



**TRANSPORTATION COMMITTEE  
REGULAR MEETING  
City of Dripping Springs  
Council Chambers, 511 Mercer St, Dripping Springs, TX  
Monday, January 23, 2023 at 3:30 PM**

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**Agenda**

**CALL TO ORDER AND ROLL CALL**

**Transportation Committee Members**

Travis Crow, Chair  
Sharon Hamilton, Vice Chair  
Jimmy Brown  
Doug Crosson  
Chad Gilpin  
Roman Grijalva  
John Pettit  
Aaron Reed  
Ben Sorrell (Advisory Member)

**Staff, Consultants & Appointed/Elected Officials**

Craig Rice, Deputy Public Works Director  
Warlan Rivera, City Planner  
Council Member Geoffrey Tahuahua  
Walt Smith, Hays County Precinct 4 Commissioner  
Lon Shell, Hays County Precinct 3 Commissioner  
Jerry Borcharding, P.E., Hays County Engineer  
Adam Leach, Hays County EIT  
Pam Swanks, DSISD Director of Transportation  
Clint Pruett, DSISD Director of Facilities & Construction  
William Semora, P.E., TxDOT Engineer South Area  
Reed Smith, P.E., TxDOT Engineer South Area  
Doise Miers, CAMPO Community Outreach Manager  
Traffic Engineering Consultant Leslie Pollack P.E., HDR Engineering

**AGENDA**

- 1. Update and discussion regarding Texas Department of Transportation current and upcoming projects.**
- 2. Update and discussion regarding Hays County current and upcoming projects.**
- 3. Update and discussion regarding City of Dripping Springs Transportation Projects.**
  - a. TASA Updates
  - b. Sawyer Ranch Road
  - c. Roger Hanks Update

**4. Update and discussion regarding HDR Engineering, Inc. current and upcoming projects.**

- a. Headwaters Review Analysis & Recommendations
- b. Double L Presentation regarding Request to add SLB
- c. Presentation of Results & Prioritization regarding Transportation Symposium
- d. TASA Update regarding Old Fitzhugh and Elementary School Funding & TxDOT Support Letter

**5. Update and discussion regarding new business.**

**UPCOMING MEETINGS**

**Transportation Committee Meetings**

February 27, 2023, at 3:30 p.m.

March 27, 2023, at 3:30 p.m.

April 24, 2023, at 3:30 p.m.

**City Council Meetings**

February 7, 2023, at 6:00 p.m.

February 21, 2023, at 6:00 p.m.

March 7, 2023, at 6:00 p.m.

March 21, 2023, at 6:00 p.m.

**ADJOURN**

*This facility is wheelchair accessible. Accessible parking spaces are available. Requests for auxiliary aids and services must be made 48 hours prior to this meeting by calling (512) 858-4725.*

# Memo

Date: Wednesday, January 04, 2023

Project: US 290 and Headwaters

To: Willie Semora, P.E., TxDOT  
Aaron Reed, City of Dripping Springs  
Chad Gilpin, P.E., City of Dripping Springs

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

Subject: US 290 & Headwaters Traffic Study

## Introduction

Operational and safety concerns were identified on US 290 between E. Creek Drive and Kibo Ridge Drive in Dripping Springs, Texas. This memo summarizes available crash data, evaluates intersection operations, and provides recommendations.

## Existing Conditions

### US 290

US 290 is a four-lane divided primary arterial with a posted speed limit of 55 miles per hour (mph). 32,800 vehicles per day (vpd) were recorded by TxDOT on US 290, west of Cannon Ranch Road in 2021.

### US 290 AND E. CREEK DRIVE

The US 290 and E. Creek Drive intersection is a stop-controlled intersection with full-purpose operations. The eastbound and westbound approaches of US 290 are uncontrolled; the eastbound approach provides a two-way center left-turn lane, two through lanes, and a right-turn lane, while the westbound approach provides one left-turn lane and two through lanes. The northbound approach of E. Creek Drive is stop-controlled and provides one left-turn/right-turn shared lane.

Current 24-hour traffic data is not available on E. Creek Drive; however, based on peak-hour traffic count data conducted by HDR in 2022, 400 vpd are estimated on E. Creek Drive, south of US 290. The posted speed limit on E. Creek Drive is 30 mph.

