

Traffic Impact Study

Please add PCD file No. P247

Thank you for your review and comments provided to the traffic study. Please see individual responses throughout this document. The PCD file number has been added to the Cover and Title sheets.

Venetucci Thompson Thrift El Paso County, Colorado

Prepared for:
Thompson Thrift Residential

Kimley»Horn

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

Traffic Engineer's Statement

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



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

June 30, 2023
Date

Developer's Statement

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

Ms. Jo M. Ryan, AICP
Thompson Thrift Residential
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Suite 1600
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Date

Venetucci Thompson Thrift

El Paso County, Colorado

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June 2023

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3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area

The existing site is comprised of undeveloped vacant land. Surrounding the site to the east is vacant land and a retail shopping center. West of the site are single family homes. North of the site is more vacant land while retail uses and single-family residences are located in the extended area to the northwest. The South Academy Highlands development is proposed to the south of the project and is a mixed-use development. Pikes Peak State College is located south of Academy Boulevard.

3.2 Existing Roadway Network

US-85 is a CDOT Highway, categorized NR-A: Non-Rural Principal Highway that provides one through lane of travel in each direction with a 45 mile per hour speed limit through the study area. North of B Street, US-85 no longer is a CDOT highway and resumes as Venetucci Boulevard.

B Street provides two through lanes of travel in each direction, eastbound and westbound, with a 40 mile per hour speed limit through the study area. B Street is classified as an El Paso County Minor Arterial.

← Urban Minor Arterial

Revised.

Venetucci Boulevard extends north-south with one through lane in each direction north of the Walmart North Access and two through lanes in each direction south of the Walmart North Access. Venetucci Boulevard is not categorized in the street classification map but has the characteristics of a non-residential collector street. The speed limit along Venetucci Boulevard ranges between 30 and 35 miles per hour.

Academy Boulevard is classified as an El Paso County Expressway with three through lanes in each direction eastbound and westbound and has a posted speed limit of 50 miles per hour.

Urban Expressway

Revised.

Walmart Access/South Project Access and Venetucci Boulevard (#3)

The signalized 'T'-intersection of Walmart Access and Venetucci Boulevard (#3) operates with permissive-only left turn phasing on the southbound Venetucci Boulevard approach and protected left turn phasing on the westbound Walmart North Access approach. The intersection operates acceptably at LOS B or better during both peak hours under existing conditions. With project construction, a west leg will be constructed at this intersection to provide access to the project. It is recommended that this west leg be designated with a left turn lane and a shared through/right turn lane. Additionally, to meet El Paso County standards, it is recommended that a northbound left turn lane be designated at this intersection. With these improvements and project traffic, this intersection is anticipated to continue operating at an acceptable level of service throughout the 2045 horizon. **Table 5** provides the results of the LOS analysis conducted at this intersection.

Table 5 – Walmart Access/South Access and Venetucci Boulevard (#3) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Existing	9.6	A	16.6	B
2025 Background	7.7	A	13.5	B
2025 Background Plus Project #	12.2	B	11.3	B
2045 Background	4.6	A	9.9	A
2045 Background Plus Project #	10.7	B	9.3	A

= West Leg with Left Turn Lane and Shared Through/Right Turn Lane and Northbound Left Turn Lane

Venetucci Blvd is a City roadway. Refer to their requirements for the turn lane.

Understood, turn lanes have been updated along Venetucci Boulevard based on City of Fountain standards.

being 50 vehicles per hour. The existing northbound right turn lane is continuous and therefore meets El Paso County standards.

South Project Access/Walmart North Access and Venetucci Boulevard (#3):

- A northbound left turn lane **is** warranted at this intersection based on projected 2025 total traffic volumes being 68 northbound left turns during the peak hour and the threshold being 25 vehicles per hour. Based on the 35-mile per hour speed limit, the required deceleration lane length is 135 feet with 100 feet in storage length, plus a 140-foot taper to meet El Paso County standards (235 feet length plus 140-foot taper). This turn lane is currently striped out for future use; however, the maximum possible length that can be provided due to existing back-to-back left turn lanes is approximately 150 feet of length plus a 140-foot shared taper.
- A southbound right turn lane **is not** warranted at this intersection based on projected 2025 total traffic volumes being two (2) southbound right turns during the peak hour and the threshold being 50 vehicles per hour.

please coordinate with the City regarding their standards for the turn lanes along venetucci

Academy Boulevard and Venetucci Boulevard (West) (#5):

- A southbound left turn lane exists and **is** warranted at this intersection based on existing traffic volumes being 346 southbound left turns during the peak hour and the threshold being 25 vehicles per hour. The existing dual southbound left turn lanes are continuous and therefore meets El Paso County standards.
- A southbound right turn lane exists and **is** warranted at this intersection based on existing traffic volumes being 222 southbound right turns during the peak hour and the threshold being 50 vehicles per hour. The existing southbound right turn lane is 400 feet with a 130-foot taper. Based on the 35-mile per hour speed limit, the required deceleration lane length is 135 feet with 250 feet in storage length, plus a 140-foot taper to meet El Paso County standards. Therefore, the required right turn lane length at this location is 385 feet plus a 140-foot taper. The existing southbound right turn lane is continuous and therefore meets El Paso County standards for turn lane length.

