,114	$156,046
526 - Postal service	$0	$118,923	$32,574	$151,496
493 - Individual and family services	$0	$0	$139,950	$139,950
444 - Insurance carriers, except direct life	$0	$52,171	$86,701	$138,872
413 - Retail - Nonstore retailers	$0	$2,717	$123,060	$125,777
484 - Offices of dentists	$0	$0	$121,627	$121,627
407 - Retail - Health and personal care stores	$0	$59	$121,154	$121,213
420 - Scenic and sightseeing transportation and support activities for transportatio	$0	$85,355	$35,528	$120,882
408 - Retail - Gasoline stores	$0	$5,105	$108,574	$113,679
515 - Commercial and industrial machinery and equipment repair and maintenanc	$0	$91,203	$21,790	$112,993
400 - Wholesale - Other nondurable goods merchant wholesalers	$0	$21,044	$89,733	$110,777
43 - Electric power generation - Wind	$0	$101,069	$9,045	$110,115
405 - Retail - Building material and garden equipment and supplies stores	$0	$24,180	$85,514	$109,694
453 - Commercial and industrial machinery and equipment rental and leasing	$0	$86,498	$19,458	$105,956
48 - Natural gas distribution	$0	$48,414	$52,534	$100,948
49 - Water, sewage and other systems	$0	$34,350	$65,117	$99,467
409 - Retail - Clothing and clothing accessories stores	$0	$16	$97,322	$97,338
477 - Landscape and horticultural services	$0	$68,065	$28,609	$96,674
395 - Wholesale - Machinery, equipment, and supplies	$0	$73,640	$20,916	$94,555
455 - Legal services	$0	$35,374	$52,587	$87,960
412 - Retail - Miscellaneous store retailers	$0	$900	$86,546	$87,446
433 - Wired telecommunications carriers	$0	$25,704	$60,422	$86,126
396 - Wholesale - Other durable goods merchant wholesalers	$0	$31,224	$53,190	$84,414
457 - Architectural, engineering, and related services	$0	$66,519	$15,454	$81,973
439 - Nondepository credit intermediation and related activities	$0	$17,893	$63,313	$81,206
491 - Nursing and community care facilities	$0	$0	$80,172	$80,172
392 - Wholesale - Motor vehicle and motor vehicle parts and supplies	$0	$57,598	$21,090	$78,688
431 - Radio and television broadcasting	$0	$39,387	$38,053	$77,440
487 - Medical and diagnostic laboratories	$0	$1	$71,273	$71,274

Industry Sector	Direct	Indirect	Induced	Total Impact
475 - Investigation and security services	$0	$48,236	$23,018	$71,253
494 - Child day care services	$0	$0	$70,356	$70,356
154 - Petroleum refineries	$0	$25,100	$42,770	$67,870
488 - Home health care services	$0	$0	$66,571	$66,571
40 - Electric power generation - Fossil fuel	$0	$56,541	$5,060	$61,602
463 - Environmental and other technical consulting services	$0	$43,216	$17,646	$60,862
470 - Office administrative services	$0	$50,622	$9,324	$59,946
446 - Funds, trusts, and other financial vehicles	$0	$1,182	$57,680	$58,862
61 - Maintenance and repair construction of residential structures	$0	$1,033	$55,056	$56,089
521 - Religious organizations	$0	$0	$54,572	$54,572
519 - Dry-cleaning and laundry services	$0	$39,050	$13,006	$52,056
492 - Residential mental retardation, mental health, substance abuse and other fa	$0	$0	$48,070	$48,070
403 - Retail - Furniture and home furnishings stores	$0	$514	$47,422	$47,936
524 - Labor and civic organizations	$0	$0	$47,541	$47,541
410 - Retail - Sporting goods, hobby, musical instrument and book stores	$0	$503	$46,630	$47,133
522 - Grantmaking, giving, and social advocacy organizations	$0	$4	$46,368	$46,372
462 - Management consulting services	$0	$33,562	$12,684	$46,246
450 - Automotive equipment rental and leasing	$0	$17,348	$26,529	$43,877
418 - Transit and ground passenger transportation	$0	$9,640	$31,469	$41,109
516 - Personal and household goods repair and maintenance	$0	$21,057	$20,047	$41,104
404 - Retail - Electronics and appliance stores	$0	$395	$39,367	$39,762
20 - Oil and gas extraction	$0	$14,965	$24,671	$39,636
398 - Wholesale - Grocery and related product wholesalers	$0	$1,189	$37,567	$38,756
495 - Community food, housing, and other relief services, including rehabilitation s	$0	$0	$36,296	$36,296
489 - Other ambulatory health care services	$0	$32	$36,054	$36,086
471 - Facilities support services	$0	$30,005	$5,760	$35,765
468 - Marketing research and all other miscellaneous professional, scientific, and	$0	$22,772	$11,846	$34,618
525 - Private households	$0	$0	$33,689	$33,689
451 - General and consumer goods rental except video tapes and discs	$0	$16,734	$16,058	$32,791
464 - Scientific research and development services	$0	$2,131	$30,147	$32,278
393 - Wholesale - Professional and commercial equipment and supplies	$0	$23,348	$8,007	$31,355
478 - Other support services	$0	$24,226	$6,988	$31,213
440 - Securities and commodity contracts intermediation and brokerage	$0	$5,719	$22,636	$28,355
482 - Other educational services	$0	$736	$27,604	$28,340
517 - Personal care services	$0	$0	$27,090	$27,090
394 - Wholesale - Household appliances and electrical and electronic goods	$0	$14,156	$12,549	$26,705
520 - Other personal services	$0	$575	$24,783	$25,359
473 - Business support services	$0	$17,569	$7,682	$25,251
42 - Electric power generation - Solar	$0	$21,467	$1,921	$23,388
434 - Wireless telecommunications carriers (except satellite)	$0	$7,187	$13,863	$21,050
467 - Veterinary services	$0	$7	$19,956	$19,964
460 - Computer systems design services	$0	$12,513	$5,240	$17,753
503 - Gambling industries (except casino hotels)	$0	$18	$16,886	$16,904
514 - Electronic and precision equipment repair and maintenance	$0	$12,186	$4,211	$16,397
523 - Business and professional associations	$0	$3,183	$12,639	$15,822
465 - Advertising, public relations, and related services	$0	$8,627	$6,748	$15,375
481 - Junior colleges, colleges, universities, and professional schools	$0	$79	$15,027	$15,106
480 - Elementary and secondary schools	$0	$0	$15,096	$15,096
518 - Death care services	$0	$0	$14,830	$14,830
415 - Rail transportation	$0	$5,855	$7,277	$13,133
443 - Direct life insurance carriers	$0	$305	$12,774	$13,079
528 - Other federal government enterprises	$0	$5,226	$7,383	$12,610
442 - Other financial investment activities	$0	$722	$11,553	$12,275
452 - Video tape and disc rental	$0	$1	$12,106	$12,107
401 - Wholesale - Wholesale electronic markets and agents and brokers	$0	$4,258	$7,806	$12,064
505 - Fitness and recreational sports centers	$0	$375	$11,079	$11,454
504 - Other amusement and recreation industries	$0	$294	$9,993	$10,287
466 - Photographic services	$0	$2,608	$7,488	$10,096
419 - Pipeline transportation	$0	$4,587	$5,457	$10,044
458 - Specialized design services	$0	$4,178	$5,087	$9,265
500 - Promoters of performing arts and sports and agents for public figures	$0	$3,126	$4,577	$7,703

Industry Sector	Direct	Indirect	Induced	Total Impact
459 - Custom computer programming services	$0	$5,011	$2,472	$7,484
428 - Software publishers	$0	$1,441	$5,004	$6,445
28 - Stone mining and quarrying	$0	$3,818	$1,404	$5,222
461 - Other computer related services, including facilities management	$0	$3,305	$1,545	$4,850
436 - Data processing, hosting, and related services	$0	$1,877	$2,799	$4,677
423 - Newspaper publishers	$0	$1,964	$2,675	$4,640
397 - Wholesale - Drugs and druggists' sundries	$0	$68	$3,781	$3,849
5 - Tree nut farming	$0	$91	$3,171	$3,262
416 - Water transportation	$0	$262	$2,886	$3,148
10 - All other crop farming	$0	$64	$3,043	$3,107
3 - Vegetable and melon farming	$0	$82	$3,024	$3,106
498 - Racing and Track Operation	$0	$105	$2,904	$3,009
414 - Air transportation	$0	$843	$2,094	$2,937
435 - Satellite, telecommunications resellers, and all other telecommunications	$0	$1,175	$1,451	$2,626
19 - Support activities for agriculture and forestry	$0	$53	$2,501	$2,553
4 - Fruit farming	$0	$58	$2,047	$2,105
474 - Travel arrangement and reservation services	$0	$666	$1,312	$1,977
152 - Printing	$0	$1,044	$824	$1,868
156 - Asphalt shingle and coating materials manufacturing	$0	$1,172	$604	$1,776
97 - Roasted nuts and peanut butter manufacturing	$0	$11	$1,761	$1,772
499 - Independent artists, writers, and performers	$0	$966	$706	$1,673
454 - Lessors of nonfinancial intangible assets	$0	$1,111	$520	$1,631
429 - Motion picture and video industries	$0	$153	$1,179	$1,331
426 - Directory, mailing list, and other publishers	$0	$392	$698	$1,090
496 - Performing arts companies	$0	$114	$818	$932
37 - Metal mining services	$0	$804	$57	$861
438 - Internet publishing and broadcasting and web search portals	$0	$359	$466	$825
501 - Museums, historical sites, zoos, and parks	$0	$0	$755	$755
6 - Greenhouse, nursery, and floriculture production	$0	$68	$556	$624
497 - Commercial Sports Except Racing	$0	$113	$448	$561
506 - Bowling centers	$0	$0	$532	$532
424 - Periodical publishers	$0	$201	$296	$497
507 - Hotels and motels, including casino hotels	$0	$125	$367	$492
155 - Asphalt paving mixture and block manufacturing	$0	$286	$188	$475
103 - All other food manufacturing	$0	$1	$466	$468
502 - Amusement parks and arcades	$0	$2	$463	$465
193 - Other plastics product manufacturing	$0	$340	$124	$463
24 - Gold ore mining	$0	$212	$252	$463
203 - Cement manufacturing	$0	$256	$165	$420
84 - Fluid milk manufacturing	$0	$2	$395	$398
98 - Other snack food manufacturing	$0	$2	$367	$369
385 - Sign manufacturing	$0	$198	$155	$352
93 - Bread and bakery product, except frozen, manufacturing	$0	$1	$337	$339
175 - Paint and coating manufacturing	$0	$294	$36	$330
12 - Dairy cattle and milk production	$0	$9	$306	$315
86 - Ice cream and frozen dessert manufacturing	$0	$7	$294	$301
8 - Cotton farming	$0	$8	$269	$276
140 - Wood container and pallet manufacturing	$0	$246	$25	$271
104 - Bottled and canned soft drinks & water	$0	$2	$246	$247
180 - Toilet preparation manufacturing	$0	$5	$226	$231
247 - Machine shops	$0	$176	$42	$218
157 - Petroleum lubricating oil and grease manufacturing	$0	$81	$116	$196
87 - Frozen cakes and other pastries manufacturing	$0	$1	$187	$188
11 - Beef cattle ranching and farming, including feedlots and dual-purpose ranchin	$0	$5	$164	$169
106 - Breweries	$0	$2	$162	$164
430 - Sound recording industries	$0	$9	$146	$155
176 - Adhesive manufacturing	$0	$56	$87	$143
508 - Other accommodations	$0	$2	$125	$127
167 - Nitrogenous fertilizer manufacturing	$0	$56	$59	$115
437 - News syndicates, libraries, archives and all other information services	$0	$4	$79	$83
38 - Other nonmetallic minerals services	$0	$50	$20	$70

