

MEGGAN HERINGTON, EXECUTIVE DIRECTOR

PLANNING AND COMMUNITY DEVELOPMENT

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## SUMMARY MEMORANDUM

TO: El Paso County Board of County Commissioners  
Carrie Geitner, Chair

DATE: August 27, 2026

RE: Project File Number APP261  
Appeal of Administrative Determination for a Convenience Store

### **Executive Summary**

Buc-ee's EPCO, LLC has appealed an Administrative Determination issued July 1, 2026, regarding whether the proposed Buc-ee's use qualifies as a "Convenience Store" under Section 1.15 of the El Paso County Land Development Code (LDC) or, alternatively, is sufficiently similar to a permitted use within the C-1 (Commercial) zoning district.

The Director determined that the proposed Buc-ee's use does not clearly meet the "Convenience Store" definition and is not clearly similar to uses allowed in the C-1 zone. The Board of County Commissioners (BoCC), as the ultimate interpreter of the LDC, must now consider whether the proposed use meets the definition of "Convenience Store" or criteria for a listed or sufficiently similar use under LDC Section 5.3.6.

The applicant bears the burden of demonstrating that the development satisfies these criteria.

### **Background**

On July 6, 2026, the Planning and Community Development Department accepted an appeal filed by Buc-ee's EPCO, LLC. The applicant's Administrative Determination request (Exhibit 1) asked the Executive Director to confirm that the proposed Buc-ee's meets the Code's definition of a "Convenience Store" or is otherwise a similar permitted commercial use in the C-1 zoning district.

The Administrative Determination (Exhibit 2) reviewed applicable definitions, precedents, and Code requirements. In issuing the determination, the Executive Director evaluated:

- Twenty-six past convenience store and fuel center approvals, with emphasis on post-2007 cases after the definition update.
- The scale and mixed-use characteristics of Buc-ee's, which differ substantially from uses typically found in unincorporated El Paso County.
- The absence of prior Convenience Store approvals in the C-1 zone, limiting precedent for comparison.
- The unclear alignment with any single defined use category, including Convenience Store, Gas Station, Truck Stop, or Retail Store.

These factors informed the Director's conclusion that it is difficult to classify the Buc-ee's use and that it is unclear if the use aligns with listed or similar uses permitted in the C-1 district.

### **C-1 Zone District Summary**

The site is a 30+ acre property located at the southwest corner of County Line Road and Interstate 25, east of Beacon Lite Road. The property is zoned C-1 (Commercial), an obsolete zoning district converted under Zoning Resolution 91-59 (1991).

The C-1 zone district was first adopted in a 1942 version of the Zoning Code as a "Roadside Service District" and was converted to an obsolete zoning in 1991. Although no longer applied to new properties, the C-1 zoning remains valid for parcels previously designated as such. Landowners are encouraged to rezone land from an obsolete zoning district classification. The BoCC may offer incentives, such as modified application fees in order to accomplish this goal as described in LDC Section 4.1.4.

The purpose and parameters of the C-1 district are outlined in LDC Section 4.4.1. This Section states that the district was established for the purpose of providing for commercial activities. The allowed, special, accessory, and temporary uses are listed in LDC Chapter 5. The full list of C-1 uses is included in the Administrative Determination letter attached as Exhibit 2.

### **Required Findings**

LDC Section 5.3.6 governs the process for determining whether an unlisted use may be permitted. The evaluation includes two steps:

1. Determine whether the proposed use fits within an existing defined category (such as Convenience Store).
2. If not, determine whether the use is sufficiently similar to other permitted uses based on established criteria.

An unlisted use may be considered permitted only if:

- Its function, performance characteristics, and location requirements are consistent with the purpose and description of the zoning district.
- It is compatible with allowed district uses and similar in characteristics such as traffic and parking generation, noise, glare, vibration, and dust.

The BoCC will apply these same criteria in considering the appeal. The applicant carries the burden of demonstrating that the proposed use satisfies the requirements of LDC Section 5.3.6.C.1.

### **Key Code References (Summarized)**

#### **LDC 2.2.1.H – Interpretation and Appeals**

The BoCC is the final authority regarding interpretation of use classifications under the Code. Administrative determinations by the Planning Director may be appealed to the BoCC unless otherwise specified by procedural requirements.

#### **LDC 5.3.6 – Administrative Determinations on Uses**

This section establishes the mechanism for interpreting uses not specifically identified in a zoning district. Key provisions include:

- Administrative determinations must be written and remain in effect unless rescinded, overturned, or superseded by Code amendments.
- Similar use determinations require compatibility with district purpose and with listed uses based on functional and performance characteristics.
- A use listed as allowed in one zoning district is excluded from all districts where it is not listed.
- The Planning Director maintains a public record of all written interpretations.
- Appeals may be filed within 30 days of the administrative determination.

These code elements guide both the Director's evaluation and the Board's review of the appeal.

## **Data Attachments Described**

Staff prepared exhibits to assist the Board in evaluating the appeal and understanding the C-1 zone district context:

*Exhibit 2 – Administrative Determination of the Executive Director* - The letter issued to the applicant and includes data related to the administrative finding.

*Exhibit 3 - C-1 Uses with Definitions* - This spreadsheet lists all the allowed and special uses from Table 5-1 (Land Development Code) for the C-1 (Commercial) zone district. Every use that is also defined by the Land Development Code is listed with that specific Code definition. If there is not a definition, that means the use is not otherwise defined in Section 1.15 of the Land Development Code. It is likely a use with a commonly understood meaning that did not require definition. This table also includes the listed purpose of the C-1 zone district.

*Exhibit 4 – C-1 Uses with Parking Ratios* - This spreadsheet lists all allowed and special uses from Table 5-1 (Land Development Code) for the C-1 (Commercial) zone district paired with the parking requirement from Table 6-2. Each use listed in the use table has a corresponding parking ratio. Staff listed the use and matched it with a use from the parking table to calculate an approximate comparison to the size of the Buc-ee's use and the estimated parking. Where a comparison was not feasible, the field is left blank. The table also includes language from the Land Development Code that describes how to apply parking ratios.

*Exhibit 5 - C-1 Zone Allowed Use with ITE Trip Generation Rates* - The trip generation rates provided come from the 2025 ITE Trip Generation Manual, 12th Edition. The manual is the industry standard used throughout the United States to estimate how many trips a proposed development will generate. These rates are based on real world data. There is typically a minimum and maximum size of land use that are used to develop the trip generation rates. It is not recommended to use this data to estimate trips for proposed land use outside of the collected data range. When a proposed land use is beyond the range of data provided by ITE, it is typically recommended that the applicant review similarly sized land uses and develop their own trip generation rate.

*Exhibit 6 – Unincorporated EPC Approved Convenience Stores and Fuel Centers with Mapping* – The table portion of this exhibit shows all locations with approved or legally existing gas stations and

convenience stores. A blue color-coding under the Name column indicates a gas station associated with a full-size grocery store. Site-specific metrics and development details are listed. The map portion of this exhibit displays fuel centers and convenience stores, with the zone district of each site indicated by a color scale. The locations are numbered, matching the table. Zoning is displayed in a land-use context, such as residential and commercial as opposed to specific zone districts, to provide a simpler visualization of the neighborhood character.

*Exhibit 7 - C-1 Zoned Parcels in Unincorporated EPC with Parcel Mapping* – The table portion of this exhibit is an export of Assessor’s Office records, filtered to display properties with C-1 Zoning. Planning Department classifications are listed, as approved in EDARP records. The map portion of this exhibit displays C-1 zoned parcels and their approved or legally existing use. The locations are numbered, matching the table. Zoning is displayed in a land-use context, such as residential and commercial as opposed to specific zone districts, to provide a simpler visualization of the neighborhood character.

*Exhibit 8 – Community Comparisons* - This is a summary of communities with “Travel Centers”. This spreadsheet includes columns: “Use”-which is what the community identified the application as under their code “Travel Center Definition”-whether or not the community has a definition in their code for this type of use, and “Zoning”-the end zoning of the property to allow the proposal. Further, a “Notes” section explains any additional details unique to the community or about the project; for instance, several communities required a zoning overlay to achieve the goals of both the community and the applicant.

## **Attachments**

Exhibit 1 - Applicant Appeal and Administrative Determination Request  
Exhibit 2 - Administrative Determination Response Letter from PCD Staff  
Exhibit 3 - C-1 Uses with Definitions  
Exhibit 4 - C-1 Uses and Parking Ratios  
Exhibit 5 - C-1 Zone Allowed Use with ITE Trip Generation Rates  
Exhibit 6 - Convenience Stores in EPC  
Exhibit 7 – EPC C-1 Zoned Properties  
Exhibit 8 - Community Comparisons  
Correspondence

Letter from Town of Monument  
Letter from NEPCO  
Emails in support  
Emails in opposition

**BOCC Report Packet**

July 2, 2026

El Paso County, Colorado Board of County Commissioners  
200 South Cascade Avenue, Suite 150  
Colorado Springs, CO 80903

Dear Commissioners,

Buc-ee's EPCO, LLC submitted a request for an Administrative Determination pursuant to Sections 2.2.4.B.8 and 5.3.6 of the El Paso County Land Development Code ("LDC" or "Code") on June 22, 2026. The Planning and Community Development Director issued an Administrative Determination on July 1, 2026, in response to that request. The Administrative Determination concluded that the proposed Buc-ee's use categorization is unclear under the Code.

Pursuant to Section 2.2.1.H of the Code, the Board of County Commissioners ("BoCC") is the ultimate interpreter of the meaning and application of the Code. Accordingly, Buc-ee's EPCO, LLC hereby appeals the July 1, 2026, Administrative Determination to the BoCC and respectfully requests review and interpretation of the applicable Code provisions. The June 22, 2026, Administrative Determination request and all associated exhibits are attached hereto and incorporated by reference as the basis for this appeal. Additionally, Buc-ee's EPCO, LLC reserves the right to supplement the record and present additional evidence and argument in support of this appeal at the appeal hearing.

Respectfully submitted,

Buc-ee's EPCO, LLC  
July 2, 2026

**APPLICANT:** Buc-ee's EPCO, LLC  
11200 W Broadway Ste 2332  
Pearland, TX 77584  
979.230.2920

**ZONING:** C-1

**EXHIBITS:** Exhibit A- Convenience Store Examples  
Exhibit B- Site Composition Plan  
Exhibit C- Trip Generation Memorandum  
Exhibit D- Buc-ee's Traffic Impact Analysis  
Exhibit E- Site Development Plan

### **REQUEST**

This letter requests an Administrative Determination pursuant to Sections 2.2.4.B.8 and 5.3.6 of the El Paso County Land Development Code ("LDC" or "Code") confirming that the proposed Buc-ee's development constitutes a "Convenience Store" as defined by the Code and permitted in the existing C-1 (Commercial) zoning district, or, alternatively, constitutes a similar permitted commercial use in the C-1 district under Section 1.6.7 of the Code.

### **USE DESCRIPTION**

The proposed development consists of a Buc-ee's convenience store offering convenience-oriented retail items and petroleum fuel sales for passenger vehicles. The development will include an approximately 74,000 square-foot building, 60 multi-product fueling dispensers under two canopies (120 fueling positions), approximately 20 electric vehicle ("EV") charging stations, approximately 790 surface parking spaces, bicycle parking, and associated site infrastructure.

The project is designed to meet or exceed all applicable provisions of the Code, the El Paso County Engineering Criteria Manual, and the El Paso County Drainage Criteria Manual, as well as all other applicable County, State, and Federal regulations.

Buc-ee's will serve residents, employees, and others in the surrounding area by offering everyday convenience goods, including groceries (such as milk, eggs, juice, and similar staples), ready-to-eat foods (including breakfast items, fresh fruit, salads, barbeque sandwiches, and other hot foods), beverages, snacks, over-the-counter medications, household sundries, gifts, apparel, and other convenience retail merchandise. No on-site seating is proposed.

Fuel sales for passenger vehicles will operate as an integrated component of the overall convenience retail operation. Buc-ee's will not provide vehicle repair services, oil changes, installation of vehicle accessories, mechanical work, vehicle washing facilities, or other vehicle-servicing functions. The project also will not operate as a truck stop or otherwise accommodate 18-wheel tractor-trailers. No

showers, truck or car washes, truck repair facilities, overnight parking, lodging accommodation, or other similar truck stop-related functions are proposed.

In addition, the project will provide community-serving amenities and improvements that support neighborhood accessibility, connectivity, safety, and convenience, including:

- Dedicated community bicycle plaza featuring bicycle parking, seating, and a bike repair station to serve nearby residents and recreational users accessing the regional trail systems;
- On-site EV charging stations that expand convenient access for residents and employees in the neighborhood, including those who live in apartments, condominiums, or other homes without garages or home charging equipment;
- Enhanced on-site open space and landscaping consisting of approximately 35% of the site which significantly exceeds the Code requirement of 5%;
- Wildlife mitigation measures recommended by the Environmental Division of the Colorado Department of Transportation that will help reduce wildlife-vehicle conflicts along the I-25 corridor and improve overall corridor safety;
- Community-supportive emergency infrastructure, including 24-hour backup power generation, allowing Buc-ee's to function as a temporary refuge and support location for the community during severe weather events, utility outages, and other emergency conditions;
- Designated on-site emergency staging area available for use by the local fire district and other area public service providers during emergency events; and
- Fire water supply system upgrades coordinated with Monument Fire District to support on-site service needs while also providing excess capacity to assist surrounding properties and enhance neighborhood and regional life safety during fire events.

## **BACKGROUND**

The subject property is zoned C-1. (El Paso County Zone Map Book sheet 711.02.) Code Table 5-1, Principal Uses, expressly lists "Convenience Store" as an allowed principal use within the C-1 zoning district.

Code Section 1.15 (Definitions of Specific Terms and Phrases) includes the following relevant definitions:

- **Convenience Store** — An establishment for the purpose of offering for sale to the neighborhood in which it is located such items as groceries, ready to eat food, over the counter drugs, and sundries. A convenience store may include retail sale of gasoline and other petroleum products.
- **Gas Station** — A property where the retail sale of gasoline, diesel fuel, oil, or other fuel for vehicles and which may include, as an incidental use, the retail sale and installation of vehicle accessories, the making of minor repairs, and facilities for washing and servicing of not more than 3 vehicles completely enclosed in a structure.

As demonstrated below, the proposed use satisfies the Code's definition of a Convenience Store and does not satisfy the definition of a Gas Station.

## **CONVENIENCE STORE USE ANALYSIS**

### **1. The proposed Buc-ee's meets the Code definition of a Convenience Store.**

The proposed Buc-ee's will offer a broad range of convenience-oriented goods commonly associated with convenience stores, including groceries, ready-to-eat foods, beverages, over-the-counter medicines, household sundries, and general retail merchandise. The proposed convenience store will also include retail petroleum fuel sales.

These goods and petroleum fuel sales fall within the Code's definition of a Convenience Store, which includes an establishment offering for sale "groceries, ready to eat food, over the counter drugs, and sundries" and further provides that a Convenience Store "may include retail sale of gasoline and other petroleum products."

The proposed Buc-ee's therefore satisfies the plain language of the Code's Convenience Store definition: it is an establishment that sells the enumerated convenience goods, and its petroleum fuel sales are expressly permitted as part of that same use. Under the Code's rules of interpretation, its language must be read literally, and restrictions should not be implied where none are stated. (See Code Section 1.6.1 ["The language of this Code shall be read literally."].)

### **2. The proposed Buc-ee's will serve the surrounding neighborhood.**

The proposed Buc-ee's will operate as an establishment offering goods for sale to the neighborhood in which it is located. The Code defines "Neighborhood" as follows:

"Primarily residential areas unified by shared characteristics, functional connections and spatial perceptions. Elements which define or reinforce a neighborhood orientation include common design themes, pedestrian and bicycle linkages, shared facilities and public spaces and identifiable boundaries, edges or gateways." (Code Section 1.15.)

This definition is inclusive and functional. It does not limit a neighborhood to immediately adjacent residences or define it by a fixed trade area. Rather, it recognizes that "functional connections," "shared facilities," and "public spaces" which unify and serve the surrounding area are integral components of the neighborhood.

Consistent with the Code definition, the relevant neighborhood includes nearby residential and commercial areas together with the transportation corridors that connect them. In this location, those functional connections include Interstate 25, County Line Road, and Beacon Lite Road, which are immediately adjacent to the subject site, and link nearby homes, places of employment, schools, recreational facilities, and commercial destinations.

The proposed Buc-ee's will be physically connected to and functionally integrated with the existing roadway network and surrounding land uses, operating as a readily accessible and complementary

component of the neighborhood. It will serve the neighborhood by providing convenient access to everyday convenience goods, such as groceries, prepared foods, beverages, sundries, and fuel, for people living, working, and already traveling within the surrounding area. Residents and employees will be able to purchase these goods during routine trips to and from work, home, school and other daily destinations, while people already using the surrounding roadway network will be able to do so efficiently without introducing traffic on interior residential streets.

Importantly, the Code does not limit convenience stores to serving only immediately adjacent residences or prohibit their location along major transportation corridors. To the contrary, the Code's definition of "Neighborhood" recognizes that the surrounding roadway network helps define the area and is a critical component of its functional structure. Moreover, convenience stores in unincorporated El Paso County are commonly located along arterial roadways and freeway interchanges because those locations efficiently serve nearby residents, employees, and others already traveling in the area. Examples include Circle K at 11769 US-24 in Falcon, Charlie's Convenience Store at 1580 Meadowbrook Parkway, Circle K at 613 Meadowbrook Parkway, Fuel B's/Sinclair at 23580 Highway 94, and Loaf N Jug at 6857 Space Village. (Attached hereto as Exhibit "A" and made a part hereof.) This siting pattern reflects the fundamental nature of convenience retail: providing efficient access to everyday goods and services for people living, working, and traveling nearby.

The project further reinforces its neighborhood-serving function through substantial community-oriented improvements designed to enhance accessibility, connectivity, safety, and public convenience within the surrounding area. These include, for example, EV charging facilities, enhanced landscaping and open space, wildlife mitigation measures, 24-hour backup power capability allowing the facility to function as a temporary community refuge and support location during emergency events, a dedicated on-site emergency response staging and coordination area for local public safety providers, and fire water supply system improvements coordinated with the Monument Fire District that will provide excess capacity to assist surrounding properties and enhance neighborhood and regional life safety during fire events. Collectively, these features constitute shared facilities and public spaces that are accessible to, and benefit, the surrounding community, while further integrating the project into the surrounding neighborhood by enhancing public connectivity, accessibility, safety, and convenience.

Accordingly, the proposed Buc-ee's constitutes an establishment offering goods for sale to the neighborhood in which it is located, consistent with both the text of the Code and its function-based definition of "Neighborhood."

### **3. The Code does not limit the size of Convenience Stores.**

Section 1.14.7 provides that the Code's definitions "define the limits of specific uses and other standards." Consistent with that directive, the Code does not condition use classification as a Convenience Store on building size, number of fueling positions, or customer volume. Neither the definition of "Convenience Store" in Section 1.15 nor the use-specific standards in Section 5.2 (Use Specific Development Standards) impose any limitation on building size, fuel-pump count, or other scale-based criterion.

The structure of the Code confirms this conclusion. Where the Code intends to regulate a use based on size, scale, or operational characteristics, it does so expressly. For example, certain defined uses in

Section 1.15 (Definitions) include explicit size and operating limitations,<sup>1</sup> and Table 5-1 (Principal Uses) and Section 5.2 (Use-Specific Development Standards) likewise identify uses subject to acreage thresholds, size-based criteria or other use-specific standards.<sup>2</sup> This includes, for example, an Agritainment use cannot have more than 50 vehicles onsite at any time, Accessory Living Quarters may not exceed 1,500 square feet, Auctions may not be held more than 3 times a year, stays at a Bed and Breakfast Inn are limited to no more than 30 days, and Mixed Use Residential includes specific residential to commercial ratios. No comparable limitation applies to “Convenience Store,” which is listed as an Allowed Use (“A”) in the CC, CR, CS, C-1, C-2, and M zoning districts without qualification or size restriction.

The absence of any such limitation is significant. Under the Code’s rules of interpretation, its language must be read literally, and restrictions should not be implied where none are stated. (See Code Section 1.6.1 [“The language of this Code shall be read literally.”].) Because the Code allows Convenience Stores in the C-1 district without any size-based qualification, there is no textual basis to treat scale as disqualifying where the definitional elements are otherwise satisfied.

Instead, the Code regulates development intensity on the subject site through objective dimensional and general development standards – such as setbacks, height, landscaping, parking, loading, and other standards – rather than by expanding or modifying the scope of the use through the definitional text, as it does for other defined uses. The proposed development fully complies with the applicable standards, as demonstrated by the Site Development Plan (attached hereto as Exhibit “E” and made a part hereof) and supporting application materials.

Accordingly, the size of the proposed Buc-ee’s does not disqualify it from classification as a Convenience Store under the Code.

#### **4. The proposed Buc-ee’s does not meet the Code definition of a Gas Station.**

The proposed Buc-ee’s does not meet the Code definition of a Gas Station. The Code defines “Gas Station” as a use primarily oriented toward the petroleum fueling and servicing of motor vehicles. The definition specifically contemplates vehicle-related services such as the installation of vehicle accessories, minor mechanical repairs, and facilities for washing and servicing vehicles. It also expressly limits retail activity to the incidental sale of vehicle accessories.

These elements demonstrate that the Code contemplates a Gas Station as an automotive service-oriented use in which petroleum fueling and vehicle-related services are the principal activity, and any retail sales are severely limited, incidental and subordinate. The operative distinction is not merely whether petroleum fuel is sold, but whether the use is principally directed toward petroleum fueling and servicing vehicles, as opposed to retail sale of convenience goods to customers.

The proposed Buc-ee’s does not meet that definition. It will not provide vehicle repairs, oil changes, accessory installation, car washing or other automotive servicing functions. Nor will it operate as a truck stop: it will not accommodate 18-wheel tractor-trailers or include showers, overnight parking, lodging, or similar truck-stop features. Instead, Buc-ee’s is a retail convenience store offering groceries,

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<sup>1</sup> See e.g. Adult Arcade, Adult Store, Bed and Breakfast Inn, Day Care Home, Small Cell CMRS Facility, Energy Generation Facility, Farm, Gas Station, Golf Course, Minor Kennel, Night Club.

<sup>2</sup> See Code Table 5-1, Footnotes 1, 2, 3, 4, 5, 7.

prepared foods, beverages, sundries and related convenience merchandise, with fuel sales operating as an integrated component of that retail use as contemplated by the “convenience store” definition.

Buc-ee’s convenience retail character is reflected in both the project’s site design and operational metrics. As depicted on the Site Composition Plan (attached hereto as Exhibit “B” and made a part hereof), approximately 92% of the relevant site area is dedicated to the convenience retail building and associated parking, while only approximately 8% is devoted to fuel sales.<sup>3</sup> Similarly, based on Buc-ee’s operations nationwide, more than 60% of projected revenue is expected to derive from in-store retail and food sales, rather than fuel sales. These metrics confirm that retail sales are the project’s primary activity and that fuel sales operate as an integrated component of the overall convenience retail operation, consistent with the “convenience store” definition.

Accordingly, the proposed Buc-ee’s is not a Gas Station as defined by the Code. It is a convenience store in which petroleum fuel sales are integrated into the overall retail operation.

## **5. The proposed Buc-ee’s is a single principal Convenience Store use.**

The proposed Buc-ee’s consists of a single principal use: a Convenience Store. The Code defines a “Convenience Store” as an establishment selling groceries, ready-to-eat food, over-the-counter drugs, and sundries, and expressly provides that such a use **“may include retail sale of gasoline and other petroleum products.”** By including fuel sales within the definition, the Code makes clear that fuel sales are part of the same principal use, not a separate principal use requiring independent classification.

That conclusion follows directly from the Code’s text. Where the Code intends to distinguish uses or impose additional limitations, it does so expressly. The Code therefore provides no basis to sever the fueling component from the store and recharacterize the project as multiple principal uses or as a new or unlisted use based on characteristics the Code does not identify as disqualifying.

The site design and operational characteristics further confirm that Buc-ee’s functions as a single, unified Convenience Store use. The retail convenience store is the dominant feature, occupying the primary building area and serving as the focal point of customer activity through its extensive offerings of convenience goods and prepared foods. Consistent with the Code’s definition, the fueling area operates as an integrated component of that same use, supporting the customer’s convenience retail experience rather than operating independently.

The site layout encourages customers to park, enter the store, and exit quickly and efficiently – patterns characteristic of a convenience store use. The site provides ample, conveniently located parking and wide internal circulation designed to facilitate short-duration visits and direct access to the retail building. No on-site seating is provided. The circulation system prioritizes safe and direct movement to and from the building, with fueling infrastructure integrated as a supporting feature. The project does not include a separate automotive-service operation or any vehicle repair, washing, servicing, or truck-related functions.

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<sup>3</sup> The remaining site area includes the detention pond, utilities, open space areas, and landscape buffers which are not associated with any particular use.

Accordingly, the proposed development is properly classified as a single principal Convenience Store use under the Code, with retail fuel sales operating as an integrated component of that same use.

### **SIMILAR USE ANALYSIS**

Although the proposed development meets the Code definition of a Convenience Store, it also independently qualifies as a similar permitted use under Section 5.3.6.C.1 because it is consistent with the purpose of the C-1 (Commercial) zoning district and comparable to other permitted commercial uses in the C-1 zone.

#### **1. Buc-ee's function, performance characteristics, and location requirements are consistent with the purpose and description of the zoning district where it is proposed.**

The proposed Buc-ee's is consistent with the purpose and description of the C-1 zoning district. The purpose statement for the C-1 district provides that the district "is established for the purpose of providing for commercial activities." (Code Section 4.4.1(A).) This is a broad, unqualified statement of purpose that imposes no limitation on the scale, type, or customer base of the commercial uses. A Code-compliant Buc-ee's convenience store offering goods and fuel to people living, working, and already traveling within the surrounding neighborhood is fully consistent with that purpose.

Nothing in the C-1 district purpose statement limits the size of a convenience store or restricts it to serving only immediately adjacent properties. By contrast, the purpose statements for the CC, CR, and CS zoning districts expressly identify the consumers those districts are intended to serve. (Code Section 3.2.5.) As discussed above, when the Code intends to impose such limitations, it does so expressly. The absence of similar limiting language here confirms that the proposed use is consistent with the district's intended commercial character.

The proposed Buc-ee's also shares the core function and operational characteristics of commercial uses expressly permitted in the C-1 district. Like other permitted commercial uses including commercial or retail as part of overall shopping centers, general retail sales, hotels, indoor amusement centers, theaters, restaurants, bars, and parking lots- the proposed Buc-ee's involves customer access, on-site parking, internal circulation, lighting, signage, utilities, and associated site infrastructure. These are ordinary characteristics of commercial development and are fully consistent with a district established to accommodate commercial activity.

The project's performance characteristics are likewise those of a commercial activity, not an industrial or other intensive land use outside the intended scope of the district. The proposed development does not involve manufacturing, processing, outdoor storage, heavy equipment operations, or hazardous industrial activity. Rather, it consists of customer-oriented retail sales and related convenience services conducted on a fully improved commercial site.

Buc-ee's location is likewise consistent with the C-1 district. Commercial uses are commonly situated along major transportation corridors to provide efficient access for customers living, working, and already traveling in the surrounding area. The site's location near Interstate 25, County Line Road, and Beacon Lite Road are therefore consistent with the locational pattern of commercial development contemplated by the district.

The Code addresses potential project impacts such as traffic, parking, lighting, drainage, and access, through objective development standards, and the project is designed to satisfy those standards. As reflected in the Site Development Plan, the project includes a roundabout and turn lanes to address traffic, parking and internal circulation designed to avoid spillover and congestion on surrounding roadways; a Code-compliant lighting plan with fully shielded, downcast fixtures to prevent off-site light spillover; landscaping incorporating native low-water plantings and screened loading and refuse areas exceeding the minimum Code requirements.

Accordingly, the proposed Buc-ee's is fully consistent with the purpose, function, performance characteristics, and locational pattern of commercial uses contemplated by the C-1 zoning district.

**2. Buc-ee's is compatible with uses specifically allowed in the district, and similar in characteristics such as traffic and parking generation, noise, glare, vibration, and dust.**

The proposed Buc-ee's is compatible with, and materially similar to, a broad range of commercial uses expressly permitted in the C-1 zoning district- including commercial or retail as part of overall shopping centers, general retail sales, hotels, indoor amusement centers, theaters, restaurants, bars, and parking lots - uses that routinely generate substantial customer traffic, parking demand, lighting, and ordinary commercial activity.

The full list of allowed uses in the C-1 zoning district is as follows:

- **Indoor Amusement Centers**  
(e.g. Skyzone, shooting range, health club)
- **Bar**
- Barber/Beauty Shop
- Billard Parlor
- Car Wash
- Child Care Center
- Club
- Small Cell CMRS Facility
- Stealth CMRS Facility
- **Commercial or Retail as Part of Overall Shopping Center**  
(e.g. Falcon Marketplace, Polaris Pointe)
- Copy Shop
- **Public Educational Institution**
- **Public Emergency Facility**
- Financial Institution
- Funeral Home
- **Hotel (e.g. Great Wolf Lodge)**
- Inert Material Disposal Site
- **Major Kennel**
- Minor Kennel
- **Laboratory**
- Liquor Store
- Medical Marijuana Land Use
- Retail Nursery
- General Office
- Over the Air Reception Devices

- **Parking Lot (e.g. CDOT Park and Ride)**
- Public Building, Way or Space
- Public Park and open Space
- Rehabilitation Facility
- Religious Institution
- Rental Services
- Repair Shop
- **Restaurant**
- **General Retail Sales (e.g. Bass Pro Shop, IKEA, King Soopers Marketplace)**
- Sexually Oriented Business
- Store
- Studio
- **Theater (e.g. Broadmoor World Arena, Pikes Peak Center)**

(Table 5-1 [emphasis added for uses with similar, or more intense characteristics].)

Buc-ee's operational characteristics are consistent with these permitted uses. Like other commercial developments in the district, the project will involve customer access, vehicular traffic, on-site parking, internal circulation, lighting, and related site infrastructure. The Code contemplates that such characteristics will be addressed through objective development standards, including traffic review (attached hereto as Exhibit "D" and made a part hereof), parking requirements, landscaping, lighting controls, drainage criteria, access design, and other related engineering criteria. The proposed development is designed to fully comply with those standards, as reflected in the Site Development Plan.

Many uses expressly permitted in the C-1 district are capable of generating traffic volumes and parking demand equal to or greater than those associated with the proposed Buc-ee's. The Trip Generation Memorandum (attached hereto as Exhibit "C" and made a part hereof) confirms that, when evaluated against the theater/concert venue, general retail, and supercenter scenarios, the proposed Buc-ee's development generates traffic volumes and peak-hour traffic characteristics that are comparable to, and in most respects lower than, those associated with other permitted, Code-compliant commercial uses that could be developed on the site under the existing C-1 zoning. More specifically, the proposed Buc-ee's development generates:

- Significantly fewer daily and PM peak-hour trips than the general retail scenario,
- Fewer AM and PM peak-hour trips and broadly comparable daily traffic volumes relative to the supercenter scenario, and
- Significantly fewer PM peak-hour trips than the theater/concert venue scenario, where event-related arrivals and departures occur within concentrated time periods and create more intensive short-duration traffic impacts.

Importantly, the PM peak hour is typically the controlling hour for transportation analysis because it often dictates the need for intersection improvements, and the proposed Buc-ee's generates fewer PM peak-hour trips than all three comparison scenarios. Accordingly, the Trip-Generation Memorandum confirms that the proposed Buc-ee's development would generate traffic impacts consistent with, and in

most respects less than, those associated with other permitted, Code-compliant uses that could be developed on the site under the existing C-1 zoning.

In addition, the project-specific traffic study demonstrates that Buc-ee's traffic impacts can be fully mitigated through the roadway improvements, access controls, and circulation design reflected in the Site Development Plan.

Permitted uses within the district are likewise capable of generating noise equal to or greater than that associated with the proposed Buc-ee's. High-traffic commercial uses, such as theaters, commercial or retail as part of overall shopping center, and parking facilities, generate sustained vehicle activity and corresponding noise, while other permitted uses, such as major kennels and public emergency facilities, can generate intermittent peak noise from barking, dispatch activity, sirens, and related operations.

By contrast, the proposed Buc-ee's is limited to ordinary commercial noise sources, principally customer activity and passenger vehicle movements, within an area already influenced by continuous traffic along Interstate 25, County Line Road, and Beacon Lite Road. Moreover, the Trip Generation Memorandum demonstrates that vehicle trip generation for the proposed use will be comparable to or less than that of other permitted commercial uses and, accordingly, that vehicle-related noise will likewise be comparable or less.

The proposed development is a fully enclosed, customer-oriented retail use on a commercial site. It does not involve industrial activity, outdoor storage, heavy equipment operations, or hazardous processes and, therefore, will not generate excessive vibration, smoke, fumes, or dust. Fueling activities will occur under canopy coverage and in compliance with all applicable building, fire, environmental, and safety regulations.

As with other allowed uses in the zone, site lighting will comply with Code requirements governing glare and light spillover, with fully shielded, downcast fixtures designed to prevent off-site illumination and maintain compatibility with surrounding properties.

Accordingly, the proposed Buc-ee's is compatible with the uses expressly allowed in the C-1 district and is similar to, or less intensive than, those uses with respect to traffic generation, parking demand, noise, glare, vibration, dust, and overall operational characteristics.

### **3. The Buc-ee's use will comply with all other development standards.**

Code Section 5.3.6.C.5 requires that similar uses comply with all applicable development standards.<sup>4</sup> The submitted Site Development Plan and supporting materials demonstrate that the project will fully comply with all relevant Code requirements, the El Paso County Engineering Criteria Manual,

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<sup>4</sup> "Any use determined to be substantially similar to an allowed use, special use, temporary use, or accessory use in a zoning district or overlay zoning district shall comply with all other development standards contained in this Code pertaining to the substantially similar use, including, but not limited to, dimensional requirements, landscaping requirements, parking requirements, and design requirements."

the El Paso County Drainage Criteria Manual, as well as all other applicable County, State, and Federal Regulations.

## **CONCLUSION**

For these reasons, the County should issue an Administrative Determination confirming that the proposed Buc-ee's constitutes a permitted Convenience Store use in the C-1 zoning district. The project satisfies the Code's definition of that use, does not meet the Code's definition of a Gas Station, and is designed to comply with the Code's applicable development standards.

Alternatively, and independently, the proposed Buc-ee's qualifies as a similar permitted commercial use within the C-1 zoning district because it is consistent with the district's purpose, compatible with permitted uses, and similar in operational characteristics and impacts to a broad range of commercial uses the Code already allows.

## Exhibit A- Convenience Store Examples



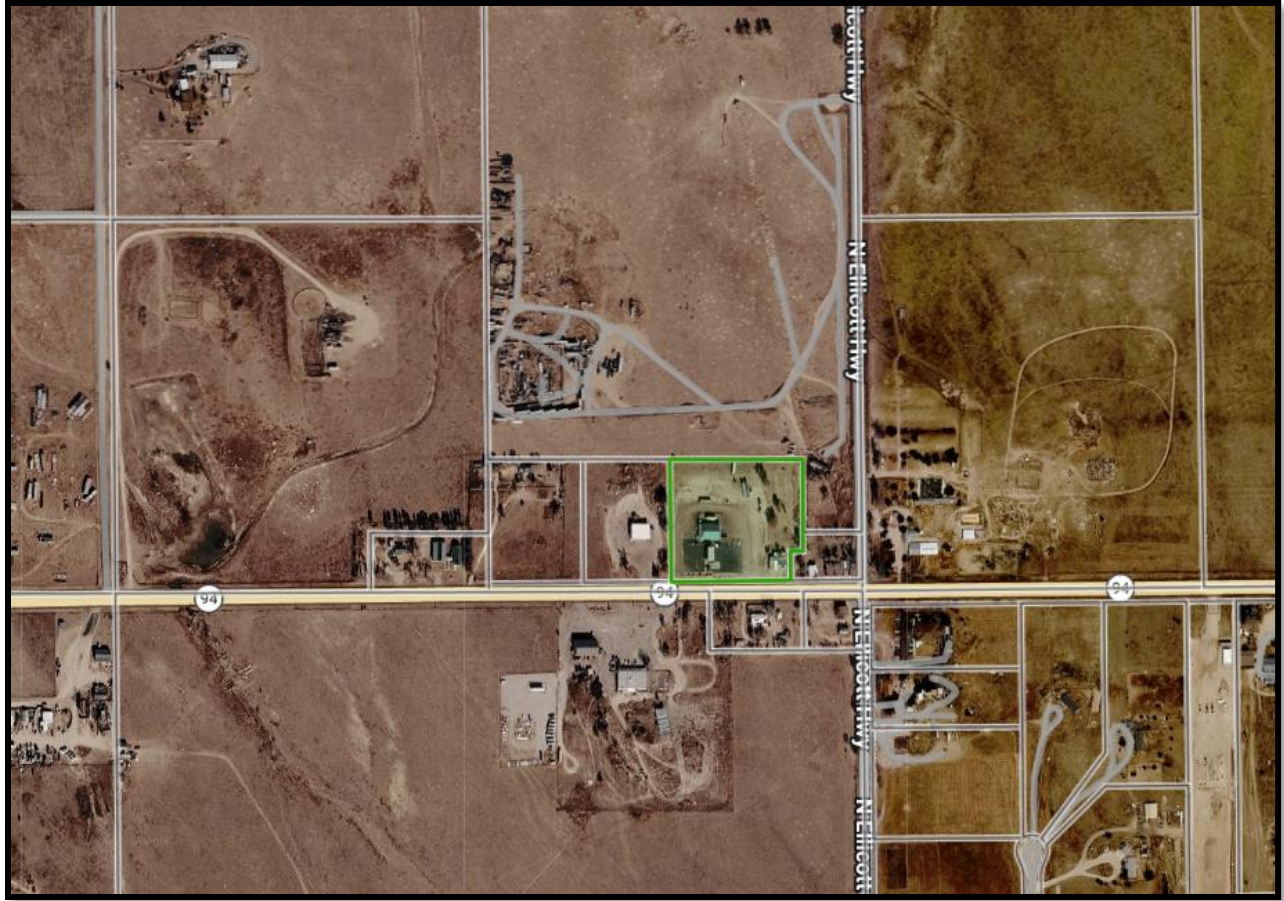
**Circle K at 11769 US-24 in Falcon**



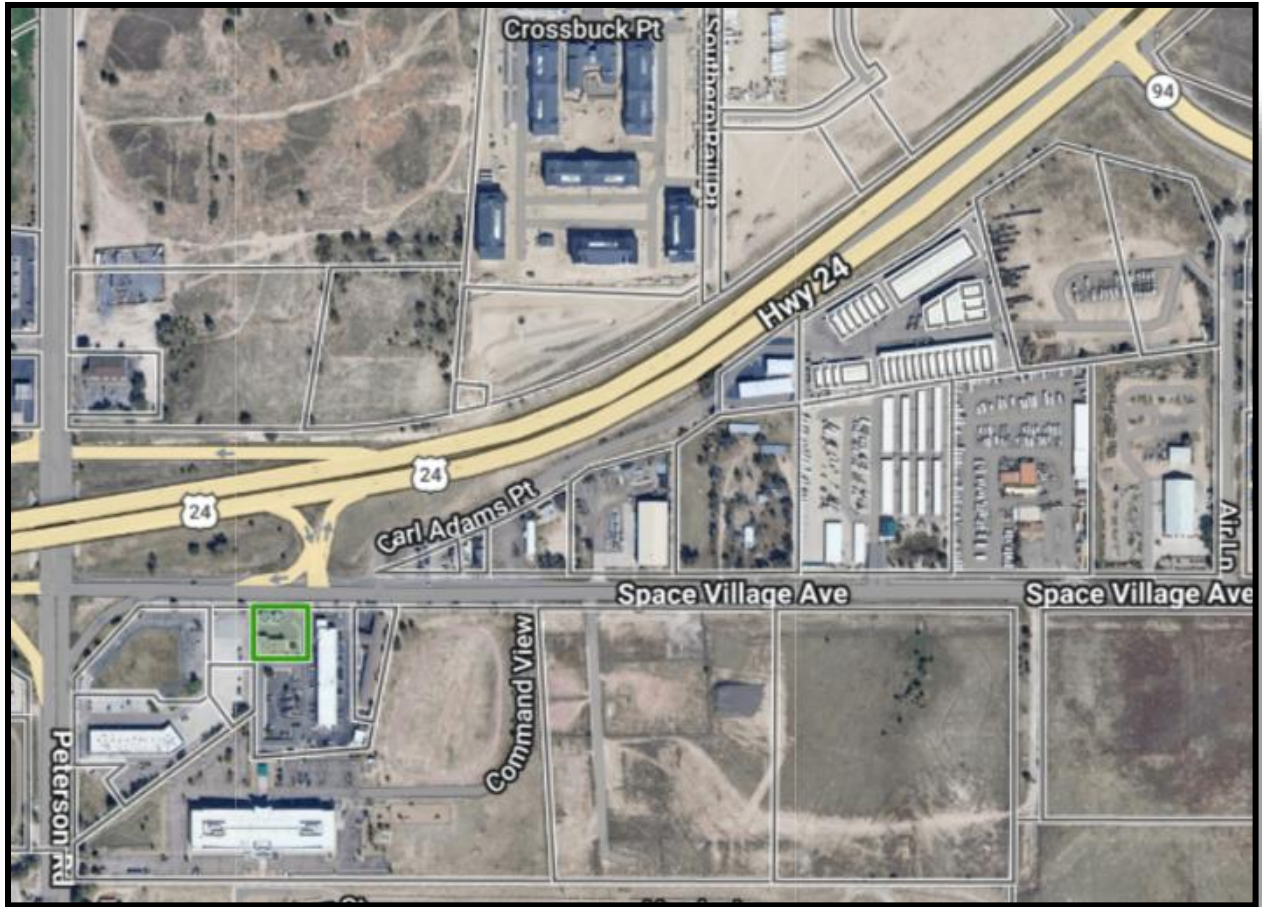
**Charlie's Convenience Store at 1580 Meadowbrook Parkway**



**Circle K at 613 Meadowbrook Parkway**

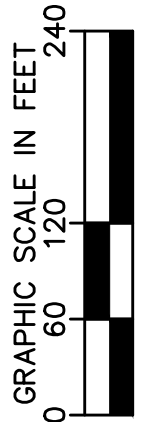


**Fuel B's/ Sinclair at 23580 Highway 94**



**Loaf N Jug 6857 Space Village**

Exhibit B- Site Composition Plan



# Kimley»Horn

© 2026 KIMLEY-HORN AND ASSOCIATES, INC.  
6200 SOUTH SYRACUSE WAY, SUITE 300  
GREENWOOD VILLAGE, COLORADO 80111  
PHONE: (303) 228-2300

PHONE: (303) 228-2300

OVERALL SITE DEVELOPMENT PLAN

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SITE DEVELOPMENT PLAN

EL PASO COUNTY  
PREPARED FOR  
BUC-EE'S, LTD.

COUNTY OF EL PASO

SHEET NUMBER

COLORADO

|             |           |      |           |       |          |             |    |          |    |            |    |
|-------------|-----------|------|-----------|-------|----------|-------------|----|----------|----|------------|----|
| KHA PROJECT | 196094001 | DATE | 5/19/2026 | SCALE | AS SHOWN | DESIGNED BY | MN | DRAWN BY | EC | CHECKED BY | KE |
|-------------|-----------|------|-----------|-------|----------|-------------|----|----------|----|------------|----|

M

Exhibit C- Trip Generation Memorandum

## Trip Generation Memorandum

### Re: Trip Generation Comparison for Proposed Buc-ee's Development

This memorandum presents a trip generation comparison between the proposed Buc-ee's development and three commercial development scenarios that could be developed on the subject site under the existing C-1 zoning. Each scenario reflects a development alternative consisting of a use permitted in the C-1 zone district that could be developed on the subject site in compliance with applicable Code standards.

#### Development Assumptions and Methodology

The trip generation estimates are based on reasonable development assumptions for the subject 30-acre parcel, with building area, parking supply, and site design constrained to comply with the dimensional and development standards applicable in the C-1 zone district. The analysis therefore compares the proposed Buc-ee's development to Code-compliant alternatives that could otherwise occur on the subject site.

A summary chart of the trip generation comparison results is provided in Appendix A, and supporting calculations for the scenarios are provided in Appendix B. Concept plans for each scenario are provided in Appendix C.

#### Proposed Buc-ee's Traffic Generation

The proposed Buc-ee's convenience store is estimated to generate approximately 22,150 daily vehicle trips, with an AM peak hour volume of 1,236 trips (643 entering and 593 exiting) and a PM peak hour volume of 1,679 trips (840 entering and 839 exiting). (See Buc-ee's traffic study.)

#### 1. Comparison to General Retail Scenario

The general retail scenario is based on The Promenade Shops at Briargate located at 1605-1925 Briargate Pkwy, Colorado Springs, CO. For purposes of this analysis, the assumed development program consists of a total of 305,000 SF of building area with uses including general retail, restaurants, supermarket, and services. These uses are permitted in the C-1 zone district and are assumed to be developed in compliance with applicable Code requirements on the subject site.

The general retail land use category (including shopping plaza, supermarket, and restaurant uses) is estimated to generate approximately 35,934 daily vehicle trips, with the following peak hour volumes:

- AM peak hour: 1,521 trips (860 entering, 661 exiting)
- PM peak hour: 2,872 trips (1,467 entering, 1,405 exiting)

Relative to the proposed Buc-ee's development:

- The general retail scenario generates substantially higher daily vehicle trips than the proposed Buc-ee's development.

- The general retail scenario generates substantially higher PM peak hour trips than the proposed Buc-ee's development.
- The general retail scenario generates more AM peak hour trips than the proposed Buc-ee's development.

## 2. Comparison to Supercenter Scenario

The supercenter scenario is based on a Super Walmart or similar retail use as the anchor store with additional convenience store, restaurant, and service lots. The use is permitted in the C-1 zone district and is assumed to be developed in compliance with applicable Code requirements on the subject site.

The supercenter development is estimated to generate approximately 20,812 daily vehicle trips, with the following peak-hour volumes:

- AM peak hour: 1,271 trips (674 entering, 597 exiting)
- PM peak hour: 1,763 trips (893 entering, 870 exiting)

Relative to the proposed Buc-ee's development:

- The supercenter scenario generates daily vehicle trips that are broadly comparable to the proposed Buc-ee's development (within approximately 94% of the supercenter scenario).
- The supercenter scenario generates higher AM and PM peak hour trips than the proposed Buc-ee's development.

## 3. Comparison to Theater/Concert Venue Scenario

The theater/concert venue scenario is based on Ford Amphitheater.<sup>1</sup> For purposes of this analysis, the assumed development program consists of a maximum of 9,000 seats. The use is permitted in the C-1 zone district and is assumed to be developed in compliance with applicable Code requirements on the subject site.

The theater/concert venue is estimated to generate approximately 10,364 daily vehicle trips, with the following peak-hour volumes:

- AM peak hour: N/A
- PM peak hour: 3,268 trips (2,460 entering and 808 exiting).

Relative to the proposed Buc-ee's development:

- The theater/concert venue scenario generates substantially fewer daily vehicle trips than the proposed Buc-ee's development.

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<sup>1</sup> The Ford Amphitheater is outdoors, whereas the theater/concert venue scenario would be indoors. The Ford Amphitheater site is approximately 20 acres, whereas the Buc-ee's site is 30 acres.

- The theater/concert venue scenario generates substantially higher PM peak hour trips than the proposed Buc-ee's development.

## Conclusion

When evaluated against the general retail, supercenter, and theater/concert venue scenarios, the proposed Buc-ee's development generates traffic volumes and peak-hour traffic characteristics that are comparable to, and in most respects lower than, those associated with other permitted, Code-compliant commercial uses that could be developed on the site under the existing C-1 zoning.

- General Retail Scenario: The proposed Buc-ee's development generates significantly fewer daily (-13,784) and PM (-1,193) peak hour trips than the general retail scenario while also generating fewer AM peak hour trips (-285). Accordingly, a permitted general retail development would impose greater overall traffic demand on the surrounding roadway network.
- Supercenter Scenario: The proposed Buc-ee's development generates fewer AM (-35) and PM (-84) peak hour trips and the daily traffic volumes that are broadly comparable to the supercenter scenario. Accordingly, a permitted supercenter development would impose slightly greater overall traffic demand on the surrounding roadway network.
- Theater/Concert Venue Scenario: The proposed Buc-ee's development generates significantly fewer PM peak hour trips (-1,589) than the theater/concert venue scenario. This is because event-related arrivals and departures occur within concentrated time periods, resulting in more intensive short-duration traffic impacts.
- PM Peak Hour Volumes: The proposed Buc-ee's development generates fewer PM peak hour trips than all three development scenarios: 1) General Retail, 2) Supercenter general retail, and 3) Theater/Concert Venue. The PM peak hour is typically the controlling hour that dictates the need for intersection improvements.

Accordingly, the trip generation comparison confirms that the proposed Buc-ee's development would generate traffic impacts consistent with, and in most respects less than, those associated with other permitted, Code-compliant uses that could be developed on the site under the existing C-1 zoning.

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By: Jeff Planck  
Licensed Professional Engineer

# Appendix A – Trip Generation Comparison Summary

| Land Use                                                                      | Size                                        | Daily         | Weekday Vehicle Trips |            |              |              |              |              |
|-------------------------------------------------------------------------------|---------------------------------------------|---------------|-----------------------|------------|--------------|--------------|--------------|--------------|
|                                                                               |                                             |               | AM Peak Hour          |            | PM Peak Hour |              |              |              |
|                                                                               |                                             |               | In                    | Out        | Total        | In           | Out          | Total        |
| <b>Theater/Concert Venue</b>                                                  |                                             |               |                       |            |              |              |              |              |
| Theater/Concert Venue <sup>1</sup>                                            | 9,000 Seats                                 | 10,364        |                       | N/A        |              | 2,460        | 808          | 3,268        |
| <b>General Retail</b>                                                         |                                             |               |                       |            |              |              |              |              |
| Shopping Plaza (ITE 821)                                                      | 130,500 SF                                  | 13,236        | 288                   | 192        | 480          | 564          | 588          | 1,152        |
| Supermarket (ITE 850)                                                         | 120,000 SF                                  | 10,650        | 209                   | 145        | 354          | 447          | 447          | 894          |
| Fast Casual Restaurant (ITE 930)                                              | 12,000 SF                                   | 3,556         | 12                    | 7          | 19           | 91           | 81           | 172          |
| High-Turnover Sit-Down Restaurant (ITE 932)                                   | 30,000 SF                                   | 3,114         | 148                   | 121        | 269          | 168          | 107          | 275          |
| Fast-Foot Restaurant w/ Drive-Through Window (ITE 934)                        | 12,000 SF                                   | 5,378         | 203                   | 196        | 399          | 197          | 182          | 379          |
| <b>General Retail Total Trips</b>                                             |                                             | <b>35,934</b> | <b>860</b>            | <b>661</b> | <b>1,521</b> | <b>1,467</b> | <b>1,405</b> | <b>2,872</b> |
| <b>Supercenter</b>                                                            |                                             |               |                       |            |              |              |              |              |
| Free-Standing Discount Superstore (ITE 813)                                   | 200,000 SF                                  | 10,104        | 211                   | 165        | 376          | 423          | 441          | 864          |
| Strip Retail Plaza (ITE 821)                                                  | 16,000 SF                                   | 872           | 35                    | 28         | 63           | 53           | 52           | 105          |
| High-Turnover Sit-Down Restaurant (ITE 932)                                   | 12,000 SF                                   | 1,246         | 59                    | 49         | 108          | 67           | 43           | 110          |
| Fast-Foot Restaurant w/ Drive-Through Window (ITE 934)                        | 12,000 SF                                   | 5,378         | 203                   | 196        | 399          | 197          | 182          | 379          |
| Convenience Store/Gas Station (ITE 945)                                       | 5,000 SF /<br>16 Fueling Positions          | 3,212         | 166                   | 159        | 325          | 153          | 152          | 305          |
| <b>Supercenter Total Trips</b>                                                |                                             | <b>20,812</b> | <b>674</b>            | <b>597</b> | <b>1,271</b> | <b>893</b>   | <b>870</b>   | <b>1,763</b> |
| <b>Buc-ee's El Paso County</b>                                                |                                             |               |                       |            |              |              |              |              |
| Buc-ee's                                                                      | 120 Fueling Positions<br>74,000 SF Building | 22,150        | 643                   | 593        | 1,236        | 840          | 839          | 1,679        |
| <b>Net Difference in Trips - Various Land Uses vs Buc-ee's El Paso County</b> |                                             |               |                       |            |              |              |              |              |
| Theater/Concert Venue                                                         |                                             | +11,786       |                       | N/A        |              | -1,620       | +31          | -1,589       |
| General Retail                                                                |                                             | -13,784       | -217                  | -68        | -285         | -627         | -566         | -1,193       |
| Supercenter                                                                   |                                             | +1,338        | -31                   | -4         | -35          | -53          | -31          | -84          |

<sup>1</sup>Theater/Concert Venue is based on Ford Amphitheater projected trips for an 8,000-seat venue, scaled up to 9,000 seats. AM Peak Hour trips were not provided

## Appendix B – Trip Generation Equations & Calculations

### General Retail Daily Trip Generation Calculations

| TRIP GENERATION CHARACTERISTICS |                                                      |             |       |          | DIRECTIONAL DISTRIBUTION |            | BASELINE TRIPS |        |        | PASS-BY CAPTURE |      | NEW EXTERNAL VEHICLE TRIPS |            |        |        |
|---------------------------------|------------------------------------------------------|-------------|-------|----------|--------------------------|------------|----------------|--------|--------|-----------------|------|----------------------------|------------|--------|--------|
| Land Use + Code                 |                                                      | Source      | Scale | ITE Unit | Equation/Rate            | Entering % | Exiting %      | In     | Out    | Total           | Rate | PB Trips                   | Net New In | Out    | Total  |
| 1                               |                                                      |             |       |          |                          |            |                |        |        |                 |      |                            |            |        |        |
| 2                               | (821) Shopping Plaza (40-150k)                       | ITE 12th Ed | 131   | LKSF     | T = 101.43(X)            | 50%        | 50%            | 6,619  | 6,618  | 13,237          | 0.0% | 0                          | 6,619      | 6,618  | 13,237 |
| 3                               | (850) Supermarket                                    | ITE 12th Ed | 120   | KSF      | T = 85.95(X) + 336.45    | 50%        | 50%            | 5,325  | 5,325  | 10,650          | 0.0% | 0                          | 5,325      | 5,325  | 10,650 |
| 4                               |                                                      |             |       |          |                          |            |                |        |        |                 |      |                            |            |        |        |
| 5                               | (930) Fast Casual Restaurant                         | ITE 12th Ed | 12    | KSF      | T = 312.22(X) - 191.57   | 50%        | 50%            | 1,778  | 1,778  | 3,556           | 0.0% | 0                          | 1,778      | 1,778  | 3,556  |
| 6                               | (932) High-Turnover (Sit-Down) Restaurant            | ITE 12th Ed | 30    | KSF      | T = 103.75(X)            | 50%        | 50%            | 1,557  | 1,557  | 3,114           | 0.0% | 0                          | 1,557      | 1,557  | 3,114  |
| 7                               | (934) Fast-Food Restaurant with Drive-Through Window | ITE 12th Ed | 12    | KSF      | T = 448.12(X)            | 50%        | 50%            | 2,689  | 2,689  | 5,378           | 0.0% | 0                          | 2,689      | 2,689  | 5,378  |
| Total:                          |                                                      |             |       |          |                          |            | 17,968         | 17,967 | 35,935 |                 | 0    | 17,968                     | 17,967     | 35,935 |        |

### Supercenter Daily Trip Generation Calculations

| TRIP GENERATION CHARACTERISTICS |                                                      |             |       |          | DIRECTIONAL DISTRIBUTION |            | BASELINE TRIPS |        |        | PASS-BY CAPTURE |      | NEW EXTERNAL VEHICLE TRIPS |            |        |        |
|---------------------------------|------------------------------------------------------|-------------|-------|----------|--------------------------|------------|----------------|--------|--------|-----------------|------|----------------------------|------------|--------|--------|
|                                 | Land Use + Code                                      | Source      | Scale | ITE Unit | Equation/Rate            | Entering % | Exiting %      | In     | Out    | Total           | Rate | PB Trips                   | Net New In | Out    | Total  |
| 1                               | (813) Free-Standing Discount Superstore              | ITE 12th Ed | 200   | KSF      | T = 50.52(X)             | 50%        | 50%            | 5,052  | 5,052  | 10,104          | 0.0% | 0                          | 5,052      | 5,052  | 10,104 |
| 2                               | (822) Strip Retail Plaza (<40k)                      | ITE 12th Ed | 16    | LKSF     | T = 54.45(X)             | 50%        | 50%            | 436    | 436    | 872             | 0.0% | 0                          | 436        | 436    | 872    |
| 3                               | (932) High-Turnover (Sit-Down) Restaurant            | ITE 12th Ed | 12    | KSF      | T = 103.75(X)            | 50%        | 50%            | 623    | 623    | 1,246           | 0.0% | 0                          | 623        | 623    | 1,246  |
| 4                               | (934) Fast-Food Restaurant with Drive-Through Window | ITE 12th Ed | 12    | KSF      | T = 448.12(X)            | 50%        | 50%            | 2,689  | 2,689  | 5,378           | 0.0% | 0                          | 2,689      | 2,689  | 5,378  |
| 5                               | (945) Convenience Store/Gas Station                  | ITE 12th Ed | 5     | KSF      | T = 642.41(X)            | 50%        | 50%            | 1,606  | 1,606  | 3,212           | 0.0% | 0                          | 1,606      | 1,606  | 3,212  |
| Total:                          |                                                      |             |       |          |                          |            | 10,406         | 10,406 | 20,812 | 0.0%            | 0    | 10,406                     | 10,406     | 20,812 |        |

### General Retail AM Peak Hour Trip Generation Calculations

| TRIP GENERATION CHARACTERISTICS |                                                      |             |       |          | DIRECTIONAL DISTRIBUTION |            | BASELINE TRIPS |     |     | PASS-BY CAPTURE |      | NEW EXTERNAL VEHICLE TRIPS |            |     |       |
|---------------------------------|------------------------------------------------------|-------------|-------|----------|--------------------------|------------|----------------|-----|-----|-----------------|------|----------------------------|------------|-----|-------|
| Land Use + Code                 |                                                      | Source      | Scale | ITE Unit | Equation/Rate            | Entering % | Exiting %      | In  | Out | Total           | Rate | PB Trips                   | Net New In | Out | Total |
| 1                               |                                                      |             |       |          |                          |            |                |     |     |                 |      |                            |            |     |       |
| 2                               | (821) Shopping Plaza (40-150k)                       | ITE 12th Ed | 131   | LKSF     | T = 3.89(X) - 27.40      | 60%        | 40%            | 288 | 192 | 480             | 0.0% | 0                          | 288        | 192 | 480   |
| 3                               | (850) Supermarket                                    | ITE 12th Ed | 120   | KSF      | T = 2.95(X)              | 59%        | 41%            | 209 | 145 | 354             | 0.0% | 0                          | 209        | 145 | 354   |
| 4                               |                                                      |             |       |          |                          |            |                |     |     |                 |      |                            |            |     |       |
| 5                               | (930) Fast Casual Restaurant                         | ITE 12th Ed | 12    | KSF      | T = 1.58(X)              | 64%        | 36%            | 12  | 7   | 19              | 0.0% | 0                          | 12         | 7   | 19    |
| 6                               | (932) High-Turnover (Sit-Down) Restaurant            | ITE 12th Ed | 30    | KSF      | T = 8.97(X)              | 55%        | 45%            | 148 | 121 | 269             | 0.0% | 0                          | 148        | 121 | 269   |
| 7                               | (934) Fast-Food Restaurant with Drive-Through Window | ITE 12th Ed | 12    | KSF      | T = 33.24(X)             | 51%        | 49%            | 203 | 196 | 399             | 0.0% | 0                          | 203        | 196 | 399   |
| Total:                          |                                                      |             |       |          |                          |            |                | 860 | 661 | 1,521           |      | 0                          | 860        | 661 | 1,521 |