Understood, turn lanes have been updated along Venetucci Boulevard based on City of Fountain standards. Of note, the City of Fountain defaults to Colorado Springs standards for turn lane guidelines.

450 or 460?

Academy Boulevard and Venetucci Boulevard (Eastbound)

This should be 450 feet and has been revised.

- An eastbound left turn lane exists and is warranted at this intersection based on left turn lanes being warranted along all expressway intersections. The existing dual eastbound left turn lanes are 450 feet with a 225-foot taper. Based on the 50-mile per hour speed limit, the required deceleration lane length is 235 feet with 250 feet in storage length, plus a 200-foot taper to meet El Paso County standards. Therefore, the required left turn lane length at this location is 485 feet plus a 200-foot taper. The current dual left turn length of 460 feet with a 225-foot taper meets the overall length requirement with a 25-foot shift in turn lane length versus taper length requirement; therefore, no modifications are believed to be needed to these dual left turn lanes.
- A westbound right turn lane exists and is warranted at this intersection based on existing traffic volumes being 415 westbound right turns during the peak hour and the threshold being 10 vehicles per hour. The existing westbound right turn lane is 525 feet with a 150-foot taper. Based on the 50-mile per hour speed limit, the required deceleration lane length is 235 feet with 250 feet in storage length, plus a 200-foot taper to meet El Paso County standards. Therefore, the required right turn lane length at this location is 485 feet plus a 200-foot taper. The current right turn length of 525 feet with a 150-foot taper meets the overall length requirement; therefore, no modifications are believed to be needed to this right turn lane.

5.6 Vehicle Queuing Analysis

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Results are shown in the following **Table 10** with calculations provided within the level of service operational sheets of **Appendix E**.

Sight distance and stopping sight distance that are applicable to the studied intersections of #. 3 and 7. Please co-ordinate with the City of Fountain.

5.8 Sight Distance Evaluation

It is recommended that sight triangles be provided at all site access points to give drivers exiting the site a clear view of oncoming traffic. Landscaping and objects within sight triangles must not obstruct drivers' views of the adjacent travel lanes. ECM design intersection sight distances for left turn from stop were evaluated at the accesses along Venetucci Boulevard. ECM does not provide sight distances for right-turning vehicles from stop; therefore, AASHTO standards were used for right-turn from stop distances at the project accesses. The following identifies sight distance requirements for the access intersections associated with the project:

ECM table 2-21 is for right and left turning vehicles. Please revise this statement.

Walmart North Access and Venetucci Boulevard (#3)

According to Table 2-21 from ECM and a roadway design speed of 35 miles per hour along Venetucci Boulevard, the intersection sight distance for left-turning vehicles from stop is 390 feet (extrapolated).

With AASHTO standards, the sight distance for right turning vehicles from stop is 335 feet. Therefore, the sight triangle created for right turning vehicles from stop is 335 feet to the right within the triangle created for left turning vehicles from stop.

(typical position of the minor road driver's eye when stopped) and a line-of-sight distance of 390 feet located in the middle of the northbound through lane along Venetucci Boulevard for the Walmart North Access and Venetucci Boulevard (#3) intersection. Likewise, all obstructions for right turning vehicles from stop should be clear to the left within the triangle created with a vertex point located 10 feet from the edge of the major road traveled way and a line-of-sight distance of 335 feet located in the middle of the southbound through lane along Venetucci Boulevard. It is believed that the intersection of Walmart North Access and Venetucci Boulevard (#3) is appropriately located to provide necessary sight distances.

5.8 Bicycle and Pedestrian Access

Bicycle lanes are not present on either side of the B Street, US-85, Venetucci Boulevard, or Academy Boulevard. Sidewalk is provided along the east side of Venetucci Boulevard between B Street and Walmart Heights. Sidewalk is provided along the west side of Venetucci Boulevard from the roundabout to Academy Boulevard.

Table 12 – Project Traffic Contribution Improvement Summary

Intersection	Improvement	Project Traffic Contribution	Horizon Year
B St & US-85 (#1)	Dual Eastbound Left Turn Lanes (325'/C)	PM Peak 18 / 462 3.9%	2025
B St & Venetucci Blvd (#2)	Eastbound Right Turn Lane (305'+160' T)	PM Peak 5 / 121 4.1%	2025

XXX / XXX = Project Traffic (Peak Hour) / Total Traffic (Peak Hour)

Please identify the development responsibilities for these improvements

The project traffic contribution is provided to support in the future developer's agreement. The purpose of the traffic study is not to explicitly provide cost responsibility for improvements and to only provide guidance for determining that later.