Industry Sector	Direct	Indirect	Induced	Total Impact
2 - Grain farming	$0	$0	$68	$68
169 - Fertilizer mixing	$0	$36	$30	$66
147 - Paperboard container manufacturing	$0	$47	$12	$60
14 - Animal production, except cattle and poultry and eggs	$0	$1	$55	$56
162 - Other basic inorganic chemical manufacturing	$0	$23	$32	$55
383 - Doll, toy, and game manufacturing	$0	$28	$24	$53
77 - Frozen fruits, juices and vegetables manufacturing	$0	$0	$52	$52
163 - Other basic organic chemical manufacturing	$0	$11	$40	$51
236 - Fabricated structural metal manufacturing	$0	$35	$15	$50
34 - Other nonmetallic minerals	$0	$26	$21	$48
190 - Polystyrene foam product manufacturing	$0	$15	$25	$39
145 - Paper mills	$0	$27	$12	$39
381 - Jewelry and silverware manufacturing	$0	$0	$38	$38
46 - Electric power generation - All other	$0	$33	$3	$36
340 - Automobile manufacturing	$0	$3	$32	$35
31 - Potash, soda, and borate mineral mining	$0	$10	$25	$35
204 - Ready-mix concrete manufacturing	$0	$22	$12	$34
79 - Canned fruits and vegetables manufacturing	$0	$0	$32	$32
29 - Sand and gravel mining	$0	$21	$11	$32
107 - Wineries	$0	$0	$29	$29
100 - Flavoring syrup and concentrate manufacturing	$0	$1	$27	$28
215 - Iron and steel mills and ferroalloy manufacturing	$0	$13	$14	$27
74 - Nonchocolate confectionery manufacturing	$0	$0	$27	$27
36 - Support activities for oil and gas operations	$0	$11	$16	$27
179 - Surface active agent manufacturing	$0	$13	$12	$25
250 - Metal coating and nonprecious engraving	$0	$22	$3	$25
191 - Urethane and other foam product (except polystyrene) manufacturing	$0	$7	$17	$23
252 - Valve and fittings, other than plumbing, manufacturing	$0	$21	$2	$23
246 - Spring and wire product manufacturing	$0	$20	$1	$21
352 - Other motor vehicle parts manufacturing	$0	$16	$2	$18
365 - Wood kitchen cabinet and countertop manufacturing	$0	$2	$15	$18
185 - Other miscellaneous chemical product manufacturing	$0	$10	$8	$17
259 - Other fabricated metal manufacturing	$0	$14	$2	$16
13 - Poultry and egg production	$0	$0	$16	$16
348 - Motor vehicle electrical and electronic equipment manufacturing	$0	$15	$1	$16
264 - Oil and gas field machinery and equipment manufacturing	$0	$12	$3	$15
196 - Other rubber product manufacturing	$0	$6	$9	$15
64 - Other animal food manufacturing	$0	$0	$14	$14
62 - Maintenance and repair construction of highways, streets, bridges, and tunne	$0	$0	$14	$14
188 - Plastics pipe and pipe fitting manufacturing	$0	$7	$6	$13
377 - Surgical appliance and supplies manufacturing	$0	$2	$10	$12
367 - Nonupholstered wood household furniture manufacturing	$0	$0	$12	$12
239 - Sheet metal work manufacturing	$0	$7	$4	$11
248 - Turned product and screw, nut, and bolt manufacturing	$0	$10	$1	$11
99 - Coffee and tea manufacturing	$0	$0	$11	$11
380 - Dental laboratories	$0	$0	$10	$10
346 - Travel trailer and camper manufacturing	$0	$1	$8	$10
81 - Dehydrated food products manufacturing	$0	$0	$10	$10
290 - Industrial truck, trailer, and stacker manufacturing	$0	$9	$0	$10
258 - Fabricated pipe and pipe fitting manufacturing	$0	$8	$1	$9
205 - Concrete block and brick manufacturing	$0	$3	$5	$8
368 - Other household nonupholstered furniture manufacturing	$0	$0	$8	$8
108 - Distilleries	$0	$0	$8	$8
189 - Laminated plastics plate, sheet (except packaging), and shape manufacturin	$0	$5	$3	$8
209 - Gypsum product manufacturing	$0	$4	$3	$7
94 - Cookie and cracker manufacturing	$0	$0	$7	$7
214 - Miscellaneous nonmetallic mineral products manufacturing	$0	$5	$2	$7
35 - Drilling oil and gas wells	$0	$6	$1	$6
230 - Crown and closure manufacturing and metal stamping	$0	$2	$4	$6
187 - Unlaminated plastics profile shape manufacturing	$0	$3	$3	$6
105 - Manufactured ice	$0	$0	$6	$6

Industry Sector	Direct	Indirect	Induced	Total Impact
170 - Pesticide and other agricultural chemical manufacturing	$0	$0	$5	$6
121 - Other textile product mills	$0	$2	$3	$6
171 - Medicinal and botanical manufacturing	$0	$0	$5	$5
90 - Meat processed from carcasses	$0	$0	$5	$5
253 - Plumbing fixture fitting and trim manufacturing	$0	$3	$2	$5
251 - Electroplating, anodizing, and coloring metal	$0	$4	$1	$5
356 - Other aircraft parts and auxiliary equipment manufacturing	$0	$4	$1	$5
89 - Animal, except poultry, slaughtering	$0	$0	$5	$5
17 - Commercial fishing	$0	$0	$4	$5
353 - Motor vehicle steering, suspension component (except spring), and brake sy	$0	$4	$0	$4
272 - Other commercial service industry machinery manufacturing	$0	$4	$0	$4
234 - Handtool manufacturing	$0	$1	$3	$4
254 - Ball and roller bearing manufacturing	$0	$2	$1	$4
30 - Other clay, ceramic, refractory minerals mining	$0	$3	$1	$4
1 - Oilseed farming	$0	$0	$3	$3
216 - Iron, steel pipe and tube manufacturing from purchased steel	$0	$2	$1	$3
238 - Metal window and door manufacturing	$0	$2	$1	$3
207 - Other concrete product manufacturing	$0	$1	$1	$2
257 - Small arms, ordnance, and accessories manufacturing	$0	$0	$2	$2
211 - Cut stone and stone product manufacturing	$0	$1	$1	$2
202 - Glass product manufacturing made of purchased glass	$0	$0	$2	$2
237 - Plate work manufacturing	$0	$1	$1	$2
91 - Rendering and meat byproduct processing	$0	$0	$2	$2
319 - Watch, clock, and other measuring and controlling device manufacturing	$0	$0	$2	$2
212 - Ground or treated mineral and earth manufacturing	$0	$0	$2	$2
354 - Aircraft manufacturing	$0	$1	$1	$2
391 - All other miscellaneous manufacturing	$0	$1	$1	$2
135 - Engineered wood member and truss manufacturing	$0	$1	$1	$2
200 - Other pressed and blown glass and glassware manufacturing	$0	$0	$1	$1
285 - Pump and pumping equipment manufacturing	$0	$1	$0	$1
343 - Motor vehicle body manufacturing	$0	$1	$0	$1
314 - Industrial process variable instruments manufacturing	$0	$1	$0	$1
153 - Support activities for printing	$0	$1	$0	$1
344 - Truck trailer manufacturing	$0	$1	$0	$1
122 - Hosiery and sock mills	$0	$0	$1	$1
298 - Electronic computer manufacturing	$0	$0	$1	$1
240 - Ornamental and architectural metal work manufacturing	$0	$1	$0	$1
119 - Textile bag and canvas mills	$0	$0	$1	$1
244 - Metal barrels, drums and pails manufacturing	$0	$1	$0	$1
371 - Custom architectural woodwork and millwork	$0	$0	$0	$1
333 - Storage battery manufacturing	$0	$0	$1	$1
304 - Audio and video equipment manufacturing	$0	$0	$1	$1
128 - Apparel accessories and other apparel manufacturing	$0	$0	$1	$1
269 - All other industrial machinery manufacturing	$0	$1	$0	$1
118 - Curtain and linen mills	$0	$0	$1	$1
362 - Motorcycle, bicycle, and parts manufacturing	$0	$0	$1	$1
313 - Automatic environmental control manufacturing	$0	$0	$0	$1
96 - Tortilla manufacturing	$0	$0	$1	$1
117 - Carpet and rug mills	$0	$0	$1	$1
143 - All other miscellaneous wood product manufacturing	$0	$0	$0	$1
127 - Other cut and sew apparel manufacturing	$0	$0	$1	$1
125 - Men's and boys' cut and sew apparel manufacturing	$0	$0	$1	$1
123 - Other apparel knitting mills	$0	$0	$1	$1
375 - Blind and shade manufacturing	$0	$0	$1	$1
358 - Propulsion units and parts for space vehicles and guided missiles manufactu	$0	$0	$0	$1
213 - Mineral wool manufacturing	$0	$0	$0	$1
126 - Women's and girls' cut and sew apparel manufacturing	$0	$0	$1	$1
317 - Analytical laboratory instrument manufacturing	$0	$0	$0	$1
116 - Fabric coating mills	$0	$0	$0	$1
292 - Welding and soldering equipment manufacturing	$0	$0	$0	$1
242 - Metal tank (heavy gauge) manufacturing	$0	$0	$0	$1

