



Traffic Impact Study

Crossroads-Meadowbrook & Reagan Ranch Colorado Springs, Colorado

PCD File No. CR201 & SP207

Add PCD File No. P208 and SP2011

Unresolved.

An addendum traffic study letter has been provided for Crossroads Mix Use and appropriate PCD file numbers have been included in the study.

Prepared for:

Pikes Peak Investments LLC

c/o The Equity Group


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.



Curtis D. Rowe, P.E., PTOE, PE #36355

February 19, 2021

Date

Developer's Statement

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

This Master TIS must also include site specific recommendations since this is provided as the supporting TIS for the preliminary plan applications for Crossroads Mix Use (SP2011), Meadowbrook Park (PUDSP208), and Crossroads North (SP207). Please look at the review comment to the TIS under each PCD File No. The redline comments to the TIS were specifically focused for the given project. This revised TIS appears to have only addressed review comments provided under the SP207 submittal. See SP2011 and PUDSP208 review 1 comments for additional TIS comments. 1. Provide recommendations for the internal private road classification/cross section in Crossroads Mixed Use. The trip generation estimate is 11,554 ADT while the preliminary plan showed an urban local road cross section (design ADT of 3,000) for the internal private road. **Unresolved. It seems the private road should be designed to a non-residential collector cross-section.** 2. Provide roundabout analysis. Current policy is to design per the Wisconsin DOT roundabout design criteria. - Autoturn analysis of the intersection. Per ECM Table 2-7 design vehicle is WB-50. - Table of critical design parameters. - Rodel model report. - Fastest path analysis/exhibit. - Entry angle exhibit. **Unresolved. Address the original comments to make sure the roundabout shown in the preliminary layout is appropriate.**

An addendum traffic study letter has been provided for Crossroads Mix Use with site specific recommendations.

- 1) An internal roadway evaluation has been provided with roadway classification and cross section recommendations.
- 2) The future roundabout intersection of Meadowbrook Parkway and Newt Drive has been evaluated with Rodel/Arcady software in the traffic study addendum letter.

The requested design criteria and parameters will be provided for the future roundabout intersection of Meadowbrook Parkway and Newt Drive. This design package will be provided separate of the traffic study letter.

turn is also warranted based on existing traffic. This existing 300-foot with 200-foot taper acceleration lane would need to be extended to a length of 1,380 feet with a 300-foot taper to meet current CDOT standards. Extension of these lanes may not be feasible due to the bridge along SH-94 to the east, which is likely why CDOT constructed to lengths shorter than standard.

Update either the preliminary plan or the TIS analysis for consistency. The preliminary plan is showing full movement at the northeastern access.

• Currently the intersection of Space Village Avenue and Marksheffel Road (#7) is unsignalized.

Through coordination with the County and the project team, the east access along Meadowbrook Parkway has been evaluated with right-in/right-out turning movements in the traffic study letter. vehicle Volume signal warrant provided that a traffic signal be

- With completion of the Crossroads Mix Use project, the site proposes three accesses along the southeast side of Meadowbrook Parkway. The northeastern access along Meadowbrook Parkway for Crossroads Mix Use may be right-in/right-out while the two southern most access will provide full movements with stop control on the minor legs. All three project access driveways to Crossroads Mix Use are recommended to have R1-1 “STOP” signs installed for the exiting approaches.
- The Meadowbrook Park development area has one proposed driveway access (#8) along the east side of Meadowbrook Parkway that will align with Preble Drive. Left turn movements for entering this project access will be provided from an existing two-way left turn lane along Meadowbrook Parkway. The westbound exiting approach of this driveway should provide stop control with installation of a R1-1 “STOP” sign.
- Traffic signals are anticipated to be needed and warranted at both full movement access intersections (#9 and #10) along Marksheffel Road for Crossroads North. Therefore, traffic signals are recommended for installation at these two access intersections with development of Crossroads North. It is recommended that a 235-foot with 200-foot taper (based on El Paso County standards for 50 mph) southbound right turn lane be constructed at both access intersections along Marksheffel Road due to the volume of traffic entering Crossroads North at this access. Likewise, northbound left turn lanes with 235 feet of length plus 200-foot tapers should also be constructed at both full movement access intersections along Marksheffel

4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic information, expected roadway improvements, and the proposed access system for the project. Separate distributions were prepared for each development area to accurately identify the amount of traffic to be assigned to each project. Assignment of project traffic was based on the trip generation

An addendum traffic study letter has been provided for Crossroads Mix Use with site specific recommendations. This includes providing a trip distribution and traffic assignment for the accesses along Meadowbrook Parkway. Internal lane configuration and control has also been provided at the internal intersections of Crossroads Mix Use.