### Supercenter AM Peak Hour Trip Generation Calculations

| TRIP GENERATION CHARACTERISTICS |                                                      |             |       |          |               | DIRECTIONAL DISTRIBUTION |           | BASELINE TRIPS |      |       | PASS-BY CAPTURE |          | NEW EXTERNAL VEHICLE TRIPS |     |       |
|---------------------------------|------------------------------------------------------|-------------|-------|----------|---------------|--------------------------|-----------|----------------|------|-------|-----------------|----------|----------------------------|-----|-------|
|                                 | Land Use + Code                                      | Source      | Scale | ITE Unit | Equation/Rate | Entering %               | Exiting % | In             | Out  | Total | Rate            | PB Trips | Net New In                 | Out | Total |
| 1                               | (813) Free-Standing Discount Superstore              | ITE 12th Ed | 200   | KSF      | T = 1.88(X)   | 56%                      | 44%       | 211            | 165  | 376   | 0.0%            | 0        | 211                        | 165 | 376   |
| 2                               | (822) Strip Retail Plaza (<40k)                      | ITE 12th Ed | 16    | LKSF     | T = 3.93(X)   | 55%                      | 45%       | 35             | 28   | 63    | 0.0%            | 0        | 35                         | 28  | 63    |
| 3                               | (932) High-Turnover (Sit-Down) Restaurant            | ITE 12th Ed | 12    | KSF      | T = 8.97(X)   | 55%                      | 45%       | 59             | 49   | 108   | 0.0%            | 0        | 59                         | 49  | 108   |
| 4                               | (934) Fast-Food Restaurant with Drive-Through Window | ITE 12th Ed | 12    | KSF      | T = 33.24(X)  | 51%                      | 49%       | 203            | 196  | 399   | 0.0%            | 0        | 203                        | 196 | 399   |
| 5                               | (945) Convenience Store/Gas Station                  | ITE 12th Ed | 5     | KSF      | T = 64.97(X)  | 51%                      | 49%       | 166            | 159  | 325   | 0.0%            | 0        | 166                        | 159 | 325   |
| Total:                          |                                                      |             |       |          |               | 674                      | 597       | 1,271          | 0.0% | 0     | 674             | 597      | 1,271                      |     |       |

### General Retail PM Peak Hour Trip Generation Calculations

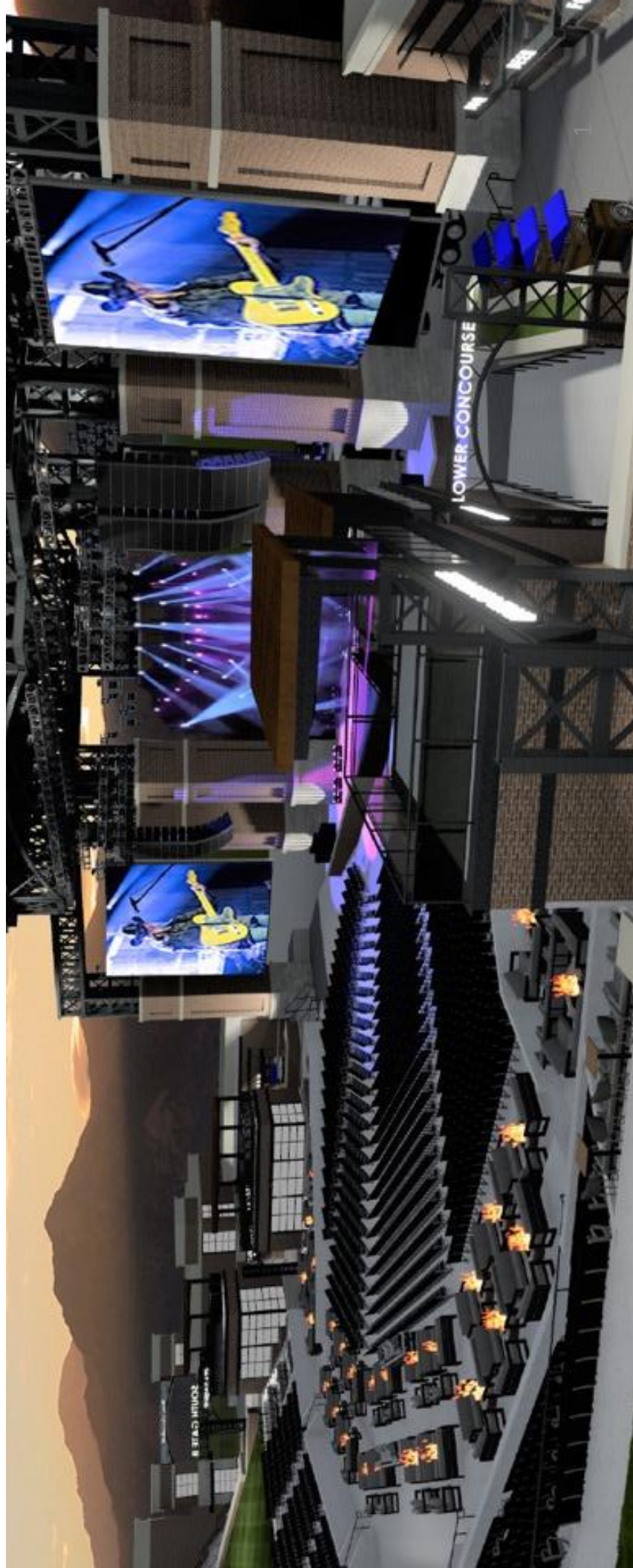
| TRIP GENERATION CHARACTERISTICS |                                                      |             |       |          | DIRECTIONAL DISTRIBUTION                  |            | BASELINE TRIPS |       |     | PASS-BY CAPTURE |      | NEW EXTERNAL VEHICLE TRIPS |            |       |       |
|---------------------------------|------------------------------------------------------|-------------|-------|----------|-------------------------------------------|------------|----------------|-------|-----|-----------------|------|----------------------------|------------|-------|-------|
| Land Use + Code                 |                                                      | Source      | Scale | ITE Unit | Equation/Rate                             | Entering % | Exiting %      | In    | Out | Total           | Rate | PB Trips                   | Net New In | Out   | Total |
| 1                               |                                                      |             |       |          |                                           |            |                |       |     |                 |      |                            |            |       |       |
| 2                               | (821) Shopping Plaza (40-150k)                       | ITE 12th Ed | 131   | LKSF     | $T = 9.34(X) - 66.48$                     | 49%        | 51%            | 564   | 588 | 1,152           | 0.0% | 0                          | 564        | 588   | 1,152 |
| 3                               | (850) Supermarket                                    | ITE 12th Ed | 120   | KSF      | $\text{Ln}(T) = 0.82 \text{Ln}(X) + 2.87$ | 50%        | 50%            | 447   | 447 | 894             | 0.0% | 0                          | 447        | 447   | 894   |
| 4                               |                                                      |             |       |          |                                           |            |                |       |     |                 |      |                            |            |       |       |
| 5                               | (930) Fast Casual Restaurant                         | ITE 12th Ed | 12    | KSF      | $T = 14.35(X)$                            | 53%        | 47%            | 91    | 81  | 172             | 0.0% | 0                          | 91         | 81    | 172   |
| 6                               | (932) High-Turnover (Sit-Down) Restaurant            | ITE 12th Ed | 30    | KSF      | $T = 9.18(X)$                             | 61%        | 39%            | 168   | 107 | 275             | 0.0% | 0                          | 168        | 107   | 275   |
| 7                               | (934) Fast-Food Restaurant with Drive-Through Window | ITE 12th Ed | 12    | KSF      | $T = 31.6(X)$                             | 52%        | 48%            | 197   | 182 | 379             | 0.0% | 0                          | 197        | 182   | 379   |
| Total:                          |                                                      |             |       |          |                                           | 1,467      | 1,405          | 2,872 |     |                 | 0    | 1,467                      | 1,405      | 2,872 |       |

### Supercenter PM Peak Hour Trip Generation Calculations

| TRIP GENERATION CHARACTERISTICS |                                                      |             |       |          | DIRECTIONAL DISTRIBUTION  |            | BASELINE TRIPS |       |      | PASS-BY CAPTURE |      | NEW EXTERNAL VEHICLE TRIPS |            |     |       |
|---------------------------------|------------------------------------------------------|-------------|-------|----------|---------------------------|------------|----------------|-------|------|-----------------|------|----------------------------|------------|-----|-------|
|                                 | Land Use + Code                                      | Source      | Scale | ITE Unit | Equation/Rate             | Entering % | Exiting %      | In    | Out  | Total           | Rate | PB Trips                   | Net New In | Out | Total |
| 1                               | (813) Free-Standing Discount Superstore              | ITE 12th Ed | 200   | KSF      | T = 4.32(X)               | 49%        | 51%            | 423   | 441  | 864             | 0.0% | 0                          | 423        | 441 | 864   |
| 2                               | (822) Strip Retail Plaza (<40k)                      | ITE 12th Ed | 16    | LKSF     | Ln(T) = 0.68 Ln(X) + 2.77 | 50%        | 50%            | 53    | 52   | 105             | 0.0% | 0                          | 53         | 52  | 105   |
| 3                               | (932) High-Turnover (Sit-Down) Restaurant            | ITE 12th Ed | 12    | KSF      | T = 9.18(X)               | 61%        | 39%            | 67    | 43   | 110             | 0.0% | 0                          | 67         | 43  | 110   |
| 4                               | (934) Fast-Food Restaurant with Drive-Through Window | ITE 12th Ed | 12    | KSF      | T = 31.6(X)               | 52%        | 48%            | 197   | 182  | 379             | 0.0% | 0                          | 197        | 182 | 379   |
| 5                               | (945) Convenience Store/Gas Station                  | ITE 12th Ed | 5     | KSF      | T = 61.09(X)              | 50%        | 50%            | 153   | 152  | 305             | 0.0% | 0                          | 153        | 152 | 305   |
| Total:                          |                                                      |             |       |          |                           | 893        | 870            | 1,763 | 0.0% | 0               | 893  | 870                        | 1,763      |     |       |

# Polaris Pointe Filing No. 4 PDZ-DP Major Modification – Parking Sunset Amphitheater

Colorado Springs Planning Commission  
June 12, 2024



# TRAFFIC



Report Packet  
5 of 38

## Comprehensive Traffic Study Updated

- Traffic Operations Analysis Performed
- Traffic Mitigation Recommendations

## Traffic Counts Updated

- Total 24-hour Trips = 9,211
  - $\frac{1}{2}$  entering and  $\frac{1}{2}$  exiting
- Peak Hour Trips
  - 6:00-7:00 p.m. = 2,905
    - Entering = 2,187
    - Exiting = 718
  - 9:45-10:45 p.m. = 4,208
    - Entering = 904
    - Exiting = 3,304

# DEVELOPMENT PLAN-PARKING



Report Pack  
of 338

## Parking by the Numbers

- City Code requires 2,000 spaces (1 space per 4 seats; 8,000 Seats)
- Parking & Access Plan calculates need for 2,648 spaces (sold out shows)
- Modified Development Plan provides 2,811 available spaces
- Modified Development Plan Provides more parking closer to venue

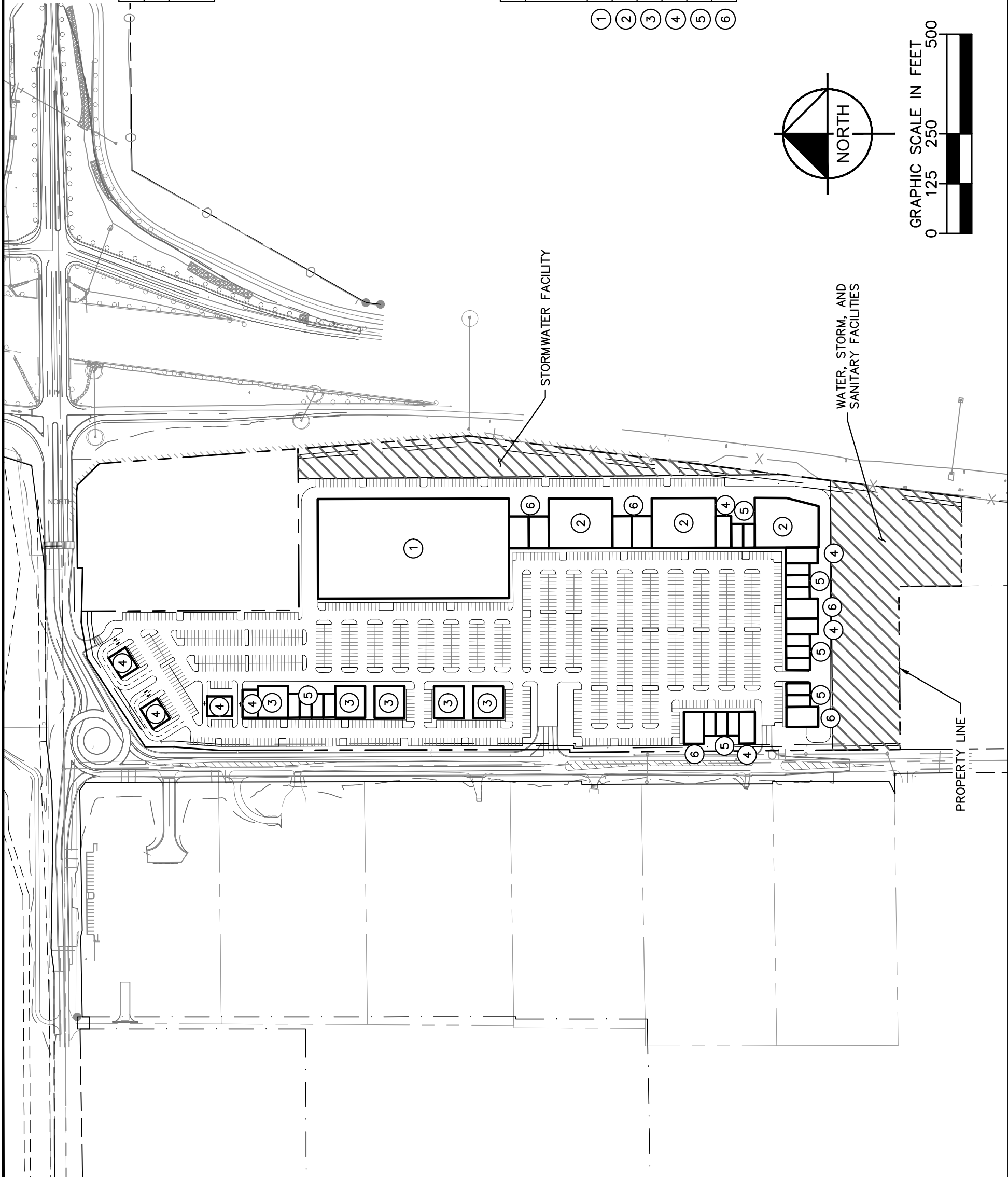
| HIGH<br>ATTENDANCE<br>(Sold out) | Program |           | Unadjusted Parking Ratio<br>(Spaces / Attendee) <sup>1</sup> | Rideshare/Dropoff/Carpool % <sup>3</sup> | Parking<br>Demand |
|----------------------------------|---------|-----------|--------------------------------------------------------------|------------------------------------------|-------------------|
|                                  | Total   | Units     |                                                              |                                          |                   |
| Visitors                         | 8,000   | attendees | 0.40                                                         | 25%                                      | 2,400             |
| Employees                        | 8,000   | attendees | 0.03                                                         | 7%                                       | 248               |
|                                  |         |           |                                                              | <b>Total</b>                             | <b>2,648</b>      |
| MEDIUM<br>ATTENDANCE             | Program |           | Unadjusted Parking Ratio<br>(Spaces / Attendee) <sup>1</sup> | Rideshare/Dropoff/Carpool %              | Parking<br>Demand |
|                                  | Total   | Units     |                                                              |                                          |                   |
| Visitors                         | 6,000   | attendees | 0.40                                                         | 25%                                      | 1,800             |
| Employees                        | 6,000   | attendees | 0.03                                                         | 7%                                       | 186               |
|                                  |         |           |                                                              | <b>Total</b>                             | <b>1,986</b>      |
| LOW<br>ATTENDANCE                | Program |           | Unadjusted Parking Ratio<br>(Spaces / Attendee) <sup>1</sup> | Rideshare/Dropoff/Carpool %              | Parking<br>Demand |
|                                  | Total   | Units     |                                                              |                                          |                   |
| Visitors                         | 4,000   | attendees | 0.40                                                         | 25%                                      | 1,200             |
| Employees                        | 4,000   | attendees | 0.03                                                         | 7%                                       | 124               |
|                                  |         |           |                                                              | <b>Total</b>                             | <b>1,324</b>      |

<sup>1</sup> Ratios are derived from Urban Land Institute / Institute of Transportation Engineers recommendations and adjusted to local conditions.

<sup>2</sup> Event visitor rideshare (Uber/Lyft) rate is 35-45% for similar venues. We adjusted to 25% to account for local conditions that support personal driving and a smaller supply of drivers.

# Appendix C – Development Scenarios Concept Plans

# 1) General Retail Concept Plan



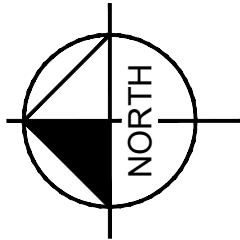
| SITE DATA TABLE |          |          |
|-----------------|----------|----------|
| PARKING         | REQUIRED | PROVIDED |
| TOTAL SPACES    | 1402     | 1513     |

PARKING REQUIREMENTS:

- 1. SUPERMARKET: 1 SPACE PER 250 SF OF FLOOR AREA = 480
- 2. RETAIL: 1 SPACE PER 600 SF = 100
- 3. RESTAURANT: 1 SPACE PER 100 SF = 300
- 4. FAST FOOD: 1 SPACE PER 100 SF = 240
- 5. STRIP RETAIL: 1 SPACE PER 250 SF = 170
- 6. SERVICE: 1 SPACE PER 250 S = 112

| BLDG DATA TABLE |                        |     |                              |
|-----------------|------------------------|-----|------------------------------|
| TYPE            | GROSS SQUARE FOOT AREA | QTY | TOTAL GROSS SQUARE FOOT AREA |
| SUPERMARKET     | 120,000 SF             | 1   | 120,000 SF                   |
| RETAIL          | 20,000 SF              | 3   | 60,000 SF                    |
| RESTAURANT      | 6,000 SF               | 5   | 30,000 SF                    |
| FAST FOOD       | 3,000 SF               | 8   | 24,000 SF                    |
| STRIP RETAIL    | 2,500 SF               | 17  | 42,500 SF                    |
| SERVICE         | 4,000 SF               | 7   | 28,000 SF                    |

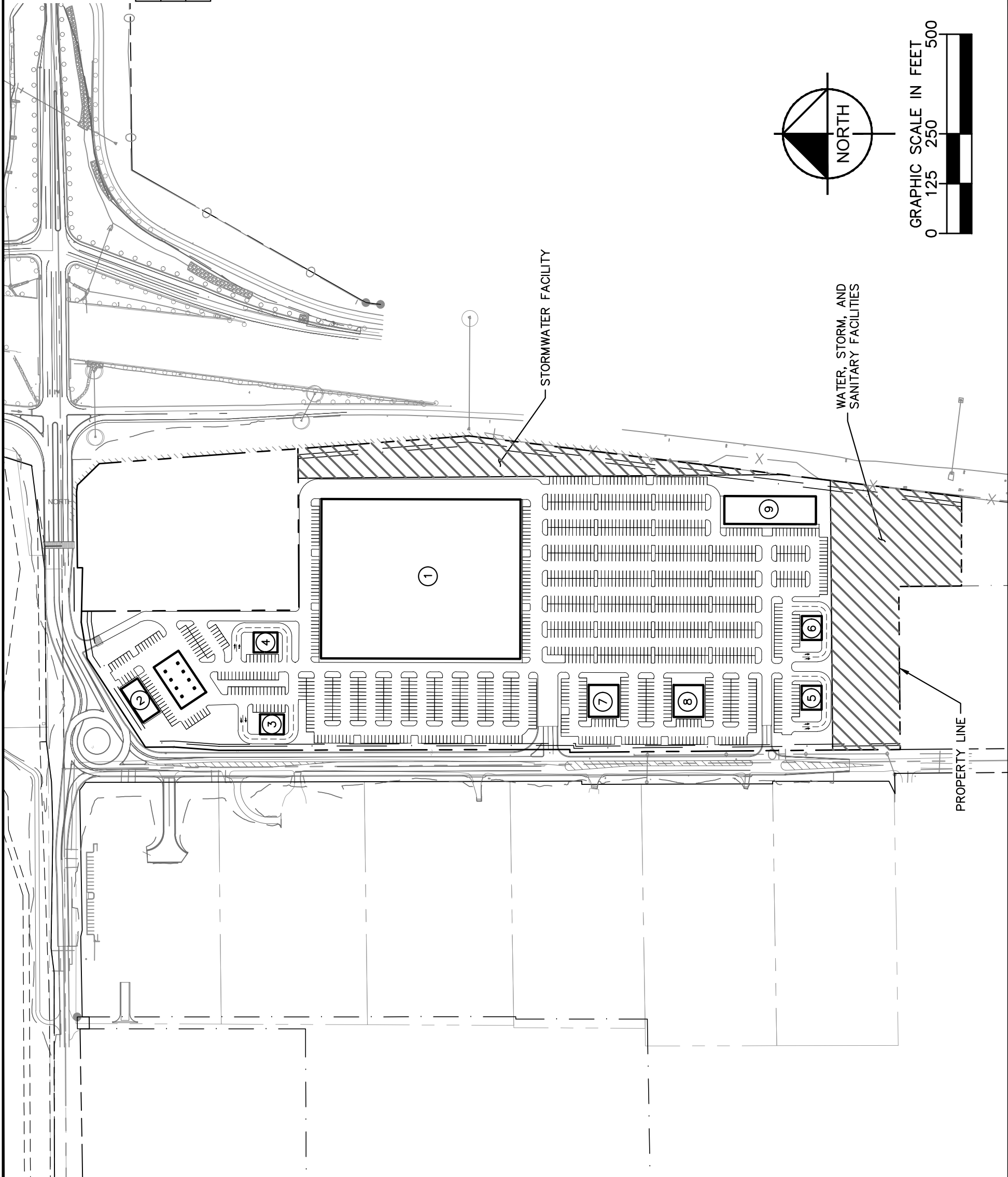
- ①
- ②
- ③
- ④
- ⑤
- ⑥



CONCEPT LAND USE EXHIBIT

GENERAL RETAIL

## 2) Supercenter Concept Plan



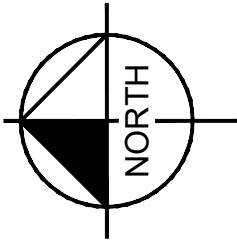
| SITE DATA TABLE |          |          |
|-----------------|----------|----------|
| PARKING         | REQUIRED | PROVIDED |
| TOTAL SPACES    | 1162     | 1525     |

PARKING REQUIREMENTS:

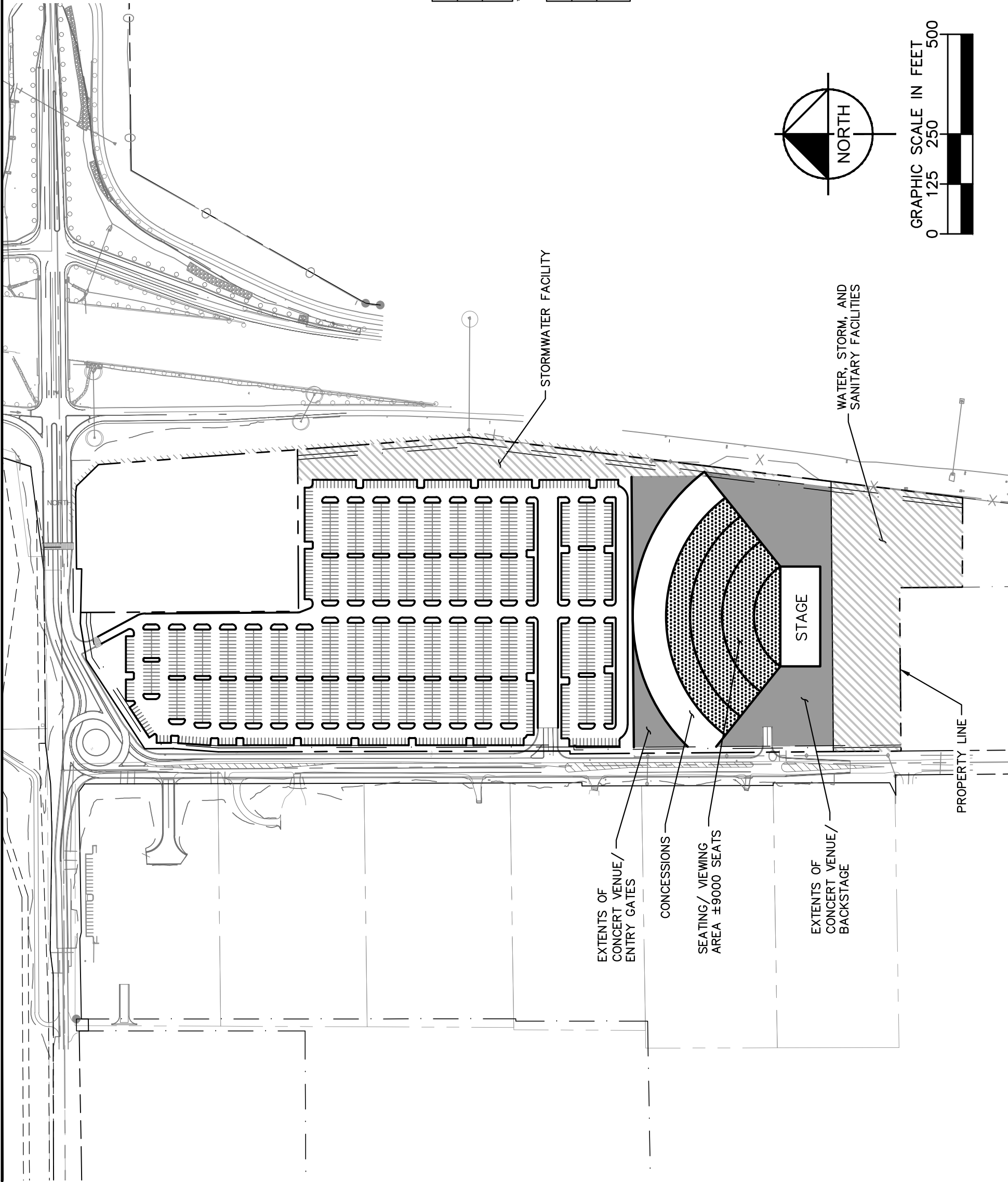
1. SHOPPING CENTER: 1 SPACE PER 250 SF OF FLOOR AREA = 800
2. GASOLINE FILING STATION: 1 SPACE PER EMPLOYEE ON MAXIMUM SHIFT, PLUS 3 SPACES PER BAY OR STALL = 58
3. FAST FOOD: 1 SPACE PER 100 SF = 120
4. RESTAURANT: 1 SPACE PER 100 SF =120
5. RETAIL: 1 SPACE PER 250 SF = 64

| BLDG DATA TABLE       |                                 |
|-----------------------|---------------------------------|
| TYPE                  | GROSS SQUARE FOOT AREA          |
| 1 SUPERSTORE          | 200,000 SF                      |
| 2 CONVENIENCE STORE   | 5,000 SF<br>(16 FUEL POSITIONS) |
| 3 FAST FOOD           | 3,000 SF                        |
| 4 FAST FOOD           | 3,000 SF                        |
| 5 FAST FOOD           | 3,000 SF                        |
| 6 FAST FOOD           | 3,000 SF                        |
| 7 SIT DOWN RESTAURANT | 6,000 SF                        |
| 8 SIT DOWN RESTAURANT | 6,000 SF                        |
| 9 STRIP RETAIL        | 16,000 SF                       |

CONCEPT LAND USE EXHIBIT  
SUPERCENTER



### 3) Theater/Concert Venue Concept Plan



| SITE DATA TABLE |          |          |
|-----------------|----------|----------|
| PARKING         | REQUIRED | PROVIDED |
| TOTAL SPACES    | 2250*    | 2370     |

\* 1 PARKING SPACE PER 4 SEATS

| BLDG DATA TABLE |                             |
|-----------------|-----------------------------|
| TYPE            | SITE AREA                   |
| CONCERT VENUE   | +/- 336,000 SF, 9,000 SEATS |

CONCEPT LAND USE EXHIBIT  
CONCERT VENUE

Exhibit D- Buc-ee's Traffic Impact Analysis

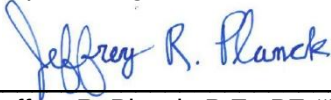
## Buc-ee's IH 25, Exit 163

El Paso County, Colorado

# T R A F F I C I M P A C T S T U D Y

## Traffic Engineer's Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Jeffrey R. Planck, P.E., PE #53006

June 15, 2026

Date

## Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Mr. Scott Ratcliff  
Ratcliff Engineering Services, LLC  
P.O. Box 2272  
Friendswood, Texas 77549

Date

## **Buc-ee's IH 25, Exit 163**

El Paso County, Colorado

**Prepared for**  
**Ratcliff Engineering Services, LLC**  
P.O. Box 2272  
Friendswood, Texas 77549

**Prepared by**  
**Kimley-Horn and Associates, Inc.**  
2 North Nevada Avenue  
Suite 900  
Colorado Springs, Colorado 80903  
(719) 453-0180



June 2026

*This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.*

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## 1.0 EXECUTIVE SUMMARY

---

The Buc-ee's Interstate Highway 25 (IH 25), Exit 163 project is proposed to be located on the southeast corner of the County Line Road (Palmer Divide Road) and Beacon Lite Road intersection in El Paso County, Colorado. The project proposed is an approximate 74,000 square foot convenience store with 120 fueling positions. It is expected that the project will be completed in the next several years. Therefore, analysis was conducted for the 2028 short-term buildout horizon as well as the 2045 long-term twenty-year planning horizon.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study in accordance with El Paso County and State of Colorado Department of Transportation (CDOT) standards and requirements:

- County Line Road and Beacon Lite Road (#1)
- I-25 Southbound Ramp and County Line Road (#2)
- I-25 Northbound Ramp and County Line Road (#3)
- County Line Road and Monument Hill Road (#4)

In addition, the two (2) proposed full movement accesses along Beacon Lite Road and the right-out only access along County Line Road will be included in the evaluation.

Regional access to the site will be provided by Interstate 25 (I-25) and State Highway 105 (SH-105). Primary access will be provided by County Line Road. Direct access will be provided by two full movement accesses along Beacon Lite Road and a right-out only access along County Line Road.

The Buc-ee's project is anticipated to generate a total of approximately 22,150 daily weekday trips with 1,236 of these trips occurring during the morning peak and 1,679 trips occurring during the afternoon peak hour. Accounting for diverted link trips, expected net new trips (non-diverted link trips) to the surrounding street network results in approximately 3,322 new weekday daily trips, of which 185 and 252 new trips are anticipated during the weekday morning and afternoon peak hours, respectively.



Based on the analysis presented in this report, Kimley-Horn believes the Buc-ee's IH 25, Exit 163 project will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

### **2028 Recommendations**

- With construction of the project, the I-25 and County Line Road interchange ramp terminals are recommended to be converted from stop control to signal control. Traffic signals are the preferred intersection control recommended in this study. In order to utilize the existing bridge deck (approximately 72 feet), a traditional diamond interchange can provide two westbound through lanes, a westbound left turn lane, an eastbound left turn lane, and a single eastbound through lane between the two ramps at 12 feet per lane. Additionally, the northbound off-ramp is recommended to provide three approach lanes including a separate left turn lane, a shared left turn/through lane, and right turn lane while the southbound off-ramp is recommended to provide two approach lanes including a shared left turn/through lane and a separate right turn lane. The left turn lanes onto the I-25 on-ramps will each provide a spillback lane for additional vehicle storage.
- The County Line Road and Beacon Lite Road (#1) intersection is recommended to be realigned by converting the major through movements to the existing east (County Line Road) and south (Beacon Lite Road) legs of this intersection while the west leg of County Line Road will intersect into the new roadway alignment. This will convert a high volume of northbound right turn movements and westbound left turn movements into the major through movements. This realigned intersection will either need to be signalized or provide roundabout control. As a signal, the west leg minor approach is recommended to provide a separate left and right turn lane while the major approaches would provide two northbound and southbound through lanes, a separate northbound left turn lane, and a separate right turn lane. However, as a roundabout, the northbound/southbound realigned roadway is recommended to provide two approach lanes, and the eastbound approach is recommended to provide a single lane for shared movements.

- Two full movement project accesses are being proposed along Beacon Lite Road while one right-out only access is proposed along County Line Road. The following summarizes the recommendations of the three proposed project accesses:
  - o A right-out only access along County Line Road (#5) is recommended to provide a R1-1 “STOP” sign on the northbound approach with a R3-1 No Left Turn sign below the R1-1 sign. The exiting approach to this access should also be oriented to only allow exiting right turn movements.
  - o The north access (#6) along Beacon Lite Road should be signalized as a T-intersection. Southbound dual left turn lanes are recommended at the north access along Beacon Lite Road due to the high volume of entering left turn movements. The inside left turn lane is recommended to provide a length of 490 feet plus a 160-foot taper while the outside left turn lane will be continuous drop lane from the inside through lane. The westbound approach to this access is recommended to provide separate left and right turn lanes with the right turn movement operating under free-flowing conditions.
  - o A full movement access (#7) is proposed at the south end of the site along Beacon Lite Road. The intersection is recommended to operate with stop control on the westbound approach. A southbound left turn lane is recommended at the south access along Beacon Lite Road with a length of 305 feet plus a 160-foot taper.
- The church on the southwest corner of the County Line Road and Beacon Lite Road intersection currently has one full movement access along Beacon Lite Road and no other points of access. This access to the church along Beacon Lite Road is proposed to be restricted to right-in/right-out movements due to the proximity to the future realigned intersection of County Line Road and Beacon Lite Road. Therefore, the project team will coordinate with the church and El Paso County regarding the possibility of incorporating a second point of access along County Line Road or Bull Pine Point for the church.
- Additionally, site generated traffic associated with the Monument Ridge East development located on the southeast corner of County Line Road and Monument Hill Road intersection were added directly to the study intersections. With the development of the Monument Ridge East site, Monument Hill Road will be realigned and provide separate eastbound left and right turn lanes, a separate westbound left turn lane, and a separate northbound right turn lane.

### **2045 Recommendations**

- As identified in other traffic studies, the County Line Road and Monument Hill Road intersection is expected to be signalized in the long-term horizon.

### **General Recommendations**

- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the El Paso County, CDOT, and the Manual on Uniform Traffic Control Devices (MUTCD) – 11th Edition, 2023.

## 2.0 INTRODUCTION

---

Kimley-Horn has prepared this report to document the results of a Traffic Impact Study for Buc-ee's proposed to be located on the southeast corner of the County Line Road (Palmer Divide Road) and Beacon Lite Road intersection in El Paso County, Colorado. A vicinity map illustrating the project development location is shown in **Figure 1**. The project proposed is an approximate 74,000 square foot convenience store with 120 fueling positions. A conceptual site plan is included in **Appendix A**. It is expected that the project will be completed in the next several years; therefore, analysis was conducted for the 2028 short-term buildout horizon as well as the 2045 long-term twenty-year planning horizon.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study in accordance with El Paso County and CDOT standards and requirements:

- County Line Road and Beacon Lite Road (#1)
- I-25 Southbound Ramp and County Line Road (#2)
- I-25 Northbound Ramp and County Line Road (#3)
- County Line Road and Monument Hill Road (#4)

In addition, the two (2) proposed full movement accesses along Beacon Lite Road and the right-out only access along County Line Road will be included in the evaluation.

Regional access to the site will be provided by Interstate 25 (I-25) and State Highway 105. Primary access will be provided by County Line Road. Direct access will be provided by two full movement accesses along Beacon Lite Road and a right-out only access along County Line Road.

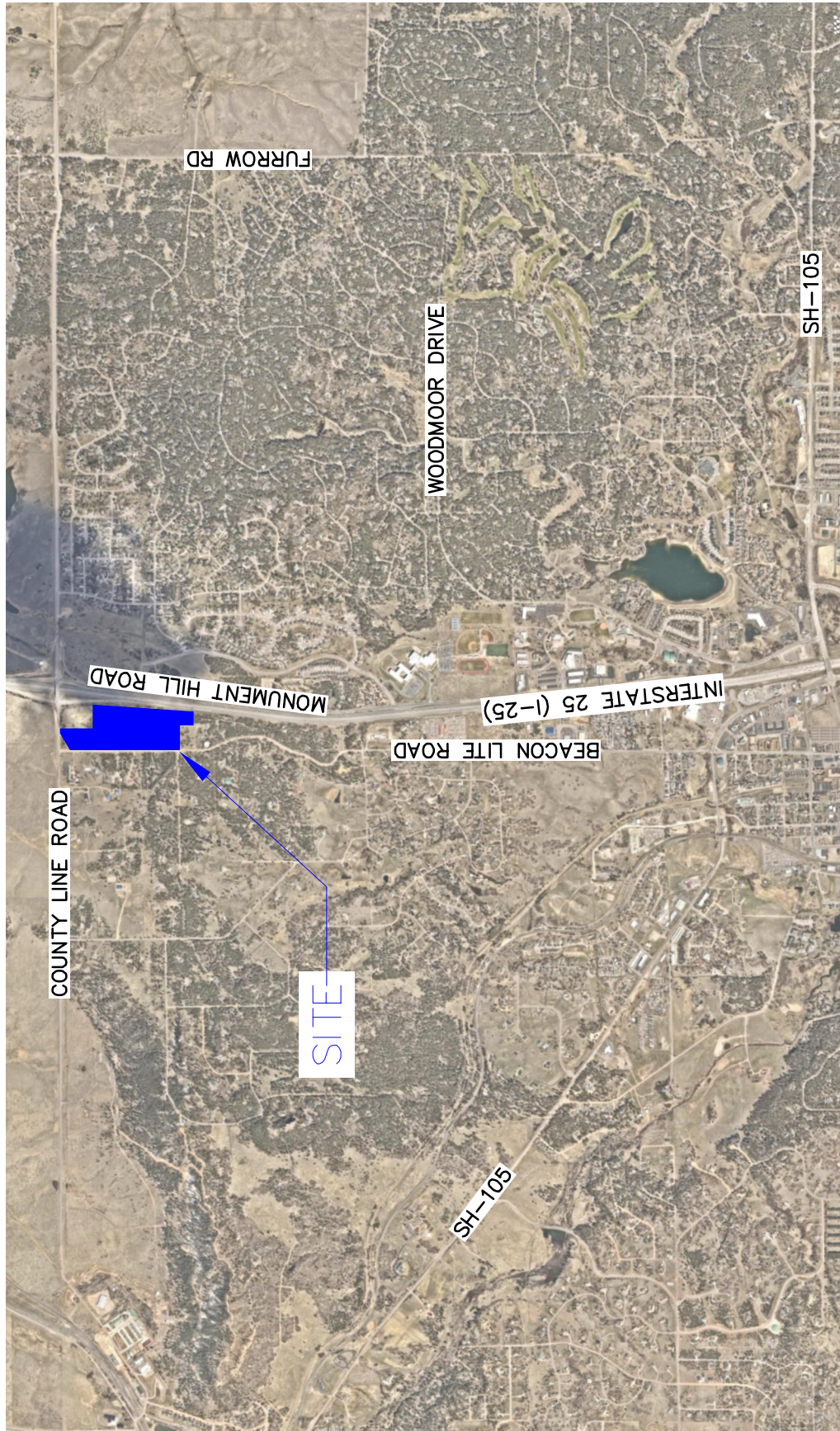


FIGURE 1  
BUC-EE'S IH 25, EXIT 163  
EL PASO COUNTY, COLORADO  
VICINITY MAP

## 3.0 EXISTING AND FUTURE CONDITIONS

---

### 3.1 Existing Study Area

The existing site is currently vacant. Directly to the east is Interstate 25 and to the west are single family ranch style homes and Tri-Lakes Church. North of the site is open space with minimal development for more than six (6) miles. The extended area to the east contains single family residences.

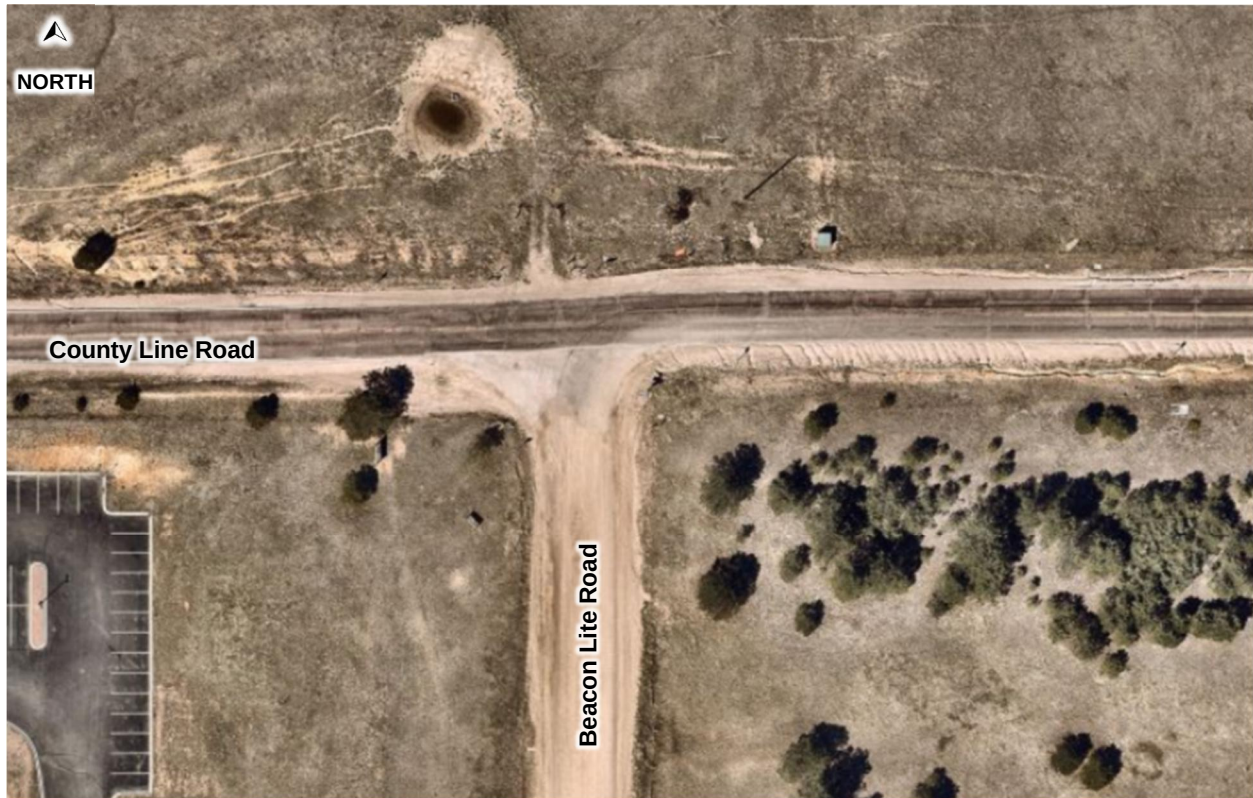
### 3.2 Existing and Future Roadway Network

County Line Road extends in the east/west direction as a two-lane roadway. The posted speed limit is 35 miles per hour near the study intersections and 45 miles per hour east of Monument Hill Road. Currently there are roadway construction plans for Beacon Lite Road which includes widening County Line Road to a three-section roadway between Beacon Lite Road and the I-25 Southbound Off-Ramp.

Beacon Lite Road extends northbound and southbound with one through lane in each direction. The roadway is not paved and has a posted speed limit of 35 miles per hour. As mentioned previously, Beacon Lite Road currently has approved construction plans to pave the roadway to Wakonda Way.

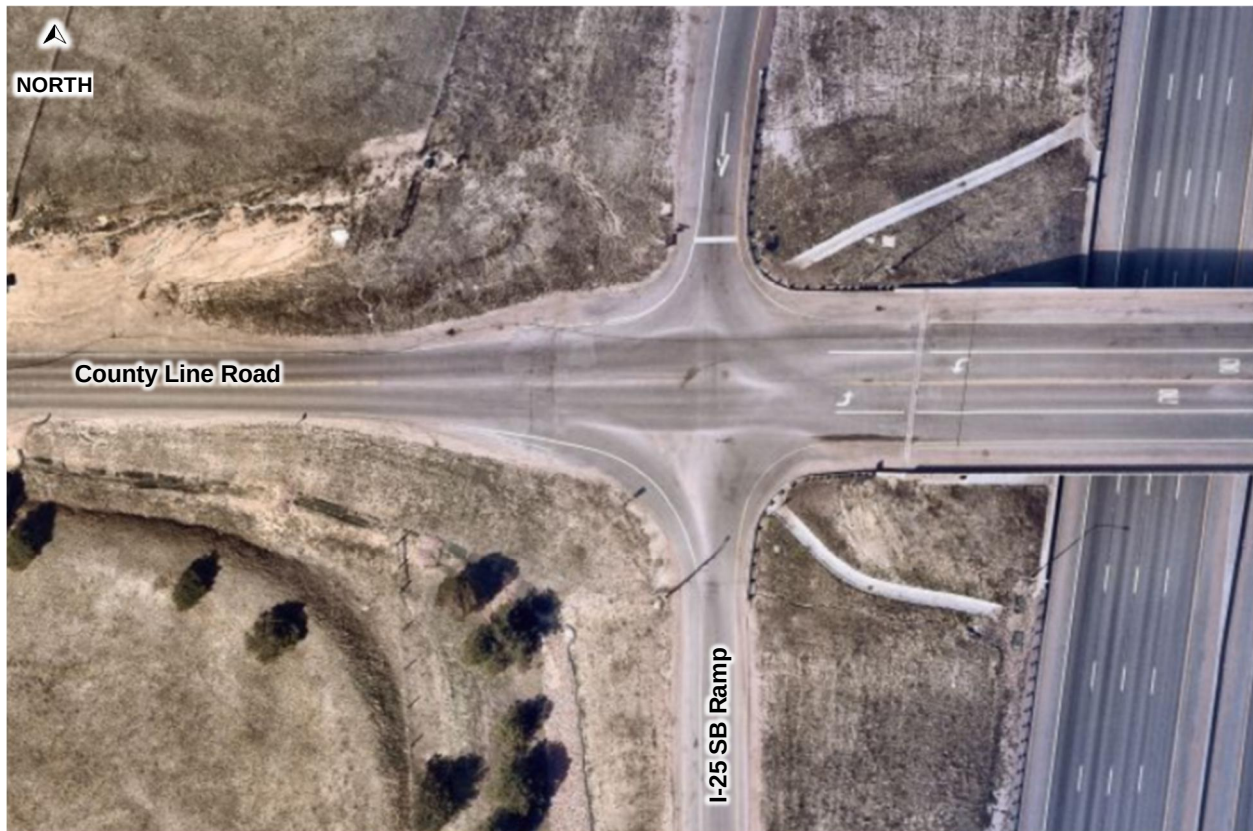
Monument Hill Road is a north-south roadway and provides one through lane in each direction. The Monument Hill Road south of County Line Road serves as a frontage road to I-25. North of County Line Road the roadway name changes to Andrews Road. The posted speed limit along Monument Hill Road is 45 miles per hour and along Andrews Road is 30 miles per hour.

The T-intersection of County Line Road and Beacon Lite Road is unsignalized and operates with stop control on the northbound approach of Beacon Lite Road. All three approaches provide a single lane for shared turning movements. An aerial photo of the existing intersection configuration is below.



*County Line Road & Beacon Lite Road*

The unsignalized intersection of County Line Road and the I-25 Southbound Ramp operates with stop control on the southbound off-ramp. The eastbound approach of County Line Road provides a single lane for shared through and right turn movements while the westbound approach provides a left turn lane and a through lane. The southbound off-ramp provides a single lane approach. An aerial photo of the existing intersection configuration is below.



*County Line Road & I-25 Southbound Ramp*

The unsignalized intersection of County Line Road and the I-25 Northbound Ramp operates with stop control on the northbound off-ramp. The eastbound approach of County Line Road provides a left turn lane and one through lane while the westbound approach provides a storage lane for spill back queues at the westbound left southbound on-ramp and a shared through/right turn lane. The northbound off-ramp provides a single lane approach. An aerial photo of the existing intersection configuration is below.



*County Line Road & I-25 Northbound Ramp*

The unsignalized intersection of County Line Road and Monument Hill Road operates with stop control on the northbound Monument Hill Road approach and the southbound Andrews Road approach. All four approaches provide a single lane shared for all turning movements. An aerial photo of the existing intersection configuration is below.



*County Line Road & Monument Hill Road*

The intersection lane configuration and control for the study area intersections are shown in **Figure 2**.

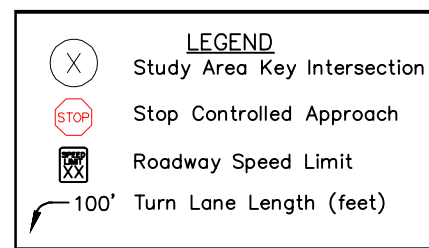
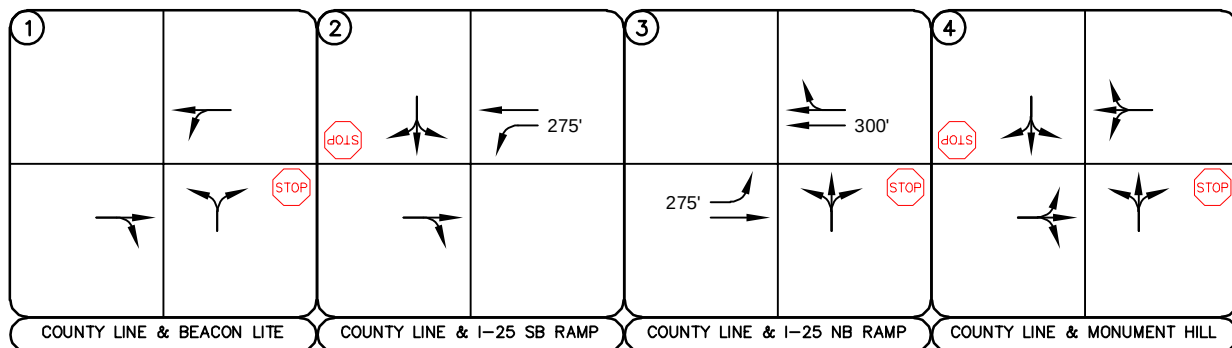
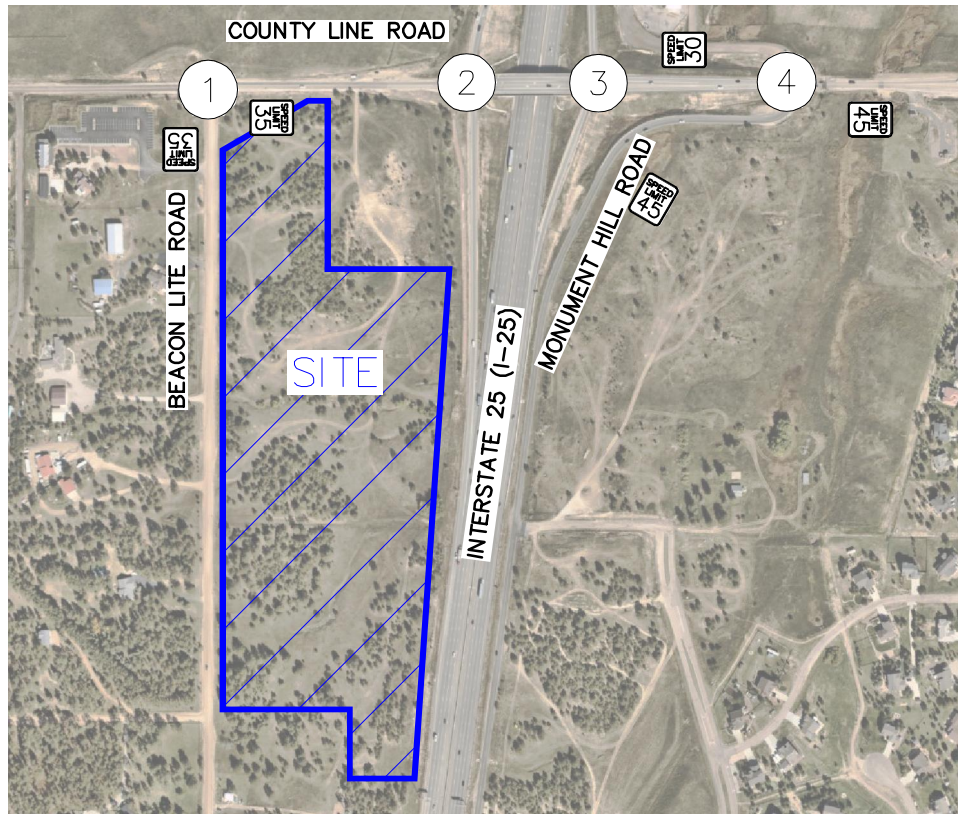


**FIGURE 2**  
 BUC-EE'S IH 25, EXIT 163  
 EL PASO COUNTY, COLORADO  
 EXISTING GEOMETRY AND CONTROL

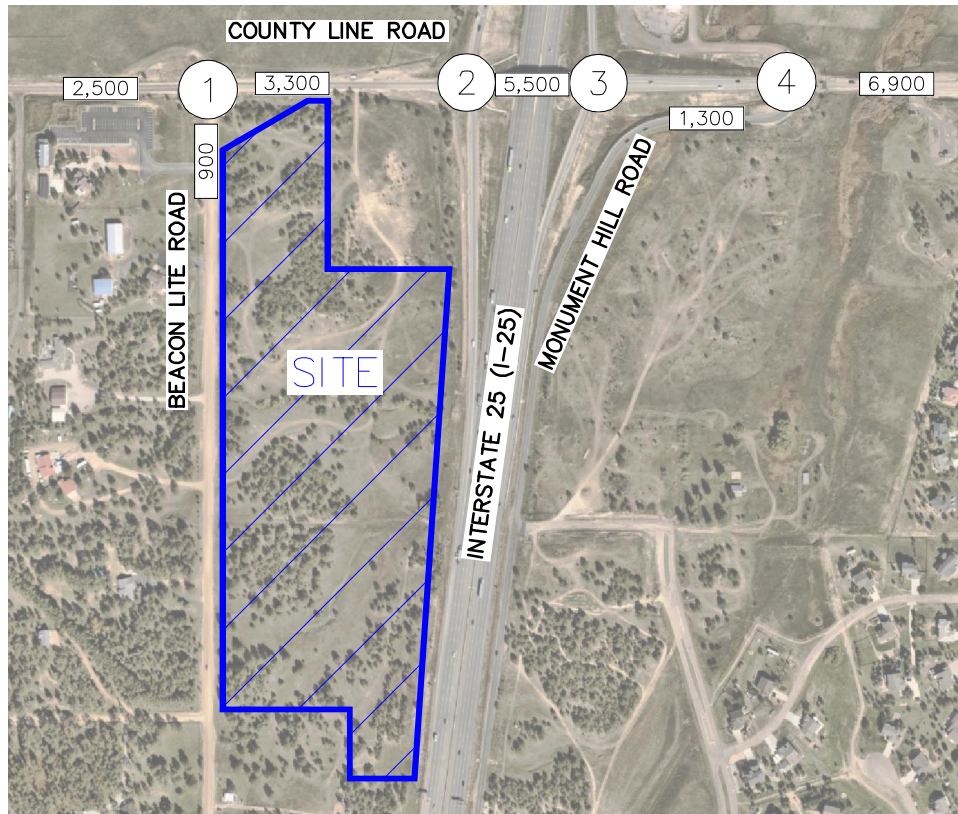
### 3.3 Existing Traffic Volumes

Existing turning movement counts were conducted at the study intersections on Wednesday, May 8, 2024 during the weekday morning and afternoon peak hours. The counts were conducted during the morning and afternoon peak hours of adjacent street traffic in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. The existing intersection traffic volumes are shown in **Figure 3** with count sheets provided in **Appendix B**.

### 3.4 Unspecified Development Traffic Growth and Background Improvements

It should be noted that the recently adopted 2024 Major Transportation Corridor Plan (MTCP) only provides wide ranges of ADT projections (i.e. 0 – 10,000 vehicles per day) and does not provide more refined ADT projections (i.e. 10,200 vpd); therefore, traffic volume growth projections cannot be calculated with the 2024 MTCP. As a result, the previous 2016 MTCP was utilized to determine the appropriate traffic volumes projections in the area. According to traffic projections from the El Paso County 2016 Major Transportation Corridor Plan Update traffic model, the area surrounding the site is expected to have an average 25-year growth factor of 1.80. This growth factor equates to an annual growth rate of 2.37 percent. Future traffic volume projections and growth rate calculations are provided in **Appendix C**. This annual growth rate was used to calculate future traffic volumes at study area intersections. This annual growth rate was used to estimate short-term 2028 and long-term 2045 traffic volume projections at the key intersections.