Industry Sector	Direct	Indirect	Induced	Total Impact
142 - Prefabricated wood building manufacturing	$0	$0	$0	$0.48
324 - Small electrical appliance manufacturing	$0	$0	$0	$0.45
312 - Search, detection, and navigation instruments manufacturing	$0	$0	$0	$0.45
279 - Machine tool manufacturing	$0	$0	$0	$0.44
297 - Scales, balances, and miscellaneous general purpose machinery manufactu	$0	$0	$0	$0.40
357 - Guided missile and space vehicle manufacturing	$0	$0	$0	$0.33
15 - Forestry, forest products, and timber tract production	$0	$0	$0	$0.28
124 - Cut and sew apparel contractors	$0	$0	$0	$0.25
281 - Turbine and turbine generator set units manufacturing	$0	$0	$0	$0.25
137 - Wood windows and door manufacturing	$0	$0	$0	$0.25
260 - Farm machinery and equipment manufacturing	$0	$0	$0	$0.22
355 - Aircraft engine and engine parts manufacturing	$0	$0	$0	$0.22
222 - Other aluminum rolling, drawing and extruding	$0	$0	$0	$0.22
284 - Other engine equipment manufacturing	$0	$0	$0	$0.20
228 - Nonferrous metal foundries	$0	$0	$0	$0.15
293 - Packaging machinery manufacturing	$0	$0	$0	$0.14
268 - Printing machinery and equipment manufacturing	$0	$0	$0	$0.13
303 - Other communications equipment manufacturing	$0	$0	$0	$0.12
291 - Power-driven handtool manufacturing	$0	$0	$0	$0.10
364 - All other transportation equipment manufacturing	$0	$0	$0	$0.08
305 - Printed circuit assembly (electronic assembly) manufacturing	$0	$0	$0	$0.08
288 - Conveyor and conveying equipment manufacturing	$0	$0	$0	$0.07
278 - Cutting tool and machine tool accessory manufacturing	$0	$0	$0	$0.06
226 - Secondary processing of other nonferrous metals	$0	$0	$0	$0.05
329 - Power, distribution, and specialty transformer manufacturing	$0	$0	$0	$0.03
16 - Commercial logging	$0	$0	$0	$0.03
302 - Broadcast and wireless communications equipment manufacturing	$0	$0	$0	$0.01
141 - Manufactured home (mobile home) manufacturing	$0	$0	$0	$0.00
532 - Local government passenger transit	$0	$(2,397)	$(7,842)	$(10,239)
Total	$32,201,120	$8,223,012	$10,291,634	$50,715,767

Source: IMPLAN

Table C-3
Wage and Salary Employment Impacts by Category - Kern County
IPG Industrial Warehouse Project - OPERATIONS PHASE

Industry Sector	Direct	Indirect	Induced	Total Impact
422 - Warehousing and storage	437.0	36.6	1.0	474.6
447 - Other real estate	0.0	3.7	0.4	4.1
472 - Employment services	0.0	8.2	1.4	9.6
421 - Couriers and messengers	0.0	2.1	0.4	2.5
476 - Services to buildings	0.0	2.0	0.4	2.4
519 - Dry-cleaning and laundry services	0.0	0.5	0.2	0.7
470 - Office administrative services	0.0	1.0	0.2	1.1
60 - Maintenance and repair construction of nonresidential structures	0.0	1.0	0.2	1.2
475 - Investigation and security services	0.0	0.9	0.4	1.3
526 - Postal service	0.0	1.2	0.3	1.5
477 - Landscape and horticultural services	0.0	0.8	0.3	1.2
479 - Waste management and remediation services	0.0	1.1	0.3	1.4
456 - Accounting, tax preparation, bookkeeping, and payroll services	0.0	0.9	0.6	1.5
515 - Commercial and industrial machinery and equipment repair and maintenanc	0.0	0.7	0.2	0.9
469 - Management of companies and enterprises	0.0	1.0	0.8	1.8
445 - Insurance agencies, brokerages, and related activities	0.0	0.8	0.6	1.4
511 - All other food and drinking places	0.0	1.0	2.4	3.3
512 - Automotive repair and maintenance, except car washes	0.0	0.6	1.8	2.4
509 - Full-service restaurants	0.0	0.8	4.7	5.4
457 - Architectural, engineering, and related services	0.0	0.5	0.1	0.6
420 - Scenic and sightseeing transportation and support activities for transportatio	0.0	0.6	0.2	0.8
417 - Truck transportation	0.0	0.5	0.8	1.3
441 - Monetary authorities and depository credit intermediation	0.0	0.6	0.8	1.3
462 - Management consulting services	0.0	0.4	0.1	0.5
463 - Environmental and other technical consulting services	0.0	0.3	0.1	0.5
418 - Transit and ground passenger transportation	0.0	0.0	0.1	0.1
534 - Other local government enterprises	0.0	0.5	0.4	0.9
473 - Business support services	0.0	0.3	0.1	0.5
47 - Electric power transmission and distribution	0.0	0.4	0.0	0.5
395 - Wholesale - Machinery, equipment, and supplies	0.0	0.4	0.1	0.5
453 - Commercial and industrial machinery and equipment rental and leasing	0.0	0.3	0.1	0.4
471 - Facilities support services	0.0	0.2	0.0	0.2
510 - Limited-service restaurants	0.0	0.3	8.1	8.5
478 - Other support services	0.0	0.2	0.1	0.3
392 - Wholesale - Motor vehicle and motor vehicle parts and supplies	0.0	0.3	0.1	0.4
513 - Car washes	0.0	0.3	1.2	1.5
444 - Insurance carriers, except direct life	0.0	0.2	0.3	0.5
455 - Legal services	0.0	0.2	0.3	0.5
500 - Promoters of performing arts and sports and agents for public figures	0.0	0.0	0.0	0.1
440 - Securities and commodity contracts intermediation and brokerage	0.0	0.0	0.1	0.1
405 - Retail - Building material and garden equipment and supplies stores	0.0	0.2	0.8	1.0
460 - Computer systems design services	0.0	0.1	0.0	0.2
451 - General and consumer goods rental except video tapes and discs	0.0	0.2	0.2	0.3
516 - Personal and household goods repair and maintenance	0.0	0.1	0.1	0.3
396 - Wholesale - Other durable goods merchant wholesalers	0.0	0.2	0.3	0.5
402 - Retail - Motor vehicle and parts dealers	0.0	0.2	1.1	1.2
393 - Wholesale - Professional and commercial equipment and supplies	0.0	0.1	0.0	0.2
514 - Electronic and precision equipment repair and maintenance	0.0	0.1	0.0	0.1
431 - Radio and television broadcasting	0.0	0.1	0.1	0.3
439 - Nondepository credit intermediation and related activities	0.0	0.1	0.4	0.5
468 - Marketing research and all other miscellaneous professional, scientific, and	0.0	0.1	0.0	0.1
465 - Advertising, public relations, and related services	0.0	0.1	0.1	0.1
450 - Automotive equipment rental and leasing	0.0	0.1	0.1	0.2
433 - Wired telecommunications carriers	0.0	0.1	0.2	0.3
49 - Water, sewage and other systems	0.0	0.1	0.2	0.2
499 - Independent artists, writers, and performers	0.0	0.0	0.0	0.0
400 - Wholesale - Other nondurable goods merchant wholesalers	0.0	0.1	0.3	0.4