### US 290 AND KIBO RIDGE DRIVE

The US 290 and Kibo Ridge Drive intersection is a stop-controlled intersection with limited-purpose operations. The eastbound and westbound approaches of US 290 are uncontrolled; the eastbound approach provides a two-way left-turn lane and two through lanes, while the westbound approach provides a two-way center left-turn lane, two through lanes and a right-turn lane. The southbound approach of Kibo Ridge Drive is stop-controlled and provides one right-turn lane.

Current 24-hour traffic data is not available on Kibo Ridge Drive; however, based on peak-hour traffic count data conducted by HDR in 2022, 1,850 vpd are estimated on Kibo Ridge Drive, north of US 290. The posted speed limit on Kibo Ridge Drive is 30 mph.

#### **US 290 AND HEADWATERS BOULEVARD**

The US 290 and Headwaters Boulevard/Hays Country Acres Road intersection is a signalized intersection with full-purpose operations. The eastbound approach provides one left-turn lane, two through lanes, and a right-turn lane, while the westbound approach provides one left-turn lane, two through lanes and a right-turn lane. The northbound approach of Hays Country Acres provides one left-turn/through/right-turn shared lane. The southbound approach of Headwaters Boulevard provides one left turn lane, one left-turn/through/right-turn shared lane and one right-turn lane. The posted speed limits on both Headwaters Boulevard and Hays Country Acres Road are 30 miles mph in the vicinity of the area.

Current 24-hour traffic data is not available on Headwaters Boulevard; however, based on peak-hour traffic count data conducted by HDR in 2022, 3,100 vpd are estimated on Headwaters Boulevard, north of US 290 and 3,550 vpd are estimated on Hays Country Acres Road, south of US 290.

#### **PROBLEM STATEMENT**

The eastbound left-turn movement from US 290 to Kibo Ridge Drive was identified as a potential safety concern due to high traffic speeds on US 290 and vehicles making the eastbound left-turn maneuver were observed entering the center left-turn lane ahead of the designated turn lane to decelerate, causing a potential head-on vehicular conflict with the westbound left turn movement at the intersection of US 290 and E. Creek Drive. A map showing the study area is presented in Figure 1.

## Analysis Assumptions

An operational analysis was conducted at the following three intersections in the study area:

- US 290 and Headwaters Boulevard (signalized)
- US 290 and Kibo Ridge Drive (unsignalized)
- US 290 and East Creek Drive (unsignalized)

The analysis of existing operations required the collection of data on the major roadways and intersections. Peak hour (AM and PM) turning movement counts were conducted at the three study intersections on Thursday, September 15, 2022.

## Background Traffic

Traffic growth rates for the area were examined using previously collected traffic counts from TxDOT in the area. Based on available information, a 4.0 percent annual growth rate was applied to existing counts to model 2026 forecasted volumes. In addition, the following projects were included as background traffic under forecasted traffic conditions:

- Headwaters TIA (Residential) (2014)
- Headwaters Commercial TIA (2017)

The year 2026 was established as the year in which the proposed Headwaters Commercial development will be completed. Hence, for the purpose of this study, 2026 was assumed as the analysis year for forecasted traffic conditions.

## Alternative Analysis

Prohibition of the eastbound left-turn movement at US 290 and Kibo Ridge Drive was evaluated to improve safety and operations of the intersection.

The following two scenarios were analyzed:

- Scenario 1: Eastbound left turns are permitted at US 290 and Kibo Ridge Drive (existing conditions)
- Scenario 2: Eastbound left turns are prohibited at US 290 and Kibo Ridge Drive. Vehicles are rerouted to the eastbound left turn at US 290 and Headwaters Boulevard. Kibo Ridge Drive will operate as a right-in, right-out (RIRO) roadway.

Intersection Level of Service (LOS) and delay results for 2022 and 2026 traffic conditions were evaluated for both the scenarios above. Under 2026 traffic conditions Scenario 2, 76 and 97 left-turn vehicles at US 290 and Kibo Ridge Drive will be relocated to US 290 and Headwaters Boulevard in the AM and PM peak hours, respectively. Intersection traffic volumes are presented in Figures 2-5.

**Table 1. Intersection Operations – Level of Service and Delay (sec/veh)**

#	Intersection	2022 Conditions Scenario 1		2022 Conditions Scenario 2		2026 Conditions Scenario 1		2026 Conditions Scenario 2	
		AM	PM	AM	PM	AM	PM	AM	PM
1	US 290 and Headwaters Blvd	C (29.6)	C (28.7)	C (34.3)	D (37.8)	E (66.9)	F (94.2)	E (76.4)	F (104.5)
2	US 290 and Kibo Ridge Dr	C (23.0) SB	C (21.6) SB	C (23.0) SB	C (21.6) SB	F (65.6) SB	F (70.4) SB	F (65.6) SB	F (70.4) SB
3	US 290 and E Creek Dr	C (24.1) NB	D (27.7) NB	C (24.1) NB	D (28.7) NB	D (33.9) NB	E (41.1) NB	D (33.9) NB	E (41.1) NB

Delay is reported in seconds per vehicle

Overall intersection LOS and delay (sec/veh) are reported for signalized intersection.

