



Transportation Committee Regular Meeting

Dripping Springs City Hall

511 Mercer Street – Dripping Springs, Texas

Monday, July 28, 2025, at 3:30 PM

AGENDA

CALL TO ORDER AND ROLL CALL

Committee Members

Travis Crow, Chair
Sharon Hamilton, Vice Chair
Scott Berry
Jimmy Brown
Tory Carpenter
Doug Crosson
Chad Gilpin
Roman Grijalva
John Pettit

Staff, Consultants & Appointed/Elected Officials

Council Member Wade King
Deputy City Administrator Ginger Faught
Deputy City Attorney Aniz Alani
Maintenance Director Riley Sublett
Hays County Pct. 4 Commissioner Walt Smith
Hays County Senior Planner Brandon Elliott
Traffic Engineering Consultant Leslie Pollack P.E., HDR Engineering
Senior Vice President Carlos Lopez, P.E., HNTB
Senior Project Manager Ben Ramirez, P.E., PMP HNTB
TxDOT Engineer South Area William Semora, P.E.
TxDOT Adam Ramirez

BUSINESS AGENDA

1. **Discuss and consider Chair's appointment of the Transportation Committee Vice-Chair for a one-year term ending on June 30, 2026.**
2. **Presentation and discussion regarding the Headwaters Commercial Traffic Impact Analysis.**
3. **Discuss and provide direction to staff regarding the Village Grove Parkway and US290 Intersection.**

REPORTS

Reports are for the purposes of the administration and planning of Transportation and Transportation Projects. The Committee may take action or provide staff directions on any item in the report.

4. **TXDOT Projects Report**
William Semora, P.E., TxDOT Engineer South Area
5. **Hays County Projects Report**
Walt Smith, Precinct 4 County Commissioner
6. **DSISD Projects Report**
Scott Berry, Dripping Springs ISD
7. **City of Dripping Springs Projects Report**
Tory Carpenter, Planning Director
8. **Traffic Engineering Consultant Projects Report**
Leslie Pollack, PT, PTOE, HDR Engineering

UPCOMING MEETINGS

Transportation Committee Meetings

August 25, 2025, @ 3:30 p.m.

September 22, 2025, @ 3:30 p.m.

October 27, 2025, @ 3:30 p.m.

City Council Meetings

August 5, 2025, @ 6:00 p.m.

August 19, 2025, @ 6:00 p.m.

September 2, 2025, @ 6:00 p.m.

September 16, 2025, @ 6:00 p.m.

ADJOURN

Memo

Date: Thursday, July 24, 2025

Project: Headwaters TIA

To: Chad Gilpin, P.E., City of Dripping Springs

From: Leslie Pollack, P.E., PTOE, HDR

Subject: Headwaters TIA Transportation Memo

Introduction

This memo documents HDR's interim assessment of the transportation impact of the Dripping Springs Sports Club (DSSC) that is proposed as part of the Headwaters mixed-use development located at the northwest corner of Canyonwood Drive and US 290 in Hays County, Texas. The Traffic Impact Analysis (TIA) review process is ongoing and modifications to findings and recommendations are anticipated prior to approval of the TIA.

Site Land Use

The Headwaters development is proposed to consist of a mix of commercial retail and recreational land uses. **Table 1** summarizes the unadjusted trips generated by DSSC and the proposed Headwaters Development. Trips generated by DSSC are estimated to comprise 15 percent, 23 percent, and 13 percent of the total trips generated by the proposed Headwaters Development in the AM, PM, and Saturday peak hour, respectively.

Table 1. Summary of Unadjusted Daily and Peak Hour Trip Generation

Land Use	Size	24-Hour Two-Way Volume	AM Peak Hour		PM Peak Hour		Saturday Peak Hour	
			Enter	Exit	Enter	Exit	Enter	Exit
Health/Fitness Club (DSSC)	160,000 SF	N/A	107	103	315	237	250	260
Headwaters Development Total		19,829	776	639	1,240	1,166	1,315	2,603
DSSC % of Headwaters Development Total		N/A	15%		23%		13%	

Site Access

As shown in **Figure 1**, The Headwaters development will have access via three driveways: two driveways located on US 290 (between Headwaters Boulevard and Canyonwood Drive), and one driveway located on Canyonwood Drive. The Headwaters development has minor connectivity to Headwaters Boulevard.

US 290 AND DRIVEWAY 1

Driveway 1 is proposed as a full-purpose, signalized access point. The proposed traffic signal at Driveway 1 will require approval from TxDOT. Driveway 1 is located approximately 0.4 miles east of the signalized Headwaters Boulevard intersection and approximately 0.4 miles west of the signalized Canyonwood Drive intersection. TxDOT Austin District's typical traffic signal spacing is 0.5 miles. TxDOT is reviewing the TIA and working through the process of signal approval. HDR will continue coordination with the Development team and TxDOT to confirm final approval by TxDOT of a proposed traffic signal at this location. The Development will be responsible for construction of a westbound right-turn deceleration lane and the traffic signal.

US 290 AND DRIVEWAY 2

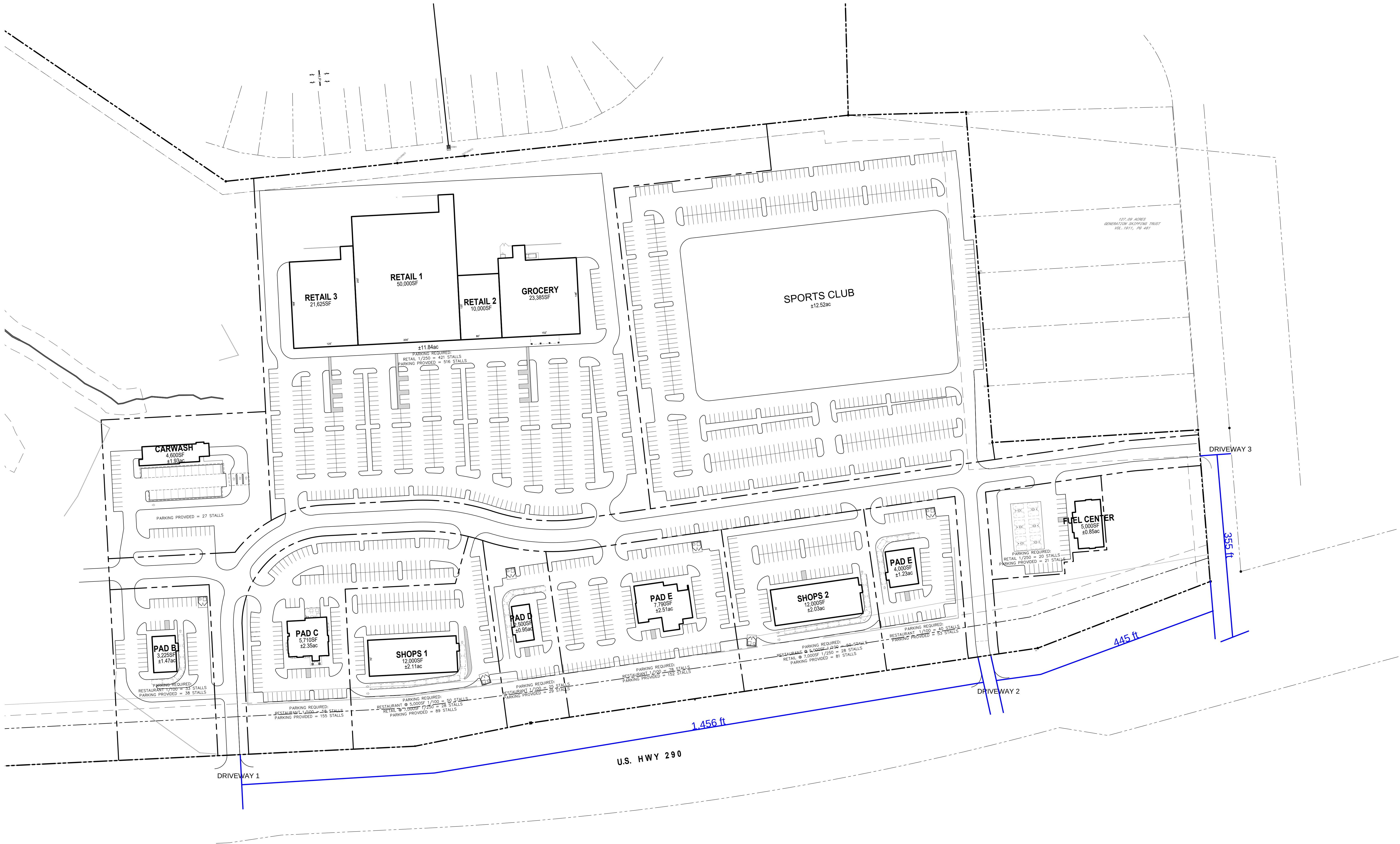
Driveway 2 is proposed as a full-purpose, stop-controlled access point. Driveway 2 is proposed to be located approximately 445 feet west of the signalized Canyonwood Drive intersection. This location should be adjusted to provide a full-length westbound right-turn deceleration lane. In addition, the Development should coordinate with TxDOT on the long-term viability of this access point. The driveway lies within TxDOT's future control-of-access restrictions for the US 290 widening. The intersection will operate at unacceptable levels of service with the proposed configuration. It is recommended that the driveway be restricted to right-in, right-out operations. The Development will be responsible for construction of a westbound right-turn deceleration lane and improvement to restrict turning movements.

CANYONWOOD DRIVE AND DRIVEWAY 3

Driveway 3 is proposed as a full-purpose, stop-controlled access point. Driveway 3 is proposed to be located approximately 355 feet north of the signalized US 290 intersection. This access point should be located such that the southbound queue at US 290 does not block the access point. Widening of Canyonwood Drive between Driveway 3 and US 290 will provide the storage needed for US 290 queues.

INTERNAL CIRCULATION AND ACCESS

The proposed Headwaters and DSSC Development provide minor connectivity to the future Headwaters commercial development located immediately west of the site. This access is anticipated to ultimately provide connectivity to Headwaters Boulevard. It is recommended that the Development provide more significant connectivity to Headwaters Boulevard through a more direct and robust internal roadway connection. The additional connectivity will reduce vehicular trips on US 290, providing improved connectivity between the existing Headwaters single family development and the proposed Headwaters and DSSC Development. Additional discussions are required on timing of this connection and potential construction prior to the Headwaters commercial development to the west.



Canyonwood Drive Impact

Canyonwood Drive is a City of Dripping Springs owned and operated roadway. Access to the proposed Headwaters Development and DSSC is proposed through the unsignalized intersection with Driveway 3. Driveway 3 is proposed to be located 355 feet north of US 290 on Canyonwood Drive. The 95th percentile queue for the southbound left-turn at the intersection of US 290 and Canyonwood Drive is estimated to be 260 feet in length with completion of the proposed Headwaters Development and DSSC. The back of this queue will not extend beyond Driveway 3 on Canyonwood Drive. It is recommended that a dedicated southbound left-turn lane be constructed at the intersection of US 290 and Canyonwood Drive such that the southbound queue at US 290 does not block the access point.

Based on data from the TxDOT Crash Records Information System (CRIS), eight crashes occurred at the intersection of US 290 and Canyonwood Drive from 2020 to 2025. The most common crash types at this intersection are rear-end and left-turn crashes. Rear end crashes are typically the result of driver inattention combined with unexpected changes in the traffic stream and are most common at signalized intersections. This intersection has been signalized since 2012. The eastbound and westbound left-turn signal heads at this intersection were upgraded in 2025 from “green ball” to flashing yellow arrow indications. Studies show the addition of a flashing yellow arrow provides clearer instruction to drivers and results in fewer crashes. No crashes were reported along Canyonwood Drive during this period.

Table 2 shows the proportional breakdown of future 2028 traffic volume on Canyonwood Drive. The proposed Headwaters Development site traffic is estimated to comprise between 65 percent to 70 percent of future volumes on Canyonwood Drive in 2028.

Table 2: Canyonwood Drive Traffic Volume Proportional Breakdown

Scenario	AM Peak		PM Peak	
	Bi-Directional Volume	Percent Of Total	Bi-Directional Volume	Percent Of Total
2024 Existing Conditions	131	32%	171	27%
2024 – 2028 Background Growth	10	2%	14	2%
2028 Headwaters Site Traffic	265	65%	440	70%
2028 Total Traffic	406	100%	625	100%

As a result of the proposed Headwaters Development, the intersection of US 290 and Canyonwood Drive will experience a three-second increase in delay per vehicle during the AM peak and a 25-second increase in delay per vehicle during the PM peak compared to 2025 existing conditions. The intersection of US 290 and Canyonwood Drive will continue operating at an acceptable overall intersection level of service C (≤ 35 seconds/vehicle) in 2028 after the proposed Headwaters and DSSC development is constructed.

Summary

This summary serves as an interim assessment of the transportation impact of the Dripping Springs Sports Club (DSSC) and the proposed Headwaters mixed-use Development. The Traffic Impact Analysis (TIA) review process is ongoing and modifications to the development plan, findings, and recommendations are anticipated prior to approval of the TIA.

- The Dripping Springs Sports Complex (DSSC) comprises 13-23% of trips as part of the proposed Headwaters Development.
- The proposed Headwaters Development (including DSSC) comprises 65-70% of trips on Canyonwood Drive, north of US 290.
- Three access points are proposed to the proposed Headwaters Development. Additional discussions on design and location of the access points are required.
- The Developer will be responsible for transportation improvements at the site access points and their proportionate share of off-site improvements, notably on Canyonwood Drive.
- Improved internal connectivity to Headwaters Boulevard will be considered.
- Intersections will operate at acceptable levels of service per the Dripping Springs Code of Ordinances with the improvements identified above.

HEADWATERS TIA

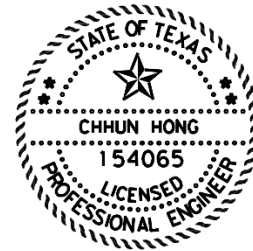
TRAFFIC IMPACT STUDY

Hays County, Texas

Prepared for:

**LVE Acquisitions, LLC
& Cerco Development, Inc.**

4314 Medical Pkwy
Suite 200
Austin, Texas 78756



A handwritten signature in blue ink, appearing to read "Chun Hong", written over the date.

7/9/2025

Prepared by:

Kimley-Horn and Associates, Inc.

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Austin, Texas 78759
(512) 418-1771

July 9, 2025

KHA # 061321301

Headwaters TIA



JULY 9, 2025

Prepared By:

Kimley»Horn

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EXECUTIVE SUMMARY

This report documents a traffic impact analysis (TIA) performed for a proposed mix-use development located at the northwest corner of Canyonwood Dr & US 290 in Hays County, Texas.

The Headwaters Development is proposed to consist of a mix of commercial retail and recreational land uses. Specifically, it includes a 160,000 square foot health/fitness club, 129,000 square feet of shopping center retail, 17,500 square foot high-turnover sit-down restaurants, 5,725 square foot fast-food restaurants with drive-through, a gasoline station with 12 fueling positions, and a 4,600 square foot automated car wash.

The site will have access via three (3) driveways: two (2) driveways located on US 290, and one (1) driveway located on Canyonwood Dr (E). The intersections to be analyzed are listed below:

- Headwaters Boulevard & US 290
- Canyonwood Drive & US 290
- Sunset Canyon Drive & US 290
- All site driveways

Existing turning movement counts were collected at the study intersection Wednesday, May 7th, 2025 for the AM and PM peak demand periods. Traffic operations were analyzed at the study intersections for 2025 Existing, 2028 No Build, 2028 Site Build-Out, and 2028 Site Build Out with Mitigation conditions. Traffic volume growth is projected in all future scenarios by applying a four percent (2.5%) annual growth factor determined using historical traffic counts in the area.

For the proposed land use, projected site traffic is calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual* 11th Edition. The development is anticipated to generate approximately 17,606 daily trips, 918 AM peak-hour trips, and 1,420 PM peak-hour trips.

Results indicate that Driveways 1 and 2 had failing LOS during both AM and PM peaks, while the southbound approach at Canyonwood Dr and US 290 faced increased delays. Other intersections are expected to maintain an acceptable LOS. To restore operating conditions to acceptable LOS, the following is proposed to be constructed by the developer:

- Driveway 1 & US 290
 - Install a traffic signal
 - Install right-turn deceleration lane for westbound approach
- Driveway 2 & US 290
 - Install right-turn deceleration lane for westbound approach
 - Widen southbound Driveway 2 for separate left and right-turn lane

INTRODUCTION

A. PURPOSE

This report documents a traffic impact analysis (TIA) performed for a proposed mix-use development located at the northwest corner of Canyonwood Dr & US 290 in Hays County, Texas. A site vicinity map is provided in **Figure 1**.

This study addresses the potential traffic impacts of the proposed development on the surrounding roadway network and intersections. This traffic impact study was prepared based on criteria outlined in Hays County. The specific objectives of this study are to determine the future operational levels of service (LOS) at the various study intersections and to identify capacity related improvements.

B. GENERAL PROJECT DESCRIPTION

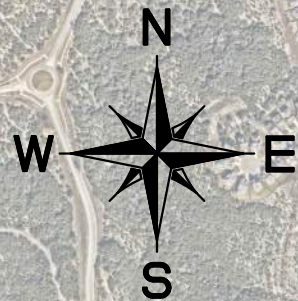
This development will consist of a mix of commercial retail and recreational land uses. Specifically, it includes a 160,000 square foot health/fitness club, 129,000 square feet of shopping center retail, 17,500 square foot high-turnover sit-down restaurants, 5,725 square foot fast-food restaurants with drive-through, a gasoline station with 12 fueling positions, and a 4,600 square foot automated car wash. The following scenarios were analyzed in this study:

- 2025 Existing Conditions
- 2028 No Build Conditions
- 2028 Build-Out Conditions
- 2028 Mitigated Build-Out Conditions

For the above scenarios, the intersections studied are listed below.

- Headwaters Boulevard & US 290
- Canyonwood Drive & US 290
- Sunset Canyon Drive & US 290
- All site driveways

Analysis periods for this study included AM and PM peak hours for each study intersection. The approved project scoping document is included in **Appendix A**.



- * Unsignalized (1-Way Stop Control)
- ‡ Signalized

SITE LOCATION

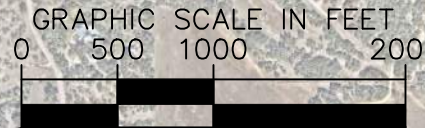
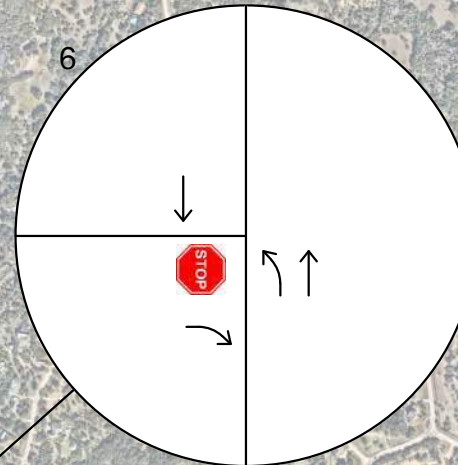
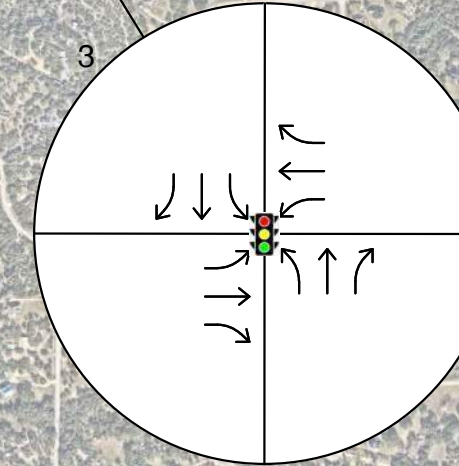
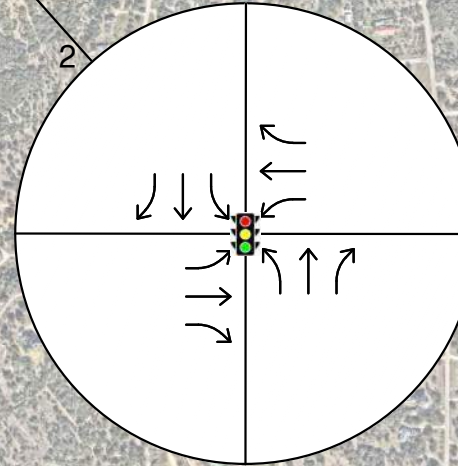
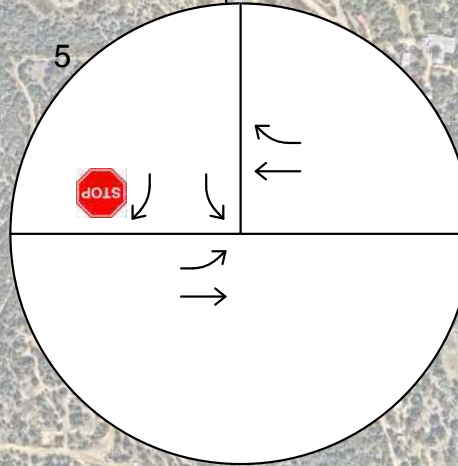
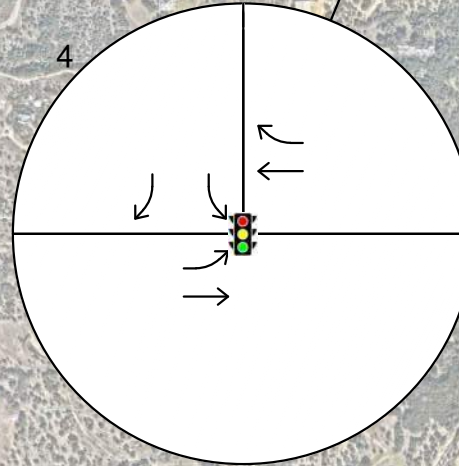
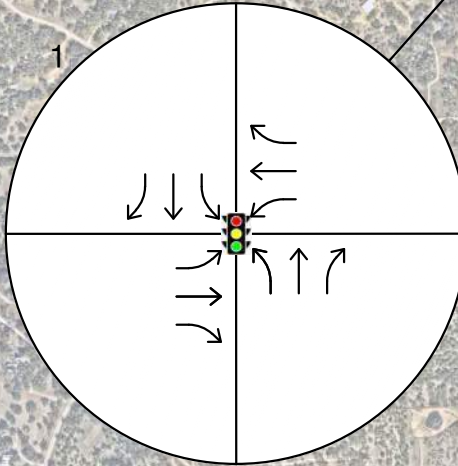
HEADWATERS BLVD

HAYS COUNTRY ACRES RD

CANYONWOOD DR

US 290

SUNSET CANYON DR S



- EXISTING INTERSECTIONS
- PROPOSED SITE DRIVEWAYS

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PRO
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Item 2.

10814 JOLLYVILLE RD, BUILDING IV, SUITE 200
AUSTIN, TX 78759

TBPE REGISTERED FIRM NO. F-928
Phone: (512) 418-1771
Website: kimley-horn.com

HEADWATERS
DRIPPING SPRINGS, TEXAS

SITE VICINITY
MAP

FIGURE
1

15

EXISTING AND FUTURE AREA CONDITIONS

A. EXISTING & BACKGROUND DEVELOPMENT

The proposed site is currently vacant, undeveloped land.

B. PROPOSED LAND USES

This development will consist of a mix of commercial retail and recreational land uses. Specifically, it includes a 160,000 square foot health/fitness club, 129,000 square feet of shopping center retail, 17,500 square foot high-turnover sit-down restaurants, 5,725 square foot fast-food restaurants with drive-through, a gasoline station with 12 fueling positions, and a 4,600 square foot automated car wash. Land uses for the development are summarized in **Table 1**.

Table 1 – Proposed Land-Uses

Land Uses	Size	ITE Code
Health Fitness Club	160 KSF	492
Retail (including Supermarket)	129 KSF	821
High-Turnover Sit-Down Restaurant	17.5 KSF	932
Fast-Food w/ Drive-Through	5.725 KSF	934
Gasoline Station w/ Market	12 Fueling Positions	945
Automated Car Wash	4.6 KSF	948

C. ROADWAY CHARACTERISTICS

The major study area roadways are described below.

US Highway 290 (E. & W.) – is currently a two-way, four-lane divided highway with a continuous center turn lane in some sections. US 290 (W) generally runs in the east-west direction, transitioning to US 290 (E) as it moves eastward. The posted speed limit varies but is typically 55 mph in this area. US 290 serves as a primary arterial route through Dripping Springs, connecting the community to Austin to the east and Johnson City to the west.

Headwaters Boulevard (N. & S.) – is currently a two-way, four-lane divided roadway. Headwaters Blvd (S) extends northward from its intersection with US 290 into a residential subdivision. The roadway primarily serves local traffic and has a posted speed limit of 30 mph. It connects internal neighborhood streets to US 290, providing residential access to the broader regional network.

Canyonwood Drive (N. & S.) – is currently a two-way, two-lane undivided roadway. Canyonwood Dr (N) runs southward from its intersection with US 290 into adjacent residential and community areas. The posted speed limit is generally 30 mph. The road serves as a local collector, connecting neighborhoods to US 290 and other minor roads in the area.

Sunset Canyon Drive (N. & S.) – is currently a two-way, two-lane undivided roadway. Sunset Canyon Dr runs north-south, intersecting with US 290 and serving residential neighborhoods. The posted speed limit is generally 30 mph. It functions as a neighborhood collector and provides access to local residences within the Sunset Canyon subdivision.

D. PROPOSED SITE ACCESS

The proposed site will have three (3) access points. Two (2) access points will be located along US 290, and one (1) access point will be located along N Canyonwood Dr. All access points are proposed to be full-access. **Figure 2** shows the proposed site plan.