Industry Sector	Direct	Indirect	Induced	Total Impact
459 - Custom computer programming services	0.0	0.0	0.0	0.1
40 - Electric power generation - Fossil fuel	0.0	0.1	0.0	0.1
42 - Electric power generation - Solar	0.0	0.1	0.0	0.1
394 - Wholesale - Household appliances and electrical and electronic goods	0.0	0.1	0.1	0.1
43 - Electric power generation - Wind	0.0	0.1	0.0	0.1
411 - Retail - General merchandise stores	0.0	0.1	3.8	3.8
48 - Natural gas distribution	0.0	0.1	0.1	0.1
532 - Local government passenger transit	0.0	0.1	0.2	0.2
461 - Other computer related services, including facilities management	0.0	0.0	0.0	0.0
413 - Retail - Nonstore retailers	0.0	0.0	0.2	0.2
408 - Retail - Gasoline stores	0.0	0.0	0.8	0.8
442 - Other financial investment activities	0.0	0.0	0.1	0.1
528 - Other federal government enterprises	0.0	0.0	0.0	0.1
458 - Specialized design services	0.0	0.0	0.0	0.1
415 - Rail transportation	0.0	0.0	0.0	0.1
401 - Wholesale - Wholesale electronic markets and agents and brokers	0.0	0.0	0.0	0.1
423 - Newspaper publishers	0.0	0.0	0.0	0.1
497 - Commercial Sports Except Racing	0.0	0.0	0.0	0.0
436 - Data processing, hosting, and related services	0.0	0.0	0.0	0.0
482 - Other educational services	0.0	0.0	0.6	0.6
523 - Business and professional associations	0.0	0.0	0.1	0.1
152 - Printing	0.0	0.0	0.0	0.0
474 - Travel arrangement and reservation services	0.0	0.0	0.0	0.0
154 - Petroleum refineries	0.0	0.0	0.0	0.0
412 - Retail - Miscellaneous store retailers	0.0	0.0	0.7	0.7
435 - Satellite, telecommunications resellers, and all other telecommunications	0.0	0.0	0.0	0.0
464 - Scientific research and development services	0.0	0.0	0.2	0.2
399 - Wholesale - Petroleum and petroleum products	0.0	0.0	0.0	0.1
520 - Other personal services	0.0	0.0	0.3	0.3
446 - Funds, trusts, and other financial vehicles	0.0	0.0	0.4	0.4
466 - Photographic services	0.0	0.0	0.0	0.1
505 - Fitness and recreational sports centers	0.0	0.0	0.4	0.4
414 - Air transportation	0.0	0.0	0.0	0.0
20 - Oil and gas extraction	0.0	0.0	0.0	0.0
406 - Retail - Food and beverage stores	0.0	0.0	3.4	3.4
428 - Software publishers	0.0	0.0	0.0	0.0
504 - Other amusement and recreation industries	0.0	0.0	0.3	0.3
398 - Wholesale - Grocery and related product wholesalers	0.0	0.0	0.3	0.3
61 - Maintenance and repair construction of residential structures	0.0	0.0	0.4	0.4
410 - Retail - Sporting goods, hobby, musical instrument and book stores	0.0	0.0	0.6	0.6
434 - Wireless telecommunications carriers (except satellite)	0.0	0.0	0.0	0.0
496 - Performing arts companies	0.0	0.0	0.0	0.0
419 - Pipeline transportation	0.0	0.0	0.0	0.0
404 - Retail - Electronics and appliance stores	0.0	0.0	0.6	0.6
28 - Stone mining and quarrying	0.0	0.0	0.0	0.0
438 - Internet publishing and broadcasting and web search portals	0.0	0.0	0.0	0.0
403 - Retail - Furniture and home furnishings stores	0.0	0.0	0.4	0.4
429 - Motion picture and video industries	0.0	0.0	0.0	0.0
426 - Directory, mailing list, and other publishers	0.0	0.0	0.0	0.0
140 - Wood container and pallet manufacturing	0.0	0.0	0.0	0.0
454 - Lessors of nonfinancial intangible assets	0.0	0.0	0.0	0.0
156 - Asphalt shingle and coating materials manufacturing	0.0	0.0	0.0	0.0
385 - Sign manufacturing	0.0	0.0	0.0	0.0
498 - Racing and Track Operation	0.0	0.0	0.0	0.0
46 - Electric power generation - All other	0.0	0.0	0.0	0.0
193 - Other plastics product manufacturing	0.0	0.0	0.0	0.0
424 - Periodical publishers	0.0	0.0	0.0	0.0
481 - Junior colleges, colleges, universities, and professional schools	0.0	0.0	0.3	0.3
247 - Machine shops	0.0	0.0	0.0	0.0
443 - Direct life insurance carriers	0.0	0.0	0.0	0.0
507 - Hotels and motels, including casino hotels	0.0	0.0	0.0	0.0

Industry Sector	Direct	Indirect	Induced	Total Impact
155 - Asphalt paving mixture and block manufacturing	0.0	0.0	0.0	0.0
19 - Support activities for agriculture and forestry	0.0	0.0	0.1	0.1
10 - All other crop farming	0.0	0.0	0.0	0.0
203 - Cement manufacturing	0.0	0.0	0.0	0.0
175 - Paint and coating manufacturing	0.0	0.0	0.0	0.0
407 - Retail - Health and personal care stores	0.0	0.0	1.4	1.4
5 - Tree nut farming	0.0	0.0	0.0	0.0
37 - Metal mining services	0.0	0.0	0.0	0.0
352 - Other motor vehicle parts manufacturing	0.0	0.0	0.0	0.0
3 - Vegetable and melon farming	0.0	0.0	0.0	0.0
416 - Water transportation	0.0	0.0	0.0	0.0
6 - Greenhouse, nursery, and floriculture production	0.0	0.0	0.0	0.0
147 - Paperboard container manufacturing	0.0	0.0	0.0	0.0
24 - Gold ore mining	0.0	0.0	0.0	0.0
489 - Other ambulatory health care services	0.0	0.0	0.4	0.4
4 - Fruit farming	0.0	0.0	0.0	0.0
157 - Petroleum lubricating oil and grease manufacturing	0.0	0.0	0.0	0.0
236 - Fabricated structural metal manufacturing	0.0	0.0	0.0	0.0
397 - Wholesale - Drugs and druggists' sundries	0.0	0.0	0.0	0.0
409 - Retail - Clothing and clothing accessories stores	0.0	0.0	1.3	1.3
383 - Doll, toy, and game manufacturing	0.0	0.0	0.0	0.0
503 - Gambling industries (except casino hotels)	0.0	0.0	0.2	0.2
250 - Metal coating and nonprecious engraving	0.0	0.0	0.0	0.0
246 - Spring and wire product manufacturing	0.0	0.0	0.0	0.0
176 - Adhesive manufacturing	0.0	0.0	0.0	0.0
348 - Motor vehicle electrical and electronic equipment manufacturing	0.0	0.0	0.0	0.0
252 - Valve and fittings, other than plumbing, manufacturing	0.0	0.0	0.0	0.0
190 - Polystyrene foam product manufacturing	0.0	0.0	0.0	0.0
248 - Turned product and screw, nut, and bolt manufacturing	0.0	0.0	0.0	0.0
204 - Ready-mix concrete manufacturing	0.0	0.0	0.0	0.0
145 - Paper mills	0.0	0.0	0.0	0.0
353 - Motor vehicle steering, suspension component (except spring), and brake sy	0.0	0.0	0.0	0.0
430 - Sound recording industries	0.0	0.0	0.0	0.0
169 - Fertilizer mixing	0.0	0.0	0.0	0.0
467 - Veterinary services	0.0	0.0	0.3	0.3
167 - Nitrogenous fertilizer manufacturing	0.0	0.0	0.0	0.0
290 - Industrial truck, trailer, and stacker manufacturing	0.0	0.0	0.0	0.0
258 - Fabricated pipe and pipe fitting manufacturing	0.0	0.0	0.0	0.0
259 - Other fabricated metal manufacturing	0.0	0.0	0.0	0.0
34 - Other nonmetallic minerals	0.0	0.0	0.0	0.0
215 - Iron and steel mills and ferroalloy manufacturing	0.0	0.0	0.0	0.0
196 - Other rubber product manufacturing	0.0	0.0	0.0	0.0
29 - Sand and gravel mining	0.0	0.0	0.0	0.0
239 - Sheet metal work manufacturing	0.0	0.0	0.0	0.0
264 - Oil and gas field machinery and equipment manufacturing	0.0	0.0	0.0	0.0
191 - Urethane and other foam product (except polystyrene) manufacturing	0.0	0.0	0.0	0.0
86 - Ice cream and frozen dessert manufacturing	0.0	0.0	0.0	0.0
162 - Other basic inorganic chemical manufacturing	0.0	0.0	0.0	0.0
502 - Amusement parks and arcades	0.0	0.0	0.0	0.0
8 - Cotton farming	0.0	0.0	0.0	0.0
251 - Electroplating, anodizing, and coloring metal	0.0	0.0	0.0	0.0
31 - Potash, soda, and borate mineral mining	0.0	0.0	0.0	0.0
36 - Support activities for oil and gas operations	0.0	0.0	0.0	0.0
188 - Plastics pipe and pipe fitting manufacturing	0.0	0.0	0.0	0.0
38 - Other nonmetallic minerals services	0.0	0.0	0.0	0.0
185 - Other miscellaneous chemical product manufacturing	0.0	0.0	0.0	0.0
189 - Laminated plastics plate, sheet (except packaging), and shape manufacturin	0.0	0.0	0.0	0.0
163 - Other basic organic chemical manufacturing	0.0	0.0	0.0	0.0
97 - Roasted nuts and peanut butter manufacturing	0.0	0.0	0.0	0.0
437 - News syndicates, libraries, archives and all other information services	0.0	0.0	0.0	0.0
12 - Dairy cattle and milk production	0.0	0.0	0.0	0.0