Highest delay minor street approach LOS and delay (sec/veh) are reported for stop-controlled intersections

Implementation of Scenario 2 will increase the average delay and LOS at the intersection of US 290 and Headwaters Boulevard, while the average delay and LOS for the highest delay minor street approach at the other two intersections are not impacted.

It should be noted that the eastbound left-turn movement at US 290 and Headwaters Boulevard is already operating at unacceptable levels under 2022 and 2026 traffic conditions in Scenario 1. In Scenario 2, the left-turn movement will continue to operate at an unacceptable level with increased delay, under both 2022 and 2026 traffic conditions. Table 2 shows the expected delay for left-turning vehicles at US 290 and Headwaters Boulevard for both scenarios.

**Table 2. Eastbound Left-Turn Movement Delay at US 290 and Headwaters Blvd**

#	Intersection	2022 Conditions Scenario 1		2022 Conditions Scenario 2		2026 Conditions Scenario 1		2026 Conditions Scenario 2	
		AM	PM	AM	PM	AM	PM	AM	PM
1	US 290 and Headwaters Blvd	E (64.4)	E (62.4)	E (71.9)	E (73.9)	E (76.3)	F (113.6)	F (90.9)	F (266.0)

Delay is reported in seconds per vehicle

Operations at the US 290 and Headwaters Boulevard intersection would improve with modification of the traffic signal timing to remove split-phased operations from the northbound and southbound approaches at the intersection. Implementation of this improvement requires construction of a northbound left-turn lane and widening of Hays Country Acres Road to the east to improve alignment of the northbound through movement.

**Crash Analysis**

Crash data in the study area was obtained from TxDOT’s Crash Records Information System (CRIS) Query Tool. Kibo Ridge Drive was completed and open to vehicular traffic in May 2019. There have been 18 reported crashes in the study area between May 2019 and 2022. The most recent documented crash occurred on Monday, August 29, 2022. Additional crashes may have occurred that have not yet been recorded in the system.

Of the 18 crashes, there was one (1) crash reported at US 290 and E. Creek Drive and zero (0) crashes reported at US 290 and Kibo Ridge Drive. The remaining 17 crashes occurred at/near the US 290 and Headwaters Boulevard intersection. A map, from the CRIS website, showing crash locations is provided in Figure 6. The one recorded crash in the study area cannot be linked to operations within the left-turn lanes on US 290. A summary of the crash data for the crash occurring at E. Creek Drive is presented in Table 3.

**Table 3. Study Intersection Related Crashes**

Intersection	Crash ID	Crash Date	Crash Time	Weather Condition	Surface Condition	Light Condition	Crash Severity	Manner of Collision
US 290 and E Creek Dr	19032198	07/26/2022	12:41 PM	Clear	Dry	Daylight	Not Injured	Angle-One Straight-One Right Turn

**Summary and Recommendations**

The operational analysis indicates that both the eastbound left-turn movement and the overall intersection average delay and LOS will increase at the intersection of US 290 and Headwaters Boulevard under existing and forecasted traffic conditions if left turns are prohibited at US 290 and Kibo Ridge Drive. The crash analysis did not show a significant number of crashes at US 290 and Kibo Ridge Drive related to left-turn operations.

A summary of mitigation options along with the pros, cons and a high-level qualitative assessment of construction costs is presented in Table 4.