E. FUTURE PUBLIC INFRASTRUCTURE IMPROVEMENT PLAN

TXDOT US 290 Widening from Oak Hill to Dripping Springs

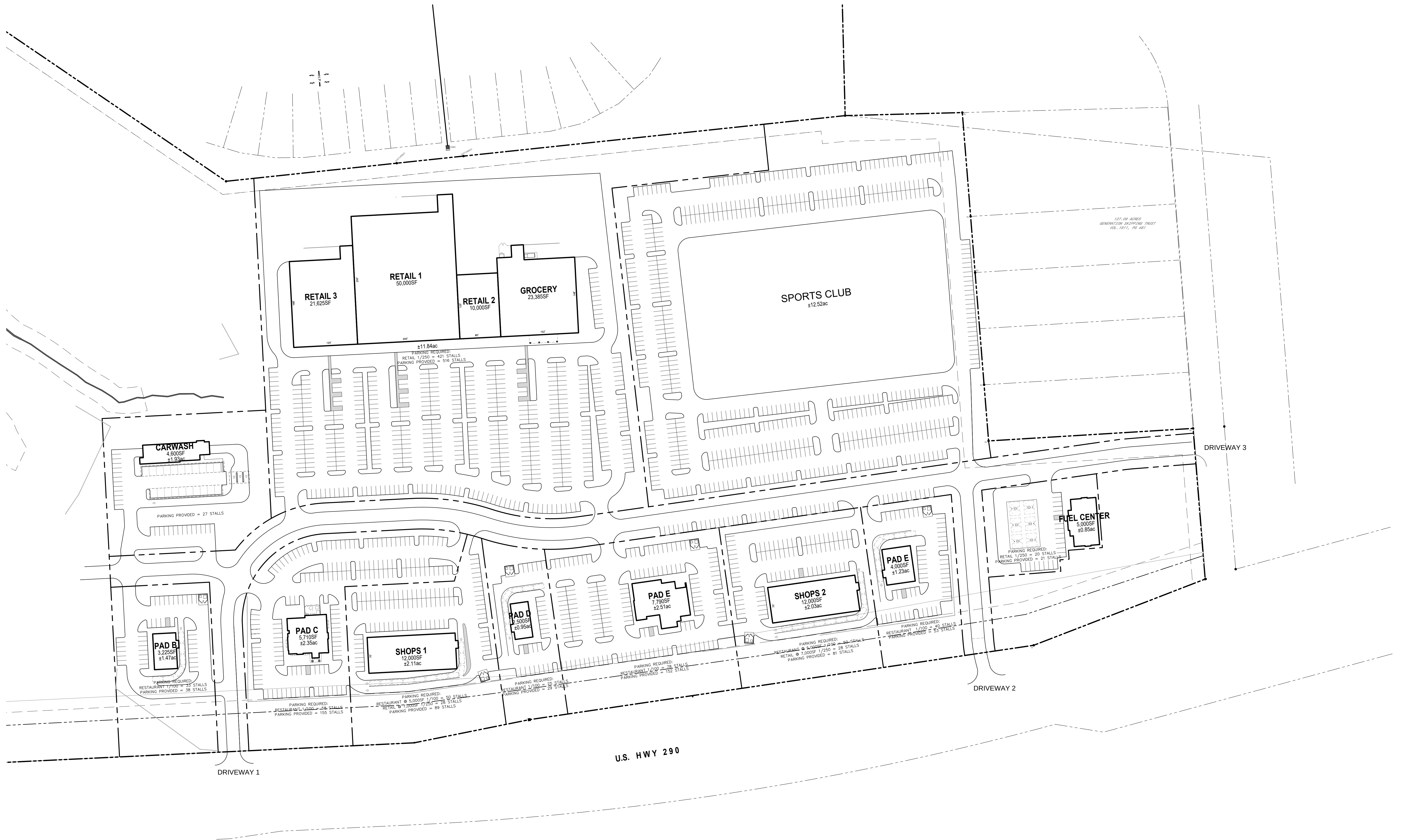
TxDOT is proposing to widen and improve US 290 between FM 1826 and RM 12 in Travis and Hays counties. The proposed project would reconstruct and widen approximately 13-miles of US 290 from RM 1826 in southwest Austin to just west of RM 12 in Dripping Springs. The roadway would transform from an existing four-lane, undivided roadway to a six-lane divided facility with adjacent frontage roads and shared use paths. Future right-of-way acquisition is considered in the proposed development plan.



City of Dripping Springs Transportation Master Plan

City of Dripping Springs developed a Transportation Master Plan in October 2021 to identify safety improvements and regional connectivity. As part of this plan, identified roadways within the City were included in the recommended project priority for enhancements to existing and proposed roadways. Headwaters Blvd is referenced several times in the planning document, but few details are provided about the improvements it will ultimately receive or the certainty of timeline; therefore, future improvements was not modeled under any conditions in Synchro.

Ultimately, the improvements to US 290 and Headwaters Blvd will increase capacity, enhance safety, and improve connectivity. **Appendix I** contains excerpts of information corroborating above-mentioned details about the study roadways.



F. EXISTING TRAFFIC VOLUMES

Weekday AM and PM peak period turning movement counts were collected on Wednesday, May 7th, 2025, at the following intersections:

- US 290 & Headwaters Blvd
 - AM Peak Hour: 8:00 AM – 9:00 AM
 - PM Peak Hour: 4:30 PM – 5:30 PM
- US 290 & Canyonwood Dr
 - AM Peak Hour: 7:45 AM – 8:45 AM
 - PM Peak Hour: 4:30 PM – 5:30 PM
- US 290 & Sunset Canyon Dr
 - AM Peak Hour: 7:45 AM – 8:45 AM
 - PM Peak Hour: 4:30 PM – 5:30 PM

Figure 3 shows existing weekday AM and PM peak hour traffic volumes. The raw count sheets are provided in **Appendix B**.

G. EXISTING TRAFFIC GROWTH RATE

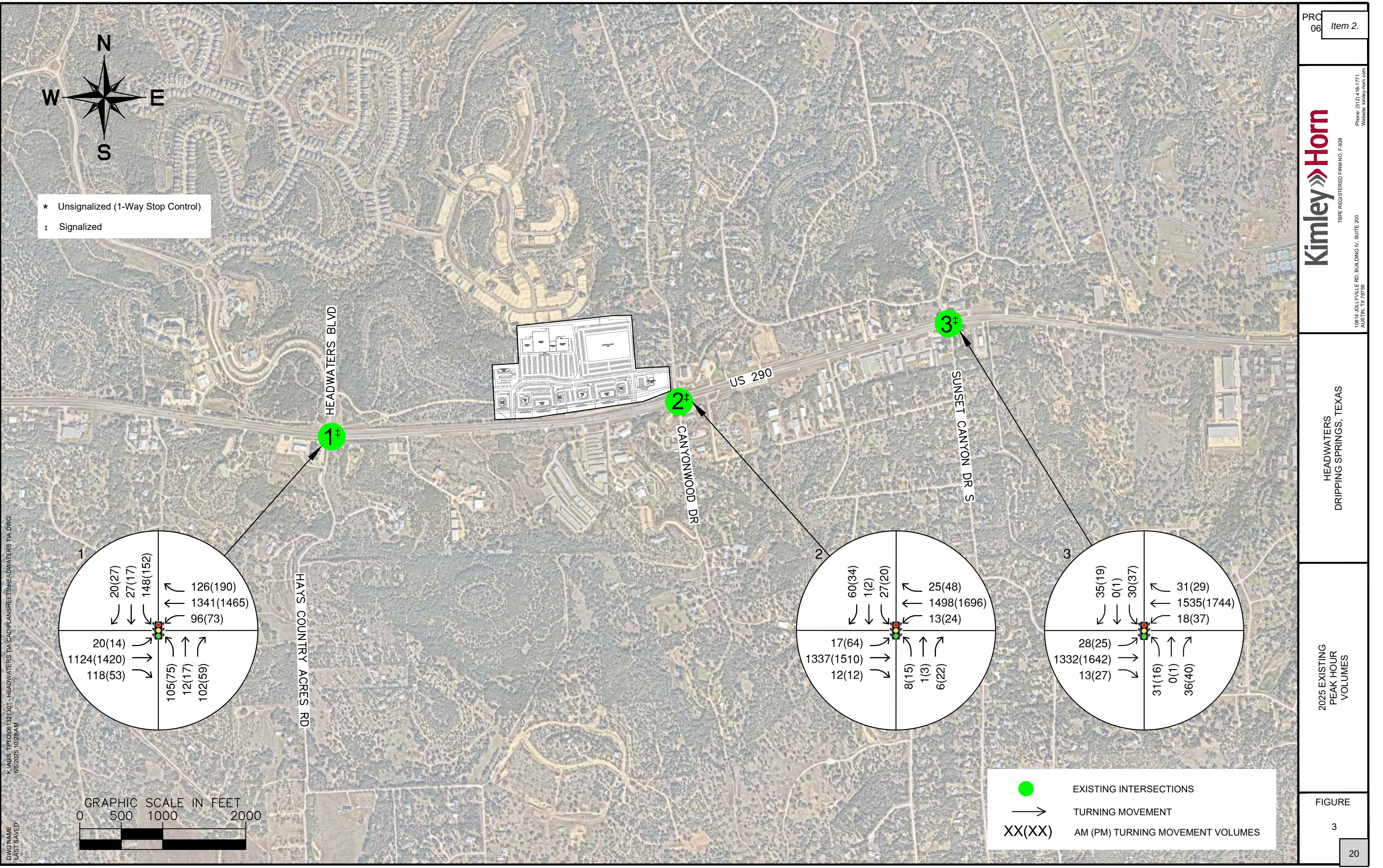
To obtain 2028 background traffic projections, historic counts near the site were compared to find expected growth trends within the study area. Historical 24-hour counts were collected on roadways nearby the proposed site. Based on data from TxDOT Traffic Count Database System (TCDS) and guidance from county staff, traffic volumes were assumed to increase by 2.50% per year.

Table 2 shows the historic counts from TxDOT's TCDS used to calculate the assumed growth rate. The raw count sheets are provided in **Appendix B**. The equation used for determining the average annual growth is provided below.

$$\text{Growth Rate} = \frac{\text{Total Trips}_{\text{Final Year}}^{\frac{1}{\text{Final Year} - \text{Initial Year}}}}{\text{Total Trips}_{\text{Initial Year}}} - 1$$

Table 2 – Growth Rate Calculation

TxDOT Count Location	106H46	106E327	106H37	106D1
	US 290 (West of Lone Peak Wy)	US 290 (West of Nutty Brown Rd)	US 290 (West of RM 12)	US 290 (East of Nutty Brown Rd)
2023	37674	32018	43012	38211
2018	30458	35247	31572	38153
Growth	4.34%	-1.90%	6.38%	0.03%
Average	2.21%			
Assumed	2.50%			

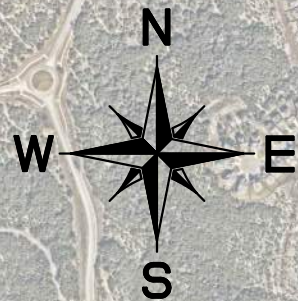


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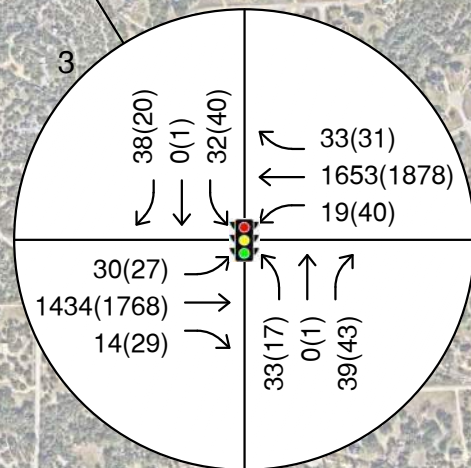
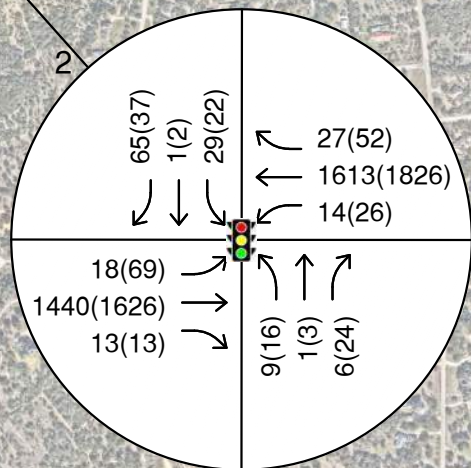
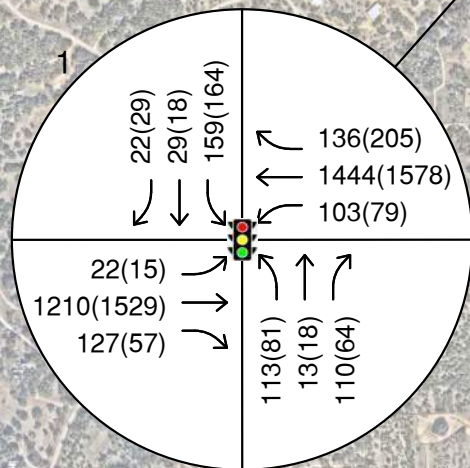
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H. 2028 NO BUILD TRAFFIC

To obtain 2028 background traffic projections, existing traffic counts and historic counts near the site were compared to find expected growth trends within the study area. Based on data from TxDOT, traffic volumes were assumed to increase at a growth rate of 2.5% per year. No Build traffic volumes are shown in **Figure 4**.



- * Unsignalized (1-Way Stop Control)
- ‡ Signalized



 EXISTING INTERSECTIONS

 TURNING MOVEMENT

 AM (PM) TURNING MOVEMENT VOLUMES

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2028 DEVELOPMENT

A. SITE TRAFFIC

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to each proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the 11th edition of *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. The trips indicated are one-way trips, or *trip ends*, where one vehicle entering and exiting the site is counted as two trips (one inbound trip and one outbound trip). The equations used to generate the site trips are shown in **Table 3**.

Table 3 - ITE Trip Generation Rates

ITE Code	Land Use	Units	Weekday	AM Peak		PM Peak	
			Equation	Equation	In:Out (%)	Equation	In:Out (%)
492	Health/Fitness Club	1,000 Sq Ft	Not Given	$T = 1.31(X)$	51:49	$T = 3.45(X)$	57:43
821	Shopping Plaza (40k - 150k) (Supermarket)	1,000 Sq Ft GLA	$T = 94.49(X)$	$T = 3.53(X)$	62:38	$T = 9.03(X)$	48:52
932	High-Turnover (Sit-Down) Restaurant	1,000 Sq Ft	$T = 107.20(X)$	$T = 9.57(X)$	55:45	$T = 9.05(X)$	61:39
934	Fast-Food Restaurant w/ D.T.	1,000 Sq Ft	$T = 467.48(X)$	$T = 44.61(X)$	51:49	$T = 33.03(X)$	52:48
945	Gasoline Station w/ Convenience Market	Fueling Position(s) 4-5.5k SF	$T = 257.13(X)$	$T = 27.04(X)$	50:50	$T = 22.76(X)$	50:50
948	Automated Car Wash	1,000 Sq Ft	Not Given	Not Given	Not Given	$T = 14.20(X)$	50:50
T = Number of Trips Generated X = Units							

Reductions to gross trip generation estimates are sometimes applied due to internal capture pass-by trips, or mode share. Pass-by trips are existing vehicles on the adjacent roadways that choose to visit the new site and then return to their original path. Pass-by trips do not reduce the driveway volumes projected for the site but are deducted from the gross traffic added to adjacent roadways since they are already present. Pass-by reductions were applied for the retail shopping plaza per ITE guidance. Peak hour non-pass-by trip assignment percentages at study intersections are provided as **Figure 5**. A separate distribution was created for Pass by trips. Pass-by trip assignment percentages are provided as **Figure 6**. Peak hour non-pass-by trip assignment volumes at study intersections are provided as **Figure 7**. A separate trip distribution was created for Pass by trips. Pass-by trip assignment volumes are provided as **Figure 8**.

Internal capture trips are trips between various land uses of the development that do not utilize the external street system. Internal capture trips reduce both driveway volumes projected for the site and are deducted from the gross traffic added to adjacent roadways. Internal capture reductions are applied before pass-by reductions.

Table 4 summarizes the resulting Daily and Weekday AM and PM peak hour trip generation with internal capture and pass-by reductions for 2028. Details of site trip generation are provided in **Appendix C**.

Details of Saturday trip generation are also shown in **Table 5** for informational purposes only and were not included in the analysis.

Table 4 – Site Trip Generation Summary

ITE Code	Land Use	Size	Units	Total Daily Trips	AM Peak			PM Peak		
					Total	In	Out	Total	In	Out
492	Health/Fitness Club	160	1,000 Sq Ft	N/A	210	107	103	552	315	237
821	Shopping Plaza (40k - 150k) (Supermarket)	129	1,000 Sq Ft GLA	12190	456	283	173	1165	559	606
932	High-Turnover (Sit-Down) Restaurant	17.5	1,000 Sq Ft	1876	168	92	76	159	97	62
934	Fast-Food Restaurant w/ D.T.	5.725	1,000 Sq Ft	2677	256	131	125	190	99	91
945	Gasoline Station w/ Convenience Market	12	Fueling Position(s) 4-5.5k SF	3086	325	163	162	274	137	137
948	Automated Car Wash	4.6	1,000 Sq Ft	N/A	N/A	N/A	N/A	66	33	33
Total Project Trips				19829	1415	776	639	2406	1240	1166
Internal Capture				2223	170	85	85	240	120	120
Pass By				-	327	166	161	746	375	371
Total External Project Trips				17606	918	525	393	1420	745	675

Table 5 - Saturday Site Trip Generation

ITE Code	Land Use	Size	Units	Total Saturday Trips	Saturday Peak		
					Total	In	Out
492	Health/Fitness Club	160	1,000 Sq Ft	510	250	260	510
821	Shopping Plaza (40k - 150k) (Supermarket)	129	1,000 Sq Ft GLA	1195	609	586	1195
932	High-Turnover (Sit-Down) Restaurant	17.5	1,000 Sq Ft	196	100	96	196
934	Fast-Food Restaurant w/ D.T.	5.725	1,000 Sq Ft	317	161	156	317
945	Gasoline Station w/ Convenience Market	12	Fueling Position(s) 4-5.5k SF	245	125	120	245
948	Automated Car Wash	4.6	1,000 Sq Ft	140	70	70	140
Total Project Trips				20655	2603	1315	2603

B. TRIP DISTRIBUTION AND ASSIGNMENT

Site traffic is distributed into and out of the site driveways and onto the street system based on the area street system characteristics and the location of driveway access to/from the site. **Table 6** displays the general directional distribution percentages assumed for the proposed development. **Figure 5** and **Figure 6** display the peak hour non-pass-by and pass-by trip assignment percentages graphically for the development.

Table 6 – Trip Distribution

Direction	Percent To/From Proposed Development
To/From US 290 (E)	55%
To/From US 290 (W)	35%
To/From Headwaters Blvd (N)	2.5%
To/From Canyonwood Dr (S)	2.5%
To/From Sunset Canyon Dr (N)	5%

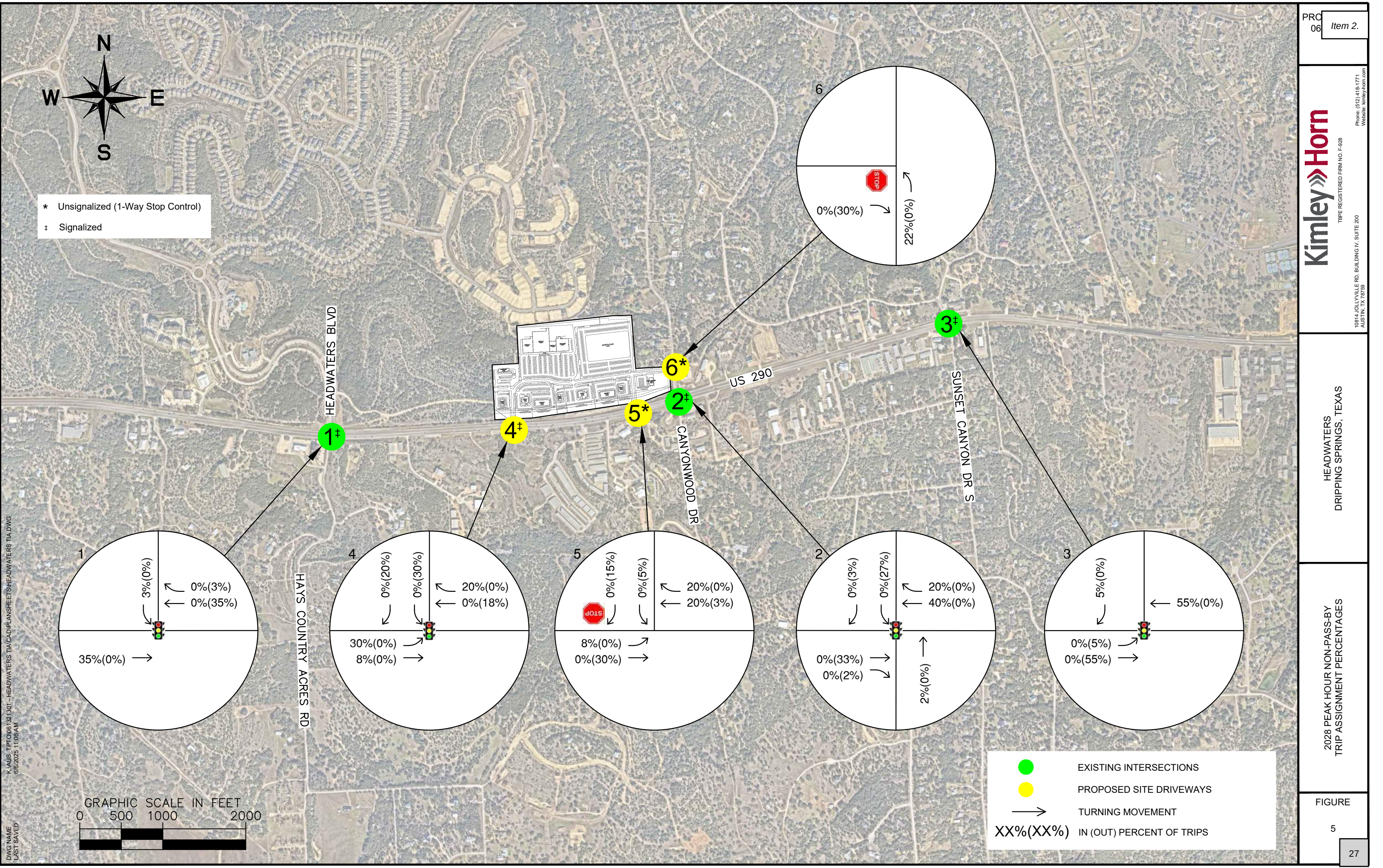
Peak hour non-pass-by site generated trip assignment volumes (inbound and outbound) for AM and PM hours are provided in **Figure 7**. Peak hour pass-by trip assignment volumes are presented in **Figure 8**.

ASSUMPTIONS

- The traffic generated by the site was assigned to the future roadway network using the appropriate trip distribution percentages for the AM and PM peak hours.
- AM and PM peak hours were determined from existing count data. Peak hours were used by intersection.
- Site trips are added to the forecasted year 2028 No Build trips to determine the 2028 Build Out traffic volumes.

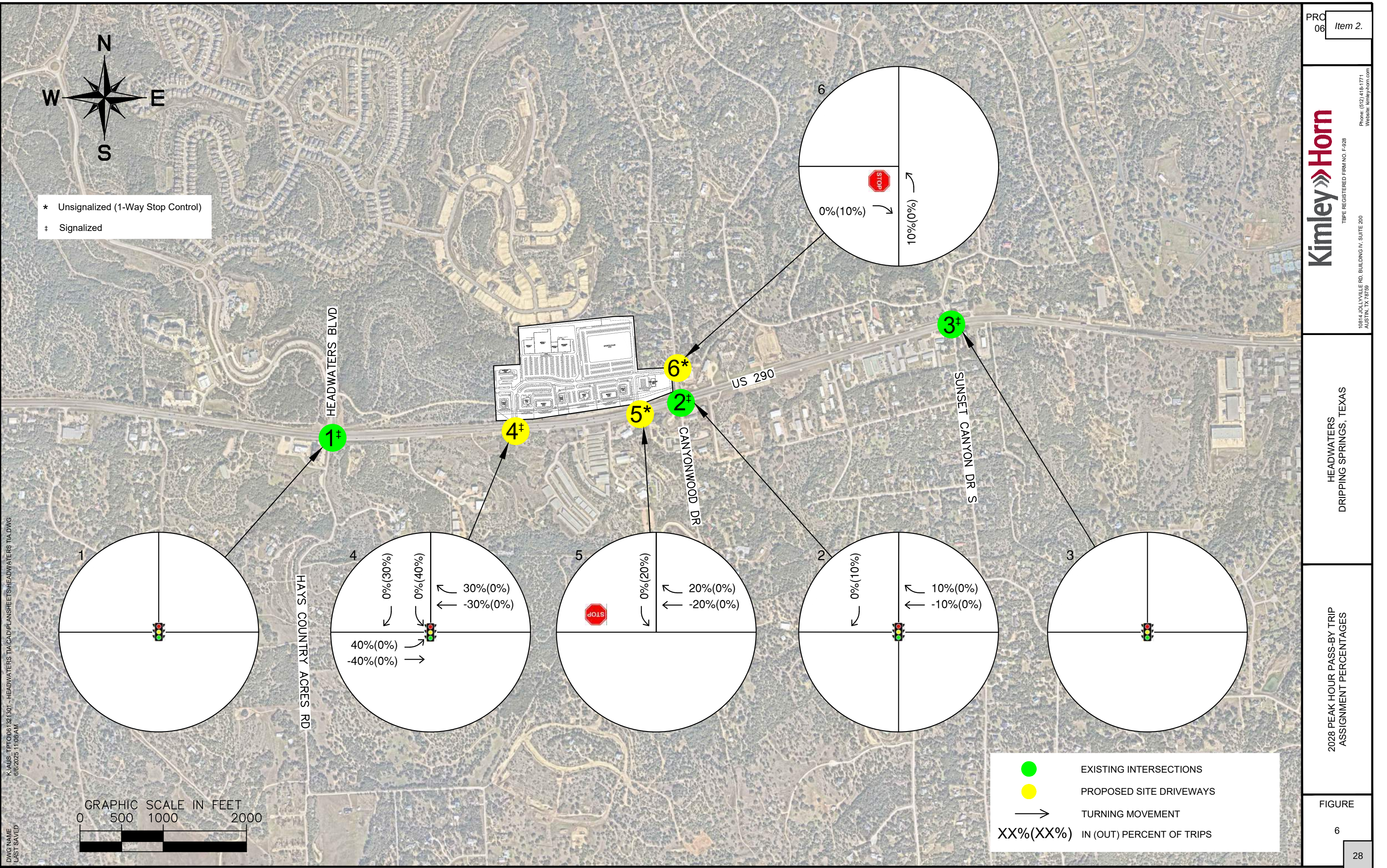
C. 2028 BUILD-OUT TRAFFIC

Net trip assignment volumes (both non-pass-by and pass-by) were added to the 2028 No Build volumes (shown in **Figure 4**) to represent estimated total buildout (growth plus site-generated) traffic conditions in 2028 after the completion of the proposed development. The resulting 2028 Build-Out total weekday AM and PM peak hour traffic volumes are shown in **Figure 9**.



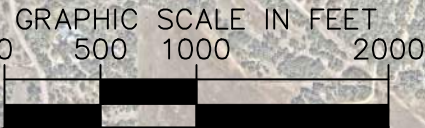
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* Unsignalized (1-Way Stop Control)
‡ Signalized



● EXISTING INTERSECTIONS
● PROPOSED SITE DRIVEWAYS
→ TURNING MOVEMENT
XX%(XX%) IN (OUT) PERCENT OF TRIPS

PROJ
06

Item 2.