Industry Sector	Direct	Indirect	Induced	Total Impact
522 - Grantmaking, giving, and social advocacy organizations	0.0	0.0	0.4	0.4
365 - Wood kitchen cabinet and countertop manufacturing	0.0	0.0	0.0	0.0
17 - Commercial fishing	0.0	0.0	0.0	0.0
508 - Other accommodations	0.0	0.0	0.0	0.0
209 - Gypsum product manufacturing	0.0	0.0	0.0	0.0
205 - Concrete block and brick manufacturing	0.0	0.0	0.0	0.0
272 - Other commercial service industry machinery manufacturing	0.0	0.0	0.0	0.0
340 - Automobile manufacturing	0.0	0.0	0.0	0.0
356 - Other aircraft parts and auxiliary equipment manufacturing	0.0	0.0	0.0	0.0
346 - Travel trailer and camper manufacturing	0.0	0.0	0.0	0.0
121 - Other textile product mills	0.0	0.0	0.0	0.0
238 - Metal window and door manufacturing	0.0	0.0	0.0	0.0
187 - Unlaminated plastics profile shape manufacturing	0.0	0.0	0.0	0.0
230 - Crown and closure manufacturing and metal stamping	0.0	0.0	0.0	0.0
93 - Bread and bakery product, except frozen, manufacturing	0.0	0.0	0.0	0.0
377 - Surgical appliance and supplies manufacturing	0.0	0.0	0.0	0.0
106 - Breweries	0.0	0.0	0.0	0.0
391 - All other miscellaneous manufacturing	0.0	0.0	0.0	0.0
103 - All other food manufacturing	0.0	0.0	0.0	0.0
344 - Truck trailer manufacturing	0.0	0.0	0.0	0.0
254 - Ball and roller bearing manufacturing	0.0	0.0	0.0	0.0
35 - Drilling oil and gas wells	0.0	0.0	0.0	0.0
153 - Support activities for printing	0.0	0.0	0.0	0.0
234 - Handtool manufacturing	0.0	0.0	0.0	0.0
207 - Other concrete product manufacturing	0.0	0.0	0.0	0.0
84 - Fluid milk manufacturing	0.0	0.0	0.0	0.0
253 - Plumbing fixture fitting and trim manufacturing	0.0	0.0	0.0	0.0
214 - Miscellaneous nonmetallic mineral products manufacturing	0.0	0.0	0.0	0.0
98 - Other snack food manufacturing	0.0	0.0	0.0	0.0
343 - Motor vehicle body manufacturing	0.0	0.0	0.0	0.0
179 - Surface active agent manufacturing	0.0	0.0	0.0	0.0
216 - Iron, steel pipe and tube manufacturing from purchased steel	0.0	0.0	0.0	0.0
87 - Frozen cakes and other pastries manufacturing	0.0	0.0	0.0	0.0
452 - Video tape and disc rental	0.0	0.0	0.1	0.1
104 - Bottled and canned soft drinks & water	0.0	0.0	0.0	0.0
135 - Engineered wood member and truss manufacturing	0.0	0.0	0.0	0.0
240 - Ornamental and architectural metal work manufacturing	0.0	0.0	0.0	0.0
237 - Plate work manufacturing	0.0	0.0	0.0	0.0
30 - Other clay, ceramic, refractory minerals mining	0.0	0.0	0.0	0.0
11 - Beef cattle ranching and farming, including feedlots and dual-purpose ranchin	0.0	0.0	0.0	0.0
371 - Custom architectural woodwork and millwork	0.0	0.0	0.0	0.0
244 - Metal barrels, drums and pails manufacturing	0.0	0.0	0.0	0.0
314 - Industrial process variable instruments manufacturing	0.0	0.0	0.0	0.0
211 - Cut stone and stone product manufacturing	0.0	0.0	0.0	0.0
202 - Glass product manufacturing made of purchased glass	0.0	0.0	0.0	0.0
279 - Machine tool manufacturing	0.0	0.0	0.0	0.0
180 - Toilet preparation manufacturing	0.0	0.0	0.0	0.0
242 - Metal tank (heavy gauge) manufacturing	0.0	0.0	0.0	0.0
487 - Medical and diagnostic laboratories	0.0	0.0	0.4	0.4
285 - Pump and pumping equipment manufacturing	0.0	0.0	0.0	0.0
200 - Other pressed and blown glass and glassware manufacturing	0.0	0.0	0.0	0.0
107 - Wineries	0.0	0.0	0.0	0.0
354 - Aircraft manufacturing	0.0	0.0	0.0	0.0
292 - Welding and soldering equipment manufacturing	0.0	0.0	0.0	0.0
119 - Textile bag and canvas mills	0.0	0.0	0.0	0.0
143 - All other miscellaneous wood product manufacturing	0.0	0.0	0.0	0.0
269 - All other industrial machinery manufacturing	0.0	0.0	0.0	0.0
313 - Automatic environmental control manufacturing	0.0	0.0	0.0	0.0
297 - Scales, balances, and miscellaneous general purpose machinery manufactu	0.0	0.0	0.0	0.0
142 - Prefabricated wood building manufacturing	0.0	0.0	0.0	0.0
137 - Wood windows and door manufacturing	0.0	0.0	0.0	0.0

Industry Sector	Direct	Indirect	Induced	Total Impact
501 - Museums, historical sites, zoos, and parks	0.0	0.0	0.0	0.0
64 - Other animal food manufacturing	0.0	0.0	0.0	0.0
14 - Animal production, except cattle and poultry and eggs	0.0	0.0	0.0	0.0
281 - Turbine and turbine generator set units manufacturing	0.0	0.0	0.0	0.0
222 - Other aluminum rolling, drawing and extruding	0.0	0.0	0.0	0.0
358 - Propulsion units and parts for space vehicles and guided missiles manufactu	0.0	0.0	0.0	0.0
2 - Grain farming	0.0	0.0	0.0	0.0
100 - Flavoring syrup and concentrate manufacturing	0.0	0.0	0.0	0.0
317 - Analytical laboratory instrument manufacturing	0.0	0.0	0.0	0.0
13 - Poultry and egg production	0.0	0.0	0.0	0.0
79 - Canned fruits and vegetables manufacturing	0.0	0.0	0.0	0.0
124 - Cut and sew apparel contractors	0.0	0.0	0.0	0.0
228 - Nonferrous metal foundries	0.0	0.0	0.0	0.0
333 - Storage battery manufacturing	0.0	0.0	0.0	0.0
381 - Jewelry and silverware manufacturing	0.0	0.0	0.0	0.0
77 - Frozen fruits, juices and vegetables manufacturing	0.0	0.0	0.0	0.0
298 - Electronic computer manufacturing	0.0	0.0	0.0	0.0
303 - Other communications equipment manufacturing	0.0	0.0	0.0	0.0
260 - Farm machinery and equipment manufacturing	0.0	0.0	0.0	0.0
116 - Fabric coating mills	0.0	0.0	0.0	0.0
99 - Coffee and tea manufacturing	0.0	0.0	0.0	0.0
312 - Search, detection, and navigation instruments manufacturing	0.0	0.0	0.0	0.0
127 - Other cut and sew apparel manufacturing	0.0	0.0	0.0	0.0
212 - Ground or treated mineral and earth manufacturing	0.0	0.0	0.0	0.0
125 - Men's and boys' cut and sew apparel manufacturing	0.0	0.0	0.0	0.0
257 - Small arms, ordnance, and accessories manufacturing	0.0	0.0	0.0	0.0
288 - Conveyor and conveying equipment manufacturing	0.0	0.0	0.0	0.0
355 - Aircraft engine and engine parts manufacturing	0.0	0.0	0.0	0.0
213 - Mineral wool manufacturing	0.0	0.0	0.0	0.0
105 - Manufactured ice	0.0	0.0	0.0	0.0
118 - Curtain and linen mills	0.0	0.0	0.0	0.0
117 - Carpet and rug mills	0.0	0.0	0.0	0.0
170 - Pesticide and other agricultural chemical manufacturing	0.0	0.0	0.0	0.0
319 - Watch, clock, and other measuring and controlling device manufacturing	0.0	0.0	0.0	0.0
278 - Cutting tool and machine tool accessory manufacturing	0.0	0.0	0.0	0.0
284 - Other engine equipment manufacturing	0.0	0.0	0.0	0.0
268 - Printing machinery and equipment manufacturing	0.0	0.0	0.0	0.0
293 - Packaging machinery manufacturing	0.0	0.0	0.0	0.0
123 - Other apparel knitting mills	0.0	0.0	0.0	0.0
89 - Animal, except poultry, slaughtering	0.0	0.0	0.0	0.0
74 - Nonchocolate confectionery manufacturing	0.0	0.0	0.0	0.0
122 - Hosiery and sock mills	0.0	0.0	0.0	0.0
171 - Medicinal and botanical manufacturing	0.0	0.0	0.0	0.0
15 - Forestry, forest products, and timber tract production	0.0	0.0	0.0	0.0
81 - Dehydrated food products manufacturing	0.0	0.0	0.0	0.0
367 - Nonupholstered wood household furniture manufacturing	0.0	0.0	0.0	0.0
357 - Guided missile and space vehicle manufacturing	0.0	0.0	0.0	0.0
108 - Distilleries	0.0	0.0	0.0	0.0
62 - Maintenance and repair construction of highways, streets, bridges, and tunne	0.0	0.0	0.0	0.0
305 - Printed circuit assembly (electronic assembly) manufacturing	0.0	0.0	0.0	0.0
94 - Cookie and cracker manufacturing	0.0	0.0	0.0	0.0
329 - Power, distribution, and specialty transformer manufacturing	0.0	0.0	0.0	0.0
16 - Commercial logging	0.0	0.0	0.0	0.0
226 - Secondary processing of other nonferrous metals	0.0	0.0	0.0	0.0
362 - Motorcycle, bicycle, and parts manufacturing	0.0	0.0	0.0	0.0
91 - Rendering and meat byproduct processing	0.0	0.0	0.0	0.0
324 - Small electrical appliance manufacturing	0.0	0.0	0.0	0.0
375 - Blind and shade manufacturing	0.0	0.0	0.0	0.0
128 - Apparel accessories and other apparel manufacturing	0.0	0.0	0.0	0.0
364 - All other transportation equipment manufacturing	0.0	0.0	0.0	0.0
368 - Other household nonupholstered furniture manufacturing	0.0	0.0	0.0	0.0