**Table 4. Mitigation Options**

#	Measure	Pros	Cons	Costs
1	<ul style="list-style-type: none"> <li>Prohibit left-turn movement at US 290 and Kibo Ridge Drive</li> </ul>	<ul style="list-style-type: none"> <li>Permanent resolution of left-turn conflicts</li> </ul>	<ul style="list-style-type: none"> <li>Increased delay in eastbound left turn operations at US 290 and Headwaters Boulevard</li> <li>Potential for lack of compliance with restricted operations could result in increased safety concerns</li> </ul>	\$\$\$
2	<ul style="list-style-type: none"> <li>Prohibit left-turn movement at US 290 and Kibo Ridge Drive</li> <li>Construct dual eastbound left-turn lanes at US 290 and Headwaters Boulevard</li> </ul>	<ul style="list-style-type: none"> <li>Permanent resolution of left-turn conflicts</li> <li>Improves traffic operations by increasing capacity for rerouted vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Costs associated with construction of dual left-turn lanes</li> <li>Potential for lack of compliance with restricted operations could result in increased safety concerns</li> </ul>	\$\$\$\$
3	<ul style="list-style-type: none"> <li>Prohibit left-turn movement at US 290 and Kibo Ridge Drive for an interim period</li> </ul>	<ul style="list-style-type: none"> <li>Short-term resolution of left-turn conflicts</li> </ul>	<ul style="list-style-type: none"> <li>Continuous changes in traffic operations around the study area are not desirable</li> <li>Potential for lack of compliance with restricted operations could result in increased safety concerns</li> </ul>	\$\$
4	<ul style="list-style-type: none"> <li>Install traffic calming measures on Kibo Ridge Drive</li> </ul>	<ul style="list-style-type: none"> <li>Deters “cut-through” trips to Headwaters Boulevard and potentially reduces eastbound left-turn volume</li> </ul>	<ul style="list-style-type: none"> <li>Left-turn conflict remains on US 290</li> </ul>	\$\$\$
5	<ul style="list-style-type: none"> <li>Restripe the center left-turn lane to two left-turn lanes</li> </ul>	<ul style="list-style-type: none"> <li>Clearly defines left-turn lanes</li> </ul>	<ul style="list-style-type: none"> <li>Left-turn striping does not meet TxDOT Roadway Design Manual standards for deceleration causing slowing of vehicles in through lanes</li> <li>Potential for lack of compliance with updated striping</li> <li>Need to restrict animal hospital driveway to right-in/right-out operations</li> </ul>	\$

**Table 4. Mitigation Options**

#	Measure	Pros	Cons	Costs
6	<ul style="list-style-type: none"> <li>Restripe the center left-turn lane to two left-turn lanes</li> <li>Add flexible delineators or raised, slotted curbs on the centerline</li> </ul>	<ul style="list-style-type: none"> <li>Clearly defines left-turn lanes</li> <li>Deters opposing left-turns from overlapping</li> </ul>	<ul style="list-style-type: none"> <li>Left-turn striping does not meet TxDOT Roadway Design Manual standards for deceleration causing slowing of vehicles in through lanes</li> <li>Potential for lack of compliance with updated striping</li> <li>Need to restrict animal hospital driveway to right-in/right-out operations</li> <li>Routine maintenance required</li> </ul>	\$\$

It is recommended that Mitigation Option 6 be implemented on US 290 for near-term conditions. This option defines two turn lanes between E. Creek Drive and Kibo Ridge Drive and provides physical barriers between the turning movements. TxDOT’s US 290 Feasibility Study will evaluate additional long-term access management and safety improvements throughout the corridor.



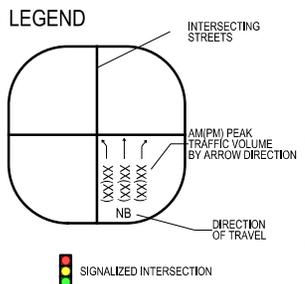
**LEGEND**  
 (X) STUDY INTERSECTION

XXX VPD (YEAR) = VEHICLES PER DAY  
 \*VPDs ARE ESTIMATED

HEADWATERS (COMMERCIAL)

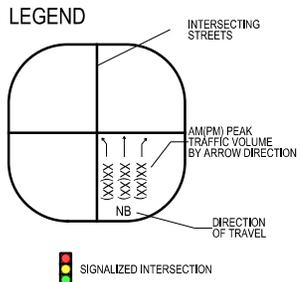
HEADWATERS (RESIDENTIAL)