Kimley»Horn

TBPE REGISTERED FIRM NO. F-928
10814 JOLLYVILLE RD. BUILDING IV, SUITE 200
AUSTIN, TX 78759
Phone: (512) 418-1771
Website: kimley-horn.com

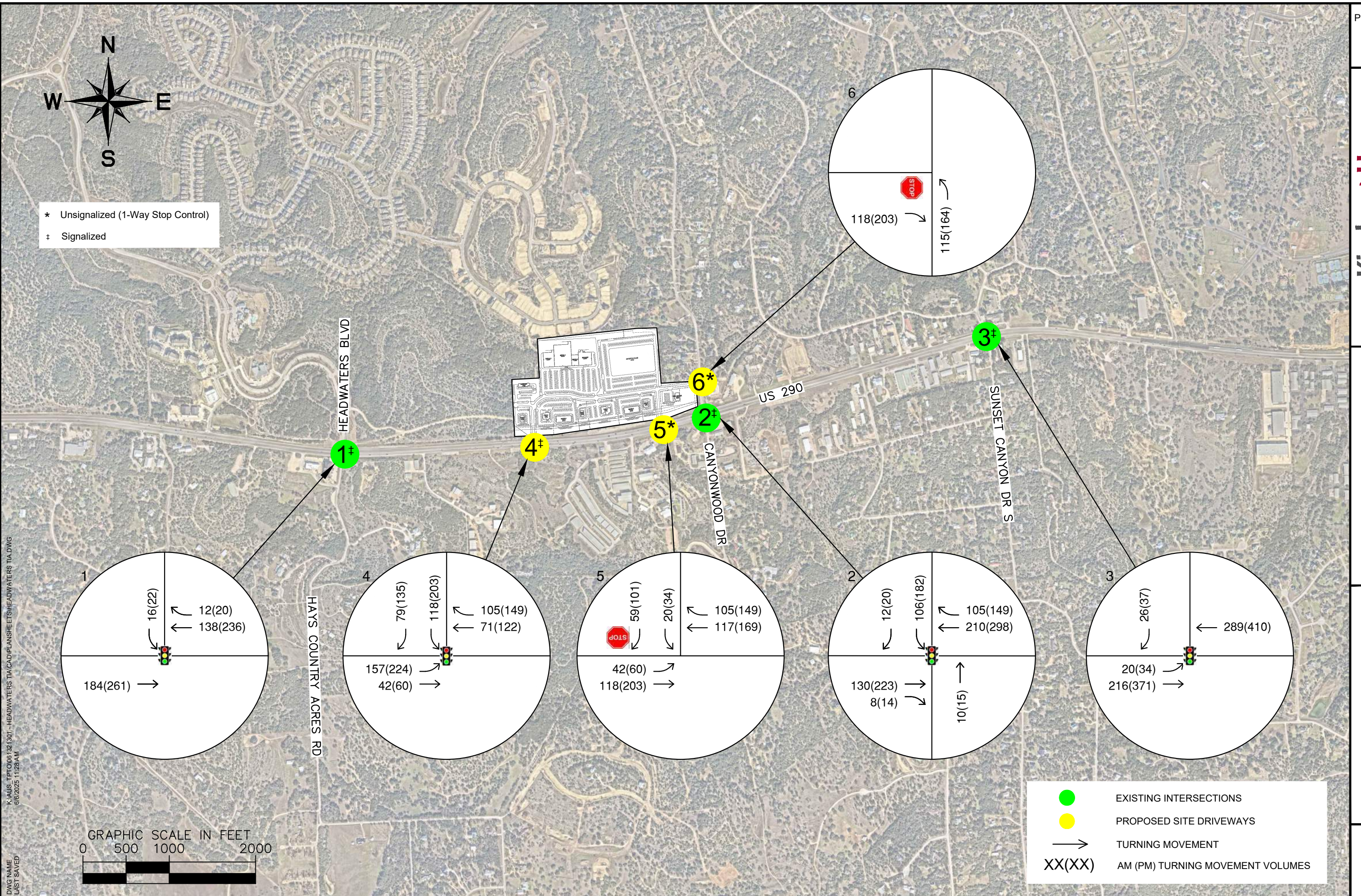
HEADWATERS
DRIPPING SPRINGS, TEXAS

2028 PEAK HOUR PASS-BY TRIP
ASSIGNMENT PERCENTAGES

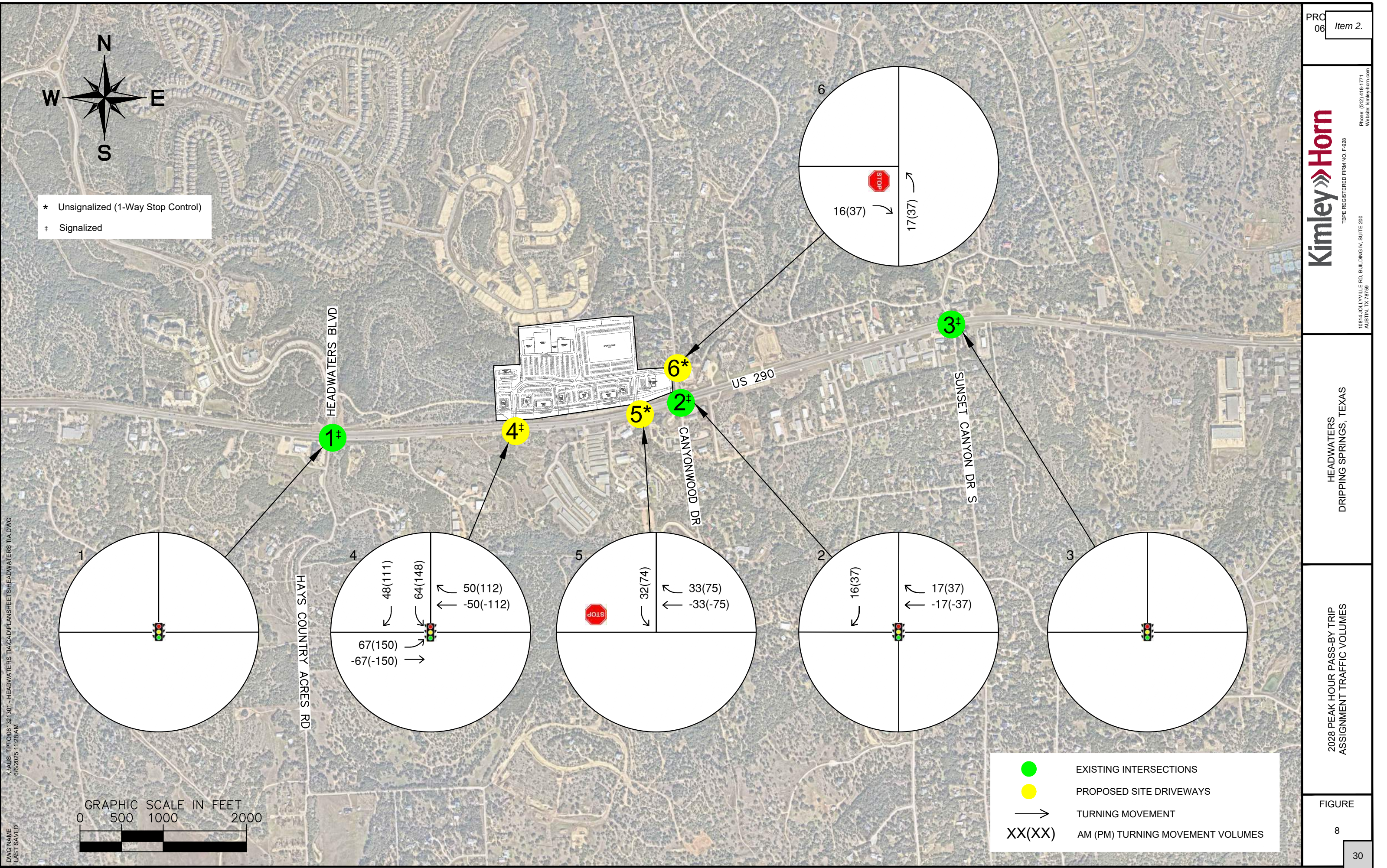
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6

28

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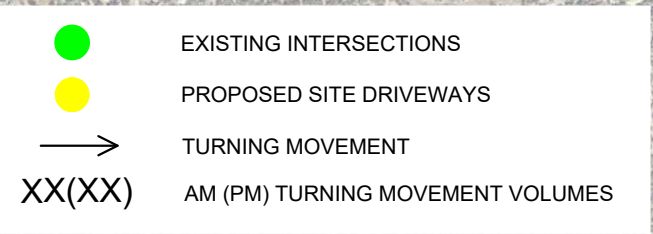
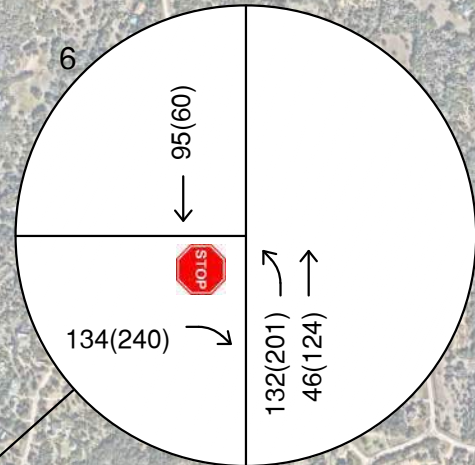
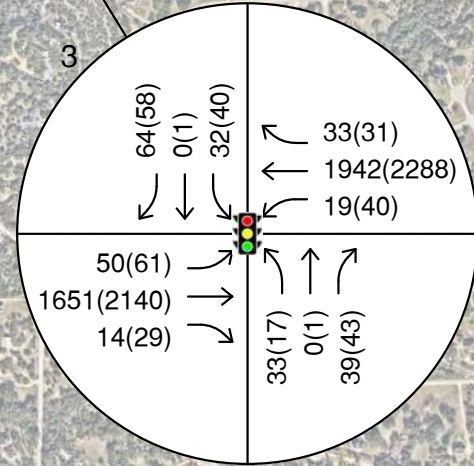
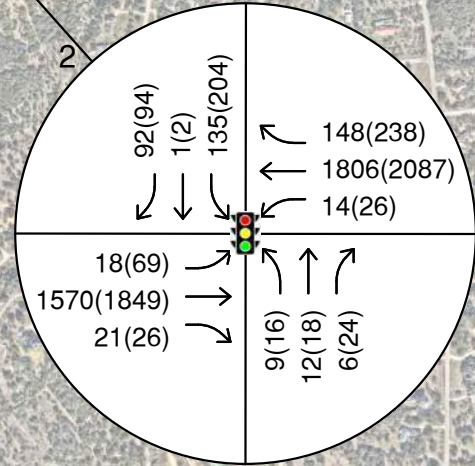
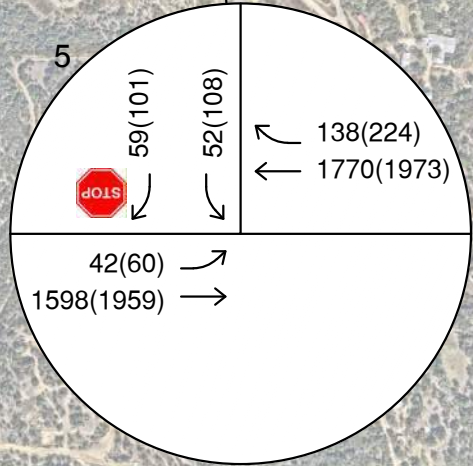
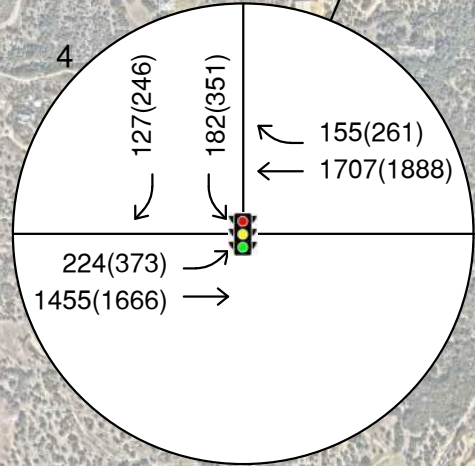
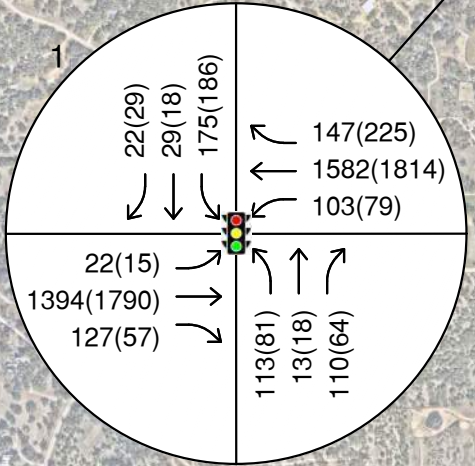
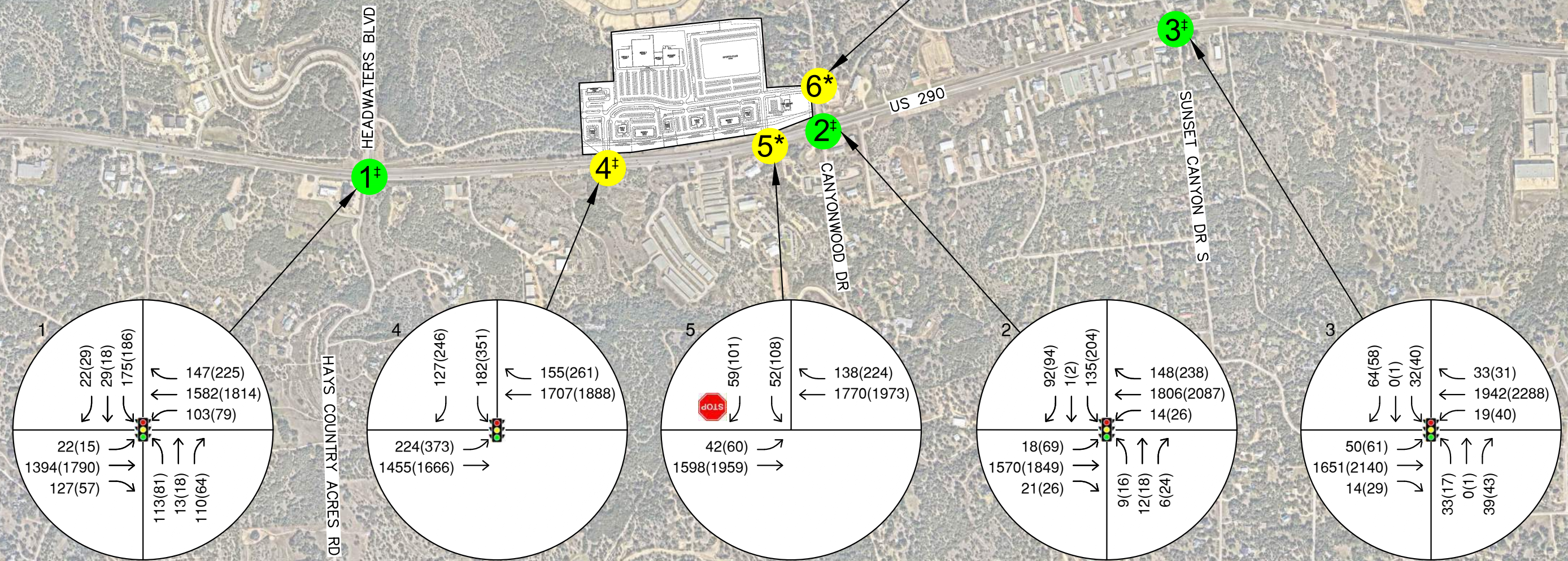
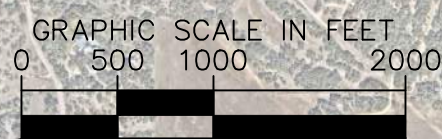
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* Unsignalized (1-Way Stop Control)
‡ Signalized

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TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn conducted a traffic operations analysis to determine potential capacity deficiencies in 2028 at the study intersections. The acknowledged source for determining overall capacity is the 7th *Highway Capacity Manual*.

A. 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). **Table 7** shows the definition of level of service for signalized and unsignalized intersections. LOS D is the threshold for acceptable operations for signalized intersections for Hays County.

Table 7 – Level of Service Thresholds

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (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, Special Report 209, Transportation Research Board, 2010.

Study area intersections were analyzed based on average total delay for signalized intersections. For the unsignalized analysis, the level of service (LOS) is defined for each controlled approach.

Where possible, HCM 7th analysis is used. For intersections not possible to analyze using HCM 7th, HCM 2010 or 2000 is used. Calculations for the level of service at the study intersections are provided in **Appendix D – Appendix G**.

B. ANALYSIS RESULTS & MITIGATIONS

2025 EXISTING TRAFFIC OPERATIONS

Analysis of existing traffic operations shows that all study intersections are operating LOS C or better during the AM and PM peak hours. Existing conditions measures of effectiveness (MOEs) are summarized in **Table 8** and the detailed *Synchro* reports are provided in **Appendix D**.

Table 8 – 2025 Existing MOE Peak Hours

Intersection ID	Control Type	Intersection	2025 Existing Conditions			
			AM		PM	
			Delay	LOS	Delay	LOS
1	Signalized	Headwaters Boulevard & US 290	33.1	C	30.5	C
2	Signalized	Canyonwood Drive & US 290	14.1	B	29.2	C
3	Signalized	Sunset Canyon Drive & US 290	5.6	A	10.8	B

2028 NO BUILD TRAFFIC OPERATIONS

The 2028 No Build condition represents traffic operations if this project is never built. The 2028 No Build conditions also assume traffic growth using the aforementioned growth factor.

The 2028 No Build conditions scenario analysis showed all intersections operating LOS C or better in the AM and PM peak hours. No Build conditions MOEs are summarized in **Table 9 and Table 10** and the detailed *Synchro* reports are provided in **Appendix E**.

2028 BUILD-OUT TRAFFIC OPERATIONS

Site trips from the proposed project are added to the 2028 No Build scenario for the Build-Out scenario. Intersection operations summarized in **Table 9 and Table 10** show that all intersections operate at acceptable LOS. The proposed driveway 3 is expected to operate at acceptable LOS during the AM and PM peak hours. Driveways 1 and 2 had failing LOS during both AM and PM peaks, and the southbound approach at Canyonwood Dr and US 290 experienced increased delays that require off-site mitigation. Detailed *Synchro* reports are provided in **Appendix F**.

2028 BUILD-OUT WITH MITIGATIONS TRAFFIC OPERATIONS

The mitigation plan developed for this project is designed to show the recommended improvements to bring intersection operations back to acceptable LOS where possible. To accommodate traffic from the Headwaters development the following mitigations are recommended:

- Headwaters Blvd & US 290
 - Optimize traffic signal timing setting
- Canyonwood Drive & US 290
 - Widen southbound approach to provide an exclusive left-turn lane
- Driveway 1 & US 290.
 - Install a traffic signal
 - Install right-turn deceleration lane for westbound approach
- Driveway 2 & US 290.
 - Install right-turn deceleration lane for westbound approach
 - Widen southbound Driveway 2 for separate left and right-turn lane

Note: Though Driveway 2 operates unacceptably, a signal is not expected to be allowed at this location due to TxDOT signal spacing requirements. If delay is seen as excessive, alternative routes exist.

Intersection operations summarized in **Table 9 and Table 10** show that all intersections operate at acceptable LOS after the proposed mitigations are implemented. Detailed *Synchro* reports are provided in **Appendix G**.

Please note that delay is reported for the stop-controlled approach that experiences the highest delay at unsignalized intersections and for overall intersection at signalized intersections.

Table 9 – 2028 LOS – AM Peak Hour

Int ID	Intersection	Control Type	2028 No Build		2028 Build-Out		Control Type After Mitigations	2028 Build-Out with Mitigations	
			Delay	LOS	Delay	LOS		Delay	LOS
1	Headwaters Boulevard & US 290	Signalized	34.8	C	37.7	D	Signalized	34.0	C
2	Canyonwood Drive & US 290	Signalized	12.0	B	24.3	C	Signalized	15.5	B
3	Sunset Canyon Drive & US 290	Signalized	8.4	A	16.6	B	Signalized	15.8	B
4	Driveway 1 & US 290	Unsignalized	-	-	3058.0	F	Signalized	12.8	B
5	Driveway 2 & US 290	Unsignalized	-	-	114.9	F	Unsignalized	103.6	F
6	Driveway 3 & Canyonwood Dr	Unsignalized	-	-	9.5	A	Unsignalized	9.5	A

* Delay and LOS is reported for the overall intersection at signalized intersections

Table 10 – 2028 LOS – PM Peak Hour

Int ID	Intersection	Control Type	2028 No Build		2028 Build-Out		Control Type After Mitigations	2028 Build-Out with Mitigations	
			Delay	LOS	Delay	LOS		Delay	LOS
1	Headwaters Boulevard & US 290	Signalized	30.1	C	44.7	D	Signalized	33.2	C
2	Canyonwood Drive & US 290	Signalized	16.3	B	45.2	D	Signalized	22.7	C
3	Sunset Canyon Drive & US 290	Signalized	18.3	B	31.6	C	Signalized	28.3	C
4	Driveway 1 & US 290	Unsignalized	-	-	2629.6	F	Signalized	46.6	D
5	Driveway 2 & US 290	Unsignalized	-	-	1287.2	F	Unsignalized	868.9	F
6	Driveway 3 & Canyonwood Dr	Unsignalized	-	-	9.9	A	Unsignalized	9.9	A

* Delay and LOS is reported for the overall intersection at signalized intersections

TURN LANE ANALYSIS

TxDOT's access management standards state that for roads where the posted speed limit is 50 miles per hour or more, a deceleration lane is required at the approach to a driveway with 50 vehicles turning into the driveway during the peak hour. The detailed TxDOT turn analysis for each driveway is provided in **Table 11**.

Table 11 – TxDOT Right Turning Movement Threshold

Location	AM Peak	PM Peak	Right-Turn Volume Threshold	Right-Turn Lane required?
Driveway 1 & US 290	155	261	50	Yes
Driveway 2 & US 290	138	224	50	Yes

Results of the analysis for both the AM and PM peak periods show that westbound right turn lane **are recommended** at Driveway 1 and Driveway 2.

SIGNAL WARRANT ANALYSIS

A signal warrant analysis was conducted for the 2028 Build conditions on US 290, focusing on peak hour traffic volumes for the proposed development at Driveway 1 and US 290. Hourly distribution percentages for eastbound and westbound traffic were calculated using TxDOT's TCDS data, collected in proximity to the proposed development. The hourly traffic volumes were then estimated by applying these distributions proportionally to the peak hour factor. For southbound trips, the time-of-day distribution was determined using the ITE Trip Generation Manual, 11th Edition.

The signal warrant analysis reports and volume projections are provided in **Appendix H**, and the results are summarized in **Table 12**.

Table 12 – Signal Warrant Analysis Summary

Warrant		2025 Existing	
		Hours Satisfied	Hours Satisfied
1A	8-Hour Vehicular Volume Condition A (Minor Street Volumes)	Yes	15
1B	8-Hour Vehicular Volume Condition B (Major Street Volumes)	Yes	16
2	4-Hour Vehicular Volume	Yes	16
3A	Peak-Hour Vehicular Volume	Yes	16
3B	Peak-Hour Vehicular Volume	Yes	16

A traffic signal is **warranted** at Driveway 1 & US 290.

RECOMMENDATIONS, MITIGATIONS, AND CONCLUSIONS

This study analyzes the traffic impacts of the proposed Headwaters Development in Hays County, Texas.

The study examined scenarios for 2025 Existing conditions, 2028 No Build, 2028 Build-Out, and 2028 Build-Out with Mitigations. Results indicate that Driveways 1 and 2 had failing LOS during both AM and PM peaks, while the southbound approach at Canyonwood Dr and US 290 faced increased delays. Other intersections are expected to maintain acceptable LOS.

To restore operating conditions to acceptable LOS, the following is proposed to be constructed by the developer:

- Driveway 1 & US 290.
 - Install a traffic signal
 - Install right-turn deceleration lane for westbound approach
- Driveway 2 & US 290.
 - Install right-turn deceleration lane for westbound approach
 - Widen southbound Driveway 2 for separate left and right-turn lane

CERTIFICATION STATEMENT

I hereby certify that this report complies with the County Code and with applicable technical requirements of Hays County and is complete to the best of my knowledge.

KIMLEY-HORN AND ASSOCIATES



Chhun Hong P.E.
Project Manager

APPENDIX

Appendix A: TIA Scope



TRAFFIC IMPACT ANALYSIS SCOPE AND STUDY AREA

Project Name: Headwaters
 Location: Northwest corner of Canyonwood Drive & US 290
 Owner's Agent: Benjamin Plett, P.E., PTOE

Date: April 2, 2025

Instructions: Sections I and II of the scope must be approved prior to formal submittal of a Traffic Impact Analysis (TIA). You may receive sign off of both sections concurrently or separately.

I. Data Collection

1. Background Information

- a. Proposed daily trip generation estimate.
- b. Location/Study area map that specifies major roadways and intersections within study area
- c. The following adopted plans and public infrastructure improvement projects apply to this site:
 - d. City of Dripping Springs Transportation Master Plan
 - e. City of Dripping Springs Thoroughfare Plan
 - f. TxDOT US 290 Dripping Springs to Oak Hill Design Schematic

2. Intersections Level of Service: Calculations for a.m. and p.m. peak hours must be performed for the following intersections, showing (a) existing traffic conditions and (b) projected traffic conditions, identifying site, non-site, and total traffic:

- a. Canyonwood Drive & US 290
- b. Headwaters Boulevard & US 290
- c. Sunset Canyon Drive & US 290
- d. All site driveways

Notes: Existing signal timings shall be used for the intersection unless alternative timing proposals are approved by City of Dripping Springs or TxDOT.

Capacity Analysis for each phase/year shall include the following for the purposes of Mitigation Development:

- a. Level of Service by intersection for signalized intersection and by stop-controlled approach at unsignalized intersections
- b. Delay by intersection for signalized intersection and by stop-controlled approach at unsignalized intersections

Capacity Analysis for each phase/year shall include in the appendix:

- a. Level of Service by movements
- b. Delay by movements
- c. V/C by movements
- d. 95th percentile queue by movements

3. Sight Distance Analysis

- a. When proposed mitigation recommends a new traffic signal be installed, an analysis of the intersection's stopping sight distance on approach to stopped queues (back of queue) should be included.
- b. Intersections or new driveways must also provide an analysis of the intersection sight distance for City streets.

4. Turn Lane Analysis

- a. Turn lane analysis will be performed at all site driveways to determine if left and/or right-turn lanes are needed to enter the site based on TxDOT Access Management Manual and TxDOT Roadway Design Manual.

5. Roadway Sizing Analysis

Roadway analysis must be performed to determine the size and type of roadway for the following roadway segments.

- a. None

6. Analysis Phases/Years:

- a. Existing 2025
- b. Forecasted (No Build) 2028
- c. Site plus Forecasted 2028
- d. Site plus Forecasted with Improvements 2028

7. Other Considerations:

- a. Counts are to be taken when public schools are in session.
- b. Ensure automated traffic data captures demand. Manual observations or a multiple period analysis may be necessary.
- c. Capture and report data to calibrate model for existing operational analysis (i.e. queue length and approach/movement delay recommended)
- d. Methodology for capacity and level of service shall be Highway Capacity Manual, latest edition (i.e. Synchro, version 12).
- e. Discuss and illustrate methodology for trip distribution.
- a. Improvements required to mitigate the impact of site traffic for intersections below Level of Service C, based on City of Dripping Springs Code Chapter 28, Exhibit A, Section 11.11.
- b. Identify ROW reserve for TxDOT US 290 Dripping Springs to Oak Hill schematic.

II. Study Assumptions

1. Data Assumptions The following assumptions must be included in the analysis. Any change in these assumptions must be approved by the transportation reviewer(s) prior to submittal of the TIA.

- a. Background Traffic—the annual growth rate shall be calculated using the following standard formula and back solved to growth rate: "Newest reported volume = Old reported volume * (1+Growth rate) ^ number of years in between the two volumes" and back solved.

- b. The roadway used for computing growth rate should be of the same class of highway as the development's location and be as close as possible.

2. Background

a. Other Projects to be Included:

Project Name	Case Number
Headwaters Development (Provided By City of Dripping Springs)	

b. Internal Trips /Transit Trips/Walking/Biking:

- To be determined via NCHRP 684 and documented in the Report

c. Pass by trip reduction0s:

- Per ITE
 - Strip Retail Plaza (<40k) - 0% AM, 40% PM
 - Home Improvement Superstore - 0% AM, 42% PM
 - High-Turnover (Sit-Down) Restaurant - 0% AM, 43% PM
 - Fast-Food Restaurant w/ D.T. - 50% AM, 55% PM
 - Coffee/Donut Shop w/ D.T. - 50% AM, 55% PM

III. Submittal Requirements

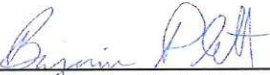
- The cover sheet of the TIA must include the My Permit Now permit number.
- Submit to Hays County electronically via their preferred method.
- Traffic signal modeling requirements:
 - All timing sheets from various sources (TxDOT) to be included in the Appendix of the TIA.
 - Submit electronically the following info (in the number specified) containing the following: PDF of the TIA, Synchro Network for all conditions analyzed and background DXF or aerial format. Synchro files must be in real world coordinates, Excel spreadsheets with, overall trip generation, internal and pass-by trip capture rates if applicable, site trip distribution & assignment within roadway network and site driveways, A CAD file for the site plan, if available.
 - All intersections must be modeled in one Synchro (latest edition) file (including unsignalized intersections).
 - Synchro signal timing sheets to be included in the following format:
 - Existing conditions (am + pm on one sheet),
 - Six (6) future conditions:
 - (am background, am background + site, am background + site + mitigation)
 - (pm background, pm background + site, pm background + site + mitigation)

- e. Intersection LOS by movements, Delay by movements, v/c by movements, and 95% queue length by movements in a tabular format (preferably in 11"x17") for different scenarios noted.