As mentioned previously, construction plans and improvements are planned prior to buildout of the proposed site for Beacon Lite Road. Additionally, site generated traffic associated with the Monument Ridge East development located on the southeast corner of County Line Road and Monument Hill Road intersection were added directly to the study intersections. With the development of the Monument Ridge East site, Monument Hill Road will be realigned and provide separate eastbound left and right turn lanes, a separate westbound left turn lane, and a separate northbound right turn lane. Therefore, the future roadway geometry and configuration used in the short-term background horizon is shown in **Figure 4**. The calculated background traffic volumes for 2028 and 2045 are shown in **Figure 5** and **Figure 6**, respectively.



| 1                                                                                      | 2                                                                                                      | 3                                                                                                        | 4                                                                                                                                                                |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>← 108(104)<br/>← 11(39)</p> <p>126(143) →<br/>0(1) ↘</p> <p>1(3) ↗<br/>21(47) ↗</p> | <p>17(33) ↗<br/>5(2) ↓<br/>75(239) ↘</p> <p>102(98) →<br/>45(71) ↘</p> <p>102(87) ←<br/>239(125) ↘</p> | <p>216(126) ↗<br/>← 291(157)</p> <p>34(35) ↗<br/>143(293) →</p> <p>49(50) ↗<br/>0(1) ↗<br/>58(166) ↗</p> | <p>1(6) ↗<br/>1(0) ↓<br/>0(3) ↘</p> <p>2(2) ↗<br/>← 448(235)<br/>65(15) ↘</p> <p>3(10) ↗<br/>121(407) →<br/>78(38) ↘</p> <p>47(47) ↗<br/>1(0) ↗<br/>18(28) ↗</p> |
| COUNTY LINE & BEACON LITE                                                              | COUNTY LINE & I-25 SB RAMP                                                                             | COUNTY LINE & I-25 NB RAMP                                                                               | COUNTY LINE & MONUMENT HILL                                                                                                                                      |
| Wed, May 8, 2024<br>7:15 to 8:15AM<br>(4:00 to 5:00PM)                                 | Wed, May 8, 2024<br>7:15 to 8:15AM<br>(4:30 to 5:30PM)                                                 | Wed, May 8, 2024<br>7:15 to 8:15AM<br>(4:00 to 5:00PM)                                                   | Wed, May 8, 2024<br>7:00 to 8:00AM<br>(4:00 to 5:00PM)                                                                                                           |

| LEGEND   |                                             |
|----------|---------------------------------------------|
| (X)      | Study Area Key Intersection                 |
| xxx(xxx) | Weekday AM(PM)<br>Peak Hour Traffic Volumes |
| xx,x00   | Estimated Daily Traffic Volume              |

**FIGURE 3**  
 BUC-EE'S IH 25, EXIT 163  
 EL PASO COUNTY, COLORADO  
 2024 EXISTING TRAFFIC VOLUMES  
 BDC Report Packet  
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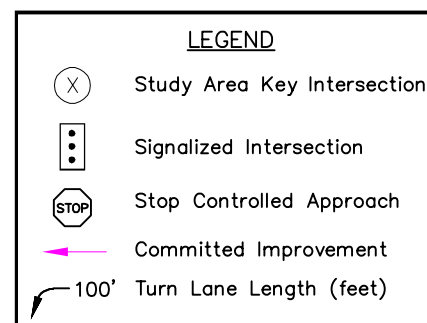
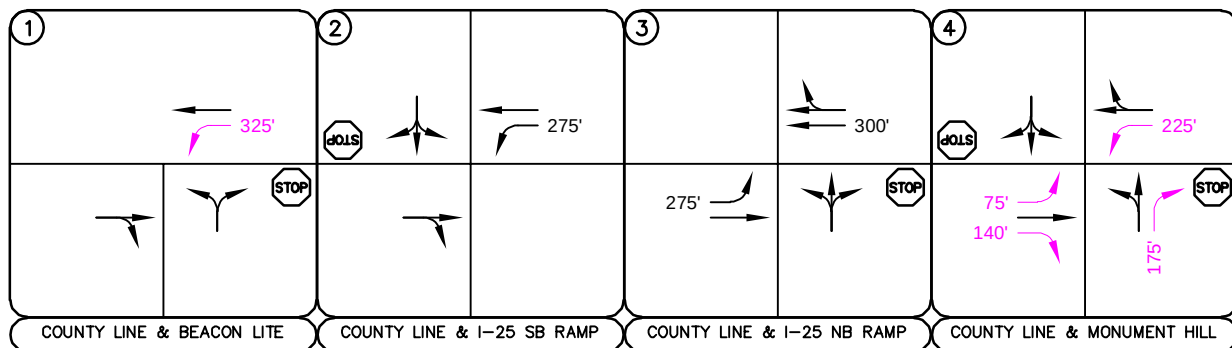
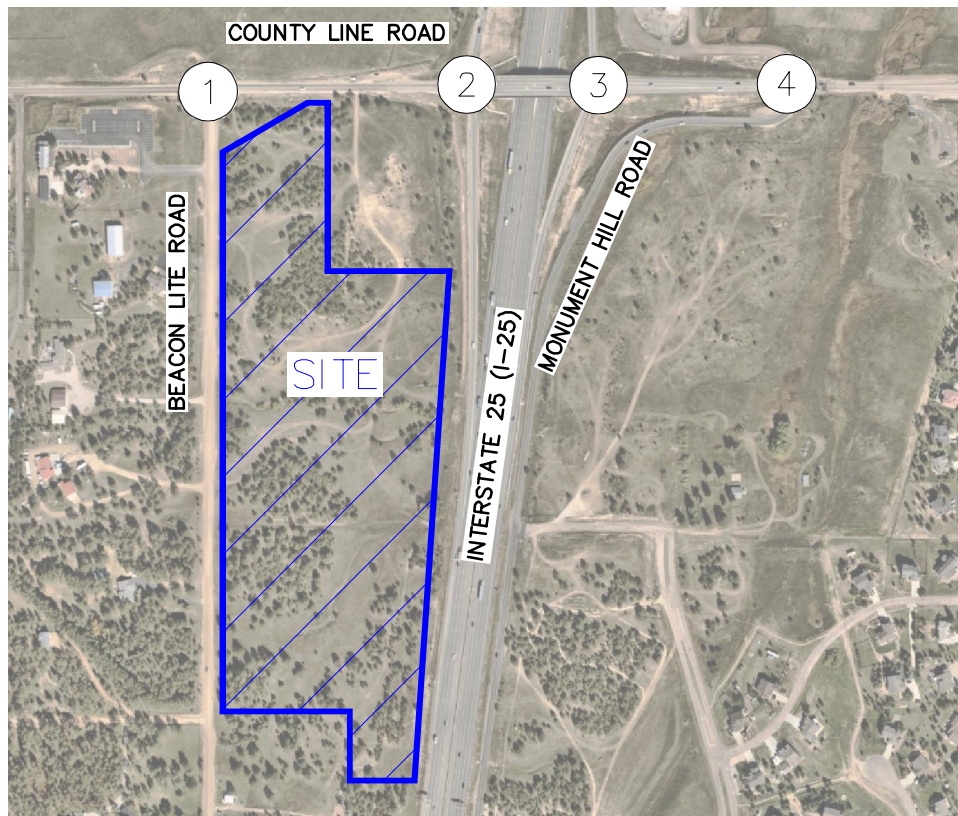
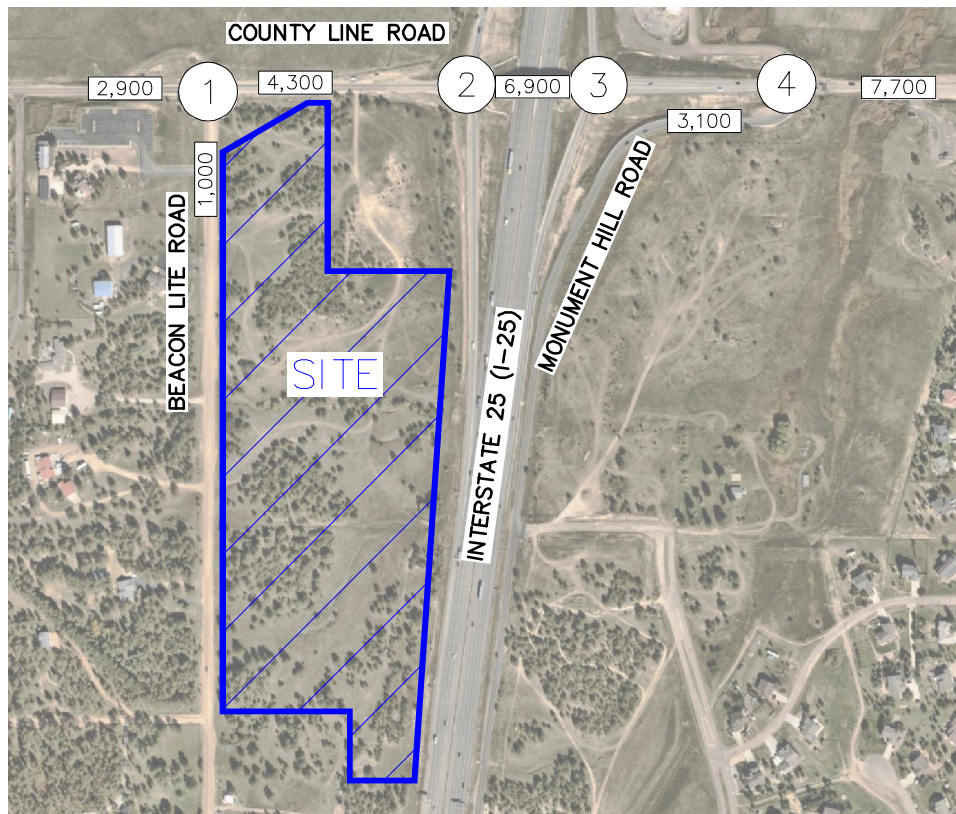


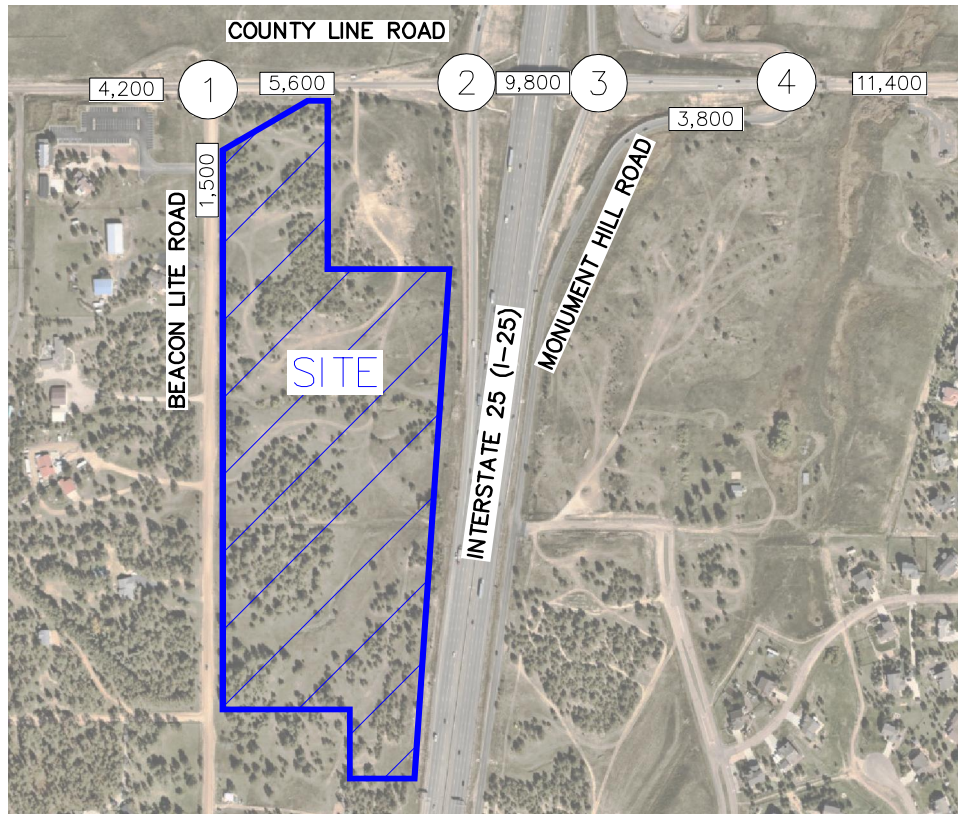
**FIGURE 4**  
 BUC-EE'S IH 25, EXIT 163  
 EL PASO COUNTY, COLORADO  
 2028 BACKGROUND  
 GEOMETRY AND CONTROL



| 1                                                                                      | 2                                                                                                 | 3                                                                                                      | 4                                                                                                                                                          |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>← 125(117)<br/>← 12(43)</p> <p>141(167) →<br/>0(1) →</p> <p>1(3) →<br/>23(52) →</p> | <p>19(36)<br/>5(2)<br/>94(290)</p> <p>← 118(99)<br/>← 316(178)</p> <p>115(118) →<br/>49(78) →</p> | <p>264(157)<br/>← 380(216)</p> <p>37(38) →<br/>172(360) →</p> <p>54(55) →<br/>0(1) →<br/>87(240) →</p> | <p>1(7)<br/>1(0)<br/>0(3)</p> <p>2(2)<br/>← 492(258)<br/>74(23)</p> <p>3(11) →<br/>133(447) →<br/>124(138) →</p> <p>139(115) →<br/>1(0) →<br/>26(34) →</p> |
| COUNTY LINE & BEACON LITE                                                              | COUNTY LINE & I-25 SB RAMP                                                                        | COUNTY LINE & I-25 NB RAMP                                                                             | COUNTY LINE & MONUMENT HILL                                                                                                                                |

| LEGEND   |                                             |
|----------|---------------------------------------------|
| (X)      | Study Area Key Intersection                 |
| XXX(XXX) | Weekday AM(PM)<br>Peak Hour Traffic Volumes |
| XX,X00   | Estimated Daily Traffic Volume              |

**FIGURE 5**  
 BUC-EE'S IH 25, EXIT 163  
 EL PASO COUNTY, COLORADO  
 2028 BACKGROUND TRAFFIC VOLUMES  
 BCC Report Packet  
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| 1                                                                                      | 2                                                                                                    | 3                                                                                                       | 4                                                                                                                                                          |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>← 183(173)<br/>← 18(64)</p> <p>209(244) →<br/>0(2) →</p> <p>2(5) →<br/>34(77) →</p> | <p>28(54)<br/>8(3)<br/>135(419)</p> <p>← 173(145)<br/>← 445(245)</p> <p>170(170) →<br/>74(116) →</p> | <p>380(225)<br/>← 536(301)</p> <p>56(57) →<br/>249(517) →</p> <p>80(82) →<br/>0(2) →<br/>118(329) →</p> | <p>2(10)<br/>2(0)<br/>0(5)</p> <p>3(3)<br/>← 733(384)<br/>109(32)</p> <p>5(16)<br/>198(666) →<br/>166(158) →</p> <p>164(140) →<br/>2(0) →<br/>35(49) →</p> |
| COUNTY LINE & BEACON LITE                                                              | COUNTY LINE & I-25 SB RAMP                                                                           | COUNTY LINE & I-25 NB RAMP                                                                              | COUNTY LINE & MONUMENT HILL                                                                                                                                |

| LEGEND   |                                             |
|----------|---------------------------------------------|
| (X)      | Study Area Key Intersection                 |
| XXX(XXX) | Weekday AM(PM)<br>Peak Hour Traffic Volumes |
| XX,X00   | Estimated Daily Traffic Volume              |

**FIGURE 6**  
 BUC-EE'S IH 25, EXIT 163  
 EL PASO COUNTY, COLORADO  
 2045 BOCG Report Packet  
**BACKGROUND TRAFFIC VOLUMES**  
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## 4.0 PROJECT TRAFFIC CHARACTERISTICS

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### 4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for standardized trip generation rates is the *Trip Generation Manual*<sup>1</sup> published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. To more accurately quantify the trip rates for this particular location, trip generation estimates were developed using actual trip data information from other Buc-ee's sites. Data collected at 15 Buc-ee's sites with operational histories of at least two-years were used in developing average trips rates and to estimate trips for this site.

Since the project is a retail use and a Buc-ee's site adjacent to an interstate freeway, diverted link trips are expected with the proposed development. These diverted link trips are vehicles already on the roadway network that divert their route to stop at the proposed development while in route to another destination. Diverted trip rates were obtained from user specific data. A diverted link rate of 85 percent was applied for the morning peak hour and the afternoon peak hour for the proposed project.

The Buc-ee's project anticipated to generate a total of approximately 22,150 daily weekday trips with 1,236 of these trips occurring during the morning peak and 1,679 trips occurring during the afternoon peak hour. Accounting for diverted trips, expected net new trips (non diverted trips) to the surrounding street network results in approximately 3,322 new weekday daily trips, of which 185 and 252 new trips are anticipated during the weekday morning and afternoon peak hours, respectively. **Table 1** summarizes the estimated trip generation for the site. The trip generation worksheets are included in **Appendix D**.

---

<sup>1</sup> Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition, Washington DC, 2021.

**Table 1 – Buc-ee’s IH 25, Exit 163 Project Traffic Generation**

| Land Use and Size                                                              | Weekday Vehicle Trips |              |     |       |              |     |       |
|--------------------------------------------------------------------------------|-----------------------|--------------|-----|-------|--------------|-----|-------|
|                                                                                | Daily                 | AM Peak Hour |     |       | PM Peak Hour |     |       |
|                                                                                |                       | In           | Out | Total | In           | Out | Total |
| Buc-ee's IH 25, Exit 163 – 120 Fueling Positions & 74,000 Square Foot Building |                       |              |     |       |              |     |       |
| New Trips (Non-Diverted Link Trips)                                            | 3,322                 | 96           | 89  | 185   | 126          | 126 | 252   |
| Diverted Link Trips                                                            | 18,828                | 547          | 504 | 1,051 | 714          | 713 | 1,427 |
| Total Project Trips                                                            | 22,150                | 643          | 593 | 1,236 | 840          | 839 | 1,679 |

#### 4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic information, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The new project trip distribution for the proposed development trips which accounts for 15 percent of the overall trips is illustrated in **Figure 7** while the diverted trip distribution which accounts for 85 percent of the overall trips is illustrated in **Figure 8**. User specific sales transactions indicate that more than 85 percent of customers are not located local to other Buc-ee's sites which indicates a high percentage of diverted link trips from the freeway interchanges. The following summarizes the trip distributions for the development separated by new trips NT, diverted link trips (DL), and the weighted average [WA] based on 85 percent being diverted link trips and 15 percent being new trips:

- North Interstate 25: 25% NT (50% DL) [46.25% WA]
- South Interstate 25: 30% NT (50% DL) [47% WA]
- West County Line Road: 20% NT (0% DL) [3% WA]
- East County Line Road: 5% NT (0% DL) [0.75% WA]
- South Beacon Lite: 10% NT (0% DL) [1.5% WA]
- South Monument Hill Road: 10% NT (0% DL) [1.5% WA]

#### 4.3 Traffic Assignment

Traffic assignment was obtained by applying the distributions from **Figure 7** and **Figure 8** to the estimated traffic generation of the project shown in **Table 1**. The total traffic assignment is shown in **Figure 9**. Of note, the County Line Road and Beacon Lite Road intersection is proposed to be realigned as part of project development with the east leg of County Line Road and the south leg of Beacon Lite Road aligning as the major through movements while the west leg of County Line Road will intersect into the new roadway alignment. This will convert a high volume of northbound right turn movements and westbound left turn movements into the major through movements. Therefore, the realignment volumes are provided in Figure 9 for reference.

#### 4.4 Total (Background Plus Project) Traffic

Site traffic volumes were added to the background volumes to represent estimated traffic conditions for the short-term 2028 buildout horizon and long-term 2045 twenty-year planning horizon. These total traffic volumes for the study area are illustrated for the 2028 and 2045 horizon years in **Figures 10** and **11**, respectively.

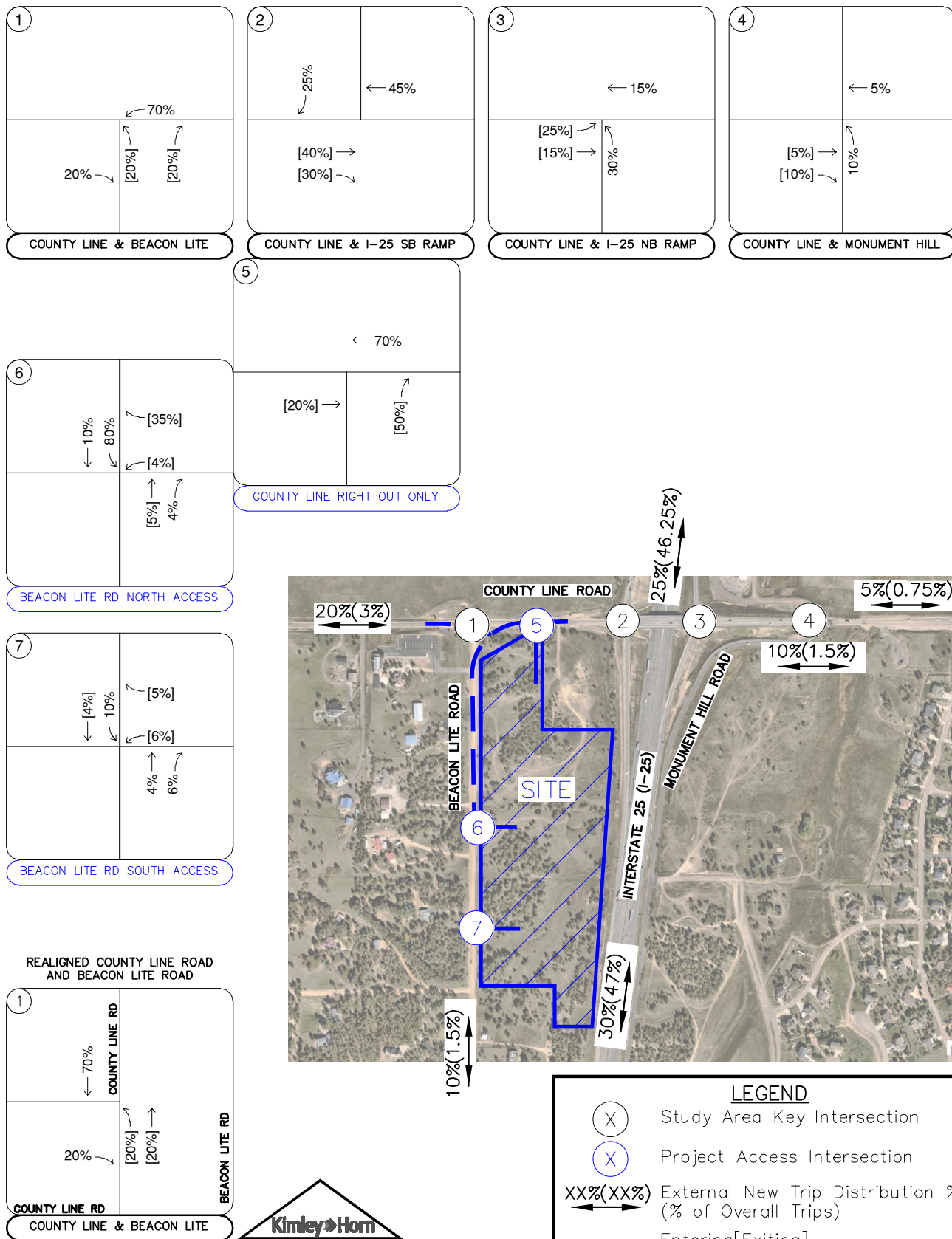


**FIGURE 7**  
 BUC-EE'S IH 25, EXIT 163  
 EL PASO COUNTY, COLORADO  
 NEW PROJECT TRIP DISTRIBUTION  
 (15% OF OVERALL TRIPS)

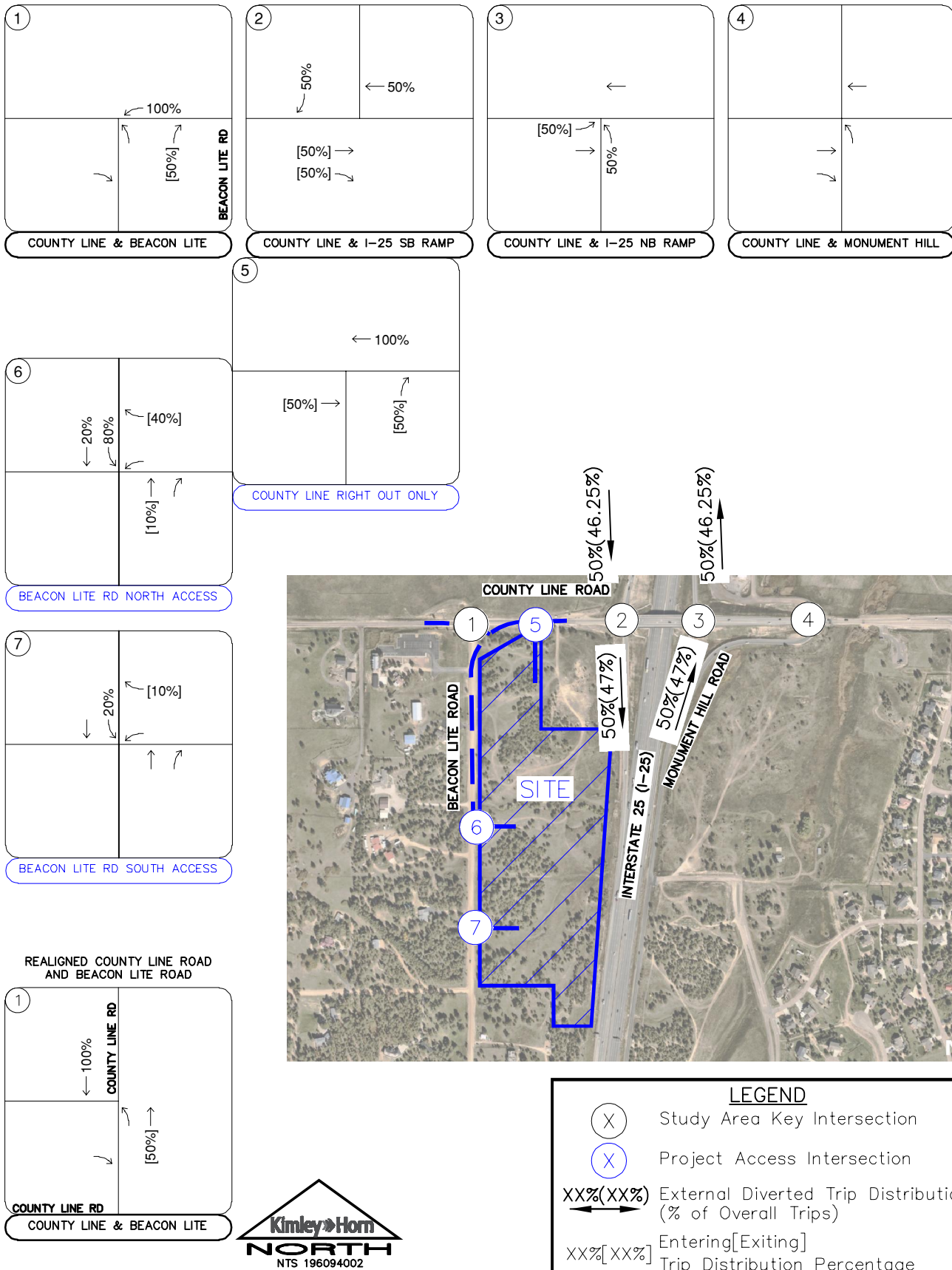


FIGURE 8  
BUC-EE'S IH 25, EXIT 163  
EL PASO COUNTY, COLORADO  
DIVERTED LINK PROJECT TRIP DISTRIBUTION  
(85% OF OVERALL TRIPS)

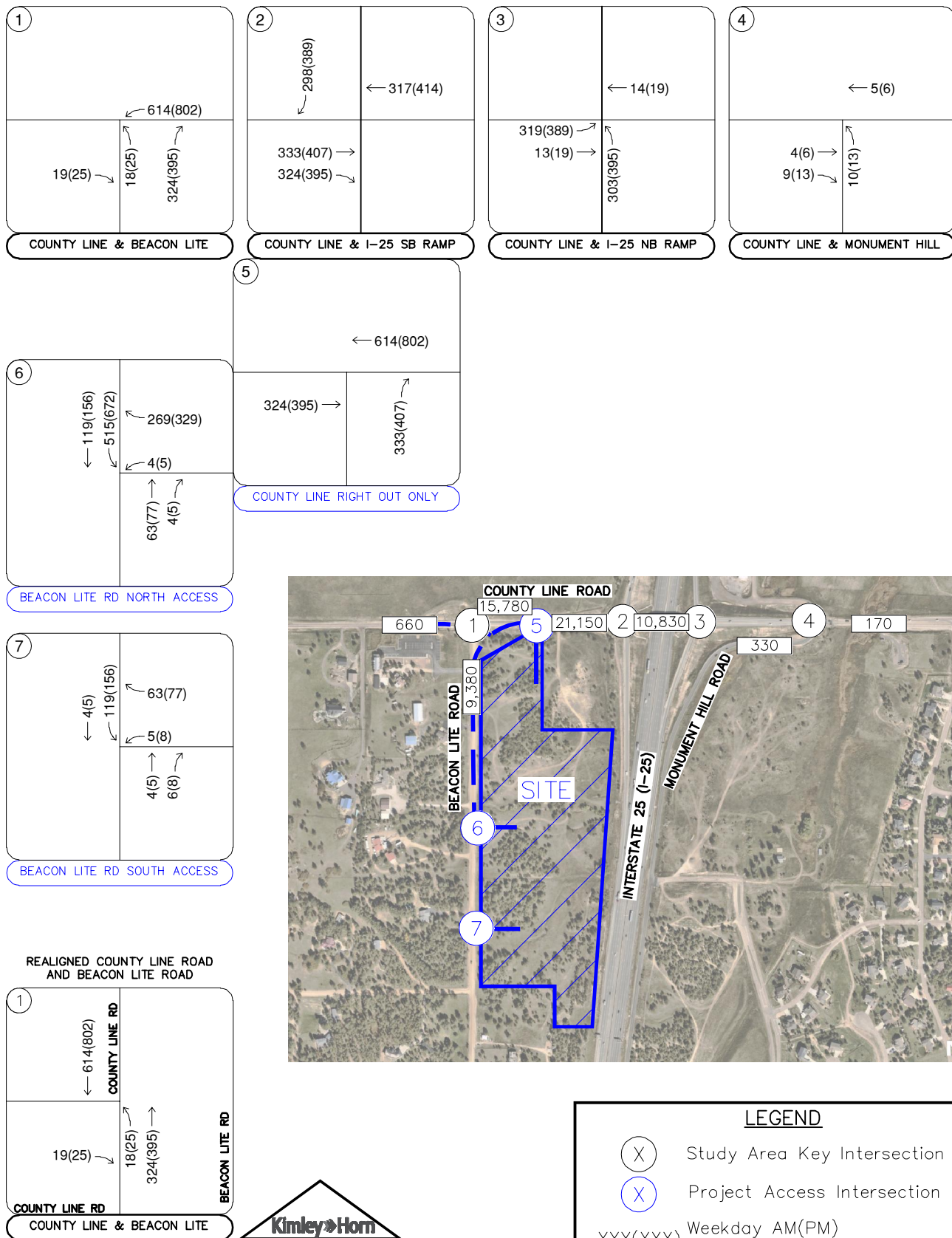


FIGURE 9  
BUC-EE'S IH 25, EXIT 163  
EL PASO COUNTY, COLORADO  
PROJECT TRAFFIC ASSIGNMENT  
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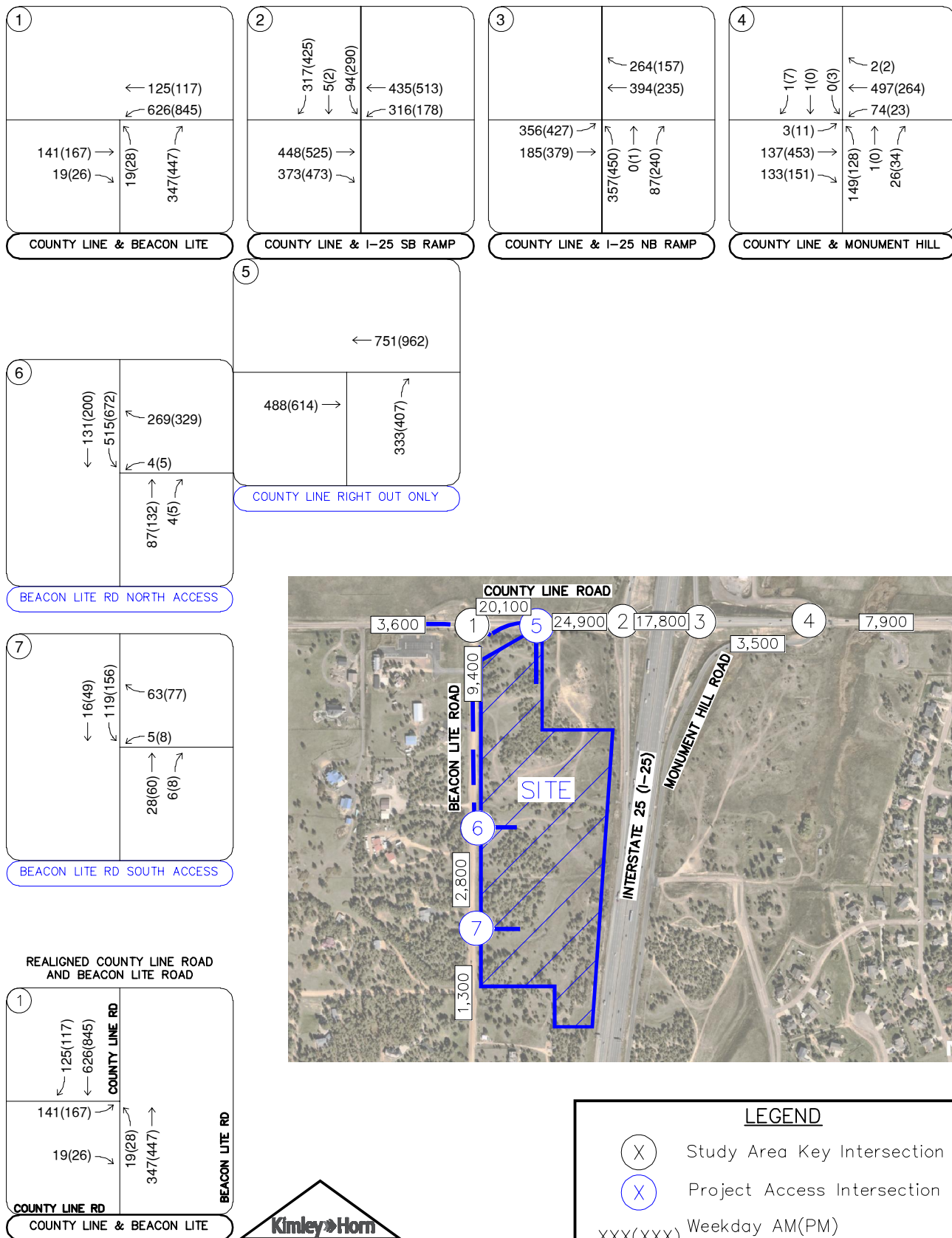


FIGURE 10  
BUC-EE'S IH 25, EXIT 163  
EL PASO COUNTY, COLORADO  
2028 TOTAL TRAFFIC VOLUMES  
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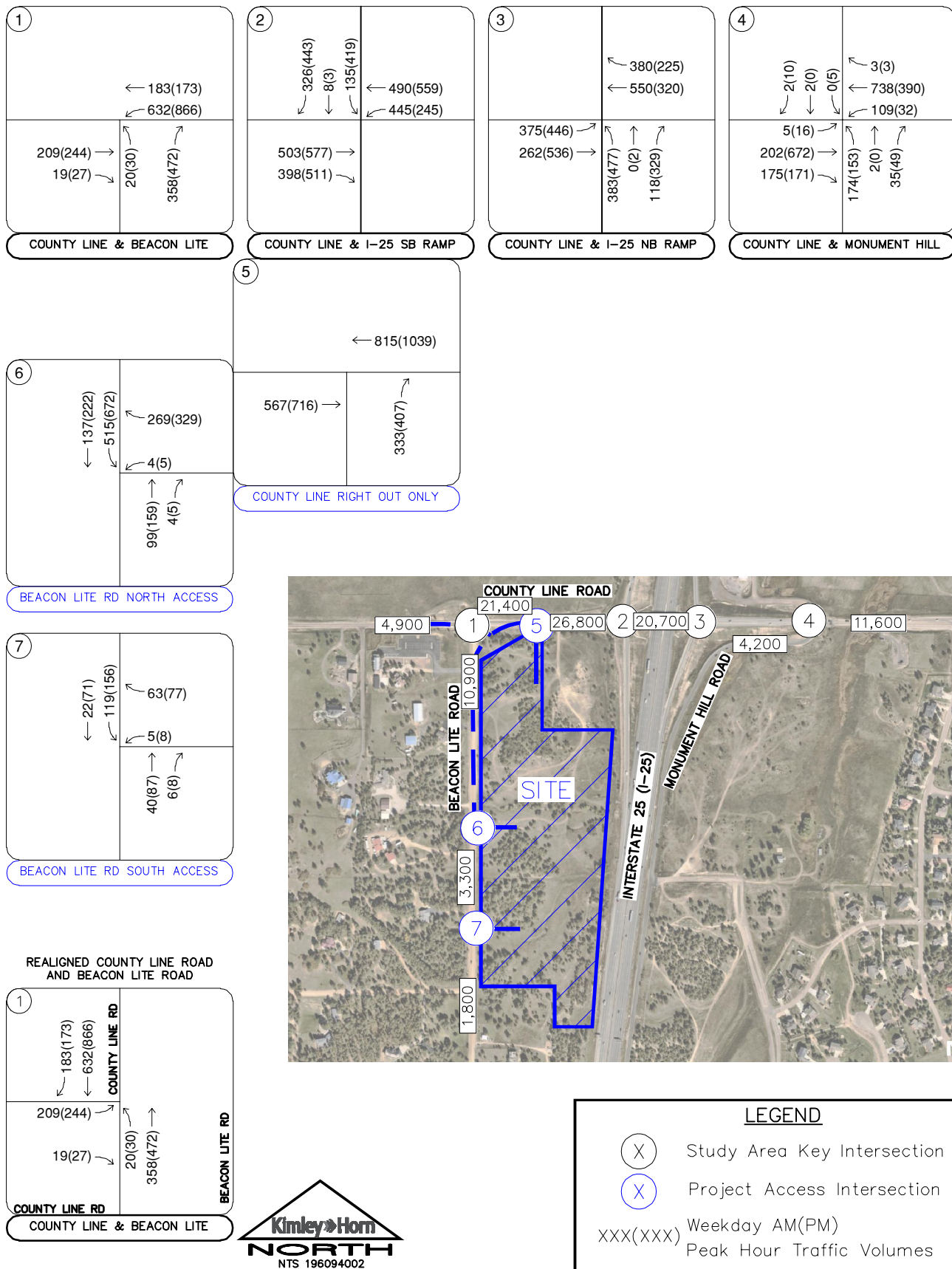


FIGURE 11  
BUC-EE'S IH 25, EXIT 163  
EL PASO COUNTY, COLORADO  
2045 TOTAL TRAFFIC VOLUMES  
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## 5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2028 and 2045 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the *Highway Capacity Manual (HCM)*<sup>2</sup>.

### 5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). Based on El Paso County standards, the threshold for acceptable LOS is not less than LOS D during the peak hours. **Table 2** shows the definition of level of service for signalized and unsignalized intersections.

**Table 2 – Level of Service Definitions**

| Level of Service | Signalized Intersection<br>Average Total Delay<br>(sec/veh) | Unsignalized Intersection<br>Average Total Delay<br>(sec/veh) |
|------------------|-------------------------------------------------------------|---------------------------------------------------------------|
| A                | ≤ 10                                                        | ≤ 10                                                          |
| B                | > 10 and ≤ 20                                               | > 10 and ≤ 15                                                 |
| C                | > 20 and ≤ 35                                               | > 15 and ≤ 25                                                 |
| D                | > 35 and ≤ 55                                               | > 25 and ≤ 35                                                 |
| E                | > 55 and ≤ 80                                               | > 35 and ≤ 50                                                 |
| F                | > 80                                                        | > 50                                                          |

Definitions provided from the Highway Capacity Manual, Sixth Edition, Transportation Research Board, 2016.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. LOS for signalized, roundabout, and all-way stop controlled intersections are defined for each approach and for the overall intersection.

<sup>2</sup> Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 2016.

## 5.2 Key Intersection Operational Analysis

Calculations for the operational level of service at the key intersections for the study area are provided in **Appendix E**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 2**. Existing peak hour factors were utilized in the existing and 2028 horizon analysis years while the El Paso County standard of 0.95 was used for the long-term 2045 horizon analysis. The existing heavy vehicle percentages obtained from the turning movement counts were also used in each horizon year. Synchro traffic analysis software was used to analyze the signalized and unsignalized key intersections for HCM level of service.

Prior to the intersection operational analysis for the I-25 interchange at County Line Road, the Federal Highway Administration (FHWA) Capacity Analysis for Planning of Junctions (CAP-X) 2018 tool was used to determine the optimal (based on volume over capacity only) operational interchange configuration. The CAP-X outputs identified partial cloverleafs, diverging diamond, diamond, and single point interchanges as potential configurations for this interchange. Additionally, a Colorado Intersection Control Assessment Tool (ICAT) analysis was completed for the southbound and northbound ramp intersections. The CAP-X analysis does not consider existing constraints at the interchange as part of its evaluation. The partial cloverleaf and diverging diamond interchange configurations considered by the CAP-X analysis would require acquisition of significant area of Right of Way and require construction of large retaining walls and/or significant roadway embankment. The highest-ranking interchange configuration, from the CAP-X analysis, that is feasible to construct is the diamond interchange. Additionally, a Minor Interchange Modification Request Memorandum (MIMR) was prepared for CDOT on May 28, 2025 to provide a more comprehensive analysis of the standard diamond interchange, roundabout interchange, and diverging diamond interchange using PTV Vissim microsimulation software. From review of the MIMR, the standard diamond interchange with improvements was accepted by CDOT on July 1, 2025. The Cap-X and excerpts from the MIMR are included in **Appendix H** for reference.

### County Line Road and Beacon Lite Road

The T-intersection of County Line Road and Beacon Lite Road is unsignalized and operates with stop control on the northbound approach of Beacon Lite Road. The intersection movements operate acceptably at LOS A during both peak hours under existing conditions. However, as mentioned previously, a westbound left turn lane is part of the improvement plans for Beacon Lite Road. Therefore, the background conditions and the short-term 2028 total conditions was

analyzed with the planned improvement. With project traffic, the intersection configuration is not expected to operate acceptably as a T-intersection under stop control. Therefore, the project is recommending realigning the roadway for the east leg of County Line Road and the south leg of Beacon Lite Road to be the major roadway and the west leg of County Line Road to be the minor roadway. The realigned intersection is recommended to operate under either signal control or roundabout control in order for acceptable intersection operations. With traffic projections, this intersection meets the MUTCD Four Hour Warrant for signalization. The signal warrant analysis worksheet is included in **Appendix F**. Therefore, with signalization, two through lanes are recommended in each direction for the realigned major roadway while separate left and right turn lanes are recommended on the County Line Road minor eastbound approach. Further, a northbound to westbound left turn lane and southbound to westbound right turn lane are recommended at this intersection. With this configuration, the intersection is anticipated to operate at LOS A during both peak hours with signalization. However, a two-lane entry roundabout configuration can also operate acceptably with the project traffic and realignment of the intersection. **Table 3** provides the results of the LOS analysis conducted at this intersection.

**Table 3 – County Line Road & Beacon Lite Road LOS Results**

| Scenario                                                   | AM Peak Hour    |     | PM Peak Hour    |     |
|------------------------------------------------------------|-----------------|-----|-----------------|-----|
|                                                            | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS |
| <b>2024 Existing</b>                                       |                 |     |                 |     |
| Northbound Approach                                        | 9.1             | A   | 9.4             | A   |
| Westbound Left                                             | 7.5             | A   | 7.6             | A   |
| <b>2028 Background #</b>                                   |                 |     |                 |     |
| Northbound Approach                                        | 9.3             | A   | 9.6             | A   |
| Westbound Left                                             | 7.6             | A   | 7.7             | A   |
| <b>2028 Background Plus Project #</b>                      |                 |     |                 |     |
| Northbound Approach                                        | 52.9            | F   | >300            | F   |
| Westbound Left                                             | 10.3            | B   | 12.7            | B   |
| <b>2028 Background Plus Project Signalized (Realigned)</b> | 6.5             | A   | 6.3             | A   |
| <b>2028 Background Plus Project Roundabout (Realigned)</b> | 5.6             | A   | 7.0             | A   |
| <b>2045 Background #</b>                                   |                 |     |                 |     |
| Northbound Approach                                        | 9.9             | A   | 10.5            | B   |
| Westbound Left                                             | 7.8             | A   | 7.9             | A   |
| <b>2028 Background Plus Project Signalized (Realigned)</b> | 9.0             | A   | 8.0             | A   |
| <b>2028 Background Plus Project Roundabout (Realigned)</b> | 6.3             | A   | 8.2             | A   |

# = Includes WB Left Turn Lane Part of Beacon Lite Road Improvement Plans

Realigned: Signalized with Two NB/SB Through Lanes, Separate EB Left and Right Turn Lanes

Realigned Two by One Roundabout

### County Line Road and I-25 Southbound Ramp

The unsignalized intersection of County Line Road and the I-25 Southbound Ramp operates with stop control on the southbound off-ramp. The intersection movements operate acceptably at LOS C or better during both peak hours under existing conditions. With project traffic, this intersection under stop control is reported to operate with long vehicle delays. Based on the Minor Interchange Modification Request (MIMR), a standard diamond interchange configuration with improvements has been accepted by CDOT as the appropriate interchange mitigation.

The standard diamond intersection assumed an eastbound right turn lane, one eastbound through lane, and a lane for spill back storage for the downstream eastbound left turn lane, a westbound left turn lane, and two westbound through lanes. The southbound approach was studied as a shared left/through and a separate right turn lane. The MUTCD Four Hour Signal Warrant Analysis was completed and identified all four hours meet the volumes to warrant a signal. The signal warrant analysis is provided in **Appendix F**. With signal control and the recommended lane configuration, the intersection is expected to operate acceptably with LOS B during the morning peak hour and LOS C during the afternoon peak hour throughout the long-term 2045 horizon. **Table 4** provides the results of the LOS analysis conducted at this intersection.

**Table 4 – County Line Road & I-25 Southbound Ramp LOS Results**

| Scenario                                       | AM Peak Hour    |     | PM Peak Hour    |     |
|------------------------------------------------|-----------------|-----|-----------------|-----|
|                                                | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS |
| <b>2024 Existing</b>                           |                 |     |                 |     |
| Westbound Left                                 | 8.1             | A   | 7.8             | A   |
| Southbound Approach                            | 21.6            | C   | 19.8            | C   |
| <b>2028 Background</b>                         |                 |     |                 |     |
| Westbound Left                                 | 8.3             | A   | 8.0             | A   |
| Southbound Approach                            | 40.8            | E   | 43.4            | E   |
| <b>2028 Background Plus Project</b>            |                 |     |                 |     |
| Westbound Left                                 | 14.0            | B   | 12.4            | B   |
| Southbound Approach                            | >300            | F   | >300            | F   |
| <b>2028 Background Plus Project Signalized</b> | 18.4            | B   | 20.7            | C   |
| <b>2045 Background</b>                         |                 |     |                 |     |
| Northbound Left                                | 9.5             | A   | 8.6             | A   |
| Westbound Approach                             | >300            | F   | >300            | F   |
| <b>2045 Background Plus Project Signalized</b> | 19.3            | B   | 21.9            | C   |

Signalized with Two EB and WB Through Lanes, Separate EB Right and WB Left Turn Lane, Shared SB Left/Through Lane, and Separate SB Right Turn Lane

### County Line Road and I-25 Northbound Ramp

The unsignalized intersection of County Line Road and the I-25 Northbound Ramp operates with stop control on the northbound off-ramp. The intersection movements operate acceptably at LOS B or better during both peak hours under existing conditions. With project traffic, the northbound approach is anticipated to operate with long vehicle delays. Therefore, similar to the southbound interchange, this intersection is recommended to provide signal control by the buildout horizon based on the results of the MIMR.

The diamond intersection configuration includes an eastbound left turn lane, one eastbound through lane, a spill back westbound through lane, one westbound through, a shared westbound through/right turn lane, a separate northbound left, a shared northbound left/through, and a separate northbound right turn lane. The MUTCD Four Hour Signal Warrant Analysis was completed and identified all four hours meet the volumes to warrant a signal. The signal warrant analysis is provided in **Appendix F**. The signalized intersection is anticipated to operate with LOS C during both peak hours throughout the 2045 horizon. **Table 5** provides the results of the LOS analysis conducted at this intersection.

**Table 5 – County Line Road & I-25 Northbound Ramp LOS Results**

| Scenario                                       | AM Peak Hour    |     | PM Peak Hour    |     |
|------------------------------------------------|-----------------|-----|-----------------|-----|
|                                                | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS |
| <b>2024 Existing</b>                           |                 |     |                 |     |
| Northbound Approach                            | 11.3            | B   | 13.2            | B   |
| Eastbound Left                                 | 8.8             | A   | 7.9             | A   |
| <b>2028 Background</b>                         |                 |     |                 |     |
| Northbound Approach                            | 12.2            | B   | 17.1            | C   |
| Eastbound Left                                 | 9.4             | A   | 8.2             | A   |
| <b>2028 Background Plus Project</b>            |                 |     |                 |     |
| Northbound Approach                            | >300            | F   | >300            | F   |
| Eastbound Left                                 | 13.2            | B   | 10.2            | A   |
| <b>2028 Background Plus Project Signalized</b> | 24.3            | C   | 22.0            | C   |
| <b>2045 Background</b>                         |                 |     |                 |     |
| Northbound Approach                            | 17.8            | C   | 59.5            | F   |
| Eastbound Left                                 | 11.1            | B   | 8.8             | A   |
| <b>2045 Background Plus Project Signalized</b> | 29.3            | C   | 26.3            | C   |

Signalized with One EB and Two WB Through Lanes, a Separate EB Left, and a Separate NB Left, Shared NB Left/Through, and Separate NB Right

### County Line Road and Monument Hill Road

The intersection of County Line Road and Monument Hill Road operates with stop control on the northbound and southbound approaches of this intersection. The intersection movements operate acceptably at LOS C or better during both peak hours under existing conditions. However, with the proposed development on the southeast corner of County Line Road and Monument Hill Road, Monument Ridge East, a separate eastbound left and right turn lane, a separate westbound left turn lane, and a separate northbound right turn lane is planned to be constructed. With project traffic and the background lane geometry, all movements are anticipated to continue operating at an acceptable level of service through the short-term horizon. However, if 2045 volumes are realized, the shared northbound left/through may operate with unacceptable delays. Therefore, as identified in the Monument Ridge East Traffic Study, the intersection has been recommended to signal control. With signalization, the intersection is anticipated to operate at LOS A during both peak hours in 2045. Therefore, the project traffic does not necessitate additional changes to the intersection recommendations identified in the Monument Ridge East traffic study. **Table 6** provides the results of the LOS analysis conducted at this intersection.

**Table 6 – County Line Road & Monument Hill Road LOS Results**

| Scenario                              | AM Peak Hour    |     | PM Peak Hour    |     |
|---------------------------------------|-----------------|-----|-----------------|-----|
|                                       | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS |
| <b>2024 Existing</b>                  |                 |     |                 |     |
| Northbound Approach                   | 21.3            | C   | 17.3            | C   |
| Eastbound Left                        | 8.6             | A   | 7.8             | A   |
| Westbound Left                        | 7.9             | A   | 8.4             | A   |
| Southbound Approach                   | 15.9            | C   | 12.4            | B   |
| <b>2028 Background #</b>              |                 |     |                 |     |
| Northbound Left/Through               | 30.3            | D   | 18.5            | C   |
| Northbound Right                      | 9.2             | A   | 11.6            | B   |
| Eastbound Left                        | 8.7             | A   | 7.8             | A   |
| Westbound Left                        | 8.1             | A   | 8.9             | A   |
| Southbound Approach                   | 14.8            | B   | 11.7            | B   |
| <b>2028 Background Plus Project #</b> |                 |     |                 |     |
| Northbound Left/Through               | 33.0            | D   | 19.5            | C   |
| Northbound Right                      | 9.2             | A   | 11.7            | B   |
| Eastbound Left                        | 8.8             | A   | 7.9             | A   |
| Westbound Left                        | 8.1             | A   | 9.0             | A   |
| Southbound Approach                   | 14.9            | B   | 11.8            | B   |
| <b>2045 Background #</b>              |                 |     |                 |     |
| Northbound Left/Through               | 168.1           | F   | 35.7            | E   |
| Northbound Right                      | 9.8             | A   | 14.7            | B   |
| Eastbound Left                        | 9.8             | A   | 8.2             | A   |
| Westbound Left                        | 8.6             | A   | 10.0            | A   |
| Southbound Approach                   | 20.6            | C   | 15.2            | C   |
| <b>2045 Background Plus Project #</b> | 8.9             | A   | 8.5             | A   |

# = Includes background study improvements: Separate EBL, EBR, WBL, and NBR; \$=Signalized

## Project Accesses

With completion of the Buc-ee's project, an outbound only access along County Line Road and two full movement access along Beacon Lite Road will be constructed. The County Line Road right-out only access is recommended to provide a R1-1 "STOP" sign and a R3-1 No Left Turn sign on the exiting approach while the exiting approach should also be oriented to only allow right-turn movements. Southbound dual left turn lanes are recommended at the north access along Beacon Lite Road due to the high volume of entering left turn movements. The westbound right movement of this north access along Beacon Lite Road will operate with free flow movements by providing a westbound to northbound acceleration lane. Therefore, to accommodate dual southbound left turn lanes, the intersection will need to be signalized. Of note, the traffic volumes are not anticipated to warrant signalization, but signal control could be provided if supported by El Paso County due to the high volume of southbound left turn movements and dual left turn lanes should not be implemented with stop control. The southern access is recommended to operate with stop control on the westbound approach, exiting the site. The westbound approach of this southern access operates acceptably with a shared left/right turn lane and should operate under stop control with a R1-1 "STOP" sign installed on the exiting approach. A southbound left turn lane is recommended to be provided for entering the site at the south access. **Table 7** provides the results of the level of service for the project access intersections. As shown in the table, the project access intersections are anticipated to have all movements operating with acceptable LOS C or better during the peak hours in both the buildout year 2028 and the 2045 long-term horizons.

**Table 7 – Project Access Level of Service Results**

| Intersection                                                             | 2028 Total      |        |                 |        | 2045 Total      |        |                 |        |
|--------------------------------------------------------------------------|-----------------|--------|-----------------|--------|-----------------|--------|-----------------|--------|
|                                                                          | AM Peak Hour    |        | PM Peak Hour    |        | AM Peak Hour    |        | PM Peak Hour    |        |
|                                                                          | Delay (sec/veh) | LOS    | Delay (sec/veh) | LOS    | Delay (sec/veh) | LOS    | Delay (sec/veh) | LOS    |
| <b>County Line Rd RO Access</b><br>Northbound Approach                   | 14.6            | A      | 20.7            | C      | 15.9            | C      | 24.5            | C      |
| <b>Beacon Lite North Access</b>                                          | 1.4             | A      | 1.5             | A      | 1.4             | A      | 1.6             | A      |
| <b>Beacon Lite South Access</b><br>Westbound Approach<br>Southbound Left | 8.9<br>7.5      | A<br>A | 9.4<br>7.7      | A<br>A | 9.0<br>7.5      | A<br>A | 9.6<br>7.7      | B<br>A |

### 5.3 El Paso County Turn Lane Requirement Analysis

The El Paso County Engineering Criteria Manual (ECM) was used to determine if left and right turn lanes are warranted along Beacon Lite Road at the project accesses. County Line Road is classified as a minor arterial roadway while Beacon Lite Road is a collector roadway. According to ECM guidelines for minor arterial and lower classification roadways, a left turn lane is required for any access with a projected peak hour left turning volume of 25 vehicles per hour or greater, a right turn lane is required for any access with a projected peak hour right turning volume of 50 vehicles per hour or greater, and a right turn acceleration lane is generally not required. Based on the Beacon Lite Road providing a posted speed limit of 35 miles per hour, the turn lane requirements for a design speed of 40 miles per hour are as follows:

#### Beacon Lite Road North Access (#6)

- A southbound left turn lane is warranted based on projected 2028 background plus project traffic volumes being 672 southbound left turns during the peak hour and the threshold being 25 vph. With 672 southbound left turn movements projected, southbound dual left turn lanes are recommended at the north access along Beacon Lite Road. Based on the 40 mile per hour design speed, the left turn lane length requirements are 490 feet of lane length per lane (335 feet of storage per lane plus 155 feet of deceleration per lane) plus a 160-foot taper. It is recommended that the inside left turn lane provide 490 feet of length plus a 160-foot taper while the outside left turn be a continuous lane extending lane from the proposed roundabout at the County Line Road and Beacon Lite Road intersection which would drop as a forced left turn lane. Therefore, the 980 feet of left turn lane length would be accommodated by 490 feet from the inside lane and approximately 1,040 feet from the continuous left turn lane extending from the proposed roundabout to the north. Of note, the 95<sup>th</sup> percentile vehicle queues are calculated with 175 feet per lane and the vehicles will not be traveling 40 miles per hour when exiting the proposed roundabout to the north; therefore, the required turn lane length requirements which are being accommodated should be conservative.
- A northbound right turn lane is not warranted based on projected 2028 background plus project traffic volumes being five (5) northbound right turns during the peak hour and the threshold being 50 vph.

### Beacon Lite Road South Access (#7)

- A southbound left turn lane is warranted based on projected 2028 background plus project traffic volumes being 156 southbound left turns during the peak hour and the threshold being 25 vph. Based on the 40 mile per hour design speed, the length requirements are 150 feet of storage plus 155 feet of deceleration plus a 160-foot taper. Therefore, the southbound left turn lane is recommended to provide at least 305 feet of length plus a 160-foot taper.
- A northbound right turn lane is not warranted based on projected 2028 background plus project traffic volumes being eight (8) northbound right turns during the peak hour and the threshold being 50 vph.

## 5.4 Vehicle Queuing Analysis

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95<sup>th</sup> percentile queue lengths. Results are shown in the following **Table 8** with calculations provided within the level of service operational sheets of **Appendix E** for unsignalized intersections and **Appendix G** for signalized intersections. Of note, the minimum reported queue length is reported as 25 feet.

**Table 8 – Turn Lane Queuing Analysis Results**

| Intersection Turn Lane                                         | Existing Turn Lane Length | 2028 Calculated Queue | 2028 Recommended Length | 2045 Calculated Queue | 2045 Recommended Length |
|----------------------------------------------------------------|---------------------------|-----------------------|-------------------------|-----------------------|-------------------------|
| <b>County Line &amp; Beacon Lite (#1)</b><br><i>Signalized</i> |                           |                       |                         |                       |                         |
| Eastbound Left                                                 | DNE                       | 155'                  | C                       | 207'                  | C                       |
| Eastbound Right                                                | DNE                       | 25'                   | 155'+160'T              | 25'                   | 155'+160'T              |
| Northbound Left                                                | DNE                       | 25'                   | 155'+160'T              | 25'                   | 155'+160'T              |
| Southbound Right                                               | DNE                       | 25'                   | 155'+160'T              | 25'                   | 155'+160'T              |
| <b>County Line &amp; I-25 SB (#2)</b><br><i>Signalized</i>     |                           |                       |                         |                       |                         |
| Eastbound Right                                                | DNE                       | 37'                   | C                       | 25'                   | C                       |
| Westbound Left                                                 | 275'                      | 173'                  | 275'+300'               | 294'*                 | 275'+300'               |
| Southbound Right                                               | DNE                       | 69'                   | 400'                    | 71'                   | 400'                    |
| <b>County Line &amp; I-25 NB (#3)</b><br><i>Signalized</i>     |                           |                       |                         |                       |                         |
| Eastbound Left                                                 | 275'                      | 232'                  | 275'+C                  | 308'*                 | 275'+C                  |
| Northbound Left                                                | DNE                       | 175'                  | C                       | 186'                  | C                       |
| Northbound Right                                               | DNE                       | 49'                   | 300'                    | 56'                   | 300'                    |
| <b>County Line &amp; Monument Hill (#4)</b>                    |                           |                       |                         |                       |                         |
| Eastbound Left                                                 | DNE                       | 25'                   | 75'                     | 25'                   | 75'                     |
| Eastbound Right                                                | DNE                       | 25'                   | 140'                    | 25'                   | 140'                    |
| Westbound Left                                                 | DNE                       | 25'                   | 225'                    | 42'                   | 225'                    |
| Northbound Right                                               | DNE                       | 25'                   | 175'                    | 25'                   | 175'                    |
| <b>Beacon Lite North Access (#6)</b>                           |                           |                       |                         |                       |                         |
| Westbound Left                                                 | DNE                       | 25'                   | C                       | 25'                   | C                       |
| Westbound Right                                                | DNE                       | 25'                   | C                       | 25'                   | C                       |
| Southbound Left                                                | DNE                       | 161' DL               | 490' / C+160'T          | 157' DL               | 490' / C+160'T          |
| <b>Beacon Lite South Access (#7)</b>                           |                           |                       |                         |                       |                         |
| Southbound Left                                                | DNE                       | 25'                   | 305'+160'T              | 25'                   | 305'+160'T              |

DNE = Does Not Exist; C = Continuous; DL = Dual Left Turn Lanes; T = Taper; **Blue** Text = Recommendation; \* = contained by external spillback lane

The vehicle queues are all anticipated to remain within the existing or recommended turn lane lengths throughout the 2045 horizon. Of note, the eastbound left turn lane at the I-25 Northbound Ramp intersection provides an additional eastbound through lane for spillback queue. Likewise, the westbound left turn lane at the I-25 Southbound Ramp intersection will provide an additional 300 feet of length for spillback queue.

## 5.5 Access Spacing Requirements and Surrounding Roadway Volume Classifications

According to El Paso County 2024 Major Transportation Corridors Plan Update, County Line Road is classified as a minor arterial roadway and Beacon Lite Road is classified as a collector roadway. The following identifies the intersection spacing requirements for the access intersections associated with the project.

### County Line Road Right-Out Only Access

The proposed right-out is located approximately 590 feet west of the I-25 Southbound Ramp intersection (measured centerline to centerline). Coordination with CDOT and El Paso County is underway to allow a right-out only driveway access to County Line Road.

### Beacon Lite North Access (Full)

The proposed full movement North Access is located approximately 1,130 feet south of County Line Road and Beacon Lite Road intersection (measured centerline to centerline). According to the El Paso County Engineering Criteria Manual Table 2-35 and a posted limit of 35 mph, access for a four-lane roadway should be located a minimum of 420 feet south of County Line Road. Therefore, the proposed access location meets spacing requirements.

### Beacon Lite South Access (Full)

The proposed full movement South Access is located approximately 570 feet south of the north access intersection (measured centerline to centerline) and 350 feet north of Bricker Road. According to the El Paso County Engineering Criteria Manual and posted speed limit of 35 mph, access spacing off a two-lane roadway should provide a minimum of 350 feet south of the north access. Therefore, the proposed access location meets El Paso County's spacing requirements.

### Traffic Volume Thresholds

County Line Road meets the daily volume threshold of a four-lane urban principal arterial roadway (40,000 vehicles per day threshold) between Beacon Lite Road and the I-25 Southbound Ramp with an average daily traffic volume projection of 24,900 vehicles per day in 2028. County Line Road meets the roadway characteristics of rural 2-lane minor arterial to the west of Beacon Lite Road and east of the I-25 Northbound Ramp while meeting the characteristics of a urban 4-lane minor arterial between the northbound and southbound ramps of I-25. Beacon Lite Road meets the daily volume threshold of a non-residential urban collector (20,000 vph threshold) an average daily traffic volume projection of 9,400 vehicles per day in 2028. **Figure 12** illustrates the circulation plan and street classification map for roadways surrounding the Buc-ee's project.