Industry Sector	Direct	Indirect	Induced	Total Impact
304 - Audio and video equipment manufacturing	0.0	0.0	0.0	0.0
96 - Tortilla manufacturing	0.0	0.0	0.0	0.0
126 - Women's and girls' cut and sew apparel manufacturing	0.0	0.0	0.0	0.0
302 - Broadcast and wireless communications equipment manufacturing	0.0	0.0	0.0	0.0
484 - Offices of dentists	0.0	0.0	1.4	1.4
291 - Power-driven handtool manufacturing	0.0	0.0	0.0	0.0
506 - Bowling centers	0.0	0.0	0.0	0.0
1 - Oilseed farming	0.0	0.0	0.0	0.0
90 - Meat processed from carcasses	0.0	0.0	0.0	0.0
141 - Manufactured home (mobile home) manufacturing	0.0	0.0	0.0	0.0
130 - Footwear manufacturing	0.0	0.0	0.0	0.0
380 - Dental laboratories	0.0	0.0	0.0	0.0
493 - Individual and family services	0.0	0.0	4.9	4.9
490 - Hospitals	0.0	0.0	5.7	5.7
483 - Offices of physicians	0.0	0.0	3.4	3.4
521 - Religious organizations	0.0	0.0	3.1	3.1
486 - Outpatient care centers	0.0	0.0	2.1	2.1
525 - Private households	0.0	0.0	2.0	2.0
485 - Offices of other health practitioners	0.0	0.0	1.5	1.5
491 - Nursing and community care facilities	0.0	0.0	1.4	1.4
517 - Personal care services	0.0	0.0	0.5	0.5
488 - Home health care services	0.0	0.0	1.0	1.0
494 - Child day care services	0.0	0.0	0.9	0.9
492 - Residential mental retardation, mental health, substance abuse and other fa	0.0	0.0	1.0	1.0
495 - Community food, housing, and other relief services, including rehabilitation s	0.0	0.0	0.9	0.9
448 - Tenant-occupied housing	0.0	0.0	0.2	0.2
518 - Death care services	0.0	0.0	0.1	0.1
524 - Labor and civic organizations	0.0	0.0	0.6	0.6
480 - Elementary and secondary schools	0.0	0.0	0.3	0.3
Total	437.0	74.4	84.5	595.8

Source: IMPLAN

Table C-4
Employee Compensation Impacts by Category - Kern County
IPG Industrial Warehouse Project - OPERATIONS PHASE

Industry Sector	Direct	Indirect	Induced	Total Impact
55 - Construction of new commercial structures, including farm structures	$29,390,790	$2,477,674	$71,078	$31,939,542
449 - Owner-occupied dwellings	$0	$0	$0	$0
396 - Wholesale - Other durable goods merchant wholesalers	$0	$214,767	$25,901	$240,668
417 - Truck transportation	$0	$460,355	$78,747	$539,102
490 - Hospitals	$0	$0	$559,339	$559,339
395 - Wholesale - Machinery, equipment, and supplies	$0	$9,123	$228,586	$237,709
399 - Wholesale - Petroleum and petroleum products	$0	$0	$12,101	$12,101
453 - Commercial and industrial machinery and equipment rental and leasing	$0	$0	$314,095	$314,095
510 - Limited-service restaurants	$0	$151,792	$115,023	$266,815
448 - Tenant-occupied housing	$0	$42,256	$57,728	$99,984
447 - Other real estate	$0	$25,324	$157,152	$182,475
483 - Offices of physicians	$0	$73,941	$6,618	$80,558
469 - Management of companies and enterprises	$0	$390	$132,862	$133,252
405 - Retail - Building material and garden equipment and supplies stores	$0	$2,170	$147,680	$149,850
441 - Monetary authorities and depository credit intermediation	$0	$0	$199,132	$199,132
472 - Employment services	$0	$101,316	$20,960	$122,277
509 - Full-service restaurants	$0	$40,586	$112,952	$153,538
28 - Stone mining and quarrying	$0	$0	$98,479	$98,479
411 - Retail - General merchandise stores	$0	$36,896	$61,536	$98,432
406 - Retail - Food and beverage stores	$0	$90,098	$21,298	$111,396
486 - Outpatient care centers	$0	$38,060	$94,024	$132,084
512 - Automotive repair and maintenance, except car washes	$0	$50,334	$32,282	$82,616
485 - Offices of other health practitioners	$0	$65,445	$56,941	$122,386
456 - Accounting, tax preparation, bookkeeping, and payroll services	$0	$85,811	$18,841	$104,652
154 - Petroleum refineries	$0	$70,837	$11,308	$82,145
400 - Wholesale - Other nondurable goods merchant wholesalers	$0	$1,549	$4,031	$5,580
402 - Retail - Motor vehicle and parts dealers	$0	$72,130	$51,873	$124,004
513 - Car washes	$0	$16,947	$76,213	$93,160
511 - All other food and drinking places	$0	$12,609	$86,108	$98,717
493 - Individual and family services	$0	$118,710	$32,516	$151,225
422 - Warehousing and storage	$0	$0	$134,600	$134,600
463 - Environmental and other technical consulting services	$0	$22,298	$37,056	$59,354
408 - Retail - Gasoline stores	$0	$290	$13,118	$13,408
413 - Retail - Nonstore retailers	$0	$0	$88,087	$88,087
407 - Retail - Health and personal care stores	$0	$40	$82,219	$82,259
484 - Offices of dentists	$0	$64,457	$26,829	$91,287
394 - Wholesale - Household appliances and electrical and electronic goods	$0	$1,331	$28,311	$29,642
20 - Oil and gas extraction	$0	$59,329	$14,175	$73,504
477 - Landscape and horticultural services	$0	$7,223	$30,798	$38,020
515 - Commercial and industrial machinery and equipment repair and maintenanc	$0	$9,501	$850	$10,351
444 - Insurance carriers, except direct life	$0	$10,977	$38,822	$49,799
479 - Waste management and remediation services	$0	$28,093	$6,320	$34,413
420 - Scenic and sightseeing transportation and support activities for transportatio	$0	$13,416	$14,557	$27,973
409 - Retail - Clothing and clothing accessories stores	$0	$15,149	$28,718	$43,867
534 - Other local government enterprises	$0	$7	$41,200	$41,207
421 - Couriers and messengers	$0	$48,498	$20,385	$68,883
412 - Retail - Miscellaneous store retailers	$0	$32,947	$9,358	$42,305
433 - Wired telecommunications carriers	$0	$18,281	$27,177	$45,459
49 - Water, sewage and other systems	$0	$293	$28,185	$28,479
431 - Radio and television broadcasting	$0	$9,743	$22,903	$32,646
445 - Insurance agencies, brokerages, and related activities	$0	$14,515	$24,726	$39,240
439 - Nondepository credit intermediation and related activities	$0	$50,374	$11,703	$62,077
491 - Nursing and community care facilities	$0	$12,757	$45,138	$57,895
48 - Natural gas distribution	$0	$0	$66,039	$66,039
494 - Child day care services	$0	$20,116	$7,366	$27,482
156 - Asphalt shingle and coating materials manufacturing	$0	$9,680	$9,352	$19,033

Industry Sector	Direct	Indirect	Induced	Total Impact
487 - Medical and diagnostic laboratories	$0	$0	$32,593	$32,593
455 - Legal services	$0	$37,532	$17,910	$55,442
488 - Home health care services	$0	$0	$40,121	$40,121
526 - Postal service	$0	$3,875	$6,603	$10,478
457 - Architectural, engineering, and related services	$0	$0	$60,791	$60,791
446 - Funds, trusts, and other financial vehicles	$0	$14,367	$1,286	$15,653
476 - Services to buildings	$0	$32,659	$13,335	$45,994
475 - Investigation and security services	$0	$107,812	$19,858	$127,670
61 - Maintenance and repair construction of residential structures	$0	$818	$39,928	$40,746
521 - Religious organizations	$0	$481	$25,665	$26,146
60 - Maintenance and repair construction of nonresidential structures	$0	$0	$176,146	$176,146
418 - Transit and ground passenger transportation	$0	$27,795	$9,258	$37,053
403 - Retail - Furniture and home furnishings stores	$0	$0	$46,072	$46,072
524 - Labor and civic organizations	$0	$304	$28,088	$28,392
410 - Retail - Sporting goods, hobby, musical instrument and book stores	$0	$0	$17,605	$17,605
492 - Residential mental retardation, mental health, substance abuse and other fa	$0	$217	$20,069	$20,285
522 - Grantmaking, giving, and social advocacy organizations	$0	$2	$19,100	$19,102
401 - Wholesale - Wholesale electronic markets and agents and brokers	$0	$28,657	$10,830	$39,487
392 - Wholesale - Motor vehicle and motor vehicle parts and supplies	$0	$5,891	$9,009	$14,900
47 - Electric power transmission and distribution	$0	$969	$3,162	$4,131
398 - Wholesale - Grocery and related product wholesalers	$0	$7,660	$7,292	$14,952
415 - Rail transportation	$0	$396	$39,498	$39,895
404 - Retail - Electronics and appliance stores	$0	$1,897	$3,128	$5,025
495 - Community food, housing, and other relief services, including rehabilitation s	$0	$718	$22,703	$23,421
440 - Securities and commodity contracts intermediation and brokerage	$0	$0	$35,060	$35,060
489 - Other ambulatory health care services	$0	$23	$25,132	$25,155
525 - Private households	$0	$18,882	$3,625	$22,507
450 - Automotive equipment rental and leasing	$0	$6,246	$3,249	$9,494
516 - Personal and household goods repair and maintenance	$0	$0	$33,689	$33,689
464 - Scientific research and development services	$0	$9,763	$9,369	$19,132
470 - Office administrative services	$0	$1,468	$20,770	$22,239
462 - Management consulting services	$0	$10,806	$3,706	$14,511
468 - Marketing research and all other miscellaneous professional, scientific, and	$0	$17,649	$5,091	$22,740
482 - Other educational services	$0	$4,911	$19,438	$24,348
517 - Personal care services	$0	$703	$26,371	$27,074
473 - Business support services	$0	$0	$17,106	$17,106
520 - Other personal services	$0	$4,804	$4,259	$9,063
434 - Wireless telecommunications carriers (except satellite)	$0	$274	$11,802	$12,076
523 - Business and professional associations	$0	$15,326	$6,701	$22,028
451 - General and consumer goods rental except video tapes and discs	$0	$4,938	$442	$5,380
460 - Computer systems design services	$0	$677	$1,306	$1,983
467 - Veterinary services	$0	$5	$14,542	$14,547
458 - Specialized design services	$0	$9,590	$4,016	$13,606
419 - Pipeline transportation	$0	$7	$6,432	$6,438
393 - Wholesale - Professional and commercial equipment and supplies	$0	$5,595	$1,933	$7,528
478 - Other support services	$0	$1,899	$7,541	$9,439
203 - Cement manufacturing	$0	$3,540	$2,769	$6,309
43 - Electric power generation - Wind	$0	$57	$10,802	$10,859
503 - Gambling industries (except casino hotels)	$0	$0	$15,935	$15,935
465 - Advertising, public relations, and related services	$0	$0	$9,826	$9,826
480 - Elementary and secondary schools	$0	$4,410	$5,481	$9,892
481 - Junior colleges, colleges, universities, and professional schools	$0	$206	$8,617	$8,823
518 - Death care services	$0	$1,489	$2,104	$3,594
519 - Dry-cleaning and laundry services	$0	$407	$6,521	$6,929
442 - Other financial investment activities	$0	$1	$5,684	$5,685
443 - Direct life insurance carriers	$0	$3,061	$5,611	$8,672
505 - Fitness and recreational sports centers	$0	$295	$8,704	$8,999
452 - Video tape and disc rental	$0	$310	$10,546	$10,856
514 - Electronic and precision equipment repair and maintenance	$0	$373	$1,071	$1,444
459 - Custom computer programming services	$0	$1,412	$1,680	$3,092