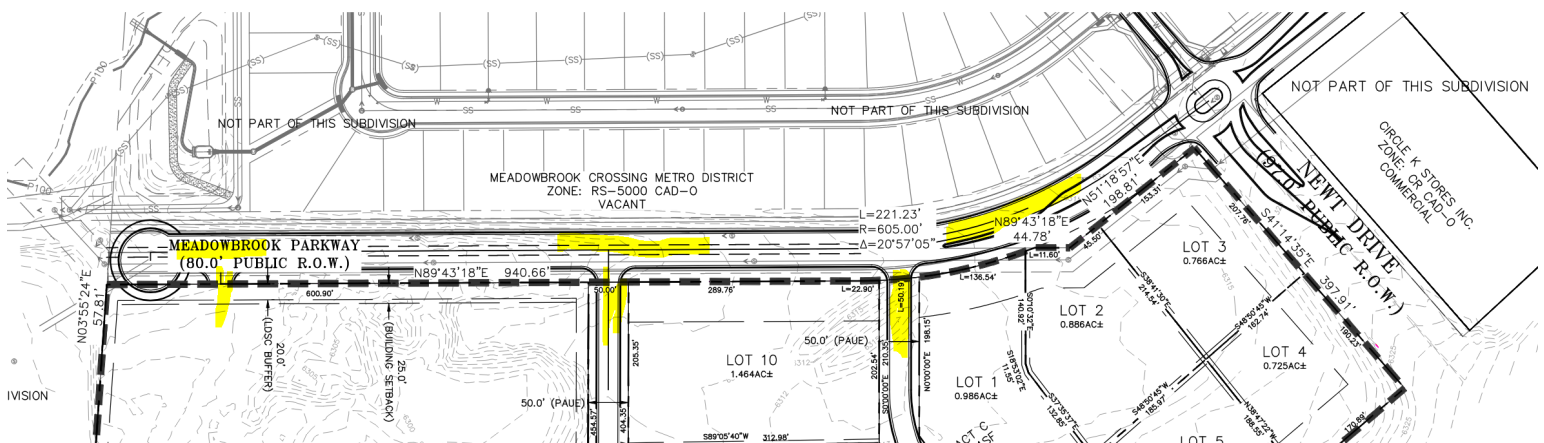
4.3 Traffic

ECM stacking, storage, and taper recommendations have been provided for proposed auxiliary turn lanes. to the estimated traffic generation of the development shown in **Table 1** and **Table 2**. Phase 1 project traffic assignment

As part of the preliminary plan, provide trip distribution and traffic assignment analysis for the proposed access to Crossroads Mixed Use and provide recommendations for the intersection configuration and auxiliary lanes.

State/list ECM criteria for stacking, storage, and taper for every affected auxiliary lane and access and state whether this access can be met. If it can't be met, state the required modification so it can be met (a deviation request may be required if an alternative to the criteria is proposed)

Unresolved. Address the original comments to ensure access spacing, ROW widths, and street layout are appropriate.



5.3 Project Access Oper

With completion of the Cr
for evaluation is propos
Marksheffel Road (#9-11
includes project access in

See comment on page 26. Meadowbrook Pkwy will eventually connect to Peterson Rd when the adjacent property to the west develops. Long range horizon should analyze for this eventuality. The access locations need to be analyzed to determine the required lane configuration.