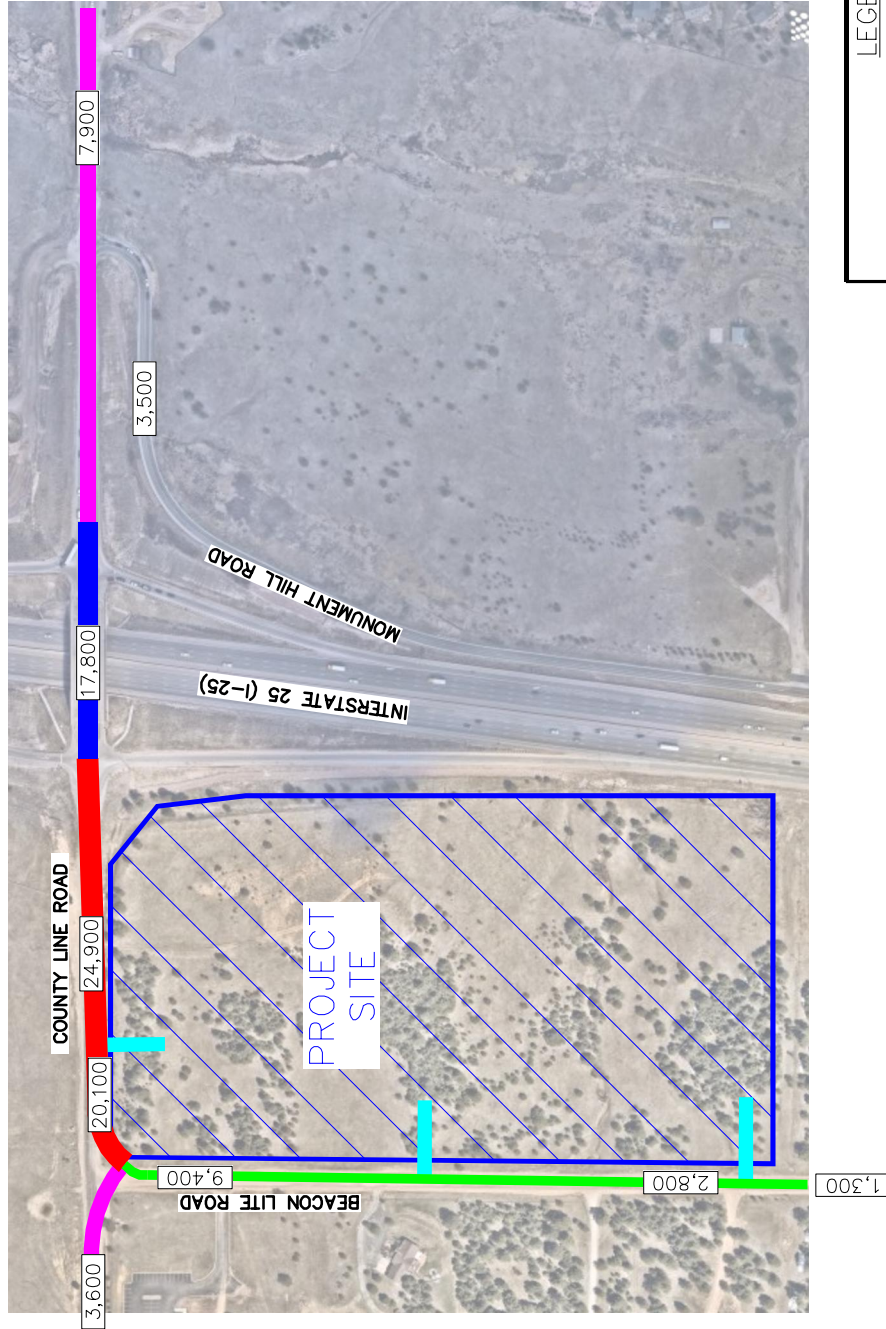


**FIGURE 12**  
 BUC-EE'S IH 25, EXIT 163  
 EL PASO COUNTY, COLORADO  
 STREET CLASSIFICATION MAP

## 5.6 Sight Distance Evaluation

It is recommended that sight triangles be provided at all site access points to give drivers exiting the site a clear view of oncoming traffic. Landscaping and objects within sight triangles must not obstruct drivers' views of the adjacent travel lanes. El Paso County Engineering Criteria Manual (ECM) design intersection sight distances for left turn and right turning from stop were evaluated at the unsignalized project accesses along County Line Road and Beacon Lite Road. The following identifies sight distance requirements for the access intersections associated with the project:

### County Line Road Right-Out Only Access

Based on ECM Table 2-35: Entering Sight Distance with a speed of 35 mph, the sight distance for a vehicle turning right from stop is 525 feet for a single unit truck design vehicle. Therefore, all obstructions for right turning vehicles from stop should be clear to the left within the triangle created with a vertex point located 10 feet from the edge of the major road traveled way and a line-of-sight distance of 525 feet located in the middle of the eastbound through lane along County Line Road. Based on these criteria, it is believed that the proposed access along County Line Road is appropriately located to provide necessary sight distances.

### Beacon Lite Road South Access

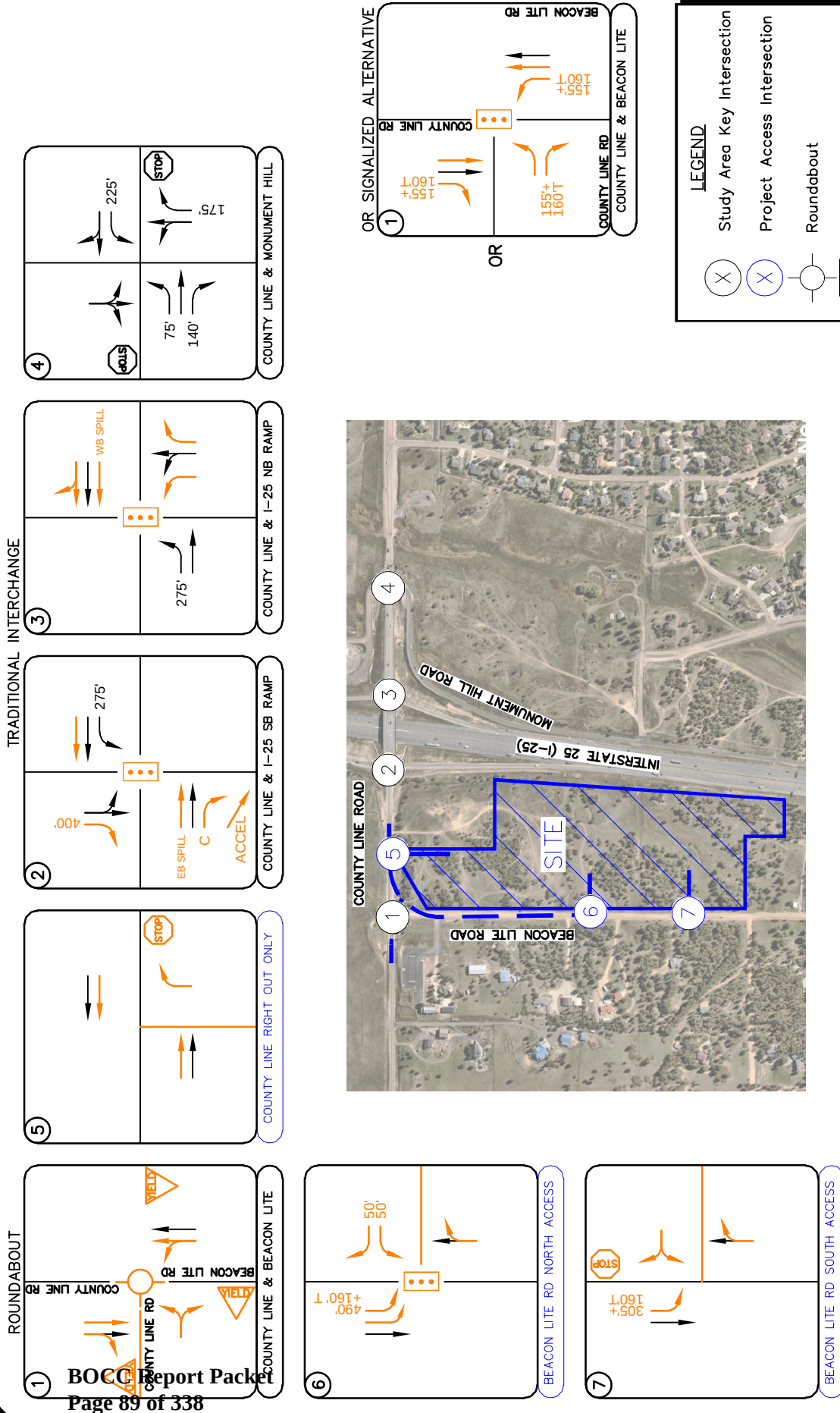
With El Paso County standards and a roadway speed of 35 miles per hour along Beacon Lite Road (consistent with ECM Table 2-35, speed limit of 35 mph), the entering sight distance for a vehicle turning left and right from stop is 525 feet for a single unit truck design vehicle. Therefore, all obstructions for left turning vehicles from stop should be clear to the right within the triangle created with a vertex point located 10 feet from the edge of the major road traveled way and a line-of-sight distance of 525 feet located in the middle of the southbound through lane along Beacon Lite Road. Likewise, all obstructions for right turning vehicles from stop should be clear to the left within the triangle created with a vertex point located 10 feet from the edge of the major road traveled way and a line-of-sight distance of 525 feet located in the middle of the northbound through lane along Beacon Lite Road. It is believed that the proposed south access along Beacon Lite Road is appropriately located to provide necessary sight distances.

### 5.7 Road Impact Fees

Road impact fees will be calculated based on the El Paso County Road Impact Fee Schedule. The fee will be calculated after the administrative determination of the site use and coinciding with the site development plan application.

### 5.8 Improvement Summary

Based on the results of the intersection operational and vehicle queuing analysis, the key intersections recommended improvements and control for the 2028 horizon are shown in **Figure 13** while the key intersections recommended improvements and control for the 2045 horizon are shown in **Figure 14**.



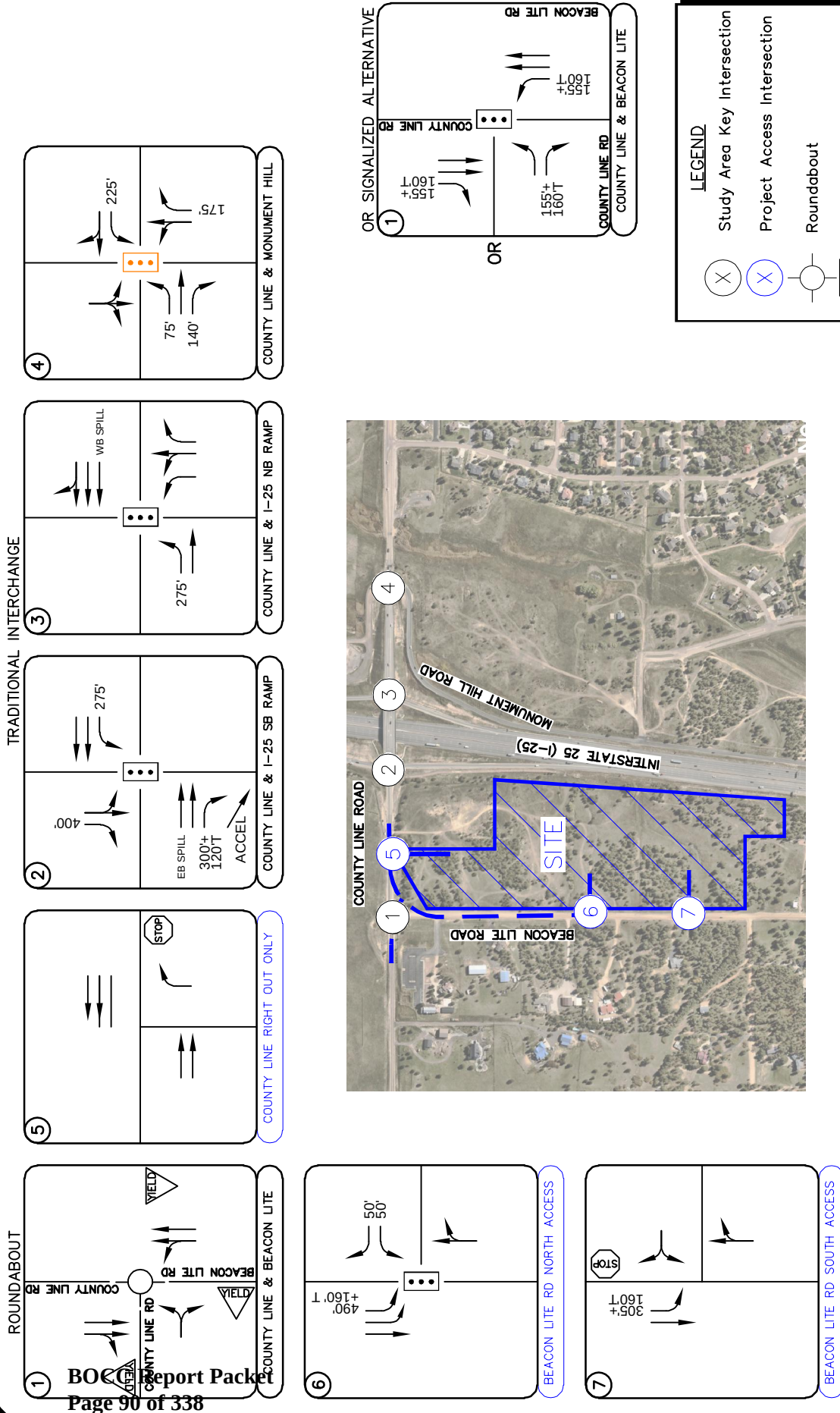


**FIGURE 14**  
 BUC-EE'S IH 25, EXIT 163  
 EL PASO COUNTY, COLORADO  
 2045 RECOMMENDED GEOMETRY AND CONTROL



## 6.0 CONCLUSIONS AND RECOMMENDATIONS

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Based on the analysis presented in this report, Kimley-Horn believes the Buc-ee's IH 25, Exit 163 project will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following conclusions and recommendations:

### **2028 Recommendations**

- With construction of the project, the I-25 and County Line Road interchange ramp terminals are recommended to be converted from stop control to signal control. Traffic signals are the preferred intersection control recommended in this study. In order to utilize the existing bridge deck (approximately 72 feet), a traditional diamond interchange can provide two westbound through lanes, a westbound left turn lane, an eastbound left turn lane, and a single eastbound through lane between the two ramps at 12 feet per lane. Additionally, the northbound off-ramp is recommended to provide three approach lanes including a separate left turn lane, a shared left turn/through lane, and right turn lane while the southbound off-ramp is recommended to provide two approach lanes including a shared left turn/through lane and a separate right turn lane. The left turn lanes onto the I-25 on-ramps will each provide a spillback lane for additional vehicle storage.
- The County Line Road and Beacon Lite Road (#1) intersection is recommended to be realigned by converting the major through movements to the existing east (County Line Road) and south (Beacon Lite Road) legs of this intersection while the west leg of County Line Road will intersect into the new roadway alignment. This will convert a high volume of northbound right turn movements and westbound left turn movements into the major through movements. This realigned intersection will either need to be signalized or provide roundabout control. As a signal, the west leg minor approach is recommended to provide a separate left and right turn lane while the major approaches would provide two northbound and southbound through lanes, a separate northbound left turn lane, and a separate right turn lane. However, as a roundabout, the northbound/southbound realigned roadway is recommended to provide two approach lanes, and the eastbound approach is recommended to provide a single lane for shared movements.

- Two full movement project accesses are being proposed along Beacon Lite Road while one right-out only access is proposed along County Line Road. The following summarizes the recommendations of the three proposed project accesses:
  - o A right-out only access along County Line Road (#5) is recommended to provide a R1-1 “STOP” sign on the northbound approach with a R3-1 No Left Turn sign below the R1-1 sign. The exiting approach to this access should also be oriented to only allow exiting right turn movements.
  - o The north access (#6) along Beacon Lite Road should be signalized as a T-intersection. Southbound dual left turn lanes are recommended at the north access along Beacon Lite Road due to the high volume of entering left turn movements. The inside left turn lane is recommended to provide a length of 490 feet plus a 160-foot taper while the outside left turn lane will be continuous drop lane from the inside through lane. The westbound approach to this access is recommended to provide separate left and right turn lanes with the right turn movement operating under free-flowing conditions.
  - o A full movement access (#7) is proposed at the south end of the site along Beacon Lite Road. The intersection is recommended to operate with stop control on the westbound approach. A southbound left turn lane is recommended at the south access along Beacon Lite Road with a length of 305 feet plus a 160-foot taper.
- The church on the southwest corner of the County Line Road and Beacon Lite Road intersection currently has one full movement access along Beacon Lite Road and no other points of access. This access to the church along Beacon Lite Road is proposed to be restricted to right-in/right-out movements due to the proximity to the future realigned intersection of County Line Road and Beacon Lite Road. Therefore, the project team will coordinate with the church and El Paso County regarding the possibility of incorporating a second point of access along County Line Road or Bull Pine Point for the church.
- Additionally, site generated traffic associated with the Monument Ridge East development located on the southeast corner of County Line Road and Monument Hill Road intersection were added directly to the study intersections. With the development of the Monument Ridge East site, Monument Hill Road will be realigned and provide separate eastbound left and right turn lanes, a separate westbound left turn lane, and a separate northbound right turn lane.

### **2045 Recommendations**

- As identified in other traffic studies, the County Line Road and Monument Hill Road intersection is expected to be signalized in the long-term horizon.

### **General Recommendations**

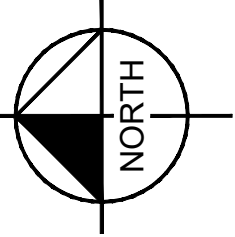
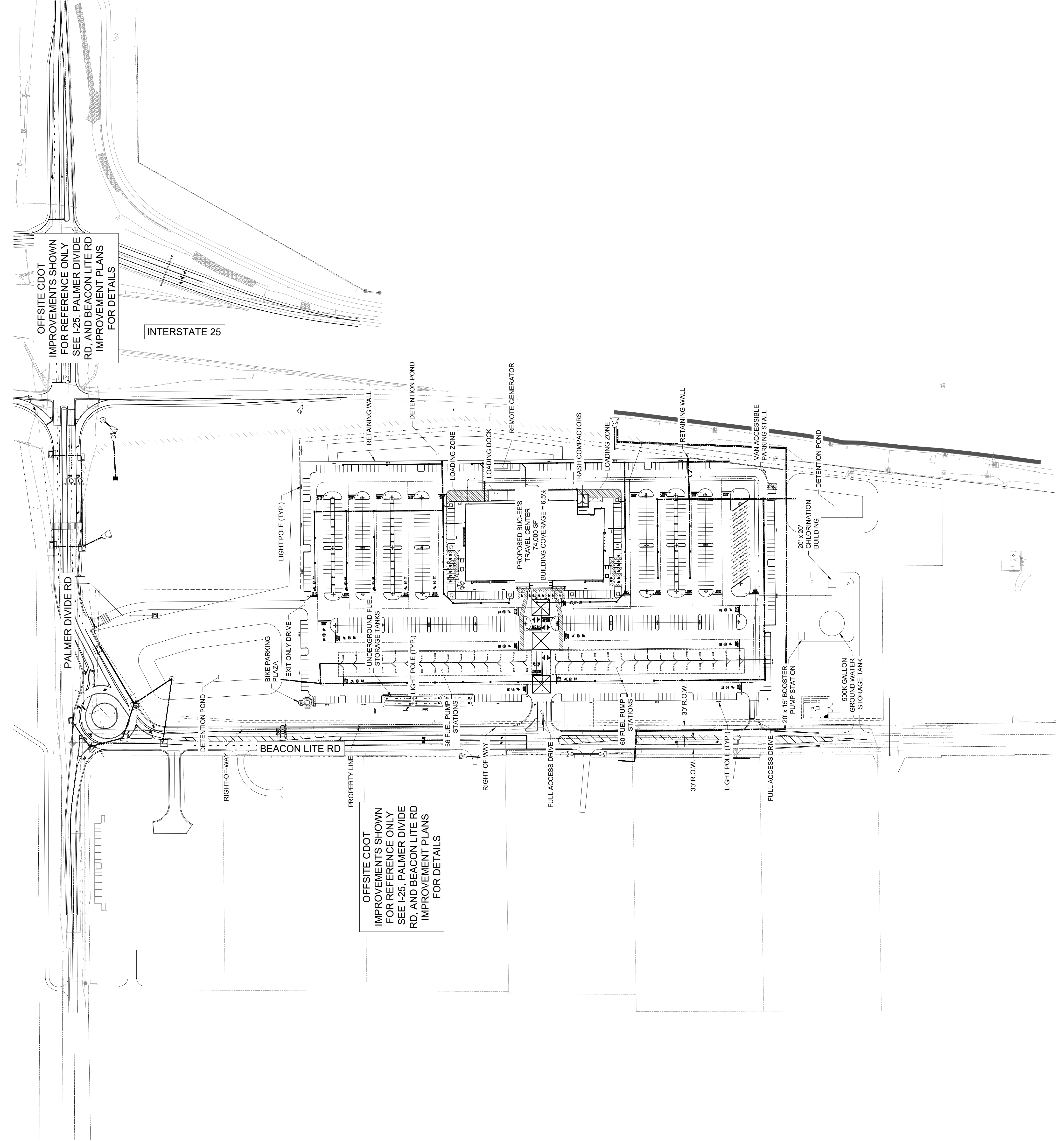
- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the El Paso County, CDOT, and the Manual on Uniform Traffic Control Devices (MUTCD) – 11th Edition, 2023.



# APPENDICES

# APPENDIX A

## Conceptual Site Plan



SHEET NUMBER  
2

OVERALL SITE DEVELOPMENT PLAN  
EL PASO COUNTY TRAVEL CENTER  
BUC-EES, LTD.  
PREPARED FOR  
COUNTY OF EL PASO

|                          |                    |
|--------------------------|--------------------|
| KHA PROJECT<br>196094001 | DATE<br>3/2/2026   |
| SCALE<br>AS SHOWN        | DESIGNED BY<br>MMR |
| DRAWN BY<br>ECM          | CHECKED BY<br>KEW  |

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Kimley»Horn

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY
- BUILDING SETBACK
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- LANDSCAPE SETBACK
- FIRE LINE STRIPING
- DRIVE AISLE CENTERLINE
- WILDLIFE FENCE

CONCRETE SIDEWALK

SITE VEGETATION

FUTURE EV CHARGING

ACCESSIBLE PARKING SYMBOL

GRATE INLET

FIRE HYDRANT

# APPENDIX B

## Intersection Count Sheets

# Beacon Lite Rd Palmer Divide Rd

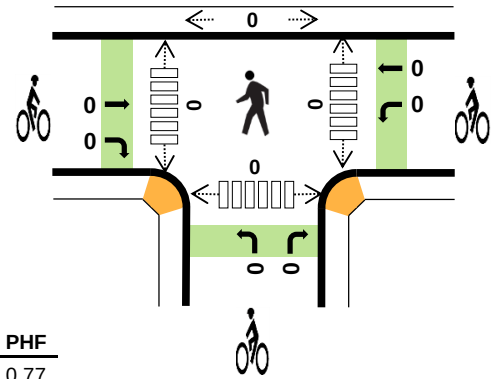
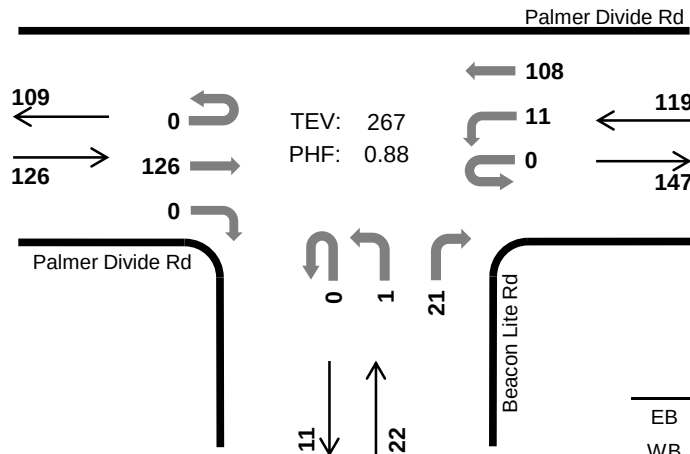


Peak Hour

Date: 05/08/2024

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:15 AM to 8:15 AM



|       | HV %: | PHF  |
|-------|-------|------|
| EB    | 0.0%  | 0.77 |
| WB    | 4.2%  | 0.68 |
| NB    | 0.0%  | 0.50 |
| SB    | -     | -    |
| TOTAL | 1.9%  | 0.88 |

## Two-Hour Count Summaries

| Interval Start |     | Palmer Divide Rd |    |     |    | Palmer Divide Rd |    |     |    | Beacon Lite Rd |    |    |    | n/a        |    |    |    | 15-min Total | Rolling One Hour |
|----------------|-----|------------------|----|-----|----|------------------|----|-----|----|----------------|----|----|----|------------|----|----|----|--------------|------------------|
|                |     | Eastbound        |    |     |    | Westbound        |    |     |    | Northbound     |    |    |    | Southbound |    |    |    |              |                  |
|                |     | UT               | LT | TH  | RT | UT               | LT | TH  | RT | UT             | LT | TH | RT | UT         | LT | TH | RT |              |                  |
| 7:00 AM        |     | 0                | 0  | 22  | 0  | 0                | 1  | 16  | 0  | 0              | 0  | 0  | 6  | 0          | 0  | 0  | 0  | 45           | 0                |
| 7:15 AM        |     | 0                | 0  | 41  | 0  | 0                | 1  | 20  | 0  | 0              | 1  | 0  | 10 | 0          | 0  | 0  | 0  | 73           | 0                |
| 7:30 AM        |     | 0                | 0  | 41  | 0  | 0                | 3  | 26  | 0  | 0              | 0  | 0  | 6  | 0          | 0  | 0  | 0  | 76           | 0                |
| 7:45 AM        |     | 0                | 0  | 23  | 0  | 0                | 4  | 40  | 0  | 0              | 0  | 0  | 4  | 0          | 0  | 0  | 0  | 71           | 265              |
| 8:00 AM        |     | 0                | 0  | 21  | 0  | 0                | 3  | 22  | 0  | 0              | 0  | 0  | 1  | 0          | 0  | 0  | 0  | 47           | 267              |
| 8:15 AM        |     | 0                | 0  | 22  | 1  | 0                | 4  | 25  | 0  | 0              | 0  | 0  | 9  | 0          | 0  | 0  | 0  | 61           | 255              |
| 8:30 AM        |     | 0                | 0  | 17  | 3  | 0                | 3  | 26  | 0  | 0              | 0  | 0  | 3  | 0          | 0  | 0  | 0  | 52           | 231              |
| 8:45 AM        |     | 0                | 0  | 29  | 1  | 0                | 5  | 17  | 0  | 0              | 0  | 0  | 12 | 0          | 0  | 0  | 0  | 64           | 224              |
| Count Total    |     | 0                | 0  | 216 | 5  | 0                | 24 | 192 | 0  | 0              | 1  | 0  | 51 | 0          | 0  | 0  | 0  | 489          | 0                |
| Peak Hour      | All | 0                | 0  | 126 | 0  | 0                | 11 | 108 | 0  | 0              | 1  | 0  | 21 | 0          | 0  | 0  | 0  | 267          | 0                |
|                | HV  | 0                | 0  | 0   | 0  | 0                | 0  | 5   | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 5            | 0                |
|                | HV% | -                | -  | 0%  | -  | -                | 0% | 5%  | -  | -              | 0% | -  | 0% | -          | -  | -  | -  | 2%           | 0                |

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals |    |    |    |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | EB                   | WB | NB | SB | Total | EB       | WB | NB | SB | Total | East                       | West | North | South | Total |
| 7:00 AM        | 0                    | 0  | 0  | 0  | 0     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:15 AM        | 0                    | 1  | 0  | 0  | 1     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:30 AM        | 0                    | 0  | 0  | 0  | 0     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:45 AM        | 0                    | 3  | 0  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:00 AM        | 0                    | 1  | 0  | 0  | 1     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:15 AM        | 3                    | 0  | 0  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:30 AM        | 1                    | 1  | 1  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:45 AM        | 3                    | 0  | 0  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Count Total    | 7                    | 6  | 1  | 0  | 14    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Peak Hr        | 0                    | 5  | 0  | 0  | 5     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |

**Two-Hour Count Summaries - Heavy Vehicles**

| Interval<br>Start | Palmer Divide Rd |    |    |    | Palmer Divide Rd |    |    |    | Beacon Lite Rd |    |    |    | n/a        |    |    |    | 15-min<br>Total | Rolling<br>One Hour |
|-------------------|------------------|----|----|----|------------------|----|----|----|----------------|----|----|----|------------|----|----|----|-----------------|---------------------|
|                   | Eastbound        |    |    |    | Westbound        |    |    |    | Northbound     |    |    |    | Southbound |    |    |    |                 |                     |
|                   | UT               | LT | TH | RT | UT               | LT | TH | RT | UT             | LT | TH | RT | UT         | LT | TH | RT |                 |                     |
| 7:00 AM           | 0                | 0  | 0  | 0  | 0                | 0  | 0  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 0               | 0                   |
| 7:15 AM           | 0                | 0  | 0  | 0  | 0                | 0  | 1  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 1               | 0                   |
| 7:30 AM           | 0                | 0  | 0  | 0  | 0                | 0  | 0  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 0               | 0                   |
| 7:45 AM           | 0                | 0  | 0  | 0  | 0                | 0  | 3  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 3               | 4                   |
| 8:00 AM           | 0                | 0  | 0  | 0  | 0                | 0  | 1  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 1               | 5                   |
| 8:15 AM           | 0                | 0  | 2  | 1  | 0                | 0  | 0  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 3               | 7                   |
| 8:30 AM           | 0                | 0  | 1  | 0  | 0                | 0  | 1  | 0  | 0              | 0  | 0  | 1  | 0          | 0  | 0  | 0  | 3               | 10                  |
| 8:45 AM           | 0                | 0  | 3  | 0  | 0                | 0  | 0  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 3               | 10                  |
| Count Total       | 0                | 0  | 6  | 1  | 0                | 0  | 6  | 0  | 0              | 0  | 0  | 1  | 0          | 0  | 0  | 0  | 14              | 0                   |
| Peak Hour         | 0                | 0  | 0  | 0  | 0                | 0  | 5  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 5               | 0                   |

**Two-Hour Count Summaries - Bikes**

| Interval<br>Start | Palmer Divide Rd |    |    | Palmer Divide Rd |    |    | Beacon Lite Rd |    |    | n/a        |    |    | 15-min<br>Total | Rolling<br>One Hour |
|-------------------|------------------|----|----|------------------|----|----|----------------|----|----|------------|----|----|-----------------|---------------------|
|                   | Eastbound        |    |    | Westbound        |    |    | Northbound     |    |    | Southbound |    |    |                 |                     |
|                   | LT               | TH | RT | LT               | TH | RT | LT             | TH | RT | LT         | TH | RT |                 |                     |
| 7:00 AM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 7:15 AM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 7:30 AM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 7:45 AM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 8:00 AM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 8:15 AM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 8:30 AM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 8:45 AM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| Count Total       | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| Peak Hour         | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

# Beacon Lite Rd Palmer Divide Rd

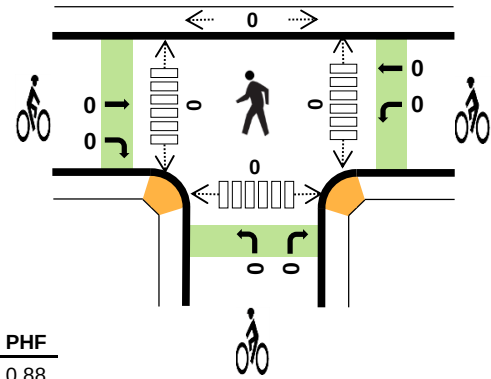
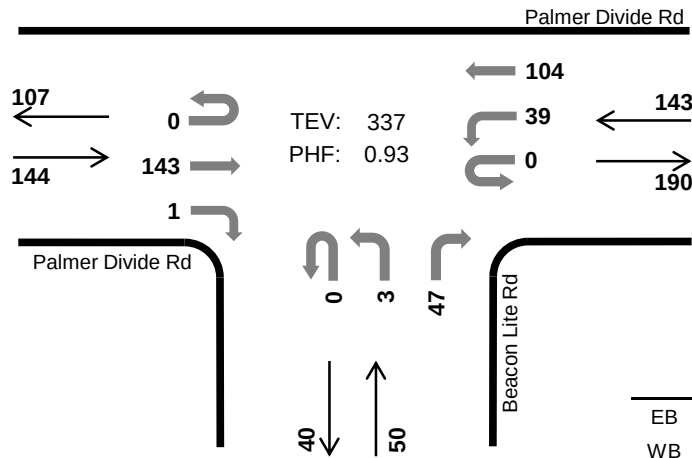


Peak Hour

Date: 05/08/2024

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:00 PM to 5:00 PM



|       | HV %: | PHF  |
|-------|-------|------|
| EB    | 4.2%  | 0.88 |
| WB    | 1.4%  | 0.89 |
| NB    | 4.0%  | 0.78 |
| SB    | -     | -    |
| TOTAL | 3.0%  | 0.93 |

## Two-Hour Count Summaries

| Interval<br>Start |     | Palmer Divide Rd |    |     |      | Palmer Divide Rd |    |     |    | Beacon Lite Rd |    |    |    | n/a        |    |    |    | 15-min<br>Total | Rolling<br>One Hour |
|-------------------|-----|------------------|----|-----|------|------------------|----|-----|----|----------------|----|----|----|------------|----|----|----|-----------------|---------------------|
|                   |     | Eastbound        |    |     |      | Westbound        |    |     |    | Northbound     |    |    |    | Southbound |    |    |    |                 |                     |
|                   |     | UT               | LT | TH  | RT   | UT               | LT | TH  | RT | UT             | LT | TH | RT | UT         | LT | TH | RT |                 |                     |
| 4:00 PM           |     | 0                | 0  | 36  | 0    | 0                | 10 | 28  | 0  | 0              | 0  | 0  | 13 | 0          | 0  | 0  | 0  | 87              | 0                   |
| 4:15 PM           |     | 0                | 0  | 35  | 1    | 0                | 13 | 27  | 0  | 0              | 0  | 0  | 9  | 0          | 0  | 0  | 0  | 85              | 0                   |
| 4:30 PM           |     | 0                | 0  | 41  | 0    | 0                | 5  | 29  | 0  | 0              | 1  | 0  | 15 | 0          | 0  | 0  | 0  | 91              | 0                   |
| 4:45 PM           |     | 0                | 0  | 31  | 0    | 0                | 11 | 20  | 0  | 0              | 2  | 0  | 10 | 0          | 0  | 0  | 0  | 74              | 337                 |
| 5:00 PM           |     | 0                | 0  | 32  | 4    | 0                | 4  | 23  | 0  | 0              | 0  | 0  | 8  | 0          | 0  | 0  | 0  | 71              | 321                 |
| 5:15 PM           |     | 0                | 0  | 31  | 0    | 0                | 9  | 25  | 0  | 0              | 0  | 0  | 3  | 0          | 0  | 0  | 0  | 68              | 304                 |
| 5:30 PM           |     | 0                | 0  | 26  | 0    | 0                | 10 | 18  | 0  | 0              | 1  | 0  | 6  | 0          | 0  | 0  | 0  | 61              | 274                 |
| 5:45 PM           |     | 0                | 0  | 32  | 3    | 0                | 12 | 27  | 0  | 0              | 0  | 0  | 13 | 0          | 0  | 0  | 0  | 87              | 287                 |
| Count Total       |     | 0                | 0  | 264 | 8    | 0                | 74 | 197 | 0  | 0              | 4  | 0  | 77 | 0          | 0  | 0  | 0  | 624             | 0                   |
| Peak<br>Hour      | All | 0                | 0  | 143 | 1    | 0                | 39 | 104 | 0  | 0              | 3  | 0  | 47 | 0          | 0  | 0  | 0  | 337             | 0                   |
|                   | HV  | 0                | 0  | 5   | 1    | 0                | 1  | 1   | 0  | 0              | 0  | 0  | 2  | 0          | 0  | 0  | 0  | 10              | 0                   |
|                   | HV% | -                | -  | 3%  | 100% | -                | 3% | 1%  | -  | -              | 0% | -  | 4% | -          | -  | -  | -  | 3%              | 0                   |

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals |    |    |    |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | EB                   | WB | NB | SB | Total | EB       | WB | NB | SB | Total | East                       | West | North | South | Total |
| 4:00 PM        | 1                    | 1  | 0  | 0  | 2     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 4:15 PM        | 1                    | 0  | 1  | 0  | 2     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 4:30 PM        | 4                    | 1  | 0  | 0  | 5     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 4:45 PM        | 0                    | 0  | 1  | 0  | 1     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:00 PM        | 0                    | 2  | 0  | 0  | 2     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:15 PM        | 0                    | 1  | 0  | 0  | 1     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:30 PM        | 1                    | 1  | 0  | 0  | 2     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:45 PM        | 0                    | 3  | 0  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Count Total    | 7                    | 9  | 2  | 0  | 18    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Peak Hr        | 6                    | 2  | 2  | 0  | 10    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |

**Two-Hour Count Summaries - Heavy Vehicles**

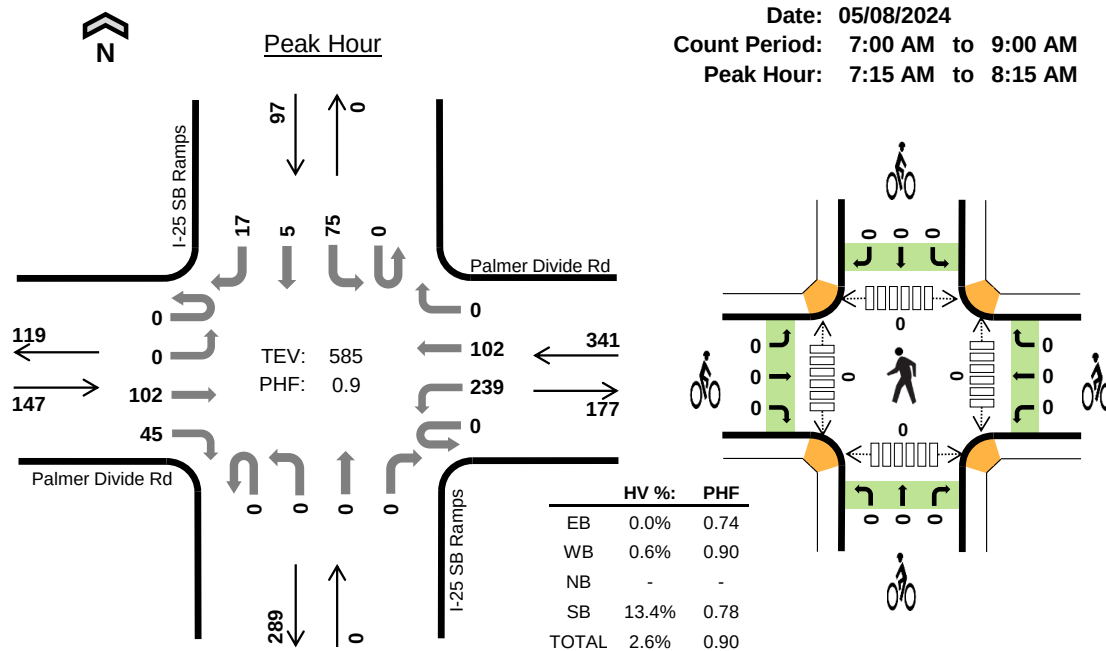
| Interval<br>Start | Palmer Divide Rd |    |    |    | Palmer Divide Rd |    |    |    | Beacon Lite Rd |    |    |    | n/a        |    |    |    | 15-min<br>Total | Rolling<br>One Hour |
|-------------------|------------------|----|----|----|------------------|----|----|----|----------------|----|----|----|------------|----|----|----|-----------------|---------------------|
|                   | Eastbound        |    |    |    | Westbound        |    |    |    | Northbound     |    |    |    | Southbound |    |    |    |                 |                     |
|                   | UT               | LT | TH | RT | UT               | LT | TH | RT | UT             | LT | TH | RT | UT         | LT | TH | RT |                 |                     |
| 4:00 PM           | 0                | 0  | 1  | 0  | 0                | 1  | 0  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 2               | 0                   |
| 4:15 PM           | 0                | 0  | 0  | 1  | 0                | 0  | 0  | 0  | 0              | 0  | 0  | 0  | 1          | 0  | 0  | 0  | 2               | 0                   |
| 4:30 PM           | 0                | 0  | 4  | 0  | 0                | 0  | 1  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 5               | 0                   |
| 4:45 PM           | 0                | 0  | 0  | 0  | 0                | 0  | 0  | 0  | 0              | 0  | 0  | 0  | 1          | 0  | 0  | 0  | 1               | 10                  |
| 5:00 PM           | 0                | 0  | 0  | 0  | 0                | 0  | 2  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 2               | 10                  |
| 5:15 PM           | 0                | 0  | 0  | 0  | 0                | 1  | 0  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 1               | 9                   |
| 5:30 PM           | 0                | 0  | 1  | 0  | 0                | 0  | 1  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 2               | 6                   |
| 5:45 PM           | 0                | 0  | 0  | 0  | 0                | 0  | 3  | 0  | 0              | 0  | 0  | 0  | 0          | 0  | 0  | 0  | 3               | 8                   |
| Count Total       | 0                | 0  | 6  | 1  | 0                | 2  | 7  | 0  | 0              | 0  | 0  | 2  | 0          | 0  | 0  | 0  | 18              | 0                   |
| Peak Hour         | 0                | 0  | 5  | 1  | 0                | 1  | 1  | 0  | 0              | 0  | 0  | 2  | 0          | 0  | 0  | 0  | 10              | 0                   |

**Two-Hour Count Summaries - Bikes**

| Interval<br>Start | Palmer Divide Rd |    |    | Palmer Divide Rd |    |    | Beacon Lite Rd |    |    | n/a        |    |    | 15-min<br>Total | Rolling<br>One Hour |
|-------------------|------------------|----|----|------------------|----|----|----------------|----|----|------------|----|----|-----------------|---------------------|
|                   | Eastbound        |    |    | Westbound        |    |    | Northbound     |    |    | Southbound |    |    |                 |                     |
|                   | LT               | TH | RT | LT               | TH | RT | LT             | TH | RT | LT         | TH | RT |                 |                     |
| 4:00 PM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 4:15 PM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 4:30 PM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 4:45 PM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 5:00 PM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 5:15 PM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 5:30 PM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| 5:45 PM           | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| Count Total       | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |
| Peak Hour         | 0                | 0  | 0  | 0                | 0  | 0  | 0              | 0  | 0  | 0          | 0  | 0  | 0               | 0                   |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

## I-25 SB Ramps Palmer Divide Rd



### Two-Hour Count Summaries

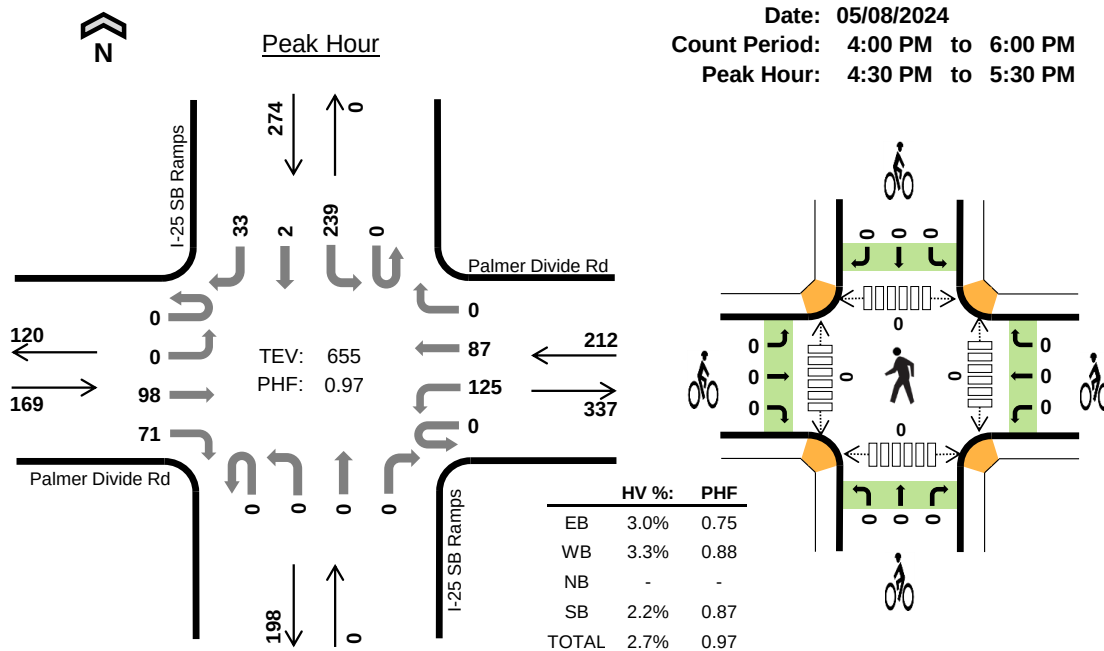
| Interval Start | Palmer Divide Rd Eastbound |    |     |     | Palmer Divide Rd Westbound |     |     |     | I-25 SB Ramps Northbound |    |    |    | I-25 SB Ramps Southbound |     |     |     | 15-min Total | Rolling One Hour |
|----------------|----------------------------|----|-----|-----|----------------------------|-----|-----|-----|--------------------------|----|----|----|--------------------------|-----|-----|-----|--------------|------------------|
|                | UT                         | LT | TH  | RT  | UT                         | LT  | TH  | RT  | UT                       | LT | TH | RT | UT                       | LT  | TH  | RT  |              |                  |
| 7:00 AM        | 0                          | 0  | 20  | 9   | 0                          | 46  | 16  | 0   | 0                        | 0  | 0  | 0  | 0                        | 20  | 1   | 1   | 113          | 0                |
| 7:15 AM        | 0                          | 0  | 43  | 7   | 0                          | 54  | 20  | 0   | 0                        | 0  | 0  | 0  | 0                        | 24  | 2   | 1   | 151          | 0                |
| 7:30 AM        | 0                          | 0  | 29  | 19  | 0                          | 61  | 28  | 0   | 0                        | 0  | 0  | 0  | 0                        | 21  | 1   | 3   | 162          | 0                |
| 7:45 AM        | 0                          | 0  | 18  | 9   | 0                          | 64  | 31  | 0   | 0                        | 0  | 0  | 0  | 0                        | 19  | 1   | 11  | 153          | 579              |
| 8:00 AM        | 0                          | 0  | 12  | 10  | 0                          | 60  | 23  | 0   | 0                        | 0  | 0  | 0  | 0                        | 11  | 1   | 2   | 119          | 585              |
| 8:15 AM        | 0                          | 0  | 16  | 14  | 0                          | 52  | 21  | 0   | 0                        | 0  | 0  | 0  | 0                        | 16  | 0   | 8   | 127          | 561              |
| 8:30 AM        | 0                          | 0  | 11  | 10  | 0                          | 48  | 27  | 0   | 0                        | 0  | 0  | 0  | 0                        | 11  | 1   | 1   | 109          | 508              |
| 8:45 AM        | 0                          | 0  | 28  | 13  | 0                          | 27  | 18  | 0   | 0                        | 0  | 0  | 0  | 0                        | 20  | 2   | 4   | 112          | 467              |
| Count Total    | 0                          | 0  | 177 | 91  | 0                          | 412 | 184 | 0   | 0                        | 0  | 0  | 0  | 0                        | 142 | 9   | 31  | 1,046        | 0                |
| Peak Hour      | All                        | 0  | 0   | 102 | 45                         | 0   | 239 | 102 | 0                        | 0  | 0  | 0  | 0                        | 75  | 5   | 17  | 585          | 0                |
|                | HV                         | 0  | 0   | 0   | 0                          | 0   | 1   | 1   | 0                        | 0  | 0  | 0  | 0                        | 7   | 2   | 4   | 15           | 0                |
|                | HV%                        | -  | -   | 0%  | 0%                         | -   | 0%  | 1%  | -                        | -  | -  | -  | -                        | 9%  | 40% | 24% | 3%           | 0                |

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals |    |    |    |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | EB                   | WB | NB | SB | Total | EB       | WB | NB | SB | Total | East                       | West | North | South | Total |
| 7:00 AM        | 0                    | 0  | 0  | 1  | 1     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:15 AM        | 0                    | 1  | 0  | 1  | 2     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:30 AM        | 0                    | 0  | 0  | 3  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:45 AM        | 0                    | 1  | 0  | 7  | 8     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:00 AM        | 0                    | 0  | 0  | 2  | 2     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:15 AM        | 2                    | 1  | 0  | 1  | 4     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:30 AM        | 2                    | 2  | 0  | 3  | 7     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:45 AM        | 3                    | 1  | 0  | 2  | 6     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Count Total    | 7                    | 6  | 0  | 20 | 33    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Peak Hour      | 0                    | 2  | 0  | 13 | 15    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |

| Two-Hour Count Summaries - Heavy Vehicles                         |                  |    |    |                  |                  |    |               |    |               |               |    |    |               |                  |    |    |              |                  |    |
|-------------------------------------------------------------------|------------------|----|----|------------------|------------------|----|---------------|----|---------------|---------------|----|----|---------------|------------------|----|----|--------------|------------------|----|
| Interval Start                                                    | Palmer Divide Rd |    |    |                  | Palmer Divide Rd |    |               |    | I-25 SB Ramps |               |    |    | I-25 SB Ramps |                  |    |    | 15-min Total | Rolling One Hour |    |
|                                                                   | Eastbound        |    |    |                  | Westbound        |    |               |    | Northbound    |               |    |    | Southbound    |                  |    |    |              |                  |    |
|                                                                   | UT               | LT | TH | RT               | UT               | LT | TH            | RT | UT            | LT            | TH | RT | UT            | LT               | TH | RT |              |                  |    |
| 7:00 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 1  | 0            | 1                | 0  |
| 7:15 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 1             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 1  | 0            | 2                | 0  |
| 7:30 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 3  | 0  | 0            | 3                | 0  |
| 7:45 AM                                                           | 0                | 0  | 0  | 0                | 0                | 1  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 3  | 1  | 3            | 8                | 14 |
| 8:00 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 1  | 0  | 1            | 2                | 15 |
| 8:15 AM                                                           | 0                | 0  | 1  | 1                | 0                | 1  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 1  | 0  | 0            | 4                | 17 |
| 8:30 AM                                                           | 0                | 0  | 2  | 0                | 0                | 1  | 1             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 2  | 1  | 0            | 7                | 21 |
| 8:45 AM                                                           | 0                | 0  | 3  | 0                | 0                | 1  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 2  | 0  | 0            | 6                | 19 |
| Count Total                                                       | 0                | 0  | 6  | 1                | 0                | 4  | 2             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 12 | 4  | 4            | 33               | 0  |
| Peak Hour                                                         | 0                | 0  | 0  | 0                | 0                | 1  | 1             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 7  | 2  | 4            | 15               | 0  |
|                                                                   |                  |    |    |                  |                  |    |               |    |               |               |    |    |               |                  |    |    |              |                  |    |
| Two-Hour Count Summaries - Bikes                                  |                  |    |    |                  |                  |    |               |    |               |               |    |    |               |                  |    |    |              |                  |    |
| Interval Start                                                    | Palmer Divide Rd |    |    | Palmer Divide Rd |                  |    | I-25 SB Ramps |    |               | I-25 SB Ramps |    |    | 15-min Total  | Rolling One Hour |    |    |              |                  |    |
|                                                                   | Eastbound        |    |    | Westbound        |                  |    | Northbound    |    |               | Southbound    |    |    |               |                  |    |    |              |                  |    |
|                                                                   | LT               | TH | RT | LT               | TH               | RT | LT            | TH | RT            | LT            | TH | RT |               |                  |    |    |              |                  |    |
| 7:00 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 0  | 0            | 0                | 0  |
| 7:15 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 0  | 0            | 0                | 0  |
| 7:30 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 0  | 0            | 0                | 0  |
| 7:45 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 0  | 0            | 0                | 0  |
| 8:00 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 0  | 0            | 0                | 0  |
| 8:15 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 0  | 0            | 0                | 0  |
| 8:30 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 0  | 0            | 0                | 0  |
| 8:45 AM                                                           | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 0  | 0            | 0                | 0  |
| Count Total                                                       | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 0  | 0            | 0                | 0  |
| Peak Hour                                                         | 0                | 0  | 0  | 0                | 0                | 0  | 0             | 0  | 0             | 0             | 0  | 0  | 0             | 0                | 0  | 0  | 0            | 0                | 0  |
| Note: U-Turn volumes for bikes are included in Left-Turn, if any. |                  |    |    |                  |                  |    |               |    |               |               |    |    |               |                  |    |    |              |                  |    |

## I-25 SB Ramps Palmer Divide Rd



### Two-Hour Count Summaries

| Interval Start |     | Palmer Divide Rd |    |     |     | Palmer Divide Rd |     |     |    | I-25 SB Ramps |    |    |    | I-25 SB Ramps |     |    |    | 15-min Total | Rolling One Hour |
|----------------|-----|------------------|----|-----|-----|------------------|-----|-----|----|---------------|----|----|----|---------------|-----|----|----|--------------|------------------|
|                |     | Eastbound        |    |     |     | Westbound        |     |     |    | Northbound    |    |    |    | Southbound    |     |    |    |              |                  |
|                |     | UT               | LT | TH  | RT  | UT               | LT  | TH  | RT | UT            | LT | TH | RT | UT            | LT  | TH | RT |              |                  |
| 4:00 PM        |     | 0                | 0  | 32  | 18  | 0                | 23  | 27  | 0  | 0             | 0  | 0  | 0  | 0             | 61  | 2  | 10 | 173          | 0                |
| 4:15 PM        |     | 0                | 0  | 29  | 17  | 0                | 26  | 36  | 0  | 0             | 0  | 0  | 0  | 0             | 40  | 1  | 8  | 157          | 0                |
| 4:30 PM        |     | 0                | 0  | 35  | 21  | 0                | 33  | 23  | 0  | 0             | 0  | 0  | 0  | 0             | 45  | 1  | 8  | 166          | 0                |
| 4:45 PM        |     | 0                | 0  | 20  | 20  | 0                | 26  | 13  | 0  | 0             | 0  | 0  | 0  | 0             | 63  | 0  | 16 | 158          | 654              |
| 5:00 PM        |     | 0                | 0  | 28  | 12  | 0                | 39  | 21  | 0  | 0             | 0  | 0  | 0  | 0             | 62  | 0  | 6  | 168          | 649              |
| 5:15 PM        |     | 0                | 0  | 15  | 18  | 0                | 27  | 30  | 0  | 0             | 0  | 0  | 0  | 0             | 69  | 1  | 3  | 163          | 655              |
| 5:30 PM        |     | 0                | 0  | 15  | 17  | 0                | 34  | 22  | 0  | 0             | 0  | 0  | 0  | 0             | 54  | 3  | 8  | 153          | 642              |
| 5:45 PM        |     | 0                | 0  | 29  | 16  | 0                | 23  | 31  | 0  | 0             | 0  | 0  | 0  | 0             | 48  | 1  | 10 | 158          | 642              |
| Count Total    |     | 0                | 0  | 203 | 139 | 0                | 231 | 203 | 0  | 0             | 0  | 0  | 0  | 0             | 442 | 9  | 69 | 1,296        | 0                |
| Peak Hour      | All | 0                | 0  | 98  | 71  | 0                | 125 | 87  | 0  | 0             | 0  | 0  | 0  | 0             | 239 | 2  | 33 | 655          | 0                |
|                | HV  | 0                | 0  | 5   | 0   | 0                | 6   | 1   | 0  | 0             | 0  | 0  | 0  | 0             | 4   | 0  | 2  | 18           | 0                |
|                | HV% | -                | -  | 5%  | 0%  | -                | 5%  | 1%  | -  | -             | -  | -  | -  | -             | 2%  | 0% | 6% | 3%           | 0                |

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

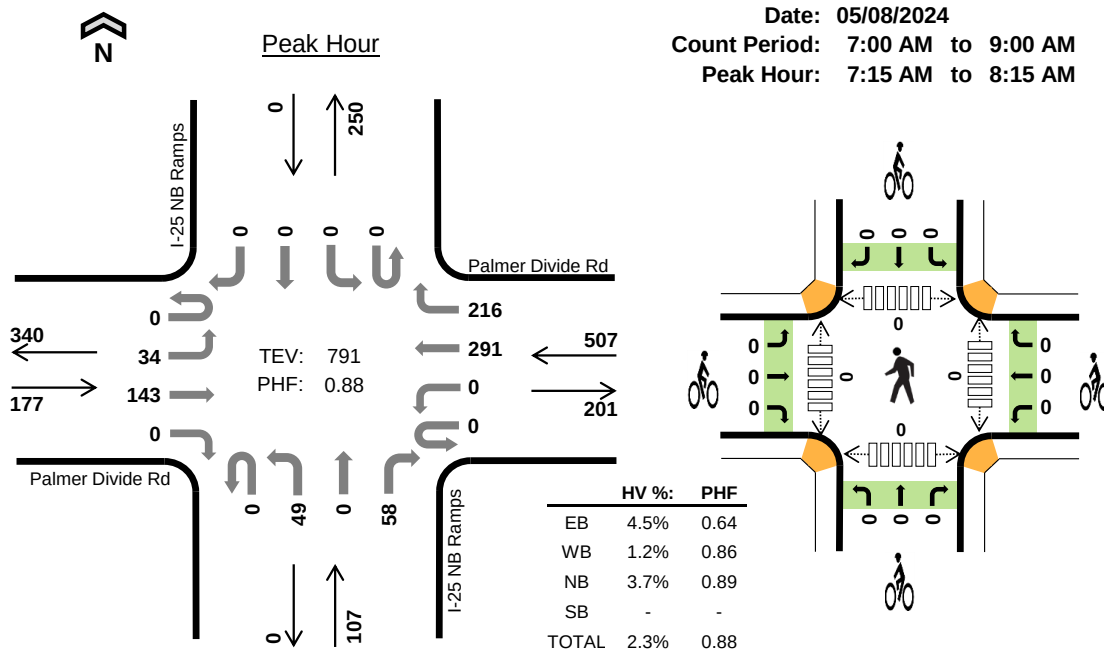
| Interval Start | Heavy Vehicle Totals |    |    |    |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | EB                   | WB | NB | SB | Total | EB       | WB | NB | SB | Total | East                       | West | North | South | Total |
| 4:00 PM        | 1                    | 0  | 0  | 1  | 2     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 4:15 PM        | 1                    | 2  | 0  | 1  | 4     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 4:30 PM        | 4                    | 0  | 0  | 2  | 6     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 4:45 PM        | 1                    | 2  | 0  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:00 PM        | 0                    | 3  | 0  | 3  | 6     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:15 PM        | 0                    | 2  | 0  | 1  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:30 PM        | 1                    | 5  | 0  | 1  | 7     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:45 PM        | 0                    | 3  | 0  | 2  | 5     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Count Total    | 8                    | 17 | 0  | 11 | 36    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Peak Hour      | 5                    | 7  | 0  | 6  | 18    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |

| Two-Hour Count Summaries - Heavy Vehicles |                  |    |    |    |                  |    |    |    |               |    |    |    |               |    |    |    |              |                  |    |
|-------------------------------------------|------------------|----|----|----|------------------|----|----|----|---------------|----|----|----|---------------|----|----|----|--------------|------------------|----|
| Interval Start                            | Palmer Divide Rd |    |    |    | Palmer Divide Rd |    |    |    | I-25 SB Ramps |    |    |    | I-25 SB Ramps |    |    |    | 15-min Total | Rolling One Hour |    |
|                                           | Eastbound        |    |    |    | Westbound        |    |    |    | Northbound    |    |    |    | Southbound    |    |    |    |              |                  |    |
|                                           | UT               | LT | TH | RT | UT               | LT | TH | RT | UT            | LT | TH | RT | UT            | LT | TH | RT |              |                  |    |
| 4:00 PM                                   | 0                | 0  | 0  | 1  | 0                | 0  | 0  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 0  | 0  | 1            | 2                | 0  |
| 4:15 PM                                   | 0                | 0  | 0  | 1  | 0                | 2  | 0  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 1  | 0  | 0            | 4                | 0  |
| 4:30 PM                                   | 0                | 0  | 4  | 0  | 0                | 0  | 0  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 2  | 0  | 0            | 6                | 0  |
| 4:45 PM                                   | 0                | 0  | 1  | 0  | 0                | 2  | 0  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 0  | 0  | 0            | 3                | 15 |
| 5:00 PM                                   | 0                | 0  | 0  | 0  | 0                | 3  | 0  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 1  | 0  | 2            | 6                | 19 |
| 5:15 PM                                   | 0                | 0  | 0  | 0  | 0                | 1  | 1  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 1  | 0  | 0            | 3                | 18 |
| 5:30 PM                                   | 0                | 0  | 1  | 0  | 0                | 4  | 1  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 0  | 1  | 0            | 7                | 19 |
| 5:45 PM                                   | 0                | 0  | 0  | 0  | 0                | 0  | 3  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 0  | 1  | 1            | 5                | 21 |
| Count Total                               | 0                | 0  | 6  | 2  | 0                | 12 | 5  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 5  | 2  | 4            | 36               | 0  |
| Peak Hour                                 | 0                | 0  | 5  | 0  | 0                | 6  | 1  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 4  | 0  | 2            | 18               | 0  |

| Two-Hour Count Summaries - Bikes |                  |    |    |  |                  |    |    |  |               |    |    |  |               |    |    |  |              |                  |
|----------------------------------|------------------|----|----|--|------------------|----|----|--|---------------|----|----|--|---------------|----|----|--|--------------|------------------|
| Interval Start                   | Palmer Divide Rd |    |    |  | Palmer Divide Rd |    |    |  | I-25 SB Ramps |    |    |  | I-25 SB Ramps |    |    |  | 15-min Total | Rolling One Hour |
|                                  | Eastbound        |    |    |  | Westbound        |    |    |  | Northbound    |    |    |  | Southbound    |    |    |  |              |                  |
|                                  | LT               | TH | RT |  | LT               | TH | RT |  | LT            | TH | RT |  | LT            | TH | RT |  |              |                  |
| 4:00 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0             | 0  | 0  |  | 0             | 0  | 0  |  | 0            | 0                |
| 4:15 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0             | 0  | 0  |  | 0             | 0  | 0  |  | 0            | 0                |
| 4:30 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0             | 0  | 0  |  | 0             | 0  | 0  |  | 0            | 0                |
| 4:45 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0             | 0  | 0  |  | 0             | 0  | 0  |  | 0            | 0                |
| 5:00 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0             | 0  | 0  |  | 0             | 0  | 0  |  | 0            | 0                |
| 5:15 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0             | 0  | 0  |  | 0             | 0  | 0  |  | 0            | 0                |
| 5:30 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0             | 0  | 0  |  | 0             | 0  | 0  |  | 0            | 0                |
| 5:45 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0             | 0  | 0  |  | 0             | 0  | 0  |  | 0            | 0                |
| Count Total                      | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0             | 0  | 0  |  | 0             | 0  | 0  |  | 0            | 0                |
| Peak Hour                        | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0             | 0  | 0  |  | 0             | 0  | 0  |  | 0            | 0                |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