**FIGURE 1**  
**ANALYSIS STUDY AREA MAP**



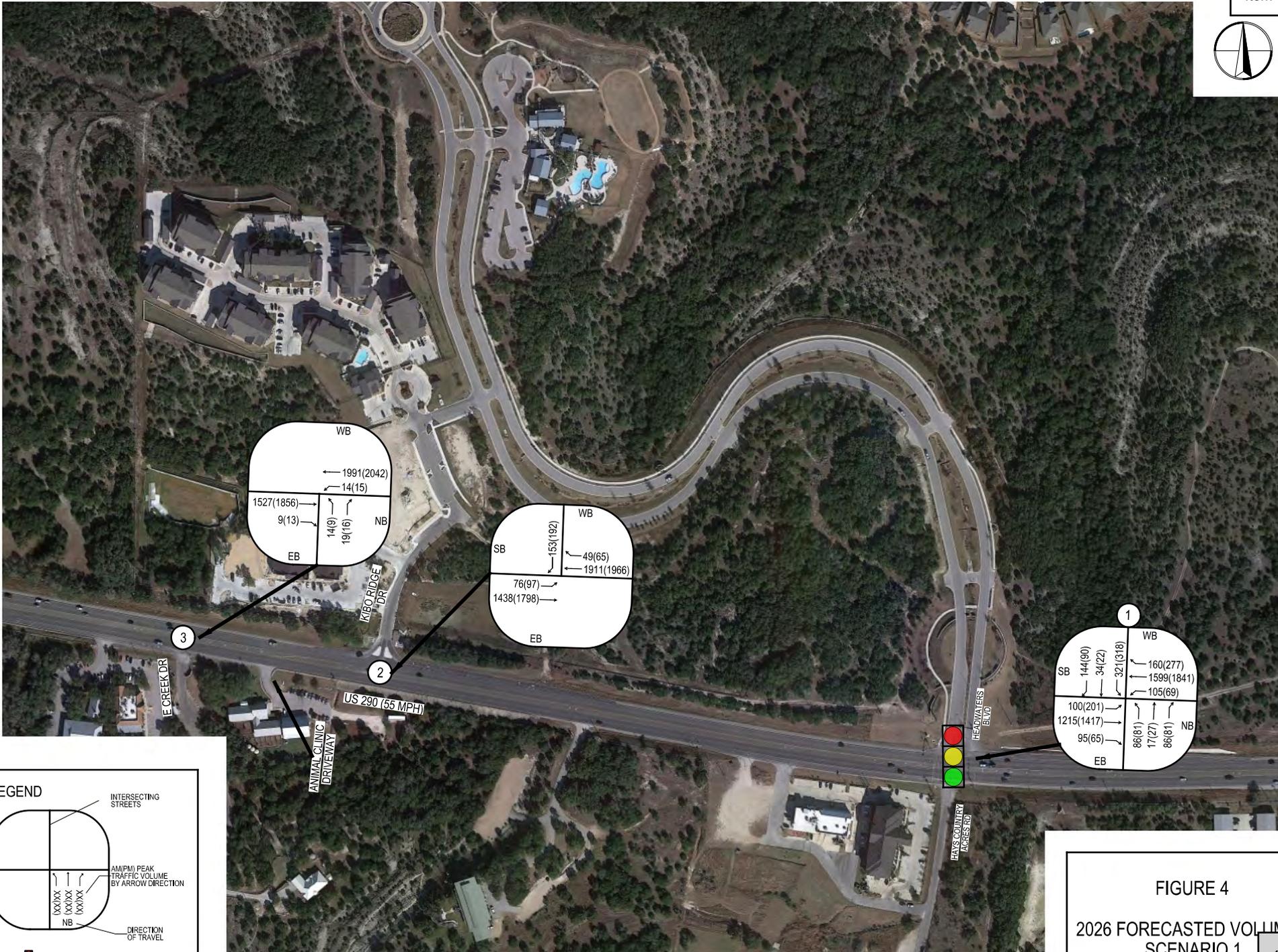
Background Map Copyrighted by Google, 2022

FIGURE 2  
2022 EXISTING VOLUMES  
SCENARIO 1



Background Map Copyrighted by Google, 2022

FIGURE 3  
2022 EXISTING VOLUMES  
SCENARIO 2



3

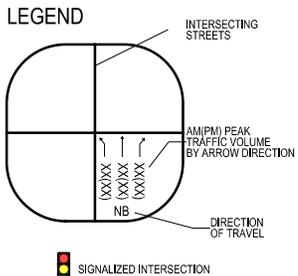
WB	
← 1991(2042)	← 14(15)
1527(1856) →	14(9) →
9(13) →	19(16) →
NB	
EB	

2

WB	
← 49(65)	← 1911(1966)
153(192) →	76(97) →
1438(1798) →	EB

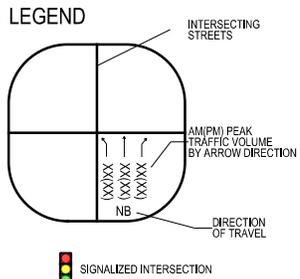
1

WB	
← 160(277)	← 1599(1841)
144(90) →	34(22) →
321(318) →	105(69) →
NB	
100(201) →	88(61) →
1215(1417) →	17(27) →
95(65) →	88(61) →
EB	