4. Maps

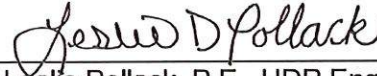
- a. A proposed Site Plan
- b. A map showing all bicycle routes, bus transit and bus stops within ½ mile of the site
- c. A map showing all background projects and trip generation for each project,
- d. A map showing all roadways and driveways analyzed (labeled and dimensioned)
- e. An aerial map of all intersections with roadway improvements (dimensioned), including above ground utilities called out.

5. Construction cost estimates should be prepared and included for transportation improvements recommended in the TIA.

Prepared by:  Phone: 512-418-4523
Benjamin Plett, P.E., PTOE

Accepted by:  Phone: 512-662-3934
Jennifer Moczygemba P.E., Hays County,

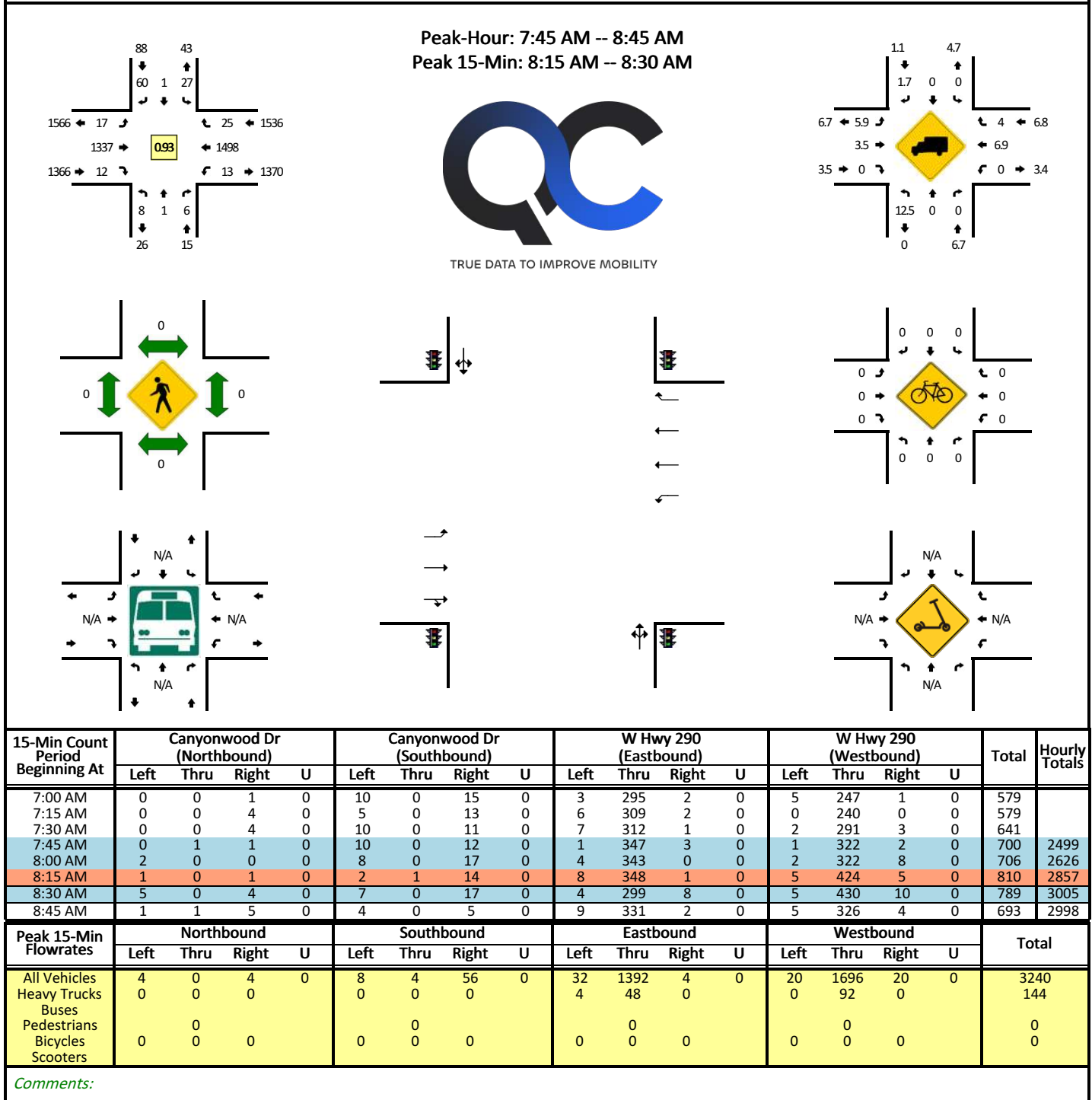
Accepted by:  4-21-2025 Phone: (512) 858-7897
Chad Gilpin, P.E. City of Dripping Springs

Accepted by:  Phone: (512) 904-3728
Leslie Pollack, P.E. HDR Engineering, Inc.

Appendix B: Existing Traffic Counts

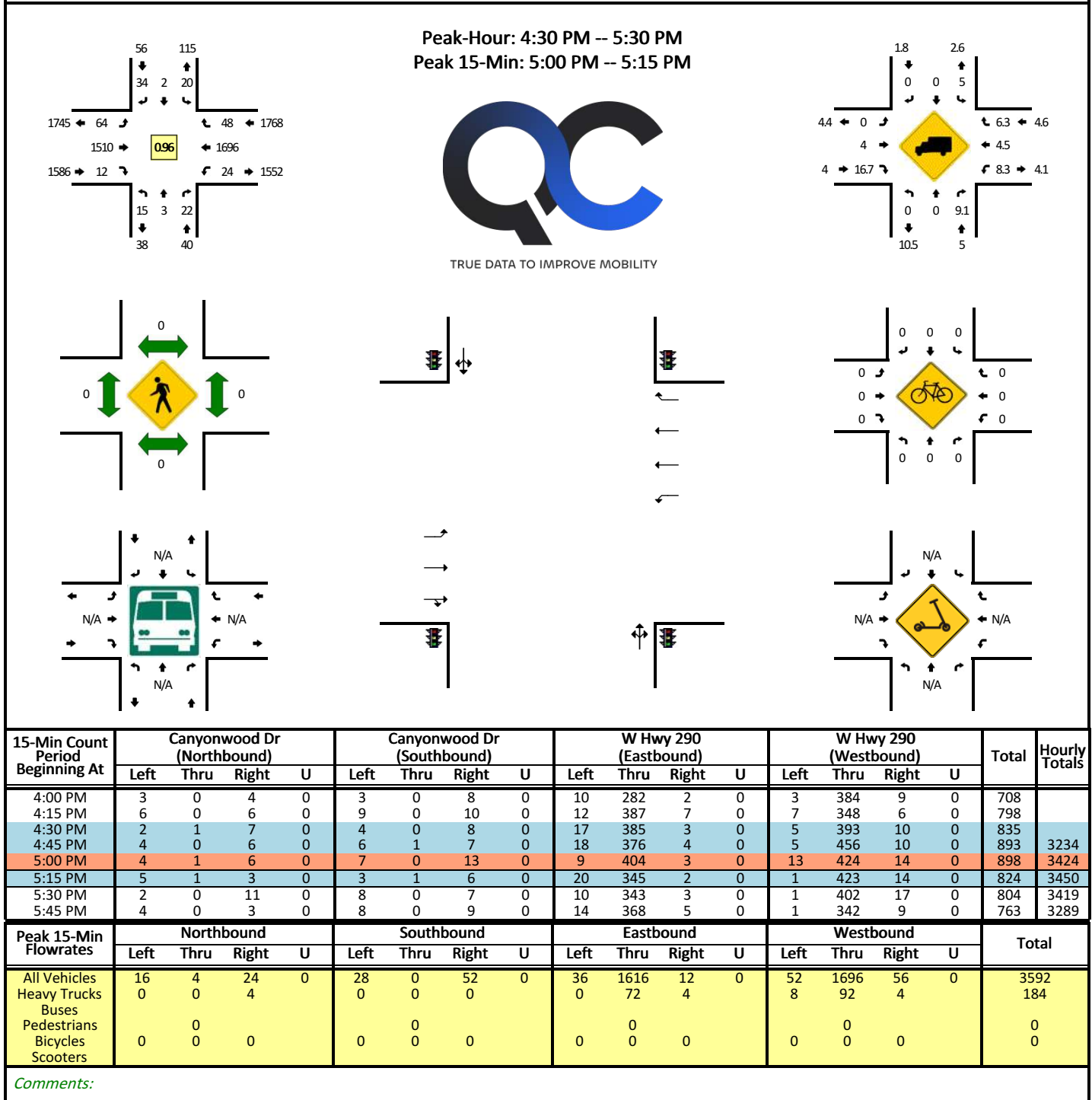
LOCATION: Canyonwood Dr -- W Hwy 290
CITY/STATE: Dripping Springs, TX

QC JOB #: 17059801
DATE: Wed, May 7 2025



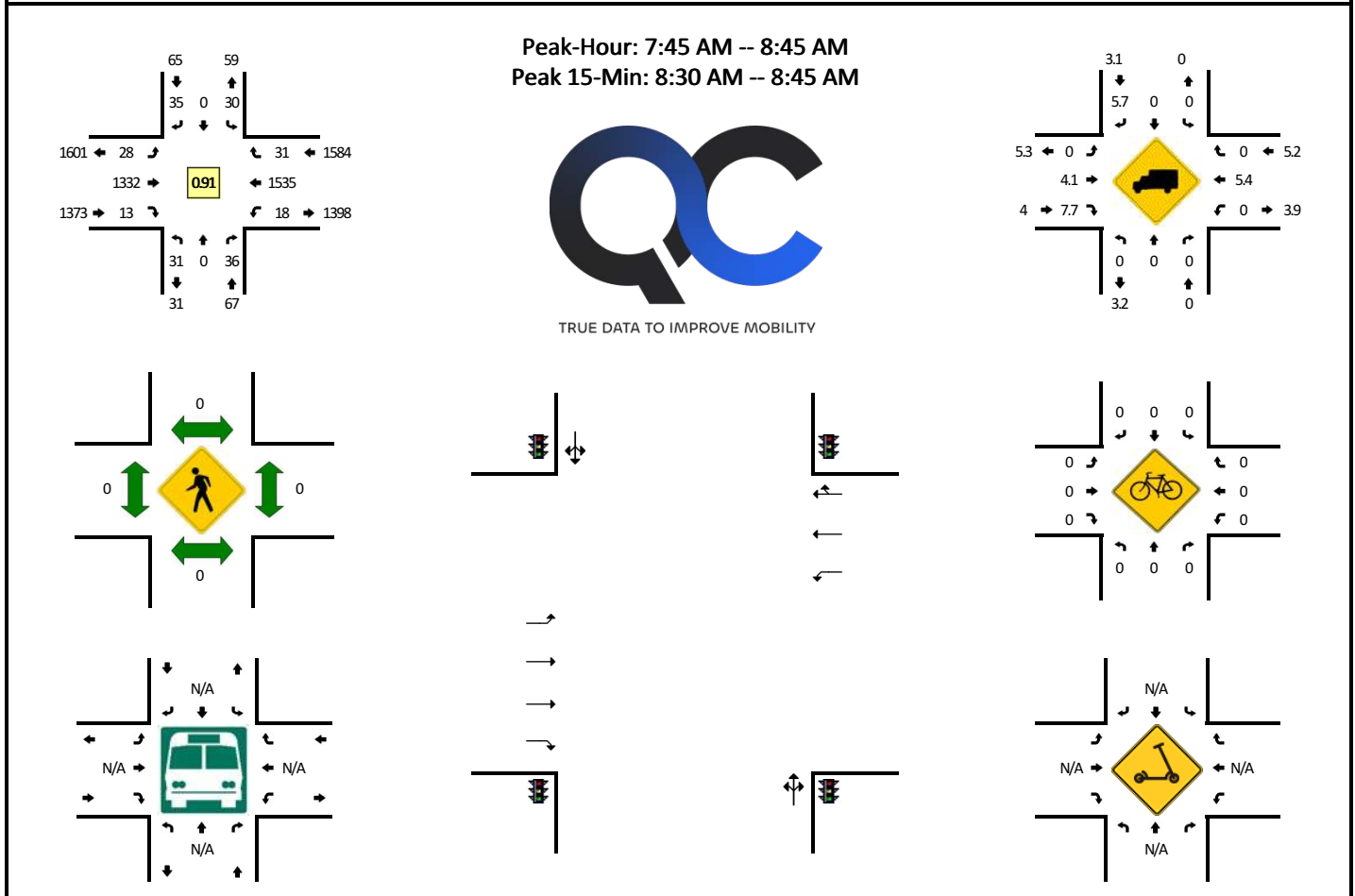
LOCATION: Canyonwood Dr -- W Hwy 290
CITY/STATE: Dripping Springs, TX

QC JOB #: 17059802
DATE: Wed, May 7 2025



LOCATION: Sunset Canyon Dr S/Hidden Hills Dr -- W Hwy 290
CITY/STATE: Austin, TX

QC JOB #: 17059803
DATE: Wed, May 7 2025



15-Min Count Period Beginning At	Sunset Canyon Dr S/Hidden Hills Dr (Northbound)				Sunset Canyon Dr S/Hidden Hills Dr (Southbound)				W Hwy 290 (Eastbound)				W Hwy 290 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	0	11	0	11	0	6	0	0	290	0	0	1	225	0	0	549	
7:15 AM	4	0	12	0	7	0	4	0	1	315	5	0	1	261	1	0	611	
7:30 AM	7	0	6	0	6	0	3	0	1	324	1	0	4	311	5	0	668	
7:45 AM	7	0	14	0	5	0	6	0	5	315	4	0	5	340	5	0	706	2534
8:00 AM	8	0	8	0	8	0	6	0	4	376	2	0	3	367	6	0	788	2773
8:15 AM	11	0	12	0	7	0	9	0	9	301	2	0	2	390	8	0	751	2913
8:30 AM	5	0	2	0	10	0	14	0	10	340	5	0	8	438	12	0	844	3089
8:45 AM	4	0	6	0	18	0	9	0	5	309	7	0	5	324	4	0	691	3074
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	20	0	8	0	40	0	56	0	40	1360	20	0	32	1752	48	0	3376	
Heavy Trucks	0	0	0	0	0	0	0	0	0	64	0	0	0	84	0	0	148	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

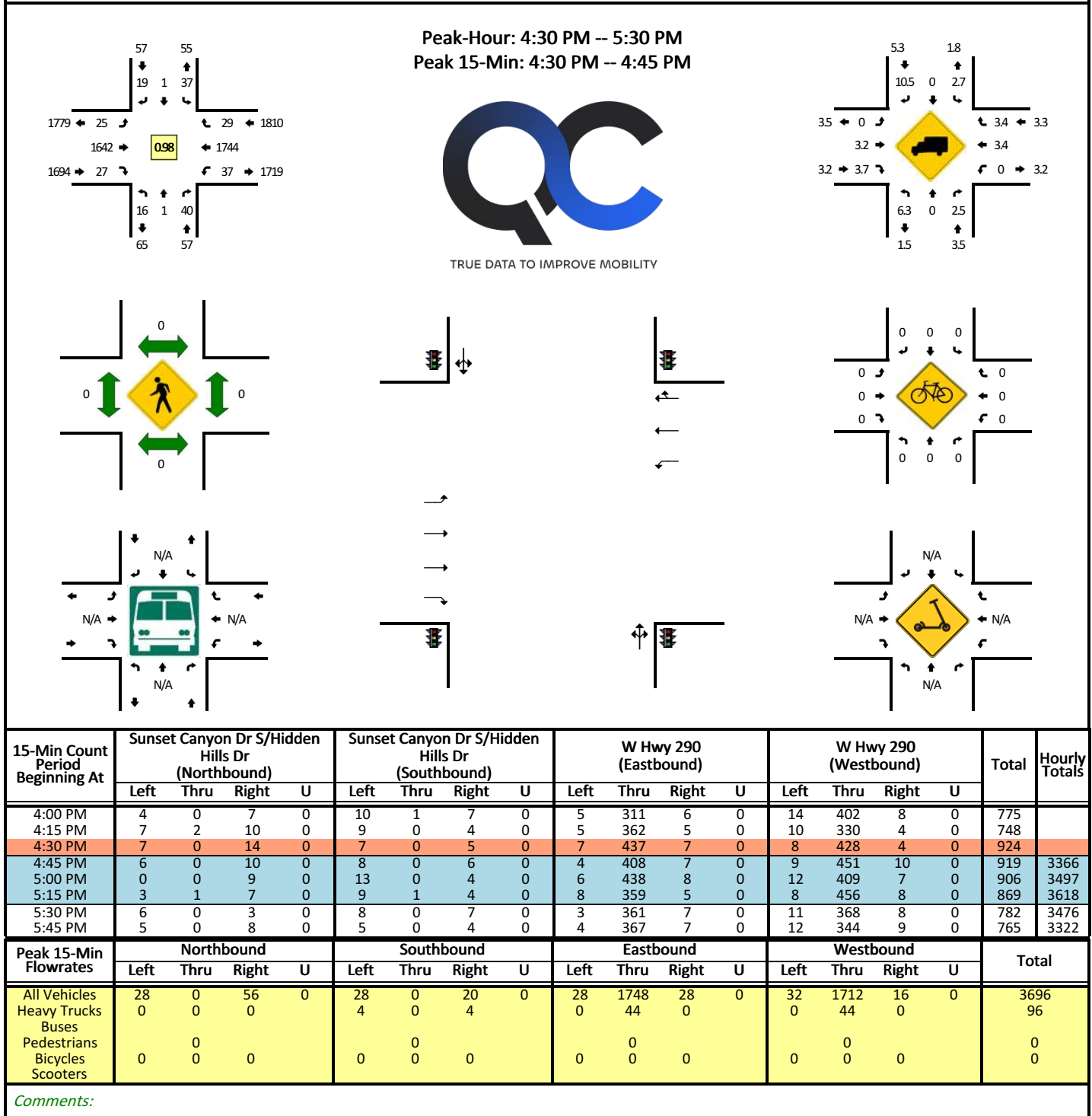
Comments:

Report generated on 5/14/2025 2:04 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

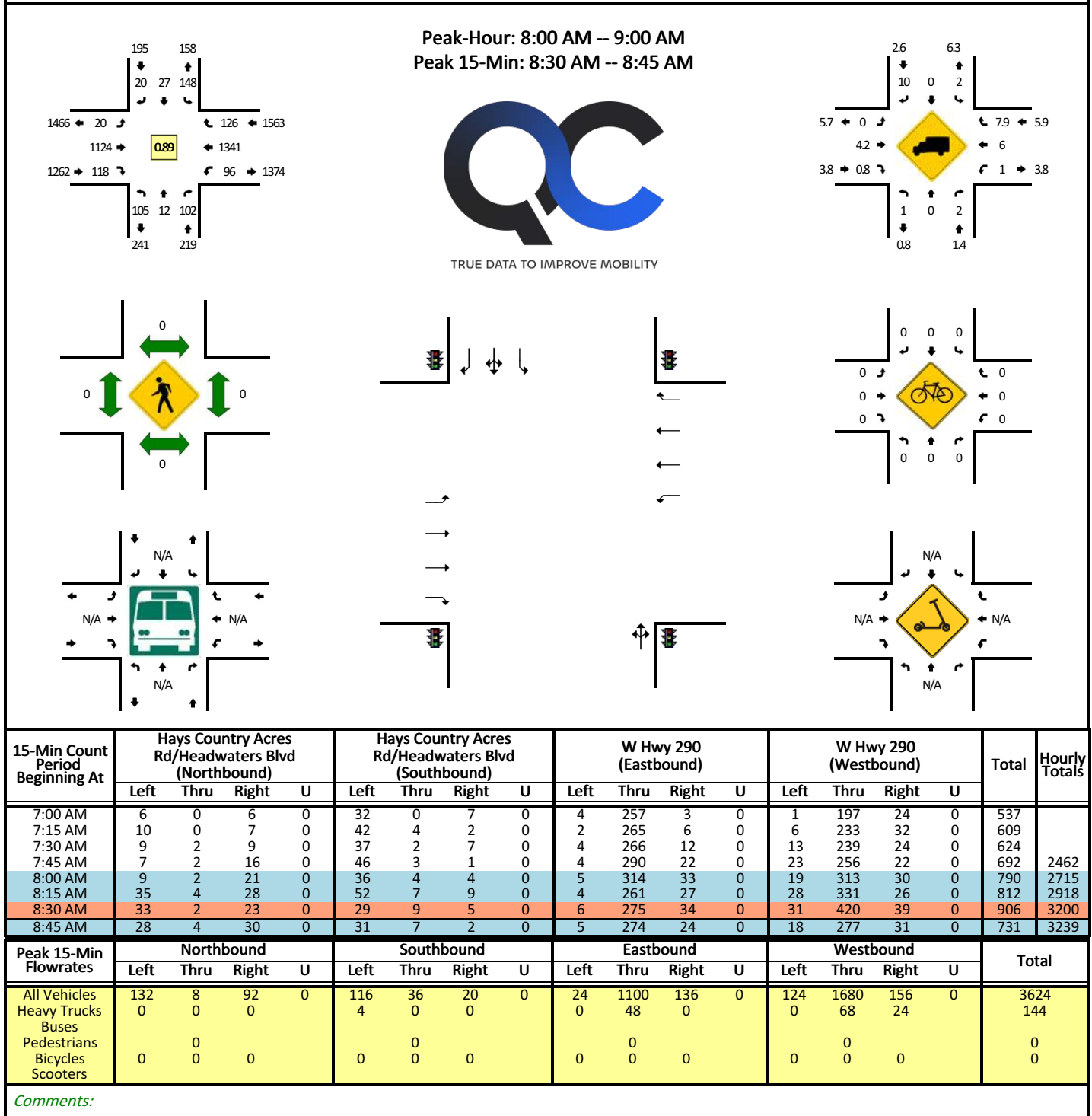
LOCATION: Sunset Canyon Dr S/Hidden Hills Dr -- W Hwy 290
CITY/STATE: Austin, TX

QC JOB #: 17059804
DATE: Wed, May 7 2025



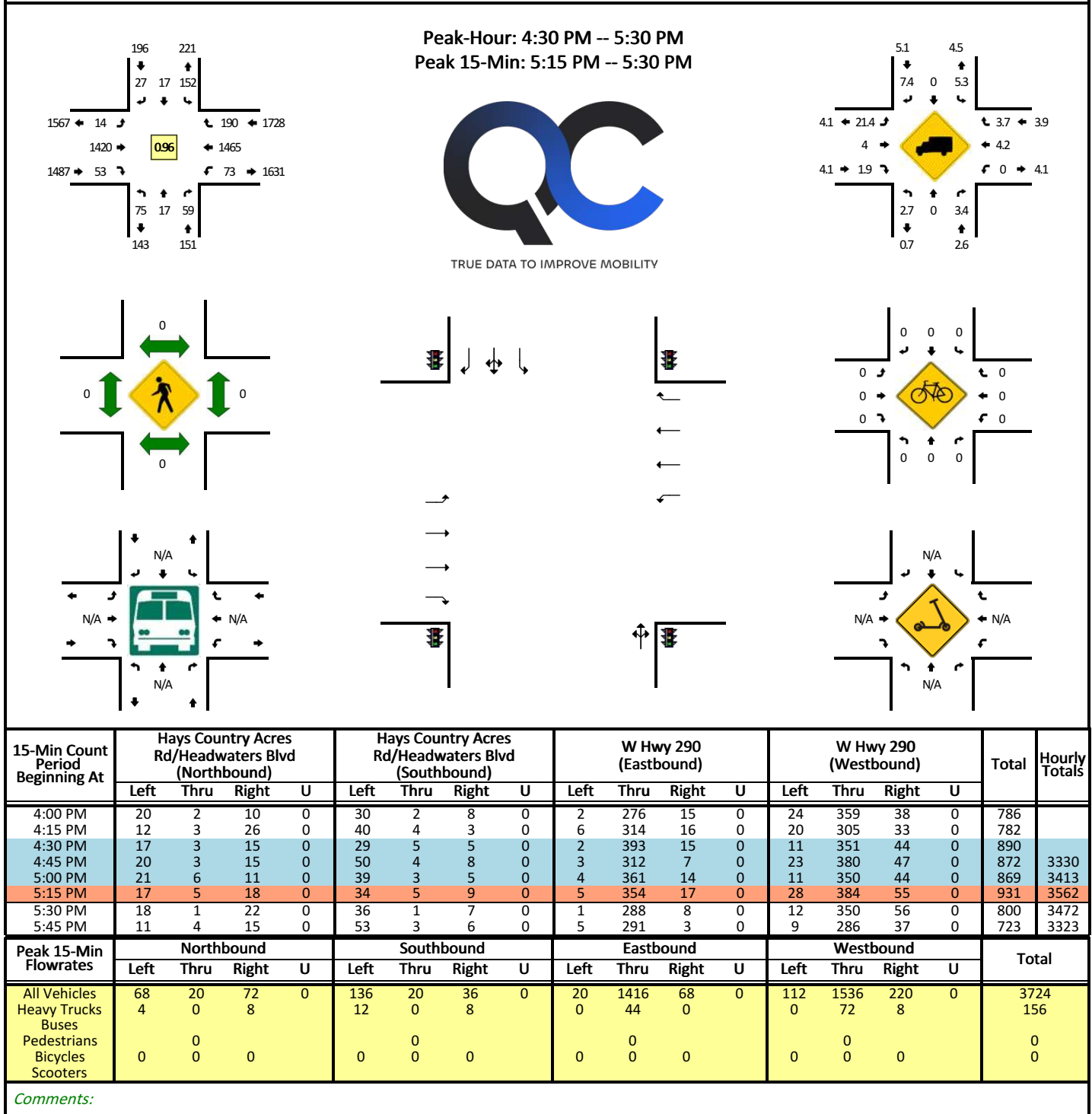
LOCATION: Hays Country Acres Rd/Headwaters Blvd -- W Hwy 290
CITY/STATE: Dripping Springs, TX

QC JOB #: 17059805
DATE: Wed, May 7 2025



LOCATION: Hays Country Acres Rd/Headwaters Blvd -- W Hwy 290
CITY/STATE: Dripping Springs, TX

QC JOB #: 17059806
DATE: Wed, May 7 2025



Appendix C: Site Trip Generation

DAILY																				
ITE Code	Land-Use Description	Land-Use	# UNITS	UNIT	Phase Percentage	Total Trips	Internally Captured Trips			Net Trips After Internal Capture			Pass By Trips			Net Trips Internal Capture + Pass By			Net Trips After All Reductions	
						Total Daily Trips	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
492	Retail	Health/Fitness Club	160	1,000 Sq Ft	100%		0	0	0		0	0					0	0	0	0
821	Retail	Shopping Plaza (40k - 150k) (Supermarket)	129	1,000 Sq Ft GLA	100%	12,190	1,046	0	0	11,144	0	0					0	0	0	12,190
932	Restaurant	High-Turnover (Sit-Down) Restaurant	17.5	1,000 Sq Ft	100%	1,876	376	0	0	1,500	0	0					0	0	0	1,876
934	Restaurant	Fast-Food Restaurant w/ D.T.	5.725	1,000 Sq Ft	100%	2,677	537	0	0	2,140	0	0					0	0	0	2,677
945	Retail	Gasoline Station w/ Convenience Market	12	Fueling Position(s) 4-5.5k SF	100%	3,086	265	0	0	2,821	0	0					0	0	0	3,086
948	Retail	Automated Car Wash	4.6	1,000 Sq Ft	100%		0	0	0		0	0					0	0	0	0
TOTAL						19,829	2,223	0	0	17,606	0	0	0	0	0	0	0	0	0	19,829

AM PEAK-PERIOD																							
ITE Code	Land-Use Description	Land-Use	# UNITS	UNIT	Phase Percentage	Total Trips			Internally Captured Trips (Internal Trips)			Net Trips After Internal Capture (External Trips)			Pass By Trips (Existing External)			Net Trips After IC + PB (Net New External)			Net Trips After All Reductions		
						Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
492	Retail	Health/Fitness Club	160	1,000 Sq Ft	100%	210	107	103	18	5	13	192	102	90	0	0	0	191	102	90	191	102	90
821	Retail	Shopping Plaza (40k - 150k) (Supermarket)	129	1,000 Sq Ft GLA	100%	456	283	173	39	14	23	417	269	150	0	0	0	419	269	150	419	269	150
932	Restaurant	High-Turnover (Sit-Down) Restaurant	17.5	1,000 Sq Ft	100%	168	92	76	34	24	11	134	68	65	0	0	0	134	68	65	134	68	65
934	Restaurant	Fast-Food Restaurant w/ D.T.	5.725	1,000 Sq Ft	100%	256	131	125	51	33	17	205	98	108	103	49	54	103	49	54	103	49	54
945	Retail	Gasoline Station w/ Convenience Market	12	Fueling Position(s) 4-5.5k SF	100%	325	163	162	28	8	21	297	155	141	225	118	107	71	37	34	71	37	34
948	Retail	Automated Car Wash	4.6	1,000 Sq Ft	100%				0	0	0							0	0	0	0	0	0
TOTAL						1,415	776	639	170	85	85	1,245	691	554	327	166	161	918	525	393	918	525	393

PM PEAK-PERIOD																							
ITE Code	Land-Use Description	Land-Use	# UNITS	UNIT	Phase Percentage	Total Trips			Internally Captured Trips (Internal Trips)			Net Trips After Internal Capture (External Trips)			Pass By Trips (Existing External)			Net Trips After IC + PB (Net New External)			Net Trips After All Reductions		
						Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
492	Retail	Health/Fitness Club	160	1,000 Sq Ft	100%	552	315	237	32	19	13	520	296	224	0	0	0	520	296	224	520	296	224
821	Retail	Shopping Plaza (40k - 150k) (Supermarket)	129	1,000 Sq Ft GLA	100%	1,165	559	606	68	34	34	1,097	525	572	439	210	229	658	315	343	658	315	343
932	Restaurant	High-Turnover (Sit-Down) Restaurant	17.5	1,000 Sq Ft	100%	159	97	62	55	28	26	104	69	36	45	30	16	60	39	21	60	39	21
934	Restaurant	Fast-Food Restaurant w/ D.T.	5.725	1,000 Sq Ft	100%	190	99	91	65	29	37	125	70	54	68	39	29	56	32	24	56	32	24
945	Retail	Gasoline Station w/ Convenience Market	12	Fueling Position(s) 4-5.5k SF	100%	274	137	137	16	8	8	258	129	129	194	97	97	65	32	32	65	32	32
948	Retail	Automated Car Wash	4.6	1,000 Sq Ft	100%	66	33	33	4	2	2	62	31	31	0	0	0	62	31	31	62	31	31
TOTAL						2,406	1,240	1,166	240	120	120	2,166	1,120	1,046	746	375	371	1,420	745	675	1,420	745	675

Appendix D: Synchro Reports – Existing Conditions

Timings

1: Headwaters Blvd & US 290

Existing 2025 A Item 2.