# I-25 NB Ramps Palmer Divide Rd



## Two-Hour Count Summaries

| Interval Start |     | Palmer Divide Rd |    |     |    | Palmer Divide Rd |    |     |     | I-25 NB Ramps |    |    |     | I-25 NB Ramps |    |    |    | 15-min Total | Rolling One Hour |
|----------------|-----|------------------|----|-----|----|------------------|----|-----|-----|---------------|----|----|-----|---------------|----|----|----|--------------|------------------|
|                |     | Eastbound        |    |     |    | Westbound        |    |     |     | Northbound    |    |    |     | Southbound    |    |    |    |              |                  |
|                |     | UT               | LT | TH  | RT | UT               | LT | TH  | RT  | UT            | LT | TH | RT  | UT            | LT | TH | RT |              |                  |
| 7:00 AM        |     | 0                | 11 | 30  | 0  | 0                | 0  | 59  | 52  | 0             | 3  | 2  | 8   | 0             | 0  | 0  | 0  | 165          | 0                |
| 7:15 AM        |     | 0                | 11 | 58  | 0  | 0                | 0  | 66  | 57  | 0             | 10 | 0  | 13  | 0             | 0  | 0  | 0  | 215          | 0                |
| 7:30 AM        |     | 0                | 8  | 42  | 0  | 0                | 0  | 75  | 72  | 0             | 11 | 0  | 17  | 0             | 0  | 0  | 0  | 225          | 0                |
| 7:45 AM        |     | 0                | 9  | 25  | 0  | 0                | 0  | 78  | 37  | 0             | 15 | 0  | 11  | 0             | 0  | 0  | 0  | 175          | 780              |
| 8:00 AM        |     | 0                | 6  | 18  | 0  | 0                | 0  | 72  | 50  | 0             | 13 | 0  | 17  | 0             | 0  | 0  | 0  | 176          | 791              |
| 8:15 AM        |     | 0                | 10 | 22  | 0  | 0                | 0  | 62  | 47  | 0             | 11 | 1  | 13  | 0             | 0  | 0  | 0  | 166          | 742              |
| 8:30 AM        |     | 0                | 5  | 17  | 0  | 0                | 0  | 58  | 47  | 0             | 16 | 0  | 22  | 0             | 0  | 0  | 0  | 165          | 682              |
| 8:45 AM        |     | 0                | 14 | 34  | 0  | 0                | 0  | 36  | 32  | 0             | 10 | 2  | 22  | 0             | 0  | 0  | 0  | 150          | 657              |
| Count Total    |     | 0                | 74 | 246 | 0  | 0                | 0  | 506 | 394 | 0             | 89 | 5  | 123 | 0             | 0  | 0  | 0  | 1,437        | 0                |
| Peak Hour      | All | 0                | 34 | 143 | 0  | 0                | 0  | 291 | 216 | 0             | 49 | 0  | 58  | 0             | 0  | 0  | 0  | 791          | 0                |
|                | HV  | 0                | 0  | 8   | 0  | 0                | 0  | 2   | 4   | 0             | 0  | 0  | 4   | 0             | 0  | 0  | 0  | 18           | 0                |
|                | HV% | -                | 0% | 6%  | -  | -                | -  | 1%  | 2%  | -             | 0% | -  | 7%  | -             | -  | -  | -  | 2%           | 0                |

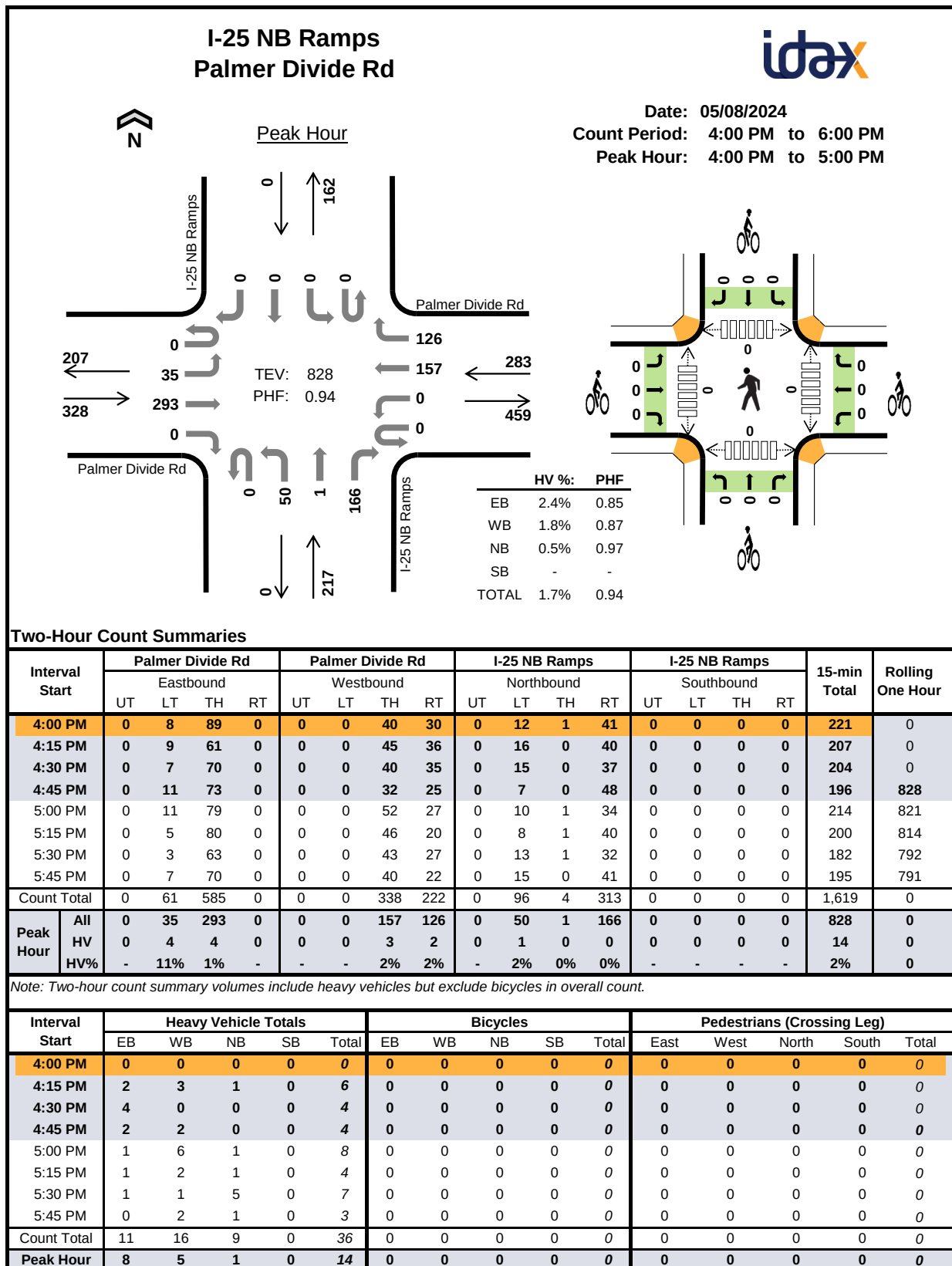
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals |    |    |    |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | EB                   | WB | NB | SB | Total | EB       | WB | NB | SB | Total | East                       | West | North | South | Total |
| 7:00 AM        | 1                    | 0  | 2  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:15 AM        | 0                    | 0  | 1  | 0  | 1     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:30 AM        | 4                    | 4  | 2  | 0  | 10    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:45 AM        | 2                    | 2  | 0  | 0  | 4     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:00 AM        | 2                    | 0  | 1  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:15 AM        | 2                    | 3  | 2  | 0  | 7     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:30 AM        | 4                    | 4  | 3  | 0  | 11    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:45 AM        | 3                    | 1  | 0  | 0  | 4     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Count Total    | 18                   | 14 | 11 | 0  | 43    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Peak Hour      | 8                    | 6  | 4  | 0  | 18    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |

| Two-Hour Count Summaries - Heavy Vehicles |                  |    |    |    |                  |    |    |    |               |    |    |    |               |    |    |    |              |                  |
|-------------------------------------------|------------------|----|----|----|------------------|----|----|----|---------------|----|----|----|---------------|----|----|----|--------------|------------------|
| Interval Start                            | Palmer Divide Rd |    |    |    | Palmer Divide Rd |    |    |    | I-25 NB Ramps |    |    |    | I-25 NB Ramps |    |    |    | 15-min Total | Rolling One Hour |
|                                           | Eastbound        |    |    |    | Westbound        |    |    |    | Northbound    |    |    |    | Southbound    |    |    |    |              |                  |
|                                           | UT               | LT | TH | RT | UT               | LT | TH | RT | UT            | LT | TH | RT | UT            | LT | TH | RT |              |                  |
| 7:00 AM                                   | 0                | 1  | 0  | 0  | 0                | 0  | 0  | 0  | 0             | 0  | 0  | 2  | 0             | 0  | 0  | 0  | 3            | 0                |
| 7:15 AM                                   | 0                | 0  | 0  | 0  | 0                | 0  | 0  | 0  | 0             | 0  | 0  | 1  | 0             | 0  | 0  | 0  | 1            | 0                |
| 7:30 AM                                   | 0                | 0  | 4  | 0  | 0                | 0  | 1  | 3  | 0             | 0  | 0  | 2  | 0             | 0  | 0  | 0  | 10           | 0                |
| 7:45 AM                                   | 0                | 0  | 2  | 0  | 0                | 0  | 1  | 1  | 0             | 0  | 0  | 0  | 0             | 0  | 0  | 0  | 4            | 18               |
| 8:00 AM                                   | 0                | 0  | 2  | 0  | 0                | 0  | 0  | 0  | 0             | 0  | 0  | 1  | 0             | 0  | 0  | 0  | 3            | 18               |
| 8:15 AM                                   | 0                | 1  | 1  | 0  | 0                | 0  | 0  | 3  | 0             | 0  | 1  | 1  | 0             | 0  | 0  | 0  | 7            | 24               |
| 8:30 AM                                   | 0                | 1  | 3  | 0  | 0                | 0  | 1  | 3  | 0             | 2  | 0  | 1  | 0             | 0  | 0  | 0  | 11           | 25               |
| 8:45 AM                                   | 0                | 1  | 2  | 0  | 0                | 0  | 1  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 0  | 0  | 4            | 25               |
| Count Total                               | 0                | 4  | 14 | 0  | 0                | 0  | 4  | 10 | 0             | 2  | 1  | 8  | 0             | 0  | 0  | 0  | 43           | 0                |
| Peak Hour                                 | 0                | 0  | 8  | 0  | 0                | 0  | 2  | 4  | 0             | 0  | 0  | 4  | 0             | 0  | 0  | 0  | 18           | 0                |

| Two-Hour Count Summaries - Bikes |                  |    |    |                  |    |    |               |    |    |               |    |    |              |                  |  |  |  |
|----------------------------------|------------------|----|----|------------------|----|----|---------------|----|----|---------------|----|----|--------------|------------------|--|--|--|
| Interval Start                   | Palmer Divide Rd |    |    | Palmer Divide Rd |    |    | I-25 NB Ramps |    |    | I-25 NB Ramps |    |    | 15-min Total | Rolling One Hour |  |  |  |
|                                  | Eastbound        |    |    | Westbound        |    |    | Northbound    |    |    | Southbound    |    |    |              |                  |  |  |  |
|                                  | LT               | TH | RT | LT               | TH | RT | LT            | TH | RT | LT            | TH | RT |              |                  |  |  |  |
| 7:00 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0            | 0                |  |  |  |
| 7:15 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0            | 0                |  |  |  |
| 7:30 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0            | 0                |  |  |  |
| 7:45 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0            | 0                |  |  |  |
| 8:00 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0            | 0                |  |  |  |
| 8:15 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0            | 0                |  |  |  |
| 8:30 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0            | 0                |  |  |  |
| 8:45 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0            | 0                |  |  |  |
| Count Total                      | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0            | 0                |  |  |  |
| Peak Hour                        | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0            | 0                |  |  |  |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

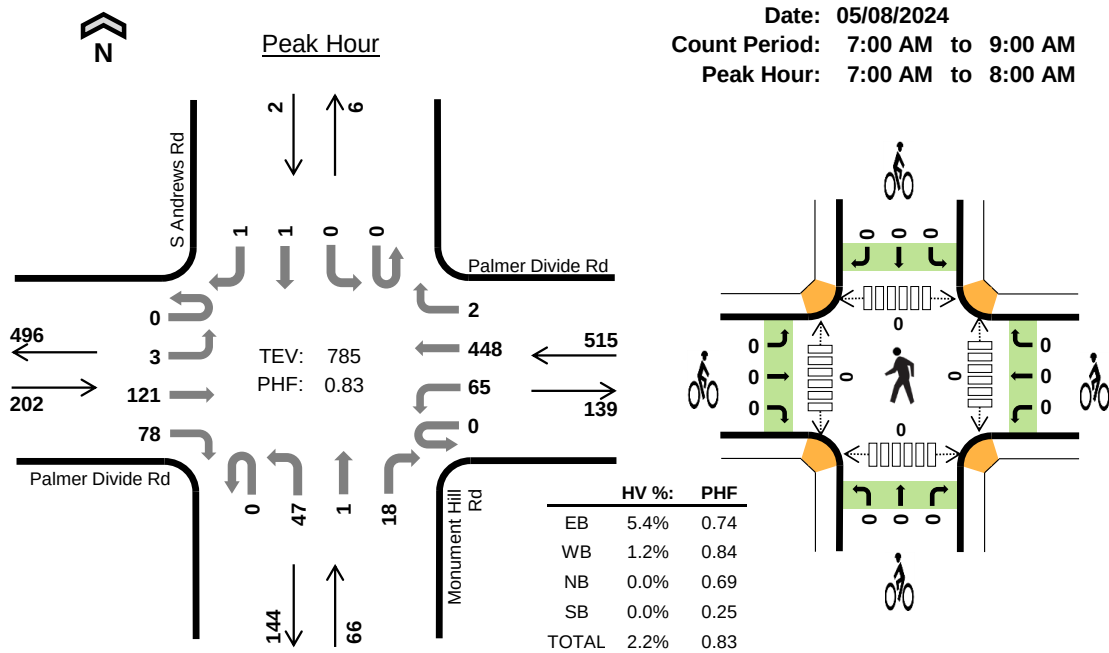


| Two-Hour Count Summaries - Heavy Vehicles |                  |    |    |    |                  |    |    |    |               |    |    |    |               |    |    |    |                 |                     |
|-------------------------------------------|------------------|----|----|----|------------------|----|----|----|---------------|----|----|----|---------------|----|----|----|-----------------|---------------------|
| Interval<br>Start                         | Palmer Divide Rd |    |    |    | Palmer Divide Rd |    |    |    | I-25 NB Ramps |    |    |    | I-25 NB Ramps |    |    |    | 15-min<br>Total | Rolling<br>One Hour |
|                                           | Eastbound        |    |    |    | Westbound        |    |    |    | Northbound    |    |    |    | Southbound    |    |    |    |                 |                     |
|                                           | UT               | LT | TH | RT | UT               | LT | TH | RT | UT            | LT | TH | RT | UT            | LT | TH | RT |                 |                     |
| 4:00 PM                                   | 0                | 0  | 0  | 0  | 0                | 0  | 0  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 0  | 0  | 0               |                     |
| 4:15 PM                                   | 0                | 1  | 1  | 0  | 0                | 0  | 1  | 2  | 0             | 1  | 0  | 0  | 0             | 0  | 0  | 0  | 6               |                     |
| 4:30 PM                                   | 0                | 2  | 2  | 0  | 0                | 0  | 0  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 0  | 0  | 4               |                     |
| 4:45 PM                                   | 0                | 1  | 1  | 0  | 0                | 0  | 2  | 0  | 0             | 0  | 0  | 0  | 0             | 0  | 0  | 0  | 4               |                     |
| 5:00 PM                                   | 0                | 0  | 1  | 0  | 0                | 0  | 3  | 3  | 0             | 0  | 1  | 0  | 0             | 0  | 0  | 0  | 8               |                     |
| 5:15 PM                                   | 0                | 0  | 1  | 0  | 0                | 0  | 2  | 0  | 0             | 0  | 1  | 0  | 0             | 0  | 0  | 0  | 4               |                     |
| 5:30 PM                                   | 0                | 0  | 1  | 0  | 0                | 0  | 1  | 0  | 0             | 4  | 1  | 0  | 0             | 0  | 0  | 0  | 7               |                     |
| 5:45 PM                                   | 0                | 0  | 0  | 0  | 0                | 0  | 2  | 0  | 0             | 1  | 0  | 0  | 0             | 0  | 0  | 0  | 3               |                     |
| Count Total                               | 0                | 4  | 7  | 0  | 0                | 0  | 11 | 5  | 0             | 6  | 3  | 0  | 0             | 0  | 0  | 0  | 36              |                     |
| Peak Hour                                 | 0                | 4  | 4  | 0  | 0                | 0  | 3  | 2  | 0             | 1  | 0  | 0  | 0             | 0  | 0  | 0  | 14              |                     |

| Two-Hour Count Summaries - Bikes |                  |    |    |                  |    |    |               |    |    |               |    |    |                 |                     |  |  |  |
|----------------------------------|------------------|----|----|------------------|----|----|---------------|----|----|---------------|----|----|-----------------|---------------------|--|--|--|
| Interval<br>Start                | Palmer Divide Rd |    |    | Palmer Divide Rd |    |    | I-25 NB Ramps |    |    | I-25 NB Ramps |    |    | 15-min<br>Total | Rolling<br>One Hour |  |  |  |
|                                  | Eastbound        |    |    | Westbound        |    |    | Northbound    |    |    | Southbound    |    |    |                 |                     |  |  |  |
|                                  | LT               | TH | RT | LT               | TH | RT | LT            | TH | RT | LT            | TH | RT |                 |                     |  |  |  |
| 4:00 PM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0               | 0                   |  |  |  |
| 4:15 PM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0               | 0                   |  |  |  |
| 4:30 PM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0               | 0                   |  |  |  |
| 4:45 PM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0               | 0                   |  |  |  |
| 5:00 PM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0               | 0                   |  |  |  |
| 5:15 PM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0               | 0                   |  |  |  |
| 5:30 PM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0               | 0                   |  |  |  |
| 5:45 PM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0               | 0                   |  |  |  |
| Count Total                      | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0               | 0                   |  |  |  |
| Peak Hour                        | 0                | 0  | 0  | 0                | 0  | 0  | 0             | 0  | 0  | 0             | 0  | 0  | 0               | 0                   |  |  |  |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

# Monument Hill Rd Palmer Divide Rd



## Two-Hour Count Summaries

| Interval Start |     | Palmer Divide Rd |    |     |     | Palmer Divide Rd |    |     |    | Monument Hill Rd |    |    |    | S Andrews Rd |    |    |    | 15-min Total | Rolling One Hour |
|----------------|-----|------------------|----|-----|-----|------------------|----|-----|----|------------------|----|----|----|--------------|----|----|----|--------------|------------------|
|                |     | Eastbound        |    |     |     | Westbound        |    |     |    | Northbound       |    |    |    | Southbound   |    |    |    |              |                  |
|                |     | UT               | LT | TH  | RT  | UT               | LT | TH  | RT | UT               | LT | TH | RT | UT           | LT | TH | RT |              |                  |
| 7:00 AM        |     | 0                | 0  | 19  | 18  | 0                | 14 | 99  | 0  | 0                | 16 | 0  | 1  | 0            | 0  | 0  | 0  | 167          | 0                |
| 7:15 AM        |     | 0                | 0  | 36  | 32  | 0                | 25 | 111 | 0  | 0                | 10 | 1  | 7  | 0            | 0  | 0  | 0  | 222          | 0                |
| 7:30 AM        |     | 0                | 1  | 36  | 21  | 0                | 22 | 131 | 1  | 0                | 16 | 0  | 8  | 0            | 0  | 0  | 0  | 236          | 0                |
| 7:45 AM        |     | 0                | 2  | 30  | 7   | 0                | 4  | 107 | 1  | 0                | 5  | 0  | 2  | 0            | 0  | 1  | 1  | 160          | 785              |
| 8:00 AM        |     | 0                | 0  | 29  | 4   | 0                | 3  | 112 | 0  | 0                | 9  | 0  | 1  | 0            | 1  | 0  | 2  | 161          | 779              |
| 8:15 AM        |     | 0                | 1  | 28  | 6   | 0                | 2  | 104 | 0  | 0                | 5  | 0  | 2  | 0            | 0  | 0  | 0  | 148          | 705              |
| 8:30 AM        |     | 0                | 1  | 36  | 4   | 0                | 4  | 94  | 0  | 0                | 8  | 0  | 2  | 0            | 0  | 0  | 1  | 150          | 619              |
| 8:45 AM        |     | 0                | 1  | 48  | 8   | 0                | 5  | 61  | 0  | 0                | 6  | 0  | 3  | 0            | 0  | 0  | 2  | 134          | 593              |
| Count Total    |     | 0                | 6  | 262 | 100 | 0                | 79 | 819 | 2  | 0                | 75 | 1  | 26 | 0            | 1  | 1  | 6  | 1,378        | 0                |
| Peak Hour      | All | 0                | 3  | 121 | 78  | 0                | 65 | 448 | 2  | 0                | 47 | 1  | 18 | 0            | 0  | 1  | 1  | 785          | 0                |
|                | HV  | 0                | 0  | 11  | 0   | 0                | 0  | 6   | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 17           | 0                |
|                | HV% | -                | 0% | 9%  | 0%  | -                | 0% | 1%  | 0% | -                | 0% | 0% | 0% | -            | -  | 0% | 0% | 2%           | 0                |

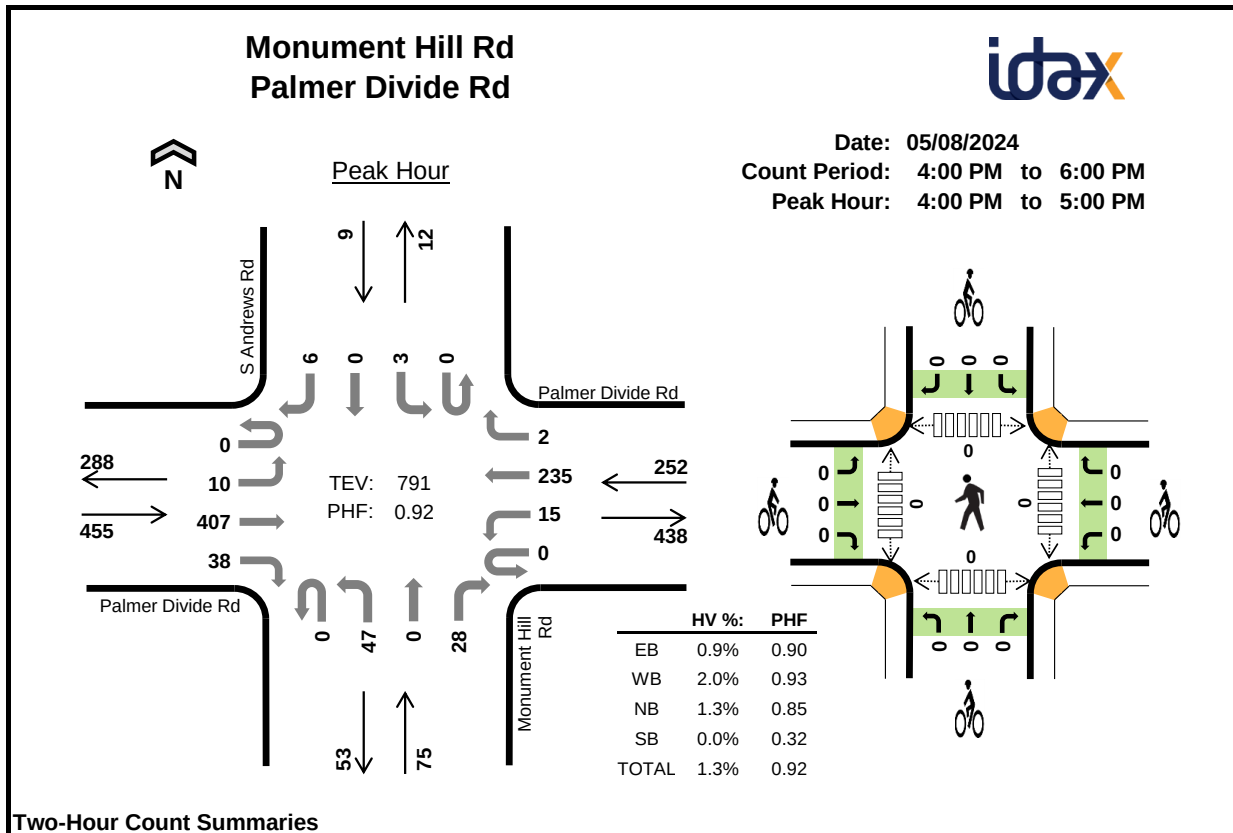
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals |    |    |    |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | EB                   | WB | NB | SB | Total | EB       | WB | NB | SB | Total | East                       | West | North | South | Total |
| 7:00 AM        | 1                    | 0  | 0  | 0  | 1     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:15 AM        | 1                    | 0  | 0  | 0  | 1     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:30 AM        | 6                    | 4  | 0  | 0  | 10    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 7:45 AM        | 3                    | 2  | 0  | 0  | 5     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:00 AM        | 3                    | 0  | 0  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:15 AM        | 2                    | 3  | 0  | 0  | 5     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:30 AM        | 4                    | 2  | 2  | 0  | 8     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 8:45 AM        | 2                    | 1  | 0  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Count Total    | 22                   | 12 | 2  | 0  | 36    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Peak Hour      | 11                   | 6  | 0  | 0  | 17    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |

| Two-Hour Count Summaries - Heavy Vehicles |                  |    |    |    |                  |    |    |    |                  |    |    |    |              |    |    |    |              |                  |
|-------------------------------------------|------------------|----|----|----|------------------|----|----|----|------------------|----|----|----|--------------|----|----|----|--------------|------------------|
| Interval Start                            | Palmer Divide Rd |    |    |    | Palmer Divide Rd |    |    |    | Monument Hill Rd |    |    |    | S Andrews Rd |    |    |    | 15-min Total | Rolling One Hour |
|                                           | Eastbound        |    |    |    | Westbound        |    |    |    | Northbound       |    |    |    | Southbound   |    |    |    |              |                  |
|                                           | UT               | LT | TH | RT | UT               | LT | TH | RT | UT               | LT | TH | RT | UT           | LT | TH | RT |              |                  |
| 7:00 AM                                   | 0                | 0  | 1  | 0  | 0                | 0  | 0  | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 1            | 0                |
| 7:15 AM                                   | 0                | 0  | 1  | 0  | 0                | 0  | 0  | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 1            | 0                |
| 7:30 AM                                   | 0                | 0  | 6  | 0  | 0                | 0  | 4  | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 10           | 0                |
| 7:45 AM                                   | 0                | 0  | 3  | 0  | 0                | 0  | 2  | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 5            | 17               |
| 8:00 AM                                   | 0                | 0  | 3  | 0  | 0                | 0  | 0  | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 3            | 19               |
| 8:15 AM                                   | 0                | 0  | 2  | 0  | 0                | 0  | 3  | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 5            | 23               |
| 8:30 AM                                   | 0                | 0  | 4  | 0  | 0                | 0  | 2  | 0  | 0                | 2  | 0  | 0  | 0            | 0  | 0  | 0  | 8            | 21               |
| 8:45 AM                                   | 0                | 0  | 1  | 1  | 0                | 0  | 1  | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 3            | 19               |
| Count Total                               | 0                | 0  | 21 | 1  | 0                | 0  | 12 | 0  | 0                | 2  | 0  | 0  | 0            | 0  | 0  | 0  | 36           | 0                |
| Peak Hour                                 | 0                | 0  | 11 | 0  | 0                | 0  | 6  | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 17           | 0                |

| Two-Hour Count Summaries - Bikes |                  |    |    |                  |    |    |                  |    |    |              |    |    |              |                  |   |   |  |
|----------------------------------|------------------|----|----|------------------|----|----|------------------|----|----|--------------|----|----|--------------|------------------|---|---|--|
| Interval Start                   | Palmer Divide Rd |    |    | Palmer Divide Rd |    |    | Monument Hill Rd |    |    | S Andrews Rd |    |    | 15-min Total | Rolling One Hour |   |   |  |
|                                  | Eastbound        |    |    | Westbound        |    |    | Northbound       |    |    | Southbound   |    |    |              |                  |   |   |  |
|                                  | LT               | TH | RT | LT               | TH | RT | LT               | TH | RT | LT           | TH | RT |              |                  |   |   |  |
| 7:00 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0                | 0  | 0  | 0            | 0  | 0  | 0            | 0                | 0 | 0 |  |
| 7:15 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0                | 0  | 0  | 0            | 0  | 0  | 0            | 0                | 0 | 0 |  |
| 7:30 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0                | 0  | 0  | 0            | 0  | 0  | 0            | 0                | 0 | 0 |  |
| 7:45 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0                | 0  | 0  | 0            | 0  | 0  | 0            | 0                | 0 | 0 |  |
| 8:00 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0                | 0  | 0  | 0            | 0  | 0  | 0            | 0                | 0 | 0 |  |
| 8:15 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0                | 0  | 0  | 0            | 0  | 0  | 0            | 0                | 0 | 0 |  |
| 8:30 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0                | 0  | 0  | 0            | 0  | 0  | 0            | 0                | 0 | 0 |  |
| 8:45 AM                          | 0                | 0  | 0  | 0                | 0  | 0  | 0                | 0  | 0  | 0            | 0  | 0  | 0            | 0                | 0 | 0 |  |
| Count Total                      | 0                | 0  | 0  | 0                | 0  | 0  | 0                | 0  | 0  | 0            | 0  | 0  | 0            | 0                | 0 | 0 |  |
| Peak Hour                        | 0                | 0  | 0  | 0                | 0  | 0  | 0                | 0  | 0  | 0            | 0  | 0  | 0            | 0                | 0 | 0 |  |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

**Two-Hour Count Summaries**

| Interval Start |     | Palmer Divide Rd |    |     |    | Palmer Divide Rd |    |     |    | Monument Hill Rd |    |    |    | S Andrews Rd |    |    |    | 15-min Total | Rolling One Hour |
|----------------|-----|------------------|----|-----|----|------------------|----|-----|----|------------------|----|----|----|--------------|----|----|----|--------------|------------------|
|                |     | Eastbound        |    |     |    | Westbound        |    |     |    | Northbound       |    |    |    | Southbound   |    |    |    |              |                  |
|                |     | UT               | LT | TH  | RT | UT               | LT | TH  | RT | UT               | LT | TH | RT | UT           | LT | TH | RT |              |                  |
| 4:00 PM        |     | 0                | 1  | 113 | 12 | 0                | 3  | 62  | 0  | 0                | 11 | 0  | 10 | 0            | 0  | 0  | 2  | 214          | 0                |
| 4:15 PM        |     | 0                | 4  | 88  | 9  | 0                | 8  | 60  | 0  | 0                | 17 | 0  | 5  | 0            | 0  | 0  | 0  | 191          | 0                |
| 4:30 PM        |     | 0                | 1  | 98  | 8  | 0                | 0  | 61  | 2  | 0                | 11 | 0  | 6  | 0            | 0  | 0  | 0  | 187          | 0                |
| 4:45 PM        |     | 0                | 4  | 108 | 9  | 0                | 4  | 52  | 0  | 0                | 8  | 0  | 7  | 0            | 3  | 0  | 4  | 199          | 791              |
| 5:00 PM        |     | 0                | 2  | 104 | 9  | 0                | 2  | 68  | 0  | 0                | 4  | 0  | 4  | 0            | 1  | 0  | 4  | 198          | 775              |
| 5:15 PM        |     | 0                | 0  | 109 | 10 | 0                | 3  | 56  | 0  | 0                | 9  | 0  | 4  | 0            | 0  | 0  | 0  | 191          | 775              |
| 5:30 PM        |     | 0                | 1  | 90  | 7  | 0                | 1  | 59  | 0  | 0                | 8  | 0  | 7  | 0            | 1  | 0  | 1  | 175          | 763              |
| 5:45 PM        |     | 0                | 1  | 98  | 12 | 0                | 5  | 55  | 0  | 0                | 6  | 0  | 2  | 0            | 0  | 1  | 1  | 181          | 745              |
| Count Total    |     | 0                | 14 | 808 | 76 | 0                | 26 | 473 | 2  | 0                | 74 | 0  | 45 | 0            | 5  | 1  | 12 | 1,536        | 0                |
| Peak Hour      | All | 0                | 10 | 407 | 38 | 0                | 15 | 235 | 2  | 0                | 47 | 0  | 28 | 0            | 3  | 0  | 6  | 791          | 0                |
|                | HV  | 0                | 0  | 2   | 2  | 0                | 0  | 5   | 0  | 0                | 0  | 0  | 1  | 0            | 0  | 0  | 0  | 10           | 0                |
|                | HV% | -                | 0% | 0%  | 5% | -                | 0% | 2%  | 0% | -                | 0% | -  | 4% | -            | 0% | -  | 0% | 1%           | 0                |

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| Interval Start | Heavy Vehicle Totals |    |    |    |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | EB                   | WB | NB | SB | Total | EB       | WB | NB | SB | Total | East                       | West | North | South | Total |
| 4:00 PM        | 0                    | 0  | 1  | 0  | 1     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 4:15 PM        | 1                    | 3  | 0  | 0  | 4     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 4:30 PM        | 2                    | 0  | 0  | 0  | 2     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 4:45 PM        | 1                    | 2  | 0  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:00 PM        | 1                    | 5  | 1  | 0  | 7     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:15 PM        | 1                    | 3  | 0  | 0  | 4     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:30 PM        | 1                    | 1  | 0  | 0  | 2     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| 5:45 PM        | 0                    | 2  | 1  | 0  | 3     | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Count Total    | 7                    | 16 | 3  | 0  | 26    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |
| Peak Hour      | 4                    | 5  | 1  | 0  | 10    | 0        | 0  | 0  | 0  | 0     | 0                          | 0    | 0     | 0     | 0     |

| Two-Hour Count Summaries - Heavy Vehicles |                  |    |    |    |                  |    |    |    |                  |    |    |    |              |    |    |    |                 |                     |    |
|-------------------------------------------|------------------|----|----|----|------------------|----|----|----|------------------|----|----|----|--------------|----|----|----|-----------------|---------------------|----|
| Interval<br>Start                         | Palmer Divide Rd |    |    |    | Palmer Divide Rd |    |    |    | Monument Hill Rd |    |    |    | S Andrews Rd |    |    |    | 15-min<br>Total | Rolling<br>One Hour |    |
|                                           | Eastbound        |    |    |    | Westbound        |    |    |    | Northbound       |    |    |    | Southbound   |    |    |    |                 |                     |    |
|                                           | UT               | LT | TH | RT | UT               | LT | TH | RT | UT               | LT | TH | RT | UT           | LT | TH | RT |                 |                     |    |
| 4:00 PM                                   | 0                | 0  | 0  | 0  | 0                | 0  | 0  | 0  | 0                | 0  | 0  | 0  | 1            | 0  | 0  | 0  | 0               | 1                   | 0  |
| 4:15 PM                                   | 0                | 0  | 1  | 0  | 0                | 0  | 3  | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 0               | 4                   | 0  |
| 4:30 PM                                   | 0                | 0  | 1  | 1  | 0                | 0  | 0  | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 0               | 2                   | 0  |
| 4:45 PM                                   | 0                | 0  | 0  | 1  | 0                | 0  | 2  | 0  | 0                | 0  | 0  | 0  | 0            | 0  | 0  | 0  | 0               | 3                   | 10 |
| 5:00 PM                                   | 0                | 0  | 1  | 0  | 0                | 0  | 5  | 0  | 0                | 0  | 0  | 1  |              | 0  | 0  | 0  | 0               | 7                   | 16 |
| 5:15 PM                                   | 0                | 0  | 1  | 0  | 0                | 0  | 3  | 0  | 0                | 0  | 0  | 0  |              | 0  | 0  | 0  | 0               | 4                   | 16 |
| 5:30 PM                                   | 0                | 0  | 1  | 0  | 0                | 0  | 1  | 0  | 0                | 0  | 0  | 0  |              | 0  | 0  | 0  | 0               | 2                   | 16 |
| 5:45 PM                                   | 0                | 0  | 0  | 0  | 0                | 0  | 2  | 0  | 0                | 0  | 0  | 1  |              | 0  | 0  | 0  | 0               | 3                   | 16 |
| Count Total                               | 0                | 0  | 5  | 2  | 0                | 0  | 16 | 0  | 0                | 0  | 0  | 3  |              | 0  | 0  | 0  | 0               | 26                  | 0  |
| Peak Hour                                 | 0                | 0  | 2  | 2  | 0                | 0  | 5  | 0  | 0                | 0  | 0  | 1  |              | 0  | 0  | 0  | 0               | 10                  | 0  |

| Two-Hour Count Summaries - Bikes |                  |    |    |  |                  |    |    |  |                  |    |    |  |              |    |    |  |                 |                     |
|----------------------------------|------------------|----|----|--|------------------|----|----|--|------------------|----|----|--|--------------|----|----|--|-----------------|---------------------|
| Interval<br>Start                | Palmer Divide Rd |    |    |  | Palmer Divide Rd |    |    |  | Monument Hill Rd |    |    |  | S Andrews Rd |    |    |  | 15-min<br>Total | Rolling<br>One Hour |
|                                  | Eastbound        |    |    |  | Westbound        |    |    |  | Northbound       |    |    |  | Southbound   |    |    |  |                 |                     |
|                                  | LT               | TH | RT |  | LT               | TH | RT |  | LT               | TH | RT |  | LT           | TH | RT |  |                 |                     |
| 4:00 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0            | 0  | 0  |  | 0               | 0                   |
| 4:15 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0            | 0  | 0  |  | 0               | 0                   |
| 4:30 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0            | 0  | 0  |  | 0               | 0                   |
| 4:45 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0            | 0  | 0  |  | 0               | 0                   |
| 5:00 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0            | 0  | 0  |  | 0               | 0                   |
| 5:15 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0            | 0  | 0  |  | 0               | 0                   |
| 5:30 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0            | 0  | 0  |  | 0               | 0                   |
| 5:45 PM                          | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0            | 0  | 0  |  | 0               | 0                   |
| Count Total                      | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0            | 0  | 0  |  | 0               | 0                   |
| Peak Hour                        | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0                | 0  | 0  |  | 0            | 0  | 0  |  | 0               | 0                   |

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

# APPENDIX C

## Future Traffic Projections

MTCP Traffic Projections:           Buc-ee's IH 25, Exit 163

| Location         | 2015  | 2040  | Growth<br>Factor | Annual<br>Growth |
|------------------|-------|-------|------------------|------------------|
| Beacon Lite Road | 4,900 | 8,800 | 1.80             | 2.37%            |
| Total            | 4,900 | 8,800 | 1.80             | 2.37%            |



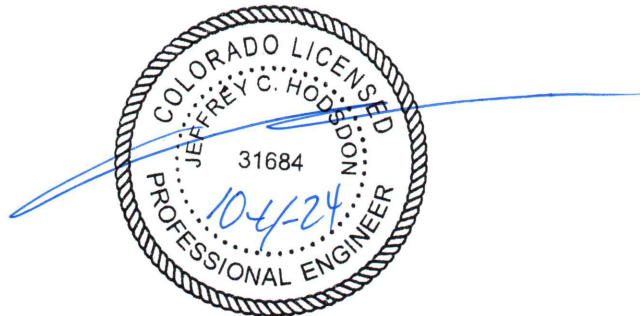
LSC TRANSPORTATION CONSULTANTS, INC.  
2504 East Pikes Peak Avenue, Suite 304  
Colorado Springs, CO 80909  
(719) 633-2868  
FAX (719) 633-5430  
E-mail: [lsc@lsctrans.com](mailto:lsc@lsctrans.com)  
Website: <http://www.lsctrans.com>

## Monument Ridge East Traffic Impact Study

EPC PCD File Nos. SP 241, P245, P246  
(LSC #S234450)  
October 4, 2024

### Traffic Engineer's Statement

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



### Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

---

---

Date

# Monument Ridge East

## Traffic Impact Study

Prepared for:  
Monument Ridge East, LLC  
5050 List Drive  
Colorado Springs, CO 80919  
<via email>

OCTOBER 4, 2024

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LSC Transportation Consultants, Inc.  
Prepared by: Jeffrey C. Hodsdon, P.E.

LSC #S234450

PCD File No.: P245



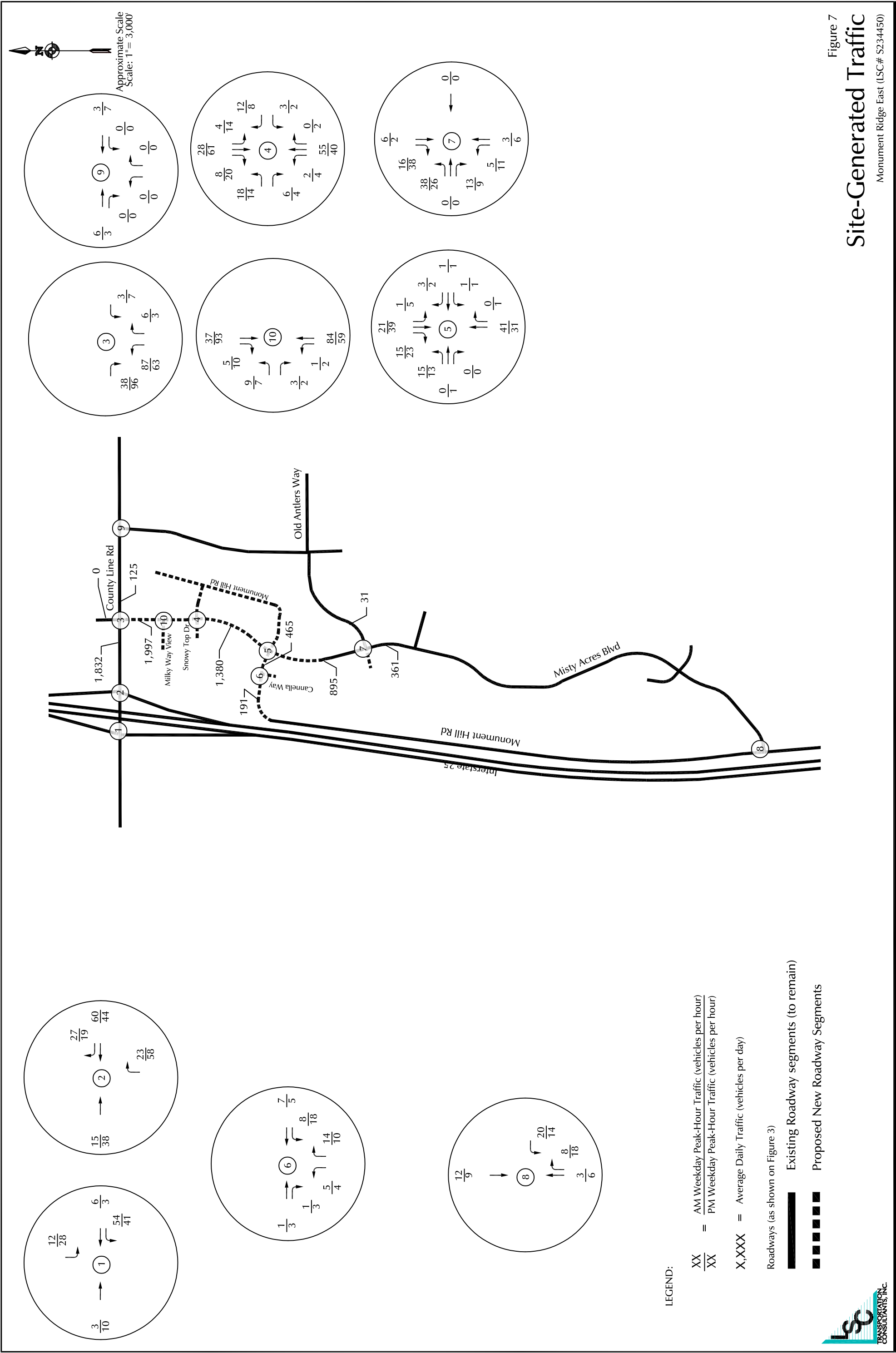


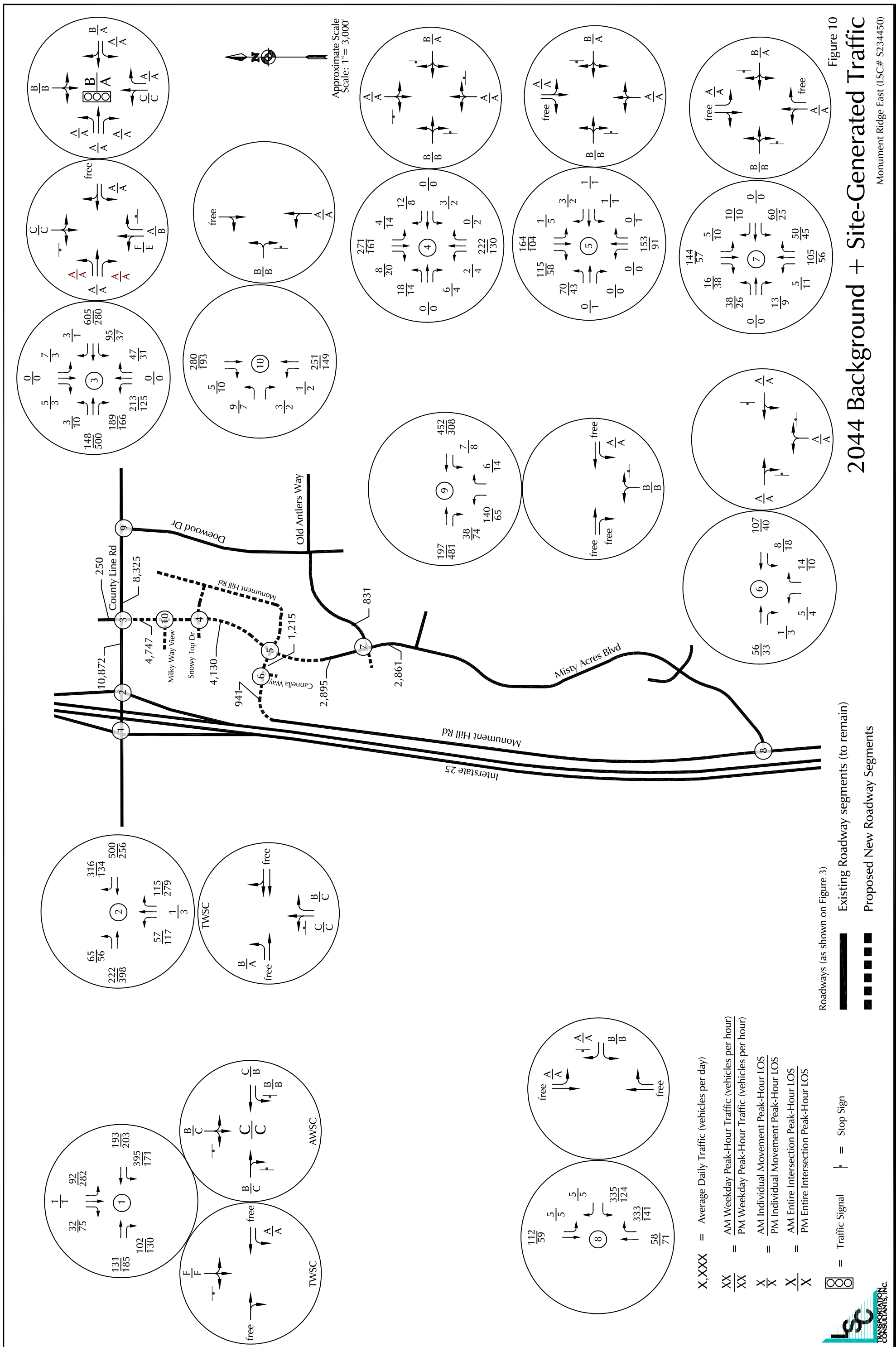
Figure 1

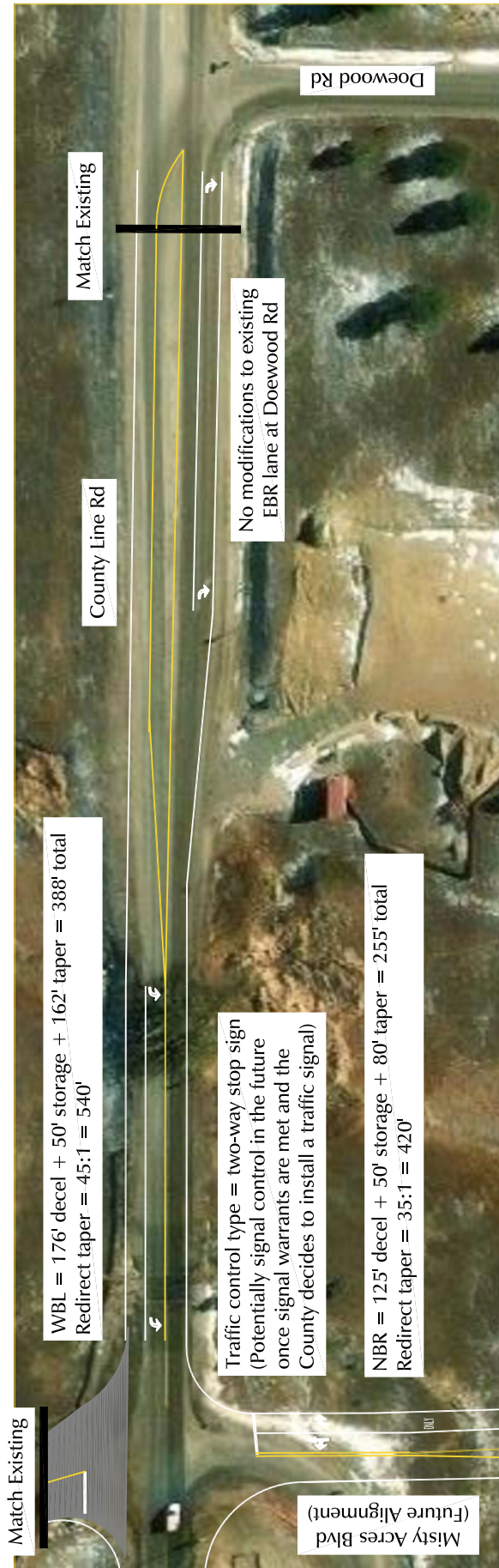
## Vicinity

Monument Ridge East (LSC# S234450)









Note: All turn lane lengths have been adjusted for roadway grade per ECM Table 2-25

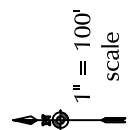


Figure 12  
Proposed Laneage on County Line Rd

Monument Ridge East (LSC# S234450)

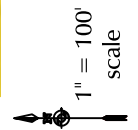
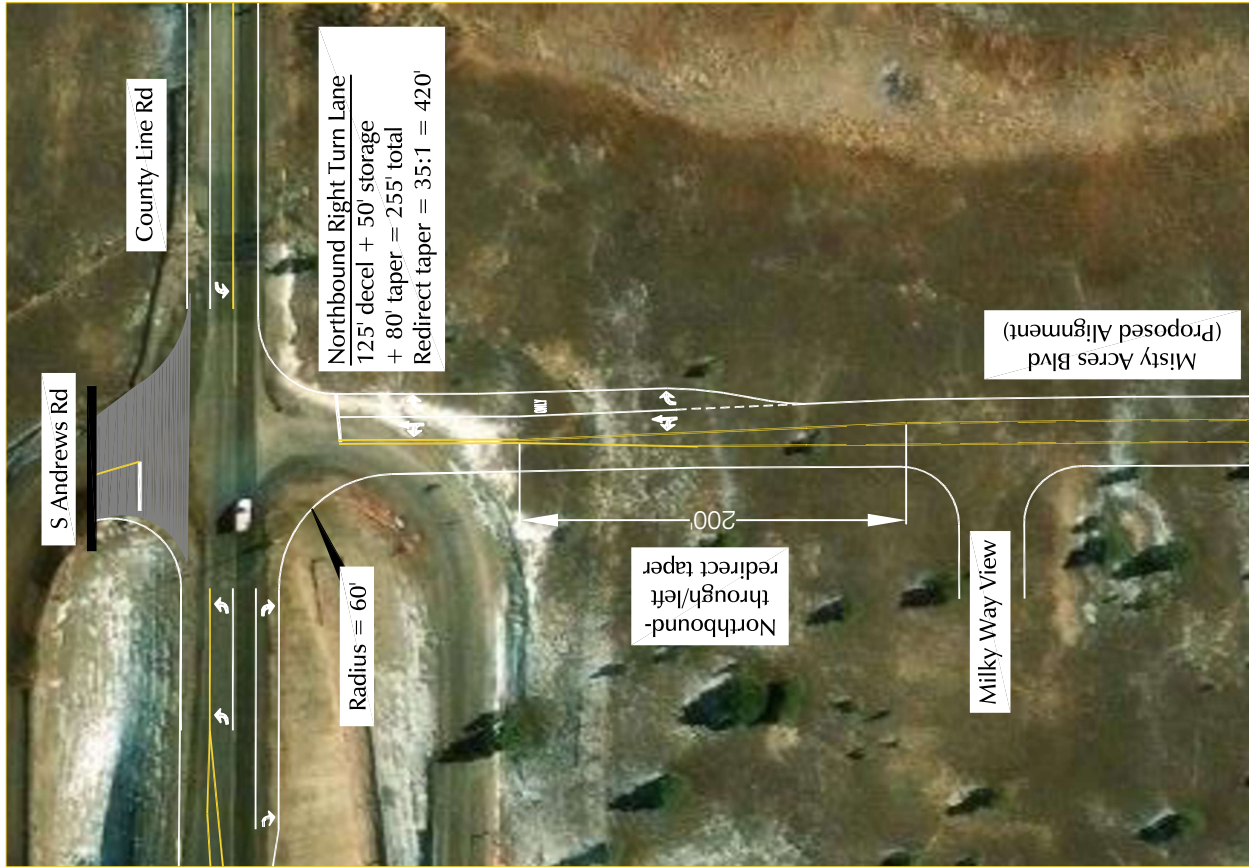


Figure 13  
**Proposed Laneage on Misty Acres Boulevard**  
 Monument Ridge East (LSC# S234450)



# APPENDIX D

## Trip Generation Worksheets

|                     |              |            |           |           |           |                             |         |           |            | Weekday |            | Weekend  |          | Weekday    |           |            |           |  |  |
|---------------------|--------------|------------|-----------|-----------|-----------|-----------------------------|---------|-----------|------------|---------|------------|----------|----------|------------|-----------|------------|-----------|--|--|
| Site                | Freeway AADT | Fuel Pumps | Latitude  | Longitude | Open Date | Data Collected (Start) Date | Weekday |           | Weekend    |         | Daily Rate | AM Rate  | PM Rate  | AM Enter % | AM Exit % | PM Enter % | PM Exit % |  |  |
|                     |              |            |           |           |           |                             | Daily   | % of AADT | Daily      |         |            |          |          |            |           |            |           |  |  |
| Calhoun, GA         | 66,000       | 120        | 34.440722 | 84.916833 |           | 7/16/2022                   | 16,734  | 25%       | 24,520     | 139.45  | 7.21       | 9.79     | 53%      | 47%        | 50%       | 50%        |           |  |  |
| Daytona Beach, FL   | 78,500       | 104        | 29.22379  | 81.10059  |           | 7/16/2023                   | 22,945  | 29%       | 26,494     | 220.62  | 13.11      | 15.12    | 52%      | 48%        | 49%       | 51%        |           |  |  |
| Leeds, AL           | 70,771       | 120        | 33.54452  | 86.58635  |           | 7/29/2022                   | 17,444  | 25%       | 20,706     | 145.37  | 8.31       | 10.65    | 53%      | 47%        | 48%       | 52%        |           |  |  |
| Loxley, AL          | 48,031       | 120        | 30.63444  | 87.67668  |           | 7/29/2022                   | 17,550  | 37%       | 24,846     | 146.25  | 9.90       | 10.40    | 53%      | 47%        | 48%       | 52%        |           |  |  |
| St Augustine, FL    | 101,500      | 104        | 29.98399  | 81.46386  |           | 7/16/2022                   | 15,849  | 16%       | 19,351     | 152.39  | 9.67       | 10.65    | 52%      | 48%        | 49%       | 51%        |           |  |  |
| Warner Robins, GA   | 75,300       | 116        | 32.58446  | 83.74033  |           | 7/16/2022                   | 19,023  | 25%       | 25,637     | 163.99  | 9.29       | 11.45    | 53%      | 47%        | 48%       | 52%        |           |  |  |
| Waller, TX          | 58,205       | 80         | 30.07198  | 95.93149  |           | 12/2/2015                   | 24,314  | 42%       | 28,063     | 303.92  | 17.15      | 23.51    | 49%      | 51%        | 49%       | 51%        |           |  |  |
| Texas City, TX      | 89,723       | 56         | 29.42856  | 95.06316  |           | 12/2/2015                   | 20,364  | 23%       | 29,815     | 363.64  | 14.33      | 35.60    | 50%      | 50%        | 50%       | 50%        |           |  |  |
| Baytown, TX         | 86,271       | 96         | 29.80095  | 94.99811  |           | 12/2/2015                   | 19,095  | 22%       | 20,887     | 198.91  | 10.57      | 14.51    | 50%      | 50%        | 50%       | 50%        |           |  |  |
| Terrell, TX         | 70,069       | 84         | 32.71731  | 96.31956  |           | 12/2/2015                   | 14,789  | 21%       | 18,780     | 176.06  | 9.13       | 14.52    | 52%      | 48%        | 51%       | 49%        |           |  |  |
| Luling, TX          | 36,657       | 64         | 29.65126  | 97.59244  |           | 12/2/2015                   | 11,484  | 31%       | 16,625     | 179.44  | 11.65      | 12.79    | 53%      | 47%        | 51%       | 49%        |           |  |  |
| New Braunfels, TX   | 99,816       | 120        | 29.72654  | 98.07826  |           | 12/2/2015                   | 16,805  | 17%       | 26,775     | 56.87   | 3.08       | 4.46     | 61%      | 39%        | 61%       | 39%        |           |  |  |
| Madisonville, TX    | 41,055       | 64         | 30.96617  | 95.88165  |           | 12/2/2015                   | 16,786  | 41%       | 24,889     | 262.28  | 14.67      | 18.60    | 52%      | 48%        | 52%       | 48%        |           |  |  |
| Fort Worth, TX      | 68,914       | 96         | 33.02445  | 97.27791  |           | 12/2/2015                   | 13,251  | 19%       | 16,772     | 138.03  | 8.92       | 9.05     | 51%      | 49%        | 49%       | 51%        |           |  |  |
| Katy, TX            | 109,000      | 124        | 29.78112  | 95.8421   |           | 12/2/2015                   | 15,068  | 14%       | 13,482     | 121.52  | 7.47       | 8.82     | 49%      | 51%        | 47%       | 53%        |           |  |  |
| All Sites Average   | 73,321       | 98         |           |           |           |                             | 17,433  | 26%       | 22509      | 184.58  | 10.30      | 13.99    | 52%      | 48%        | 50%       | 50%        |           |  |  |
| TX Sites Average    | 73,301       | 87         |           |           |           |                             | 16,884  | 26%       | 21788      | 200.07  | 10.77      | 15.76    | 52%      | 48%        | 51%       | 49%        |           |  |  |
| SE Sites Average    | 73,350       | 114        |           |           |           |                             | 18,258  | 26%       | 23592      | 161.35  | 9.58       | 11.34    | 53%      | 47%        | 49%       | 51%        |           |  |  |
| AL/GA Sites Average | 65,026       | 119        |           |           |           |                             | 17,688  | 28%       | 23,927     | 148.77  | 8.68       | 10.57    | 53%      | 47%        | 49%       | 52%        |           |  |  |
|                     |              |            |           |           |           |                             |         |           |            |         |            |          |          |            |           |            |           |  |  |
| Oak Grove Trips     |              |            |           |           |           |                             | AADT*   |           | Fuel Pumps |         | Daily      | AM Total | PM Total | AM IN      | AM OUT    | PM IN      | PM OUT    |  |  |
| All Sites Average   |              |            |           |           |           |                             | 75,000  |           | 120        |         | 22,150     | 1,236    | 1,679    | 643        | 593       | 840        | 840       |  |  |
| TX Sites Average    |              |            |           |           |           |                             | 75,000  |           | 120        |         | 24,008     | 1,292    | 1,891    |            |           |            |           |  |  |
| SE Sites Average    |              |            |           |           |           |                             | 75,000  |           | 120        |         | 19,362     | 1,150    | 1,361    |            |           |            |           |  |  |
| AL/GA Sites Rates   |              |            |           |           |           |                             | 40,200  |           | 120        |         | 17,852     | 1,042    | 1,268    |            |           |            |           |  |  |