Industry Sector	Direct	Indirect	Induced	Total Impact
471 - Facilities support services	$0	$1,598	$1,945	$3,543
504 - Other amusement and recreation industries	$0	$3,086	$4,520	$7,606
466 - Photographic services	$0	$4,172	$2,058	$6,230
40 - Electric power generation - Fossil fuel	$0	$482	$1,672	$2,154
528 - Other federal government enterprises	$0	$520	$191	$711
416 - Water transportation	$0	$1,983	$927	$2,911
461 - Other computer related services, including facilities management	$0	$924	$1,377	$2,301
155 - Asphalt paving mixture and block manufacturing	$0	$1,084	$1,476	$2,559
10 - All other crop farming	$0	$20	$1,086	$1,106
31 - Potash, soda, and borate mineral mining	$0	$27	$950	$977
34 - Other nonmetallic minerals	$0	$25	$277	$302
428 - Software publishers	$0	$34	$1,640	$1,675
236 - Fabricated structural metal manufacturing	$0	$21	$765	$785
500 - Promoters of performing arts and sports and agents for public figures	$0	$76	$2,097	$2,173
423 - Newspaper publishers	$0	$500	$1,241	$1,741
397 - Wholesale - Drugs and druggists' sundries	$0	$857	$1,059	$1,917
436 - Data processing, hosting, and related services	$0	$52	$2,456	$2,507
38 - Other nonmetallic minerals services	$0	$12	$434	$447
42 - Electric power generation - Solar	$0	$745	$1,468	$2,212
5 - Tree nut farming	$0	$734	$579	$1,314
3 - Vegetable and melon farming	$0	$479	$246	$725
19 - Support activities for agriculture and forestry	$0	$4	$569	$572
435 - Satellite, telecommunications resellers, and all other telecommunications	$0	$531	$388	$919
498 - Racing and Track Operation	$0	$34	$16	$51
414 - Air transportation	$0	$81	$625	$706
37 - Metal mining services	$0	$141	$251	$392
4 - Fruit farming	$0	$91	$657	$748
167 - Nitrogenous fertilizer manufacturing	$0	$106	$8	$113
152 - Printing	$0	$167	$217	$384
97 - Roasted nuts and peanut butter manufacturing	$0	$0	$838	$838
474 - Travel arrangement and reservation services	$0	$22	$181	$203
204 - Ready-mix concrete manufacturing	$0	$305	$1,204	$1,509
29 - Sand and gravel mining	$0	$0	$345	$345
429 - Motion picture and video industries	$0	$121	$179	$300
454 - Lessors of nonfinancial intangible assets	$0	$59	$173	$232
499 - Independent artists, writers, and performers	$0	$230	$151	$381
169 - Fertilizer mixing	$0	$1	$319	$320
426 - Directory, mailing list, and other publishers	$0	$2	$358	$360
193 - Other plastics product manufacturing	$0	$246	$90	$336
496 - Performing arts companies	$0	$35	$42	$77
438 - Internet publishing and broadcasting and web search portals	$0	$100	$64	$164
239 - Sheet metal work manufacturing	$0	$1	$237	$239
501 - Museums, historical sites, zoos, and parks	$0	$1	$170	$171
188 - Plastics pipe and pipe fitting manufacturing	$0	$214	$167	$381
6 - Greenhouse, nursery, and floriculture production	$0	$1	$193	$194
497 - Commercial Sports Except Racing	$0	$74	$9	$83
24 - Gold ore mining	$0	$2	$69	$71
205 - Concrete block and brick manufacturing	$0	$5	$202	$207
506 - Bowling centers	$0	$6	$191	$197
175 - Paint and coating manufacturing	$0	$208	$21	$229
247 - Machine shops	$0	$1	$120	$121
214 - Miscellaneous nonmetallic mineral products manufacturing	$0	$1	$27	$27
424 - Periodical publishers	$0	$148	$35	$183
103 - All other food manufacturing	$0	$37	$53	$90
502 - Amusement parks and arcades	$0	$0	$103	$103
157 - Petroleum lubricating oil and grease manufacturing	$0	$0	$7	$7
507 - Hotels and motels, including casino hotels	$0	$1	$54	$55
365 - Wood kitchen cabinet and countertop manufacturing	$0	$1	$14	$14
190 - Polystyrene foam product manufacturing	$0	$20	$31	$52
84 - Fluid milk manufacturing	$0	$2	$119	$121

Industry Sector	Direct	Indirect	Induced	Total Impact
385 - Sign manufacturing	$0	$11	$11	$22
98 - Other snack food manufacturing	$0	$2	$36	$38
93 - Bread and bakery product, except frozen, manufacturing	$0	$8	$3	$11
12 - Dairy cattle and milk production	$0	$0	$20	$20
207 - Other concrete product manufacturing	$0	$10	$8	$19
176 - Adhesive manufacturing	$0	$31	$8	$39
86 - Ice cream and frozen dessert manufacturing	$0	$0	$6	$6
8 - Cotton farming	$0	$7	$9	$16
230 - Crown and closure manufacturing and metal stamping	$0	$18	$15	$33
30 - Other clay, ceramic, refractory minerals mining	$0	$0	$24	$24
104 - Bottled and canned soft drinks & water	$0	$4	$14	$17
180 - Toilet preparation manufacturing	$0	$24	$10	$33
238 - Metal window and door manufacturing	$0	$8	$6	$14
253 - Plumbing fixture fitting and trim manufacturing	$0	$9	$16	$25
87 - Frozen cakes and other pastries manufacturing	$0	$10	$5	$15
11 - Beef cattle ranching and farming, including feedlots and dual-purpose ranchin	$0	$0	$19	$19
36 - Support activities for oil and gas operations	$0	$753	$67	$821
258 - Fabricated pipe and pipe fitting manufacturing	$0	$2	$18	$20
252 - Valve and fittings, other than plumbing, manufacturing	$0	$4	$10	$14
106 - Breweries	$0	$12	$7	$19
430 - Sound recording industries	$0	$0	$16	$16
135 - Engineered wood member and truss manufacturing	$0	$7	$3	$10
508 - Other accommodations	$0	$0	$16	$17
196 - Other rubber product manufacturing	$0	$0	$4	$4
211 - Cut stone and stone product manufacturing	$0	$6	$6	$12
209 - Gypsum product manufacturing	$0	$0	$16	$16
163 - Other basic organic chemical manufacturing	$0	$5	$8	$13
437 - News syndicates, libraries, archives and all other information services	$0	$2	$2	$3
162 - Other basic inorganic chemical manufacturing	$0	$12	$2	$14
250 - Metal coating and nonprecious engraving	$0	$4	$10	$14
240 - Ornamental and architectural metal work manufacturing	$0	$13	$1	$14
2 - Grain farming	$0	$14	$1	$15
202 - Glass product manufacturing made of purchased glass	$0	$14	$1	$15
264 - Oil and gas field machinery and equipment manufacturing	$0	$2	$10	$12
14 - Animal production, except cattle and poultry and eggs	$0	$4	$3	$6
215 - Iron and steel mills and ferroalloy manufacturing	$0	$10	$1	$12
383 - Doll, toy, and game manufacturing	$0	$0	$9	$9
77 - Frozen fruits, juices and vegetables manufacturing	$0	$12	$1	$13
191 - Urethane and other foam product (except polystyrene) manufacturing	$0	$6	$1	$7
140 - Wood container and pallet manufacturing	$0	$5	$7	$12
259 - Other fabricated metal manufacturing	$0	$0	$6	$6
381 - Jewelry and silverware manufacturing	$0	$0	$7	$7
246 - Spring and wire product manufacturing	$0	$3	$3	$6
213 - Mineral wool manufacturing	$0	$1	$6	$7
340 - Automobile manufacturing	$0	$0	$9	$9
79 - Canned fruits and vegetables manufacturing	$0	$5	$3	$8
313 - Automatic environmental control manufacturing	$0	$8	$0	$8
212 - Ground or treated mineral and earth manufacturing	$0	$0	$6	$6
107 - Wineries	$0	$0	$9	$9
142 - Prefabricated wood building manufacturing	$0	$1	$8	$9
147 - Paperboard container manufacturing	$0	$0	$5	$5
100 - Flavoring syrup and concentrate manufacturing	$0	$5	$0	$5
74 - Nonchocolate confectionery manufacturing	$0	$6	$1	$7
237 - Plate work manufacturing	$0	$2	$3	$4
185 - Other miscellaneous chemical product manufacturing	$0	$0	$5	$5
367 - Nonupholstered wood household furniture manufacturing	$0	$0	$1	$1
371 - Custom architectural woodwork and millwork	$0	$3	$2	$5
285 - Pump and pumping equipment manufacturing	$0	$1	$1	$3
187 - Unlaminated plastics profile shape manufacturing	$0	$0	$4	$4
35 - Drilling oil and gas wells	$0	$2	$1	$3