07/09/2025

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	20	1124	118	96	1341	126	12	148	27	20
Future Volume (vph)	20	1124	118	96	1341	126	12	148	27	20
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	NA	Split	NA	Perm
Protected Phases	5	2	3	1	6	4	3	4	4	
Permitted Phases			2			6				4
Detector Phase	5	2	3	1	6	4	3	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	5.0	5.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	24.0	12.0	25.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	20.0	76.0	26.0	20.0	76.0	18.0	26.0	18.0	18.0	18.0
Total Split (%)	14.3%	54.3%	18.6%	14.3%	54.3%	12.9%	18.6%	12.9%	12.9%	12.9%
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effect Green (s)	10.1	71.5	97.9	11.8	78.3	96.6	19.4	11.3	11.3	11.3
Actuated g/C Ratio	0.07	0.51	0.70	0.08	0.56	0.69	0.14	0.08	0.08	0.08
v/c Ratio	0.17	0.68	0.11	0.70	0.74	0.12	0.92	0.70	0.73	0.07
Control Delay (s/veh)	62.3	28.5	1.4	88.4	23.8	2.2	91.6	89.0	92.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	62.3	28.5	1.4	88.4	23.8	2.2	91.6	89.0	92.4	0.4
LOS	E	C	A	F	C	A	F	F	F	A
Approach Delay (s/veh)		26.5			26.0		91.6		82.2	
Approach LOS		C			C		F		F	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 90 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay (s/veh): 34.0

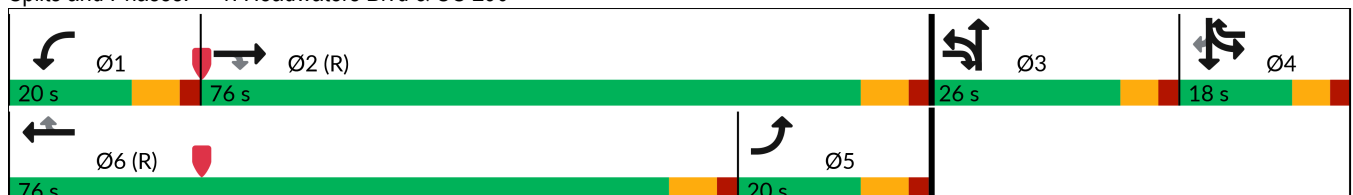
Intersection LOS: C

Intersection Capacity Utilization 77.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Headwaters Blvd & US 290



Timings 2: Canyonwood Dr & US 290

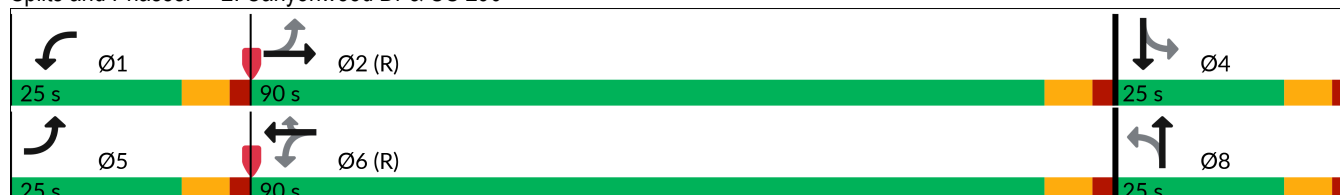
Existing 2025 A Item 2.
07/09/2025

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	17	1337	13	1498	25	8	1	27	1
Future Volume (vph)	17	1337	13	1498	25	8	1	27	1
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2	1	6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	5.0	15.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	12.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	25.0	90.0	25.0	90.0	90.0	25.0	25.0	25.0	25.0
Total Split (%)	17.9%	64.3%	17.9%	64.3%	64.3%	17.9%	17.9%	17.9%	17.9%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0		7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effect Green (s)	114.2	111.8	114.1	111.8	111.8		9.0		9.0
Actuated g/C Ratio	0.82	0.80	0.82	0.80	0.80		0.06		0.06
v/c Ratio	0.07	0.52	0.05	0.58	0.02		0.20		0.61
Control Delay (s/veh)	0.9	5.3	4.7	13.2	1.0		47.8		40.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	0.9	5.3	4.7	13.2	1.0		47.8		40.5
LOS	A	A	A	B	A		D		D
Approach Delay (s/veh)		5.2		13.0			47.8		40.5
Approach LOS		A		B			D		D

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 33 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay (s/veh): 10.4
Intersection Capacity Utilization 58.7%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service B

Splits and Phases: 2: Canyonwood Dr & US 290



Timings 3: Sunset Canyon Dr & US 290

Existing 2025 A Item 2.
07/09/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	28	1332	13	18	1535	31	0	30	0
Future Volume (vph)	28	1332	13	18	1535	31	0	30	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	25.0	12.0	25.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	95.0	95.0	15.0	95.0	30.0	30.0	30.0	30.0
Total Split (%)	10.7%	67.9%	67.9%	10.7%	67.9%	21.4%	21.4%	21.4%	21.4%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None
Act Effect Green (s)	119.0	116.8	116.8	118.9	116.7		6.6		6.6
Actuated g/C Ratio	0.85	0.83	0.83	0.85	0.83		0.05		0.05
v/c Ratio	0.12	0.49	0.01	0.06	0.58		0.51		0.50
Control Delay (s/veh)	1.5	3.5	0.0	2.1	6.5		21.4		20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	1.5	3.5	0.0	2.1	6.5		21.4		20.0
LOS	A	A	A	A	A		C		C
Approach Delay (s/veh)		3.5			6.4		21.4		20.0
Approach LOS		A			A		C		C

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 111 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay (s/veh): 5.7
Intersection Capacity Utilization 58.8%
Analysis Period (min) 15
Intersection LOS: A
ICU Level of Service B

Splits and Phases: 3: Sunset Canyon Dr & US 290



Timings

1: Headwaters Blvd & US 290

Existing 2025 F Item 2.

07/09/2025

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	14	1420	53	73	1465	190	17	152	17	27
Future Volume (vph)	14	1420	53	73	1465	190	17	152	17	27
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	NA	Split	NA	Perm
Protected Phases	5	2	3	1	6	4	3	4	4	
Permitted Phases			2			6				4
Detector Phase	5	2	3	1	6	4	3	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	5.0	5.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	24.0	12.0	25.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	83.0	34.0	25.0	93.0	18.0	34.0	18.0	18.0	18.0
Total Split (%)	9.4%	51.9%	21.3%	15.6%	58.1%	11.3%	21.3%	11.3%	11.3%	11.3%
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effect Green (s)	6.8	88.5	114.6	12.5	102.0	123.0	19.0	13.9	13.9	13.9
Actuated g/C Ratio	0.04	0.55	0.72	0.08	0.64	0.77	0.12	0.09	0.09	0.09
v/c Ratio	0.20	0.79	0.05	0.57	0.71	0.16	0.75	0.63	0.66	0.09
Control Delay (s/veh)	79.6	33.8	1.3	95.0	8.3	0.2	80.7	89.2	91.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	79.6	33.8	1.3	95.0	8.3	0.2	80.7	89.2	91.3	0.7
LOS	E	C	A	F	A	A	F	F	F	A
Approach Delay (s/veh)		33.1			11.0		80.7		79.3	
Approach LOS		C			B		F		E	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 35 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay (s/veh): 26.9

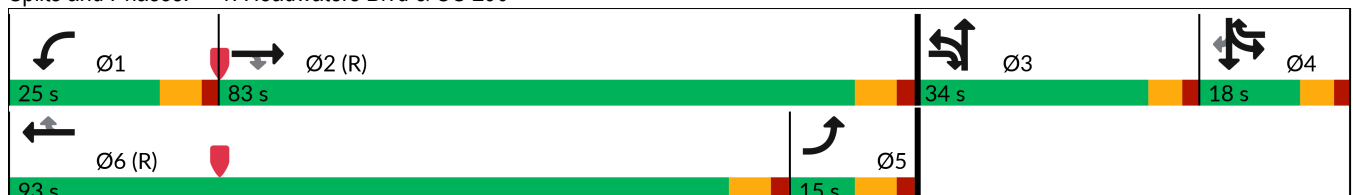
Intersection LOS: C

Intersection Capacity Utilization 76.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Headwaters Blvd & US 290



Timings 2: Canyonwood Dr & US 290

Existing 2025 P
07/09/2025

Item 2.

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	64	1510	24	1696	48	15	3	20	2
Future Volume (vph)	64	1510	24	1696	48	15	3	20	2
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2	1	6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	5.0	15.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	12.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	15.0	110.0	15.0	110.0	110.0	35.0	35.0	35.0	35.0
Total Split (%)	9.4%	68.8%	9.4%	68.8%	68.8%	21.9%	21.9%	21.9%	21.9%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0		7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effect Green (s)	136.8	133.6	131.9	126.1	126.1		8.5		8.5
Actuated g/C Ratio	0.86	0.84	0.82	0.79	0.79		0.05		0.05
v/c Ratio	0.34	0.56	0.10	0.66	0.04		0.43		0.52
Control Delay (s/veh)	9.1	12.4	1.7	13.0	0.9		51.1		49.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	9.1	12.4	1.7	13.0	0.9		51.1		49.5
LOS	A	B	A	B	A		D		D
Approach Delay (s/veh)		12.2		12.6			51.1		49.5
Approach LOS		B		B			D		D

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 122 (76%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay (s/veh): 13.4

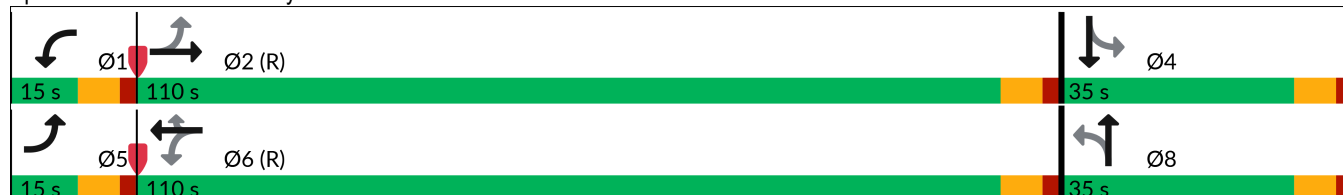
Intersection LOS: B

Intersection Capacity Utilization 69.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Canyonwood Dr & US 290



Timings
3: Sunset Canyon Dr & US 290

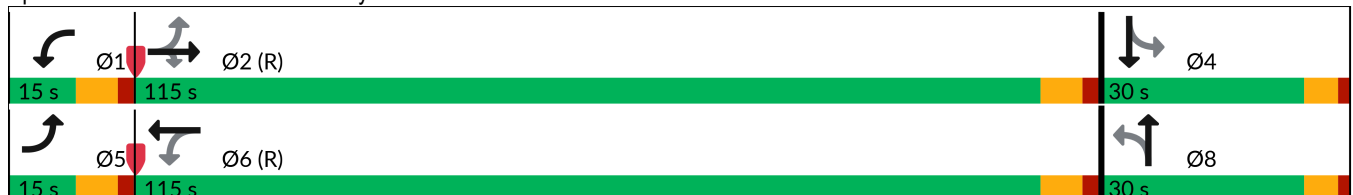
Existing 2025 F Item 2.
07/09/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	25	1642	27	37	1744	16	1	37	1
Future Volume (vph)	25	1642	27	37	1744	16	1	37	1
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	25.0	12.0	25.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	115.0	115.0	15.0	115.0	30.0	30.0	30.0	30.0
Total Split (%)	9.4%	71.9%	71.9%	9.4%	71.9%	18.8%	18.8%	18.8%	18.8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	133.1	129.7	129.7	134.9	132.5		10.8		10.8
Actuated g/C Ratio	0.83	0.81	0.81	0.84	0.83		0.07		0.07
v/c Ratio	0.15	0.62	0.02	0.19	0.66		0.43		0.63
Control Delay (s/veh)	6.3	20.7	2.2	4.3	9.1		36.4		82.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	6.3	20.7	2.2	4.3	9.1		36.4		82.2
LOS	A	C	A	A	A		D		F
Approach Delay (s/veh)		20.2			9.0		36.4		82.2
Approach LOS		C			A		D		F

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 54 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay (s/veh): 15.9
 Intersection LOS: B
 Intersection Capacity Utilization 66.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Sunset Canyon Dr & US 290



Appendix E: Synchro Reports – 2028 No Build Conditions

Timings

1: Headwaters Blvd & US 290

No Build 2028 A Item 2.

07/09/2025

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	22	1210	127	103	1444	136	13	159	29	22
Future Volume (vph)	22	1210	127	103	1444	136	13	159	29	22
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	NA	Split	NA	Perm
Protected Phases	5	2	3	1	6	4	3	4	4	
Permitted Phases			2			6				4
Detector Phase	5	2	3	1	6	4	3	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	5.0	5.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	24.0	12.0	25.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	20.0	76.0	26.0	20.0	76.0	18.0	26.0	18.0	18.0	18.0
Total Split (%)	14.3%	54.3%	18.6%	14.3%	54.3%	12.9%	18.6%	12.9%	12.9%	12.9%
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effect Green (s)	10.2	70.5	97.5	12.1	77.6	96.0	20.0	11.4	11.4	11.4
Actuated g/C Ratio	0.07	0.50	0.70	0.09	0.55	0.69	0.14	0.08	0.08	0.08
v/c Ratio	0.19	0.74	0.12	0.74	0.80	0.13	0.97	0.74	0.78	0.07
Control Delay (s/veh)	62.7	31.0	1.3	93.4	21.1	1.2	101.2	92.9	98.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	62.7	31.0	1.3	93.4	21.1	1.2	101.2	92.9	98.2	0.5
LOS	E	C	A	F	C	A	F	F	F	A
Approach Delay (s/veh)		28.7			23.9		101.2		86.5	
Approach LOS		C			C		F		F	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 90 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay (s/veh): 34.8

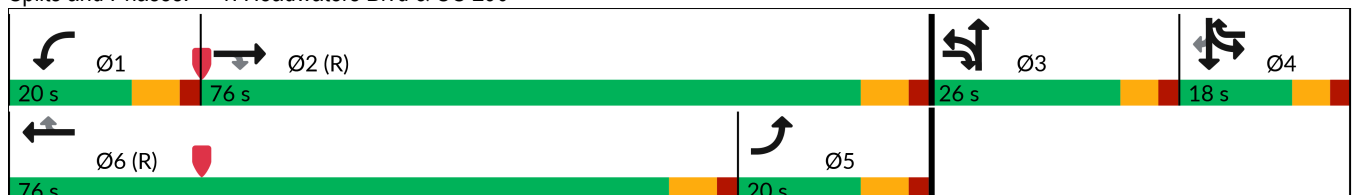
Intersection LOS: C

Intersection Capacity Utilization 81.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Headwaters Blvd & US 290



Timings

2: Canyonwood Dr & US 290

No Build 2028 A Item 2.

07/09/2025

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	18	1440	14	1613	27	9	1	29	1
Future Volume (vph)	18	1440	14	1613	27	9	1	29	1
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2	1	6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	5.0	15.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	12.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	25.0	90.0	25.0	90.0	90.0	25.0	25.0	25.0	25.0
Total Split (%)	17.9%	64.3%	17.9%	64.3%	64.3%	17.9%	17.9%	17.9%	17.9%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0		7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effect Green (s)	113.4	111.0	111.9	108.4	108.4		9.8		9.8
Actuated g/C Ratio	0.81	0.79	0.80	0.77	0.77		0.07		0.07
v/c Ratio	0.10	0.56	0.06	0.64	0.02		0.20		0.63
Control Delay (s/veh)	1.1	5.5	3.8	16.0	0.5		47.4		44.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	1.1	5.5	3.8	16.0	0.5		47.4		44.3
LOS	A	A	A	B	A		D		D
Approach Delay (s/veh)		5.5		15.6			47.4		44.3
Approach LOS		A		B			D		D

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 33 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay (s/veh): 12.0

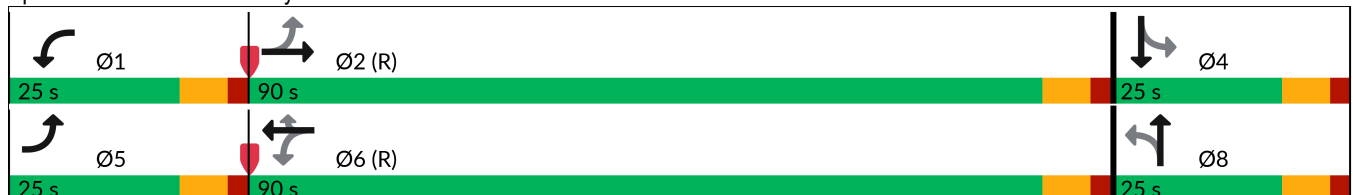
Intersection LOS: B

Intersection Capacity Utilization 62.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Canyonwood Dr & US 290



Timings

3: Sunset Canyon Dr & US 290

No Build 2028 A Item 2.

07/09/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	30	1434	14	19	1653	33	0	32	0
Future Volume (vph)	30	1434	14	19	1653	33	0	32	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	25.0	12.0	25.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	95.0	95.0	15.0	95.0	30.0	30.0	30.0	30.0
Total Split (%)	10.7%	67.9%	67.9%	10.7%	67.9%	21.4%	21.4%	21.4%	21.4%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None
Act Effect Green (s)	116.7	113.0	113.0	116.4	112.9		6.8		6.8
Actuated g/C Ratio	0.83	0.81	0.81	0.83	0.81		0.05		0.05
v/c Ratio	0.16	0.55	0.01	0.08	0.64		0.54		0.53
Control Delay (s/veh)	2.8	8.0	0.1	2.3	7.8		24.1		23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	2.8	8.0	0.1	2.3	7.8		24.1		23.1
LOS	A	A	A	A	A		C		C
Approach Delay (s/veh)		7.8			7.7		24.1		23.1
Approach LOS		A			A		C		C

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 111 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay (s/veh): 8.4

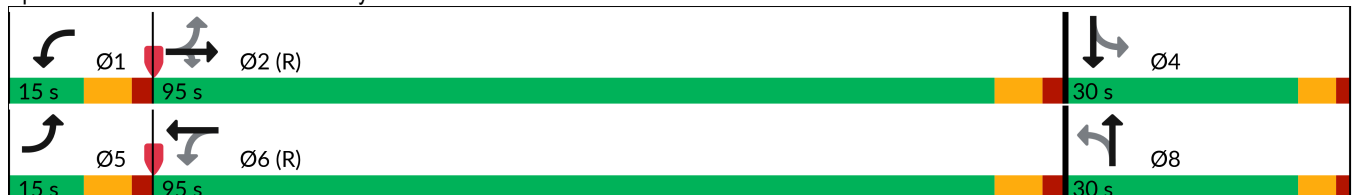
Intersection LOS: A

Intersection Capacity Utilization 62.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: Sunset Canyon Dr & US 290



Timings

1: Headwaters Blvd & US 290

No Build 2028 F

Item 2.

07/09/2025

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	15	1529	57	79	1578	205	18	164	18	29
Future Volume (vph)	15	1529	57	79	1578	205	18	164	18	29
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	NA	Split	NA	Perm
Protected Phases	5	2	3	1	6	4	3	4	4	
Permitted Phases			2			6				4
Detector Phase	5	2	3	1	6	4	3	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	5.0	5.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	24.0	12.0	25.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	83.0	34.0	25.0	93.0	18.0	34.0	18.0	18.0	18.0
Total Split (%)	9.4%	51.9%	21.3%	15.6%	58.1%	11.3%	21.3%	11.3%	11.3%	11.3%
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effect Green (s)	6.9	86.6	113.9	13.1	100.7	121.7	20.3	14.1	14.1	14.1
Actuated g/C Ratio	0.04	0.54	0.71	0.08	0.63	0.76	0.13	0.09	0.09	0.09
v/c Ratio	0.21	0.87	0.05	0.60	0.77	0.18	0.76	0.68	0.71	0.10
Control Delay (s/veh)	80.0	39.0	1.5	96.2	10.5	0.3	80.4	92.2	94.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	80.0	39.0	1.5	96.2	10.5	0.3	80.4	92.2	94.4	0.7
LOS	E	D	A	F	B	A	F	F	F	A
Approach Delay (s/veh)		38.1			13.1		80.4		81.7	
Approach LOS		D			B		F		F	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 35 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay (s/veh): 30.1

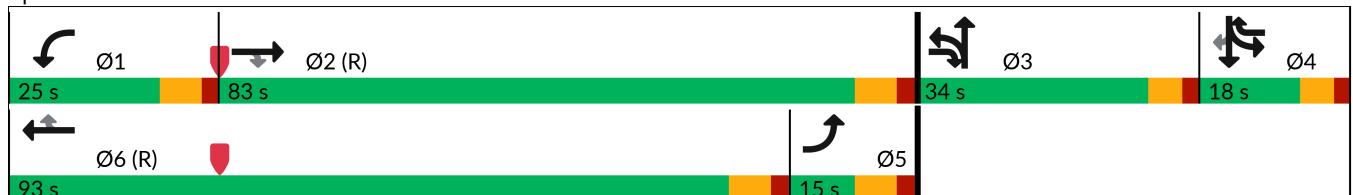
Intersection LOS: C

Intersection Capacity Utilization 80.5%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Headwaters Blvd & US 290



Timings 2: Canyonwood Dr & US 290

No Build 2028 F
07/09/2025

Item 2.

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	69	1626	26	1826	52	16	3	22	2
Future Volume (vph)	69	1626	26	1826	52	16	3	22	2
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2	1	6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	5.0	15.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	12.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	15.0	110.0	15.0	110.0	110.0	35.0	35.0	35.0	35.0
Total Split (%)	9.4%	68.8%	9.4%	68.8%	68.8%	21.9%	21.9%	21.9%	21.9%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0		7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effect Green (s)	134.9	129.4	128.2	122.4	122.4		8.7		8.7
Actuated g/C Ratio	0.84	0.81	0.80	0.77	0.77		0.05		0.05
v/c Ratio	0.41	0.62	0.13	0.73	0.05		0.44		0.55
Control Delay (s/veh)	18.3	14.2	2.2	16.8	0.9		50.6		49.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	18.3	14.2	2.2	16.8	0.9		50.6		49.6
LOS	B	B	A	B	A		D		D
Approach Delay (s/veh)		14.4		16.1			50.6		49.6
Approach LOS		B		B			D		D

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 122 (76%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay (s/veh): 16.3
 Intersection Capacity Utilization 73.6%
 Analysis Period (min) 15

Splits and Phases: 2: Canyonwood Dr & US 290



Timings 3: Sunset Canyon Dr & US 290

No Build 2028 F
07/09/2025

Item 2.

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	27	1768	29	40	1878	17	1	40	1
Future Volume (vph)	27	1768	29	40	1878	17	1	40	1
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	25.0	12.0	25.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	115.0	115.0	15.0	115.0	30.0	30.0	30.0	30.0
Total Split (%)	9.4%	71.9%	71.9%	9.4%	71.9%	18.8%	18.8%	18.8%	18.8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	130.1	125.3	125.3	132.0	128.1		11.5		11.5
Actuated g/C Ratio	0.81	0.78	0.78	0.83	0.80		0.07		0.07
v/c Ratio	0.19	0.69	0.03	0.24	0.73		0.44		0.65
Control Delay (s/veh)	7.6	23.7	2.2	5.7	11.4		34.9		85.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	7.6	23.7	2.2	5.7	11.4		34.9		85.4
LOS	A	C	A	A	B		C		F
Approach Delay (s/veh)		23.1			11.3		34.9		85.4
Approach LOS		C			B		C		F

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 54 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay (s/veh): 18.3
Intersection Capacity Utilization 70.7%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service C

Splits and Phases: 3: Sunset Canyon Dr & US 290



Appendix F: Synchro Reports – 2028 Build-Out Conditions

Timings

1: Headwaters Blvd & US 290

Build 2028 A Item 2.