# APPENDIX E

## Intersection Analysis Worksheets

| Intersection             |                                                                                   |        |       |                                                                                   |                                                                                   |       |
|--------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|
| Int Delay, s/veh         | 1.1                                                                               |        |       |                                                                                   |                                                                                   |       |
| Movement                 | EBT                                                                               | EBR    | WBL   | WBT                                                                               | NBL                                                                               | NBR   |
| Lane Configurations      |  |        |       |  |  |       |
| Traffic Vol, veh/h       | 126                                                                               | 0      | 11    | 108                                                                               | 1                                                                                 | 21    |
| Future Vol, veh/h        | 126                                                                               | 0      | 11    | 108                                                                               | 1                                                                                 | 21    |
| 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         | 88                                                                                | 88     | 88    | 88                                                                                | 88                                                                                | 88    |
| Heavy Vehicles, %        | 2                                                                                 | 2      | 4     | 4                                                                                 | 2                                                                                 | 2     |
| Mvmt Flow                | 143                                                                               | 0      | 13    | 123                                                                               | 1                                                                                 | 24    |
| Major/Minor              | Major1                                                                            | Major2 |       | Minor1                                                                            |                                                                                   |       |
| Conflicting Flow All     | 0                                                                                 | 0      | 143   | 0                                                                                 | 292                                                                               | 143   |
| Stage 1                  | -                                                                                 | -      | -     | -                                                                                 | 143                                                                               | -     |
| Stage 2                  | -                                                                                 | -      | -     | -                                                                                 | 149                                                                               | -     |
| Critical Hdwy            | -                                                                                 | -      | 4.14  | -                                                                                 | 6.42                                                                              | 6.22  |
| Critical Hdwy Stg 1      | -                                                                                 | -      | -     | -                                                                                 | 5.42                                                                              | -     |
| Critical Hdwy Stg 2      | -                                                                                 | -      | -     | -                                                                                 | 5.42                                                                              | -     |
| Follow-up Hdwy           | -                                                                                 | -      | 2.236 | -                                                                                 | 3.518                                                                             | 3.318 |
| Pot Cap-1 Maneuver       | -                                                                                 | -      | 1427  | -                                                                                 | 699                                                                               | 905   |
| Stage 1                  | -                                                                                 | -      | -     | -                                                                                 | 884                                                                               | -     |
| Stage 2                  | -                                                                                 | -      | -     | -                                                                                 | 879                                                                               | -     |
| Platoon blocked, %       | -                                                                                 | -      | -     | -                                                                                 | -                                                                                 | -     |
| Mov Cap-1 Maneuver       | -                                                                                 | -      | 1427  | -                                                                                 | 692                                                                               | 905   |
| Mov Cap-2 Maneuver       | -                                                                                 | -      | -     | -                                                                                 | 692                                                                               | -     |
| Stage 1                  | -                                                                                 | -      | -     | -                                                                                 | 884                                                                               | -     |
| Stage 2                  | -                                                                                 | -      | -     | -                                                                                 | 870                                                                               | -     |
| Approach                 | EB                                                                                |        | WB    |                                                                                   | NB                                                                                |       |
| HCM Control Delay, s     | 0                                                                                 |        | 0.7   |                                                                                   | 9.1                                                                               |       |
| HCM LOS                  |                                                                                   |        |       |                                                                                   | A                                                                                 |       |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | EBT    | EBR   | WBL                                                                               | WBT                                                                               |       |
| Capacity (veh/h)         | 893                                                                               | -      | -     | 1427                                                                              | -                                                                                 |       |
| HCM Lane V/C Ratio       | 0.028                                                                             | -      | -     | 0.009                                                                             | -                                                                                 |       |
| HCM Control Delay (s)    | 9.1                                                                               | -      | -     | 7.5                                                                               | 0                                                                                 |       |
| HCM Lane LOS             | A                                                                                 | -      | -     | A                                                                                 | A                                                                                 |       |
| HCM 95th %tile Q(veh)    | 0.1                                                                               | -      | -     | 0                                                                                 | -                                                                                 |       |

| Intersection             |                                                                                   |      |        |                                                                                   |                                                                                   |       |
|--------------------------|-----------------------------------------------------------------------------------|------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|
| Int Delay, s/veh         | 2.3                                                                               |      |        |                                                                                   |                                                                                   |       |
| Movement                 | EBT                                                                               | EBR  | WBL    | WBT                                                                               | NBL                                                                               | NBR   |
| Lane Configurations      |  |      |        |  |  |       |
| Traffic Vol, veh/h       | 143                                                                               | 1    | 39     | 104                                                                               | 3                                                                                 | 47    |
| Future Vol, veh/h        | 143                                                                               | 1    | 39     | 104                                                                               | 3                                                                                 | 47    |
| 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         | 93                                                                                | 93   | 93     | 93                                                                                | 93                                                                                | 93    |
| Heavy Vehicles, %        | 4                                                                                 | 4    | 2      | 2                                                                                 | 4                                                                                 | 4     |
| Mvmt Flow                | 154                                                                               | 1    | 42     | 112                                                                               | 3                                                                                 | 51    |
|                          |                                                                                   |      |        |                                                                                   |                                                                                   |       |
| Major/Minor              | Major1                                                                            |      | Major2 |                                                                                   | Minor1                                                                            |       |
| Conflicting Flow All     | 0                                                                                 | 0    | 155    | 0                                                                                 | 351                                                                               | 155   |
| Stage 1                  | -                                                                                 | -    | -      | -                                                                                 | 155                                                                               | -     |
| Stage 2                  | -                                                                                 | -    | -      | -                                                                                 | 196                                                                               | -     |
| Critical Hdwy            | -                                                                                 | -    | 4.12   | -                                                                                 | 6.44                                                                              | 6.24  |
| Critical Hdwy Stg 1      | -                                                                                 | -    | -      | -                                                                                 | 5.44                                                                              | -     |
| Critical Hdwy Stg 2      | -                                                                                 | -    | -      | -                                                                                 | 5.44                                                                              | -     |
| Follow-up Hdwy           | -                                                                                 | -    | 2.218  | -                                                                                 | 3.536                                                                             | 3.336 |
| Pot Cap-1 Maneuver       | -                                                                                 | -    | 1425   | -                                                                                 | 642                                                                               | 886   |
| Stage 1                  | -                                                                                 | -    | -      | -                                                                                 | 868                                                                               | -     |
| Stage 2                  | -                                                                                 | -    | -      | -                                                                                 | 832                                                                               | -     |
| Platoon blocked, %       | -                                                                                 | -    |        | -                                                                                 |                                                                                   |       |
| Mov Cap-1 Maneuver       | -                                                                                 | -    | 1425   | -                                                                                 | 622                                                                               | 886   |
| Mov Cap-2 Maneuver       | -                                                                                 | -    | -      | -                                                                                 | 622                                                                               | -     |
| Stage 1                  | -                                                                                 | -    | -      | -                                                                                 | 868                                                                               | -     |
| Stage 2                  | -                                                                                 | -    | -      | -                                                                                 | 806                                                                               | -     |
|                          |                                                                                   |      |        |                                                                                   |                                                                                   |       |
|                          |                                                                                   |      |        |                                                                                   |                                                                                   |       |
| Approach                 | EB                                                                                |      | WB     |                                                                                   | NB                                                                                |       |
| HCM Control Delay, s     | 0                                                                                 |      | 2.1    |                                                                                   | 9.4                                                                               |       |
| HCM LOS                  | A                                                                                 |      |        |                                                                                   |                                                                                   |       |
|                          |                                                                                   |      |        |                                                                                   |                                                                                   |       |
|                          |                                                                                   |      |        |                                                                                   |                                                                                   |       |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | EBT  | EBR    | WBL                                                                               | WBT                                                                               |       |
| Capacity (veh/h)         | 864                                                                               | -    | -      | 1425                                                                              | -                                                                                 |       |
| HCM Lane V/C Ratio       | 0.062                                                                             | -    | -      | 0.029                                                                             | -                                                                                 |       |
| HCM Control Delay (s)    | 9.4                                                                               | -    | -      | 7.6                                                                               | 0                                                                                 |       |
| HCM Lane LOS             | A                                                                                 | -    | -      | A                                                                                 | A                                                                                 |       |
| HCM 95th %tile Q(veh)    | 0.2                                                                               | -    | -      | 0.1                                                                               | -                                                                                 |       |

| Intersection             |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Int Delay, s/veh         | 1.1                                                                               |      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Movement                 | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations      |  |      |  |  |  |  |
| Traffic Vol, veh/h       | 141                                                                               | 0    | 12                                                                                | 125                                                                               | 1                                                                                 | 23                                                                                |
| Future Vol, veh/h        | 141                                                                               | 0    | 12                                                                                | 125                                                                               | 1                                                                                 | 23                                                                                |
| Conflicting Peds, #/hr   | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Sign Control             | Free                                                                              | Free | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                              |
| RT Channelized           | -                                                                                 | None | -                                                                                 | None                                                                              | -                                                                                 | None                                                                              |
| Storage Length           | -                                                                                 | -    | 275                                                                               | -                                                                                 | 0                                                                                 | -                                                                                 |
| Veh in Median Storage, # | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | 0                                                                                 | -                                                                                 |
| Grade, %                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | 0                                                                                 | -                                                                                 |
| Peak Hour Factor         | 88                                                                                | 88   | 88                                                                                | 88                                                                                | 88                                                                                | 88                                                                                |
| Heavy Vehicles, %        | 2                                                                                 | 2    | 4                                                                                 | 4                                                                                 | 2                                                                                 | 2                                                                                 |
| Mvmt Flow                | 160                                                                               | 0    | 14                                                                                | 142                                                                               | 1                                                                                 | 26                                                                                |
|                          |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Major/Minor              | Major1                                                                            |      | Major2                                                                            |                                                                                   | Minor1                                                                            |                                                                                   |
| Conflicting Flow All     | 0                                                                                 | 0    | 160                                                                               | 0                                                                                 | 330                                                                               | 160                                                                               |
| Stage 1                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 160                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 170                                                                               | -                                                                                 |
| Critical Hdwy            | -                                                                                 | -    | 4.14                                                                              | -                                                                                 | 6.42                                                                              | 6.22                                                                              |
| Critical Hdwy Stg 1      | -                                                                                 | -    | -                                                                                 | -                                                                                 | 5.42                                                                              | -                                                                                 |
| Critical Hdwy Stg 2      | -                                                                                 | -    | -                                                                                 | -                                                                                 | 5.42                                                                              | -                                                                                 |
| Follow-up Hdwy           | -                                                                                 | -    | 2.236                                                                             | -                                                                                 | 3.518                                                                             | 3.318                                                                             |
| Pot Cap-1 Maneuver       | -                                                                                 | -    | 1407                                                                              | -                                                                                 | 665                                                                               | 885                                                                               |
| Stage 1                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 869                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 860                                                                               | -                                                                                 |
| Platoon blocked, %       | -                                                                                 | -    |                                                                                   | -                                                                                 |                                                                                   |                                                                                   |
| Mov Cap-1 Maneuver       | -                                                                                 | -    | 1407                                                                              | -                                                                                 | 658                                                                               | 885                                                                               |
| Mov Cap-2 Maneuver       | -                                                                                 | -    | -                                                                                 | -                                                                                 | 658                                                                               | -                                                                                 |
| Stage 1                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 869                                                                               | -                                                                                 |
| Stage 2                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 851                                                                               | -                                                                                 |
|                          |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|                          |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach                 | EB                                                                                |      | WB                                                                                |                                                                                   | NB                                                                                |                                                                                   |
| HCM Control Delay, s     | 0                                                                                 |      | 0.7                                                                               |                                                                                   | 9.3                                                                               |                                                                                   |
| HCM LOS                  |                                                                                   |      |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |
|                          |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|                          |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | EBT  | EBR                                                                               | WBL                                                                               | WBT                                                                               |                                                                                   |
| Capacity (veh/h)         | 872                                                                               | -    | -                                                                                 | 1407                                                                              | -                                                                                 |                                                                                   |
| HCM Lane V/C Ratio       | 0.031                                                                             | -    | -                                                                                 | 0.01                                                                              | -                                                                                 |                                                                                   |
| HCM Control Delay (s)    | 9.3                                                                               | -    | -                                                                                 | 7.6                                                                               | -                                                                                 |                                                                                   |
| HCM Lane LOS             | A                                                                                 | -    | -                                                                                 | A                                                                                 | -                                                                                 |                                                                                   |
| HCM 95th %tile Q(veh)    | 0.1                                                                               | -    | -                                                                                 | 0                                                                                 | -                                                                                 |                                                                                   |

Intersection

Int Delay, s/veh 2.3

| Movement                 | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                                |
|--------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Lane Configurations      |  |      |  |  |  |  |
| Traffic Vol, veh/h       | 167                                                                               | 1    | 43                                                                                | 117                                                                               | 3                                                                                 | 52                                                                                 |
| Future Vol, veh/h        | 167                                                                               | 1    | 43                                                                                | 117                                                                               | 3                                                                                 | 52                                                                                 |
| Conflicting Peds, #/hr   | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  |
| Sign Control             | Free                                                                              | Free | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                               |
| RT Channelized           | -                                                                                 | None | -                                                                                 | None                                                                              | -                                                                                 | None                                                                               |
| Storage Length           | -                                                                                 | -    | 275                                                                               | -                                                                                 | 0                                                                                 | -                                                                                  |
| Veh in Median Storage, # | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | 0                                                                                 | -                                                                                  |
| Grade, %                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | 0                                                                                 | -                                                                                  |
| Peak Hour Factor         | 93                                                                                | 93   | 93                                                                                | 93                                                                                | 93                                                                                | 93                                                                                 |
| Heavy Vehicles, %        | 4                                                                                 | 4    | 2                                                                                 | 2                                                                                 | 4                                                                                 | 4                                                                                  |
| Mvmt Flow                | 180                                                                               | 1    | 46                                                                                | 126                                                                               | 3                                                                                 | 56                                                                                 |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 181    |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | -      | -      | 4.12   |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | -      | -      | 2.218  |
| Pot Cap-1 Maneuver   | -      | -      | 1394   |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 1394   |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB | WB  | NB  |
|----------------------|----|-----|-----|
| HCM Control Delay, s | 0  | 2.1 | 9.6 |
| HCM LOS              |    |     | A   |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 836   | -   | -   | 1394  | -   |
| HCM Lane V/C Ratio    | 0.071 | -   | -   | 0.033 | -   |
| HCM Control Delay (s) | 9.6   | -   | -   | 7.7   | -   |
| HCM Lane LOS          | A     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 0.2   | -   | -   | 0.1   | -   |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 457   | -   | -   | 1381  | -   |
| HCM Lane V/C Ratio    | 0.91  | -   | -   | 0.515 | -   |
| HCM Control Delay (s) | 52.9  | -   | -   | 10.3  | -   |
| HCM Lane LOS          | F     | -   | -   | B     | -   |
| HCM 95th %tile Q(veh) | 10.2  | -   | -   | 3.1   | -   |

| Intersection               |                                                                                   |                        |                                                                                   |                                                                                   |                                                                                   |                                |
|----------------------------|-----------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------|
| Int Delay, s/veh           | 183.2                                                                             |                        |                                                                                   |                                                                                   |                                                                                   |                                |
| Movement                   | EBT                                                                               | EBR                    | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                            |
| Lane Configurations        |  |                        |  |  |  |                                |
| Traffic Vol, veh/h         | 167                                                                               | 26                     | 845                                                                               | 117                                                                               | 28                                                                                | 447                            |
| Future Vol, veh/h          | 167                                                                               | 26                     | 845                                                                               | 117                                                                               | 28                                                                                | 447                            |
| Conflicting Peds, #/hr     | 0                                                                                 | 0                      | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                              |
| Sign Control               | Free                                                                              | Free                   | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                           |
| RT Channelized             | -                                                                                 | None                   | -                                                                                 | None                                                                              | -                                                                                 | None                           |
| Storage Length             | -                                                                                 | -                      | 275                                                                               | -                                                                                 | 0                                                                                 | -                              |
| Veh in Median Storage, #   | 0                                                                                 | -                      | -                                                                                 | 0                                                                                 | 0                                                                                 | -                              |
| Grade, %                   | 0                                                                                 | -                      | -                                                                                 | 0                                                                                 | 0                                                                                 | -                              |
| Peak Hour Factor           | 93                                                                                | 93                     | 93                                                                                | 93                                                                                | 93                                                                                | 93                             |
| Heavy Vehicles, %          | 4                                                                                 | 4                      | 2                                                                                 | 2                                                                                 | 4                                                                                 | 4                              |
| Mvmt Flow                  | 180                                                                               | 28                     | 909                                                                               | 126                                                                               | 30                                                                                | 481                            |
|                            |                                                                                   |                        |                                                                                   |                                                                                   |                                                                                   |                                |
| Major/Minor                | Major1                                                                            |                        | Major2                                                                            |                                                                                   | Minor1                                                                            |                                |
| Conflicting Flow All       | 0                                                                                 | 0                      | 208                                                                               | 0                                                                                 | 2138                                                                              | 194                            |
| Stage 1                    | -                                                                                 | -                      | -                                                                                 | -                                                                                 | 194                                                                               | -                              |
| Stage 2                    | -                                                                                 | -                      | -                                                                                 | -                                                                                 | 1944                                                                              | -                              |
| Critical Hdwy              | -                                                                                 | -                      | 4.12                                                                              | -                                                                                 | 6.44                                                                              | 6.24                           |
| Critical Hdwy Stg 1        | -                                                                                 | -                      | -                                                                                 | -                                                                                 | 5.44                                                                              | -                              |
| Critical Hdwy Stg 2        | -                                                                                 | -                      | -                                                                                 | -                                                                                 | 5.44                                                                              | -                              |
| Follow-up Hdwy             | -                                                                                 | -                      | 2.218                                                                             | -                                                                                 | 3.536                                                                             | 3.336                          |
| Pot Cap-1 Maneuver         | -                                                                                 | -                      | 1363                                                                              | -                                                                                 | 53                                                                                | 842                            |
| Stage 1                    | -                                                                                 | -                      | -                                                                                 | -                                                                                 | 834                                                                               | -                              |
| Stage 2                    | -                                                                                 | -                      | -                                                                                 | -                                                                                 | 121                                                                               | -                              |
| Platoon blocked, %         | -                                                                                 | -                      |                                                                                   | -                                                                                 |                                                                                   |                                |
| Mov Cap-1 Maneuver         | -                                                                                 | -                      | 1363                                                                              | -                                                                                 | ~ 18                                                                              | 842                            |
| Mov Cap-2 Maneuver         | -                                                                                 | -                      | -                                                                                 | -                                                                                 | ~ 18                                                                              | -                              |
| Stage 1                    | -                                                                                 | -                      | -                                                                                 | -                                                                                 | 834                                                                               | -                              |
| Stage 2                    | -                                                                                 | -                      | -                                                                                 | -                                                                                 | 40                                                                                | -                              |
|                            |                                                                                   |                        |                                                                                   |                                                                                   |                                                                                   |                                |
|                            |                                                                                   |                        |                                                                                   |                                                                                   |                                                                                   |                                |
| Approach                   | EB                                                                                |                        | WB                                                                                |                                                                                   | NB                                                                                |                                |
| HCM Control Delay, s       | 0                                                                                 |                        | 11.2                                                                              |                                                                                   | \$ 606.1                                                                          |                                |
| HCM LOS                    | F                                                                                 |                        |                                                                                   |                                                                                   |                                                                                   |                                |
|                            |                                                                                   |                        |                                                                                   |                                                                                   |                                                                                   |                                |
|                            |                                                                                   |                        |                                                                                   |                                                                                   |                                                                                   |                                |
| Minor Lane/Major Mvmt      | NBLn1                                                                             | EBT                    | EBR                                                                               | WBL                                                                               | WBT                                                                               |                                |
| Capacity (veh/h)           | 228                                                                               | -                      | -                                                                                 | 1363                                                                              | -                                                                                 |                                |
| HCM Lane V/C Ratio         | 2.24                                                                              | -                      | -                                                                                 | 0.667                                                                             | -                                                                                 |                                |
| HCM Control Delay (s)      | \$ 606.1                                                                          | -                      | -                                                                                 | 12.7                                                                              | -                                                                                 |                                |
| HCM Lane LOS               | F                                                                                 | -                      | -                                                                                 | B                                                                                 | -                                                                                 |                                |
| HCM 95th %tile Q(veh)      | 40.1                                                                              | -                      | -                                                                                 | 5.5                                                                               | -                                                                                 |                                |
| Notes                      |                                                                                   |                        |                                                                                   |                                                                                   |                                                                                   |                                |
| ~: Volume exceeds capacity |                                                                                   | \$: Delay exceeds 300s |                                                                                   | +: Computation Not Defined                                                        |                                                                                   | *: All major volume in platoon |

# Timings

2028 Total AM\_Realigned

## 10: Beacon Lite Rd & Palmer Divide Ave

11/14/2024



| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |
| Traffic Volume (vph) | 141   | 19    | 19    | 347   | 626   | 125   |
| Future Volume (vph)  | 141   | 19    | 19    | 347   | 626   | 125   |
| Turn Type            | Prot  | Perm  | pm+pt | NA    | NA    | Perm  |
| Protected Phases     | 4     |       | 5     | 2     | 6     |       |
| Permitted Phases     |       | 4     | 2     |       |       | 6     |
| Detector Phase       | 4     | 4     | 5     | 2     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |
| Minimum Initial (s)  | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)    | 22.5  | 22.5  | 9.5   | 22.5  | 22.5  | 22.5  |
| Total Split (s)      | 29.0  | 29.0  | 12.0  | 61.0  | 49.0  | 49.0  |
| Total Split (%)      | 32.2% | 32.2% | 13.3% | 67.8% | 54.4% | 54.4% |
| Yellow Time (s)      | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   |
| Lead/Lag             |       |       | Lead  |       | Lag   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |

### Intersection Summary

Cycle Length: 90

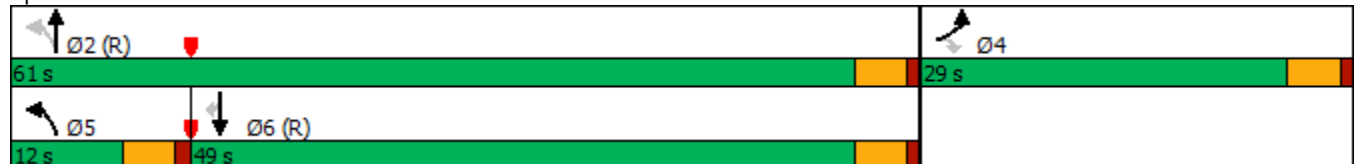
Actuated Cycle Length: 90

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

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 10: Beacon Lite Rd & Palmer Divide Ave



HCM 6th Signalized Intersection Summary  
10: Beacon Lite Rd & Palmer Divide Ave

2028 Total AM\_Realigned  
11/14/2024



| Movement                     | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations          |      |      |      |      |      |      |
| Traffic Volume (veh/h)       | 141  | 19   | 19   | 347  | 626  | 125  |
| Future Volume (veh/h)        | 141  | 19   | 19   | 347  | 626  | 125  |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1870 | 1870 | 1870 | 1841 | 1841 |
| Adj Flow Rate, veh/h         | 160  | 22   | 22   | 394  | 711  | 142  |
| Peak Hour Factor             | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 2    | 4    | 4    |
| Cap, veh/h                   | 202  | 179  | 583  | 2796 | 2495 | 1113 |
| Arrive On Green              | 0.11 | 0.11 | 0.02 | 0.79 | 1.00 | 1.00 |
| Sat Flow, veh/h              | 1781 | 1585 | 1781 | 3647 | 3589 | 1560 |
| Grp Volume(v), veh/h         | 160  | 22   | 22   | 394  | 711  | 142  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585 | 1781 | 1777 | 1749 | 1560 |
| Q Serve(g_s), s              | 7.9  | 1.1  | 0.3  | 2.4  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 7.9  | 1.1  | 0.3  | 2.4  | 0.0  | 0.0  |
| Prop In Lane                 | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 202  | 179  | 583  | 2796 | 2495 | 1113 |
| V/C Ratio(X)                 | 0.79 | 0.12 | 0.04 | 0.14 | 0.28 | 0.13 |
| Avail Cap(c_a), veh/h        | 485  | 431  | 690  | 2796 | 2495 | 1113 |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 |
| Upstream Filter(I)           | 1.00 | 1.00 | 0.99 | 0.99 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 38.9 | 35.9 | 2.7  | 2.3  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 6.9  | 0.3  | 0.0  | 0.1  | 0.3  | 0.2  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 3.8  | 1.1  | 0.1  | 0.5  | 0.1  | 0.1  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 45.8 | 36.2 | 2.7  | 2.4  | 0.3  | 0.2  |
| LnGrp LOS                    | D    | D    | A    | A    | A    | A    |
| Approach Vol, veh/h          | 182  |      |      | 416  | 853  |      |
| Approach Delay, s/veh        | 44.6 |      |      | 2.4  | 0.3  |      |
| Approach LOS                 | D    |      |      | A    | A    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 75.3 |      | 14.7 | 6.6  | 68.7 |
| Change Period (Y+Rc), s      |      | 4.5  |      | 4.5  | 4.5  | 4.5  |
| Max Green Setting (Gmax), s  |      | 56.5 |      | 24.5 | 7.5  | 44.5 |
| Max Q Clear Time (g_c+l1), s |      | 4.4  |      | 9.9  | 2.3  | 2.0  |
| Green Ext Time (p_c), s      |      | 2.8  |      | 0.4  | 0.0  | 6.4  |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 6.5  |      |      |      |
| HCM 6th LOS                  |      |      | A    |      |      |      |

# Timings

2028 Total PM\_Realigned

## 10: Beacon Lite Rd & Palmer Divide Ave

11/14/2024



| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |
| Traffic Volume (vph) | 167   | 26    | 28    | 447   | 845   | 117   |
| Future Volume (vph)  | 167   | 26    | 28    | 447   | 845   | 117   |
| Turn Type            | Prot  | Perm  | pm+pt | NA    | NA    | Perm  |
| Protected Phases     | 4     |       | 5     | 2     | 6     |       |
| Permitted Phases     |       | 4     | 2     |       |       | 6     |
| Detector Phase       | 4     | 4     | 5     | 2     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |
| Minimum Initial (s)  | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)    | 22.5  | 22.5  | 9.5   | 22.5  | 22.5  | 22.5  |
| Total Split (s)      | 27.0  | 27.0  | 10.0  | 63.0  | 53.0  | 53.0  |
| Total Split (%)      | 30.0% | 30.0% | 11.1% | 70.0% | 58.9% | 58.9% |
| Yellow Time (s)      | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   |
| Lead/Lag             |       |       | Lead  |       | Lag   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |

### Intersection Summary

Cycle Length: 90

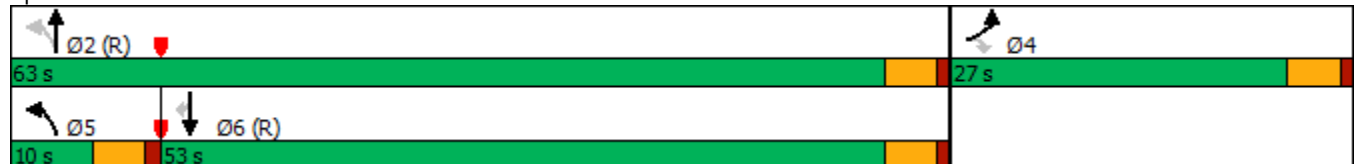
Actuated Cycle Length: 90

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 10: Beacon Lite Rd & Palmer Divide Ave



HCM 6th Signalized Intersection Summary  
10: Beacon Lite Rd & Palmer Divide Ave

2028 Total PM\_Realigned  
11/14/2024



| Movement                     | EBL                                                                               | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBT                                                                               | SBR                                                                               |
|------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lane Configurations          |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 167                                                                               | 26                                                                                | 28                                                                                | 447                                                                               | 845                                                                               | 117                                                                               |
| Future Volume (veh/h)        | 167                                                                               | 26                                                                                | 28                                                                                | 447                                                                               | 845                                                                               | 117                                                                               |
| Initial Q (Qb), veh          | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |
| Ped-Bike Adj(A_pbT)          | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                              |
| Parking Bus, Adj             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Work Zone On Approach        | No                                                                                |                                                                                   |                                                                                   | No                                                                                | No                                                                                |                                                                                   |
| Adj Sat Flow, veh/h/ln       | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1870                                                                              | 1841                                                                              | 1841                                                                              |
| Adj Flow Rate, veh/h         | 190                                                                               | 30                                                                                | 32                                                                                | 508                                                                               | 960                                                                               | 133                                                                               |
| Peak Hour Factor             | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              |
| Percent Heavy Veh, %         | 2                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                 | 4                                                                                 | 4                                                                                 |
| Cap, veh/h                   | 233                                                                               | 207                                                                               | 490                                                                               | 2734                                                                              | 2409                                                                              | 1074                                                                              |
| Arrive On Green              | 0.13                                                                              | 0.13                                                                              | 0.03                                                                              | 0.77                                                                              | 1.00                                                                              | 1.00                                                                              |
| Sat Flow, veh/h              | 1781                                                                              | 1585                                                                              | 1781                                                                              | 3647                                                                              | 3589                                                                              | 1560                                                                              |
| Grp Volume(v), veh/h         | 190                                                                               | 30                                                                                | 32                                                                                | 508                                                                               | 960                                                                               | 133                                                                               |
| Grp Sat Flow(s),veh/h/ln     | 1781                                                                              | 1585                                                                              | 1781                                                                              | 1777                                                                              | 1749                                                                              | 1560                                                                              |
| Q Serve(g_s), s              | 9.3                                                                               | 1.5                                                                               | 0.4                                                                               | 3.5                                                                               | 0.0                                                                               | 0.0                                                                               |
| Cycle Q Clear(g_c), s        | 9.3                                                                               | 1.5                                                                               | 0.4                                                                               | 3.5                                                                               | 0.0                                                                               | 0.0                                                                               |
| Prop In Lane                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                              |
| Lane Grp Cap(c), veh/h       | 233                                                                               | 207                                                                               | 490                                                                               | 2734                                                                              | 2409                                                                              | 1074                                                                              |
| V/C Ratio(X)                 | 0.82                                                                              | 0.14                                                                              | 0.07                                                                              | 0.19                                                                              | 0.40                                                                              | 0.12                                                                              |
| Avail Cap(c_a), veh/h        | 445                                                                               | 396                                                                               | 544                                                                               | 2734                                                                              | 2409                                                                              | 1074                                                                              |
| HCM Platoon Ratio            | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 2.00                                                                              | 2.00                                                                              |
| Upstream Filter(l)           | 1.00                                                                              | 1.00                                                                              | 0.99                                                                              | 0.99                                                                              | 1.00                                                                              | 1.00                                                                              |
| Uniform Delay (d), s/veh     | 38.1                                                                              | 34.7                                                                              | 3.1                                                                               | 2.8                                                                               | 0.0                                                                               | 0.0                                                                               |
| Incr Delay (d2), s/veh       | 6.9                                                                               | 0.3                                                                               | 0.1                                                                               | 0.1                                                                               | 0.5                                                                               | 0.2                                                                               |
| Initial Q Delay(d3),s/veh    | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |
| %ile BackOfQ(50%),veh/ln     | 4.5                                                                               | 1.4                                                                               | 0.1                                                                               | 0.8                                                                               | 0.2                                                                               | 0.1                                                                               |
| Unsig. Movement Delay, s/veh |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| LnGrp Delay(d),s/veh         | 44.9                                                                              | 35.0                                                                              | 3.1                                                                               | 2.9                                                                               | 0.5                                                                               | 0.2                                                                               |
| LnGrp LOS                    | D                                                                                 | C                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 |
| Approach Vol, veh/h          | 220                                                                               |                                                                                   |                                                                                   | 540                                                                               | 1093                                                                              |                                                                                   |
| Approach Delay, s/veh        | 43.6                                                                              |                                                                                   |                                                                                   | 3.0                                                                               | 0.5                                                                               |                                                                                   |
| Approach LOS                 | D                                                                                 |                                                                                   |                                                                                   | A                                                                                 | A                                                                                 |                                                                                   |
| Timer - Assigned Phs         | 2                                                                                 |                                                                                   |                                                                                   | 4                                                                                 | 5                                                                                 | 6                                                                                 |
| Phs Duration (G+Y+Rc), s     | 73.7                                                                              |                                                                                   |                                                                                   | 16.3                                                                              | 7.3                                                                               | 66.5                                                                              |
| Change Period (Y+Rc), s      | 4.5                                                                               |                                                                                   |                                                                                   | 4.5                                                                               | 4.5                                                                               | 4.5                                                                               |
| Max Green Setting (Gmax), s  | 58.5                                                                              |                                                                                   |                                                                                   | 22.5                                                                              | 5.5                                                                               | 48.5                                                                              |
| Max Q Clear Time (g_c+11), s | 5.5                                                                               |                                                                                   |                                                                                   | 11.3                                                                              | 2.4                                                                               | 2.0                                                                               |
| Green Ext Time (p_c), s      | 3.7                                                                               |                                                                                   |                                                                                   | 0.5                                                                               | 0.0                                                                               | 9.5                                                                               |
| Intersection Summary         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| HCM 6th Ctrl Delay           |                                                                                   |                                                                                   | 6.3                                                                               |                                                                                   |                                                                                   |                                                                                   |
| HCM 6th LOS                  |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |

| Intersection                |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 5.6   |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |
| Approach                    | EB    | NB    |       | SB    |       |
| Entry Lanes                 | 1     | 2     |       | 2     |       |
| Conflicting Circle Lanes    | 2     | 2     |       | 2     |       |
| Adj Approach Flow, veh/h    | 182   | 416   |       | 853   |       |
| Demand Flow Rate, veh/h     | 185   | 424   |       | 887   |       |
| Vehicles Circulating, veh/h | 739   | 163   |       | 22    |       |
| Vehicles Exiting, veh/h     | 170   | 761   |       | 565   |       |
| Ped Vol Crossing Leg, #/h   | 0     | 0     |       | 0     |       |
| Ped Cap Adj                 | 1.000 | 1.000 |       | 1.000 |       |
| Approach Delay, s/veh       | 7.6   | 4.6   |       | 5.7   |       |
| Approach LOS                | A     | A     |       | A     |       |
| Lane                        | Left  | Left  | Right | Left  | Right |
| Designated Moves            | LR    | LT    | TR    | LT    | TR    |
| Assumed Moves               | LR    | LT    | TR    | LT    | TR    |
| RT Channelized              |       |       |       |       |       |
| Lane Util                   | 1.000 | 0.469 | 0.531 | 0.470 | 0.530 |
| Follow-Up Headway, s        | 2.535 | 2.667 | 2.535 | 2.667 | 2.535 |
| Critical Headway, s         | 4.328 | 4.645 | 4.328 | 4.645 | 4.328 |
| Entry Flow, veh/h           | 185   | 199   | 225   | 417   | 470   |
| Cap Entry Lane, veh/h       | 758   | 1162  | 1236  | 1323  | 1394  |
| Entry HV Adj Factor         | 0.984 | 0.983 | 0.980 | 0.961 | 0.961 |
| Flow Entry, veh/h           | 182   | 196   | 221   | 401   | 452   |
| Cap Entry, veh/h            | 745   | 1142  | 1212  | 1271  | 1340  |
| V/C Ratio                   | 0.244 | 0.171 | 0.182 | 0.315 | 0.337 |
| Control Delay, s/veh        | 7.6   | 4.7   | 4.5   | 5.7   | 5.7   |
| LOS                         | A     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 1     | 1     | 1     | 1     | 2     |

| Intersection                |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 7.0   |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |
| Approach                    | EB    | NB    |       | SB    |       |
| Entry Lanes                 | 1     | 2     |       | 2     |       |
| Conflicting Circle Lanes    | 2     | 2     |       | 2     |       |
| Adj Approach Flow, veh/h    | 220   | 540   |       | 1093  |       |
| Demand Flow Rate, veh/h     | 225   | 551   |       | 1136  |       |
| Vehicles Circulating, veh/h | 998   | 194   |       | 33    |       |
| Vehicles Exiting, veh/h     | 171   | 1029  |       | 712   |       |
| Ped Vol Crossing Leg, #/h   | 0     | 0     |       | 0     |       |
| Ped Cap Adj                 | 1.000 | 1.000 |       | 1.000 |       |
| Approach Delay, s/veh       | 11.4  | 5.3   |       | 6.9   |       |
| Approach LOS                | B     | A     |       | A     |       |
| Lane                        | Left  | Left  | Right | Left  | Right |
| Designated Moves            | LR    | LT    | TR    | LT    | TR    |
| Assumed Moves               | LR    | LT    | TR    | LT    | TR    |
| RT Channelized              |       |       |       |       |       |
| Lane Util                   | 1.000 | 0.470 | 0.530 | 0.470 | 0.530 |
| Follow-Up Headway, s        | 2.535 | 2.667 | 2.535 | 2.667 | 2.535 |
| Critical Headway, s         | 4.328 | 4.645 | 4.328 | 4.645 | 4.328 |
| Entry Flow, veh/h           | 225   | 259   | 292   | 534   | 602   |
| Cap Entry Lane, veh/h       | 608   | 1129  | 1204  | 1309  | 1381  |
| Entry HV Adj Factor         | 0.978 | 0.980 | 0.980 | 0.962 | 0.962 |
| Flow Entry, veh/h           | 220   | 254   | 286   | 514   | 579   |
| Cap Entry, veh/h            | 594   | 1106  | 1180  | 1259  | 1328  |
| V/C Ratio                   | 0.370 | 0.229 | 0.242 | 0.408 | 0.436 |
| Control Delay, s/veh        | 11.4  | 5.4   | 5.2   | 6.9   | 7.0   |
| LOS                         | B     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 2     | 1     | 1     | 2     | 2     |

| Intersection             |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                    |
|--------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Int Delay, s/veh         | 1.1                                                                               |      |                                                                                   |                                                                                   |                                                                                   |                                                                                    |
| Movement                 | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                                |
| Lane Configurations      |  |      |  |  |  |  |
| Traffic Vol, veh/h       | 209                                                                               | 0    | 18                                                                                | 183                                                                               | 2                                                                                 | 34                                                                                 |
| Future Vol, veh/h        | 209                                                                               | 0    | 18                                                                                | 183                                                                               | 2                                                                                 | 34                                                                                 |
| Conflicting Peds, #/hr   | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  |
| Sign Control             | Free                                                                              | Free | Free                                                                              | Free                                                                              | Stop                                                                              | Stop                                                                               |
| RT Channelized           | -                                                                                 | None | -                                                                                 | None                                                                              | -                                                                                 | None                                                                               |
| Storage Length           | -                                                                                 | -    | 275                                                                               | -                                                                                 | 0                                                                                 | -                                                                                  |
| Veh in Median Storage, # | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | 0                                                                                 | -                                                                                  |
| Grade, %                 | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | 0                                                                                 | -                                                                                  |
| Peak Hour Factor         | 88                                                                                | 88   | 88                                                                                | 88                                                                                | 88                                                                                | 88                                                                                 |
| Heavy Vehicles, %        | 2                                                                                 | 2    | 4                                                                                 | 4                                                                                 | 2                                                                                 | 2                                                                                  |
| Mvmt Flow                | 238                                                                               | 0    | 20                                                                                | 208                                                                               | 2                                                                                 | 39                                                                                 |
|                          |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                    |
| Major/Minor              | Major1                                                                            |      | Major2                                                                            |                                                                                   | Minor1                                                                            |                                                                                    |
| Conflicting Flow All     | 0                                                                                 | 0    | 238                                                                               | 0                                                                                 | 486                                                                               | 238                                                                                |
| Stage 1                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 238                                                                               | -                                                                                  |
| Stage 2                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 248                                                                               | -                                                                                  |
| Critical Hdwy            | -                                                                                 | -    | 4.14                                                                              | -                                                                                 | 6.42                                                                              | 6.22                                                                               |
| Critical Hdwy Stg 1      | -                                                                                 | -    | -                                                                                 | -                                                                                 | 5.42                                                                              | -                                                                                  |
| Critical Hdwy Stg 2      | -                                                                                 | -    | -                                                                                 | -                                                                                 | 5.42                                                                              | -                                                                                  |
| Follow-up Hdwy           | -                                                                                 | -    | 2.236                                                                             | -                                                                                 | 3.518                                                                             | 3.318                                                                              |
| Pot Cap-1 Maneuver       | -                                                                                 | -    | 1317                                                                              | -                                                                                 | 540                                                                               | 801                                                                                |
| Stage 1                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 802                                                                               | -                                                                                  |
| Stage 2                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 793                                                                               | -                                                                                  |
| Platoon blocked, %       | -                                                                                 | -    |                                                                                   | -                                                                                 |                                                                                   |                                                                                    |
| Mov Cap-1 Maneuver       | -                                                                                 | -    | 1317                                                                              | -                                                                                 | 532                                                                               | 801                                                                                |
| Mov Cap-2 Maneuver       | -                                                                                 | -    | -                                                                                 | -                                                                                 | 532                                                                               | -                                                                                  |
| Stage 1                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 802                                                                               | -                                                                                  |
| Stage 2                  | -                                                                                 | -    | -                                                                                 | -                                                                                 | 781                                                                               | -                                                                                  |
|                          |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                    |
|                          |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                    |
| Approach                 | EB                                                                                |      | WB                                                                                |                                                                                   | NB                                                                                |                                                                                    |
| HCM Control Delay, s     | 0                                                                                 |      | 0.7                                                                               |                                                                                   | 9.9                                                                               |                                                                                    |
| HCM LOS                  |                                                                                   |      |                                                                                   |                                                                                   | A                                                                                 |                                                                                    |
|                          |                                                                                   |      |                                                                                   |                                                                                   |                                                                                   |                                                                                    |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | EBT  | EBR                                                                               | WBL                                                                               | WBT                                                                               |                                                                                    |
| Capacity (veh/h)         | 779                                                                               | -    | -                                                                                 | 1317                                                                              | -                                                                                 |                                                                                    |
| HCM Lane V/C Ratio       | 0.053                                                                             | -    | -                                                                                 | 0.016                                                                             | -                                                                                 |                                                                                    |
| HCM Control Delay (s)    | 9.9                                                                               | -    | -                                                                                 | 7.8                                                                               | -                                                                                 |                                                                                    |
| HCM Lane LOS             | A                                                                                 | -    | -                                                                                 | A                                                                                 | -                                                                                 |                                                                                    |
| HCM 95th %tile Q(veh)    | 0.2                                                                               | -    | -                                                                                 | 0                                                                                 | -                                                                                 |                                                                                    |

| Intersection             |                                                                                   |        |                                                                                   |                                                                                   |                                                                                   |       |
|--------------------------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|
| Int Delay, s/veh         | 2.4                                                                               |        |                                                                                   |                                                                                   |                                                                                   |       |
| Movement                 | EBT                                                                               | EBR    | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR   |
| Lane Configurations      |  |        |  |  |  |       |
| Traffic Vol, veh/h       | 244                                                                               | 2      | 64                                                                                | 173                                                                               | 5                                                                                 | 77    |
| Future Vol, veh/h        | 244                                                                               | 2      | 64                                                                                | 173                                                                               | 5                                                                                 | 77    |
| Conflicting Peds, #/hr   | 0                                                                                 | 0      | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0     |
| Sign Control             | Free                                                                              | Free   | Free                                                                              | Free                                                                              | Stop                                                                              | Stop  |
| RT Channelized           | -                                                                                 | None   | -                                                                                 | None                                                                              | -                                                                                 | None  |
| Storage Length           | -                                                                                 | -      | 275                                                                               | -                                                                                 | 0                                                                                 | -     |
| Veh in Median Storage, # | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | 0                                                                                 | -     |
| Grade, %                 | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | 0                                                                                 | -     |
| Peak Hour Factor         | 93                                                                                | 93     | 93                                                                                | 93                                                                                | 93                                                                                | 93    |
| Heavy Vehicles, %        | 4                                                                                 | 4      | 2                                                                                 | 2                                                                                 | 4                                                                                 | 4     |
| Mvmt Flow                | 262                                                                               | 2      | 69                                                                                | 186                                                                               | 5                                                                                 | 83    |
|                          |                                                                                   |        |                                                                                   |                                                                                   |                                                                                   |       |
| Major/Minor              | Major1                                                                            | Major2 |                                                                                   | Minor1                                                                            |                                                                                   |       |
| Conflicting Flow All     | 0                                                                                 | 0      | 264                                                                               | 0                                                                                 | 587                                                                               | 263   |
| Stage 1                  | -                                                                                 | -      | -                                                                                 | -                                                                                 | 263                                                                               | -     |
| Stage 2                  | -                                                                                 | -      | -                                                                                 | -                                                                                 | 324                                                                               | -     |
| Critical Hdwy            | -                                                                                 | -      | 4.12                                                                              | -                                                                                 | 6.44                                                                              | 6.24  |
| Critical Hdwy Stg 1      | -                                                                                 | -      | -                                                                                 | -                                                                                 | 5.44                                                                              | -     |
| Critical Hdwy Stg 2      | -                                                                                 | -      | -                                                                                 | -                                                                                 | 5.44                                                                              | -     |
| Follow-up Hdwy           | -                                                                                 | -      | 2.218                                                                             | -                                                                                 | 3.536                                                                             | 3.336 |
| Pot Cap-1 Maneuver       | -                                                                                 | -      | 1300                                                                              | -                                                                                 | 469                                                                               | 771   |
| Stage 1                  | -                                                                                 | -      | -                                                                                 | -                                                                                 | 776                                                                               | -     |
| Stage 2                  | -                                                                                 | -      | -                                                                                 | -                                                                                 | 729                                                                               | -     |
| Platoon blocked, %       | -                                                                                 | -      |                                                                                   | -                                                                                 |                                                                                   |       |
| Mov Cap-1 Maneuver       | -                                                                                 | -      | 1300                                                                              | -                                                                                 | 444                                                                               | 771   |
| Mov Cap-2 Maneuver       | -                                                                                 | -      | -                                                                                 | -                                                                                 | 444                                                                               | -     |
| Stage 1                  | -                                                                                 | -      | -                                                                                 | -                                                                                 | 776                                                                               | -     |
| Stage 2                  | -                                                                                 | -      | -                                                                                 | -                                                                                 | 690                                                                               | -     |
|                          |                                                                                   |        |                                                                                   |                                                                                   |                                                                                   |       |
|                          |                                                                                   |        |                                                                                   |                                                                                   |                                                                                   |       |
| Approach                 | EB                                                                                | WB     |                                                                                   | NB                                                                                |                                                                                   |       |
| HCM Control Delay, s     | 0                                                                                 | 2.1    |                                                                                   | 10.5                                                                              |                                                                                   |       |
| HCM LOS                  | B                                                                                 |        |                                                                                   |                                                                                   |                                                                                   |       |
|                          |                                                                                   |        |                                                                                   |                                                                                   |                                                                                   |       |
|                          |                                                                                   |        |                                                                                   |                                                                                   |                                                                                   |       |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | EBT    | EBR                                                                               | WBL                                                                               | WBT                                                                               |       |
| Capacity (veh/h)         | 738                                                                               | -      | -                                                                                 | 1300                                                                              | -                                                                                 |       |
| HCM Lane V/C Ratio       | 0.119                                                                             | -      | -                                                                                 | 0.053                                                                             | -                                                                                 |       |
| HCM Control Delay (s)    | 10.5                                                                              | -      | -                                                                                 | 7.9                                                                               | -                                                                                 |       |
| HCM Lane LOS             | B                                                                                 | -      | -                                                                                 | A                                                                                 | -                                                                                 |       |
| HCM 95th %tile Q(veh)    | 0.4                                                                               | -      | -                                                                                 | 0.2                                                                               | -                                                                                 |       |

# Timings

2045 Total AM\_Realigned

## 10: Beacon Lite Rd & Palmer Divide Ave

11/14/2024



| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |
| Traffic Volume (vph) | 209   | 19    | 20    | 358   | 632   | 183   |
| Future Volume (vph)  | 209   | 19    | 20    | 358   | 632   | 183   |
| Turn Type            | Prot  | Perm  | pm+pt | NA    | NA    | Perm  |
| Protected Phases     | 4     |       | 5     | 2     | 6     |       |
| Permitted Phases     |       | 4     | 2     |       |       | 6     |
| Detector Phase       | 4     | 4     | 5     | 2     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |
| Minimum Initial (s)  | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)    | 22.5  | 22.5  | 9.5   | 22.5  | 22.5  | 22.5  |
| Total Split (s)      | 31.0  | 31.0  | 11.0  | 59.0  | 48.0  | 48.0  |
| Total Split (%)      | 34.4% | 34.4% | 12.2% | 65.6% | 53.3% | 53.3% |
| Yellow Time (s)      | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   |
| Lead/Lag             |       |       | Lead  |       | Lag   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |

### Intersection Summary

Cycle Length: 90

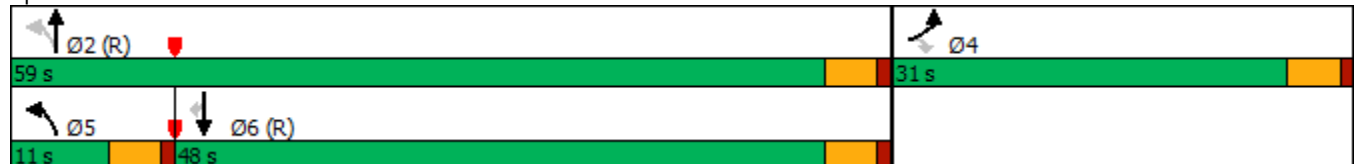
Actuated Cycle Length: 90

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

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 10: Beacon Lite Rd & Palmer Divide Ave



HCM 6th Signalized Intersection Summary  
10: Beacon Lite Rd & Palmer Divide Ave

2045 Total AM\_Realigned

11/14/2024



| Movement                     | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations          |      |      |      |      |      |      |
| Traffic Volume (veh/h)       | 209  | 19   | 20   | 358  | 632  | 183  |
| Future Volume (veh/h)        | 209  | 19   | 20   | 358  | 632  | 183  |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1870 | 1870 | 1870 | 1841 | 1841 |
| Adj Flow Rate, veh/h         | 238  | 22   | 23   | 407  | 718  | 208  |
| Peak Hour Factor             | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 2    | 4    | 4    |
| Cap, veh/h                   | 282  | 251  | 526  | 2635 | 2333 | 1041 |
| Arrive On Green              | 0.16 | 0.16 | 0.02 | 0.50 | 1.00 | 1.00 |
| Sat Flow, veh/h              | 1781 | 1585 | 1781 | 3647 | 3589 | 1560 |
| Grp Volume(v), veh/h         | 238  | 22   | 23   | 407  | 718  | 208  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585 | 1781 | 1777 | 1749 | 1560 |
| Q Serve(g_s), s              | 11.7 | 1.1  | 0.3  | 5.6  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 11.7 | 1.1  | 0.3  | 5.6  | 0.0  | 0.0  |
| Prop In Lane                 | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 282  | 251  | 526  | 2635 | 2333 | 1041 |
| V/C Ratio(X)                 | 0.84 | 0.09 | 0.04 | 0.15 | 0.31 | 0.20 |
| Avail Cap(c_a), veh/h        | 524  | 467  | 612  | 2635 | 2333 | 1041 |
| HCM Platoon Ratio            | 1.00 | 1.00 | 0.67 | 0.67 | 2.00 | 2.00 |
| Upstream Filter(I)           | 1.00 | 1.00 | 0.99 | 0.99 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 36.8 | 32.3 | 3.8  | 7.3  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 6.7  | 0.1  | 0.0  | 0.1  | 0.3  | 0.4  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 5.5  | 1.0  | 0.1  | 1.8  | 0.1  | 0.1  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 43.5 | 32.5 | 3.8  | 7.4  | 0.3  | 0.4  |
| LnGrp LOS                    | D    | C    | A    | A    | A    | A    |
| Approach Vol, veh/h          | 260  |      |      | 430  | 926  |      |
| Approach Delay, s/veh        | 42.6 |      |      | 7.2  | 0.4  |      |
| Approach LOS                 | D    |      |      | A    | A    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 71.2 |      | 18.8 | 6.7  | 64.5 |
| Change Period (Y+Rc), s      |      | 4.5  |      | 4.5  | 4.5  | 4.5  |
| Max Green Setting (Gmax), s  |      | 54.5 |      | 26.5 | 6.5  | 43.5 |
| Max Q Clear Time (g_c+l1), s |      | 7.6  |      | 13.7 | 2.3  | 2.0  |
| Green Ext Time (p_c), s      |      | 2.9  |      | 0.6  | 0.0  | 6.8  |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 9.0  |      |      |      |
| HCM 6th LOS                  |      |      | A    |      |      |      |

# Timings

2045 Total PM\_Realigned

## 10: Beacon Lite Rd & Palmer Divide Ave

11/14/2024



| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |
| Traffic Volume (vph) | 244   | 27    | 30    | 472   | 866   | 173   |
| Future Volume (vph)  | 244   | 27    | 30    | 472   | 866   | 173   |
| Turn Type            | Prot  | Perm  | pm+pt | NA    | NA    | Perm  |
| Protected Phases     | 4     |       | 5     | 2     | 6     |       |
| Permitted Phases     |       | 4     | 2     |       |       | 6     |
| Detector Phase       | 4     | 4     | 5     | 2     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |
| Minimum Initial (s)  | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)    | 22.5  | 22.5  | 9.5   | 22.5  | 22.5  | 22.5  |
| Total Split (s)      | 30.0  | 30.0  | 10.0  | 60.0  | 50.0  | 50.0  |
| Total Split (%)      | 33.3% | 33.3% | 11.1% | 66.7% | 55.6% | 55.6% |
| Yellow Time (s)      | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   |
| Lead/Lag             |       |       | Lead  |       | Lag   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |

### Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 10: Beacon Lite Rd & Palmer Divide Ave