Industry Sector	Direct	Indirect	Induced	Total Impact
292 - Welding and soldering equipment manufacturing	$0	$2	$0	$2
145 - Paper mills	$0	$2	$3	$5
272 - Other commercial service industry machinery manufacturing	$0	$1	$1	$3
13 - Poultry and egg production	$0	$0	$7	$7
179 - Surface active agent manufacturing	$0	$0	$1	$1
170 - Pesticide and other agricultural chemical manufacturing	$0	$2	$3	$4
377 - Surgical appliance and supplies manufacturing	$0	$0	$2	$2
64 - Other animal food manufacturing	$0	$0	$5	$5
62 - Maintenance and repair construction of highways, streets, bridges, and tunne	$0	$1	$1	$2
251 - Electroplating, anodizing, and coloring metal	$0	$4	$1	$4
189 - Laminated plastics plate, sheet (except packaging), and shape manufacturin	$0	$3	$1	$4
121 - Other textile product mills	$0	$0	$4	$4
99 - Coffee and tea manufacturing	$0	$0	$0	$0
346 - Travel trailer and camper manufacturing	$0	$3	$0	$4
234 - Handtool manufacturing	$0	$2	$0	$2
380 - Dental laboratories	$0	$1	$2	$2
314 - Industrial process variable instruments manufacturing	$0	$1	$1	$2
248 - Turned product and screw, nut, and bolt manufacturing	$0	$1	$0	$1
81 - Dehydrated food products manufacturing	$0	$0	$0	$0
242 - Metal tank (heavy gauge) manufacturing	$0	$1	$0	$1
368 - Other household nonupholstered furniture manufacturing	$0	$1	$1	$2
137 - Wood windows and door manufacturing	$0	$1	$1	$1
108 - Distilleries	$0	$0	$1	$1
94 - Cookie and cracker manufacturing	$0	$1	$1	$2
117 - Carpet and rug mills	$0	$0	$1	$1
105 - Manufactured ice	$0	$1	$1	$2
46 - Electric power generation - All other	$0	$0	$2	$2
90 - Meat processed from carcasses	$0	$0	$1	$1
171 - Medicinal and botanical manufacturing	$0	$0	$1	$1
200 - Other pressed and blown glass and glassware manufacturing	$0	$1	$0	$1
89 - Animal, except poultry, slaughtering	$0	$1	$1	$1
17 - Commercial fishing	$0	$0	$0	$1
143 - All other miscellaneous wood product manufacturing	$0	$0	$1	$1
257 - Small arms, ordnance, and accessories manufacturing	$0	$0	$0	$1
119 - Textile bag and canvas mills	$0	$1	$0	$1
297 - Scales, balances, and miscellaneous general purpose machinery manufactu	$0	$1	$0	$1
216 - Iron, steel pipe and tube manufacturing from purchased steel	$0	$1	$0	$1
1 - Oilseed farming	$0	$1	$0	$1
356 - Other aircraft parts and auxiliary equipment manufacturing	$0	$0	$1	$1
254 - Ball and roller bearing manufacturing	$0	$0	$0	$1
352 - Other motor vehicle parts manufacturing	$0	$1	$0	$1
319 - Watch, clock, and other measuring and controlling device manufacturing	$0	$0	$1	$1
324 - Small electrical appliance manufacturing	$0	$0	$0	$1
91 - Rendering and meat byproduct processing	$0	$0	$0	$1
354 - Aircraft manufacturing	$0	$0	$0	$1
269 - All other industrial machinery manufacturing	$0	$0	$0	$0
222 - Other aluminum rolling, drawing and extruding	$0	$0	$0	$0
116 - Fabric coating mills	$0	$0	$0	$0
153 - Support activities for printing	$0	$0	$0	$1
303 - Other communications equipment manufacturing	$0	$0	$0	$0
312 - Search, detection, and navigation instruments manufacturing	$0	$0	$0	$1
348 - Motor vehicle electrical and electronic equipment manufacturing	$0	$0	$0	$0
391 - All other miscellaneous manufacturing	$0	$0	$0	$0
122 - Hosiery and sock mills	$0	$0	$0	$0
358 - Propulsion units and parts for space vehicles and guided missiles manufactu	$0	$0	$0	$0
290 - Industrial truck, trailer, and stacker manufacturing	$0	$0	$0	$0
333 - Storage battery manufacturing	$0	$0	$0	$0
298 - Electronic computer manufacturing	$0	$0	$1	$1
244 - Metal barrels, drums and pails manufacturing	$0	$0	$0	$0
304 - Audio and video equipment manufacturing	$0	$0	$0	$0

Industry Sector	Direct	Indirect	Induced	Total Impact
128 - Apparel accessories and other apparel manufacturing	$0	$0	$0	$0
118 - Curtain and linen mills	$0	$0	$0	$0
362 - Motorcycle, bicycle, and parts manufacturing	$0	$0	$0	$0
375 - Blind and shade manufacturing	$0	$0	$0	$0
96 - Tortilla manufacturing	$0	$0	$0	$0
355 - Aircraft engine and engine parts manufacturing	$0	$0	$0	$0
127 - Other cut and sew apparel manufacturing	$0	$0	$0	$0
125 - Men's and boys' cut and sew apparel manufacturing	$0	$0	$0	$0
123 - Other apparel knitting mills	$0	$0	$0	$0
260 - Farm machinery and equipment manufacturing	$0	$0	$0	$0
288 - Conveyor and conveying equipment manufacturing	$0	$0	$0	$0
126 - Women's and girls' cut and sew apparel manufacturing	$0	$0	$0	$0
353 - Motor vehicle steering, suspension component (except spring), and brake s	$0	$0	$0	$0
268 - Printing machinery and equipment manufacturing	$0	$0	$0	$0
293 - Packaging machinery manufacturing	$0	$0	$0	$0
317 - Analytical laboratory instrument manufacturing	$0	$0	$0	$0
279 - Machine tool manufacturing	$0	$0	$0	$0
15 - Forestry, forest products, and timber tract production	$0	$0	$0	$0
343 - Motor vehicle body manufacturing	$0	$0	$0	$0
344 - Truck trailer manufacturing	$0	$0	$0	$0
357 - Guided missile and space vehicle manufacturing	$0	$0	$0	$0
124 - Cut and sew apparel contractors	$0	$0	$0	$0
228 - Nonferrous metal foundries	$0	$0	$0	$0
329 - Power, distribution, and specialty transformer manufacturing	$0	$0	$0	$0
305 - Printed circuit assembly (electronic assembly) manufacturing	$0	$0	$0	$0
284 - Other engine equipment manufacturing	$0	$0	$0	$0
278 - Cutting tool and machine tool accessory manufacturing	$0	$0	$0	$0
141 - Manufactured home (mobile home) manufacturing	$0	$0	$0	$0
291 - Power-driven handtool manufacturing	$0	$0	$0	$0
226 - Secondary processing of other nonferrous metals	$0	$0	$0	$0
364 - All other transportation equipment manufacturing	$0	$0	$0	$0
281 - Turbine and turbine generator set units manufacturing	$0	$0	$0	$0
302 - Broadcast and wireless communications equipment manufacturing	$0	$0	$0	$0
532 - Local government passenger transit	$0	$4,111	$13,452	$17,563
Total	$29,390,790	$5,135,259	$4,821,354	$39,347,403

Source: IMPLAN

APPENDIX D:

IMPLAN Model Glossary

The following provides technical definitions for measures of economic impacts evaluated in this analysis. These definitions are excerpted from IMPLAN's online glossary[6].

Output – represents the value of industry production. In IMPLAN these are annual production estimates for the year of the data set and are in producer prices. For manufacturers this would be sales plus/minus change in inventory. For service sectors production = sales. For Retail and wholesale trade, output = gross margin and not gross sales.

Value Added – The difference between an industry's or an establishment's total output and the cost of its intermediate inputs. It equals gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported). Value added consists of (1) Labor Income (employee compensation and proprietor income), (2) taxes on production and imports less subsidies (formerly indirect business taxes and nontax payments), and (3) other property income (formerly "other value added")[7]. Gross value added is the value of output less the value of intermediate consumption; it is a measure of the contribution to GDP made by an individual producer, industry or sector.

Labor Income – All forms of employment income, including Employee Compensation (wages and benefits) and Proprietor Income.

> **Employee Compensation** - Total payroll cost of the employee including wages and salaries, all benefits (e.g., health, retirement) and payroll taxes
>
> **Proprietor Income** - The current-production income of sole proprietorships, partnerships, and tax-exempt cooperatives.

Jobs - A job in IMPLAN = the annual average of monthly jobs in that industry (this is the same definition used by QCEW, BLS, and BEA nationally[8]). Thus, 1 job lasting 12 months = 2 jobs lasting 6 months each = 3 jobs lasting 4 months each. A job can be either full-time or part-time.

[6] Accessed at http://implan.com/index.php?option=com_glossary&task=list&glossid=13&letter=All

[7] A profits-like measure that includes corporate profits, net interest, business transfer payments, etc.

[8] QCEW = Quarterly Census of Employment and Wages; BLS = Bureau of Labor Statistics; BEA = Bureau of Economic Analysis.