07/09/2025

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	22	1394	127	103	1582	147	13	175	29	22
Future Volume (vph)	22	1394	127	103	1582	147	13	175	29	22
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	NA	Split	NA	Perm
Protected Phases	5	2	3	1	6	4	3	4	4	
Permitted Phases			2			6				4
Detector Phase	5	2	3	1	6	4	3	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	5.0	5.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	24.0	12.0	25.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	20.0	76.0	26.0	20.0	76.0	18.0	26.0	18.0	18.0	18.0
Total Split (%)	14.3%	54.3%	18.6%	14.3%	54.3%	12.9%	18.6%	12.9%	12.9%	12.9%
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effect Green (s)	10.2	70.3	97.3	12.1	77.4	96.0	20.0	11.6	11.6	11.6
Actuated g/C Ratio	0.07	0.50	0.70	0.09	0.55	0.69	0.14	0.08	0.08	0.08
v/c Ratio	0.19	0.85	0.12	0.74	0.88	0.14	0.97	0.80	0.82	0.07
Control Delay (s/veh)	62.7	36.6	1.3	96.4	23.3	1.7	101.2	99.8	103.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	62.7	36.6	1.3	96.4	23.3	1.7	101.2	99.8	103.4	0.5
LOS	E	D	A	F	C	A	F	F	F	A
Approach Delay (s/veh)		34.1			25.7		101.2		92.6	
Approach LOS		C			C		F		F	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 90 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay (s/veh): 37.7

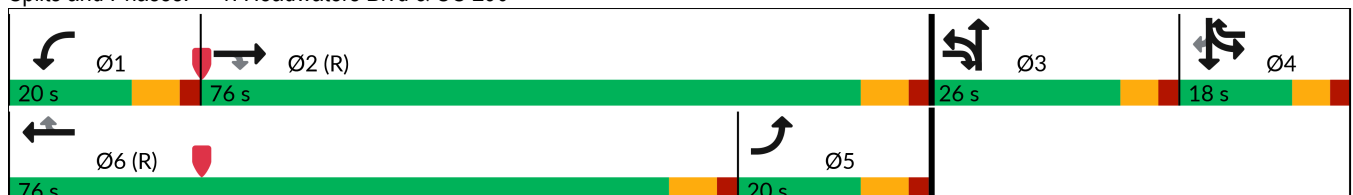
Intersection LOS: D

Intersection Capacity Utilization 84.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Headwaters Blvd & US 290



Timings 2: Canyonwood Dr & US 290

Build 2028 A Item 2.
07/09/2025

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	18	1570	14	1806	148	9	12	135	1
Future Volume (vph)	18	1570	14	1806	148	9	12	135	1
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2	1	6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	5.0	15.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	12.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	25.0	90.0	25.0	90.0	90.0	25.0	25.0	25.0	25.0
Total Split (%)	17.9%	64.3%	17.9%	64.3%	64.3%	17.9%	17.9%	17.9%	17.9%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0		7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effect Green (s)	105.3	102.8	103.7	100.2	100.2		18.0		18.0
Actuated g/C Ratio	0.75	0.73	0.74	0.72	0.72		0.13		0.13
v/c Ratio	0.14	0.67	0.08	0.78	0.14		0.15		1.25
Control Delay (s/veh)	3.1	10.2	1.9	17.3	1.5		46.4		192.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	3.1	10.2	1.9	17.3	1.5		46.4		192.6
LOS	A	B	A	B	A		D		F
Approach Delay (s/veh)		10.1		16.0			46.4		192.6
Approach LOS		B		B			D		F

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 33 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.25

Intersection Signal Delay (s/veh): 24.3

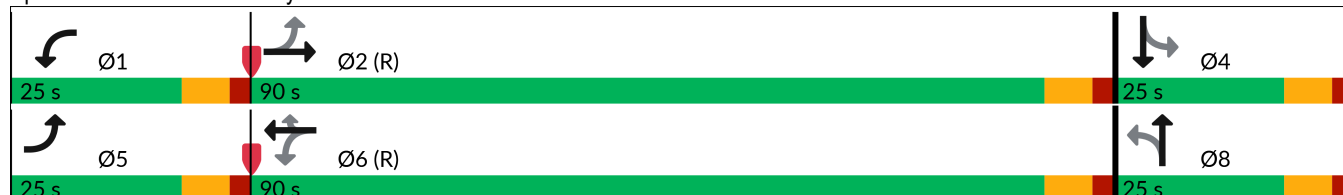
Intersection LOS: C

Intersection Capacity Utilization 81.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Canyonwood Dr & US 290



Timings 3: Sunset Canyon Dr & US 290

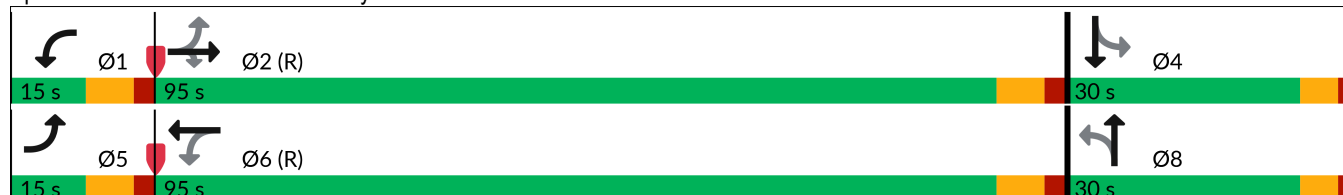
Build 2028 A Item 2.
07/09/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	50	1651	14	19	1942	33	0	32	0
Future Volume (vph)	50	1651	14	19	1942	33	0	32	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	25.0	12.0	25.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	95.0	95.0	15.0	95.0	30.0	30.0	30.0	30.0
Total Split (%)	10.7%	67.9%	67.9%	10.7%	67.9%	21.4%	21.4%	21.4%	21.4%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None
Act Effect Green (s)	115.5	111.3	111.3	112.8	108.1		8.4		8.4
Actuated g/C Ratio	0.83	0.80	0.80	0.81	0.77		0.06		0.06
v/c Ratio	0.36	0.64	0.01	0.10	0.79		0.54		0.64
Control Delay (s/veh)	16.5	19.0	0.0	3.3	13.6		23.8		35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	16.5	19.0	0.0	3.3	13.6		23.8		35.4
LOS	B	B	A	A	B		C		D
Approach Delay (s/veh)		18.7			13.5		23.8		35.4
Approach LOS		B			B		C		D

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 111 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay (s/veh): 16.6
Intersection Capacity Utilization 71.7%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service C

Splits and Phases: 3: Sunset Canyon Dr & US 290



HCM 7th TWSC
4: US 290 & Driveway 1

Build 2028 A Item 2.
07/09/2025

Intersection						
Int Delay, s/veh	248.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	224	1455	1707	155	182	127
Future Vol, veh/h	224	1455	1707	155	182	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	243	1582	1855	168	198	138
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	2024	0	-	0	3217	1012
Stage 1	-	-	-	-	1940	-
Stage 2	-	-	-	-	1278	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	307	-	-	-	~ 1	*609
Stage 1	-	-	-	-	~ 155	-
Stage 2	-	-	-	-	476	-
Platoon blocked, %	0	-	-	-	1	0
Mov Cap-1 Maneuver	307	-	-	-	~ 0	*609
Mov Cap-2 Maneuver	-	-	-	-	~ 28	-
Stage 1	-	-	-	-	~ 32	-
Stage 2	-	-	-	-	476	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	6.65	0		\$ 3058.03		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	307	-	-	-	45	
HCM Lane V/C Ratio	0.793	-	-	-	7.41	
HCM Control Delay (s/veh)	49.8	-	-	-	-\$ 3058	
HCM Lane LOS	E	-	-	-	F	
HCM 95th %tile Q(veh)	6.4	-	-	-	39.5	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	3.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	42	1598	1770	138	52	59
Future Vol, veh/h	42	1598	1770	138	52	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	1737	1924	150	57	64

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	2074	0	0 2959 1037
Stage 1	-	-	- 1999 -
Stage 2	-	-	- 960 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	269	-	- ~ 8 706
Stage 1	-	-	- 116 -
Stage 2	-	-	- 332 -
Platoon blocked, %	0	-	- 0 0
Mov Cap-1 Maneuver	269	-	- ~ 6 706
Mov Cap-2 Maneuver	-	-	- 70 -
Stage 1	-	-	- 96 -
Stage 2	-	-	- 332 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.54	0	114.89
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	269	-	-	-	135
HCM Lane V/C Ratio	0.17	-	-	-	0.896
HCM Control Delay (s/veh)	21.1	-	-	-	114.9
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	0.6	-	-	-	5.9

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

HCM 7th TWSC
6: Canyonwood Dr & Driveway 3

Build 2028 A Item 2.
07/09/2025

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	134	132	46	95	0
Future Vol, veh/h	0	134	132	46	95	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	146	143	50	103	0

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	440	103	103	0	-	0
Stage 1	103	-	-	-	-	-
Stage 2	337	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	574	952	1489	-	-	0
Stage 1	921	-	-	-	-	0
Stage 2	723	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	517	952	1489	-	-	-
Mov Cap-2 Maneuver	517	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	723	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.47	5.69	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1335	-	952	-
HCM Lane V/C Ratio	0.096	-	0.153	-
HCM Control Delay (s/veh)	7.7	0	9.5	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0.3	-	0.5	-

Timings

1: Headwaters Blvd & US 290

Build 2028 F Item 2.

07/09/2025

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	15	1790	57	79	1814	225	18	186	18	29
Future Volume (vph)	15	1790	57	79	1814	225	18	186	18	29
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	NA	Split	NA	Perm
Protected Phases	5	2	3	1	6	4	3	4	4	
Permitted Phases			2			6				4
Detector Phase	5	2	3	1	6	4	3	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	5.0	5.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	24.0	12.0	25.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	83.0	34.0	25.0	93.0	18.0	34.0	18.0	18.0	18.0
Total Split (%)	9.4%	51.9%	21.3%	15.6%	58.1%	11.3%	21.3%	11.3%	11.3%	11.3%
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effect Green (s)	6.9	85.1	112.3	13.1	99.1	121.7	20.3	15.6	15.6	15.6
Actuated g/C Ratio	0.04	0.53	0.70	0.08	0.62	0.76	0.13	0.10	0.10	0.10
v/c Ratio	0.21	1.03	0.05	0.60	0.90	0.19	0.76	0.69	0.70	0.10
Control Delay (s/veh)	80.0	66.6	1.5	97.8	19.3	1.1	80.4	90.2	91.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	80.0	66.6	1.5	97.8	19.3	1.1	80.4	90.2	91.4	0.7
LOS	E	E	A	F	B	A	F	F	F	A
Approach Delay (s/veh)		64.8			20.3		80.4		80.5	
Approach LOS		E			C		F		F	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 35 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay (s/veh): 44.7

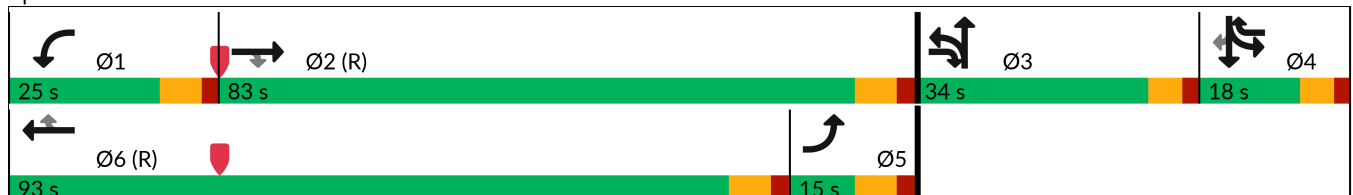
Intersection LOS: D

Intersection Capacity Utilization 87.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Headwaters Blvd & US 290



Timings 2: Canyonwood Dr & US 290

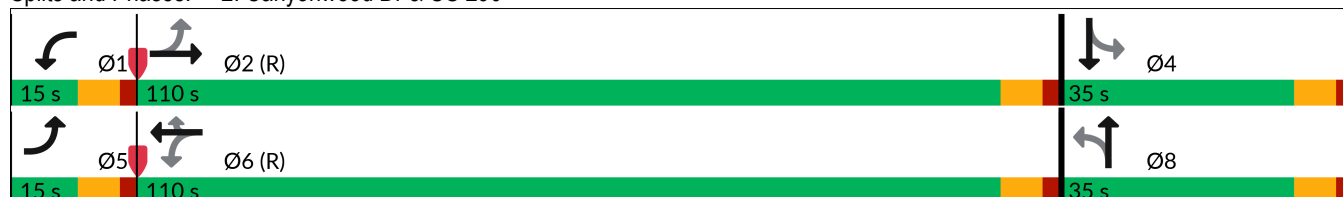
Build 2028 F Item 2.
07/09/2025

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	69	1849	26	2087	238	16	18	204	2
Future Volume (vph)	69	1849	26	2087	238	16	18	204	2
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2	1	6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	5.0	15.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	12.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	15.0	110.0	15.0	110.0	110.0	35.0	35.0	35.0	35.0
Total Split (%)	9.4%	68.8%	9.4%	68.8%	68.8%	21.9%	21.9%	21.9%	21.9%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0		7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effect Green (s)	114.7	109.9	109.8	103.7	103.7		28.0		28.0
Actuated g/C Ratio	0.72	0.69	0.69	0.65	0.65		0.18		0.18
v/c Ratio	0.59	0.84	0.24	0.99	0.23		0.22		1.29
Control Delay (s/veh)	43.4	32.8	9.9	38.8	1.8		42.2		206.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	43.4	32.8	9.9	38.8	1.8		42.2		206.2
LOS	D	C	A	D	A		D		F
Approach Delay (s/veh)		33.2		34.8			42.2		206.2
Approach LOS		C		C			D		F

Intersection Summary

Cycle Length: 160
Actuated Cycle Length: 160
Offset: 122 (76%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.29
Intersection Signal Delay (s/veh): 45.2
Intersection LOS: D
Intersection Capacity Utilization 93.2%
ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 2: Canyonwood Dr & US 290



Timings 3: Sunset Canyon Dr & US 290

Build 2028 F
07/09/2025

Item 2.

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	61	2140	29	40	2288	17	1	40	1
Future Volume (vph)	61	2140	29	40	2288	17	1	40	1
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	25.0	12.0	25.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	115.0	115.0	15.0	115.0	30.0	30.0	30.0	30.0
Total Split (%)	9.4%	71.9%	71.9%	9.4%	71.9%	18.8%	18.8%	18.8%	18.8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	129.9	123.4	123.4	126.3	119.8		13.1		13.1
Actuated g/C Ratio	0.81	0.77	0.77	0.79	0.75		0.08		0.08
v/c Ratio	0.51	0.85	0.03	0.37	0.95		0.43		0.73
Control Delay (s/veh)	36.1	33.7	1.1	23.0	28.3		33.9		72.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	36.1	33.7	1.1	23.0	28.3		33.9		72.5
LOS	D	C	A	C	C		C		E
Approach Delay (s/veh)		33.3			28.3		33.9		72.5
Approach LOS		C			C		C		E

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 54 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay (s/veh): 31.6

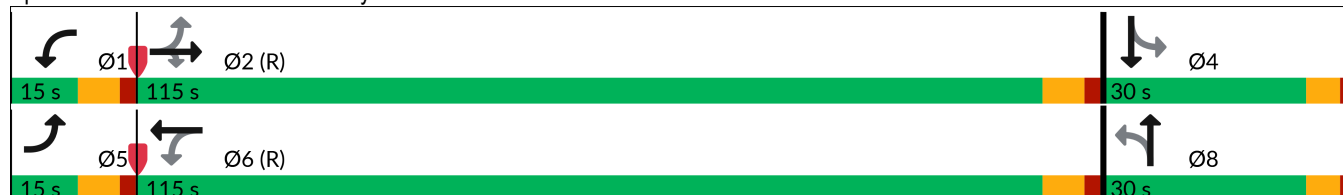
Intersection LOS: C

Intersection Capacity Utilization 83.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Sunset Canyon Dr & US 290



HCM 7th TWSC
4: US 290 & Driveway 1

Build 2028 F Item 2.
07/09/2025

Intersection						
Int Delay, s/veh	372.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	373	1666	1888	261	351	246
Future Vol, veh/h	373	1666	1888	261	351	246
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	405	1811	2052	284	382	267
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	2336	0	-	0	3910	1168
Stage 1	-	-	-	-	2194	-
Stage 2	-	-	-	-	1716	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	~ 189	-	-	-	~ 0	*564
Stage 1	-	-	-	-	~ 95	-
Stage 2	-	-	-	-	~ 237	-
Platoon blocked, %	0	-	-	-	1	0
Mov Cap-1 Maneuver	~ 189	-	-	-	0	*564
Mov Cap-2 Maneuver	-	-	-	-	~ 62	-
Stage 1	-	-	-	-	~ 95	-
Stage 2	-	-	-	-	~ 237	-
Approach	EB	WB	SB			
HCM Control Delay, s/05.03		0	\$ 2629.63			
HCM LOS			F			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	~ 189	-	-	-	98	
HCM Lane V/C Ratio	2.148	-	-	-	6.655	
HCM Control Delay (s/veh)	\$ 574.2	-	-	-	\$ 2629.6	
HCM Lane LOS	F	-	-	-	F	
HCM 95th %tile Q(veh)	31.9	-	-	-	72.3	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM 7th TWSC
5: US 290 & Driveway 2

Build 2028 F Item 2.
07/09/2025

Intersection						
Int Delay, s/veh	61.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	60	1959	1973	224	108	101
Future Vol, veh/h	60	1959	1973	224	108	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	2129	2145	243	117	110

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	2388	0	0 3461 1194
Stage 1	-	-	- 2266 -
Stage 2	-	-	- 1195 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	173	-	- ~ 2 602
Stage 1	-	-	- ~ 71 -
Stage 2	-	-	- 250 -
Platoon blocked, %	0	-	- 0 0
Mov Cap-1 Maneuver	173	-	- ~ 1 602
Mov Cap-2 Maneuver	-	-	- ~ 35 -
Stage 1	-	-	- ~ 45 -
Stage 2	-	-	- 250 -

Approach	EB	WB	SB
HCM Control Delay, s/v	1.12	0	\$ 1287.17
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	173	-	-	-	64
HCM Lane V/C Ratio	0.376	-	-	-	3.56
HCM Control Delay (s/veh)	37.8	-	-	\$ 1287.2	
HCM Lane LOS	E	-	-	-	F
HCM 95th %tile Q(veh)	1.6	-	-	-	24

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

HCM 7th TWSC
6: Canyonwood Dr & Driveway 3

Build 2028 F Item 2.
07/09/2025

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	240	201	124	60	0
Future Vol, veh/h	0	240	201	124	60	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	261	218	135	65	0

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	637	65	65	0	-	0
Stage 1	65	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	441	999	1537	-	-	0
Stage 1	957	-	-	-	-	0
Stage 2	565	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	374	999	1537	-	-	-
Mov Cap-2 Maneuver	374	-	-	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.87	4.78	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1113	-	999	-
HCM Lane V/C Ratio	0.142	-	0.261	-
HCM Control Delay (s/veh)	7.7	0	9.9	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0.5	-	1	-

Appendix G: Synchro Reports – 2028 Build-Out with Mitigation Conditions

Timings

1: Headwaters Blvd & US 290

Mitigated Build 2028 A Item 2.

07/09/2025

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	22	1394	127	103	1582	147	13	175	29	22
Future Volume (vph)	22	1394	127	103	1582	147	13	175	29	22
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	NA	Split	NA	Perm
Protected Phases	5	2	3	1	6	4	3	4	4	
Permitted Phases			2			6				4
Detector Phase	5	2	3	1	6	4	3	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	5.0	5.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	24.0	12.0	25.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	12.0	73.0	25.0	18.0	79.0	24.0	25.0	24.0	24.0	24.0
Total Split (%)	8.6%	52.1%	17.9%	12.9%	56.4%	17.1%	17.9%	17.1%	17.1%	17.1%
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effect Green (s)	5.0	68.7	94.7	11.8	80.4	101.8	19.0	14.4	14.4	14.4
Actuated g/C Ratio	0.04	0.49	0.68	0.08	0.57	0.73	0.14	0.10	0.10	0.10
v/c Ratio	0.38	0.87	0.12	0.75	0.85	0.13	1.02	0.65	0.66	0.07
Control Delay (s/veh)	83.2	39.1	1.6	101.8	12.9	1.0	113.5	77.0	78.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	83.2	39.1	1.6	101.8	12.9	1.0	113.5	77.0	78.1	0.4
LOS	F	D	A	F	B	A	F	E	E	A
Approach Delay (s/veh)		36.7			17.0		113.5		70.6	
Approach LOS		D			B		F		E	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 90 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay (s/veh): 34.0

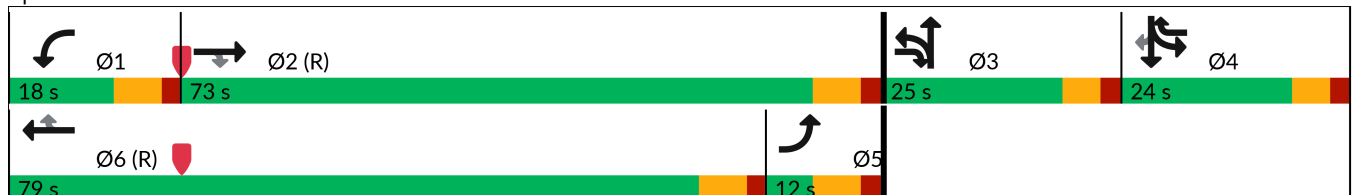
Intersection LOS: C

Intersection Capacity Utilization 84.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Headwaters Blvd & US 290



Timings

2: Canyonwood Dr & US 290

Mitigated Build 2028 A Item 2.

07/09/2025

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	18	1570	14	1806	148	9	12	135	1
Future Volume (vph)	18	1570	14	1806	148	9	12	135	1
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2	1	6			8		4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	1	6	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	5.0	15.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	12.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	25.0	90.0	25.0	90.0	90.0	25.0	25.0	25.0	25.0
Total Split (%)	17.9%	64.3%	17.9%	64.3%	64.3%	17.9%	17.9%	17.9%	17.9%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None
Act Effect Green (s)	106.1	103.6	104.5	101.0	101.0		17.2	17.2	17.2
Actuated g/C Ratio	0.76	0.74	0.75	0.72	0.72		0.12	0.12	0.12
v/c Ratio	0.14	0.66	0.08	0.77	0.14		0.15	0.88	0.36
Control Delay (s/veh)	2.9	7.6	1.9	17.0	1.5		46.4	102.5	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	2.9	7.6	1.9	17.0	1.5		46.4	102.5	13.9
LOS	A	A	A	B	A		D	F	B
Approach Delay (s/veh)		7.5		15.7			46.4		66.4
Approach LOS		A		B			D		E

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 33 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay (s/veh): 15.5

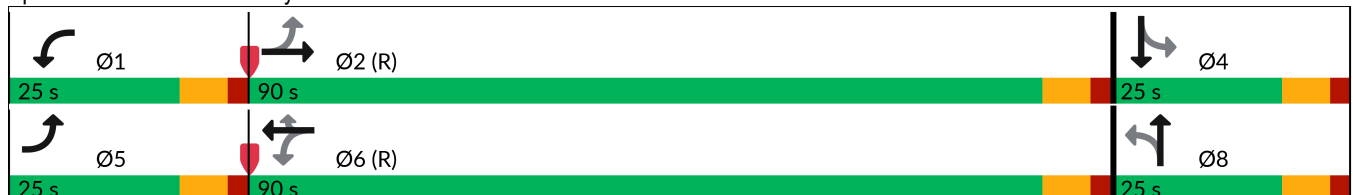
Intersection LOS: B

Intersection Capacity Utilization 75.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Canyonwood Dr & US 290



Timings

3: Sunset Canyon Dr & US 290

Mitigated Build 2028 A Item 2.

07/09/2025

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	50	1651	14	19	1942	33	0	32	0
Future Volume (vph)	50	1651	14	19	1942	33	0	32	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	25.0	12.0	25.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	95.0	95.0	15.0	95.0	30.0	30.0	30.0	30.0
Total Split (%)	10.7%	67.9%	67.9%	10.7%	67.9%	21.4%	21.4%	21.4%	21.4%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None
Act Effect Green (s)	115.5	111.3	111.3	112.8	108.1		8.4		8.4
Actuated g/C Ratio	0.83	0.80	0.80	0.81	0.77		0.06		0.06
v/c Ratio	0.36	0.64	0.01	0.10	0.79		0.54		0.64
Control Delay (s/veh)	14.9	17.2	0.0	3.3	13.6		23.8		35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	14.9	17.2	0.0	3.3	13.6		23.8		35.4
LOS	B	B	A	A	B		C		D
Approach Delay (s/veh)		17.0			13.5		23.8		35.4
Approach LOS		B			B		C		D

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 111 (79%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay (s/veh): 15.8

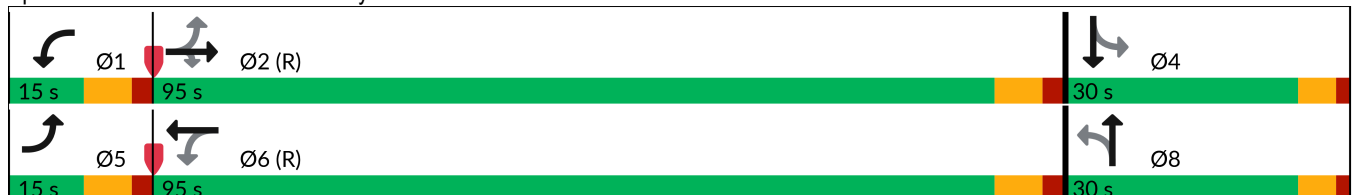
Intersection LOS: B

Intersection Capacity Utilization 71.7%

ICU Level of Service C

Analysis Period (min) 15

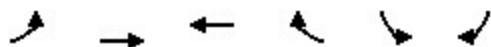
Splits and Phases: 3: Sunset Canyon Dr & US 290



Timings 4: US 290 & Driveway 1

Mitigated Build 2028 A Item 2.