Crossroads Mix Use and Mead

With completion of the Crossro
east side of Meadowbrook Par
Crossroads Mix Use may be rig

The traffic study letter assumes a connection to Peterson Road for the long-term 2040 horizon and incorporates appropriate traffic volumes and lane configurations recommendations to accommodate this future connection.

movements with stop control on the minor legs. These three accesses to Crossroads Mix Use were not included for evaluation as Meadowbrook Parkway terminates to the west property limits and these are private streets. However, all three project access driveways to Crossroads Mix Use are recommended to have R1-1 "STOP" signs installed for the exiting approaches.

The Meadowbrook Park development area has one proposed driveway access (#8) along the east side of Meadowbrook Parkway that will align with Preble Drive. Left turn movements for entering this project access will be provided from an existing two-way left turn lane along Meadowbrook Parkway. The westbound exiting approach of this driveway should provide stop control with installation of a R1-1 "STOP" sign. With the recommended lane configurations and control at the Project Access (#8)/Preble Drive and Meadowbrook Parkway intersection, all movements are expected to operate acceptably during the peak hours throughout the 2040 horizon.

Crossroads North

Direct access to Crossroads North is proposed from two full movement accesses (#9 and #10) along Marksheffel Road approximately 2,000 feet and 1,000 feet north of SH-94. The south access is currently proposed to be named Air Lane which will provide east-west collector roadway connectivity to Crossroads North. These accesses do not meet the El Paso County standard of half-mile spacing for full movement accesses along Urban Principal Arterial roadways. The spacing of these proposed accesses is believed to be only deviations from El Paso County standards. As such and as requested by El Paso County, a sensitivity analysis has been prepared

Update sight distance criteria for County owned/maintained road based on EPC Engineering Criteria Manual. See example below.

5.4 Sight Dist

It is recommen
to give drivers
objects within

A sight distance evaluation has been included with EPC Engineering Criteria Manual standards in the traffic study letter.

be provided at all site access points of oncoming traffic. Landscaping and views of the adjacent travel lanes.

Intersection sight distances for left turn from stop and right turn from stop were analyzed for the proposed project accesses along Marksheffel Road, Meadowbrook Parkway, and Space Village

provide an exhibit showing the sight distance/line-of-sight for the proposed accesses to the mixed use.

Unresolved. Include a conclusion/finding narrative verifying that the proposed access locations shown on the preliminary plan meets sight distance criteria. If it does not meet criteria, identify the required modifications so that it can be met.

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Sight distance triangles will be provided in the site plan submittal for Crossroads Mix Use.
Sight distance evaluation has been provided in the traffic study letter.

ed with a vertex point located 14.5
ition of the minor road driver's eye
d in the middle of the nearest lane
Marksheffel Road. Likewise, all

obstructions for right turning vehicles from stop should be clear to the left within the triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way and a

Update. Meadowbrook Parkway is a non-residential collector which has a design speed of 40 mph. Per ECM Chapter 2 Section 2.3.6 Table 2-21 intersection sight distance is 445 ft.

Along with the accesses along Marksheffel Road, the intersection sight distance requirements were analyzed for sight distance requirements. With a design speed of 35 miles per hour along Meadowbrook Parkway, the intersection sight distance for a vehicle turning left from stop is 390 feet, while the sight distance for a vehicle turning right from stop is 335 feet. Therefore, all obstructions for left turning vehicles from stop should be clear to the right within the triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way and a line of sight distance of 390 feet located in the middle of the nearest lane opposite of the center median for the access along Meadowbrook Parkway. Likewise, all obstructions for right turning vehicles from stop should be clear to the left within the triangle created with a vertex point located 14.5 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 nearest lane for the access along Meadowbrook Parkway.

Included for Meadowbrook Parkway in the Crossroads Mix Use traffic study letter.

Revised.

Revise to 13' per ECM

See comment on page 26. Provide analysis and recommended lane configuration for the three access to Meadowbrook Pkwy.