HCM 6th Signalized Intersection Summary  
10: Beacon Lite Rd & Palmer Divide Ave

2045 Total PM\_Realigned  
11/14/2024



| Movement                     | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|
| Lane Configurations          |      |      |      |      |      |      |
| Traffic Volume (veh/h)       | 244  | 27   | 30   | 472  | 866  | 173  |
| Future Volume (veh/h)        | 244  | 27   | 30   | 472  | 866  | 173  |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        | No   |      |      | No   | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1870 | 1870 | 1870 | 1841 | 1841 |
| Adj Flow Rate, veh/h         | 277  | 31   | 34   | 536  | 984  | 197  |
| Peak Hour Factor             | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 2    | 4    | 4    |
| Cap, veh/h                   | 321  | 286  | 439  | 2557 | 2230 | 995  |
| Arrive On Green              | 0.18 | 0.18 | 0.03 | 0.72 | 1.00 | 1.00 |
| Sat Flow, veh/h              | 1781 | 1585 | 1781 | 3647 | 3589 | 1560 |
| Grp Volume(v), veh/h         | 277  | 31   | 34   | 536  | 984  | 197  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585 | 1781 | 1777 | 1749 | 1560 |
| Q Serve(g_s), s              | 13.6 | 1.5  | 0.5  | 4.5  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 13.6 | 1.5  | 0.5  | 4.5  | 0.0  | 0.0  |
| Prop In Lane                 | 1.00 | 1.00 | 1.00 |      |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 321  | 286  | 439  | 2557 | 2230 | 995  |
| V/C Ratio(X)                 | 0.86 | 0.11 | 0.08 | 0.21 | 0.44 | 0.20 |
| Avail Cap(c_a), veh/h        | 505  | 449  | 492  | 2557 | 2230 | 995  |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 |
| Upstream Filter(l)           | 1.00 | 1.00 | 0.99 | 0.99 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 35.8 | 30.8 | 4.4  | 4.2  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 8.9  | 0.2  | 0.1  | 0.2  | 0.6  | 0.4  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 6.6  | 1.4  | 0.2  | 1.3  | 0.2  | 0.1  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 44.7 | 31.0 | 4.5  | 4.4  | 0.6  | 0.4  |
| LnGrp LOS                    | D    | C    | A    | A    | A    | A    |
| Approach Vol, veh/h          | 308  |      |      | 570  | 1181 |      |
| Approach Delay, s/veh        | 43.3 |      |      | 4.4  | 0.6  |      |
| Approach LOS                 | D    |      |      | A    | A    |      |
| Timer - Assigned Phs         |      | 2    |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 69.3 |      | 20.7 | 7.4  | 61.9 |
| Change Period (Y+Rc), s      |      | 4.5  |      | 4.5  | 4.5  | 4.5  |
| Max Green Setting (Gmax), s  |      | 55.5 |      | 25.5 | 5.5  | 45.5 |
| Max Q Clear Time (g_c+l1), s |      | 6.5  |      | 15.6 | 2.5  | 2.0  |
| Green Ext Time (p_c), s      |      | 3.9  |      | 0.7  | 0.0  | 10.1 |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 8.0  |      |      |      |
| HCM 6th LOS                  |      |      | A    |      |      |      |

| Intersection                |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 6.3   |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |
| Approach                    | EB    | NB    |       | SB    |       |
| Entry Lanes                 | 1     | 2     |       | 2     |       |
| Conflicting Circle Lanes    | 2     | 2     |       | 2     |       |
| Adj Approach Flow, veh/h    | 260   | 430   |       | 926   |       |
| Demand Flow Rate, veh/h     | 265   | 438   |       | 963   |       |
| Vehicles Circulating, veh/h | 747   | 243   |       | 23    |       |
| Vehicles Exiting, veh/h     | 239   | 769   |       | 658   |       |
| Ped Vol Crossing Leg, #/h   | 0     | 0     |       | 0     |       |
| Ped Cap Adj                 | 1.000 | 1.000 |       | 1.000 |       |
| Approach Delay, s/veh       | 9.3   | 5.1   |       | 6.0   |       |
| Approach LOS                | A     | A     |       | A     |       |
| Lane                        | Left  | Left  | Right | Left  | Right |
| Designated Moves            | LR    | LT    | TR    | LT    | TR    |
| Assumed Moves               | LR    | LT    | TR    | LT    | TR    |
| RT Channelized              |       |       |       |       |       |
| Lane Util                   | 1.000 | 0.470 | 0.530 | 0.470 | 0.530 |
| Follow-Up Headway, s        | 2.535 | 2.667 | 2.535 | 2.667 | 2.535 |
| Critical Headway, s         | 4.328 | 4.645 | 4.328 | 4.645 | 4.328 |
| Entry Flow, veh/h           | 265   | 206   | 232   | 453   | 510   |
| Cap Entry Lane, veh/h       | 753   | 1079  | 1155  | 1322  | 1393  |
| Entry HV Adj Factor         | 0.981 | 0.981 | 0.982 | 0.961 | 0.963 |
| Flow Entry, veh/h           | 260   | 202   | 228   | 435   | 491   |
| Cap Entry, veh/h            | 738   | 1059  | 1134  | 1270  | 1341  |
| V/C Ratio                   | 0.352 | 0.191 | 0.201 | 0.343 | 0.366 |
| Control Delay, s/veh        | 9.3   | 5.2   | 5.0   | 6.0   | 6.1   |
| LOS                         | A     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 2     | 1     | 1     | 2     | 2     |

| Intersection                |       |       |       |       |       |
|-----------------------------|-------|-------|-------|-------|-------|
| Intersection Delay, s/veh   | 8.2   |       |       |       |       |
| Intersection LOS            | A     |       |       |       |       |
| Approach                    | EB    | NB    |       | SB    |       |
| Entry Lanes                 | 1     | 2     |       | 2     |       |
| Conflicting Circle Lanes    | 2     | 2     |       | 2     |       |
| Adj Approach Flow, veh/h    | 308   | 570   |       | 1181  |       |
| Demand Flow Rate, veh/h     | 315   | 582   |       | 1228  |       |
| Vehicles Circulating, veh/h | 1023  | 283   |       | 35    |       |
| Vehicles Exiting, veh/h     | 240   | 1055  |       | 830   |       |
| Ped Vol Crossing Leg, #/h   | 0     | 0     |       | 0     |       |
| Ped Cap Adj                 | 1.000 | 1.000 |       | 1.000 |       |
| Approach Delay, s/veh       | 15.6  | 6.0   |       | 7.4   |       |
| Approach LOS                | C     | A     |       | A     |       |
| Lane                        | Left  | Left  | Right | Left  | Right |
| Designated Moves            | LR    | LT    | TR    | LT    | TR    |
| Assumed Moves               | LR    | LT    | TR    | LT    | TR    |
| RT Channelized              |       |       |       |       |       |
| Lane Util                   | 1.000 | 0.471 | 0.529 | 0.470 | 0.530 |
| Follow-Up Headway, s        | 2.535 | 2.667 | 2.535 | 2.667 | 2.535 |
| Critical Headway, s         | 4.328 | 4.645 | 4.328 | 4.645 | 4.328 |
| Entry Flow, veh/h           | 315   | 274   | 308   | 577   | 651   |
| Cap Entry Lane, veh/h       | 595   | 1040  | 1116  | 1307  | 1378  |
| Entry HV Adj Factor         | 0.978 | 0.978 | 0.981 | 0.962 | 0.961 |
| Flow Entry, veh/h           | 308   | 268   | 302   | 555   | 626   |
| Cap Entry, veh/h            | 582   | 1018  | 1096  | 1257  | 1325  |
| V/C Ratio                   | 0.529 | 0.263 | 0.276 | 0.441 | 0.472 |
| Control Delay, s/veh        | 15.6  | 6.1   | 5.9   | 7.3   | 7.5   |
| LOS                         | C     | A     | A     | A     | A     |
| 95th %tile Queue, veh       | 3     | 1     | 1     | 2     | 3     |

| Intersection             |        |      |       |        |       |      |        |      |      |       |       |       |
|--------------------------|--------|------|-------|--------|-------|------|--------|------|------|-------|-------|-------|
| Int Delay, s/veh         | 6.9    |      |       |        |       |      |        |      |      |       |       |       |
| Movement                 | EBL    | EBT  | EBR   | WBL    | WBT   | WBR  | NBL    | NBT  | NBR  | SBL   | SBT   | SBR   |
| Lane Configurations      |        | ↱    |       | ↱      | ↱     |      |        |      |      |       | ↲     |       |
| Traffic Vol, veh/h       | 0      | 102  | 45    | 239    | 102   | 0    | 0      | 0    | 0    | 75    | 5     | 17    |
| Future Vol, veh/h        | 0      | 102  | 45    | 239    | 102   | 0    | 0      | 0    | 0    | 75    | 5     | 17    |
| Conflicting Peds, #/hr   | 0      | 0    | 0     | 0      | 0     | 0    | 0      | 0    | 0    | 0     | 0     | 0     |
| Sign Control             | Free   | Free | Free  | Free   | Free  | Free | Stop   | Stop | Stop | Stop  | Stop  | Stop  |
| RT Channelized           | -      | -    | None  | -      | -     | None | -      | -    | None | -     | -     | None  |
| Storage Length           | -      | -    | -     | 0      | -     | -    | -      | -    | -    | -     | -     | -     |
| Veh in Median Storage, # | -      | 0    | -     | -      | 0     | -    | -      | 0    | -    | -     | 0     | -     |
| Grade, %                 | -      | 0    | -     | -      | 0     | -    | -      | 0    | -    | -     | 0     | -     |
| Peak Hour Factor         | 90     | 90   | 90    | 90     | 90    | 90   | 90     | 90   | 90   | 90    | 90    | 90    |
| Heavy Vehicles, %        | 2      | 2    | 2     | 2      | 2     | 2    | 2      | 2    | 2    | 13    | 13    | 13    |
| Mvmt Flow                | 0      | 113  | 50    | 266    | 113   | 0    | 0      | 0    | 0    | 83    | 6     | 19    |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Major/Minor              | Major1 |      |       | Major2 |       |      | Minor2 |      |      |       |       |       |
| Conflicting Flow All     | -      | 0    | 0     | 163    | 0     | 0    |        |      |      | 783   | 808   | 113   |
| Stage 1                  | -      | -    | -     | -      | -     | -    |        |      |      | 645   | 645   | -     |
| Stage 2                  | -      | -    | -     | -      | -     | -    |        |      |      | 138   | 163   | -     |
| Critical Hdwy            | -      | -    | -     | 4.12   | -     | -    |        |      |      | 6.53  | 6.63  | 6.33  |
| Critical Hdwy Stg 1      | -      | -    | -     | -      | -     | -    |        |      |      | 5.53  | 5.63  | -     |
| Critical Hdwy Stg 2      | -      | -    | -     | -      | -     | -    |        |      |      | 5.53  | 5.63  | -     |
| Follow-up Hdwy           | -      | -    | -     | 2.218  | -     | -    |        |      |      | 3.617 | 4.117 | 3.417 |
| Pot Cap-1 Maneuver       | 0      | -    | -     | 1416   | -     | 0    |        |      |      | 347   | 303   | 911   |
| Stage 1                  | 0      | -    | -     | -      | -     | 0    |        |      |      | 502   | 451   | -     |
| Stage 2                  | 0      | -    | -     | -      | -     | 0    |        |      |      | 862   | 743   | -     |
| Platoon blocked, %       |        | -    | -     |        | -     |      |        |      |      |       |       |       |
| Mov Cap-1 Maneuver       | -      | -    | -     | 1416   | -     | -    |        |      |      | 282   | 0     | 911   |
| Mov Cap-2 Maneuver       | -      | -    | -     | -      | -     | -    |        |      |      | 282   | 0     | -     |
| Stage 1                  | -      | -    | -     | -      | -     | -    |        |      |      | 502   | 0     | -     |
| Stage 2                  | -      | -    | -     | -      | -     | -    |        |      |      | 700   | 0     | -     |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Approach                 | EB     |      |       | WB     |       |      | SB     |      |      |       |       |       |
| HCM Control Delay, s     | 0      |      |       | 5.7    |       |      | 21.6   |      |      |       |       |       |
| HCM LOS                  | C      |      |       |        |       |      |        |      |      |       |       |       |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Minor Lane/Major Mvmt    | EBT    | EBR  | WBL   | WBT    | SBLn1 |      |        |      |      |       |       |       |
| Capacity (veh/h)         | -      | -    | 1416  | -      | 323   |      |        |      |      |       |       |       |
| HCM Lane V/C Ratio       | -      | -    | 0.188 | -      | 0.334 |      |        |      |      |       |       |       |
| HCM Control Delay (s)    | -      | -    | 8.1   | -      | 21.6  |      |        |      |      |       |       |       |
| HCM Lane LOS             | -      | -    | A     | -      | C     |      |        |      |      |       |       |       |
| HCM 95th %tile Q(veh)    | -      | -    | 0.7   | -      | 1.4   |      |        |      |      |       |       |       |

| Intersection             |        |      |       |        |       |      |        |      |      |       |       |       |
|--------------------------|--------|------|-------|--------|-------|------|--------|------|------|-------|-------|-------|
| Int Delay, s/veh         | 9.8    |      |       |        |       |      |        |      |      |       |       |       |
| Movement                 | EBL    | EBT  | EBR   | WBL    | WBT   | WBR  | NBL    | NBT  | NBR  | SBL   | SBT   | SBR   |
| Lane Configurations      |        | ↱    |       | ↱      | ↱     |      |        |      |      |       | ↲     |       |
| Traffic Vol, veh/h       | 0      | 98   | 71    | 125    | 87    | 0    | 0      | 0    | 0    | 239   | 2     | 33    |
| Future Vol, veh/h        | 0      | 98   | 71    | 125    | 87    | 0    | 0      | 0    | 0    | 239   | 2     | 33    |
| Conflicting Peds, #/hr   | 0      | 0    | 0     | 0      | 0     | 0    | 0      | 0    | 0    | 0     | 0     | 0     |
| Sign Control             | Free   | Free | Free  | Free   | Free  | Free | Stop   | Stop | Stop | Stop  | Stop  | Stop  |
| RT Channelized           | -      | -    | None  | -      | -     | None | -      | -    | None | -     | -     | None  |
| Storage Length           | -      | -    | -     | 0      | -     | -    | -      | -    | -    | -     | -     | -     |
| Veh in Median Storage, # | -      | 0    | -     | -      | 0     | -    | -      | 0    | -    | -     | 0     | -     |
| Grade, %                 | -      | 0    | -     | -      | 0     | -    | -      | 0    | -    | -     | 0     | -     |
| Peak Hour Factor         | 97     | 97   | 97    | 97     | 97    | 97   | 97     | 97   | 97   | 97    | 97    | 97    |
| Heavy Vehicles, %        | 3      | 3    | 3     | 3      | 3     | 3    | 2      | 2    | 2    | 2     | 2     | 2     |
| Mvmt Flow                | 0      | 101  | 73    | 129    | 90    | 0    | 0      | 0    | 0    | 246   | 2     | 34    |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Major/Minor              | Major1 |      |       | Major2 |       |      | Minor2 |      |      |       |       |       |
| Conflicting Flow All     | -      | 0    | 0     | 174    | 0     | 0    |        |      |      | 486   | 522   | 90    |
| Stage 1                  | -      | -    | -     | -      | -     | -    |        |      |      | 348   | 348   | -     |
| Stage 2                  | -      | -    | -     | -      | -     | -    |        |      |      | 138   | 174   | -     |
| Critical Hdwy            | -      | -    | -     | 4.13   | -     | -    |        |      |      | 6.42  | 6.52  | 6.22  |
| Critical Hdwy Stg 1      | -      | -    | -     | -      | -     | -    |        |      |      | 5.42  | 5.52  | -     |
| Critical Hdwy Stg 2      | -      | -    | -     | -      | -     | -    |        |      |      | 5.42  | 5.52  | -     |
| Follow-up Hdwy           | -      | -    | -     | 2.227  | -     | -    |        |      |      | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver       | 0      | -    | -     | 1397   | -     | 0    |        |      |      | 540   | 459   | 968   |
| Stage 1                  | 0      | -    | -     | -      | -     | 0    |        |      |      | 715   | 634   | -     |
| Stage 2                  | 0      | -    | -     | -      | -     | 0    |        |      |      | 889   | 755   | -     |
| Platoon blocked, %       |        | -    | -     |        | -     |      |        |      |      |       |       |       |
| Mov Cap-1 Maneuver       | -      | -    | -     | 1397   | -     | -    |        |      |      | 490   | 0     | 968   |
| Mov Cap-2 Maneuver       | -      | -    | -     | -      | -     | -    |        |      |      | 490   | 0     | -     |
| Stage 1                  | -      | -    | -     | -      | -     | -    |        |      |      | 715   | 0     | -     |
| Stage 2                  | -      | -    | -     | -      | -     | -    |        |      |      | 807   | 0     | -     |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Approach                 | EB     |      |       | WB     |       |      | SB     |      |      |       |       |       |
| HCM Control Delay, s     | 0      |      |       | 4.6    |       |      | 19.8   |      |      |       |       |       |
| HCM LOS                  |        |      |       |        |       |      | C      |      |      |       |       |       |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Minor Lane/Major Mvmt    | EBT    | EBR  | WBL   | WBT    | SBLn1 |      |        |      |      |       |       |       |
| Capacity (veh/h)         | -      | -    | 1397  | -      | 521   |      |        |      |      |       |       |       |
| HCM Lane V/C Ratio       | -      | -    | 0.092 | -      | 0.542 |      |        |      |      |       |       |       |
| HCM Control Delay (s)    | -      | -    | 7.8   | -      | 19.8  |      |        |      |      |       |       |       |
| HCM Lane LOS             | -      | -    | A     | -      | C     |      |        |      |      |       |       |       |
| HCM 95th %tile O(veh)    | -      | -    | 0.3   | -      | 3.2   |      |        |      |      |       |       |       |

| Intersection             |        |      |       |        |       |      |        |      |      |       |       |       |
|--------------------------|--------|------|-------|--------|-------|------|--------|------|------|-------|-------|-------|
| Int Delay, s/veh         | 10.5   |      |       |        |       |      |        |      |      |       |       |       |
| Movement                 | EBL    | EBT  | EBR   | WBL    | WBT   | WBR  | NBL    | NBT  | NBR  | SBL   | SBT   | SBR   |
| Lane Configurations      |        | ↻    |       | ↻      | ↻     |      |        |      |      |       | ↻     |       |
| Traffic Vol, veh/h       | 0      | 115  | 49    | 316    | 118   | 0    | 0      | 0    | 0    | 94    | 5     | 19    |
| Future Vol, veh/h        | 0      | 115  | 49    | 316    | 118   | 0    | 0      | 0    | 0    | 94    | 5     | 19    |
| Conflicting Peds, #/hr   | 0      | 0    | 0     | 0      | 0     | 0    | 0      | 0    | 0    | 0     | 0     | 0     |
| Sign Control             | Free   | Free | Free  | Free   | Free  | Free | Stop   | Stop | Stop | Stop  | Stop  | Stop  |
| RT Channelized           | -      | -    | None  | -      | -     | None | -      | -    | None | -     | -     | None  |
| Storage Length           | -      | -    | -     | 0      | -     | -    | -      | -    | -    | -     | -     | -     |
| Veh in Median Storage, # | -      | 0    | -     | -      | 0     | -    | -      | 0    | -    | -     | 0     | -     |
| Grade, %                 | -      | 0    | -     | -      | 0     | -    | -      | 0    | -    | -     | 0     | -     |
| Peak Hour Factor         | 90     | 90   | 90    | 90     | 90    | 90   | 90     | 90   | 90   | 90    | 90    | 90    |
| Heavy Vehicles, %        | 2      | 2    | 2     | 2      | 2     | 2    | 2      | 2    | 2    | 13    | 13    | 13    |
| Mvmt Flow                | 0      | 128  | 54    | 351    | 131   | 0    | 0      | 0    | 0    | 104   | 6     | 21    |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Major/Minor              | Major1 |      |       | Major2 |       |      | Minor2 |      |      |       |       |       |
| Conflicting Flow All     | -      | 0    | 0     | 182    | 0     | 0    |        |      |      | 988   | 1015  | 131   |
| Stage 1                  | -      | -    | -     | -      | -     | -    |        |      |      | 833   | 833   | -     |
| Stage 2                  | -      | -    | -     | -      | -     | -    |        |      |      | 155   | 182   | -     |
| Critical Hdwy            | -      | -    | -     | 4.12   | -     | -    |        |      |      | 6.53  | 6.63  | 6.33  |
| Critical Hdwy Stg 1      | -      | -    | -     | -      | -     | -    |        |      |      | 5.53  | 5.63  | -     |
| Critical Hdwy Stg 2      | -      | -    | -     | -      | -     | -    |        |      |      | 5.53  | 5.63  | -     |
| Follow-up Hdwy           | -      | -    | -     | 2.218  | -     | -    |        |      |      | 3.617 | 4.117 | 3.417 |
| Pot Cap-1 Maneuver       | 0      | -    | -     | 1393   | -     | 0    |        |      |      | 262   | 228   | 890   |
| Stage 1                  | 0      | -    | -     | -      | -     | 0    |        |      |      | 409   | 369   | -     |
| Stage 2                  | 0      | -    | -     | -      | -     | 0    |        |      |      | 847   | 729   | -     |
| Platoon blocked, %       |        | -    | -     |        | -     |      |        |      |      |       |       |       |
| Mov Cap-1 Maneuver       | -      | -    | -     | 1393   | -     | -    |        |      |      | 196   | 0     | 890   |
| Mov Cap-2 Maneuver       | -      | -    | -     | -      | -     | -    |        |      |      | 196   | 0     | -     |
| Stage 1                  | -      | -    | -     | -      | -     | -    |        |      |      | 409   | 0     | -     |
| Stage 2                  | -      | -    | -     | -      | -     | -    |        |      |      | 634   | 0     | -     |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Approach                 | EB     |      |       | WB     |       |      | SB     |      |      |       |       |       |
| HCM Control Delay, s     | 0      |      |       | 6.2    |       |      | 40.8   |      |      |       |       |       |
| HCM LOS                  |        |      |       |        |       |      | E      |      |      |       |       |       |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Minor Lane/Major Mvmt    | EBT    | EBR  | WBL   | WBT    | SBLn1 |      |        |      |      |       |       |       |
| Capacity (veh/h)         | -      | -    | 1393  | -      | 226   |      |        |      |      |       |       |       |
| HCM Lane V/C Ratio       | -      | -    | 0.252 | -      | 0.58  |      |        |      |      |       |       |       |
| HCM Control Delay (s)    | -      | -    | 8.5   | -      | 40.8  |      |        |      |      |       |       |       |
| HCM Lane LOS             | -      | -    | A     | -      | E     |      |        |      |      |       |       |       |
| HCM 95th %tile Q(veh)    | -      | -    | 1     | -      | 3.3   |      |        |      |      |       |       |       |

| Intersection             |        |      |       |        |       |      |        |      |      |       |       |       |
|--------------------------|--------|------|-------|--------|-------|------|--------|------|------|-------|-------|-------|
| Int Delay, s/veh         | 19.6   |      |       |        |       |      |        |      |      |       |       |       |
| Movement                 | EBL    | EBT  | EBR   | WBL    | WBT   | WBR  | NBL    | NBT  | NBR  | SBL   | SBT   | SBR   |
| Lane Configurations      |        | ↻    |       | ↻      | ↻     |      |        |      |      |       | ↻     |       |
| Traffic Vol, veh/h       | 0      | 118  | 78    | 178    | 99    | 0    | 0      | 0    | 0    | 290   | 2     | 36    |
| Future Vol, veh/h        | 0      | 118  | 78    | 178    | 99    | 0    | 0      | 0    | 0    | 290   | 2     | 36    |
| Conflicting Peds, #/hr   | 0      | 0    | 0     | 0      | 0     | 0    | 0      | 0    | 0    | 0     | 0     | 0     |
| Sign Control             | Free   | Free | Free  | Free   | Free  | Free | Stop   | Stop | Stop | Stop  | Stop  | Stop  |
| RT Channelized           | -      | -    | None  | -      | -     | None | -      | -    | None | -     | -     | None  |
| Storage Length           | -      | -    | -     | 0      | -     | -    | -      | -    | -    | -     | -     | -     |
| Veh in Median Storage, # | -      | 0    | -     | -      | 0     | -    | -      | 0    | -    | -     | 0     | -     |
| Grade, %                 | -      | 0    | -     | -      | 0     | -    | -      | 0    | -    | -     | 0     | -     |
| Peak Hour Factor         | 97     | 97   | 97    | 97     | 97    | 97   | 97     | 97   | 97   | 97    | 97    | 97    |
| Heavy Vehicles, %        | 3      | 3    | 3     | 3      | 3     | 3    | 2      | 2    | 2    | 2     | 2     | 2     |
| Mvmt Flow                | 0      | 122  | 80    | 184    | 102   | 0    | 0      | 0    | 0    | 299   | 2     | 37    |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Major/Minor              | Major1 |      |       | Major2 |       |      | Minor2 |      |      |       |       |       |
| Conflicting Flow All     | -      | 0    | 0     | 202    | 0     | 0    |        |      |      | 632   | 672   | 102   |
| Stage 1                  | -      | -    | -     | -      | -     | -    |        |      |      | 470   | 470   | -     |
| Stage 2                  | -      | -    | -     | -      | -     | -    |        |      |      | 162   | 202   | -     |
| Critical Hdwy            | -      | -    | -     | 4.13   | -     | -    |        |      |      | 6.42  | 6.52  | 6.22  |
| Critical Hdwy Stg 1      | -      | -    | -     | -      | -     | -    |        |      |      | 5.42  | 5.52  | -     |
| Critical Hdwy Stg 2      | -      | -    | -     | -      | -     | -    |        |      |      | 5.42  | 5.52  | -     |
| Follow-up Hdwy           | -      | -    | -     | 2.227  | -     | -    |        |      |      | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver       | 0      | -    | -     | 1364   | -     | 0    |        |      |      | 444   | 377   | 953   |
| Stage 1                  | 0      | -    | -     | -      | -     | 0    |        |      |      | 629   | 560   | -     |
| Stage 2                  | 0      | -    | -     | -      | -     | 0    |        |      |      | 867   | 734   | -     |
| Platoon blocked, %       |        | -    | -     |        | -     |      |        |      |      |       |       |       |
| Mov Cap-1 Maneuver       | -      | -    | -     | 1364   | -     | -    |        |      |      | 384   | 0     | 953   |
| Mov Cap-2 Maneuver       | -      | -    | -     | -      | -     | -    |        |      |      | 384   | 0     | -     |
| Stage 1                  | -      | -    | -     | -      | -     | -    |        |      |      | 629   | 0     | -     |
| Stage 2                  | -      | -    | -     | -      | -     | -    |        |      |      | 750   | 0     | -     |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Approach                 | EB     |      |       | WB     |       |      | SB     |      |      |       |       |       |
| HCM Control Delay, s     | 0      |      |       | 5.2    |       |      | 43.4   |      |      |       |       |       |
| HCM LOS                  |        |      |       |        |       |      | E      |      |      |       |       |       |
|                          |        |      |       |        |       |      |        |      |      |       |       |       |
| Minor Lane/Major Mvmt    | EBT    | EBR  | WBL   | WBT    | SBLn1 |      |        |      |      |       |       |       |
| Capacity (veh/h)         | -      | -    | 1364  | -      | 411   |      |        |      |      |       |       |       |
| HCM Lane V/C Ratio       | -      | -    | 0.135 | -      | 0.823 |      |        |      |      |       |       |       |
| HCM Control Delay (s)    | -      | -    | 8     | -      | 43.4  |      |        |      |      |       |       |       |
| HCM Lane LOS             | -      | -    | A     | -      | E     |      |        |      |      |       |       |       |
| HCM 95th %tile Q(veh)    | -      | -    | 0.5   | -      | 7.6   |      |        |      |      |       |       |       |

| Intersection                                                                                                         |        |                                                                                   |      |                                                                                   |                                                                                   |      |           |      |      |       |                                                                                     |       |
|----------------------------------------------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------|------|------|-------|-------------------------------------------------------------------------------------|-------|
| Int Delay, s/veh                                                                                                     | 244.7  |                                                                                   |      |                                                                                   |                                                                                   |      |           |      |      |       |                                                                                     |       |
| Movement                                                                                                             | EBL    | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR  | NBL       | NBT  | NBR  | SBL   | SBT                                                                                 | SBR   |
| Lane Configurations                                                                                                  |        |  |      |  |  |      |           |      |      |       |  |       |
| Traffic Vol, veh/h                                                                                                   | 0      | 448                                                                               | 373  | 316                                                                               | 435                                                                               | 0    | 0         | 0    | 0    | 94    | 5                                                                                   | 317   |
| Future Vol, veh/h                                                                                                    | 0      | 448                                                                               | 373  | 316                                                                               | 435                                                                               | 0    | 0         | 0    | 0    | 94    | 5                                                                                   | 317   |
| Conflicting Peds, #/hr                                                                                               | 0      | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0         | 0    | 0    | 0     | 0                                                                                   | 0     |
| Sign Control                                                                                                         | Free   | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free | Stop      | Stop | Stop | Stop  | Stop                                                                                | Stop  |
| RT Channelized                                                                                                       | -      | -                                                                                 | None | -                                                                                 | -                                                                                 | None | -         | -    | None | -     | -                                                                                   | None  |
| Storage Length                                                                                                       | -      | -                                                                                 | -    | 0                                                                                 | -                                                                                 | -    | -         | -    | -    | -     | -                                                                                   | -     |
| Veh in Median Storage, #                                                                                             | -      | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -         | 0    | -    | -     | 0                                                                                   | -     |
| Grade, %                                                                                                             | -      | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -    | -         | 0    | -    | -     | 0                                                                                   | -     |
| Peak Hour Factor                                                                                                     | 90     | 90                                                                                | 90   | 90                                                                                | 90                                                                                | 90   | 90        | 90   | 90   | 90    | 90                                                                                  | 90    |
| Heavy Vehicles, %                                                                                                    | 2      | 2                                                                                 | 2    | 2                                                                                 | 2                                                                                 | 2    | 2         | 2    | 2    | 13    | 13                                                                                  | 13    |
| Mvmt Flow                                                                                                            | 0      | 498                                                                               | 414  | 351                                                                               | 483                                                                               | 0    | 0         | 0    | 0    | 104   | 6                                                                                   | 352   |
|                                                                                                                      |        |                                                                                   |      |                                                                                   |                                                                                   |      |           |      |      |       |                                                                                     |       |
| Major/Minor                                                                                                          | Major1 |                                                                                   |      | Major2                                                                            |                                                                                   |      | Minor2    |      |      |       |                                                                                     |       |
| Conflicting Flow All                                                                                                 | -      | 0                                                                                 | 0    | 912                                                                               | 0                                                                                 | 0    |           |      |      | 1890  | 2097                                                                                | 483   |
| Stage 1                                                                                                              | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    |           |      |      | 1185  | 1185                                                                                | -     |
| Stage 2                                                                                                              | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    |           |      |      | 705   | 912                                                                                 | -     |
| Critical Hdwy                                                                                                        | -      | -                                                                                 | -    | 4.12                                                                              | -                                                                                 | -    |           |      |      | 6.53  | 6.63                                                                                | 6.33  |
| Critical Hdwy Stg 1                                                                                                  | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    |           |      |      | 5.53  | 5.63                                                                                | -     |
| Critical Hdwy Stg 2                                                                                                  | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    |           |      |      | 5.53  | 5.63                                                                                | -     |
| Follow-up Hdwy                                                                                                       | -      | -                                                                                 | -    | 2.218                                                                             | -                                                                                 | -    |           |      |      | 3.617 | 4.117                                                                               | 3.417 |
| Pot Cap-1 Maneuver                                                                                                   | 0      | -                                                                                 | -    | 747                                                                               | -                                                                                 | 0    |           |      |      | ~ 72  | 49                                                                                  | 562   |
| Stage 1                                                                                                              | 0      | -                                                                                 | -    | -                                                                                 | -                                                                                 | 0    |           |      |      | 276   | 250                                                                                 | -     |
| Stage 2                                                                                                              | 0      | -                                                                                 | -    | -                                                                                 | -                                                                                 | 0    |           |      |      | 470   | 338                                                                                 | -     |
| Platoon blocked, %                                                                                                   |        | -                                                                                 | -    |                                                                                   | -                                                                                 |      |           |      |      |       |                                                                                     |       |
| Mov Cap-1 Maneuver                                                                                                   | -      | -                                                                                 | -    | 747                                                                               | -                                                                                 | -    |           |      |      | ~ 38  | 0                                                                                   | 562   |
| Mov Cap-2 Maneuver                                                                                                   | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    |           |      |      | ~ 38  | 0                                                                                   | -     |
| Stage 1                                                                                                              | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    |           |      |      | 276   | 0                                                                                   | -     |
| Stage 2                                                                                                              | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    |           |      |      | 249   | 0                                                                                   | -     |
|                                                                                                                      |        |                                                                                   |      |                                                                                   |                                                                                   |      |           |      |      |       |                                                                                     |       |
|                                                                                                                      |        |                                                                                   |      |                                                                                   |                                                                                   |      |           |      |      |       |                                                                                     |       |
| Approach                                                                                                             | EB     |                                                                                   |      | WB                                                                                |                                                                                   |      | SB        |      |      |       |                                                                                     |       |
| HCM Control Delay, s                                                                                                 | 0      |                                                                                   |      | 5.9                                                                               |                                                                                   |      | \$ 1158.9 |      |      |       |                                                                                     |       |
| HCM LOS                                                                                                              |        |                                                                                   |      |                                                                                   |                                                                                   |      | F         |      |      |       |                                                                                     |       |
|                                                                                                                      |        |                                                                                   |      |                                                                                   |                                                                                   |      |           |      |      |       |                                                                                     |       |
|                                                                                                                      |        |                                                                                   |      |                                                                                   |                                                                                   |      |           |      |      |       |                                                                                     |       |
| Minor Lane/Major Mvmt                                                                                                | EBT    | EBR                                                                               | WBL  | WBT                                                                               | SBLn1                                                                             |      |           |      |      |       |                                                                                     |       |
| Capacity (veh/h)                                                                                                     | -      | -                                                                                 | 747  | -                                                                                 | 135                                                                               |      |           |      |      |       |                                                                                     |       |
| HCM Lane V/C Ratio                                                                                                   | -      | -                                                                                 | 0.47 | -                                                                                 | 3.424                                                                             |      |           |      |      |       |                                                                                     |       |
| HCM Control Delay (s)                                                                                                | -      | -                                                                                 | 14   |                                                                                   | \$ 1158.9                                                                         |      |           |      |      |       |                                                                                     |       |
| HCM Lane LOS                                                                                                         | -      | -                                                                                 | B    | -                                                                                 | F                                                                                 |      |           |      |      |       |                                                                                     |       |
| HCM 95th %tile Q(veh)                                                                                                | -      | -                                                                                 | 2.5  | -                                                                                 | 44.8                                                                              |      |           |      |      |       |                                                                                     |       |
|                                                                                                                      |        |                                                                                   |      |                                                                                   |                                                                                   |      |           |      |      |       |                                                                                     |       |
| Notes                                                                                                                |        |                                                                                   |      |                                                                                   |                                                                                   |      |           |      |      |       |                                                                                     |       |
| ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    *: All major volume in platoon |        |                                                                                   |      |                                                                                   |                                                                                   |      |           |      |      |       |                                                                                     |       |

| Intersection               |        |                        |       |        |                            |      |           |      |                                |       |       |       |
|----------------------------|--------|------------------------|-------|--------|----------------------------|------|-----------|------|--------------------------------|-------|-------|-------|
| Int Delay, s/veh           | 519.2  |                        |       |        |                            |      |           |      |                                |       |       |       |
| Movement                   | EBL    | EBT                    | EBR   | WBL    | WBT                        | WBR  | NBL       | NBT  | NBR                            | SBL   | SBT   | SBR   |
| Lane Configurations        |        | ↱                      |       | ↱      | ↱                          |      |           |      |                                |       | ↲     |       |
| Traffic Vol, veh/h         | 0      | 525                    | 473   | 178    | 513                        | 0    | 0         | 0    | 0                              | 290   | 2     | 425   |
| Future Vol, veh/h          | 0      | 525                    | 473   | 178    | 513                        | 0    | 0         | 0    | 0                              | 290   | 2     | 425   |
| Conflicting Peds, #/hr     | 0      | 0                      | 0     | 0      | 0                          | 0    | 0         | 0    | 0                              | 0     | 0     | 0     |
| Sign Control               | Free   | Free                   | Free  | Free   | Free                       | Free | Stop      | Stop | Stop                           | Stop  | Stop  | Stop  |
| RT Channelized             | -      | -                      | None  | -      | -                          | None | -         | -    | None                           | -     | -     | None  |
| Storage Length             | -      | -                      | -     | 0      | -                          | -    | -         | -    | -                              | -     | -     | -     |
| Veh in Median Storage, #   | -      | 0                      | -     | -      | 0                          | -    | -         | 0    | -                              | -     | 0     | -     |
| Grade, %                   | -      | 0                      | -     | -      | 0                          | -    | -         | 0    | -                              | -     | 0     | -     |
| Peak Hour Factor           | 97     | 97                     | 97    | 97     | 97                         | 97   | 97        | 97   | 97                             | 97    | 97    | 97    |
| Heavy Vehicles, %          | 3      | 3                      | 3     | 3      | 3                          | 3    | 2         | 2    | 2                              | 2     | 2     | 2     |
| Mvmt Flow                  | 0      | 541                    | 488   | 184    | 529                        | 0    | 0         | 0    | 0                              | 299   | 2     | 438   |
|                            |        |                        |       |        |                            |      |           |      |                                |       |       |       |
| Major/Minor                | Major1 |                        |       | Major2 |                            |      | Minor2    |      |                                |       |       |       |
| Conflicting Flow All       | -      | 0                      | 0     | 1029   | 0                          | 0    |           |      |                                | 1682  | 1926  | 529   |
| Stage 1                    | -      | -                      | -     | -      | -                          | -    |           |      |                                | 897   | 897   | -     |
| Stage 2                    | -      | -                      | -     | -      | -                          | -    |           |      |                                | 785   | 1029  | -     |
| Critical Hdwy              | -      | -                      | -     | 4.13   | -                          | -    |           |      |                                | 6.42  | 6.52  | 6.22  |
| Critical Hdwy Stg 1        | -      | -                      | -     | -      | -                          | -    |           |      |                                | 5.42  | 5.52  | -     |
| Critical Hdwy Stg 2        | -      | -                      | -     | -      | -                          | -    |           |      |                                | 5.42  | 5.52  | -     |
| Follow-up Hdwy             | -      | -                      | -     | 2.227  | -                          | -    |           |      |                                | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver         | 0      | -                      | -     | 671    | -                          | 0    |           |      |                                | ~ 104 | 67    | 550   |
| Stage 1                    | 0      | -                      | -     | -      | -                          | 0    |           |      |                                | 398   | 358   | -     |
| Stage 2                    | 0      | -                      | -     | -      | -                          | 0    |           |      |                                | 449   | 311   | -     |
| Platoon blocked, %         |        | -                      | -     |        | -                          |      |           |      |                                |       |       |       |
| Mov Cap-1 Maneuver         | -      | -                      | -     | 671    | -                          | -    |           |      |                                | ~ 76  | 0     | 550   |
| Mov Cap-2 Maneuver         | -      | -                      | -     | -      | -                          | -    |           |      |                                | ~ 76  | 0     | -     |
| Stage 1                    | -      | -                      | -     | -      | -                          | -    |           |      |                                | 398   | 0     | -     |
| Stage 2                    | -      | -                      | -     | -      | -                          | -    |           |      |                                | 326   | 0     | -     |
|                            |        |                        |       |        |                            |      |           |      |                                |       |       |       |
| Approach                   | EB     |                        |       | WB     |                            |      | SB        |      |                                |       |       |       |
| HCM Control Delay, s       | 0      |                        |       | 3.2    |                            |      | \$ 1739.1 |      |                                |       |       |       |
| HCM LOS                    |        |                        |       |        |                            |      | F         |      |                                |       |       |       |
|                            |        |                        |       |        |                            |      |           |      |                                |       |       |       |
| Minor Lane/Major Mvmt      | EBT    | EBR                    | WBL   | WBT    | SBLn1                      |      |           |      |                                |       |       |       |
| Capacity (veh/h)           | -      | -                      | 671   | -      | 156                        |      |           |      |                                |       |       |       |
| HCM Lane V/C Ratio         | -      | -                      | 0.273 | -      | 4.738                      |      |           |      |                                |       |       |       |
| HCM Control Delay (s)      | -      | -                      | 12.4  |        | \$ 1739.1                  |      |           |      |                                |       |       |       |
| HCM Lane LOS               | -      | -                      | B     | -      | F                          |      |           |      |                                |       |       |       |
| HCM 95th %tile Q(veh)      | -      | -                      | 1.1   | -      | 76.5                       |      |           |      |                                |       |       |       |
| Notes                      |        |                        |       |        |                            |      |           |      |                                |       |       |       |
| ~: Volume exceeds capacity |        | \$: Delay exceeds 300s |       |        | +: Computation Not Defined |      |           |      | *: All major volume in platoon |       |       |       |

Timings  
2: Palmer Divide Ave & I-25 SB Ramp

2028 Total AM\_Realigned

08/06/2025



| Lane Group           | EBT   | EBR   | WBL   | WBT   | SBT   | SBR   | Ø5   |
|----------------------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations  | ↑↑    | ↑     | ↑     | ↑↑    | ↑     | ↑     |      |
| Traffic Volume (vph) | 448   | 373   | 316   | 435   | 5     | 317   |      |
| Future Volume (vph)  | 448   | 373   | 316   | 435   | 5     | 317   |      |
| Turn Type            | NA    | Perm  | pm+pt | NA    | NA    | Perm  |      |
| Protected Phases     | 2     |       | 1     | 6     | 4     |       | 5    |
| Permitted Phases     |       | 2     | 6     |       |       | 4     |      |
| Detector Phase       | 2     | 2     | 1     | 6     | 4     | 4     |      |
| Switch Phase         |       |       |       |       |       |       |      |
| Minimum Initial (s)  | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0  |
| Minimum Split (s)    | 22.5  | 22.5  | 9.5   | 22.5  | 22.5  | 22.5  | 9.5  |
| Total Split (s)      | 40.0  | 40.0  | 23.0  | 36.0  | 27.0  | 27.0  | 27.0 |
| Total Split (%)      | 44.4% | 44.4% | 25.6% | 40.0% | 30.0% | 30.0% | 30%  |
| Yellow Time (s)      | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5  |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0  |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Lost Time (s)  | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   |      |
| Lead/Lag             | Lag   | Lag   | Lead  | Lag   |       |       | Lead |
| Lead-Lag Optimize?   | Yes   | Yes   | Yes   | Yes   |       |       | Yes  |
| Recall Mode          | C-Max | C-Max | None  | C-Max | Max   | Max   | None |

Intersection Summary

Cycle Length: 90

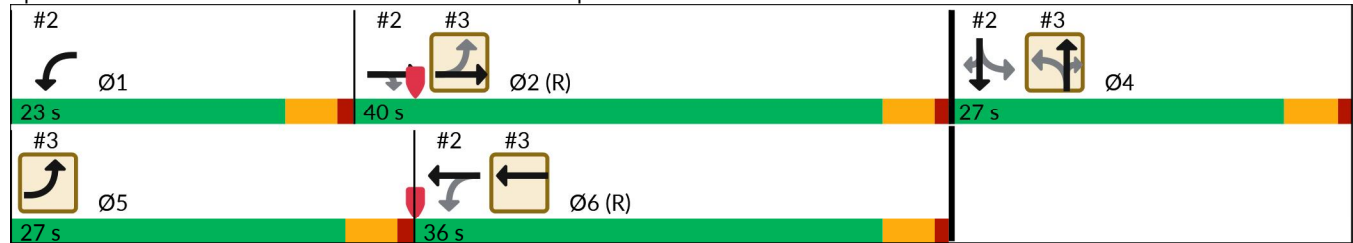
Actuated Cycle Length: 90

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 2: Palmer Divide Ave & I-25 SB Ramp



# HCM Signalized Intersection Capacity Analysis

## 2: Palmer Divide Ave & I-25 SB Ramp

2028 Total AM\_Realigned

08/06/2025

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   | ↑↑                                                                                | ↑                                                                                 | ↑                                                                                 | ↑↑                                                                                |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ↑                                                                                   | ↑                                                                                   |
| Traffic Volume (vph)              | 0                                                                                 | 448                                                                               | 373                                                                               | 316                                                                               | 435                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 94                                                                                  | 5                                                                                   | 317                                                                                 |
| Future Volume (vph)               | 0                                                                                 | 448                                                                               | 373                                                                               | 316                                                                               | 435                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 94                                                                                  | 5                                                                                   | 317                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               |                                                                                   | 4.5                                                                               | 4.5                                                                               | 4.5                                                                               | 4.5                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 4.5                                                                                 | 4.5                                                                                 |
| Lane Util. Factor                 |                                                                                   | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               |                                                                                   | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 |                                                                                   | 3539                                                                              | 1583                                                                              | 1770                                                                              | 3539                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1606                                                                                | 1429                                                                                |
| Flt Permitted                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.45                                                                              | 1.00                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 |                                                                                   | 3539                                                                              | 1583                                                                              | 847                                                                               | 3539                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1606                                                                                | 1429                                                                                |
| Peak-hour factor, PHF             | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 498                                                                               | 414                                                                               | 351                                                                               | 483                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 104                                                                                 | 6                                                                                   | 352                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 227                                                                               | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 264                                                                                 |
| Lane Group Flow (vph)             | 0                                                                                 | 498                                                                               | 187                                                                               | 351                                                                               | 483                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 110                                                                                 | 88                                                                                  |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 13%                                                                                 | 13%                                                                                 | 13%                                                                                 |
| Turn Type                         |                                                                                   | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                     |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | 2                                                                                 | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Actuated Green, G (s)             |                                                                                   | 40.6                                                                              | 40.6                                                                              | 51.3                                                                              | 37.9                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 22.5                                                                                | 22.5                                                                                |
| Effective Green, g (s)            |                                                                                   | 40.6                                                                              | 40.6                                                                              | 51.3                                                                              | 37.9                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 22.5                                                                                | 22.5                                                                                |
| Actuated g/C Ratio                |                                                                                   | 0.45                                                                              | 0.45                                                                              | 0.57                                                                              | 0.42                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.25                                                                                | 0.25                                                                                |
| Clearance Time (s)                |                                                                                   | 4.5                                                                               | 4.5                                                                               | 4.5                                                                               | 4.5                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 4.5                                                                                 | 4.5                                                                                 |
| Vehicle Extension (s)             |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                |                                                                                   | 1596                                                                              | 714                                                                               | 620                                                                               | 1490                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 401                                                                                 | 357                                                                                 |
| v/s Ratio Prot                    |                                                                                   | c0.14                                                                             |                                                                                   | c0.08                                                                             | 0.14                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.12                                                                              | c0.24                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.07                                                                                | 0.06                                                                                |
| v/c Ratio                         |                                                                                   | 0.31                                                                              | 0.26                                                                              | 0.57                                                                              | 0.32                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.27                                                                                | 0.25                                                                                |
| Uniform Delay, d1                 |                                                                                   | 15.8                                                                              | 15.4                                                                              | 10.4                                                                              | 17.5                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 27.2                                                                                | 27.0                                                                                |
| Progression Factor                |                                                                                   | 0.86                                                                              | 0.61                                                                              | 1.46                                                                              | 1.20                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             |                                                                                   | 0.5                                                                               | 0.9                                                                               | 1.1                                                                               | 0.5                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1.7                                                                                 | 1.6                                                                                 |
| Delay (s)                         |                                                                                   | 14.1                                                                              | 10.3                                                                              | 16.3                                                                              | 21.5                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 28.9                                                                                | 28.6                                                                                |
| Level of Service                  |                                                                                   | B                                                                                 | B                                                                                 | B                                                                                 | C                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | C                                                                                   | C                                                                                   |
| Approach Delay (s/veh)            |                                                                                   | 12.4                                                                              |                                                                                   |                                                                                   | 19.3                                                                              |                                                                                   |                                                                                     | 0.0                                                                                 |                                                                                     |                                                                                     | 28.7                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay (s/veh)    |                                                                                   |                                                                                   | 18.4                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.46                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 90.0                                                                              |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     |                                                                                     | 13.5                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 57.3%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Timings

2028 Total PM\_Realigned

08/06/2025

## 2: Palmer Divide Ave & I-25 SB Ramp



| Lane Group           | EBT   | EBR  | WBL   | WBT   | SBT   | SBR   | Ø5   |
|----------------------|-------|------|-------|-------|-------|-------|------|
| Lane Configurations  | ↑↑    | ↑    | ↑     | ↑↑    | ↓     | ↑     |      |
| Traffic Volume (vph) | 525   | 473  | 178   | 513   | 2     | 425   |      |
| Future Volume (vph)  | 525   | 473  | 178   | 513   | 2     | 425   |      |
| Turn Type            | NA    | Free | pm+pt | NA    | NA    | Perm  |      |
| Protected Phases     | 2     |      | 1     | 6     | 4     |       | 5    |
| Permitted Phases     |       | Free | 6     |       |       | 4     |      |
| Detector Phase       | 2     |      | 1     | 6     | 4     | 4     |      |
| Switch Phase         |       |      |       |       |       |       |      |
| Minimum Initial (s)  | 5.0   |      | 5.0   | 5.0   | 5.0   | 5.0   | 5.0  |
| Minimum Split (s)    | 22.5  |      | 9.5   | 22.5  | 22.5  | 22.5  | 9.5  |
| Total Split (s)      | 41.0  |      | 13.0  | 28.0  | 36.0  | 36.0  | 26.0 |
| Total Split (%)      | 45.6% |      | 14.4% | 31.1% | 40.0% | 40.0% | 29%  |
| Yellow Time (s)      | 3.5   |      | 3.5   | 3.5   | 3.5   | 3.5   | 3.5  |
| All-Red Time (s)     | 1.0   |      | 1.0   | 1.0   | 1.0   | 1.0   | 1.0  |
| Lost Time Adjust (s) | 0.0   |      | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Lost Time (s)  | 4.5   |      | 4.5   | 4.5   | 4.5   | 4.5   |      |
| Lead/Lag             | Lag   |      | Lead  | Lag   |       |       | Lead |
| Lead-Lag Optimize?   | Yes   |      | Yes   | Yes   |       |       | Yes  |
| Recall Mode          | C-Max |      | None  | C-Max | Max   | Max   | None |

### Intersection Summary

Cycle Length: 90

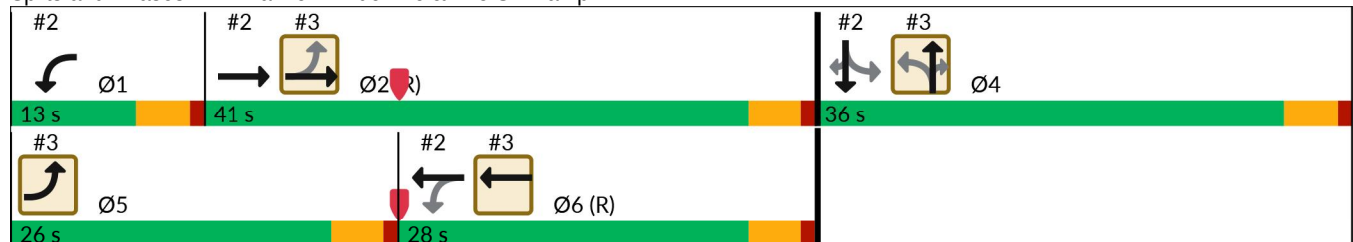
Actuated Cycle Length: 90

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

### Splits and Phases: 2: Palmer Divide Ave & I-25 SB Ramp



# HCM Signalized Intersection Capacity Analysis

## 2: Palmer Divide Ave & I-25 SB Ramp

2028 Total PM\_Realigned

08/06/2025

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |  |  |  |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)              | 0                                                                                 | 525                                                                               | 473                                                                               | 178                                                                               | 513                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 290                                                                                 | 2                                                                                   | 425                                                                                 |
| Future Volume (vph)               | 0                                                                                 | 525                                                                               | 473                                                                               | 178                                                                               | 513                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 290                                                                                 | 2                                                                                   | 425                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               |                                                                                   | 4.5                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 4.5                                                                                 | 4.5                                                                                 |
| Lane Util. Factor                 |                                                                                   | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               |                                                                                   | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 |                                                                                   | 3505                                                                              | 1568                                                                              | 1752                                                                              | 3505                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1775                                                                                | 1583                                                                                |
| Flt Permitted                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.45                                                                              | 1.00                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 |                                                                                   | 3505                                                                              | 1568                                                                              | 831                                                                               | 3505                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1775                                                                                | 1583                                                                                |
| Peak-hour factor, PHF             | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                              | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 541                                                                               | 488                                                                               | 184                                                                               | 529                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 299                                                                                 | 2                                                                                   | 438                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 285                                                                                 |
| Lane Group Flow (vph)             | 0                                                                                 | 541                                                                               | 488                                                                               | 184                                                                               | 529                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 301                                                                                 | 153                                                                                 |
| Heavy Vehicles (%)                | 3%                                                                                | 3%                                                                                | 3%                                                                                | 3%                                                                                | 3%                                                                                | 3%                                                                                | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Turn Type                         |                                                                                   | NA                                                                                | Free                                                                              | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                     |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | Free                                                                              | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Actuated Green, G (s)             |                                                                                   | 36.8                                                                              | 90.0                                                                              | 34.8                                                                              | 26.6                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 31.5                                                                                | 31.5                                                                                |
| Effective Green, g (s)            |                                                                                   | 36.8                                                                              | 90.0                                                                              | 34.8                                                                              | 26.6                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 31.5                                                                                | 31.5                                                                                |
| Actuated g/C Ratio                |                                                                                   | 0.41                                                                              | 1.00                                                                              | 0.39                                                                              | 0.30                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.35                                                                                | 0.35                                                                                |
| Clearance Time (s)                |                                                                                   | 4.5                                                                               |                                                                                   | 4.5                                                                               | 4.5                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 4.5                                                                                 | 4.5                                                                                 |
| Vehicle Extension (s)             |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                |                                                                                   | 1433                                                                              | 1568                                                                              | 405                                                                               | 1035                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 621                                                                                 | 554                                                                                 |
| v/s Ratio Prot                    |                                                                                   | 0.15                                                                              |                                                                                   | 0.04                                                                              | c0.15                                                                             |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | c0.31                                                                             | 0.13                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.17                                                                                | 0.10                                                                                |
| v/c Ratio                         |                                                                                   | 0.38                                                                              | 0.31                                                                              | 0.45                                                                              | 0.51                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.48                                                                                | 0.28                                                                                |
| Uniform Delay, d1                 |                                                                                   | 18.6                                                                              | 0.0                                                                               | 18.9                                                                              | 26.3                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 22.9                                                                                | 21.1                                                                                |
| Progression Factor                |                                                                                   | 0.81                                                                              | 1.00                                                                              | 1.50                                                                              | 1.35                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             |                                                                                   | 0.8                                                                               | 0.5                                                                               | 0.8                                                                               | 1.7                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 2.7                                                                                 | 1.2                                                                                 |
| Delay (s)                         |                                                                                   | 15.9                                                                              | 0.5                                                                               | 29.2                                                                              | 37.3                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 25.6                                                                                | 22.3                                                                                |
| Level of Service                  |                                                                                   | B                                                                                 | A                                                                                 | C                                                                                 | D                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | C                                                                                   | C                                                                                   |
| Approach Delay (s/veh)            |                                                                                   | 8.6                                                                               |                                                                                   |                                                                                   | 35.2                                                                              |                                                                                   |                                                                                     | 0.0                                                                                 |                                                                                     |                                                                                     | 23.6                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay (s/veh)    |                                                                                   |                                                                                   | 20.7                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.47                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 90.0                                                                              |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 13.5                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 65.4%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

| Intersection               |        |                                                                                   |        |                                                                                   |                                                                                   |      |          |      |                                |       |                                                                                     |       |
|----------------------------|--------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|----------|------|--------------------------------|-------|-------------------------------------------------------------------------------------|-------|
| Int Delay, s/veh           | 81.6   |                                                                                   |        |                                                                                   |                                                                                   |      |          |      |                                |       |                                                                                     |       |
| Movement                   | EBL    | EBT                                                                               | EBR    | WBL                                                                               | WBT                                                                               | WBR  | NBL      | NBT  | NBR                            | SBL   | SBT                                                                                 | SBR   |
| Lane Configurations        |        |  |        |  |  |      |          |      |                                |       |  |       |
| Traffic Vol, veh/h         | 0      | 170                                                                               | 74     | 445                                                                               | 173                                                                               | 0    | 0        | 0    | 0                              | 135   | 8                                                                                   | 28    |
| Future Vol, veh/h          | 0      | 170                                                                               | 74     | 445                                                                               | 173                                                                               | 0    | 0        | 0    | 0                              | 135   | 8                                                                                   | 28    |
| Conflicting Peds, #/hr     | 0      | 0                                                                                 | 0      | 0                                                                                 | 0                                                                                 | 0    | 0        | 0    | 0                              | 0     | 0                                                                                   | 0     |
| Sign Control               | Free   | Free                                                                              | Free   | Free                                                                              | Free                                                                              | Free | Stop     | Stop | Stop                           | Stop  | Stop                                                                                | Stop  |
| RT Channelized             | -      | -                                                                                 | None   | -                                                                                 | -                                                                                 | None | -        | -    | None                           | -     | -                                                                                   | None  |
| Storage Length             | -      | -                                                                                 | -      | 0                                                                                 | -                                                                                 | -    | -        | -    | -                              | -     | -                                                                                   | -     |
| Veh in Median Storage, #   | -      | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | -    | -        | 0    | -                              | -     | 0                                                                                   | -     |
| Grade, %                   | -      | 0                                                                                 | -      | -                                                                                 | 0                                                                                 | -    | -        | 0    | -                              | -     | 0                                                                                   | -     |
| Peak Hour Factor           | 90     | 90                                                                                | 90     | 90                                                                                | 90                                                                                | 90   | 90       | 90   | 90                             | 90    | 90                                                                                  | 90    |
| Heavy Vehicles, %          | 2      | 2                                                                                 | 2      | 2                                                                                 | 2                                                                                 | 2    | 2        | 2    | 2                              | 13    | 13                                                                                  | 13    |
| Mvmt Flow                  | 0      | 189                                                                               | 82     | 494                                                                               | 192                                                                               | 0    | 0        | 0    | 0                              | 150   | 9                                                                                   | 31    |
|                            |        |                                                                                   |        |                                                                                   |                                                                                   |      |          |      |                                |       |                                                                                     |       |
| Major/Minor                | Major1 |                                                                                   | Major2 |                                                                                   |                                                                                   |      | Minor2   |      |                                |       |                                                                                     |       |
| Conflicting Flow All       | -      | 0                                                                                 | 0      | 271                                                                               | 0                                                                                 | 0    |          |      |                                | 1410  | 1451                                                                                | 192   |
| Stage 1                    | -      | -                                                                                 | -      | -                                                                                 | -                                                                                 | -    |          |      |                                | 1180  | 1180                                                                                | -     |
| Stage 2                    | -      | -                                                                                 | -      | -                                                                                 | -                                                                                 | -    |          |      |                                | 230   | 271                                                                                 | -     |
| Critical Hdwy              | -      | -                                                                                 | -      | 4.12                                                                              | -                                                                                 | -    |          |      |                                | 6.53  | 6.63                                                                                | 6.33  |
| Critical Hdwy Stg 1        | -      | -                                                                                 | -      | -                                                                                 | -                                                                                 | -    |          |      |                                | 5.53  | 5.63                                                                                | -     |
| Critical Hdwy Stg 2        | -      | -                                                                                 | -      | -                                                                                 | -                                                                                 | -    |          |      |                                | 5.53  | 5.63                                                                                | -     |
| Follow-up Hdwy             | -      | -                                                                                 | -      | 2.218                                                                             | -                                                                                 | -    |          |      |                                | 3.617 | 4.117                                                                               | 3.417 |
| Pot Cap-1 Maneuver         | 0      | -                                                                                 | -      | 1292                                                                              | -                                                                                 | 0    |          |      |                                | ~ 144 | 124                                                                                 | 822   |
| Stage 1                    | 0      | -                                                                                 | -      | -                                                                                 | -                                                                                 | 0    |          |      |                                | 277   | 252                                                                                 | -     |
| Stage 2                    | 0      | -                                                                                 | -      | -                                                                                 | -                                                                                 | 0    |          |      |                                | 783   | 666                                                                                 | -     |
| Platoon blocked, %         |        | -                                                                                 | -      |                                                                                   | -                                                                                 |      |          |      |                                |       |                                                                                     |       |
| Mov Cap-1 Maneuver         | -      | -                                                                                 | -      | 1292                                                                              | -                                                                                 | -    |          |      |                                | ~ 89  | 0                                                                                   | 822   |
| Mov Cap-2 Maneuver         | -      | -                                                                                 | -      | -                                                                                 | -                                                                                 | -    |          |      |                                | ~ 89  | 0                                                                                   | -     |
| Stage 1                    | -      | -                                                                                 | -      | -                                                                                 | -                                                                                 | -    |          |      |                                | 277   | 0                                                                                   | -     |
| Stage 2                    | -      | -                                                                                 | -      | -                                                                                 | -                                                                                 | -    |          |      |                                | 484   | 0                                                                                   | -     |
|                            |        |                                                                                   |        |                                                                                   |                                                                                   |      |          |      |                                |       |                                                                                     |       |
| Approach                   | EB     |                                                                                   | WB     |                                                                                   |                                                                                   |      | SB       |      |                                |       |                                                                                     |       |
| HCM Control Delay, s       | 0      |                                                                                   | 6.8    |                                                                                   |                                                                                   |      | \$ 468.6 |      |                                |       |                                                                                     |       |
| HCM LOS                    | F      |                                                                                   |        |                                                                                   |                                                                                   |      |          |      |                                |       |                                                                                     |       |
|                            |        |                                                                                   |        |                                                                                   |                                                                                   |      |          |      |                                |       |                                                                                     |       |
| Minor Lane/Major Mvmt      | EBT    | EBR                                                                               | WBL    | WBT                                                                               | SBLn1                                                                             |      |          |      |                                |       |                                                                                     |       |
| Capacity (veh/h)           | -      | -                                                                                 | 1292   | -                                                                                 | 105                                                                               |      |          |      |                                |       |                                                                                     |       |
| HCM Lane V/C Ratio         | -      | -                                                                                 | 0.383  | -                                                                                 | 1.81                                                                              |      |          |      |                                |       |                                                                                     |       |
| HCM Control Delay (s)      | -      | -                                                                                 | 9.5    | -                                                                                 | \$ 468.6                                                                          |      |          |      |                                |       |                                                                                     |       |
| HCM Lane LOS               | -      | -                                                                                 | A      | -                                                                                 | F                                                                                 |      |          |      |                                |       |                                                                                     |       |
| HCM 95th %tile Q(veh)      | -      | -                                                                                 | 1.8    | -                                                                                 | 15.3                                                                              |      |          |      |                                |       |                                                                                     |       |
| Notes                      |        |                                                                                   |        |                                                                                   |                                                                                   |      |          |      |                                |       |                                                                                     |       |
| ~: Volume exceeds capacity |        | \$: Delay exceeds 300s                                                            |        |                                                                                   | +: Computation Not Defined                                                        |      |          |      | *: All major volume in platoon |       |                                                                                     |       |

| Intersection               |        |                                                                                   |      |                                                                                   |                                                                                   |       |          |      |                                |       |                                                                                     |       |
|----------------------------|--------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|----------|------|--------------------------------|-------|-------------------------------------------------------------------------------------|-------|
| Int Delay, s/veh           | 170.3  |                                                                                   |      |                                                                                   |                                                                                   |       |          |      |                                |       |                                                                                     |       |
| Movement                   | EBL    | EBT                                                                               | EBR  | WBL                                                                               | WBT                                                                               | WBR   | NBL      | NBT  | NBR                            | SBL   | SBT                                                                                 | SBR   |
| Lane Configurations        |        |  |      |  |  |       |          |      |                                |       |  |       |
| Traffic Vol, veh/h         | 0      | 170                                                                               | 116  | 245                                                                               | 145                                                                               | 0     | 0        | 0    | 0                              | 419   | 3                                                                                   | 54    |
| Future Vol, veh/h          | 0      | 170                                                                               | 116  | 245                                                                               | 145                                                                               | 0     | 0        | 0    | 0                              | 419   | 3                                                                                   | 54    |
| Conflicting Peds, #/hr     | 0      | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0     | 0        | 0    | 0                              | 0     | 0                                                                                   | 0     |
| Sign Control               | Free   | Free                                                                              | Free | Free                                                                              | Free                                                                              | Free  | Stop     | Stop | Stop                           | Stop  | Stop                                                                                | Stop  |
| RT Channelized             | -      | -                                                                                 | None | -                                                                                 | -                                                                                 | None  | -        | -    | None                           | -     | -                                                                                   | None  |
| Storage Length             | -      | -                                                                                 | -    | 0                                                                                 | -                                                                                 | -     | -        | -    | -                              | -     | -                                                                                   | -     |
| Veh in Median Storage, #   | -      | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -     | -        | 0    | -                              | -     | 0                                                                                   | -     |
| Grade, %                   | -      | 0                                                                                 | -    | -                                                                                 | 0                                                                                 | -     | -        | 0    | -                              | -     | 0                                                                                   | -     |
| Peak Hour Factor           | 97     | 97                                                                                | 97   | 97                                                                                | 97                                                                                | 97    | 97       | 97   | 97                             | 97    | 97                                                                                  | 97    |
| Heavy Vehicles, %          | 3      | 3                                                                                 | 3    | 3                                                                                 | 3                                                                                 | 3     | 2        | 2    | 2                              | 2     | 2                                                                                   | 2     |
| Mvmt Flow                  | 0      | 175                                                                               | 120  | 253                                                                               | 149                                                                               | 0     | 0        | 0    | 0                              | 432   | 3                                                                                   | 56    |
|                            |        |                                                                                   |      |                                                                                   |                                                                                   |       |          |      |                                |       |                                                                                     |       |
| Major/Minor                | Major1 |                                                                                   |      | Major2                                                                            |                                                                                   |       | Minor2   |      |                                |       |                                                                                     |       |
| Conflicting Flow All       | -      | 0                                                                                 | 0    | 295                                                                               | 0                                                                                 | 0     |          |      |                                | 890   | 950                                                                                 | 149   |
| Stage 1                    | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -     |          |      |                                | 655   | 655                                                                                 | -     |
| Stage 2                    | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -     |          |      |                                | 235   | 295                                                                                 | -     |
| Critical Hdwy              | -      | -                                                                                 | -    | 4.13                                                                              | -                                                                                 | -     |          |      |                                | 6.42  | 6.52                                                                                | 6.22  |
| Critical Hdwy Stg 1        | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -     |          |      |                                | 5.42  | 5.52                                                                                | -     |
| Critical Hdwy Stg 2        | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -     |          |      |                                | 5.42  | 5.52                                                                                | -     |
| Follow-up Hdwy             | -      | -                                                                                 | -    | 2.227                                                                             | -                                                                                 | -     |          |      |                                | 3.518 | 4.018                                                                               | 3.318 |
| Pot Cap-1 Maneuver         | 0      | -                                                                                 | -    | 1261                                                                              | -                                                                                 | 0     |          |      |                                | ~ 313 | 260                                                                                 | 898   |
| Stage 1                    | 0      | -                                                                                 | -    | -                                                                                 | -                                                                                 | 0     |          |      |                                | 517   | 463                                                                                 | -     |
| Stage 2                    | 0      | -                                                                                 | -    | -                                                                                 | -                                                                                 | 0     |          |      |                                | 804   | 669                                                                                 | -     |
| Platoon blocked, %         |        | -                                                                                 | -    |                                                                                   | -                                                                                 |       |          |      |                                |       |                                                                                     |       |
| Mov Cap-1 Maneuver         | -      | -                                                                                 | -    | 1261                                                                              | -                                                                                 | -     |          |      |                                | ~ 250 | 0                                                                                   | 898   |
| Mov Cap-2 Maneuver         | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -     |          |      |                                | ~ 250 | 0                                                                                   | -     |
| Stage 1                    | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -     |          |      |                                | 517   | 0                                                                                   | -     |
| Stage 2                    | -      | -                                                                                 | -    | -                                                                                 | -                                                                                 | -     |          |      |                                | 642   | 0                                                                                   | -     |
|                            |        |                                                                                   |      |                                                                                   |                                                                                   |       |          |      |                                |       |                                                                                     |       |
| Approach                   | EB     |                                                                                   |      | WB                                                                                |                                                                                   |       | SB       |      |                                |       |                                                                                     |       |
| HCM Control Delay, s       | 0      |                                                                                   |      | 5.4                                                                               |                                                                                   |       | \$ 407.7 |      |                                |       |                                                                                     |       |
| HCM LOS                    |        |                                                                                   |      |                                                                                   |                                                                                   |       | F        |      |                                |       |                                                                                     |       |
|                            |        |                                                                                   |      |                                                                                   |                                                                                   |       |          |      |                                |       |                                                                                     |       |
| Minor Lane/Major Mvmt      | EBT    |                                                                                   | EBR  | WBL                                                                               | WBT                                                                               | SBLn1 |          |      |                                |       |                                                                                     |       |
| Capacity (veh/h)           |        |                                                                                   | -    | -                                                                                 | 1261                                                                              | -     | 272      |      |                                |       |                                                                                     |       |
| HCM Lane V/C Ratio         |        |                                                                                   | -    | -                                                                                 | 0.2                                                                               | -     | 1.804    |      |                                |       |                                                                                     |       |
| HCM Control Delay (s)      |        |                                                                                   | -    | -                                                                                 | 8.6                                                                               | -     | \$ 407.7 |      |                                |       |                                                                                     |       |
| HCM Lane LOS               |        |                                                                                   | -    | -                                                                                 | A                                                                                 | -     | F        |      |                                |       |                                                                                     |       |
| HCM 95th %tile Q(veh)      |        |                                                                                   | -    | -                                                                                 | 0.7                                                                               | -     | 32.9     |      |                                |       |                                                                                     |       |
| Notes                      |        |                                                                                   |      |                                                                                   |                                                                                   |       |          |      |                                |       |                                                                                     |       |
| ~: Volume exceeds capacity |        | \$: Delay exceeds 300s                                                            |      |                                                                                   | +: Computation Not Defined                                                        |       |          |      | *: All major volume in platoon |       |                                                                                     |       |