07/09/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	224	1455	1707	155	182	127
Future Volume (vph)	224	1455	1707	155	182	127
Turn Type	pm+pt	NA	NA	pm+ov	Prot	Perm
Protected Phases	5	2	6	4	4	
Permitted Phases	2			6		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
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	21.0	106.0	85.0	34.0	34.0	34.0
Total Split (%)	15.0%	75.7%	60.7%	24.3%	24.3%	24.3%
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	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max	None	None	None
Act Effect Green (s)	110.0	110.0	89.0	114.5	21.0	21.0
Actuated g/C Ratio	0.79	0.79	0.64	0.82	0.15	0.15
v/c Ratio	0.91	0.57	0.83	0.13	0.75	0.39
Control Delay (s/veh)	53.9	5.0	8.9	0.1	73.4	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.9	5.0	8.9	0.1	73.4	10.6
LOS	D	A	A	A	E	B
Approach Delay (s/veh)		11.5	8.2		47.6	
Approach LOS		B	A		D	

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 61 (44%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay (s/veh): 12.8

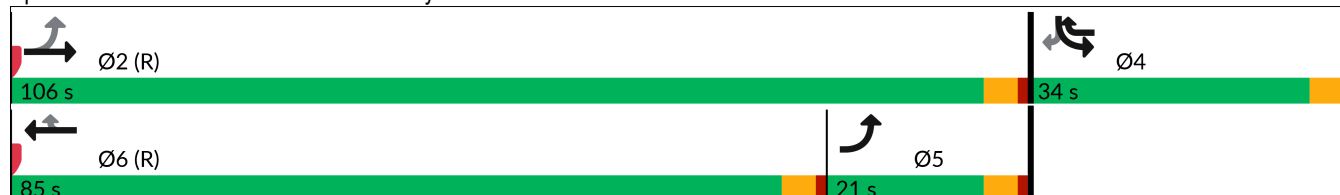
Intersection LOS: B

Intersection Capacity Utilization 80.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: US 290 & Driveway 1



Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	42	1598	1770	138	52	59
Future Vol, veh/h	42	1598	1770	138	52	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	200	100	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	1737	1924	150	57	64

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	2074	0	0 2884 962
Stage 1	-	-	- 1924 -
Stage 2	-	-	- 960 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	269	-	- *~ 6 *711
Stage 1	-	-	- *134 -
Stage 2	-	-	- *602 -
Platoon blocked, %	0	-	- 1 0
Mov Cap-1 Maneuver	269	-	- *~ 5 *711
Mov Cap-2 Maneuver	-	-	- *87 -
Stage 1	-	-	- *111 -
Stage 2	-	-	- *602 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.54	0	54.14
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	269	-	-	-	87	711
HCM Lane V/C Ratio	0.17	-	-	-	0.652	0.09
HCM Control Delay (s/veh)	21.1	-	-	-	103.6	10.6
HCM Lane LOS	C	-	-	-	F	B
HCM 95th %tile Q(veh)	0.6	-	-	-	3.1	0.3

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

HCM 7th TWSC
6: Canyonwood Dr & Driveway 3

Mitigated Build 2028 A Item 2.

07/09/2025

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	134	132	46	95	0
Future Vol, veh/h	0	134	132	46	95	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	146	143	50	103	0

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	440	103	103	0	-	0
Stage 1	103	-	-	-	-	-
Stage 2	337	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	574	952	1489	-	-	0
Stage 1	921	-	-	-	-	0
Stage 2	723	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	517	952	1489	-	-	-
Mov Cap-2 Maneuver	517	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	723	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.47	5.69	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1335	-	952	-
HCM Lane V/C Ratio	0.096	-	0.153	-
HCM Control Delay (s/veh)	7.7	0	9.5	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0.3	-	0.5	-

Timings

1: Headwaters Blvd & US 290

Mitigated Build 2028 F

Item 2.

07/09/2025

										
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	15	1790	57	79	1814	225	18	186	18	29
Future Volume (vph)	15	1790	57	79	1814	225	18	186	18	29
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	NA	Split	NA	Perm
Protected Phases	5	2	3	1	6	4	3	4	4	
Permitted Phases			2			6				4
Detector Phase	5	2	3	1	6	4	3	4	4	4
Switch Phase										
Minimum Initial (s)	5.0	15.0	5.0	5.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	24.0	12.0	25.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	12.0	97.0	24.0	15.0	100.0	24.0	24.0	24.0	24.0	24.0
Total Split (%)	7.5%	60.6%	15.0%	9.4%	62.5%	15.0%	15.0%	15.0%	15.0%	15.0%
Yellow Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None	None
Act Effect Green (s)	5.0	91.4	115.7	9.9	103.5	125.9	17.3	15.4	15.4	15.4
Actuated g/C Ratio	0.03	0.57	0.72	0.06	0.65	0.79	0.11	0.10	0.10	0.10
v/c Ratio	0.29	0.96	0.05	0.78	0.86	0.19	0.89	0.70	0.72	0.10
Control Delay (s/veh)	89.2	46.0	1.3	102.2	4.0	0.0	103.3	92.3	93.7	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	89.2	46.0	1.3	102.2	4.0	0.0	103.3	92.3	93.7	0.7
LOS	F	D	A	F	A	A	F	F	F	A
Approach Delay (s/veh)		45.0			7.3		103.3		82.5	
Approach LOS		D			A		F		F	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 35 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay (s/veh): 30.9

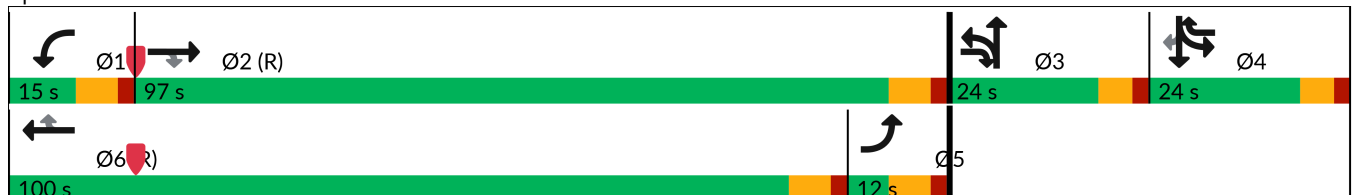
Intersection LOS: C

Intersection Capacity Utilization 87.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Headwaters Blvd & US 290



Timings 2: Canyonwood Dr & US 290

Mitigated Build 2028 F

07/09/2025

Item 2.

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	69	1849	26	2087	238	16	18	204	2
Future Volume (vph)	69	1849	26	2087	238	16	18	204	2
Turn Type	pm+pt	NA	pm+pt	NA	pm+ov	Perm	NA	D.P+P	NA
Protected Phases	5	2	1	6	7		8	7	4
Permitted Phases	2		6		6	8		8	
Detector Phase	5	2	1	6	7	8	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	25.0	25.0	12.0	25.0	9.5	25.0	25.0	9.5	25.0
Total Split (s)	25.0	107.0	12.0	94.0	16.0	25.0	25.0	16.0	41.0
Total Split (%)	15.6%	66.9%	7.5%	58.8%	10.0%	15.6%	15.6%	10.0%	25.6%
Yellow Time (s)	5.0	5.0	5.0	5.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	4.5		7.0	4.5	7.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	C-Max	None	None	None	None	None
Act Effect Green (s)	120.1	114.3	113.3	107.1	125.6		10.1	22.5	23.6
Actuated g/C Ratio	0.75	0.71	0.71	0.67	0.79		0.06	0.14	0.15
v/c Ratio	0.54	0.81	0.24	0.96	0.20		0.56	1.02	0.32
Control Delay (s/veh)	41.9	19.8	12.5	19.8	0.7		69.9	129.9	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	41.9	19.8	12.5	19.8	0.7		69.9	129.9	12.4
LOS	D	B	B	B	A		E	F	B
Approach Delay (s/veh)		20.5		17.8			69.9		92.5
Approach LOS		C		B			E		F

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 122 (76%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay (s/veh): 24.4

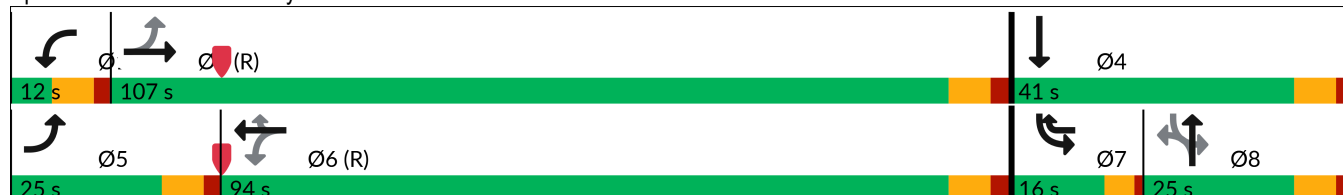
Intersection LOS: C

Intersection Capacity Utilization 87.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Canyonwood Dr & US 290



Timings
3: Sunset Canyon Dr & US 290

Mitigated Build 2028 F Item 2.

07/09/2025

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	61	2140	29	40	2288	17	1	40	1
Future Volume (vph)	61	2140	29	40	2288	17	1	40	1
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	5	2		1	6		8		4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	2	1	6	8	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	5.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	25.0	25.0	12.0	25.0	24.0	24.0	24.0	24.0
Total Split (s)	15.0	115.0	115.0	15.0	115.0	30.0	30.0	30.0	30.0
Total Split (%)	9.4%	71.9%	71.9%	9.4%	71.9%	18.8%	18.8%	18.8%	18.8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		5.5		5.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None
Act Effect Green (s)	129.9	123.4	123.4	126.3	119.8		13.1		13.1
Actuated g/C Ratio	0.81	0.77	0.77	0.79	0.75		0.08		0.08
v/c Ratio	0.51	0.85	0.03	0.37	0.95		0.43		0.73
Control Delay (s/veh)	31.4	26.6	1.3	23.0	28.3		33.9		72.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay (s/veh)	31.4	26.6	1.3	23.0	28.3		33.9		72.5
LOS	C	C	A	C	C		C		E
Approach Delay (s/veh)		26.4			28.3		33.9		72.5
Approach LOS		C			C		C		E

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 54 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay (s/veh): 28.4

Intersection LOS: C

Intersection Capacity Utilization 83.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Sunset Canyon Dr & US 290

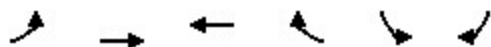


Timings 4: US 290 & Driveway 1

Mitigated Build 2028 F

07/09/2025

Item 2.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	373	1666	1888	261	351	246
Future Volume (vph)	373	1666	1888	261	351	246
Turn Type	pm+pt	NA	NA	pm+ov	Prot	Perm
Protected Phases	5	2	6	4	4	
Permitted Phases	2			6		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
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	33.2	123.2	90.0	36.8	36.8	36.8
Total Split (%)	20.8%	77.0%	56.3%	23.0%	23.0%	23.0%
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	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max	None	None	None
Act Effect Green (s)	118.7	118.7	85.5	122.3	32.3	32.3
Actuated g/C Ratio	0.74	0.74	0.53	0.76	0.20	0.20
v/c Ratio	1.12	0.69	1.09	0.23	1.07	0.54
Control Delay (s/veh)	104.5	7.4	72.3	0.4	126.0	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	104.5	7.4	72.3	0.4	126.0	16.7
LOS	F	A	E	A	F	B
Approach Delay (s/veh)		25.2	63.6		81.0	
Approach LOS		C	E		F	

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 9 (6%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.12

Intersection Signal Delay (s/veh): 49.4

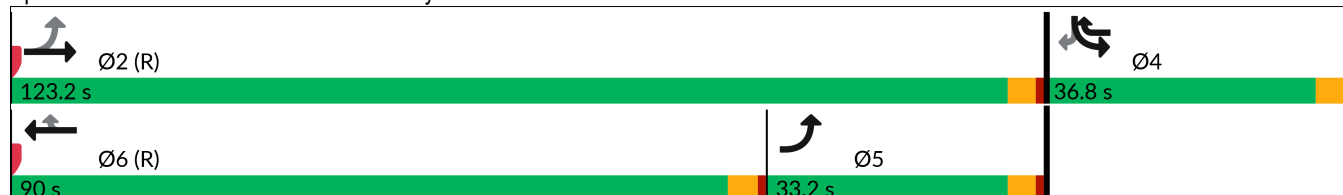
Intersection LOS: D

Intersection Capacity Utilization 103.6%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 4: US 290 & Driveway 1



Intersection						
Int Delay, s/veh	22					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	60	1959	1973	224	108	101
Future Vol, veh/h	60	1959	1973	224	108	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	200	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	2129	2145	243	117	110

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	2388	0	0 3340 1072
Stage 1	-	-	- 2145 -
Stage 2	-	-	- 1195 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	173	-	- *~ 0 *669
Stage 1	-	-	- *~ 92 -
Stage 2	-	-	- *508 -
Platoon blocked, %	0	-	- 1 0
Mov Cap-1 Maneuver	173	-	- *~ 0 *669
Mov Cap-2 Maneuver	-	-	- *~ 47 -
Stage 1	-	-	- *~ 57 -
Stage 2	-	-	- *508 -

Approach	EB	WB	SB
HCM Control Delay, s/v	1.12	0	\$ 454.53
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	173	-	-	-	47	669
HCM Lane V/C Ratio	0.376	-	-	-	2.505	0.164
HCM Control Delay (s/veh)	37.8	-	-	-	\$ 868.9	11.4
HCM Lane LOS	E	-	-	-	F	B
HCM 95th %tile Q(veh)	1.6	-	-	-	12.4	0.6

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

HCM 7th TWSC
6: Canyonwood Dr & Driveway 3

Mitigated Build 2028 F Item 2.

07/09/2025

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	240	201	124	60	0
Future Vol, veh/h	0	240	201	124	60	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	261	218	135	65	0

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	637	65	65	0	-	0
Stage 1	65	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	441	999	1537	-	-	0
Stage 1	957	-	-	-	-	0
Stage 2	565	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	374	999	1537	-	-	-
Mov Cap-2 Maneuver	374	-	-	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.87	4.78	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1113	-	999	-
HCM Lane V/C Ratio	0.142	-	0.261	-
HCM Control Delay (s/veh)	7.7	0	9.9	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q(veh)	0.5	-	1	-

Appendix H: Signal Warrant Studies

US 290 at Driveway 1

Signal Warrant Volumes

Scenario: Existing
 Existing Year: 2025
 Study Year: 2028
 Growth %: 2.5%
 City: Dripping Springs

Major: US 290
 Direction: EB WB
 # of Lanes: 2

Minor: Driveway 1
 Direction: NB SB
 # of Lanes: 2

N ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N):
 Y 85TH PERCENTILE SPEED OR POSTED SPEED LIMIT GREATER THAN 40 MPH ON MAJOR STREET (Y OR N):

Input

Hour Start	Eastbound					Westbound					Northbound					Southbound				
	Existing Volumes	2028 Grown Volumes	Background Site Traffic	Site Traffic	Total Eastbound Volumes	Existing Volumes	2028 Grown Volumes	Background Site Traffic	Site Traffic	Total Westbound Volumes	Existing Volumes	2028 Grown Volumes	Background Site Traffic	Site Traffic	Total Northbound Volumes	Existing Volumes	2028 Grown Volumes	Background Site Traffic	Site Traffic	Total Southbound Volumes
6:00 - 7:00 AM			0	0	625			0	0	621		0	0	0	0			0	0	131
7:00 - 8:00 AM			0	0	952			0	0	1139		0	0	0	0			0	0	178
8:00 - 9:00 AM			0	0	1222			0	0	1501		0	0	0	0			0	0	251
9:00 - 10:00 AM			0	0	1563			0	0	1755		0	0	0	0			0	0	325
10:00 - 11:00 AM			0	0	1827			0	0	2036		0	0	0	0			0	0	363
11:00 - 12:00 PM			0	0	1890			0	0	2096		0	0	0	0			0	0	448
12:00 - 1:00 PM			0	0	2040			0	0	2119		0	0	0	0			0	0	549
1:00 - 2:00 PM			0	0	1905			0	0	2143		0	0	0	0			0	0	456
2:00 - 3:00 PM			0	0	1846			0	0	2091		0	0	0	0			0	0	388
3:00 - 4:00 PM			0	0	1906			0	0	2150		0	0	0	0			0	0	426
4:00 - 5:00 PM			0	0	1766			0	0	2143		0	0	0	0			0	0	424
5:00 - 6:00 PM			0	0	1770			0	0	2143		0	0	0	0			0	0	509
6:00 - 7:00 PM			0	0	1356			0	0	1681		0	0	0	0			0	0	526
7:00 - 8:00 PM			0	0	906			0	0	1078		0	0	0	0			0	0	537
8:00 - 9:00 PM			0	0	762			0	0	885		0	0	0	0			0	0	420
9:00 - 10:00 PM			0	0	533			0	0	724		0	0	0	0			0	0	296

Hourly variation from ITE Trip Generation, 11th Edition

Code	495						821			932			934			945			949		
Land Use	Recreational Community Center						Shopping Plaza (40-150k)			High-Turnover (Sit-Down) Restaurant			Fast-Food Restaurant with Drive-Through Window			Convenience Store/Gas Station			Car Wash and Detail Center		
Time	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting
6:00 - 7:00 AM	3.9%	3.5%	4.2%	0.8%	0.8%	0.8%	1.3%	1.7%	0.9%	2.1%	2.3%	1.9%	4.6%	4.7%	4.5%	0.1%	0.1%	0.0%			
7:00 - 8:00 AM	4.6%	5.7%	3.5%	1.8%	1.8%	1.8%	2.3%	2.7%	1.8%	3.3%	3.4%	3.1%	6.2%	6.2%	6.1%	3.3%	4.8%	1.7%			
8:00 - 9:00 AM	6.8%	8.9%	4.8%	3.3%	3.3%	3.3%	3.2%	3.4%	3.1%	3.5%	3.5%	3.4%	5.9%	5.8%	5.9%	5.5%	6.6%	4.4%			
9:00 - 10:00 AM	6.6%	6.9%	6.3%	5.1%	5.1%	5.1%	3.7%	4.0%	3.4%	3.3%	3.4%	3.3%	5.0%	5.0%	5.1%	7.4%	7.8%	6.9%			
10:00 - 11:00 AM	5.7%	6.2%	5.2%	6.5%	6.5%	6.5%	4.9%	5.5%	4.4%	3.8%	4.0%	3.7%	5.2%	5.2%	5.2%	7.6%	7.5%	7.6%			
11:00 - 12:00 PM	5.2%	4.0%	6.4%	7.4%	7.4%	7.4%	9.5%	12.1%	6.9%	8.4%	9.1%	7.7%	5.3%	5.3%	5.2%	9.7%	10.4%	9.0%			
12:00 - 1:00 PM	5.9%	4.9%	6.9%	8.6%	8.6%	8.6%	12.3%	12.4%	12.3%	11.9%	11.9%	12.0%	5.8%	5.8%	5.8%	9.7%	9.8%	9.7%			
1:00 - 2:00 PM	2.5%	2.2%	2.9%	8.3%	8.3%	8.3%	8.8%	6.5%	11.2%	8.3%	7.9%	8.7%	5.4%	5.4%	5.3%	8.3%	7.9%	8.6%			
2:00 - 3:00 PM	3.1%	3.2%	3.0%	7.2%	7.2%	7.2%	4.5%	4.0%	5.1%	6.2%	5.9%	6.5%	5.9%	6.1%	5.8%	9.9%	9.7%	10.2%			
3:00 - 4:00 PM	5.8%	5.3%	6.4%	7.2%	7.2%	7.2%	3.6%	3.3%	4.0%	5.7%	5.7%	5.7%	6.5%	6.5%	6.4%	10.0%	9.6%	10.4%			
4:00 - 5:00 PM	7.2%	8.5%	6.0%	7.3%	7.3%	7.3%	5.1%	6.2%	3.9%	5.7%	5.9%	5.6%	7.1%	7.2%	7.1%	8.7%	8.4%	9.0%			
5:00 - 6:00 PM	12.3%	15.0%	9.6%	8.0%	8.0%	8.0%	8.5%	10.2%	6.8%	6.7%	6.9%	6.5%	6.9%	7.0%	6.9%	7.2%	7.1%	7.3%			
6:00 - 7:00 PM	8.5%	8.4%	8.6%	8.5%	8.5%	8.5%	9.4%	10.1%	8.7%	7.4%	7.4%	7.4%	6.5%	6.5%	6.6%	8.1%	7.5%	8.8%			
7:00 - 8:00 PM	9.9%	7.6%	12.2%	7.9%	7.9%	7.9%	8.2%	7.2%	9.2%	6.5%	6.3%	6.6%	5.3%	5.3%	5.3%	3.5%	1.7%	5.4%			
8:00 - 9:00 PM	5.4%	3.2%	7.6%	7.0%	7.0%	7.0%	5.7%	4.3%	7.1%	5.7%	5.6%	5.8%	4.4%	4.3%	4.5%	0.5%	0.5%	0.5%			
9:00 - 10:00 PM	3.0%	1.7%	4.3%	5.2%	5.2%	5.2%	3.7%	2.6%	4.8%	4.4%	4.1%	4.6%	3.7%	3.7%	3.7%	0.0%	0.0%	0.0%			

Site Generated Traffic

New Land Use?	Input	Land-Use	Daily Trips	Eastbound				Westbound				Northbound				Southbound			
				Entering	Exiting	Entering Trips	Exiting Trips	Entering	Exiting	Entering Trips	Exiting Trips	Entering	Exiting	Entering Trips	Exiting Trips	Entering	Exiting	Entering Trips	Exiting Trips
1	495	Recreational Community Center	5180	30%		777	0	20%		518	0	0%	0%	0	0			0	1295
2	821	Shopping Plaza (40-150k)	12190	30%		1829	0	20%		1219	0			0	0			0	3048
3	932	High-Turnover (Sit-Down) Restaurant	1876	30%		281	0	20%		188	0			0	0			0	469
4	934	Fast-Food Restaurant with Drive-Through Window	2677	30%		402	0	20%		268	0			0	0			0	669
5	945	Convenience Store/Gas Station	3086	30%		463	0	20%		309	0			0	0			0	772
6	949	Car Wash and Detail Center	660	30%		99	0	20%		66	0			0	0			0	165

2028 Build Out 24 Hour Count Calculation				2028 Build Out 24 Hour Count Calculation			
Trip Generation Calculations			BUILD OUT 24 HR COUNT	Trip Generation Calculations			BUILD OUT 24 HR COUNT
Hour of Day	Existing Counts		EB	Hour of Day	Existing Counts		WB
	EB	% of Daily			WB	% of Daily	
	17666	100%			16489	100%	
12:00 AM	63	0.4%	86	12:00 AM	69	0.4%	116
1:00 AM	43	0.2%	59	1:00 AM	42	0.3%	71
2:00 AM	36	0.2%	49	2:00 AM	23	0.1%	39
3:00 AM	37	0.2%	50	3:00 AM	37	0.2%	62
4:00 AM	94	0.5%	128	4:00 AM	58	0.4%	97
5:00 AM	203	1.1%	277	5:00 AM	139	0.8%	233
6:00 AM	459	2.6%	625	6:00 AM	370	2.2%	621
7:00 AM	699	4.0%	952	7:00 AM	678	4.1%	1139
8:00 AM	897	5.1%	1222	8:00 AM	894	5.4%	1501
9:00 AM	1147	6.5%	1563	9:00 AM	1045	6.3%	1755
10:00 AM	1341	7.6%	1827	10:00 AM	1212	7.4%	2036
11:00 AM	1387	7.9%	1890	11:00 AM	1248	7.6%	2096
12:00 PM	1497	8.5%	2040	12:00 PM	1262	7.7%	2119
1:00 PM	1398	7.9%	1905	1:00 PM	1276	7.7%	2143
2:00 PM	1355	7.7%	1846	2:00 PM	1245	7.6%	2091
3:00 PM	1399	7.9%	1906	3:00 PM	1280	7.8%	2150
4:00 PM	1296	7.3%	1766	4:00 PM	1276	7.7%	2143
5:00 PM	1299	7.4%	1770	5:00 PM	1276	7.7%	2143
6:00 PM	995	5.6%	1356	6:00 PM	1001	6.1%	1681
7:00 PM	665	3.8%	906	7:00 PM	642	3.9%	1078
8:00 PM	559	3.2%	762	8:00 PM	527	3.2%	885
9:00 PM	391	2.2%	533	9:00 PM	431	2.6%	724
10:00 PM	247	1.4%	337	10:00 PM	313	1.9%	526
11:00 PM	159	0.9%	217	11:00 PM	145	0.9%	244
MAX % Daily			8.5%	MAX % Daily			7.8%
x BUILD OUT VOLUME			2040	x BUILD OUT VOLUME			2150
			24069				27693

US 290

US 290

PEAK HOUR BUILD OUT APPROACH TOTAL VOLUME				
PEAK HOUR	Driveway 1		US 290	
	NB	SB	EB	WB
AM			1,679	1,862
PM			2,040	2,150

TRAFFIC SIGNAL WARRANT ANALYSIS (2011 TXMUTCD)MAJOR STREET: US 290 EB WB # OF APPROACH LANES: 2MINOR STREET: Driveway 1 NB SB # OF APPROACH LANES: 2CITY, STATE: Dripping Springs, TXCOMMENTS: 2028 Build-Out

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N):

N

85TH PERCENTILE SPEED OR POSTED SPEED LIMIT GREATER THAN 40 MPH ON MAJOR STREET (Y OR N):

Y

			MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	WARRANT 1 - Condition A, Part 1			WARRANT 1 - Condition B, Part 1			WARRANT 1 - Condition A, Part 2			WARRANT 1 - Condition B, Part 2			WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
					MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET	MAIN LINE	SIDE STREET	BOTH MET		
THRESHOLD VALUES					420	140		630	70		336	112		504	56			
06:00 AM	TO	07:00 AM	1,247	131	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
07:00 AM	TO	08:00 AM	2,091	178	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
08:00 AM	TO	09:00 AM	2,724	251	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
09:00 AM	TO	10:00 AM	3,318	325	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
10:00 AM	TO	11:00 AM	3,863	363	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
11:00 AM	TO	12:00 PM	3,986	448	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
12:00 PM	TO	01:00 PM	4,159	549	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
01:00 PM	TO	02:00 PM	4,048	456	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
02:00 PM	TO	03:00 PM	3,937	388	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
03:00 PM	TO	04:00 PM	4,056	426	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
04:00 PM	TO	05:00 PM	3,909	424	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
05:00 PM	TO	06:00 PM	3,913	509	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
06:00 PM	TO	07:00 PM	3,037	526	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
07:00 PM	TO	08:00 PM	1,984	537	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
08:00 PM	TO	09:00 PM	1,647	420	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
09:00 PM	TO	10:00 PM	1,257	296	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
			49,173	6,227	16	15	15	16	16	16	16	16	16	16	16	16	16	
					8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
					SATISFIED			SATISFIED			SATISFIED						SATISFIED	SATISFIED

06/20/25
Kimley-Horn and Associates, Inc.