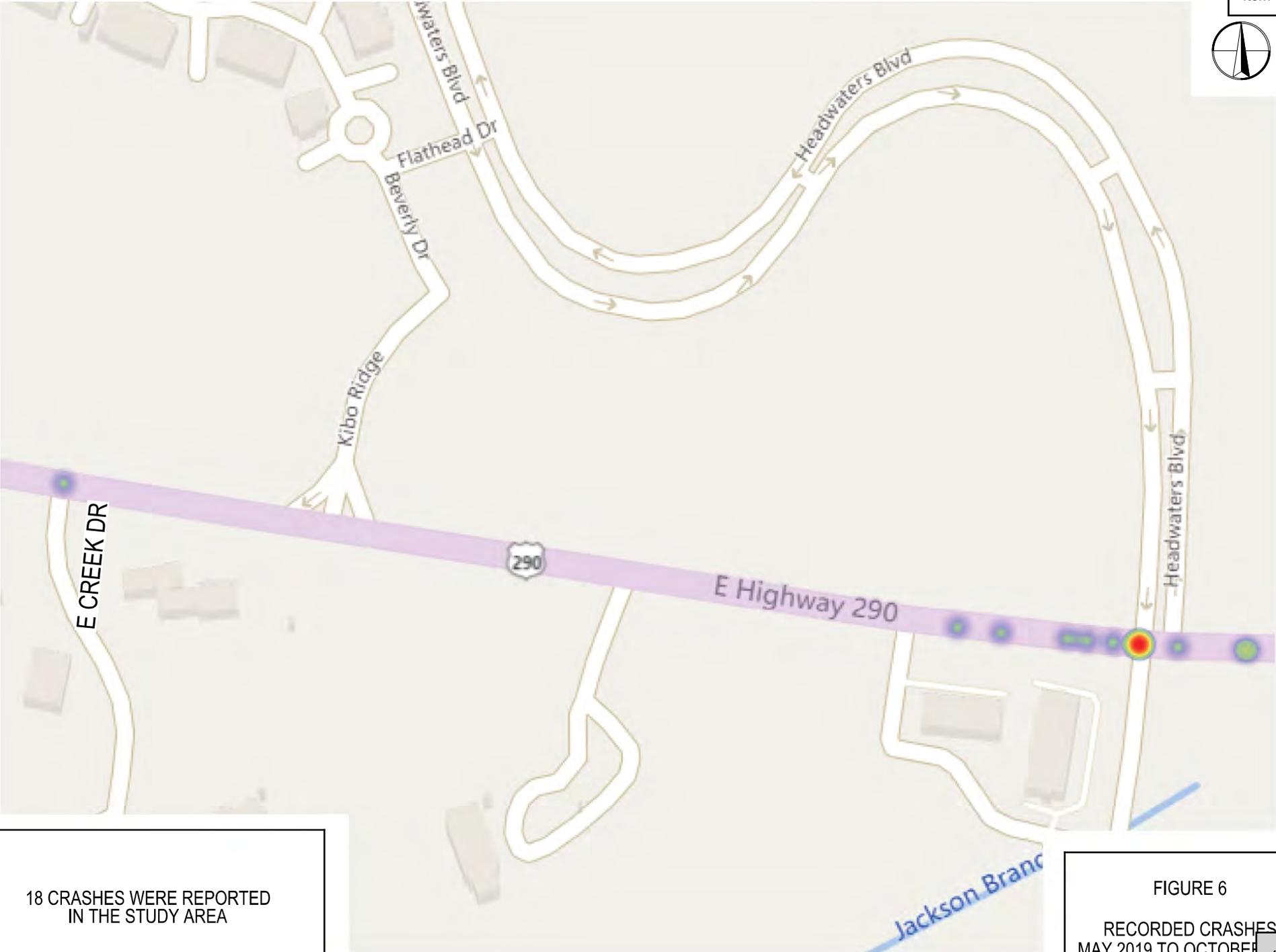
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FIGURE 4  
2026 FORECASTED VOLUMES  
SCENARIO 1



Background Map Copyrighted by Google, 2022

FIGURE 5  
2026 FORECASTED VOLUMES  
SCENARIO 2



18 CRASHES WERE REPORTED  
IN THE STUDY AREA

FIGURE 6  
RECORDED CRASHES  
MAY 2019 TO OCTOBER 2022