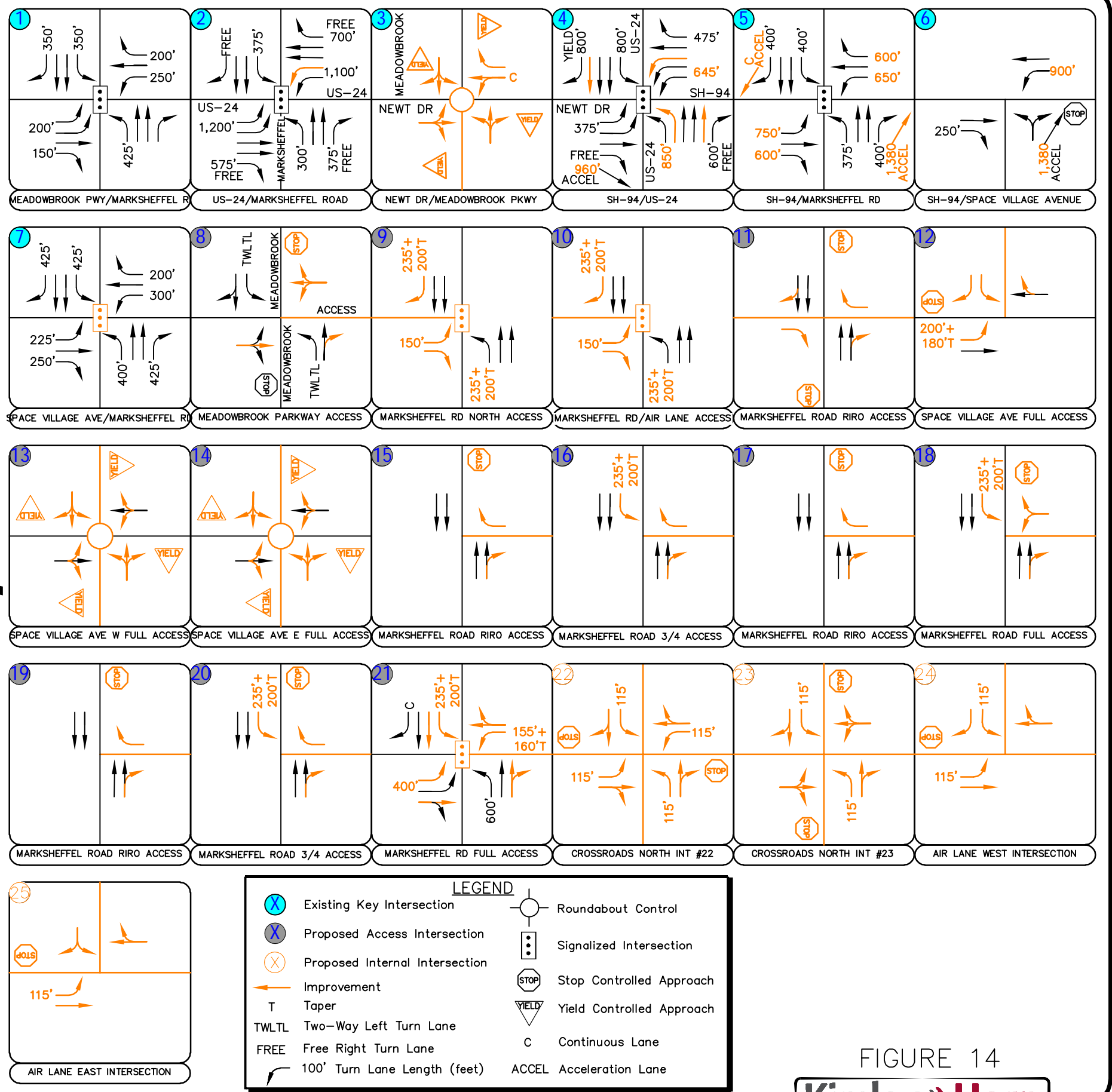
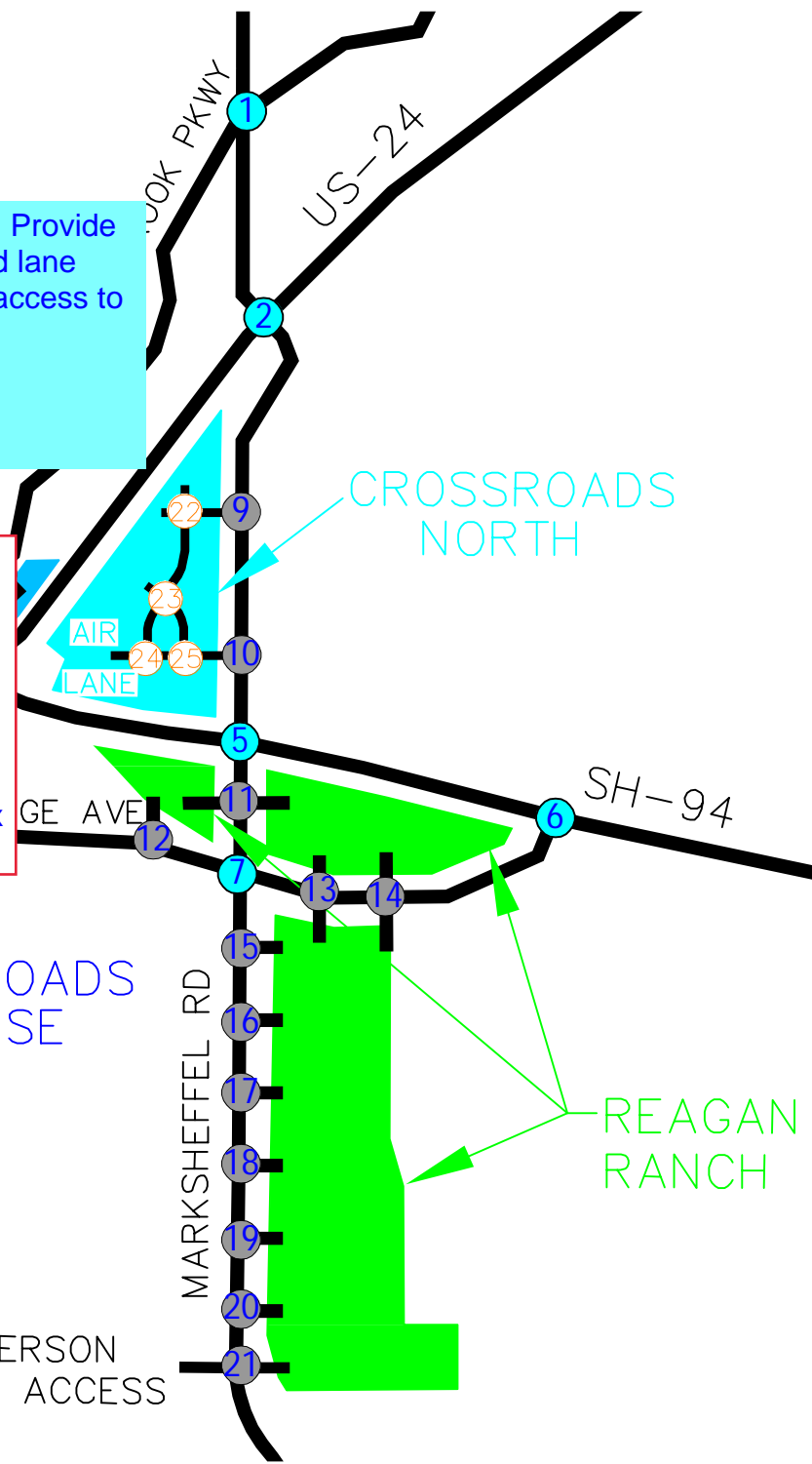
The three accesses along Meadowbrook Parkway have been incorporated in a addendum traffic study letter for Crossroads Mix Use.

CROSSROADS MIX USE

REAGAN RANCH

PETERSON AFB ACCESS

CROSSROADS-MEADOWBROOK & REAGAN RANCH
 COLORADO SPRINGS, CO
 2026 RECOMMENDED LANE CONFIGURATIONS



LEGEND

Existing Key Intersection	Roundabout Control
Proposed Access Intersection	Signalized Intersection
Proposed Internal Intersection	Stop Controlled Approach
Improvement	Yield Controlled Approach
T Taper	C Continuous Lane
FREE Free Right Turn Lane	ACCEL Acceleration Lane
100' Turn Lane Length (feet)	