TRAFFIC SIGNAL WARRANT ANALYSIS (2011 TXMUTCD)

MAJOR STREET: US 290 EB WB # OF APPROACH LANES: 2

MINOR STREET: Driveway 1 NB SB # OF APPROACH LANES: 2

CITY, STATE: Dripping Springs, TX

COMMENTS: 2028 Build-Out

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N): N

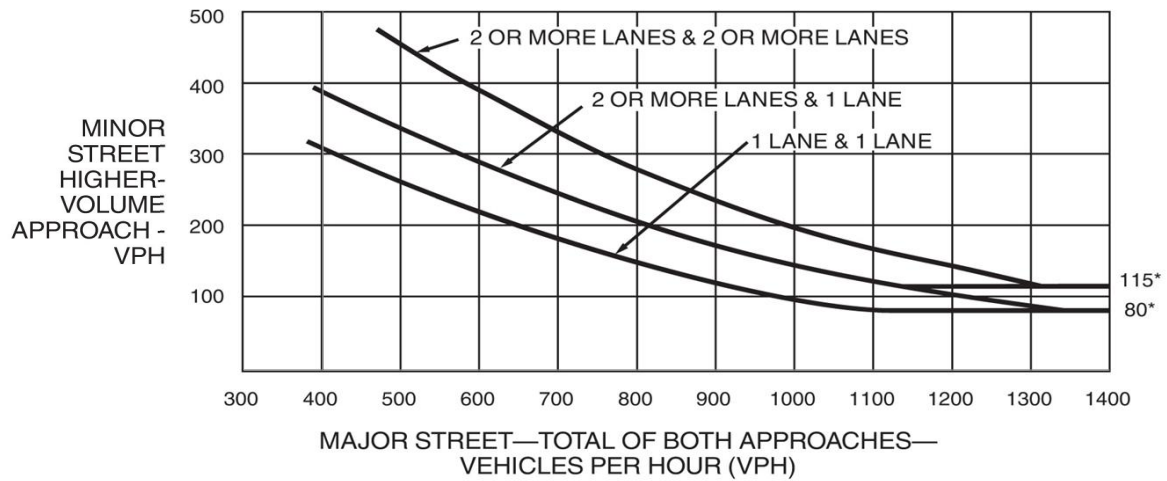
85TH PERCENTILE SPEED OR POSTED SPEED LIMIT GREATER THAN 40 MPH ON MAJOR STREET (Y OR N): Y

	US 290		Total	Driveway 1		Minor Street Heavy Leg
	EB	WB		NB	SB	
	Approach	Approach		Approach	Approach	
6:00 - 7:00 AM	625	621	1247	0	131	131
7:00 - 8:00 AM	952	1139	2091	0	178	178
8:00 - 9:00 AM	1222	1501	2724	0	251	251
9:00 - 10:00 AM	1563	1755	3318	0	325	325
10:00 - 11:00 AM	1827	2036	3863	0	363	363
11:00 - 12:00 PM	1890	2096	3986	0	448	448
12:00 - 1:00 PM	2040	2119	4159	0	549	549
1:00 - 2:00 PM	1905	2143	4048	0	456	456
2:00 - 3:00 PM	1846	2091	3937	0	388	388
3:00 - 4:00 PM	1906	2150	4056	0	426	426
4:00 - 5:00 PM	1766	2143	3909	0	424	424
5:00 - 6:00 PM	1770	2143	3913	0	509	509
6:00 - 7:00 PM	1356	1681	3037	0	526	526
7:00 - 8:00 PM	906	1078	1984	0	537	537
8:00 - 9:00 PM	762	885	1647	0	420	420
9:00 - 10:00 PM	533	724	1257	0	296	296

Warrant	Description	Warrant Met?
1	Eight-Hour Volume	WARRANT MET
2	Four-Hour Volume	WARRANT MET
3	Peak Hour Volume	WARRANT MET
4	Pedestrian Volume	N/A
5	School Crossing	N/A
6	Coordinated Signal System	N/A
7	Crash Experience	N/A
8	Roadway Network	N/A
9	Intersection Near a Grade Crossing	N/A

06/20/25

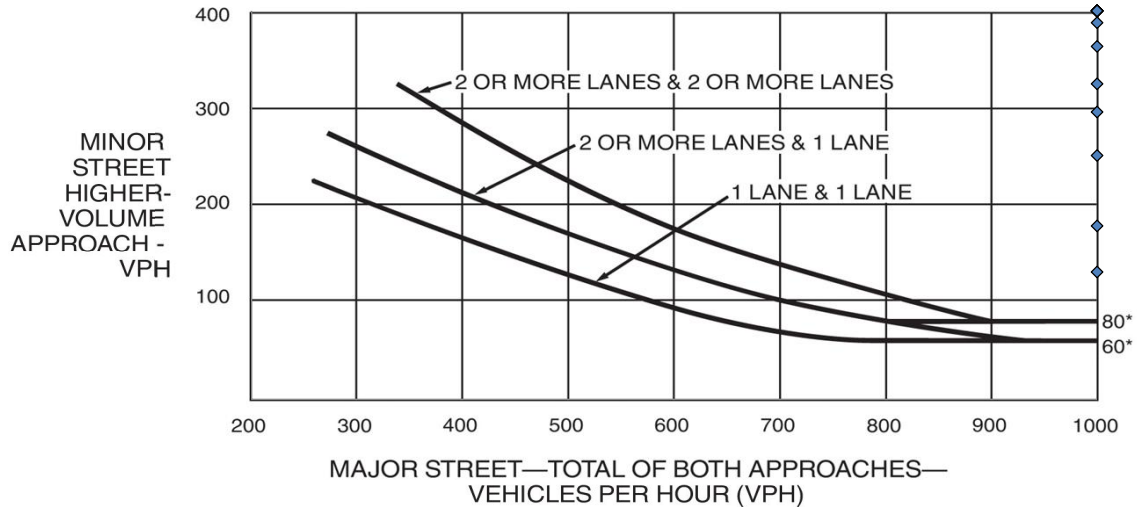
Kimley-Horn and Associates, Inc.

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume

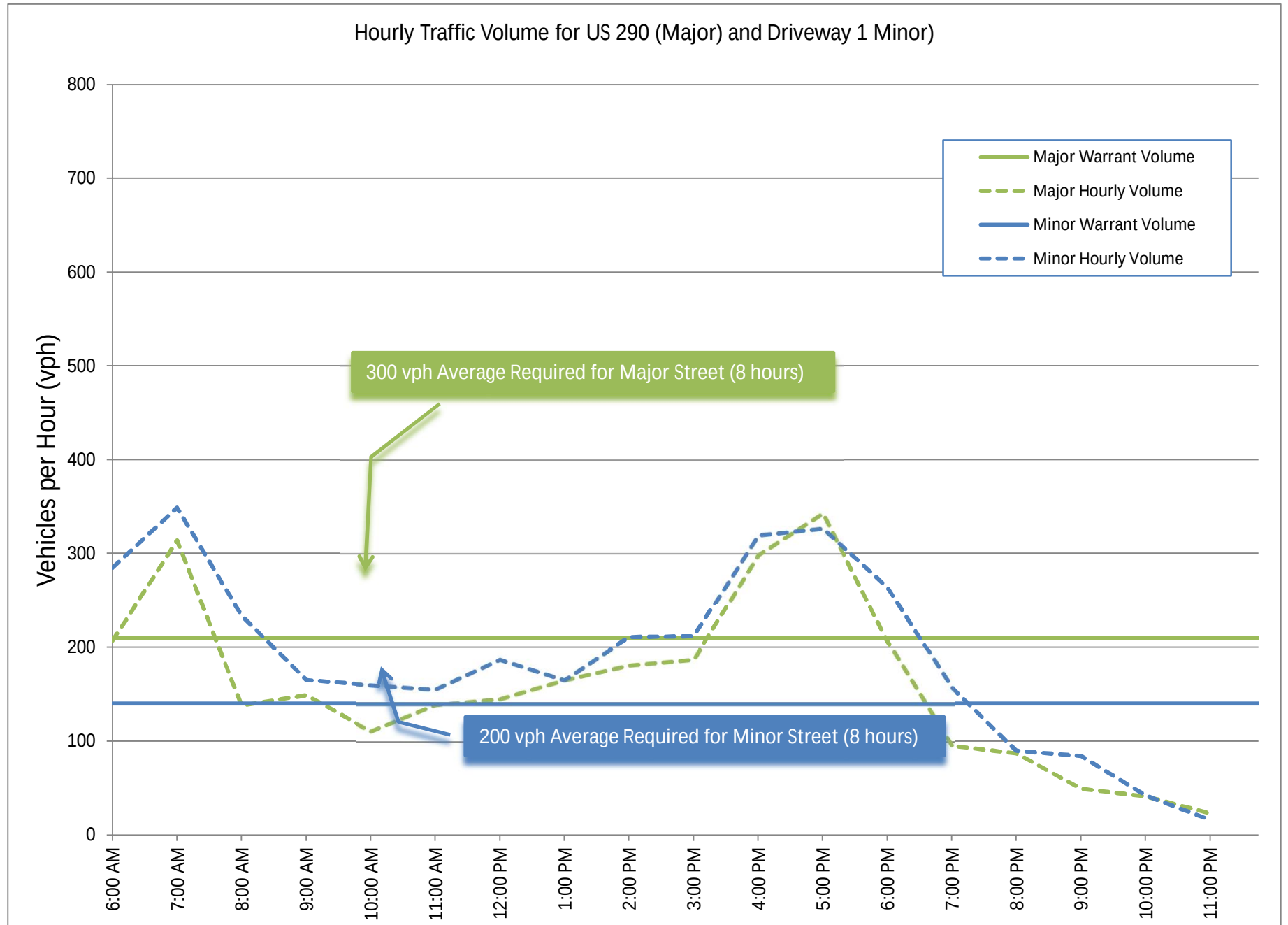
*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

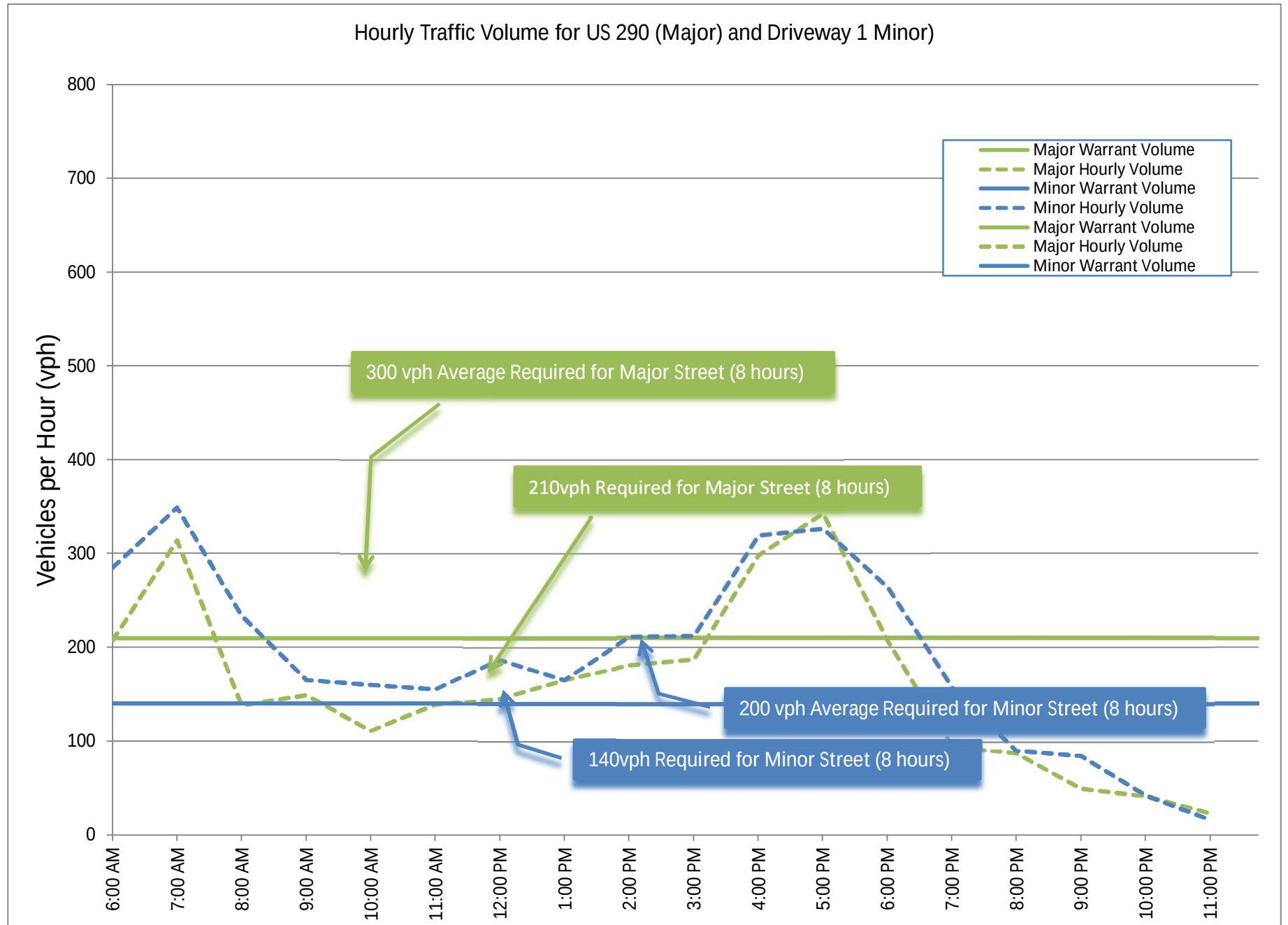
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.





Warrant	Title		
1	Eight-Hour Volume		
-	Condition A	Part 1	Part 2
-	Condition B	Part 1	Part 2
2	Four-Hour Volume		
3	Peak Hour Volume		
4	Pedestrian Volume		
5	School Crossing		
6	Coordinated Signal System		
7	Crash Experience		
8	Roadway Network		
9	Intersection Near a Grade Crossing		

Standard

The need for a traffic control signal shall be considered if an engineering study finds that 1 of the following conditions exist for each of any 8 hours of an average day. In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

A. The vehicles per hour given in both of the 100%/80% columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection, or

A. The vehicles per hour given in both of the 100%/80% columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

See Figure 4C-1 in TMUTCD.

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following 2 categories are met:

A. If all 3 of the following conditions exist for the same 1 hour of an average day:

1. The total stopped time delay experience by the traffic on 1 minor-street approach (1 direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a 1-lane approach; or 5 vehicle-hours for a 2-lane approach, and
2. The volume on the same minor-street approach (1 direction only) equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes, and
3. The total entering volume serviced during the hour equals or exceeds 650 vph for intersections with 3 approaches or 800 vph for intersections with 4 or more approaches.

See Sect. 4C.05 (page 465) in TMUTCD

See Sect. 4C.06 (page 465) in TMUTCD

See Sect. 4C.07 (page 467) in TMUTCD

The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and

B. 5 or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and

C. For each of any 8 hours of an average day, the vph given in both the 80% columns of Condition A in Table 4C-1, or the vph in both of the 80% columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80% of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

See Sect. 4C.09 (page 468) in TMUTCD

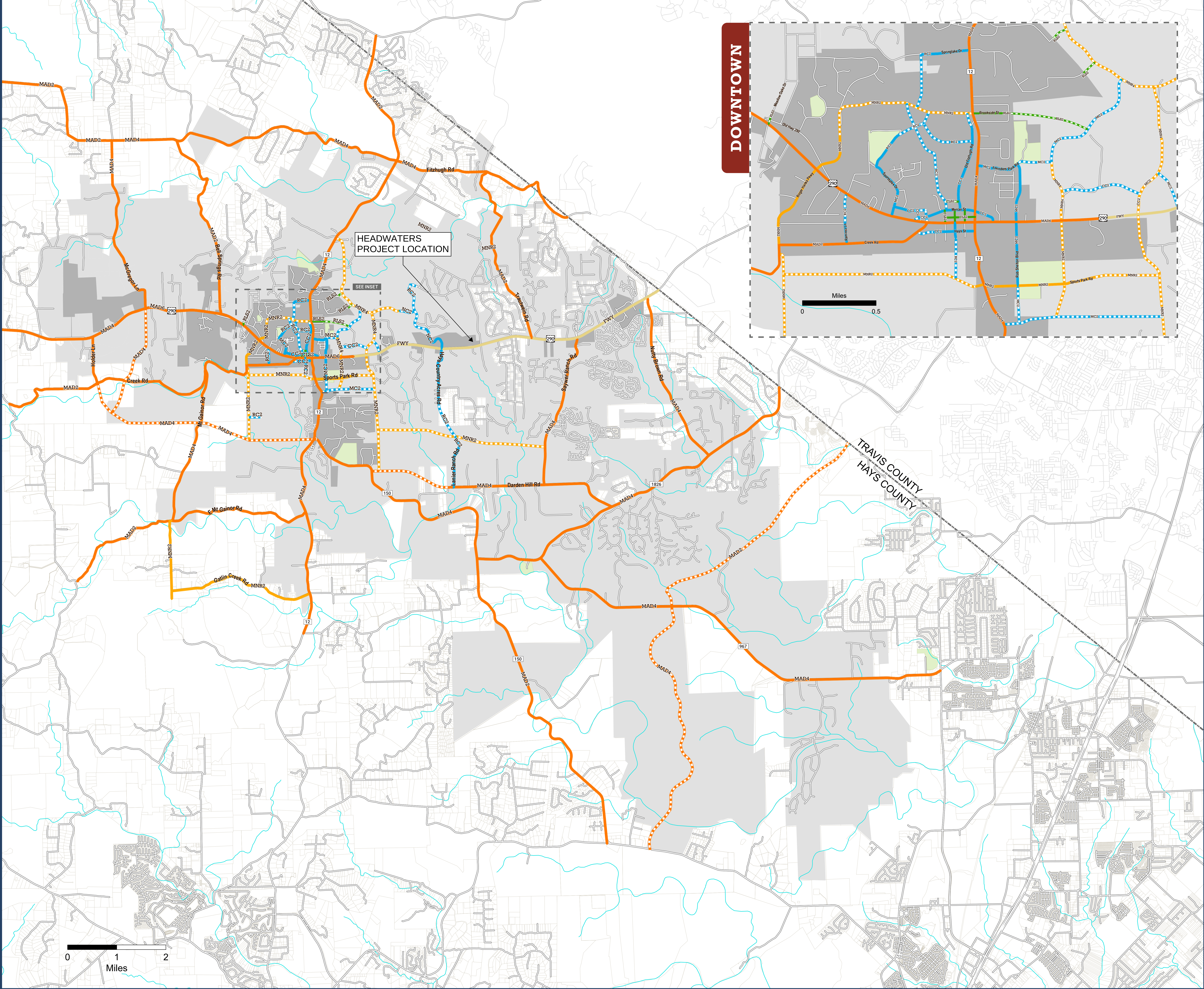
See Sect. 4C.10 (page 468) in TMUTCD

Appendix I: Hays County 2021 Transportation Plan Excerpts

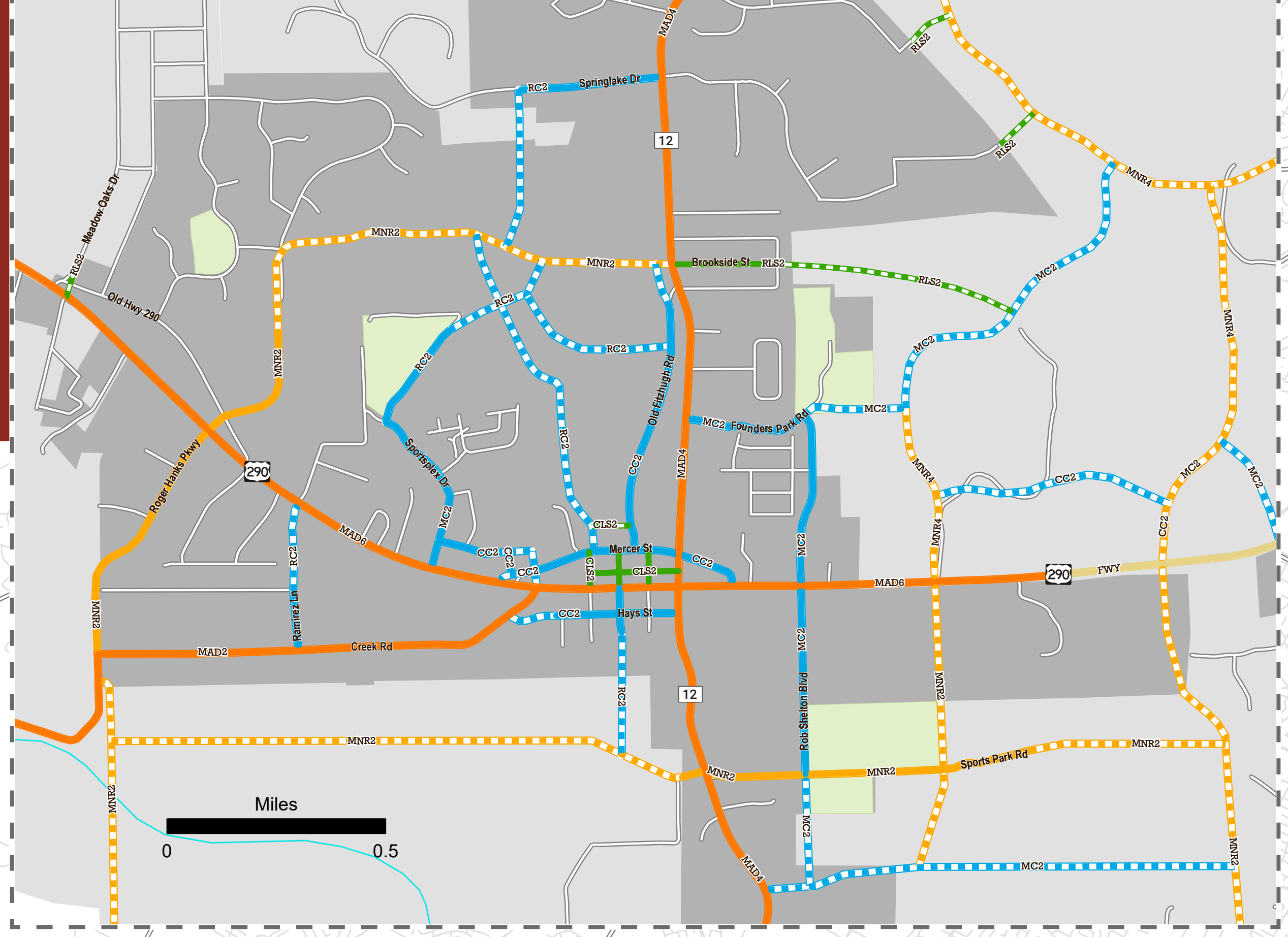
THOROUGHFARE PLAN



DRIPPING SPRINGS
Texas



DOWNTOWN



LEGEND

THOROUGHFARE PLAN

- | | |
|----------------|----------------|
| MAJOR ARTERIAL | MINOR ARTERIAL |
| Enhanced | Enhanced |
| Proposed | Proposed |
| COLLECTOR | STREET |
| Enhanced | Enhanced |
| Proposed | Proposed |
| FREEWAY | |
| Enhanced* | |

ROADWAY CLASSIFICATIONS

- MAD6 - 6 Lane Major Divided Arterial
- MAD4 - 4 Lane Major Divided Arterial
- MAD2 - 2 Lane Major Divided Arterial
- MNR4 - 4 Lane Minor Divided Arterial
- MNR2 - 2 Lane Minor Divided Arterial
- MC2 - 2 Lane Major Collector
- CC2 - 2 Lane Commercial Collector
- NC2 - 2 Lane Neighborhood Collector
- RC2 - 2 Lane Residential Collector
- CLS2 - 2 Lane Commercial Local Street
- RLS2 - 2 Lane Residential Local Street

OTHER

- CITY LIMITS
- EXTRATERRITORIAL JURISDICTION (ETJ)
- PARKS
- CREEKS & RIVERS
- COUNTY BOUNDARY



October 2021

This Thoroughfare Plan depicts proposed enhancements to existing roadways and proposed roadways.

Final alignments of proposed roadways will be determined in cooperation with TxDOT, Hays County and its Long Range Transportation Plan, and the subdivision platting process.

* US 290 classification and roadway cross-section to be determined by TxDOT as part of US 290 Corridor Study.



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MULTIMODAL PLAN



DRIPPING SPRINGS
Texas

LEGEND

MULTIMODAL PLAN

SHARED-USE PATH

- Enhanced
- Proposed

SIDEWALK

- Enhanced
- Proposed

SIDEWALK WITH RAISED BICYCLE LANE

- Enhanced
- Proposed

- EXISTING SIDEWALKS
- EXISTING TRAILS

OTHER

- CITY LIMITS
- EXTRATERRITORIAL JURISDICTION (ETJ)
- PARKS
- CREEKS & RIVERS
- COUNTY BOUNDARY



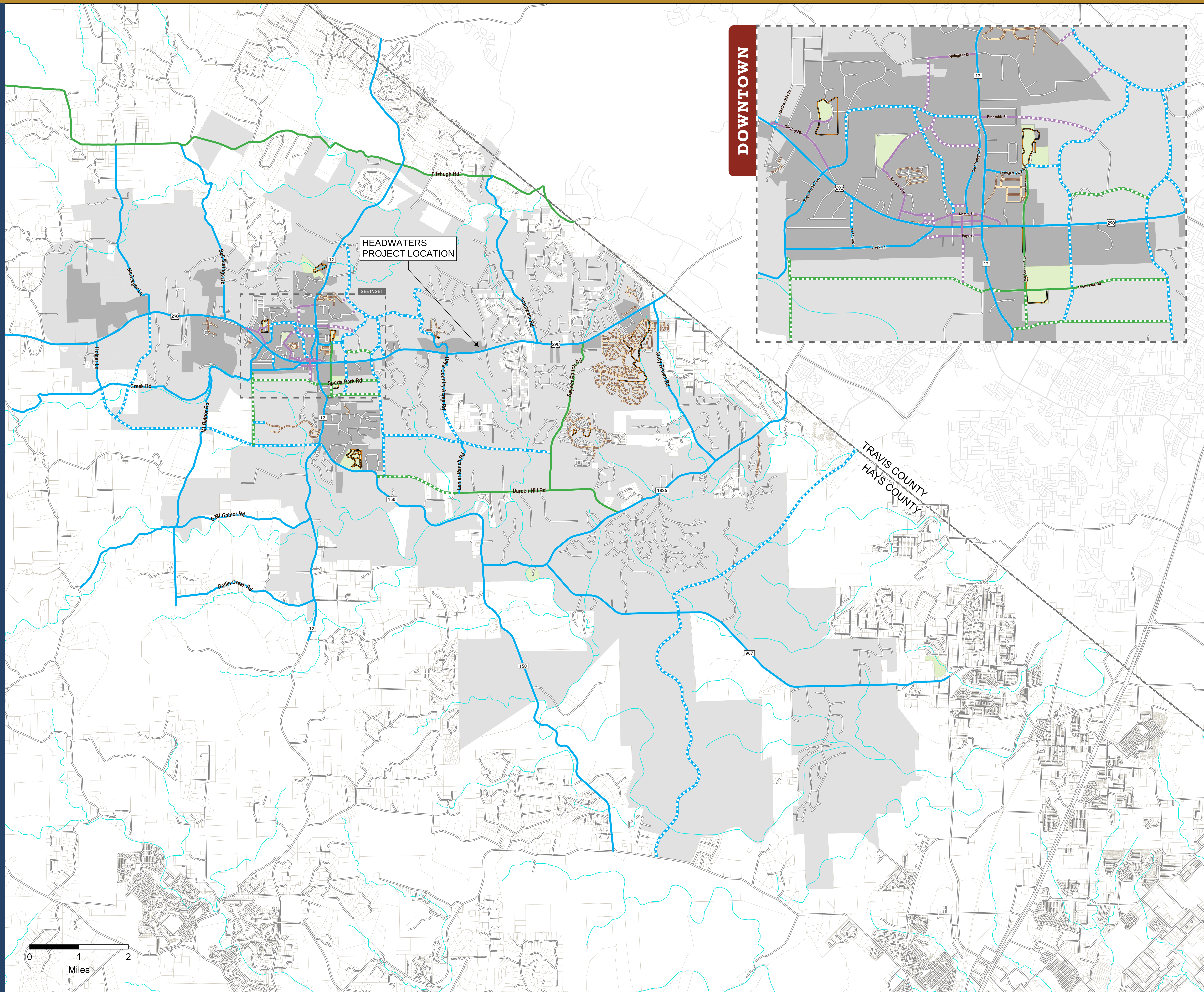
October 2021

This Multimodal Plan depicts proposed multimodal enhancements to existing roadways and proposed roadways. This Multimodal Plan does not preclude pedestrian and/or bicycle enhancements not indicated on this map.

Final alignments of proposed roadways will be determined in cooperation with TxDOT, Hays County and its Long Range Transportation Plan, and the subdivision platting process.



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PRIORITIZATION PLAN



DRIPPING SPRINGS
Texas

LEGEND

PRIORITIZATION PLAN

SHORT-TERM

- Enhanced
- Proposed

MID-TERM

- Enhanced
- Proposed

LONG-TERM

- Enhanced
- Proposed

- EXISTING SIDEWALKS
- EXISTING TRAILS

OTHER

- CITY LIMITS
- EXTRATERRITORIAL JURISDICTION (ETJ)
- PARKS
- CREEKS & RIVERS
- COUNTY BOUNDARY



October 2021

This Prioritization Plan depicts the recommended project priority for enhancements to existing roadways and proposed roadways.

Final alignments of proposed roadways will be determined in cooperation with TxDOT, Hays County and its Long Range Transportation Plan, and the subdivision platting process.



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