# Timings

## 2: Palmer Divide Ave & I-25 SB Ramp

2045 Total AM\_Realigned

08/06/2025



| Lane Group           | EBT   | EBR  | WBL   | WBT   | SBT   | SBR   | Ø5   |
|----------------------|-------|------|-------|-------|-------|-------|------|
| Lane Configurations  | ↑↑    | ↑    | ↑     | ↑↑    | ↓     | ↑     |      |
| Traffic Volume (vph) | 503   | 398  | 445   | 490   | 8     | 326   |      |
| Future Volume (vph)  | 503   | 398  | 445   | 490   | 8     | 326   |      |
| Turn Type            | NA    | Free | pm+pt | NA    | NA    | Perm  |      |
| Protected Phases     | 2     |      | 1     | 6     | 4     |       | 5    |
| Permitted Phases     |       | Free | 6     |       |       | 4     |      |
| Detector Phase       | 2     |      | 1     | 6     | 4     | 4     |      |
| Switch Phase         |       |      |       |       |       |       |      |
| Minimum Initial (s)  | 5.0   |      | 5.0   | 5.0   | 5.0   | 5.0   | 5.0  |
| Minimum Split (s)    | 22.5  |      | 9.5   | 22.5  | 22.5  | 22.5  | 9.5  |
| Total Split (s)      | 40.0  |      | 23.0  | 36.0  | 27.0  | 27.0  | 27.0 |
| Total Split (%)      | 44.4% |      | 25.6% | 40.0% | 30.0% | 30.0% | 30%  |
| Yellow Time (s)      | 3.5   |      | 3.5   | 3.5   | 3.5   | 3.5   | 3.5  |
| All-Red Time (s)     | 1.0   |      | 1.0   | 1.0   | 1.0   | 1.0   | 1.0  |
| Lost Time Adjust (s) | 0.0   |      | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Lost Time (s)  | 4.5   |      | 4.5   | 4.5   | 4.5   | 4.5   |      |
| Lead/Lag             | Lag   |      | Lead  | Lag   |       |       | Lead |
| Lead-Lag Optimize?   | Yes   |      | Yes   | Yes   |       |       | Yes  |
| Recall Mode          | C-Max |      | None  | C-Max | Max   | Max   | None |

### Intersection Summary

Cycle Length: 90

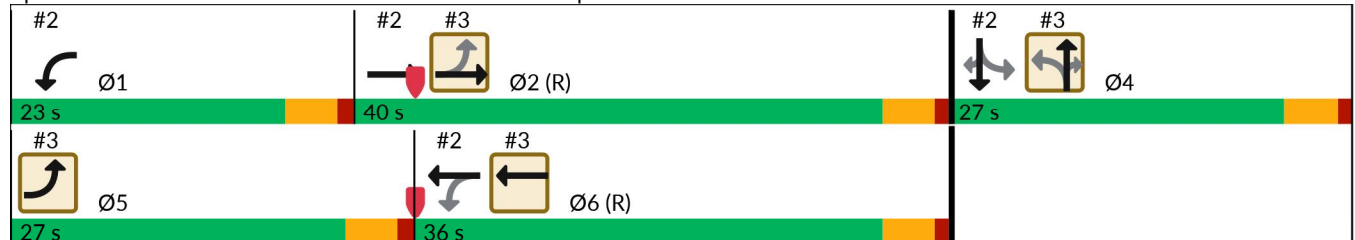
Actuated Cycle Length: 90

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

### Splits and Phases: 2: Palmer Divide Ave & I-25 SB Ramp



# HCM Signalized Intersection Capacity Analysis

## 2: Palmer Divide Ave & I-25 SB Ramp

2045 Total AM\_Realigned

08/06/2025

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   | ↑↑                                                                                | ↑                                                                                 | ↑                                                                                 | ↑↑                                                                                |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ↑                                                                                   | ↑                                                                                   |
| Traffic Volume (vph)              | 0                                                                                 | 503                                                                               | 398                                                                               | 445                                                                               | 490                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 135                                                                                 | 8                                                                                   | 326                                                                                 |
| Future Volume (vph)               | 0                                                                                 | 503                                                                               | 398                                                                               | 445                                                                               | 490                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 135                                                                                 | 8                                                                                   | 326                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               |                                                                                   | 4.5                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 4.5                                                                                 | 4.5                                                                                 |
| Lane Util. Factor                 |                                                                                   | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               |                                                                                   | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 |                                                                                   | 3539                                                                              | 1583                                                                              | 1770                                                                              | 3539                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1606                                                                                | 1429                                                                                |
| Flt Permitted                     |                                                                                   | 1.00                                                                              | 1.00                                                                              | 0.41                                                                              | 1.00                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 |                                                                                   | 3539                                                                              | 1583                                                                              | 756                                                                               | 3539                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1606                                                                                | 1429                                                                                |
| Peak-hour factor, PHF             | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                              | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                | 0.90                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 559                                                                               | 442                                                                               | 494                                                                               | 544                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 150                                                                                 | 9                                                                                   | 362                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 272                                                                                 |
| Lane Group Flow (vph)             | 0                                                                                 | 559                                                                               | 442                                                                               | 494                                                                               | 544                                                                               | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 159                                                                                 | 91                                                                                  |
| Heavy Vehicles (%)                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  | 13%                                                                                 | 13%                                                                                 | 13%                                                                                 |
| Turn Type                         |                                                                                   | NA                                                                                | Free                                                                              | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                     |                                                                                     |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | Free                                                                              | 6                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     | 4                                                                                   |                                                                                     | 4                                                                                   |
| Actuated Green, G (s)             |                                                                                   | 37.1                                                                              | 90.0                                                                              | 51.0                                                                              | 34.1                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 22.5                                                                                | 22.5                                                                                |
| Effective Green, g (s)            |                                                                                   | 37.1                                                                              | 90.0                                                                              | 51.0                                                                              | 34.1                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 22.5                                                                                | 22.5                                                                                |
| Actuated g/C Ratio                |                                                                                   | 0.41                                                                              | 1.00                                                                              | 0.57                                                                              | 0.38                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.25                                                                                | 0.25                                                                                |
| Clearance Time (s)                |                                                                                   | 4.5                                                                               |                                                                                   | 4.5                                                                               | 4.5                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 4.5                                                                                 | 4.5                                                                                 |
| Vehicle Extension (s)             |                                                                                   | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                |                                                                                   | 1458                                                                              | 1583                                                                              | 618                                                                               | 1340                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 401                                                                                 | 357                                                                                 |
| v/s Ratio Prot                    |                                                                                   | 0.16                                                                              |                                                                                   | c0.15                                                                             | 0.15                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | c0.28                                                                             | c0.30                                                                             |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.10                                                                                | 0.06                                                                                |
| v/c Ratio                         |                                                                                   | 0.38                                                                              | 0.28                                                                              | 0.80                                                                              | 0.41                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.40                                                                                | 0.25                                                                                |
| Uniform Delay, d1                 |                                                                                   | 18.5                                                                              | 0.0                                                                               | 11.8                                                                              | 20.5                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 28.1                                                                                | 27.0                                                                                |
| Progression Factor                |                                                                                   | 0.84                                                                              | 1.00                                                                              | 1.74                                                                              | 1.01                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             |                                                                                   | 0.8                                                                               | 0.4                                                                               | 6.2                                                                               | 0.8                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 2.9                                                                                 | 1.7                                                                                 |
| Delay (s)                         |                                                                                   | 16.3                                                                              | 0.4                                                                               | 26.7                                                                              | 21.4                                                                              |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 31.0                                                                                | 28.7                                                                                |
| Level of Service                  |                                                                                   | B                                                                                 | A                                                                                 | C                                                                                 | C                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | C                                                                                   | C                                                                                   |
| Approach Delay (s/veh)            |                                                                                   | 9.3                                                                               |                                                                                   |                                                                                   | 23.9                                                                              |                                                                                   |                                                                                     | 0.0                                                                                 |                                                                                     |                                                                                     | 29.4                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | A                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay (s/veh)    |                                                                                   |                                                                                   | 19.3                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.66                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 90.0                                                                              |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 13.5                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 61.8%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Timings

2045 Total PM\_Realigned

08/06/2025

## 2: Palmer Divide Ave & I-25 SB Ramp



| Lane Group           | EBT   | EBR  | WBL   | WBT   | SBT   | SBR   | Ø5   |
|----------------------|-------|------|-------|-------|-------|-------|------|
| Lane Configurations  | ↑↑    | ↑    | ↑     | ↑↑    | ↓     | ↑     |      |
| Traffic Volume (vph) | 577   | 511  | 245   | 559   | 3     | 443   |      |
| Future Volume (vph)  | 577   | 511  | 245   | 559   | 3     | 443   |      |
| Turn Type            | NA    | Free | pm+pt | NA    | NA    | Perm  |      |
| Protected Phases     | 2     |      | 1     | 6     | 4     |       | 5    |
| Permitted Phases     |       | Free | 6     |       |       | 4     |      |
| Detector Phase       | 2     |      | 1     | 6     | 4     | 4     |      |
| Switch Phase         |       |      |       |       |       |       |      |
| Minimum Initial (s)  | 5.0   |      | 5.0   | 5.0   | 5.0   | 5.0   | 5.0  |
| Minimum Split (s)    | 22.5  |      | 9.5   | 22.5  | 22.5  | 22.5  | 9.5  |
| Total Split (s)      | 41.0  |      | 13.0  | 28.0  | 36.0  | 36.0  | 26.0 |
| Total Split (%)      | 45.6% |      | 14.4% | 31.1% | 40.0% | 40.0% | 29%  |
| Yellow Time (s)      | 3.5   |      | 3.5   | 3.5   | 3.5   | 3.5   | 3.5  |
| All-Red Time (s)     | 1.0   |      | 1.0   | 1.0   | 1.0   | 1.0   | 1.0  |
| Lost Time Adjust (s) | 0.0   |      | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Lost Time (s)  | 4.5   |      | 4.5   | 4.5   | 4.5   | 4.5   |      |
| Lead/Lag             | Lag   |      | Lead  | Lag   |       |       | Lead |
| Lead-Lag Optimize?   | Yes   |      | Yes   | Yes   |       |       | Yes  |
| Recall Mode          | C-Max |      | None  | C-Max | Max   | Max   | None |

### Intersection Summary

Cycle Length: 90

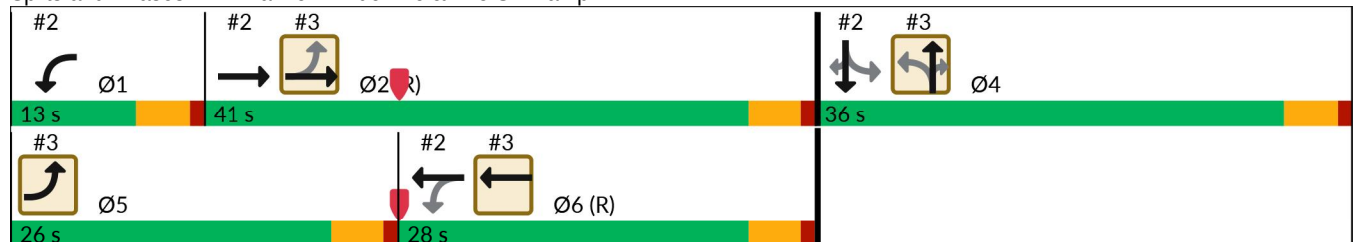
Actuated Cycle Length: 90

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

Natural Cycle: 65

Control Type: Actuated-Coordinated

### Splits and Phases: 2: Palmer Divide Ave & I-25 SB Ramp



# HCM Signalized Intersection Capacity Analysis

## 2: Palmer Divide Ave & I-25 SB Ramp

2045 Total PM\_Realigned

08/06/2025

|                                   |  |      |       |       |      |                           |      |      |      |      |      |      |
|-----------------------------------|------------------------------------------------------------------------------------|------|-------|-------|------|---------------------------|------|------|------|------|------|------|
| Movement                          | EBL                                                                                | EBT  | EBR   | WBL   | WBT  | WBR                       | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations               |                                                                                    | ↑↑   | ↑     | ↑     | ↑↑   |                           |      |      |      |      | ↑    | ↑    |
| Traffic Volume (vph)              | 0                                                                                  | 577  | 511   | 245   | 559  | 0                         | 0    | 0    | 0    | 419  | 3    | 443  |
| Future Volume (vph)               | 0                                                                                  | 577  | 511   | 245   | 559  | 0                         | 0    | 0    | 0    | 419  | 3    | 443  |
| Ideal Flow (vphpl)                | 1900                                                                               | 1900 | 1900  | 1900  | 1900 | 1900                      | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s)               |                                                                                    | 4.5  | 4.0   | 4.5   | 4.5  |                           |      |      |      |      | 4.5  | 4.5  |
| Lane Util. Factor                 |                                                                                    | 0.95 | 1.00  | 1.00  | 0.95 |                           |      |      |      |      | 1.00 | 1.00 |
| Frt                               |                                                                                    | 1.00 | 0.85  | 1.00  | 1.00 |                           |      |      |      |      | 1.00 | 0.85 |
| Flt Protected                     |                                                                                    | 1.00 | 1.00  | 0.95  | 1.00 |                           |      |      |      |      | 0.95 | 1.00 |
| Satd. Flow (prot)                 |                                                                                    | 3505 | 1568  | 1752  | 3505 |                           |      |      |      |      | 1775 | 1583 |
| Flt Permitted                     |                                                                                    | 1.00 | 1.00  | 0.43  | 1.00 |                           |      |      |      |      | 0.95 | 1.00 |
| Satd. Flow (perm)                 |                                                                                    | 3505 | 1568  | 788   | 3505 |                           |      |      |      |      | 1775 | 1583 |
| Peak-hour factor, PHF             | 0.97                                                                               | 0.97 | 0.97  | 0.97  | 0.97 | 0.97                      | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Adj. Flow (vph)                   | 0                                                                                  | 595  | 527   | 253   | 576  | 0                         | 0    | 0    | 0    | 432  | 3    | 457  |
| RTOR Reduction (vph)              | 0                                                                                  | 0    | 0     | 0     | 0    | 0                         | 0    | 0    | 0    | 0    | 0    | 297  |
| Lane Group Flow (vph)             | 0                                                                                  | 595  | 527   | 253   | 576  | 0                         | 0    | 0    | 0    | 0    | 435  | 160  |
| Heavy Vehicles (%)                | 3%                                                                                 | 3%   | 3%    | 3%    | 3%   | 3%                        | 2%   | 2%   | 2%   | 2%   | 2%   | 2%   |
| Turn Type                         |                                                                                    | NA   | Free  | pm+pt | NA   |                           |      |      |      | Perm | NA   | Perm |
| Protected Phases                  |                                                                                    | 2    |       | 1     | 6    |                           |      |      |      |      | 4    |      |
| Permitted Phases                  |                                                                                    |      | Free  | 6     |      |                           |      |      |      | 4    |      | 4    |
| Actuated Green, G (s)             |                                                                                    | 36.5 | 90.0  | 34.1  | 25.6 |                           |      |      |      |      | 31.5 | 31.5 |
| Effective Green, g (s)            |                                                                                    | 36.5 | 90.0  | 34.1  | 25.6 |                           |      |      |      |      | 31.5 | 31.5 |
| Actuated g/C Ratio                |                                                                                    | 0.41 | 1.00  | 0.38  | 0.28 |                           |      |      |      |      | 0.35 | 0.35 |
| Clearance Time (s)                |                                                                                    | 4.5  |       | 4.5   | 4.5  |                           |      |      |      |      | 4.5  | 4.5  |
| Vehicle Extension (s)             |                                                                                    | 3.0  |       | 3.0   | 3.0  |                           |      |      |      |      | 3.0  | 3.0  |
| Lane Grp Cap (vph)                |                                                                                    | 1421 | 1568  | 389   | 996  |                           |      |      |      |      | 621  | 554  |
| v/s Ratio Prot                    |                                                                                    | 0.17 |       | c0.06 | 0.16 |                           |      |      |      |      |      |      |
| v/s Ratio Perm                    |                                                                                    |      | c0.34 | c0.18 |      |                           |      |      |      |      | 0.25 | 0.10 |
| v/c Ratio                         |                                                                                    | 0.42 | 0.34  | 0.65  | 0.58 |                           |      |      |      |      | 0.70 | 0.29 |
| Uniform Delay, d1                 |                                                                                    | 19.2 | 0.0   | 20.3  | 27.6 |                           |      |      |      |      | 25.2 | 21.1 |
| Progression Factor                |                                                                                    | 0.77 | 1.00  | 1.36  | 1.23 |                           |      |      |      |      | 1.00 | 1.00 |
| Incremental Delay, d2             |                                                                                    | 0.9  | 0.6   | 3.6   | 2.3  |                           |      |      |      |      | 6.5  | 1.3  |
| Delay (s)                         |                                                                                    | 15.6 | 0.6   | 31.2  | 36.1 |                           |      |      |      |      | 31.7 | 22.5 |
| Level of Service                  |                                                                                    | B    | A     | C     | D    |                           |      |      |      |      | C    | C    |
| Approach Delay (s/veh)            |                                                                                    | 8.5  |       |       | 34.6 |                           |      | 0.0  |      |      | 26.9 |      |
| Approach LOS                      |                                                                                    | A    |       |       | C    |                           |      | A    |      |      | C    |      |
| <b>Intersection Summary</b>       |                                                                                    |      |       |       |      |                           |      |      |      |      |      |      |
| HCM 2000 Control Delay (s/veh)    |                                                                                    |      | 21.9  |       |      | HCM 2000 Level of Service |      |      |      | C    |      |      |
| HCM 2000 Volume to Capacity ratio |                                                                                    |      | 0.63  |       |      |                           |      |      |      |      |      |      |
| Actuated Cycle Length (s)         |                                                                                    |      | 90.0  |       |      | Sum of lost time (s)      |      |      |      | 13.5 |      |      |
| Intersection Capacity Utilization |                                                                                    |      | 76.6% |       |      | ICU Level of Service      |      |      |      | D    |      |      |
| Analysis Period (min)             |                                                                                    |      | 15    |       |      |                           |      |      |      |      |      |      |
| c Critical Lane Group             |                                                                                    |      |       |       |      |                           |      |      |      |      |      |      |

| Intersection             |                                                                                   |                                                                                   |      |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |      |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|------|
| Int Delay, s/veh         | 1.9                                                                               |                                                                                   |      |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |      |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL  | WBT                                                                               | WBR                                                                               | NBL  | NBT                                                                               | NBR                                                                               | SBL  | SBT  | SBR  |
| Lane Configurations      |  |  |      |      |  |  |      |  |  |      |      |      |
| Traffic Vol, veh/h       | 34                                                                                | 143                                                                               | 0    | 0    | 291                                                                               | 216                                                                               | 49   | 0                                                                                 | 58                                                                                | 0    | 0    | 0    |
| Future Vol, veh/h        | 34                                                                                | 143                                                                               | 0    | 0    | 291                                                                               | 216                                                                               | 49   | 0                                                                                 | 58                                                                                | 0    | 0    | 0    |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0    | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free | Free                                                                              | Free                                                                              | Stop | Stop                                                                              | Stop                                                                              | Stop | Stop | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -    | -                                                                                 | None                                                                              | -    | -                                                                                 | None                                                                              | -    | -    | None |
| Storage Length           | 0                                                                                 | -                                                                                 | -    | 300  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | -    | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -                                                                                 | -    | 0                                                                                 | -                                                                                 | -    | 0    | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -                                                                                 | -    | 0                                                                                 | -                                                                                 | -    | 0    | -    |
| Peak Hour Factor         | 88                                                                                | 88                                                                                | 88   | 88   | 88                                                                                | 88                                                                                | 88   | 88                                                                                | 88                                                                                | 88   | 88   | 88   |
| Heavy Vehicles, %        | 5                                                                                 | 5                                                                                 | 5    | 2    | 2                                                                                 | 2                                                                                 | 4    | 4                                                                                 | 4                                                                                 | 2    | 2    | 2    |
| Mvmt Flow                | 39                                                                                | 163                                                                               | 0    | 0    | 331                                                                               | 245                                                                               | 56   | 0                                                                                 | 66                                                                                | 0    | 0    | 0    |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|
| Conflicting Flow All | 576    | 0 | - | -      | - | 0 | 407    | 817   | 163   |
| Stage 1              | -      | - | - | -      | - | - | 241    | 241   | -     |
| Stage 2              | -      | - | - | -      | - | - | 166    | 576   | -     |
| Critical Hdwy        | 4.175  | - | - | -      | - | - | 6.66   | 6.56  | 6.26  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 5.46   | 5.56  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 5.86   | 5.56  | -     |
| Follow-up Hdwy       | 2.2475 | - | - | -      | - | - | 3.538  | 4.038 | 3.338 |
| Pot Cap-1 Maneuver   | 978    | - | 0 | 0      | - | - | 581    | 307   | 875   |
| Stage 1              | -      | - | 0 | 0      | - | - | 793    | 701   | -     |
| Stage 2              | -      | - | 0 | 0      | - | - | 842    | 497   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     |
| Mov Cap-1 Maneuver   | 978    | - | - | -      | - | - | 558    | 0     | 875   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 558    | 0     | -     |
| Stage 1              | -      | - | - | -      | - | - | 761    | 0     | -     |
| Stage 2              | -      | - | - | -      | - | - | 842    | 0     | -     |

| Approach             | EB  | WB | NB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 1.7 | 0  | 11.3 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBL  | EBT | WBT | WBR |
|-----------------------|-------|------|-----|-----|-----|
| Capacity (veh/h)      | 694   | 978  | -   | -   | -   |
| HCM Lane V/C Ratio    | 0.175 | 0.04 | -   | -   | -   |
| HCM Control Delay (s) | 11.3  | 8.8  | -   | -   | -   |
| HCM Lane LOS          | B     | A    | -   | -   | -   |
| HCM 95th %tile Q(veh) | 0.6   | 0.1  | -   | -   | -   |

| Intersection             |                                                                                   |                                                                                   |      |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |      |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|------|
| Int Delay, s/veh         | 3.8                                                                               |                                                                                   |      |      |                                                                                   |                                                                                   |      |                                                                                   |                                                                                   |      |      |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL  | WBT                                                                               | WBR                                                                               | NBL  | NBT                                                                               | NBR                                                                               | SBL  | SBT  | SBR  |
| Lane Configurations      |  |  |      |      |  |  |      |  |  |      |      |      |
| Traffic Vol, veh/h       | 35                                                                                | 293                                                                               | 0    | 0    | 157                                                                               | 126                                                                               | 50   | 1                                                                                 | 166                                                                               | 0    | 0    | 0    |
| Future Vol, veh/h        | 35                                                                                | 293                                                                               | 0    | 0    | 157                                                                               | 126                                                                               | 50   | 1                                                                                 | 166                                                                               | 0    | 0    | 0    |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0    | 0                                                                                 | 0                                                                                 | 0    | 0                                                                                 | 0                                                                                 | 0    | 0    | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free | Free                                                                              | Free                                                                              | Stop | Stop                                                                              | Stop                                                                              | Stop | Stop | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -    | -                                                                                 | None                                                                              | -    | -                                                                                 | None                                                                              | -    | -    | None |
| Storage Length           | 0                                                                                 | -                                                                                 | -    | 300  | -                                                                                 | -                                                                                 | -    | -                                                                                 | -                                                                                 | -    | -    | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -                                                                                 | -    | 0                                                                                 | -                                                                                 | -    | 0    | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -    | 0                                                                                 | -                                                                                 | -    | 0                                                                                 | -                                                                                 | -    | 0    | -    |
| Peak Hour Factor         | 94                                                                                | 94                                                                                | 94   | 94   | 94                                                                                | 94                                                                                | 94   | 94                                                                                | 94                                                                                | 94   | 94   | 94   |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2    | 2    | 2                                                                                 | 2                                                                                 | 2    | 2                                                                                 | 2                                                                                 | 2    | 2    | 2    |
| Mvmt Flow                | 37                                                                                | 312                                                                               | 0    | 0    | 167                                                                               | 134                                                                               | 53   | 1                                                                                 | 177                                                                               | 0    | 0    | 0    |

| Major/Minor          | Major1 |   | Major2 |   | Minor1 |       |       |       |  |
|----------------------|--------|---|--------|---|--------|-------|-------|-------|--|
| Conflicting Flow All | 301    | 0 | -      | - | 0      | 470   | 687   | 312   |  |
| Stage 1              | -      | - | -      | - | -      | 386   | 386   | -     |  |
| Stage 2              | -      | - | -      | - | -      | 84    | 301   | -     |  |
| Critical Hdwy        | 4.13   | - | -      | - | -      | 6.63  | 6.53  | 6.23  |  |
| Critical Hdwy Stg 1  | -      | - | -      | - | -      | 5.43  | 5.53  | -     |  |
| Critical Hdwy Stg 2  | -      | - | -      | - | -      | 5.83  | 5.53  | -     |  |
| Follow-up Hdwy       | 2.219  | - | -      | - | -      | 3.519 | 4.019 | 3.319 |  |
| Pot Cap-1 Maneuver   | 1258   | - | 0      | 0 | -      | 537   | 369   | 727   |  |
| Stage 1              | -      | - | 0      | 0 | -      | 686   | 609   | -     |  |
| Stage 2              | -      | - | 0      | 0 | -      | 930   | 664   | -     |  |
| Platoon blocked, %   |        | - |        |   | -      |       |       |       |  |
| Mov Cap-1 Maneuver   | 1258   | - | -      | - | -      | 521   | 0     | 727   |  |
| Mov Cap-2 Maneuver   | -      | - | -      | - | -      | 521   | 0     | -     |  |
| Stage 1              | -      | - | -      | - | -      | 666   | 0     | -     |  |
| Stage 2              | -      | - | -      | - | -      | 930   | 0     | -     |  |

| Approach             | EB  | WB | NB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.8 | 0  | 13.2 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | NBLn1 | EBL  | EBT | WBT | WBR |
|-----------------------|-------|------|-----|-----|-----|
| Capacity (veh/h)      | 666   | 1258 | -   | -   | -   |
| HCM Lane V/C Ratio    | 0.347 | 0.03 | -   | -   | -   |
| HCM Control Delay (s) | 13.2  | 7.9  | -   | -   | -   |
| HCM Lane LOS          | B     | A    | -   | -   | -   |
| HCM 95th %tile Q(veh) | 1.5   | 0.1  | -   | -   | -   |

| Intersection             |                                                                                   |                                                                                   |      |        |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |      |      |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|------|------|
| Int Delay, s/veh         | 2.1                                                                               |                                                                                   |      |        |                                                                                   |                                                                                   |        |                                                                                   |                                                                                   |      |      |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL    | WBT                                                                               | WBR                                                                               | NBL    | NBT                                                                               | NBR                                                                               | SBL  | SBT  | SBR  |
| Lane Configurations      |  |  |      |        |  |  |        |  |  |      |      |      |
| Traffic Vol, veh/h       | 37                                                                                | 172                                                                               | 0    | 0      | 380                                                                               | 264                                                                               | 54     | 0                                                                                 | 87                                                                                | 0    | 0    | 0    |
| Future Vol, veh/h        | 37                                                                                | 172                                                                               | 0    | 0      | 380                                                                               | 264                                                                               | 54     | 0                                                                                 | 87                                                                                | 0    | 0    | 0    |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0      | 0                                                                                 | 0                                                                                 | 0      | 0                                                                                 | 0                                                                                 | 0    | 0    | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free   | Free                                                                              | Free                                                                              | Stop   | Stop                                                                              | Stop                                                                              | Stop | Stop | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -      | -                                                                                 | None                                                                              | -      | -                                                                                 | None                                                                              | -    | -    | None |
| Storage Length           | 0                                                                                 | -                                                                                 | -    | 300    | -                                                                                 | -                                                                                 | -      | -                                                                                 | -                                                                                 | -    | -    | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -      | 0                                                                                 | -                                                                                 | -      | 0                                                                                 | -                                                                                 | -    | 0    | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -      | 0                                                                                 | -                                                                                 | -      | 0                                                                                 | -                                                                                 | -    | 0    | -    |
| Peak Hour Factor         | 88                                                                                | 88                                                                                | 88   | 88     | 88                                                                                | 88                                                                                | 88     | 88                                                                                | 88                                                                                | 88   | 88   | 88   |
| Heavy Vehicles, %        | 5                                                                                 | 5                                                                                 | 5    | 2      | 2                                                                                 | 2                                                                                 | 4      | 4                                                                                 | 4                                                                                 | 2    | 2    | 2    |
| Mvmt Flow                | 42                                                                                | 195                                                                               | 0    | 0      | 432                                                                               | 300                                                                               | 61     | 0                                                                                 | 99                                                                                | 0    | 0    | 0    |
| Major/Minor              | Major1                                                                            |                                                                                   |      | Major2 |                                                                                   |                                                                                   | Minor1 |                                                                                   |                                                                                   |      |      |      |
| Conflicting Flow All     | 732                                                                               | 0                                                                                 | -    | -      | -                                                                                 | 0                                                                                 | 495    | 1011                                                                              | 195                                                                               |      |      |      |
| Stage 1                  | -                                                                                 | -                                                                                 | -    | -      | -                                                                                 | -                                                                                 | 279    | 279                                                                               | -                                                                                 |      |      |      |
| Stage 2                  | -                                                                                 | -                                                                                 | -    | -      | -                                                                                 | -                                                                                 | 216    | 732                                                                               | -                                                                                 |      |      |      |
| Critical Hdwy            | 4.175                                                                             | -                                                                                 | -    | -      | -                                                                                 | -                                                                                 | 6.66   | 6.56                                                                              | 6.26                                                                              |      |      |      |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -    | -      | -                                                                                 | -                                                                                 | 5.46   | 5.56                                                                              | -                                                                                 |      |      |      |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -    | -      | -                                                                                 | -                                                                                 | 5.86   | 5.56                                                                              | -                                                                                 |      |      |      |
| Follow-up Hdwy           | 2.2475                                                                            | -                                                                                 | -    | -      | -                                                                                 | -                                                                                 | 3.538  | 4.038                                                                             | 3.338                                                                             |      |      |      |
| Pot Cap-1 Maneuver       | 854                                                                               | -                                                                                 | 0    | 0      | -                                                                                 | -                                                                                 | 514    | 236                                                                               | 840                                                                               |      |      |      |
| Stage 1                  | -                                                                                 | -                                                                                 | 0    | 0      | -                                                                                 | -                                                                                 | 762    | 675                                                                               | -                                                                                 |      |      |      |
| Stage 2                  | -                                                                                 | -                                                                                 | 0    | 0      | -                                                                                 | -                                                                                 | 795    | 422                                                                               | -                                                                                 |      |      |      |
| Platoon blocked, %       | -                                                                                 | -                                                                                 | -    | -      | -                                                                                 | -                                                                                 | -      | -                                                                                 | -                                                                                 |      |      |      |
| Mov Cap-1 Maneuver       | 854                                                                               | -                                                                                 | -    | -      | -                                                                                 | -                                                                                 | 489    | 0                                                                                 | 840                                                                               |      |      |      |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -    | -      | -                                                                                 | -                                                                                 | 489    | 0                                                                                 | -                                                                                 |      |      |      |
| Stage 1                  | -                                                                                 | -                                                                                 | -    | -      | -                                                                                 | -                                                                                 | 725    | 0                                                                                 | -                                                                                 |      |      |      |
| Stage 2                  | -                                                                                 | -                                                                                 | -    | -      | -                                                                                 | -                                                                                 | 795    | 0                                                                                 | -                                                                                 |      |      |      |
| Approach                 | EB                                                                                |                                                                                   |      | WB     |                                                                                   |                                                                                   | NB     |                                                                                   |                                                                                   |      |      |      |
| HCM Control Delay, s     | 1.7                                                                               |                                                                                   |      | 0      |                                                                                   |                                                                                   | 12.2   |                                                                                   |                                                                                   |      |      |      |
| HCM LOS                  |                                                                                   |                                                                                   |      |        |                                                                                   |                                                                                   | B      |                                                                                   |                                                                                   |      |      |      |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | EBL                                                                               | EBT  | WBT    | WBR                                                                               |                                                                                   |        |                                                                                   |                                                                                   |      |      |      |
| Capacity (veh/h)         | 659                                                                               | 854                                                                               | -    | -      | -                                                                                 |                                                                                   |        |                                                                                   |                                                                                   |      |      |      |
| HCM Lane V/C Ratio       | 0.243                                                                             | 0.049                                                                             | -    | -      | -                                                                                 |                                                                                   |        |                                                                                   |                                                                                   |      |      |      |
| HCM Control Delay (s)    | 12.2                                                                              | 9.4                                                                               | -    | -      | -                                                                                 |                                                                                   |        |                                                                                   |                                                                                   |      |      |      |
| HCM Lane LOS             | B                                                                                 | A                                                                                 | -    | -      | -                                                                                 |                                                                                   |        |                                                                                   |                                                                                   |      |      |      |
| HCM 95th %tile Q(veh)    | 0.9                                                                               | 0.2                                                                               | -    | -      | -                                                                                 |                                                                                   |        |                                                                                   |                                                                                   |      |      |      |

| Intersection             |                                                                                   |                                                                                   |      |        |                                                                                                                                                                     |      |        |                                                                                                                                                                     |       |      |      |      |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|------|------|
| Int Delay, s/veh         | 5                                                                                 |                                                                                   |      |        |                                                                                                                                                                     |      |        |                                                                                                                                                                     |       |      |      |      |
| Movement                 | EBL                                                                               | EBT                                                                               | EBR  | WBL    | WBT                                                                                                                                                                 | WBR  | NBL    | NBT                                                                                                                                                                 | NBR   | SBL  | SBT  | SBR  |
| Lane Configurations      |  |  |      |        |   |      |        |   |       |      |      |      |
| Traffic Vol, veh/h       | 38                                                                                | 360                                                                               | 0    | 0      | 216                                                                                                                                                                 | 157  | 55     | 1                                                                                                                                                                   | 240   | 0    | 0    | 0    |
| Future Vol, veh/h        | 38                                                                                | 360                                                                               | 0    | 0      | 216                                                                                                                                                                 | 157  | 55     | 1                                                                                                                                                                   | 240   | 0    | 0    | 0    |
| Conflicting Peds, #/hr   | 0                                                                                 | 0                                                                                 | 0    | 0      | 0                                                                                                                                                                   | 0    | 0      | 0                                                                                                                                                                   | 0     | 0    | 0    | 0    |
| Sign Control             | Free                                                                              | Free                                                                              | Free | Free   | Free                                                                                                                                                                | Free | Stop   | Stop                                                                                                                                                                | Stop  | Stop | Stop | Stop |
| RT Channelized           | -                                                                                 | -                                                                                 | None | -      | -                                                                                                                                                                   | None | -      | -                                                                                                                                                                   | None  | -    | -    | None |
| Storage Length           | 0                                                                                 | -                                                                                 | -    | 300    | -                                                                                                                                                                   | -    | -      | -                                                                                                                                                                   | -     | -    | -    | -    |
| Veh in Median Storage, # | -                                                                                 | 0                                                                                 | -    | -      | 0                                                                                                                                                                   | -    | -      | 0                                                                                                                                                                   | -     | -    | 0    | -    |
| Grade, %                 | -                                                                                 | 0                                                                                 | -    | -      | 0                                                                                                                                                                   | -    | -      | 0                                                                                                                                                                   | -     | -    | 0    | -    |
| Peak Hour Factor         | 94                                                                                | 94                                                                                | 94   | 94     | 94                                                                                                                                                                  | 94   | 94     | 94                                                                                                                                                                  | 94    | 94   | 94   | 94   |
| Heavy Vehicles, %        | 2                                                                                 | 2                                                                                 | 2    | 2      | 2                                                                                                                                                                   | 2    | 2      | 2                                                                                                                                                                   | 2     | 2    | 2    | 2    |
| Mvmt Flow                | 40                                                                                | 383                                                                               | 0    | 0      | 230                                                                                                                                                                 | 167  | 59     | 1                                                                                                                                                                   | 255   | 0    | 0    | 0    |
|                          |                                                                                   |                                                                                   |      |        |                                                                                                                                                                     |      |        |                                                                                                                                                                     |       |      |      |      |
| Major/Minor              | Major1                                                                            |                                                                                   |      | Major2 |                                                                                                                                                                     |      | Minor1 |                                                                                                                                                                     |       |      |      |      |
| Conflicting Flow All     | 397                                                                               | 0                                                                                 | -    | -      | -                                                                                                                                                                   | 0    | 578    | 860                                                                                                                                                                 | 383   |      |      |      |
| Stage 1                  | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | -    | 463    | 463                                                                                                                                                                 | -     |      |      |      |
| Stage 2                  | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | -    | 115    | 397                                                                                                                                                                 | -     |      |      |      |
| Critical Hdwy            | 4.13                                                                              | -                                                                                 | -    | -      | -                                                                                                                                                                   | -    | 6.63   | 6.53                                                                                                                                                                | 6.23  |      |      |      |
| Critical Hdwy Stg 1      | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | -    | 5.43   | 5.53                                                                                                                                                                | -     |      |      |      |
| Critical Hdwy Stg 2      | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | -    | 5.83   | 5.53                                                                                                                                                                | -     |      |      |      |
| Follow-up Hdwy           | 2.219                                                                             | -                                                                                 | -    | -      | -                                                                                                                                                                   | -    | 3.519  | 4.019                                                                                                                                                               | 3.319 |      |      |      |
| Pot Cap-1 Maneuver       | 1160                                                                              | -                                                                                 | 0    | 0      | -                                                                                                                                                                   | -    | 462    | 293                                                                                                                                                                 | 664   |      |      |      |
| Stage 1                  | -                                                                                 | -                                                                                 | 0    | 0      | -                                                                                                                                                                   | -    | 633    | 563                                                                                                                                                                 | -     |      |      |      |
| Stage 2                  | -                                                                                 | -                                                                                 | 0    | 0      | -                                                                                                                                                                   | -    | 898    | 603                                                                                                                                                                 | -     |      |      |      |
| Platoon blocked, %       |                                                                                   | -                                                                                 |      |        | -                                                                                                                                                                   | -    |        |                                                                                                                                                                     |       |      |      |      |
| Mov Cap-1 Maneuver       | 1160                                                                              | -                                                                                 | -    | -      | -                                                                                                                                                                   | -    | 446    | 0                                                                                                                                                                   | 664   |      |      |      |
| Mov Cap-2 Maneuver       | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | -    | 446    | 0                                                                                                                                                                   | -     |      |      |      |
| Stage 1                  | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | -    | 611    | 0                                                                                                                                                                   | -     |      |      |      |
| Stage 2                  | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | -    | 898    | 0                                                                                                                                                                   | -     |      |      |      |
|                          |                                                                                   |                                                                                   |      |        |                                                                                                                                                                     |      |        |                                                                                                                                                                     |       |      |      |      |
| Approach                 | EB                                                                                |                                                                                   |      | WB     |                                                                                                                                                                     |      | NB     |                                                                                                                                                                     |       |      |      |      |
| HCM Control Delay, s     | 0.8                                                                               |                                                                                   |      | 0      |                                                                                                                                                                     |      | 17.1   |                                                                                                                                                                     |       |      |      |      |
| HCM LOS                  |                                                                                   |                                                                                   |      |        |                                                                                                                                                                     |      | C      |                                                                                                                                                                     |       |      |      |      |
|                          |                                                                                   |                                                                                   |      |        |                                                                                                                                                                     |      |        |                                                                                                                                                                     |       |      |      |      |
| Minor Lane/Major Mvmt    | NBLn1                                                                             | EBL                                                                               | EBT  | WBT    | WBR                                                                                                                                                                 |      |        |                                                                                                                                                                     |       |      |      |      |
| Capacity (veh/h)         | 609                                                                               | 1160                                                                              | -    | -      | -                                                                                                                                                                   |      |        |                                                                                                                                                                     |       |      |      |      |
| HCM Lane V/C Ratio       | 0.517                                                                             | 0.035                                                                             | -    | -      | -                                                                                                                                                                   |      |        |                                                                                                                                                                     |       |      |      |      |
| HCM Control Delay (s)    | 17.1                                                                              | 8.2                                                                               | -    | -      | -                                                                                                                                                                   |      |        |                                                                                                                                                                     |       |      |      |      |
| HCM Lane LOS             | C                                                                                 | A                                                                                 | -    | -      | -                                                                                                                                                                   |      |        |                                                                                                                                                                     |       |      |      |      |
| HCM 95th %tile Q(veh)    | 3                                                                                 | 0.1                                                                               | -    | -      | -                                                                                                                                                                   |      |        |                                                                                                                                                                     |       |      |      |      |

HCM 6th TWSC  
3: I-25 NB Ramp & Palmer Divide Ave

2028 Total AM  
11/14/2024

| Intersection               |                                                                                   |                                                                                   |      |        |                                                                                                                                                                     |       |           |                                                                                                                                                                     |                                |      |      |      |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------|------|------|
| Int Delay, s/veh           | 455.1                                                                             |                                                                                   |      |        |                                                                                                                                                                     |       |           |                                                                                                                                                                     |                                |      |      |      |
| Movement                   | EBL                                                                               | EBT                                                                               | EBR  | WBL    | WBT                                                                                                                                                                 | WBR   | NBL       | NBT                                                                                                                                                                 | NBR                            | SBL  | SBT  | SBR  |
| Lane Configurations        |  |  |      |        |   |       |           |   |                                |      |      |      |
| Traffic Vol, veh/h         | 356                                                                               | 185                                                                               | 0    | 0      | 394                                                                                                                                                                 | 264   | 357       | 0                                                                                                                                                                   | 87                             | 0    | 0    | 0    |
| Future Vol, veh/h          | 356                                                                               | 185                                                                               | 0    | 0      | 394                                                                                                                                                                 | 264   | 357       | 0                                                                                                                                                                   | 87                             | 0    | 0    | 0    |
| Conflicting Peds, #/hr     | 0                                                                                 | 0                                                                                 | 0    | 0      | 0                                                                                                                                                                   | 0     | 0         | 0                                                                                                                                                                   | 0                              | 0    | 0    | 0    |
| Sign Control               | Free                                                                              | Free                                                                              | Free | Free   | Free                                                                                                                                                                | Free  | Stop      | Stop                                                                                                                                                                | Stop                           | Stop | Stop | Stop |
| RT Channelized             | -                                                                                 | -                                                                                 | None | -      | -                                                                                                                                                                   | None  | -         | -                                                                                                                                                                   | None                           | -    | -    | None |
| Storage Length             | 0                                                                                 | -                                                                                 | -    | 300    | -                                                                                                                                                                   | -     | -         | -                                                                                                                                                                   | -                              | -    | -    | -    |
| Veh in Median Storage, #   | -                                                                                 | 0                                                                                 | -    | -      | 0                                                                                                                                                                   | -     | -         | 0                                                                                                                                                                   | -                              | -    | 0    | -    |
| Grade, %                   | -                                                                                 | 0                                                                                 | -    | -      | 0                                                                                                                                                                   | -     | -         | 0                                                                                                                                                                   | -                              | -    | 0    | -    |
| Peak Hour Factor           | 88                                                                                | 88                                                                                | 88   | 88     | 88                                                                                                                                                                  | 88    | 88        | 88                                                                                                                                                                  | 88                             | 88   | 88   | 88   |
| Heavy Vehicles, %          | 5                                                                                 | 5                                                                                 | 5    | 2      | 2                                                                                                                                                                   | 2     | 4         | 4                                                                                                                                                                   | 4                              | 2    | 2    | 2    |
| Mvmt Flow                  | 405                                                                               | 210                                                                               | 0    | 0      | 448                                                                                                                                                                 | 300   | 406       | 0                                                                                                                                                                   | 99                             | 0    | 0    | 0    |
|                            |                                                                                   |                                                                                   |      |        |                                                                                                                                                                     |       |           |                                                                                                                                                                     |                                |      |      |      |
| Major/Minor                | Major1                                                                            |                                                                                   |      | Major2 |                                                                                                                                                                     |       | Minor1    |                                                                                                                                                                     |                                |      |      |      |
| Conflicting Flow All       | 748                                                                               | 0                                                                                 | -    | -      | -                                                                                                                                                                   | 0     | 1244      | 1768                                                                                                                                                                | 210                            |      |      |      |
| Stage 1                    | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | -     | 1020      | 1020                                                                                                                                                                | -                              |      |      |      |
| Stage 2                    | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | -     | 224       | 748                                                                                                                                                                 | -                              |      |      |      |
| Critical Hdwy              | 4.175                                                                             | -                                                                                 | -    | -      | -                                                                                                                                                                   | -     | 6.66      | 6.56                                                                                                                                                                | 6.26                           |      |      |      |
| Critical Hdwy Stg 1        | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | -     | 5.46      | 5.56                                                                                                                                                                | -                              |      |      |      |
| Critical Hdwy Stg 2        | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | -     | 5.86      | 5.56                                                                                                                                                                | -                              |      |      |      |
| Follow-up Hdwy             | 2.2475                                                                            | -                                                                                 | -    | -      | -                                                                                                                                                                   | -     | 3.538     | 4.038                                                                                                                                                               | 3.338                          |      |      |      |
| Pot Cap-1 Maneuver         | 842                                                                               | -                                                                                 | 0    | 0      | -                                                                                                                                                                   | ~ 177 | 82        | 824                                                                                                                                                                 |                                |      |      |      |
| Stage 1                    | -                                                                                 | -                                                                                 | 0    | 0      | -                                                                                                                                                                   | ~ 343 | 310       | -                                                                                                                                                                   |                                |      |      |      |
| Stage 2                    | -                                                                                 | -                                                                                 | 0    | 0      | -                                                                                                                                                                   | 787   | 415       | -                                                                                                                                                                   |                                |      |      |      |
| Platoon blocked, %         |                                                                                   | -                                                                                 |      |        | -                                                                                                                                                                   | -     |           |                                                                                                                                                                     |                                |      |      |      |
| Mov Cap-1 Maneuver         | 842                                                                               | -                                                                                 | -    | -      | -                                                                                                                                                                   | ~ 92  | 0         | 824                                                                                                                                                                 |                                |      |      |      |
| Mov Cap-2 Maneuver         | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | ~ 92  | 0         | -                                                                                                                                                                   |                                |      |      |      |
| Stage 1                    | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | ~ 178 | 0         | -                                                                                                                                                                   |                                |      |      |      |
| Stage 2                    | -                                                                                 | -                                                                                 | -    | -      | -                                                                                                                                                                   | 787   | 0         | -                                                                                                                                                                   |                                |      |      |      |
|                            |                                                                                   |                                                                                   |      |        |                                                                                                                                                                     |       |           |                                                                                                                                                                     |                                |      |      |      |
| Approach                   | EB                                                                                |                                                                                   |      | WB     |                                                                                                                                                                     |       | NB        |                                                                                                                                                                     |                                |      |      |      |
| HCM Control Delay, s       | 8.7                                                                               |                                                                                   |      | 0      |                                                                                                                                                                     |       | \$ 1673.4 |                                                                                                                                                                     |                                |      |      |      |
| HCM LOS                    |                                                                                   |                                                                                   |      |        |                                                                                                                                                                     |       | F         |                                                                                                                                                                     |                                |      |      |      |
|                            |                                                                                   |                                                                                   |      |        |                                                                                                                                                                     |       |           |                                                                                                                                                                     |                                |      |      |      |
| Minor Lane/Major Mvmt      | NBLn1                                                                             | EBL                                                                               | EBT  | WBT    | WBR                                                                                                                                                                 |       |           |                                                                                                                                                                     |                                |      |      |      |
| Capacity (veh/h)           | 111                                                                               | 842                                                                               | -    | -      | -                                                                                                                                                                   |       |           |                                                                                                                                                                     |                                |      |      |      |
| HCM Lane V/C Ratio         | 4.545                                                                             | 0.48                                                                              | -    | -      | -                                                                                                                                                                   |       |           |                                                                                                                                                                     |                                |      |      |      |
| HCM Control Delay (s)      | \$ 1673.4                                                                         | 13.2                                                                              | -    | -      | -                                                                                                                                                                   |       |           |                                                                                                                                                                     |                                |      |      |      |
| HCM Lane LOS               | F                                                                                 | B                                                                                 | -    | -      | -                                                                                                                                                                   |       |           |                                                                                                                                                                     |                                |      |      |      |
| HCM 95th %tile Q(veh)      | 52.8                                                                              | 2.6                                                                               | -    | -      | -                                                                                                                                                                   |       |           |                                                                                                                                                                     |                                |      |      |      |
| Notes                      |                                                                                   |                                                                                   |      |        |                                                                                                                                                                     |       |           |                                                                                                                                                                     |                                |      |      |      |
| ~: Volume exceeds capacity |                                                                                   | \$: Delay exceeds 300s                                                            |      |        | +: Computation Not Defined                                                                                                                                          |       |           |                                                                                                                                                                     | *: All major volume in platoon |      |      |      |

| Intersection             |       |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 907.3 |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↰     | ↑    |      |      | ↑↑   |      |      | ↱    |      |      |      |      |
| Traffic Vol, veh/h       | 427   | 379  | 0    | 0    | 235  | 157  | 450  | 1    | 240  | 0    | 0    | 0    |
| Future Vol, veh/h        | 427   | 379  | 0    | 0    | 235  | 157  | 450  | 1    | 240  | 0    | 0    | 0    |
| Conflicting Peds, #/hr   | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free  | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -     | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 0     | -    | -    | 300  | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -     | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -     | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 94    | 94   | 94   | 94   | 94   | 94   | 94   | 94   | 94   | 94   | 94   | 94   |
| Heavy Vehicles, %        | 2     | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 454   | 403  | 0    | 0    | 250  | 167  | 479  | 1    | 255  | 0    | 0    | 0    |

| Major/Minor          | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 417    | 0      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |
| Critical Hdwy        | 4.13   | -      | -      |
| Critical Hdwy Stg 1  | -      | -      | -      |
| Critical Hdwy Stg 2  | -      | -      | -      |
| Follow-up Hdwy       | 2.219  | -      | -      |
| Pot Cap-1 Maneuver   | 1140   | -      | 0      |
| Stage 1              | -      | 0      | 0      |
| Stage 2              | -      | 0      | 0      |
| Platoon blocked, %   | -      | -      | -      |
| Mov Cap-1 Maneuver   | 1140   | -      | -      |
| Mov Cap-2 Maneuver   | -      | -      | -      |
| Stage 1              | -      | -      | -      |
| Stage 2              | -      | -      | -      |

| Approach             | EB  | WB | NB      |
|----------------------|-----|----|---------|
| HCM Control Delay, s | 5.4 | 0  | \$ 2474 |
| HCM LOS              |     |    | F       |

| Minor Lane/Major Mvmt | NBLn1   | EBL   | EBT | WBT | WBR |
|-----------------------|---------|-------|-----|-----|-----|
| Capacity (veh/h)      | 116     | 1140  | -   | -   | -   |
| HCM Lane V/C Ratio    | 6.337   | 0.398 | -   | -   | -   |
| HCM Control Delay (s) | \$ 2474 | 10.2  | -   | -   | -   |
| HCM Lane LOS          | F       | B     | -   | -   | -   |
| HCM 95th %tile Q(veh) | 80.8    | 1.9   | -   | -   | -   |

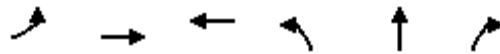
| Notes                      |                        |                            |                                |
|----------------------------|------------------------|----------------------------|--------------------------------|
| ~: Volume exceeds capacity | \$: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |

# Timings

2028 Total AM\_Realigned

## 3: I-25 NB Ramp & Palmer Divide Ave

07/01/2025



| Lane Group           | EBL   | EBT   | WBT   | NBL   | NBT   | NBR   | Ø1   |
|----------------------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations  |       |       |       |       |       |       |      |
| Traffic Volume (vph) | 356   | 185   | 394   | 357   | 0     | 87    |      |
| Future Volume (vph)  | 356   | 185   | 394   | 357   | 0     | 87    |      |
| Turn Type            | pm+pt | NA    | NA    | Perm  | NA    | Perm  |      |
| Protected Phases     | 5     | 2     | 6     |       | 4     |       | 1    |
| Permitted Phases     | 2     |       |       | 4     |       | 4     |      |
| Detector Phase       | 5     | 2     | 6     | 4     | 4     | 4     |      |
| Switch Phase         |       |       |       |       |       |       |      |
| Minimum Initial (s)  | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0  |
| Minimum Split (s)    | 9.5   | 22.5  | 22.5  | 22.5  | 22.5  | 22.5  | 9.5  |
| Total Split (s)      | 27.0  | 40.0  | 36.0  | 27.0  | 27.0  | 27.0  | 23.0 |
| Total Split (%)      | 30.0% | 44.4% | 40.0% | 30.0% | 30.0% | 30.0% | 26%  |
| Yellow Time (s)      | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5   | 3.5  |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0  |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Lost Time (s)  | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   | 4.5   |      |
| Lead/Lag             | Lead  | Lag   | Lag   |       |       |       | Lead |
| Lead-Lag Optimize?   | Yes   | Yes   | Yes   |       |       |       | Yes  |
| Recall Mode          | None  | C-Max | C-Max | Max   | Max   | Max   | None |

### Intersection Summary

Cycle Length: 90

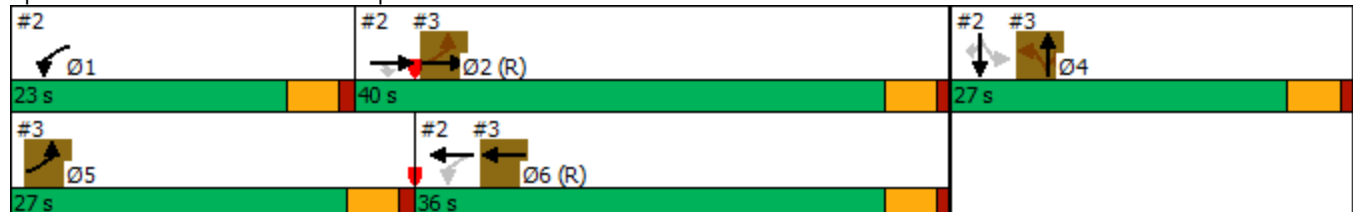
Actuated Cycle Length: 90

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

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 3: I-25 NB Ramp & Palmer Divide Ave



# HCM Signalized Intersection Capacity Analysis

## 3: I-25 NB Ramp & Palmer Divide Ave

2028 Total AM\_Realigned

07/01/2025

|                                   |  |  |  |  |                                                                                                                                                                      |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |                                                                                   |                                                                                   |    |                                                                                   |  |  |  |                                                                                     |                                                                                     |                                                                                     |
| Traffic Volume (vph)              | 356                                                                               | 185                                                                               | 0                                                                                 | 0                                                                                 | 394                                                                                                                                                                                                                                                   | 264                                                                               | 357                                                                                 | 0                                                                                   | 87                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Future Volume (vph)               | 356                                                                               | 185                                                                               | 0                                                                                 | 0                                                                                 | 394                                                                                                                                                                                                                                                   | 264                                                                               | 357                                                                                 | 0                                                                                   | 87                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                                                                                                  | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               | 4.5                                                                               | 4.5                                                                               |                                                                                   |                                                                                   | 4.5                                                                                                                                                                                                                                                   |                                                                                   | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 0.91                                                                                                                                                                                                                                                  |                                                                                   | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Frt                               | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 0.94                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (prot)                 | 1719                                                                              | 1810                                                                              |                                                                                   |                                                                                   | 4779                                                                                                                                                                                                                                                  |                                                                                   | 1649                                                                                | 1649                                                                                | 1553                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Flt Permitted                     | 0.29                                                                              | 1.00                                                                              |                                                                                   |                                                                                   | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 0.95                                                                                | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Satd. Flow (perm)                 | 524                                                                               | 1810                                                                              |                                                                                   |                                                                                   | 4779                                                                                                                                                                                                                                                  |                                                                                   | 1649                                                                                | 1649                                                                                | 1553                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Peak-hour factor, PHF             | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                                                                                                                                                                                                  | 0.88                                                                              | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                |
| Adj. Flow (vph)                   | 405                                                                               | 210                                                                               | 0                                                                                 | 0                                                                                 | 448                                                                                                                                                                                                                                                   | 300                                                                               | 406                                                                                 | 0                                                                                   | 99                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 120                                                                                                                                                                                                                                                   | 0                                                                                 | 0                                                                                   | 0                                                                                   | 74                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 405                                                                               | 210                                                                               | 0                                                                                 | 0                                                                                 | 628                                                                                                                                                                                                                                                   | 0                                                                                 | 203                                                                                 | 203                                                                                 | 25                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Heavy Vehicles (%)                | 5%                                                                                | 5%                                                                                | 5%                                                                                | 2%                                                                                | 2%                                                                                                                                                                                                                                                    | 2%                                                                                | 4%                                                                                  | 4%                                                                                  | 4%                                                                                  | 2%                                                                                  | 2%                                                                                  | 2%                                                                                  |
| Turn Type                         | pm+pt                                                                             | NA                                                                                |                                                                                   |                                                                                   | NA                                                                                                                                                                                                                                                    |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Protected Phases                  | 5                                                                                 | 2                                                                                 |                                                                                   |                                                                                   | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Permitted Phases                  | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   | 4                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Actuated Green, G (s)             | 56.7                                                                              | 40.6                                                                              |                                                                                   |                                                                                   | 37.9                                                                                                                                                                                                                                                  |                                                                                   | 22.5                                                                                | 22.5                                                                                | 22.5                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Effective Green, g (s)            | 56.7                                                                              | 40.6                                                                              |                                                                                   |                                                                                   | 37.9                                                                                                                                                                                                                                                  |                                                                                   | 22.5                                                                                | 22.5                                                                                | 22.5                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Actuated g/C Ratio                | 0.63                                                                              | 0.45                                                                              |                                                                                   |                                                                                   | 0.42                                                                                                                                                                                                                                                  |                                                                                   | 0.25                                                                                | 0.25                                                                                | 0.25                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Clearance Time (s)                | 4.5                                                                               | 4.5                                                                               |                                                                                   |                                                                                   | 4.5                                                                                                                                                                                                                                                   |                                                                                   | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   | 3.0                                                                                                                                                                                                                                                   |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Lane Grp Cap (vph)                | 543                                                                               | 816                                                                               |                                                                                   |                                                                                   | 2012                                                                                                                                                                                                                                                  |                                                                                   | 412                                                                                 | 412                                                                                 | 388                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Prot                    | c0.13                                                                             | 0.12                                                                              |                                                                                   |                                                                                   | 0.13                                                                                                                                                                                                                                                  |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    | c0.34                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   | c0.12                                                                               | 0.12                                                                                | 0.02                                                                                |                                                                                     |                                                                                     |                                                                                     |
| v/c Ratio                         | 0.75                                                                              | 0.26                                                                              |                                                                                   |                                                                                   | 0.31                                                                                                                                                                                                                                                  |                                                                                   | 0.49                                                                                | 0.49                                                                                | 0.06                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Uniform Delay, d1                 | 8.9                                                                               | 15.3                                                                              |                                                                                   |                                                                                   | 17.4                                                                                                                                                                                                                                                  |                                                                                   | 28.9                                                                                | 28.9                                                                                | 25.7                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Progression Factor                | 3.39                                                                              | 0.48                                                                              |                                                                                   |                                                                                   | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Incremental Delay, d2             | 5.3                                                                               | 0.7                                                                               |                                                                                   |                                                                                   | 0.4                                                                                                                                                                                                                                                   |                                                                                   | 4.2                                                                                 | 4.2                                                                                 | 0.3                                                                                 |                                                                                     |                                                                                     |                                                                                     |
| Delay (s)                         | 35.5                                                                              | 8.0                                                                               |                                                                                   |                                                                                   | 17.8                                                                                                                                                                                                                                                  |                                                                                   | 33.0                                                                                | 33.0                                                                                | 26.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  | D                                                                                 | A                                                                                 |                                                                                   |                                                                                   | B                                                                                                                                                                                                                                                     |                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                |                                                                                   | 26.1                                                                              |                                                                                   |                                                                                   | 17.8                                                                                                                                                                                                                                                  |                                                                                   |                                                                                     | 31.7                                                                                |                                                                                     |                                                                                     | 0.0                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | B                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 24.3                                                                              |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.70                                                                              |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 90.0                                                                              |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 13.5                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 61.3%                                                                             |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |