Crossroads Mixed Use Filing #2 Traffic Study

El Paso County, Colorado El Paso County EDARP File Number: SF 2238

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

<u>April 6, 2023</u> Date

Developer's Statement

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

Kelly Nelson

Ms. Kelly Nelson Pikes Peak Investments LLC c/o The Equity Group 90 South Cascade Avenue Suite 1500 Colorado Springs, Colorado 80903

April 7, 2023

Date

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April 6, 2023

Ms. Kelly Nelson Pikes Peak Investments LLC c/o The Equity Group 90 South Cascade Avenue Suite 1500 Colorado Springs, Colorado 80903

Re: Crossroads Mixed Use Filing #2 Traffic Study Letter SWC of Meadowbrook Parkway and Newt Drive El Paso County, Colorado

Dear Ms. Nelson:

This traffic study letter has been prepared for the proposed Crossroads Mixed Use development to be located on the southwest corner of the Meadowbrook Parkway and Newt Drive intersection in El Paso County, Colorado. The Crossroads Mixed Use Traffic Study Letter completed in April 2022 included an evaluation for the development areas of both Filing #1 and Filing #2 and was submitted for approval of Filing #1. The traffic study letter completed in April 2022 was an addendum to the Crossroads-Meadowbrook-Reagan Ranch Master Traffic Impact Study (MTIS) to provide a site-specific analysis for the Crossroads Mixed Use development. For the purposes of this analysis, this letter is provided for approval of Filing #2 and will identify the appropriate off-site improvements associated separately with Filing #1 and Filing #2. For the purposes of this analysis, full buildout of Crossroads Mixed Use Filing #2 will include 10.000 square feet of retail and a 2.500 square foot coffee shop while Filing #1 and future filings were also included for evaluation. Filing #1 consists of 306 multifamily housing units and the future filings consist of a 14,000 square foot pharmacy, 8,000 square feet of sit down restaurant, and 11,000 square feet of fast food restaurant. The retail Filing #2 and future filings portion of the project are located on the east side of the site while the Filing #1 residential portion is located on the west side of the site. A conceptual site plan of the project is attached. Consistent with the original MTIS, an initial phase of development was evaluated in a 2026 horizon while full buildout was evaluated in the longterm 2040 horizon.

A vicinity map illustrating the location of the property is attached as **Figure 1**. The surrounding area primarily consists of vacant land, industrial uses, and residential use. The existing site is comprised of undeveloped land while residential and industrial uses are located north and northeast of the project site, respectively. The site area is shown in the aerial of attached **Figure 2**.

The purpose of this study is to identify project traffic generation characteristics and potential project traffic related impacts on the local street system, as well as to develop mitigation measures required for identified impacts. The intersection of Meadowbrook Parkway and Newt Drive was incorporated into this traffic study in accordance with El Paso County standards and requirements. In addition, one private driveway access (west access) and two private street accesses (middle and east accesses) located on the south side of the future Meadowbrook Parkway extension were also evaluated.

Existing Roadway Network and Traffic Counts

Regional access to the project is provided by Interstate 25 (I-25) and US-24 while primary access to the project will be provided by Meadowbrook Parkway, State Highway 94 (SH-94), and Newt Drive. Direct access will be provided by three accesses located along the south side of Meadowbrook Parkway. The east private street access along Meadowbrook Parkway will be restricted to right-in/right/-out movements while the west and middle accesses will provide full turning movements.

Meadowbrook Parkway is an El Paso County Urban Non-Residential Collector roadway that provides one lane of travel in each direction, with a 35 mile per hour speed limit through the study area. Newt Drive extends northwest and southeast with one through lane of travel in each direction.

The Meadowbrook Parkway and Newt Drive intersection is a T-intersection with stop control on the northwestbound and southeastbound approaches of Newt Drive. The northwestbound approach of Newt Drive consists of one through lane and a right turn lane while the southeastbound approach includes a left turn lane and one through lane. The southwestbound approach of Meadowbrook Parkway includes a two-way left turn lane and a right turn lane. With the construction of the Crossroads Mixed Use project, a southwest leg will be constructed at this intersection as an extension of Meadowbrook Parkway adjacent to the development area. Existing intersection lane configurations and control for the key study area intersection are shown in attached **Figure 3**.

Existing peak hour turning movement counts were conducted and at the intersection of Meadowbrook Parkway and Newt Drive on Tuesday, June 2, 2020. The turning movement counts were grown based on data obtained from hourly counts from the Colorado Department of Transportation (CDOT) Online Transportation Information System (OTIS) and additional historical CDOT traffic information provided to Kimley-Horn to account for a COVID-19 adjustment for this area. Based on this information and through coordination with CDOT, the morning and afternoon peak hour counts were increased by 35 percent to account for normal traffic conditions prior to the COVID-19 pandemic. Existing turning movement counts are shown in attached **Figure 4** while the adjusted turning movement counts are shown in **Figure 5** with count sheets and COVID-19 count adjustment data attached.

Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*¹ published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. Project generated traffic volumes are identified on a weekday daily as well as on a morning peak hour and afternoon peak hour basis. The morning peak hour is the highest one-hour time period of adjacent street traffic during four consecutive 15-minute intervals during the morning peak hour, between 7:00 am and 9:00 am. The afternoon peak hour is the highest one-hour time period of four consecutive 15-minute intervals between the hours of 4:00 pm and 6:00 pm representing the afternoon peak hour.

As mentioned previously, the projects were evaluated with a Phase 1 2026 horizon and a full buildout 2040 horizon. For this study, Kimley-Horn used the ITE Trip Generation Manual average rates and fitted curve equations that apply to Shopping Center (ITE 820) and Coffee/Donut Shop with Drive Through (ITE 937) for the Filing #2 development area while Mid-Rise Multifamily Housing (ITE 221) was used for Filing #1 and Pharmacy (ITE 881), Sit-Down Restaurant (ITE 932), and Fast-Food Restaurant with Drive Through (ITE 934) were used for future filings.

Since the project is proposed to contain a mix of uses, internal capture trips are expected to occur on site as well. These internal capture trips are shared trips from vehicles already within the internal street network. These shared trips reduce the number of total external trips and were calculated directly per the ITE procedure but were capped based on thresholds set forth by CDOT. Based on the CDOT access code, internal trip reductions cannot not exceed two percent for the AM peak or eight percent for PM peak unless clearly justified and documented by actual studies. As such, an internal capture rate of two (2) percent was used during the morning peak hour and a rate of eight (8) percent during

¹ Institute of Transportation Engineers, Trip Generation Manual, Tenth Edition, Washington DC, 2017.

the afternoon peak for areas that apply. Phase 1 development of Crossroads Mixed Use in 2026 is expected to generate approximately 9,756 daily weekday external vehicle trips with 944 of these trips occurring during the morning peak hour and 678 trips occurring during the afternoon peak hour. The Phase 1 retail development area of Filing #2 is expected to generate approximately 3,306 total daily vehicle trips with 379 of these trips occurring during the morning peak hour. Calculations were based on the procedure and information provided in the ITE Trip Generation Manual, 10th Edition – Volume 1: User's Guide and Handbook, 2017. **Table 1** provides the estimated trip generation for Phase 1 of the project. The trip generation calculations are attached.

	Weekday Vehicle Trips											
					Wee	rips						
				AM	Peak H	our	PM Peak Hour					
Filing	Use	Quantity	Daily	In	Out	Total	In	Out	Total			
		Crossroads	s Mix Use									
#1	Mid-Rise Multifamily Housing (ITE 221)	306 Units	1,666	27	75	102	79	51	130			
	Shopping Center (ITE 820)	10,000 SF	1,256	97	60	157	48	51	99			
#2	Coffee Shop (ITE 937)	2,500 SF	2,050	113	109	222	55	55	110			
	Filing #2 Sum		3,306	210	169	379	103	106	209			
	Sit Down Restaurant (ITE 932)	4,000 SF	450	22	18	40	24	15	39			
Future	Fast Food Restaurant (ITE 934)	11,000 SF	5,182	225	217	442	187	172	359			
Future Filings Sum			5,632	247	235	482	211	187	398			
Total Cro	Total Crossroads Mix Use Trips			484	479	963	393	344	737			
Crossro	Crossroads Mix Use Trips after Internal Capture			475	469	944	361	316	678			

With full project buildout of Crossroads Mixed Use, the project is expected to generate approximately 11,574 daily weekday external vehicle trips with 1,036 of these trips occurring during the morning peak hour and 846 trips occurring during the afternoon peak hour. The retail development area of Filing #2 is expected to generate approximately 3,306 total daily vehicle trips with 379 of these trips occurring during the morning peak hour and 209 trips occurring during the afternoon peak hour. **Table 2** provides the estimated trip generation for full buildout of the project.

				Weekday Vehicle Trips								
				AM	Peak H	our	PM Peak Hour					
Filing	Use	Quantity	Daily	In	Out	Total	In	Out	Total			
		Crossroads	Mix Use									
#1	Mid-Rise Multifamily Housing (ITE 221)	306 Units	1,666	27	75	102	79	51	130			
	Shopping Center (ITE 820)	10,000 SF	1,256	97	60	157	48	51	99			
#2	Coffee Shop (ITE 937)	2,500 SF	2,050	113	109	222	55	55	110			
	Filing #2 Sum		3,306	210	169	379	103	106	209			
	Pharmacy (ITE 881)	14,000 SF	1,528	29	25	54	72	72	144			
Future	Sit Down Restaurant (ITE 932)	8,000 SF	898	44	36	80	48	30	78			
Fulure	Fast Food Restaurant (ITE 934)	11,000 SF	5,182	225	217	442	187	172	359			
	Future Filings Sum		7,608	298	278	576	307	274	581			
Total Cr	Total Crossroads Mix Use Trips			535	522	1,057	489	431	920			
Crossro	Crossroads Mix Use Trips after Internal Capture			524	512	1,036	450	397	846			

El Paso County has requested a trip generation comparison for the Crossroads Mixed Use project to identify traffic compliance with the original *Crossroads-Meadowbrook-Reagan Ranch MTIS* completed by Kimley-Horn in February 2022. The original traffic study included the same land uses and sizes for both phase 1 and buildout except the Mid-Rise Multifamily Housing use was evaluated with 300 dwelling units in the original traffic study and is now being evaluated with 306 dwelling units in the current proposal. This increase of six (6) additional dwelling units in anticipated to generate 30 more daily trips,

two (2) more morning peak hour trips, and two (2) more afternoon peak hours trips than previously evaluated in the master traffic study. All of these increases equate to less than a tenth of one percent compared to the overall trips from master traffic study. Therefore, the project is believed to be in compliance with the original master traffic impact study. Applicable trip generation information from the original master traffic study is attached. Further, the exact intensity of uses was evaluated in the *Crossroads Mixed Use Traffic Study Letter* completed in April 2022; therefore, the project is in traffic compliance with the original site-specific traffic study.

Distribution, Assignment, and Total Traffic

Distribution of site traffic was based on the area street system characteristics, existing traffic patterns and volumes, and the proposed access system for the project. Separate distributions were prepared for the retail and residential portions of the site. Further, separate distributions were prepared for the short-term horizon and long-term horizons to account for the future connection of Meadowbrook Parkway to Peterson Road expected to occur by the 2040 horizon. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The residential project trip distribution is illustrated in **Figure 6** for both the short term and long-term horizons. Likewise, the retail project trip distribution is illustrated in **Figure 7** for both the short term and long-term horizons.

Traffic assignment was obtained by applying the project trip distribution to the estimated project traffic generation of the development shown in the trip generation tables. The traffic assignment is shown in **Figure 8** for 2026 and **Figure 9** for 2040.

Total traffic volumes from the Crossroads-Meadowbrook-Reagan Ranch MTIS for years 2026 and 2040 with Crossroads Mixed Use project traffic volumes subtracted were used as a baseline for traffic volumes in this study. However, a portion of traffic volumes in 2040 were rerouted and added to Meadowbrook Parkway adjacent to the project site to account for the future connection of Meadowbrook Parkway to Peterson Road. Site traffic volumes were added to the 2026 and 2040 baseline traffic volumes to represent estimated short-term and long-term traffic conditions. These total traffic volumes for 2026 and 2040 are illustrated in **Figure 10** and **Figure 11**, respectively. Traffic volume information from original MTIS is attached.

Traffic Operations Analysis

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies at the project key intersections for the 2026 short term and 2040 long term horizons. The acknowledged source for determining overall capacity is the *Highway Capacity Manual*².

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). El Paso County has an overall intersection, approach and movement LOS D as the minimum threshold for acceptable operations. The following **Table 3** shows the definition of level of service for signalized and unsignalized intersections.

² Transportation Research Board, Highway Capacity Manual, Sixth Edition, Washington DC, 2016.

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
В	> 10 and ≤ 20	> 10 and ≤ 15
С	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Table 3 – Level of Service Definitions

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

Calculations for the level of service at the key intersection and project accesses for the study area are attached. Synchro traffic analysis software was used to analyze the study area access intersections while Arcady software was utilized with the future roundabout intersection of Meadowbrook Parkway and Newt Drive. The Synchro Highway Capacity Manual (HCM) methodology reports were used to analyze intersection delay and level of service.

Meadowbrook Parkway and Newt Drive

The existing intersection of Meadowbrook Parkway and Newt Drive is a three-leg stop-controlled intersection with the northwest and southeast legs along Newt Drive providing stop control. With the construction of the project, a southwest leg of Meadowbrook Parkway will be constructed and extended to the west limits of the Crossroads Mixed Use property. By 2040, it is anticipated that Meadowbrook Parkway will connect with Peterson Road to the west. A single lane roundabout is currently planned at the intersection of Meadowbrook Parkway and Newt Drive. It is anticipated that the intersection will operate acceptably with LOS A during the peak hours throughout the 2040 horizon as a single lane roundabout. **Table 4** provides the results of the level of service at this intersection.

	AM Peak	Hour	PM Peak Hour		
Comparia	Control Delay	LOS	Control Delay	LOS	
Scenario	(sec/veh)		(sec/veh)		
2026 Total Traffic Volumes					
(Roundabout Control)	6.9	Α	5.9	A	
2040 Total Traffic Volumes					
(Roundabout Control)	9.3	Α	9.7	Α	

Table 4 – Meadowbrook Parkway and Newt Drive LOS Results

Project Access Spacing Requirements and Internal Roadway Classifications

With completion of the Crossroads Mixed Use project, one private driveway access and two private street accesses are proposed to be located on the south side of the future extension of Meadowbrook Parkway west of Newt Drive. The east access along Meadowbrook Parkway will be a private street providing access to the retail area and will be restricted to right-in/right out movements. The middle access along Meadowbrook Parkway will be a private street and will allow full turning movements. The

west access along Meadowbrook Parkway will allow full turning movements and provide private driveway access to the multifamily residential area.

The east access along Meadowbrook Parkway is proposed to be located approximately 435 feet west of Newt Drive and 360 feet east of the middle access (measured centerline to centerline). The west access along Meadowbrook Parkway is proposed to be located approximately 330 feet west of the middle access. These distances meet the El Paso County Urban Non-Residential Collector spacing standards of 660 feet to other collectors and 330 feet to intersections with a local street. The west and east accesses along Meadowbrook Parkway meet El Paso County average daily traffic threshold standard of 3,000 vehicles per day for an Urban Local street. The middle access along Meadowbrook Parkway meets the El Paso County average daily threshold standard of 10,000 and 20,000 vehicles per day for both Urban Residential and Urban Nonresidential Collectors, respectively. With the west side of the middle access street fronting the multifamily residential site, this roadway could meet the characteristics of an Urban Residential Collector. However, the project previously requested a deviation to allow for the middle access street to be constructed to a local street cross section. This deviation was approved by El Paso County on September 17, 2021, with Filing #1. The middle access roadway will only extend approximately 850 feet south of Meadowbrook Parkway and will terminate prior to US-24. There is only one access (to the residential area) along the middle north-south street south of the east-west roadway on site; therefore, there will minimal conflicting movements at the east-west roadway intersection with the middle access roadway. Attached Figure 12 illustrates the circulation plan and street classification map for roadways internal to Crossroads Mixed Use.

Project Accesses: Lane Configurations, Turn Lane Requirements, and Operational Analysis

All three project accesses along Meadowbrook Parkway are recommended to provide stop control and have R1-1 "STOP" signs installed for the exiting northbound approaches. Single northbound exiting lanes are expected to be sufficient at all three project accesses. To provide signage for restricting left turn movements at the proposed right-in/right-out east access, it is recommended that a R3-2 No Left Turn sign be placed underneath the STOP sign. Further, a R6-1(R) "ONE WAY" sign should also be installed within the raised center median of Meadowbrook Parkway.

The El Paso County ECM was used to determine if right turn lanes are warranted along Meadowbrook Parkway at the project accesses. El Paso County classifies Meadowbrook Parkway as an Urban Non-Residential Collector. According to El Paso County ECM guidelines for Minor Arterials and Lower Classifications, a right turn lane is required for any access with a projected peak hour right turning volume of 50 vehicles per hour or greater.

Based on 2040 traffic volume projections, right turn lane requirements at the project accesses along Meadowbrook Parkway are as follows:

- An eastbound right turn lane is not warranted for the Meadowbrook Parkway West Access based on projected 2040 total traffic volumes being 15 eastbound right turns during the peak hour and the threshold being 50 vehicles per hour.
- An eastbound right turn lane <u>is not</u> warranted for the Meadowbrook Parkway Middle Access based on projected 2040 total traffic volumes being 45 eastbound right turns during the peak hour and the threshold being 50 vehicles per hour.
- An eastbound right turn lane <u>is not</u> warranted for the Meadowbrook Parkway East Rightin/Right-out Access based on projected 2040 total traffic volumes being 30 eastbound right turns during the peak hour and the threshold being 50 vehicles per hour.

Likewise, the El Paso County ECM was used to determine if left turn lanes are warranted at the studied intersections along Meadowbrook Parkway. For minor arterials or lower classifications, a left turn lane is required for any access with a projected peak hour ingress turning volume of 25 vehicles per hour or greater. Therefore, a westbound left turn lane will be required at the west access along Meadowbrook

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Parkway while a northbound and westbound left turn lane will be required at the middle access along Meadowbrook Parkway.

Based on El Paso County standards for a design speed of 40 miles per hour, the west access along Meadowbrook Parkway should provide a westbound left turn lane with a length of 205 feet (50 feet of storage plus 155 feet of deceleration lane length) plus a 160-foot taper. However, there is approximately 260 feet of available space for a westbound left turn lane at the west access due to the proposed location of the middle access. As such, a deviation was previously provided to allow for the westbound left turn lane at the west access along Meadowbrook Parkway to provide a maximum possible length of 100 feet (standard 50 feet of storage and substandard 50 feet of deceleration lane length) plus a 160-foot taper (standard) to accommodate the spacing restriction. It should be noted that there will not be an access on the north leg of the middle access along Meadowbrook Parkway due to the configuration of the single-family development to north. This prevents having to provide back-to-back left turn lanes in the future which allows additional space for the proposed left turn lane at the west access along Meadowbrook Parkway. The 95th percentile vehicle queues calculated within Synchro software demonstrate one (1) vehicle queue in the westbound left turn lane during the peak hour in 2026 and 2040. Further, CDOT guidelines for NR-C roadway (Non-Rural Arterial) and lower classifications identify left turn lane requirements as storage length plus taper length. Based on CDOT storage requirement of one foot per left turning vehicle during the peak hour and a speed limit of 40 miles per hour, the westbound left turn lane should provide 55 feet of length plus a 145-foot taper based on CDOT standards. However, a minimum storage length of 100 feet is typically recommended when less than 100 vehicles are reported; therefore, the turn lane would be 100 feet plus a 145-foot taper based on CDOT standards. Therefore, it is believed the 100-foot turn lane plus 160-taper recommended in the deviation is sufficient.

A westbound left turn lane with a length of 405 feet (250 feet of storage plus 155 feet of deceleration lane length) plus a 160-foot taper should be provided at the middle access along Meadowbrook Parkway. It should be noted the standards for left turn storage in El Paso County show a maximum of 250 feet or more and this length is generally one foot per turning movement during the peak hour. Based on this a storage length of 430 feet (430 vehicles during the peak hour) could be considered; however, with the 95th percentile vehicles queues reporting a length of 50 feet, the maximum length listed in the El Paso County standards of 250 feet is recommended.

It is anticipated that a separate left turn lane and right turn lane will be warranted at the middle access along Meadowbrook Parkway when Meadowbrook Parkway is extended to Peterson Road. Based on El Paso County standards for a design speed of 30 miles per hour, a northbound left turn lane with a length of 215 feet (100 feet of storage and 115 feet of deceleration lane length) plus a 160-foot taper should be provided at the middle access along Meadowbrook Parkway. This northbound left turn lane will not be triggered in the short-term; however, the project will include this left turn lane with the initial phase of construction to avoid restriping this intersection in the future. It should be noted that the storage length required at this northbound left turn lane in the short term is only 50 feet shorter than the storage length required for the long-term horizon; therefore, the long-term configuration is recommended for the short-term horizon. The northbound right turn lane will drop as a forced right turn movement.

With the recommended lane configurations and control of the three proposed accesses along Meadowbrook Parkway, the access intersections along Meadowbrook Parkway are expected to operate acceptably with LOS B or better during the peak hours in 2026. With the expected future connection of Meadowbrook Parkway to Peterson Road, the access intersections along Meadowbrook Parkway are expected to continue to operate acceptably with LOS C or better during the peak hours in 2040. **Table 5** provides the results of the level of service at the key study area access intersections.

	2	026 Tot	al Traffic		2040 Total Traffic				
	AM Peak	k Hour	PM Peal	k Hour	AM Pea	k Hour	PM Peak Hour		
Scenario	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	
Meadowbrook Parkway West Access (Residential)									
Northbound Approach	8.5	А	8.4	А	10.3	В	10.6	В	
Westbound Left	7.2	А	7.3	Α	7.7	А	8.0	Α	
Meadowbrook Parkway									
Middle Access									
Northbound Approach	9.3	А	8.9	Α	21.2	С	15.8	С	
Westbound Left	8.4	А	7.9	А	9.3	А	9.1	Α	
Meadowbrook Parkway									
East Access									
Northbound Right	11.8	В	10.2	В	13.5	В	13.0	В	

Table 5 – Meadowbrook Parkway Project Accesses LOS Results

Sight Distance Evaluation

It is recommended that appropriate sight distance triangles be provided at all site access points to give drivers exiting the development areas a clear view of oncoming traffic. Landscaping and objects within sight triangles must not obstruct drivers' 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 Meadowbrook Parkway.

With El Paso County standards and a design speed of 40 miles per hour along Meadowbrook Parkway, the intersection sight distance for a vehicle turning from stop is 445 feet. Therefore, all obstructions for turning vehicles from stop should be clear to the right and left within the triangle created with a vertex point located 13 feet (10 feet from local roads) from the edge of the major road traveled way (typical position of the minor road driver's eye when stopped) and a line-of-sight distance of 445 feet located in the middle of the eastbound and westbound through lanes along Meadowbrook Parkway. It is believed that the accesses are appropriate at the current locations to provide the necessary sight distance needed but verification should be provided with sight distance triangles incorporated within the design plans.

Queuing Analysis

A queuing analysis was conducted for turn lanes at the access intersections. The queuing analysis was performed using the Synchro analysis software presenting the results of the 95th percentile queue length. Results are shown in the following **Table 6** with calculations provided in the attached level of service operational outputs. Results of the queuing analysis indicate that vehicle queues are expected to be managed and contained within the provided turn lanes of the studied intersections. In addition, the westbound left turn lanes for the west and middle accesses have been designed per El Paso County standards or the requested deviations.

-			II Analysis Resul		-
Intersection Approach / Turn Lane	Existing Turn Lane Length (feet)	2026 Calculated Queue Length (feet)	2026 Recommended Turn Lane Length (feet)	2040 Calculated Queue Length (feet)	2040 Recommended Turn Lane Length (feet)
Meadowbrook Parkway &					
Newt Drive					
Northbound Approach	С	75'	С	50'	С
Southbound Approach	С	25'	С	25'	С
Eastbound Approach	С	75'	С	100'	С
Westbound Approach	С	75'	С	100'	С
Meadowbrook Parkway					
West Access (Residential)					
Northbound Approach	DNE	25'	С	25'	С
Westbound Left	DNE	25'	\$ 100' + 160' T	25'	\$ 100' + 160' T
Meadowbrook Parkway					
Middle Access					
Northbound Left	DNE	25'	215' + 120' T	75'	215' + 120' T
Northbound Right	DNE	25'	С	25'	С
Westbound Left	DNE	50'	405' + 160'	50'	405' + 160'
Meadowbrook Parkway					
East Access					
Northbound Right	DNE	50'	C	50'	С

 Table 6 – Turn Lane Length Analysis Results

DNE = Does Not Exist; C = Continuous Lane; T= Taper; \$ = Length deviated from standards due to spacing constraints

Bicycle and Pedestrian Access

Sidewalks are bike lanes currently do not exist along the south side of Newt Drive adjacent to the property frontage. Bike lanes currently do not exist along any of the roadways within the study limits. Sidewalks exist adjacent to surrounding development along Newt Drive and Meadowbrook Parkway with exception of along Newt Drive at the intersection with US-24.

Sidewalks are proposed with the project adjacent to the property frontages along both sides of Meadowbrook Parkway. Sidewalks and bike lanes are not proposed along the south side of Newt Drive from Meadowbrook Parkway to US-24 due to right-of-way constraints with the widened Newt Drive. Sidewalks are also proposed along both sides of all of the internal local streets of the project site.

A bike ramp is proposed on the south and east corners of the roundabout intersection of Newt Drive and Meadowbrook Parkway to allow bicyclists traveling east on Meadowbrook Parkway to exit the roadway and navigate the roundabout as a pedestrian. Bicycles traveling eastbound along Meadowbrook Parkway can exit the roadway at the proposed ramp located on the east side of the rightin/right-out project access along Meadowbrook Parkway or the proposed ramp located on the south corner of the Newt Drive and Meadowbrook Parkway intersection. Bicycles traveling eastbound along Meadowbrook Parkway can reenter the roadway at the proposed ramp located on the east corner of the Newt Drive and Meadowbrook Parkway intersection or at the proposed ramp currently located on the west side of the existing Circle K private access along Meadowbrook Parkway. In general, inexperienced bicyclists, who are uncomfortable navigating the roundabout as vehicles will utilize the bike ramps. Bicyclists traveling southeastbound along Newt Drive towards the intersection with US 24, are likely to be comfortable navigating the roundabout as a vehicle, and not likely to use bike ramps, and/or sidewalks to navigate the roundabout. Due to limited anticipated use, and to reduce confusion between ADA and bike ramps, and reduce the number of conflict points between vehicles and bicyclists,

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a bike ramp is not provided for bicyclists to re-enter the roadway on southeastbound Newt Drive towards the highway. A bike lane is not proposed along the segment of Newt Drive adjacent to the property frontage due to right-of-way constraints, limited anticipated bicycle usage in this area, and because US-24 and SH-94 do not provide bike lanes.

School Routes Pedestrian Analysis

As identified in the EI Paso County ECM Appendix B.4.1.C, school routing plans per the MUTCD between the project and all schools within 2.0 miles of the project boundary should be evaluated. To establish a safer route to and from school for schoolchildren, the application of planning criterion for school walk routes might make it necessary for children to walk an indirect route to an established school crossing located where there is existing traffic control and to avoid the use of a direct crossing where there is no existing traffic control. Evans Elementary School, McAuliffe Elementary School, and Horizon Middle School are all located within 2.0 miles of the project boundary; therefore, pedestrian routes were evaluated from the project to all three of these schools.

Evans Elementary School is located in the northeast quadrant of the Omaha Boulevard and Peterson Road intersection. Trail paths are available in the vacant land west and northwest of the project site to connect pedestrians from the project site to the sidewalk connections located on the southeast corner of the Western Drive and Peterson Road intersection. From here, sidewalk connections are fully available on both sides of Peterson Road, Omaha Boulevard, and Winnebago Road in route to Evans Elementary School. It should be noted that there are curb ramps along Peterson Road but not any designated crosswalks for pedestrians traveling along Peterson Road to and from the school and the project. Likewise, there is not a crosswalk to along Omaha Boulevard for pedestrians to cross Omaha Boulevard.

McAuliffe Elementary is located in the southwest quadrant of the Galley Road and Hathaway intersection. Trail paths are available in the vacant land west of the project site to connect pedestrians from the project site to the sidewalk connections located on the southeast corner of the Peterson Road and Galley Road intersection. From the Peterson Road and Galley Road intersection, sidewalk connections are mostly available on both sides of Galley Road and fully available on both sides of Hathaway Drive in route to McAuliffe Elementary School. A dirt lot is located in a segment along the north side of Galley Road without sidewalk extending from Western Drive to Colorado Freedom Church. Sidewalk is not available along the south side of Galley Road and the west side of Peterson Road extending from Western Drive to the retail center located on the northwest corner of the US-24 and Peterson Road intersection. However, pedestrians can travel along the north side of Galley Road in this stretch. A crosswalk is located on the east and north sides of the signalized T-intersection of Peterson Road and Galley Road. Likewise, a designated crosswalk is located on the east and west sides of the Galley Road and Hathaway Drive signalized intersection.

Horizon Middle School is located in the northwest quadrant of the Piros Drive and Peterson Road intersection. Trail paths are available in the vacant land west and northwest of the project site to connect pedestrians from the project site to the sidewalk connections located on the southeast corner of the Western Drive and Peterson Road intersection. From here, sidewalks are fully available along both sides of Peterson Road and Piros Drive in route to Horizon Middle School. Crosswalks are not located at multiple intersections along Peterson Road from Galley Road to Palmer Park Boulevard. Designated crosswalks are available at the signalized intersections of Palmer Park Boulevard/Peterson Road and Piros Drive/Peterson Road.

Road Impact Fees

Road impact fees were evaluated based on the El Paso County Road Impact Fee Schedule. The road impact fee for the proposed Crossroads Mixed Use project is expected to be \$999,556.00 for the overall development and \$71,580.00 for the retail Filing #2 development area. Road impact fee calculations



are shown in **Table 7**. The road impact fees for Filing #2 will be paid upfront while the project will choose to pay the road impact fees of the future lots up front or be included in one of the available public improvement districts with reduced upfront costs. The project team will determine payment methods with the submission of future final plats. Of note, El Paso County has determined that the proposed roundabout qualifies for automatic inclusion for credit in the Road Impact Fee Program.

Filing	Use	Units	Per 1,000 SF or DU	Fee / Unit	Per Use Fee				
#1	Mid-Rise Multifamily Housing (ITE 221)	300	300	2,407.00	\$722,100.00				
#2	Shopping Center (ITE 820)	10,000	10	4,958.00	\$49,580.00				
#2	Coffee Shop (ITE 937)	2,500	3	8,800.00	\$22,000.00				
	Pharmacy (ITE 881)	14,000	14	4,958.00	\$69,412.00				
Future	Sit Down Restaurant (ITE 932)	8,000	8	4,958.00	\$39,664.00				
	Fast Food Restaurant (ITE 934)	11,000	11	8,800.00	\$96,800.00				
	Filing #2 Total								
	Crossroads Mix Use Road Impact Fee								

Improvement Summary

Based on the results of the intersection operational and vehicle queuing analysis, the recommended lane configurations and control at the key study area intersections are shown in **Figure 13** for both 2026 and 2040.

The following improvements (identified in Table 8) recommended in the Crossroads-Meadowbrook-Reagan Ranch MTIS Study are proposed in association with the overall Crossroads Mixed Use development. Of note, all of the identified improvements with Crossroads Mixed Use will be constructed with Filing #1 of the Crossroads Mixed Use project and are identified in **Table 8**. Therefore, the only improvements associated with Filing #2 are internal streets and accesses to the retail lots.

Intersection / Roadway	Improvements	Crossroads Mixed Use Full Development Traffic Contribution	Associated Development Area
Meadowbrook Parkway	Extension of Meadowbrook Parkway from Newt Drive to the west property limits	100%	Crossroads Mixed Use Filing #1
Newt Drive and Meadowbrook Parkway	Construction of a single lane roundabout	AM Peak 942 1,405 67.0%	Crossroads Mixed Use Filing #1
Newt Drive/SH-94 and	Extending the eastbound to southwestbound right-turn acceleration lane from 760 feet to 960 feet	AM Peak 257 495 51.9%	Crossroads Mixed Use Filing #1
US-24	Provide additional signal head and designate northbound dual left turn lanes with 850 feet of length plus a 225-foot taper	AM Peak 260 425 61.2%	Crossroads Mixed Use Filing #1

Table 8 – Crossroads Mixed Use Improvement Summary

Crossroads Mixed Use Filing #2 096956015 Page 13

The recommended improvements are based on the global analysis provided for this area of Colorado Springs and El Paso County considering existing traffic volumes, background traffic volume growth from other development projects, and four project areas of Crossroads Mixed Use, Crossroads North, Meadowbrook Park, and Reagan Ranch. The improvements identified are not solely needed to accommodate Crossroads Mixed Use; however, these improvements will be constructed in association with Filing #1 of the Crossroads Mixed Use development. The west leg of Meadowbrook Parkway at Newt Drive is current under construction, and this will be followed by construction of the roundabout at the Meadowbrook Parkway and Newt Drive intersection and turn lane improvements at the Newt Drive and US-24 intersection.

The Colorado Department of Transportation (CDOT) has identified the potential need for an interchange at the US-24 and SH-94 intersection. It should be noted that Right-of-Way reservation is not believed to be needed on the west side of US-24 at this intersection of SH-94 and US-24. The need for grade separation at the SH-94 and US-24 intersection is primarily anticipated to be triggered by the westbound left turn movements from SH-94 to US-24. As such, it is believed that a westbound left turn flyover condition can be constructed without the need for ramp improvements on the west leg of the SH-94 and US-24 intersection. Detailed improvement exhibits at the SH-94 and US-24 intersection for the short-term 2026 and long-term 2040 with westbound triple left turn lanes is attached. It should be noted that these improvement exhibits do not provide the possible westbound left turn flyover ramp condition.

An access permit has been submitted as part of the preliminary plan and Filing #1 and is being processed with CDOT for the west leg of Newt Drive at the intersection with US-24. Once CDOT has responded to the access permit, conditions will need to be worked out. Roadway improvements will be detailed in the terms and conditions of the finalized access permit.

Conclusions and Recommendations

In summary, this traffic study provides project traffic generation estimates to identify potential project traffic related impacts on the local street system with the proposed Crossroads Mixed Use project. Based on the analysis presented in this study, Kimley-Horn believes the proposed Crossroads Mixed Use development will be successfully incorporated into the existing and future roadway network. Further, the project is believed to be in compliance with the *Crossroads-Meadowbrook-Reagan Ranch MTIS* completed by Kimley-Horn in February 2022.

With completion of the Crossroads Mixed Use project, one private driveway access and two private street accesses are proposed to be located on the south side of the future extension of Meadowbrook Parkway west of Newt Drive. The east access along Meadowbrook Parkway will be a private street providing access to the retail area and will be restricted to right-in/right out movements. The middle access along Meadowbrook Parkway will be a private street and will allow full turning movements. The west access along Meadowbrook Parkway will be a private street and will allow full turning movements. The west access along Meadowbrook Parkway will allow full turning movements and provide access to a private driveway to the multifamily residential area. All three project accesses along Meadowbrook Parkway are recommended to provide stop control and have R1-1 "STOP" signs installed for the exiting northbound approaches. To provide signage for restricting left turn movements at the proposed right-in/right-out east access, it is recommended that a R3-2 No Left Turn sign be placed underneath the STOP sign. A R6-1(R) "ONE WAY" sign should also be installed within the raised center median of Meadowbrook Parkway.

Based on El Paso County standards for a design speed of 40 miles per hour, a westbound left turn lane with a length of 205 feet (50 feet of storage plus 155 feet of deceleration lane length) plus a 160-foot taper should be provided at the middle access along Meadowbrook Parkway. However, there is approximately 260 feet of available space for a westbound left turn lane at the west access due to the proposed location of the middle access. As such, a deviation was previously provided to allow for the westbound left turn lane at the west access along Meadowbrook Parkway to provide a maximum

Crossroads Mixed Use Filing #2 096956015 Page 14

possible length of 100 feet (standard 50 feet of storage and substandard 50 feet of deceleration lane length) plus a 160-foot taper (standard) to accommodate the spacing restriction.

The middle access along Meadowbrook Parkway should provide a westbound left turn lane with a length of 405 feet (250 feet of storage plus 155 feet of deceleration lane length) plus a 160-foot taper. Further, the middle access along Meadowbrook Parkway should provide a northbound left turn lane with a length of 215 feet (100 feet of storage and 115 feet of deceleration lane length) plus a 160-foot taper. The northbound right turn lane at the middle access along Meadowbrook Parkway will be a continuous lane as the through lane will drop as a forced right turn movement.

The west and east accesses along Meadowbrook Parkway meet El Paso County average daily traffic threshold standard of 3,000 vehicles per day for an Urban Local street. The middle access along meets the El Paso County average daily threshold standard of 10,000 and 20,000 vehicles per day for both Urban Residential and Urban Nonresidential Collectors, respectively. With the west side of the middle access street fronting the multifamily residential site, this roadway could meet the characteristics of an Urban Residential Collector. However, the project previously requested a deviation to allow for the middle access street to be constructed to a local street cross section and to allow for a single shared lane for the northbound approach of the intersection with Meadowbrook Parkway.

A single lane roundabout is currently planned at the intersection of Meadowbrook Parkway and Newt Drive. A design documentation package for the proposed roundabout was previously approved for construction of this roundabout.

If you have any questions or require anything further, please feel free to call me at (720) 943-9962.

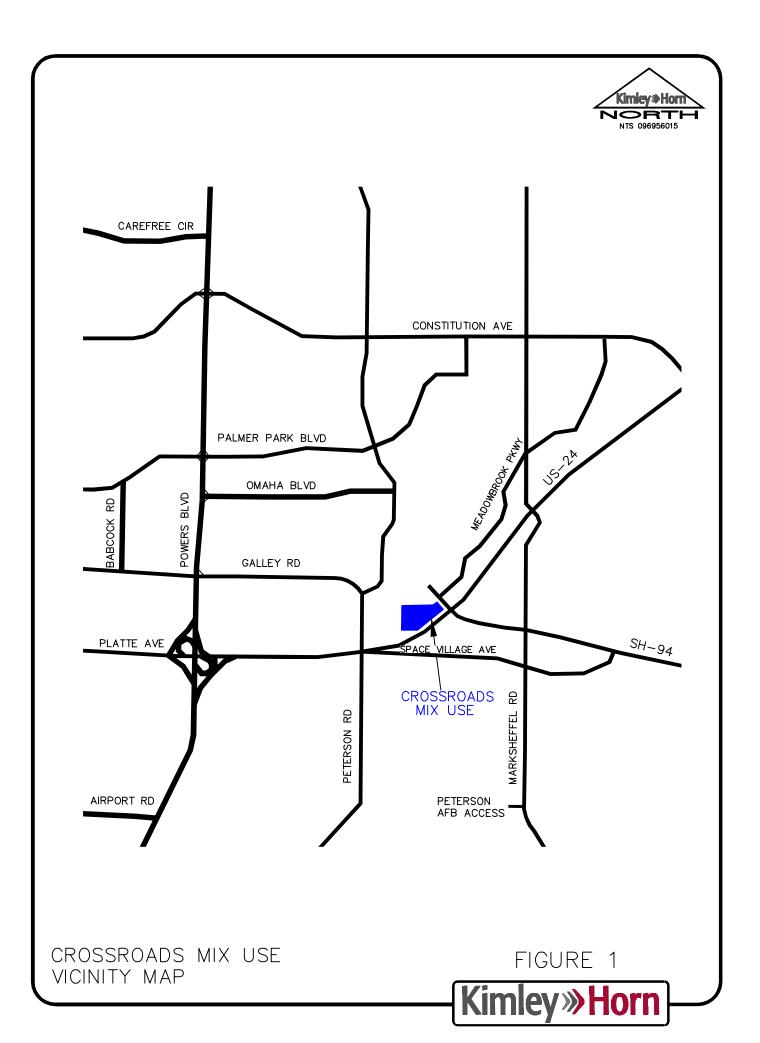
Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

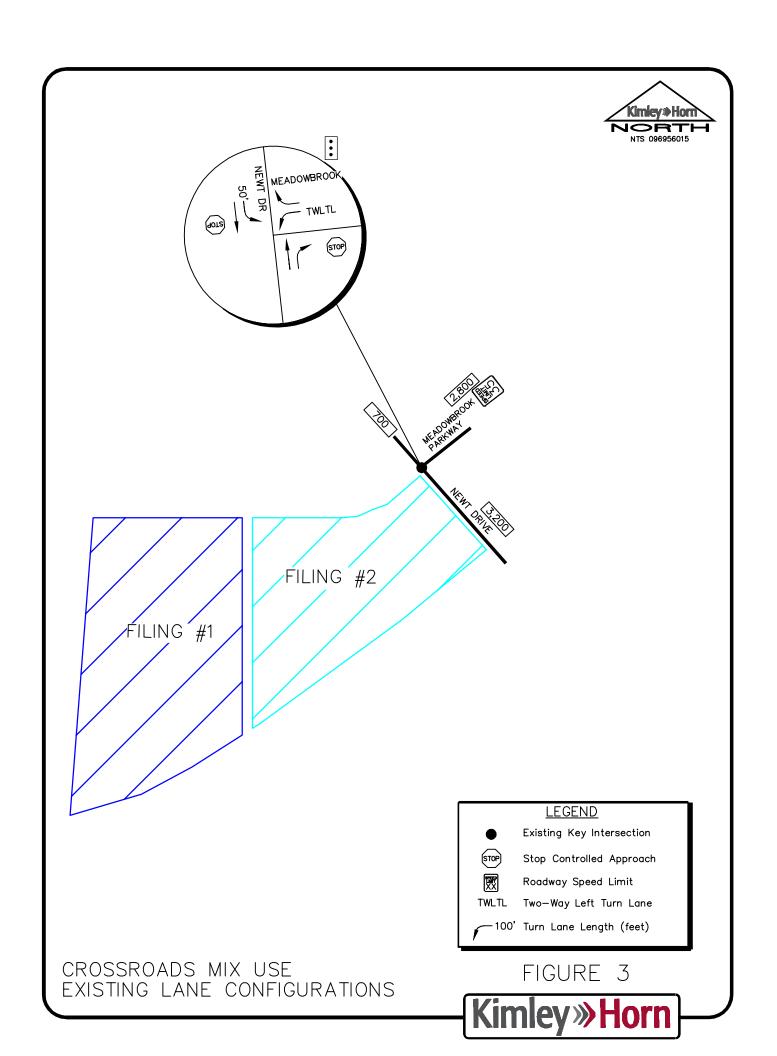
Jeffrey R. Planck, P.E. Project Manager

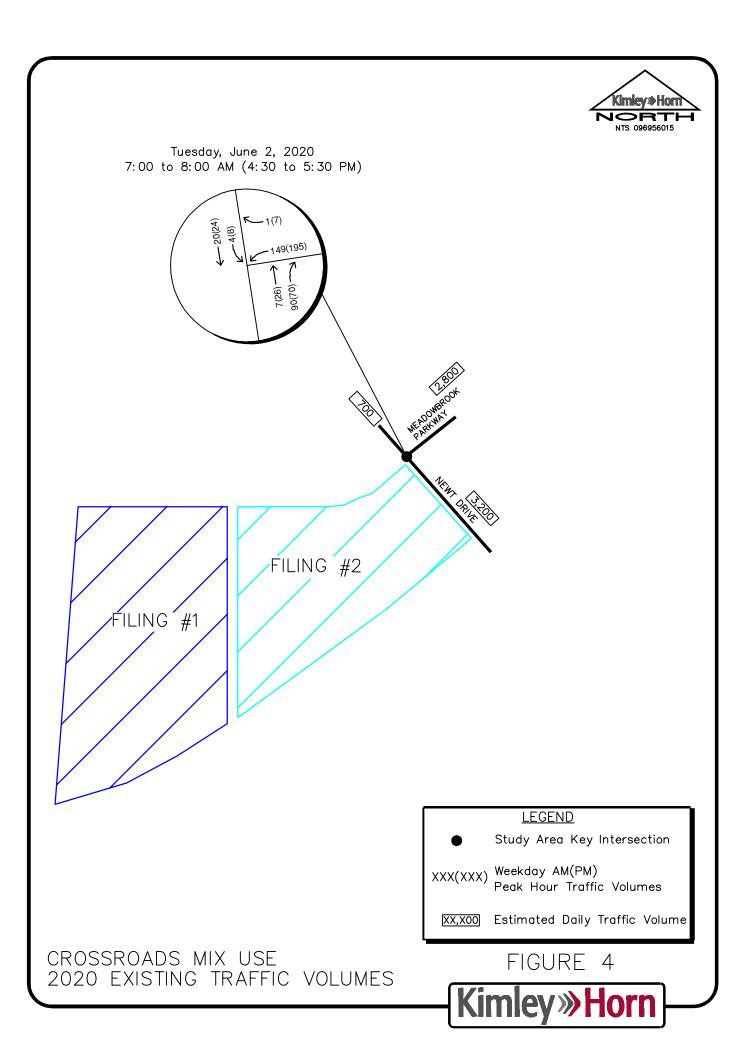


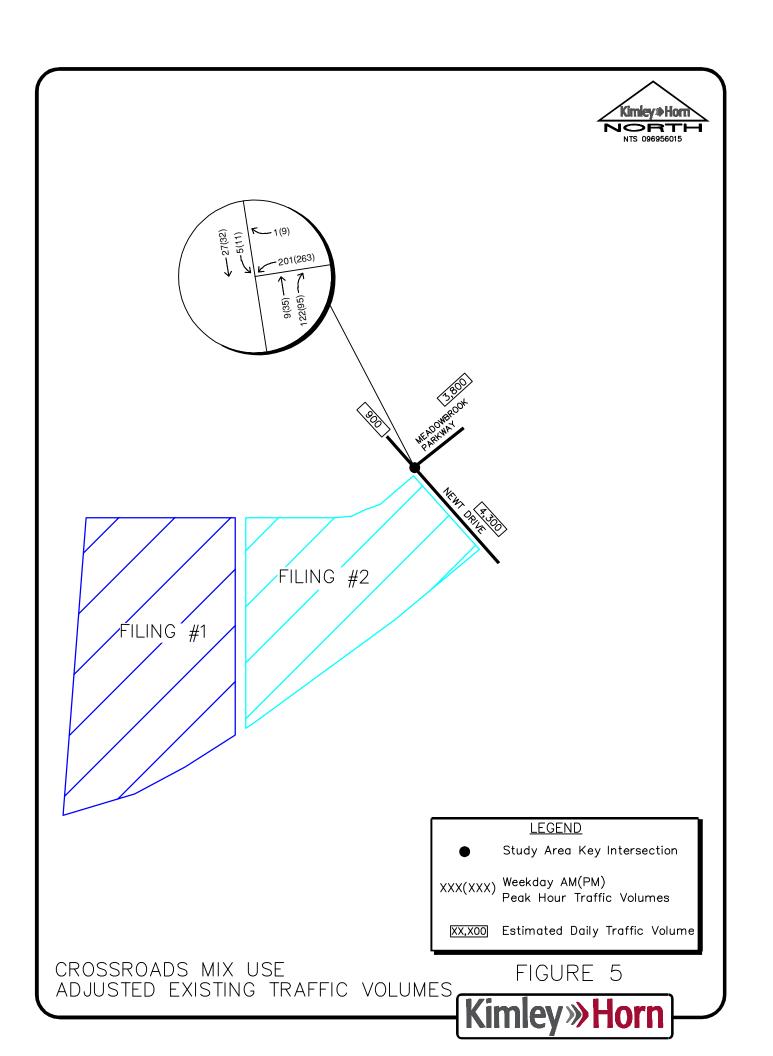
Figures

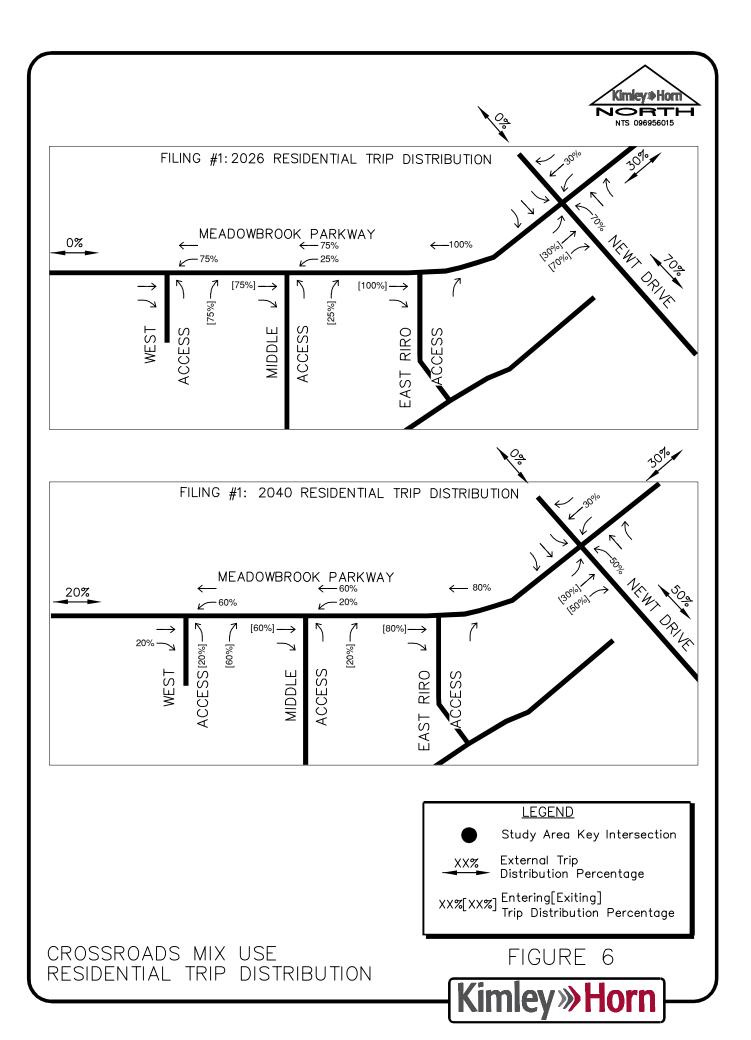


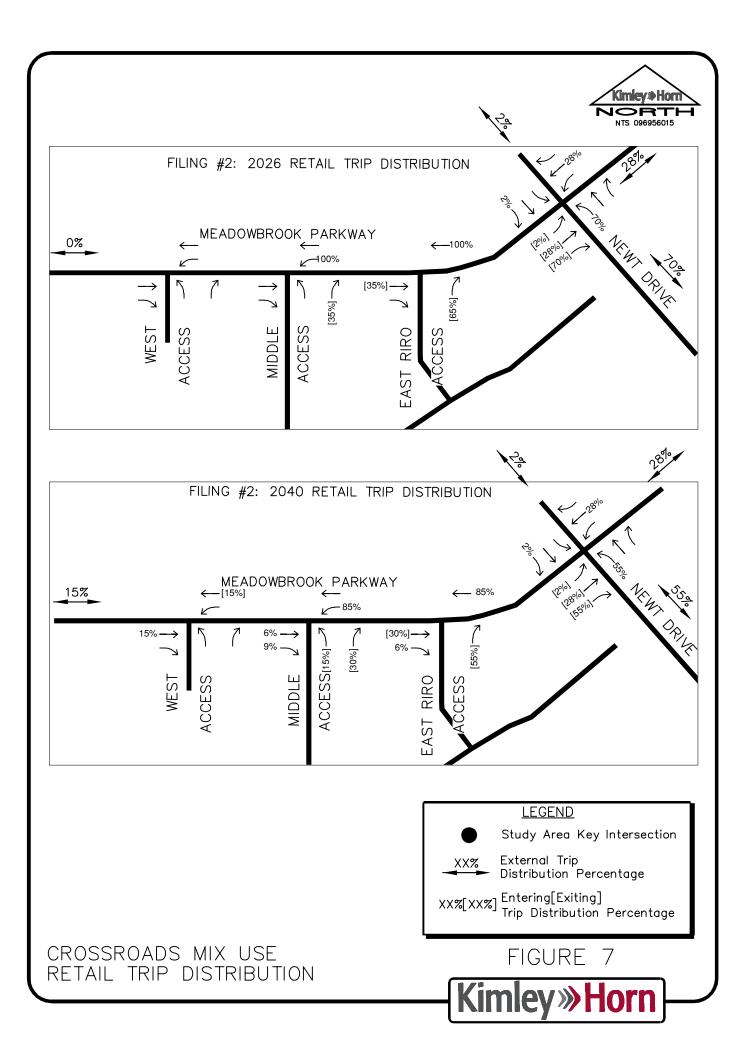


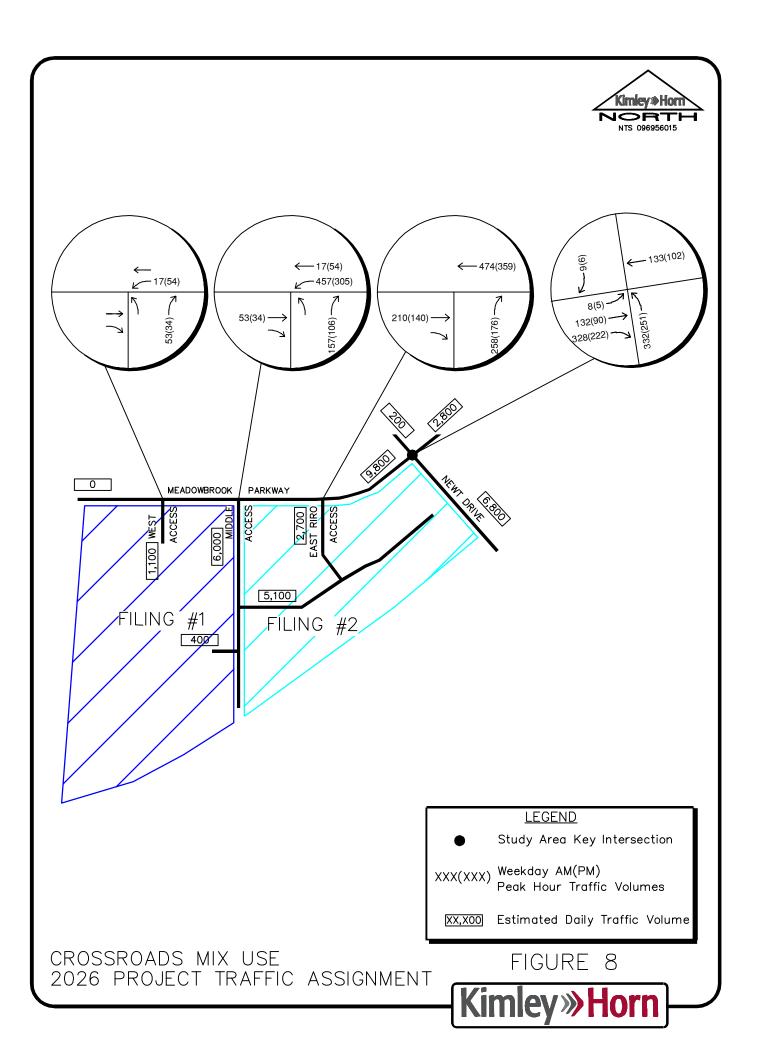


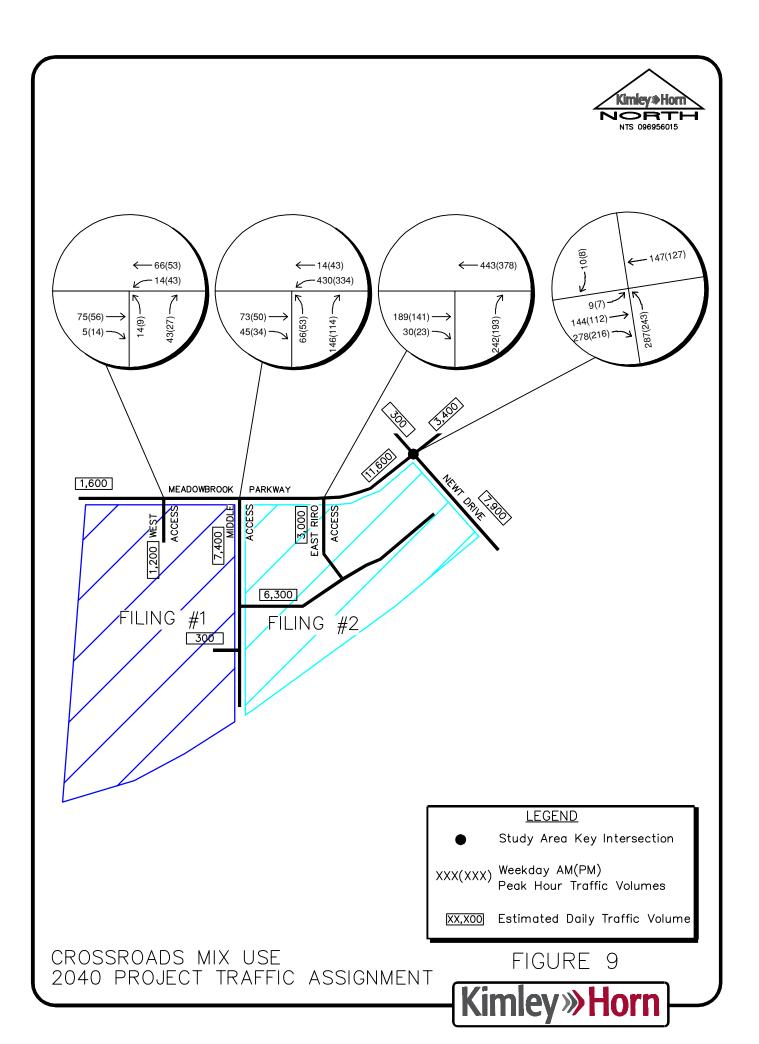


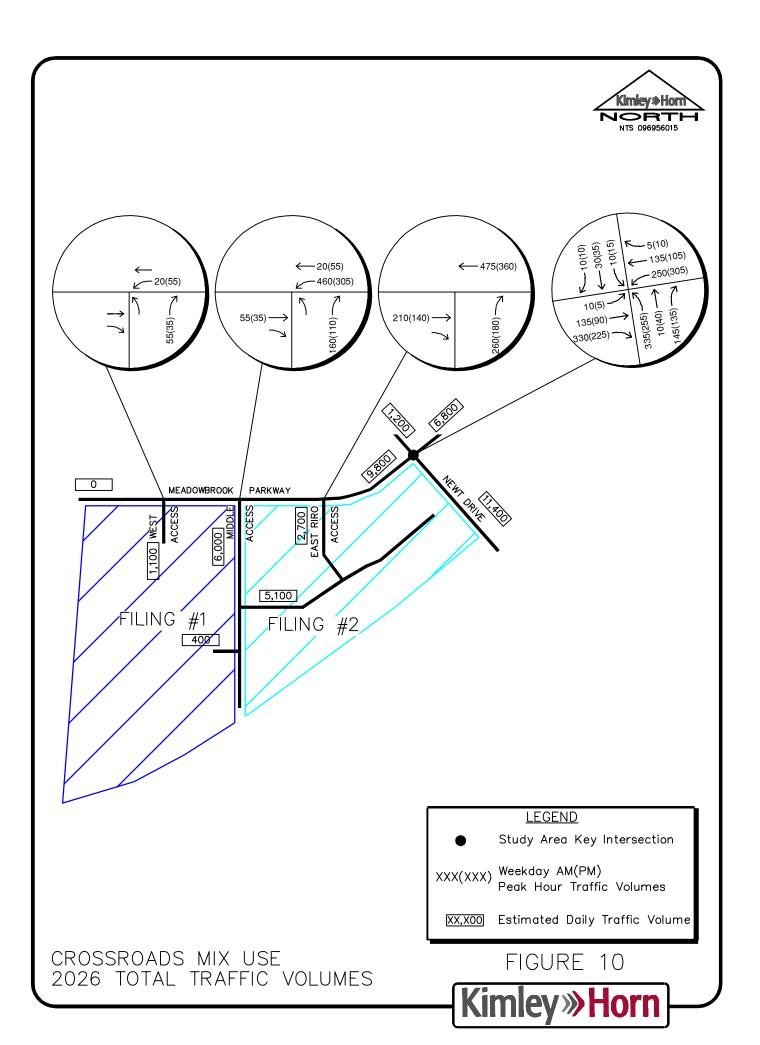


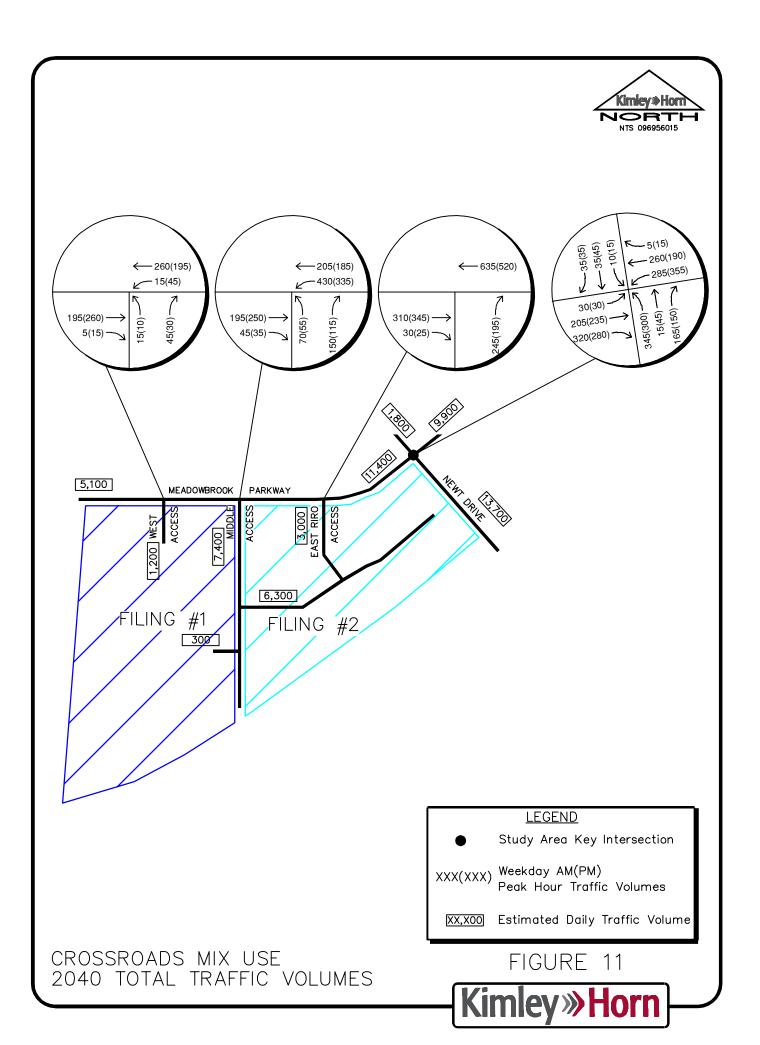


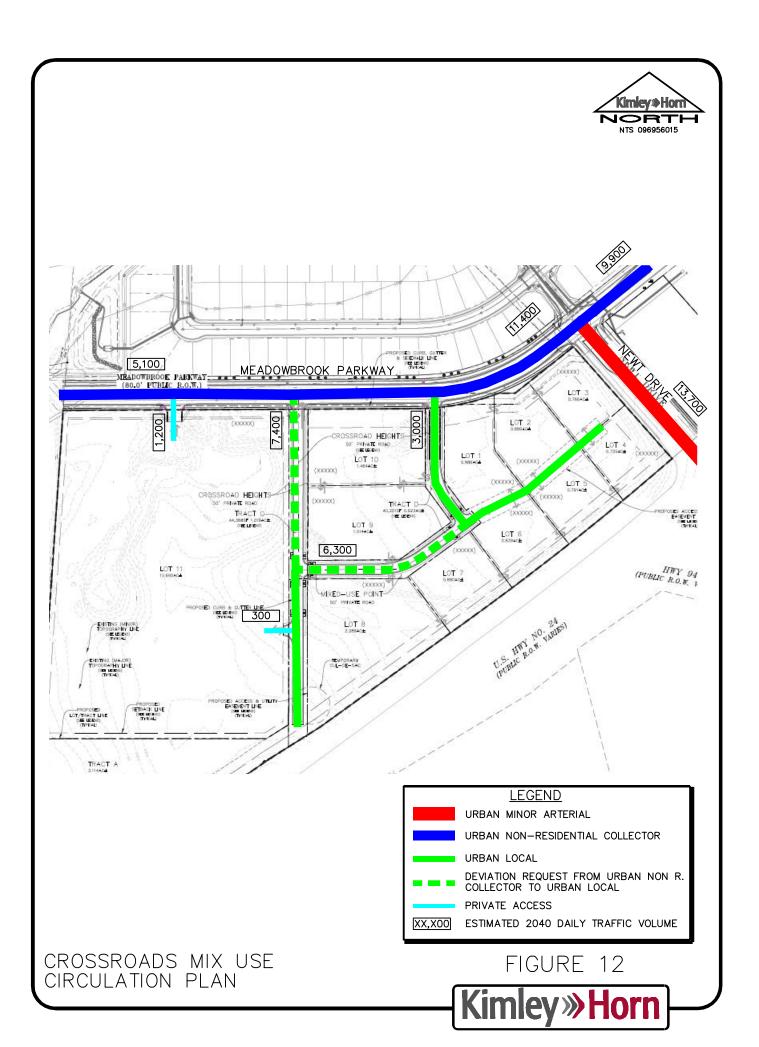


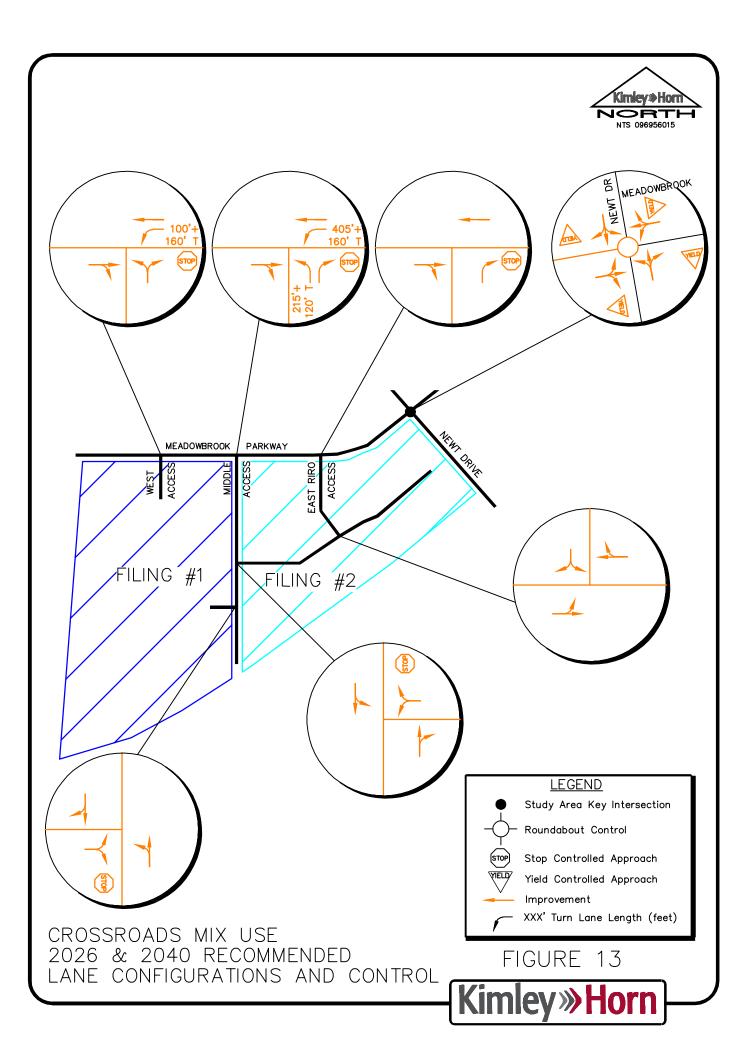




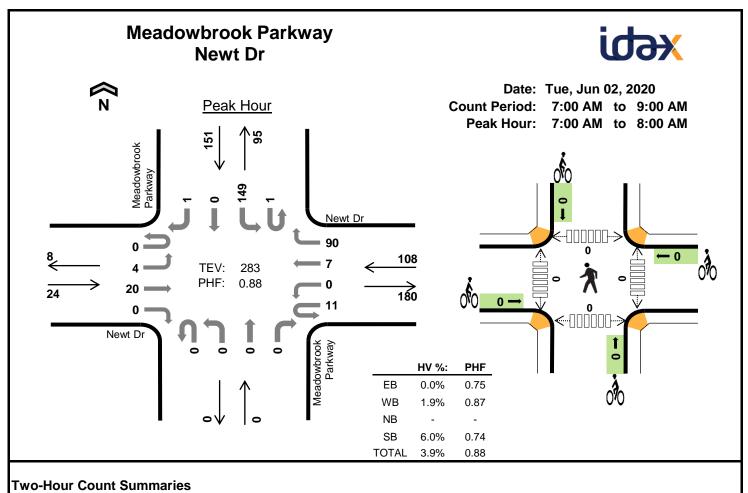








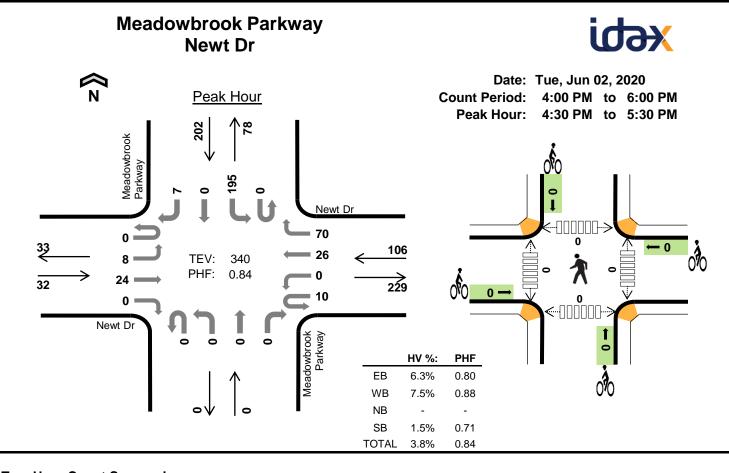
Traffic Counts COVID-19 Adjustment Calculations



Meadowbrook Parkway Newt Dr Newt Dr Meadowbrook Parkway 15-min Rolling Interval Eastbound Westbound Northbound Southbound One Hour Start Total UT LT ΤH RT UT LT TΗ RT UT LT ΤH RT UT LT ΤH RT 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM Count Total Peak Hour

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

Interval	Heavy Vehicle Totals					Bicycles				Pedestrians (Crossing Leg)					
Start	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	4	5	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	2	0	1	3	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	0	3	4	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	2	3	0	0	0	0	0	0	0	0	0	0
Count Total	0	6	0	15	21	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	2	0	9	11	0	0	0	0	0	0	0	0	0	0

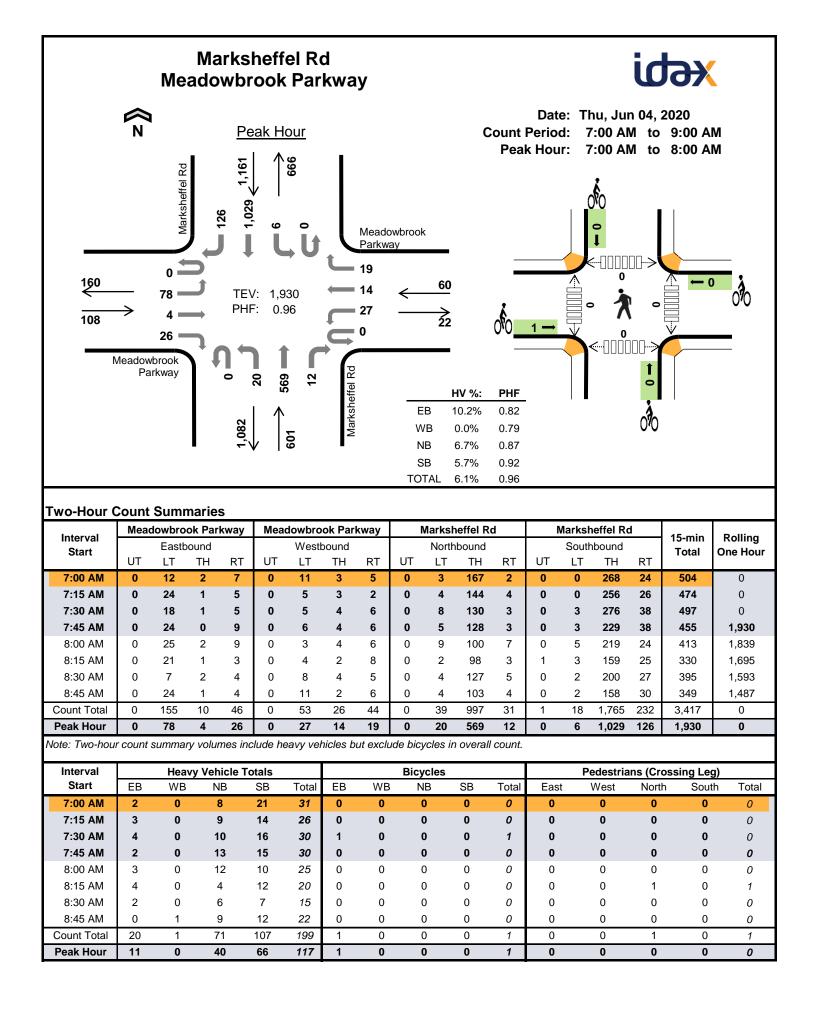


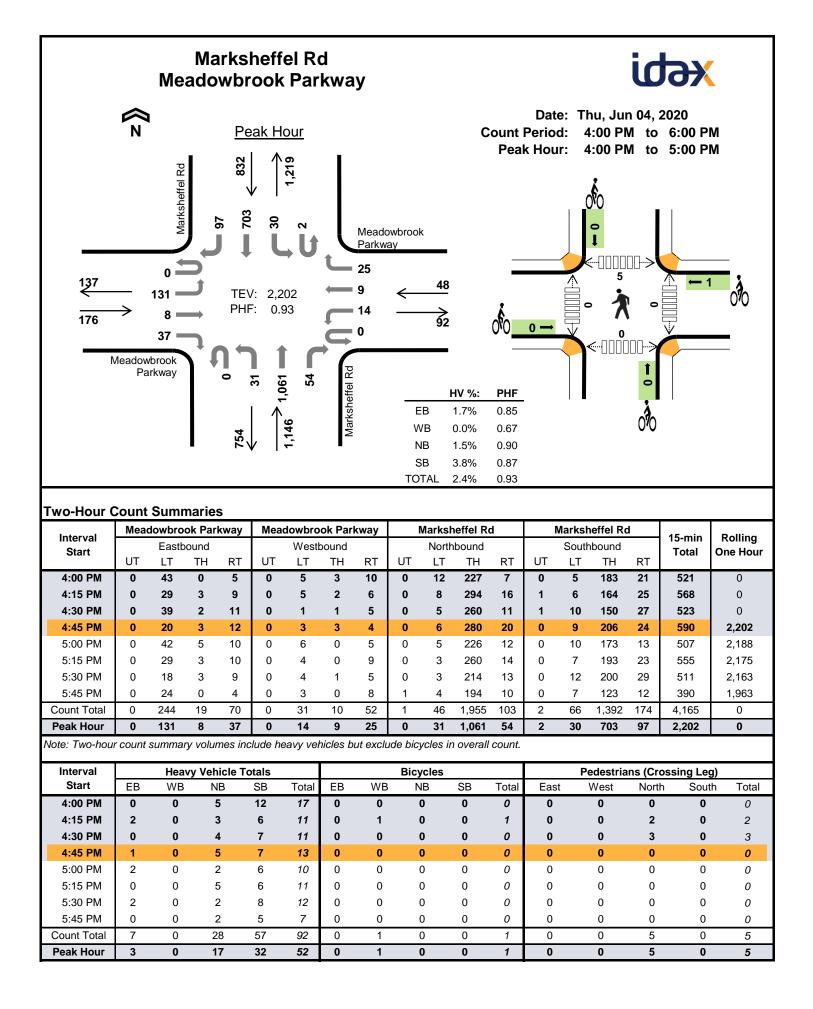
Two-Hour Count Summaries

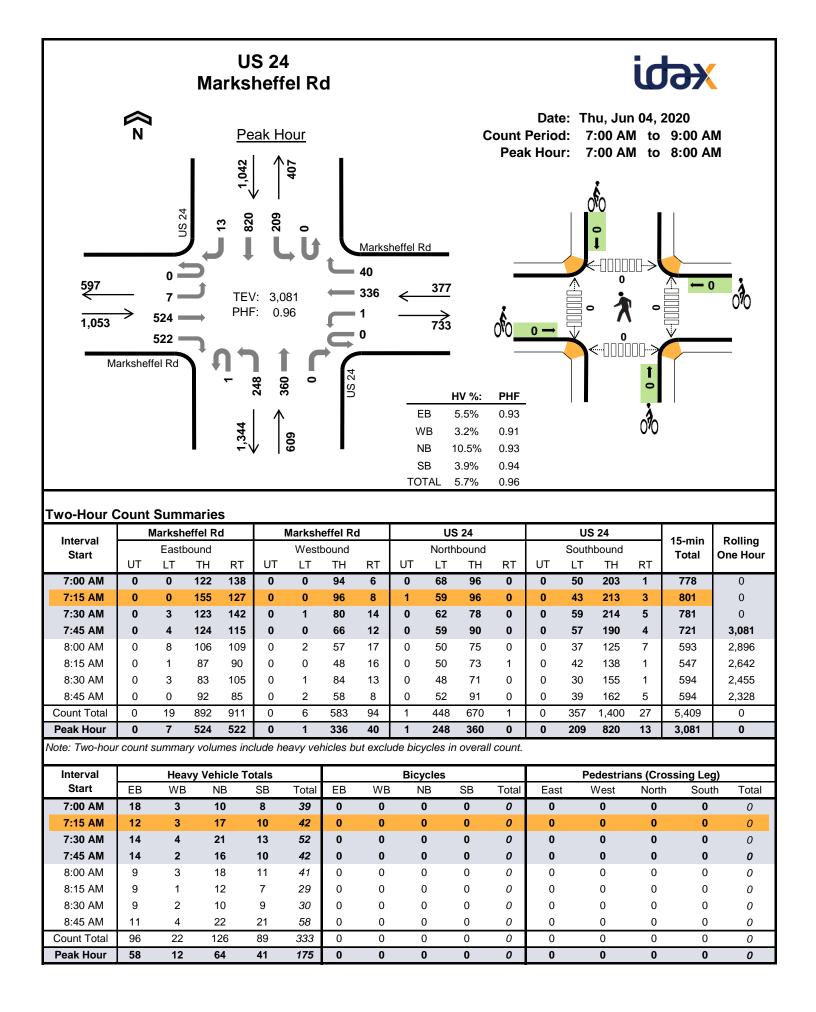
Interval Start	Newt Dr Eastbound				Newt Dr Westbound				Mead	dowbro	ok Par	kway	Mea	dowbro	ok Parl	4E min	Rolling	
									Northbound					South	bound	15-min Total	One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	10101	ono nou
4:00 PM	0	2	2	0	4	0	6	26	0	0	0	0	0	38	0	0	78	0
4:15 PM	0	2	3	0	4	0	6	15	0	0	0	0	0	44	0	1	75	0
4:30 PM	0	2	6	0	2	0	3	23	0	0	0	0	0	42	0	4	82	0
4:45 PM	0	1	8	0	2	0	7	21	0	0	0	0	0	41	0	0	80	315
5:00 PM	0	2	3	0	4	0	12	9	0	0	0	0	0	70	0	1	101	338
5:15 PM	0	3	7	0	2	0	4	17	0	0	0	0	0	42	0	2	77	340
5:30 PM	0	0	4	0	6	0	4	8	0	0	0	0	0	27	0	0	49	307
5:45 PM	0	1	4	0	2	0	6	7	0	0	0	0	0	29	0	1	50	277
Count Total	0	13	37	0	26	0	48	126	0	0	0	0	0	333	0	9	592	0
Peak Hour	0	8	24	0	10	0	26	70	0	0	0	0	0	195	0	7	340	0

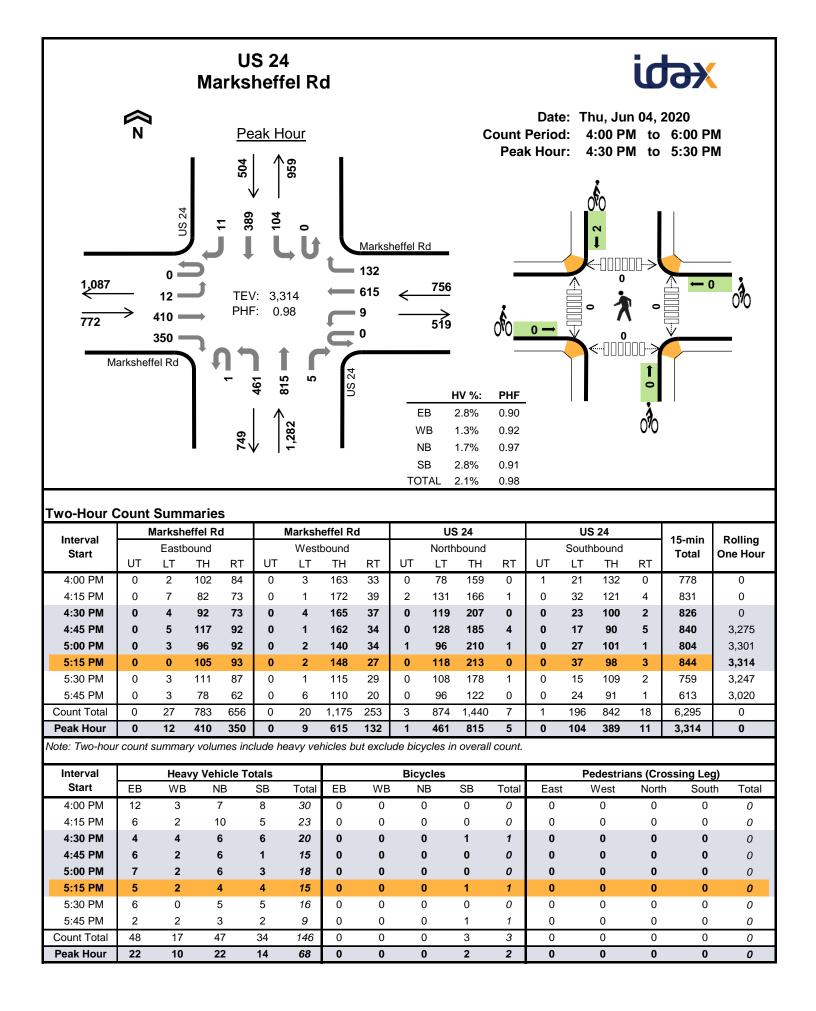
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

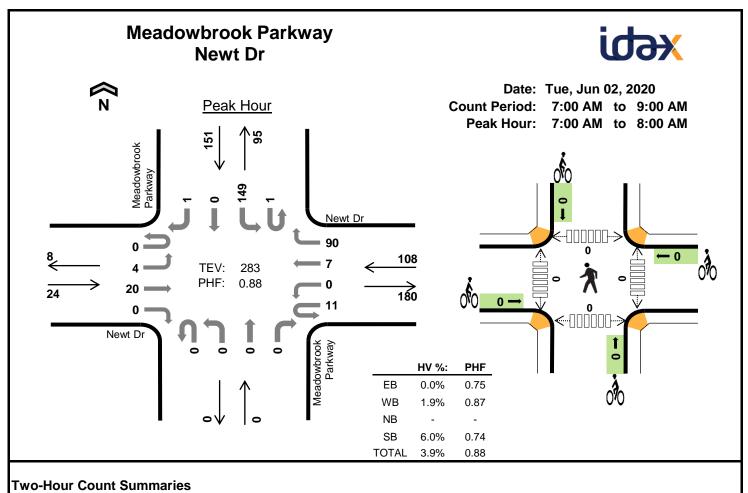
Interval		Heavy	Vehicle	Totals				Bicycles			Pedestrians (Crossing Leg)					
Start	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	4	0	1	5	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	
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5:30 PM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	
Count Total	2	10	0	5	17	0	0	0	0	0	0	0	0	0	0	
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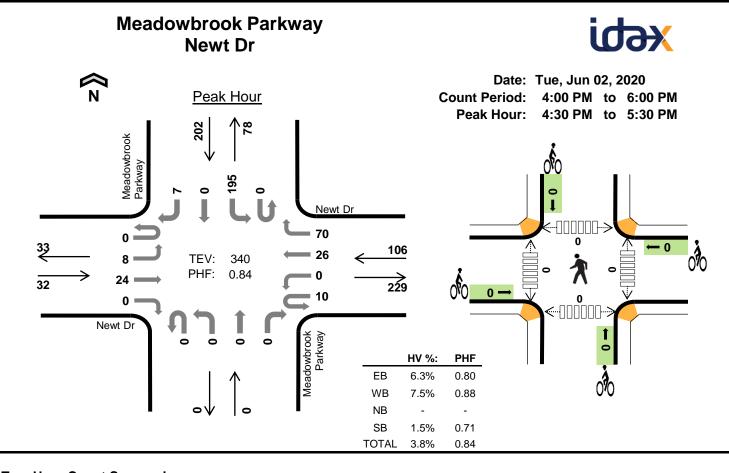




Meadowbrook Parkway Newt Dr Newt Dr Meadowbrook Parkway 15-min Rolling Interval Eastbound Westbound Northbound Southbound One Hour Start Total UT LT ΤH RT UT LT TΗ RT UT LT ΤH RT UT LT ΤH RT 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM Count Total Peak Hour

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

Interval	Heavy Vehicle Totals							Bicycles			Pedestrians (Crossing Leg)					
Start	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total	
7:00 AM	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	1	0	4	5	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	2	0	1	3	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	1	0	3	4	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	1	0	2	3	0	0	0	0	0	0	0	0	0	0	
Count Total	0	6	0	15	21	0	0	0	0	0	0	0	0	0	0	
Peak Hour	0	2	0	9	11	0	0	0	0	0	0	0	0	0	0	

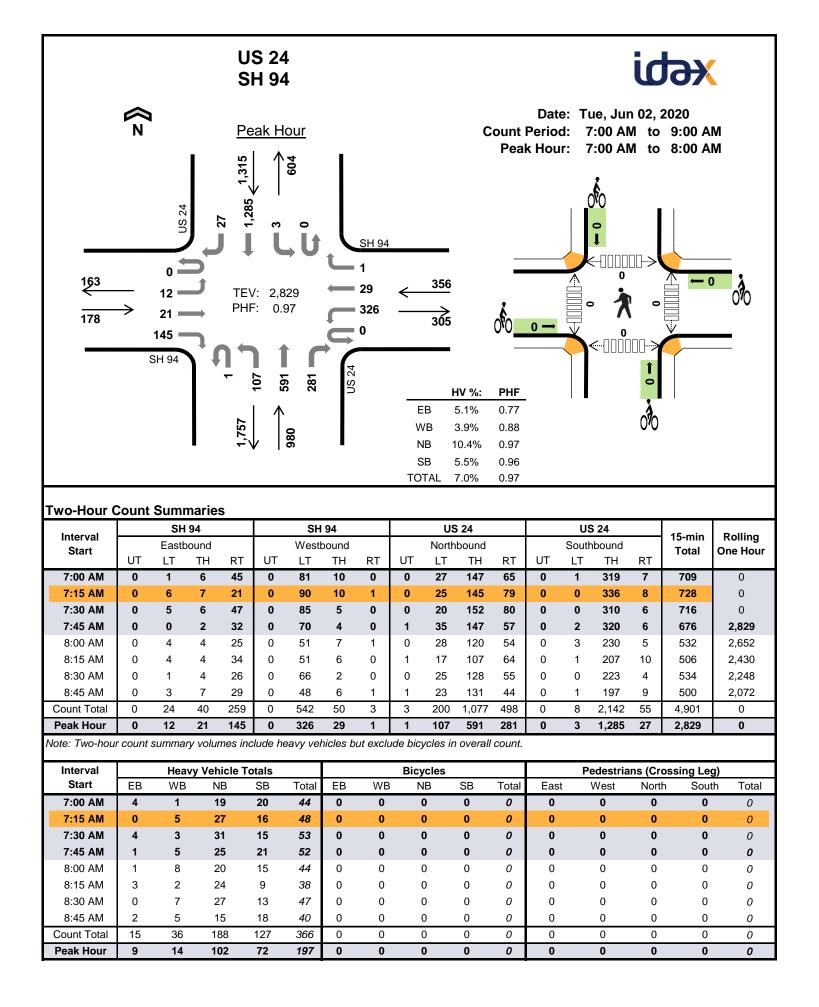


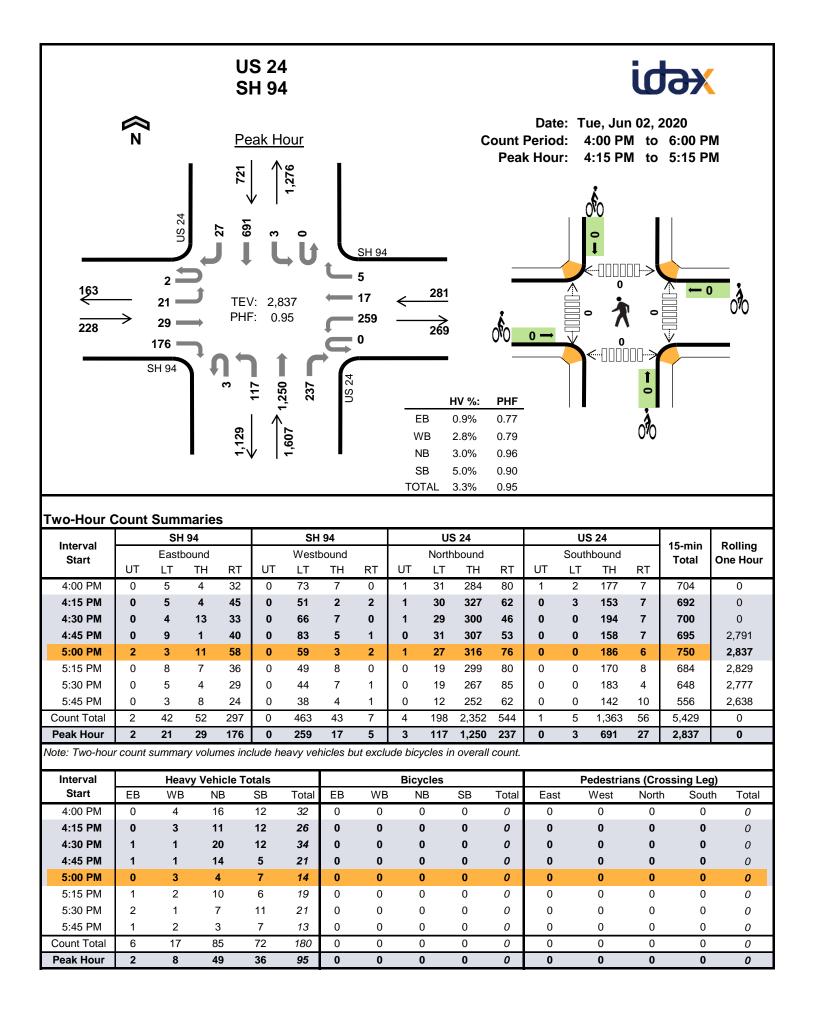
Two-Hour Count Summaries

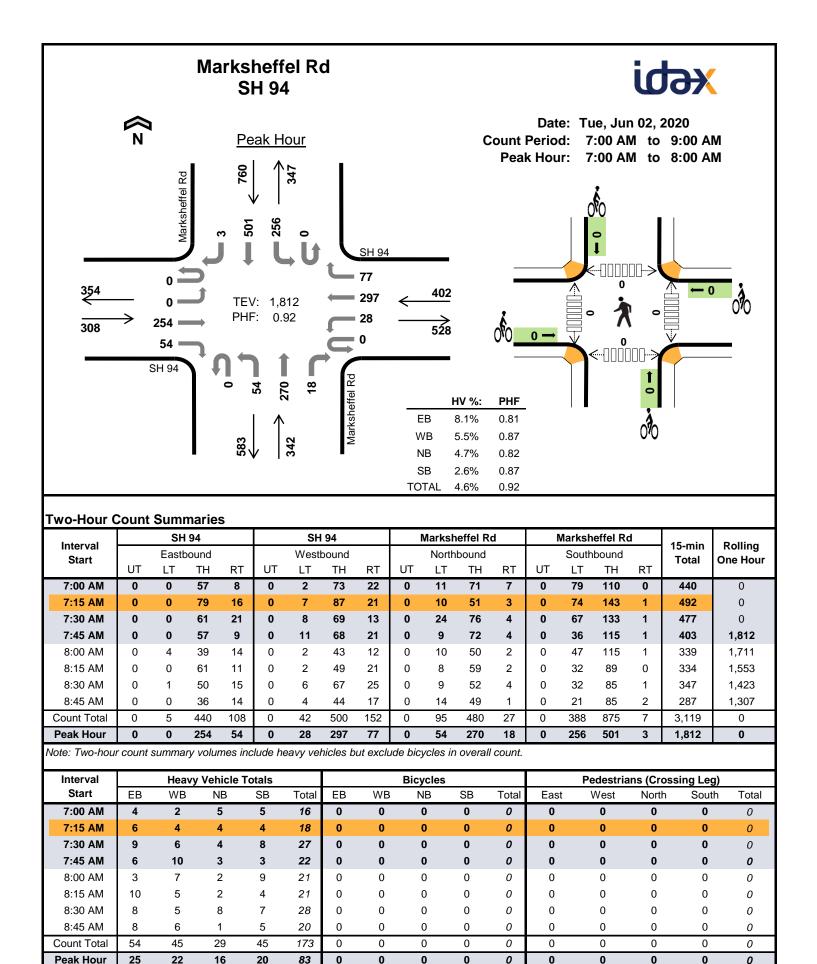
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Interval Start		Eastb	bound			West	bound			North	bound			South	bound		15-min Total	Rolling One Hour
Start	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	Total	One nou
4:00 PM	0	2	2	0	4	0	6	26	0	0	0	0	0	38	0	0	78	0
4:15 PM	0	2	3	0	4	0	6	15	0	0	0	0	0	44	0	1	75	0
4:30 PM	0	2	6	0	2	0	3	23	0	0	0	0	0	42	0	4	82	0
4:45 PM	0	1	8	0	2	0	7	21	0	0	0	0	0	41	0	0	80	315
5:00 PM	0	2	3	0	4	0	12	9	0	0	0	0	0	70	0	1	101	338
5:15 PM	0	3	7	0	2	0	4	17	0	0	0	0	0	42	0	2	77	340
5:30 PM	0	0	4	0	6	0	4	8	0	0	0	0	0	27	0	0	49	307
5:45 PM	0	1	4	0	2	0	6	7	0	0	0	0	0	29	0	1	50	277
Count Total	0	13	37	0	26	0	48	126	0	0	0	0	0	333	0	9	592	0
Peak Hour	0	8	24	0	10	0	26	70	0	0	0	0	0	195	0	7	340	0

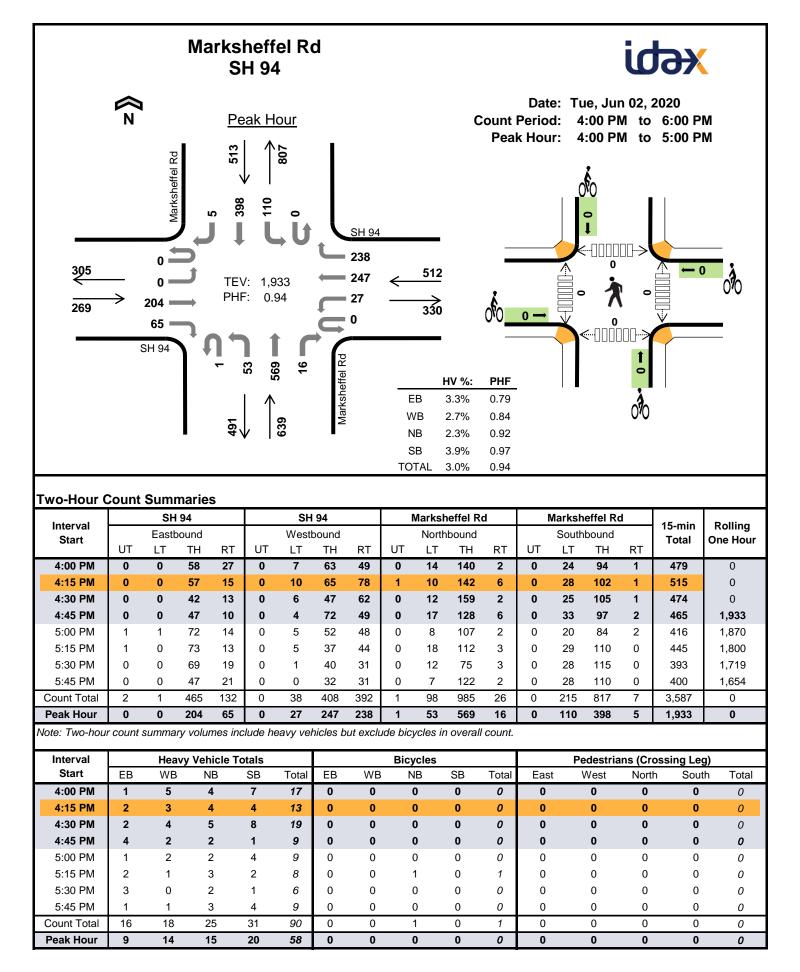
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval		Heavy	Vehicle	Totals				Bicycles				Pedestria	ans (Cross	ing Leg)	
Start	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	4	0	1	5	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	2	2	0	1	5	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
Count Total	2	10	0	5	17	0	0	0	0	0	0	0	0	0	0
Peak Hour	2	8	0	3	13	0	0	0	0	0	0	0	0	0	0









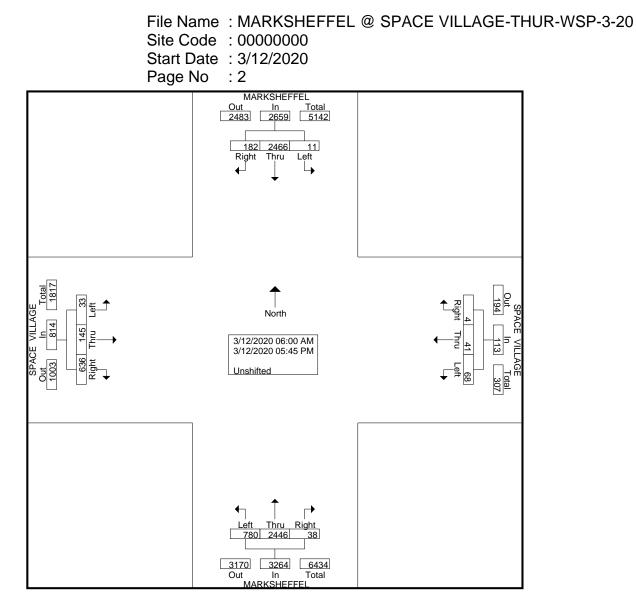
TMC 2

Traffic Data Resources

Location: Marksheffel @ Space	₩illa tame	: MARKSHEFFEL @ SPACE VILLAGE-THUR-WSP-3-20
Turning Movement Count	Site Code	: 0000000
Weather: Clear	Start Date	: 3/12/2020
Comments: Heavy truck traffic	Page No	:1

								s Printed					1				
		MARKS		EL	S	PACE		GE	I	MARKS		EL	S	PACE		GE	
			North				n East				South			-	n West		
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Factor	1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		1.0	1.0	1.0		
06:00 AM	1	84	0	85	0	0	7	7	0	47	20	67	23	5	1	29	188
06:15 AM	4	140	0	144	0	2	2	4	2	68	33	103	17	9	1	27	278
06:30 AM	4	157	0	161	0	2	0	2	1	92	40	133	19	13	2	34	330
06:45 AM	13	164	0	177	0	6	8	14	2	109	54	165	26	9	4	39	395
Total	22	545	0	567	0	10	17	27	5	316	147	468	85	36	8	129	1191
			_				_	_	_						_		
07:00 AM	18	196	6	220	1	1	3	5	6	121	51	178	35	19	2	56	459
07:15 AM	37	201	0	238	1	4	3	8	1	110	62	173	35	8	2	45	464
07:30 AM	33	235	1	269	0	3	1	4	4	124	83	211	23	9	2	34	518
07:45 AM	31	227	1	259	0	3	1	4	1	117	77	195	21	6	1	28	486
Total	119	859	8	986	2	11	8	21	12	472	273	757	114	42	7	163	1927
*** BREAK ***																	
04:00 PM	7	147	0	154	0	4	4	8	3	210	40	253	55	8	3	66	481
04:15 PM	8	149	0	157	0	3	7	10	5	263	46	314	46	8	2	56	537
04:30 PM	5	122	1	128	0	2	10	12	6	228	56	290	52	10	1	63	493
04:45 PM	3	132	0	135	1	3	9	13	1	213	46	260	62	6	4	72	480
Total	23	550	1	574	1	12	30	43	15	914	188	1117	215	32	10	257	1991
05:00 PM	7	127	0	134	0	2	4	6	5	213	55	273	65	7	1	73	486
05:15 PM	4	155	2	161	0	1	2	3	1	226	48	275	58	10	4	72	511
05:30 PM	5	119	0	124	1	2	6	9	0	153	38	191	53	12	1	66	390
05:45 PM	2	111	0	113	0	3	1	4	0	152	31	183	46	6	2	54	354
Total	18	512	2	532	1	8	13	22	6	744	172	922	222	35	8	265	1741
Grand Total	182	2466	11	2659	4	41	68	113	38	2446	780	3264	636	145	33	814	6850
Apprch %	6.8	92.7	0.4		3.5	36.3	60.2		1.2	74.9	23.9		78.1	17.8	4.1		
Total %	2.7	36	0.2	38.8	0.1	0.6	1	1.6	0.6	35.7	11.4	47.6	9.3	2.1	0.5	11.9	

Traffic Data Resources



	Ν	/ARKS	HEFF	EL	S	PACE	VILLA	GE	1	MARKS	HEFFE	EL	S	PACE	VILLA	GE	
		From	North			From	i East			From	South			From	n West		
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Ana	alysis Fro	om 06:0	00 AM 1	to 05:45 F	PM - Pea	ak 1 of 1											
Peak Hour for	Entire In	tersecti	ion Beg	gins at 04	15 PM												
04:15 PM	8	149	0	157	0	3	7	10	5	263	46	314	46	8	2	56	537
04:30 PM	5	122	1	128	0	2	10	12	6	228	56	290	52	10	1	63	493
04:45 PM	3	132	0	135	1	3	9	13	1	213	46	260	62	6	4	72	480
05:00 PM	7	127	0	134	0	2	4	6	5	213	55	273	65	7	1	73	486
Total Volume	23	530	1	554	1	10	30	41	17	917	203	1137	225	31	8	264	1996
% App. Total	4.2	95.7	0.2		2.4	24.4	73.2		1.5	80.7	17.9		85.2	11.7	3		
PHF	.719	.889	.250	.882	.250	.833	.750	.788	.708	.872	.906	.905	.865	.775	.500	.904	.929

Station ID:	103943																							
Date:	7/11/2019																							
Route:	094A																							
	SH 94 E/O Ma	arksheffel	Rd. Colorad	o Sprinas																				
COUNTDIR	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM 1	1:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM 11	1:00 PM
Р	21	16	9	23	82	299	705	500	366	246	211	243	253	246	252	271	391	383	282	193	178	120	99	54
S	17	6	10	14	45	141	322	359	287	278	237	292	270	272	395	606	824	541	282	153	90	54	40	51
						Dealellau	Counto	528	95%						Dealellau	Caunta	330	118%						
				Marsheffel a	and SH 94	Peak Hour	Counts	402	89%				Marsheffel a	nd SH 94	Peak Hour	Counts	512	161%						
						Percent Di	fference	92%	, D					Ī	Percent Di	fference	144	%						
Station ID:	100851																							
Date:	2/20/2020																							
Route:	024G																							
Description:	SH 24 NE/O S	H 94, Colo	rado Spring	s																				
COUNTDIR	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM 1	1:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM 11	1:00 PM
Р	55	33	24	26	94	150	465	601	503	409	468	614	622	633	920	1088	1495	1289	704	712	452	268	159	82
S	36	17	38	95	301	818	1863	1716	1023	715	636	665	609	577	613	655	693	685	369	224	183	124	79	53
						Peak Hour	Counts	604	100%						Peak Hour	Counts	1276	117%						
				US 24 and	d SH 94	reaktiou	counts	1315	130%				US 24 and	SH 94	reaktiou	counts	721	96%						
						Percent Di	fference	1219	%						Percent Di	fference	110	1%						
						Peak Hour	Counts	609	99%				US 24 a	and	Peak Hour	Counts	1282	117%						
				US 24 and M	larksheffel	I Cak Hou	counts	1344	128%				Markshe		I Cak Hour	counts	749	93%						
						Percent Di	fforonco	1199	<i>W</i> .				IVIDINALI	SHOL	Percent Di	£6	108	0/						

Original Traffic Study Documents

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

Developer's Statement

February 11, 2022 Date

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

Ms. Kelly Nelson Pikes Peak Investments LLC c/o The Equity Group 90 South Cascade Avenue, Suite 1500 Colorado Springs, Colorado 80903 Date

Crossroads-Meadowbrook-Reagan Ranch

PCD File No. CR201 & SP207

Colorado Springs, Colorado El Paso County, Colorado

Prepared for Pikes Peak Investments LLC c/o The Equity Group 90 South Cascade Avenue Suite 1500

Colorado Springs, Colorado 80903

Prepared by Kimley-Horn and Associates, Inc. Curtis D. Rowe, P.E., PTOE 4582 South Ulster Street Suite 1500 Denver, Colorado 80237 (303) 228-2300



February 2022

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

information provided in the ITE *Trip Generation Manual, 10th Edition – Volume 1: User's Guide and Handbook*, 2017. **Table 1** provides the estimated trip generation for Phase 1 of the project. The trip generation calculations are included in **Appendix C.**

				Wee	ekday Ve	ehicle T	rips	
			AM	Peak He	our	PM	Peak H	our
Use	Quantity	Daily	In	Out	Total	In	Out	Total
	Crossro	ads Nort	h					
Public Park (ITE 411)	20 Acres	16	0	0	0	1	1	2
Tire Superstore (ITE 849)	7,000 SF	144	6	3	9	7	8	15
Home Improvement Superstore (ITE 862)	127,000 SF	3,904	113	86	199	145	151	296
Furniture Store (ITE 890)	114,000 SF	720	21	9	30	28	31	59
Sit Down Restaurant (ITE 932)	11,000 SF	1,234	60	49	109	66	41	107
Fast-Food Restaurant (ITE 934)	2,500 SF	1,178	51	49	100	43	39	82
Gas Station Super Convenience (ITE 960)	6,000 SF	5,026	249	250	499	208	208	416
Total Crossroads North Trips		12,222	500	446	946	498	479	977
Crossroads North Trips after Internal Ca	pture	11,246	490	437	927	458	441	899
	Meadow	brook Pa	rk					
Single Family Housing (ITE 210)	67 Units	720	13	39	52	43	26	69
Meadowbrook Park Total Trips	•	720	13	39	52	43	26	69
	Crossroa	ds Mix U	se					
Mid-Rise Multifamily Housing (ITE 221)	300 Units	1,634	26	74	100	77	50	127
Shopping Center (ITE 820)	10,000 SF	1,256	97	60	157	48	51	99
Sit Down Restaurant (ITE 932)	4,000 SF	450	22	18	40	24	15	39
Fast Food Restaurant (ITE 934)	11,000 SF	5,182	225	217	442	187	172	359
Coffee Shop (ITE 937)	2,500 SF	2,050	113	109	222	55	55	110
Total Crossroads Mix Use Trips		10,572	483	478	961	391	343	734
Crossroads Mix Use Trips after Internal	Capture	9,726	474	468	942	359	316	675
Re	agan Ranch	Northwe	st Area					
Industrial Park (ITE 130)	220,000 SF	742	71	17	88	18	70	88
Reagan Ranch Northwest Area Total Trip	os	742	71	17	88	18	70	88
Re	eagan Ranch	Northea	st Area					
Single Family Housing (ITE 210)	125 Units	1,276	22	72	94	79	47	126
Shopping Center (ITE 820)	30,000 SF	2,652	104	63	167	107	116	223
Total Reagan Ranch Northeast Area Trips	•	3,928	126	135	261	186	163	349
Reagan Ranch NE Area Trips after Intern	al Capture	3,614	124	132	256	171	150	321
Re	agan Ranch	Southea	st Area					
Single Family Housing (ITE 210)	255 Units	2,460	45	141	186	156	94	250
Mid-Rise Multifamily Housing (ITE 221)	360 Units	1,962	31	89	120	93	59	152
Shopping Center (ITE 820)	70,000 SF	4,718	116	71	187	200	217	417
Total Reagan Ranch Southeast Area Trips		9,140	192	301	493	449	370	819
Reagan Ranch SE Area Trips after Intern	al Capture	8,410	188	295	483	413	340	753
Total Site Generated Trips		37,324	1,385	1,416	2,801	1,585	1,451	3,036
Total Site External Trips after Internal Ca	apture	34,458	1,360	1,389	2,748	1,462	1,343	2,806

 Table 1 – Phase 1 Project Traffic Generation

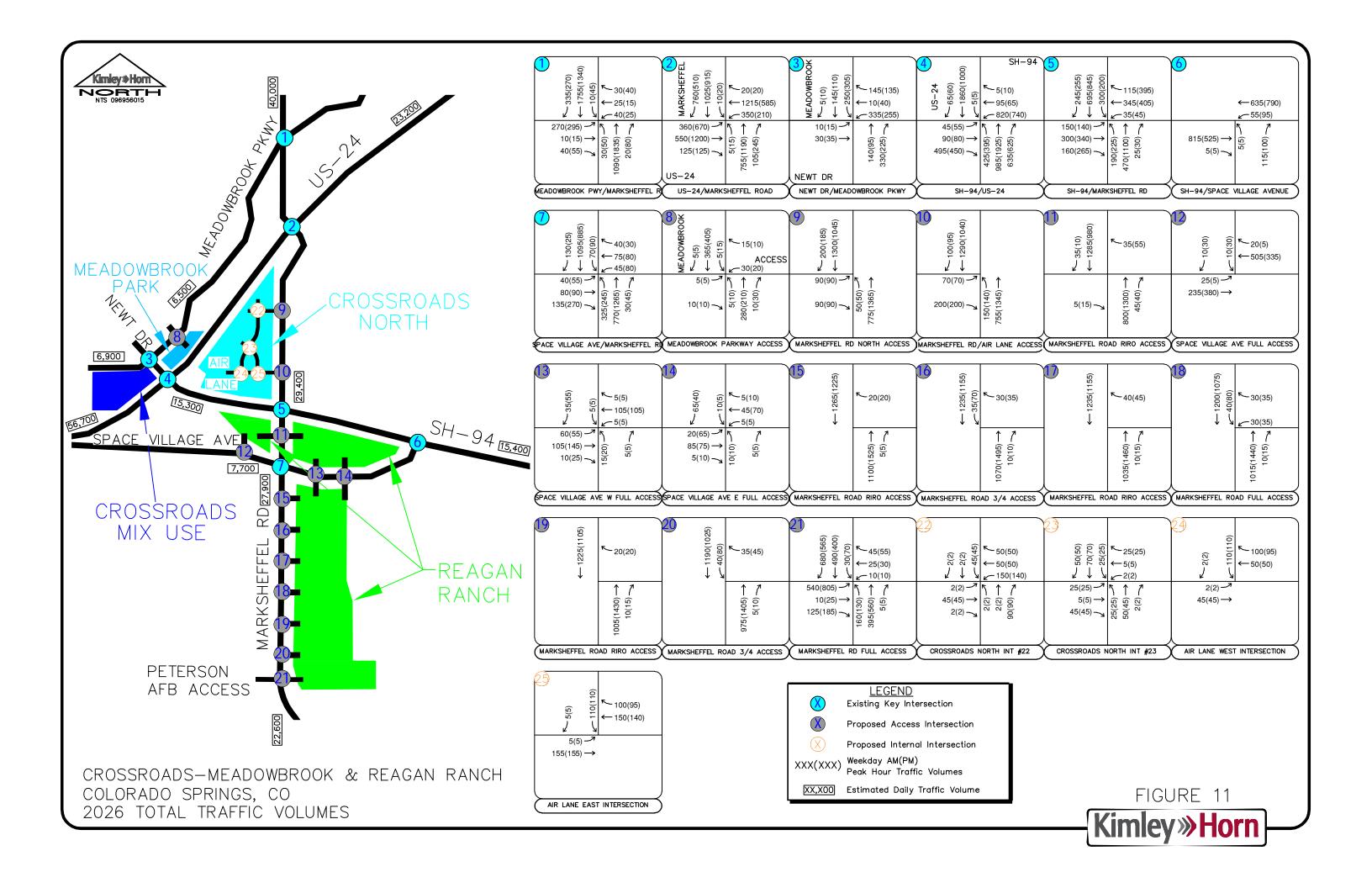
Kimley-Horn and Associates, Inc. 096956015 – Crossroads-Meadowbrook-Reagan Ranch With full project buildout by 2040, the three development areas are expected to generate approximately 58,582 daily weekday external vehicle trips with 3,481 of these trips occurring during the morning peak hour and 5,121 trips occurring during the afternoon peak hour. **Table 2** provides the estimated trip generation for full buildout of the project.

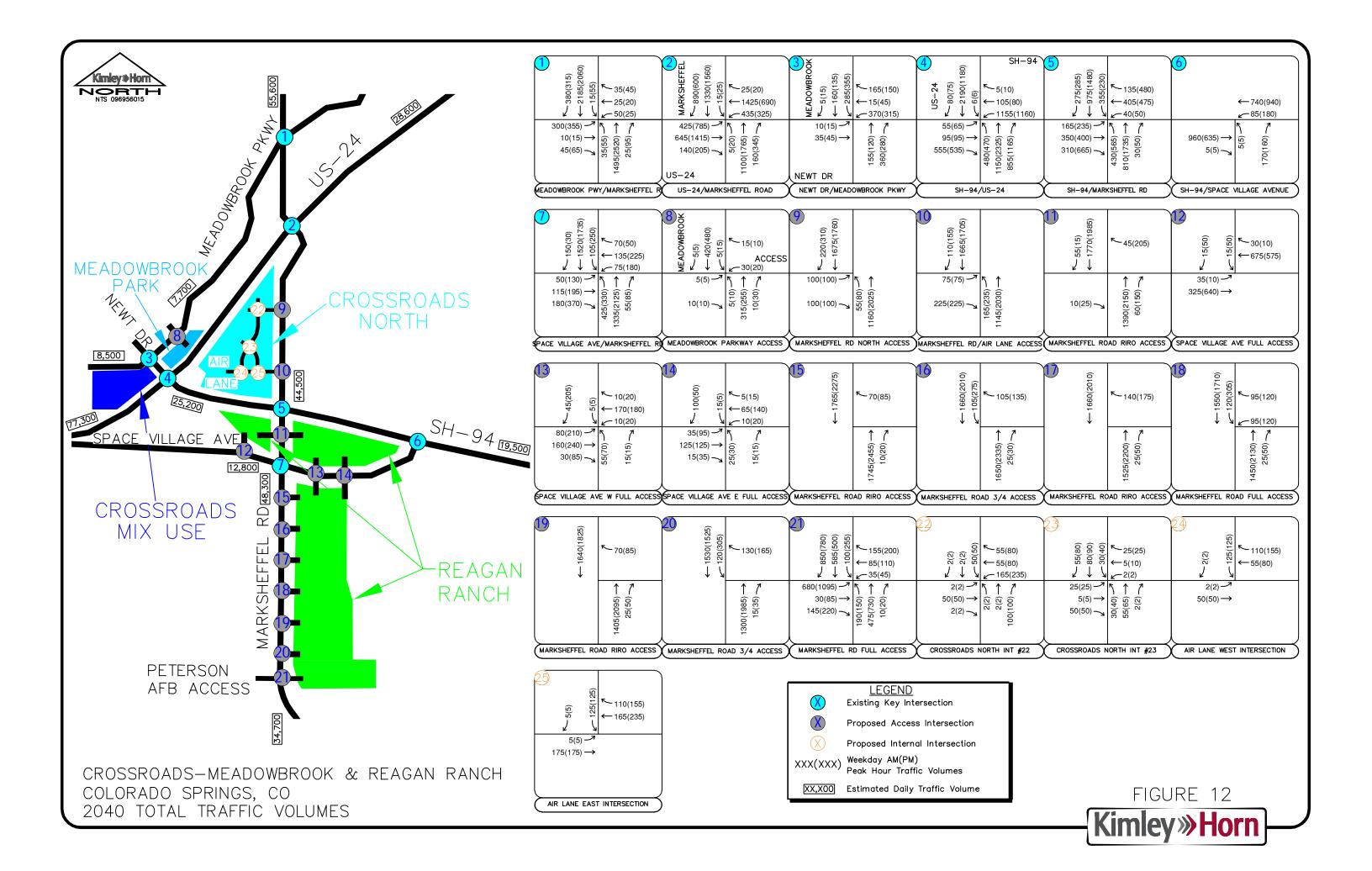
						ehicle T		
				Peak He		PM	Peak He	
Use	Quantity	Daily	In	Out	Total	In	Out	Total
		ads Nort						
Public Park (ITE 411)	20 Acres	16	0	0	0	1	1	2
Movie Theatre (ITE 444)	52,000 SF	4,062	5	6	11	302	19	321
Tire Superstore (ITE 849)	7,000 SF	144	6	3	9	7	8	15
Home Improvement Superstore (ITE 862)	127,000 SF	3,904	113	86	199	145	151	296
Furniture Store (ITE 890)	114,000 SF	720	21	9	30	28	31	59
Sit Down Restaurant (ITE 932)	11,000 SF	1,234	60	49	109	66	41	107
Fast-Food Restaurant (ITE 934)	5,000 SF	2,356	103	98	201	85	78	163
Gas Station Super Convenience (ITE 960)	6,000 SF	5,026	249	250	499	208	208	416
Total Crossroads North Trips	-	17,462	557	501	1,058	842	537	1,379
Crossroads North Trips after Internal Ca	pture	16,066	546	491	1,037	775	494	1,269
	Meadow	brook Pa	r k					
Single Family Housing (ITE 210)	67 Units	720	13	39	52	43	26	69
Meadowbrook Park Total Trips		720	13	39	52	43	26	69
	Crossroa	ds Mix Us	se					
Mid-Rise Multifamily Housing (ITE 221)	300 Units	1,634	26	74	100	77	50	127
Shopping Center (ITE 820)	10,000 SF	1,256	97	60	157	48	51	99
Pharmacy (ITE 881)	14,000 SF	1,528	29	25	54	72	72	144
Sit Down Restaurant (ITE 932)	8,000 SF	898	44	36	80	48	30	78
Fast Food Restaurant (ITE 934)	11,000 SF	5,182	225	217	442	187	172	359
Coffee Shop (ITE 937)	2,500 SF	2,050	113	109	222	55	55	110
Total Crossroads Mix Use Trips	-	12,548	534	521	1,055	487	430	917
Crossroads Mix Use Trips after Internal	Capture	11,544	523	511	1,034	448	396	844
Re	eagan Ranch	Northwe	st Area					
Industrial Park (ITE 130)	365,000 SF	1,232	118	28	146	31	115	146
Reagan Ranch Northwest Area Total Trip	os	1,232	118	28	146	31	115	146
Re	eagan Ranch	Northea	st Area					
Single Family Housing (ITE 210)	200 Units	1,968	37	110	147	125	73	198
Shopping Center (ITE 820)	175,000 SF	8,796	148	91	239	395	427	822
Total Reagan Ranch Northeast Area Trips	•	10,764	185	201	386	520	500	1,020
Reagan Ranch NE Area Trips after Interr	nal Capture	9,904	181	197	378	478	460	938
Re	agan Ranch	Southea	st Area					
Single Family Housing (ITE 210)	393 Units	3,662	71	213	284	238	140	378
Mid-Rise Multifamily Housing (ITE 221)	360 Units	1,962	31	89	120	93	59	152
Office (ITE 710)	100,000 SF	1,062	103	17	120	18	96	114
Shopping Center (ITE 820)	350,000 SF	14,092	203	124	327	659	714	1,373
Total Reagan Ranch Southeast Area Trips	· · · ·	20,778	408	443	851	1,008	1,009	2,017
Reagan Ranch SE Area Trips after Intern	al Capture	19,116	400	434	834	928	928	1,856
Total Site Generated Trips		63,504	1,815	1,733	3,548	2,931	2,617	5,548
Total Site External Trips after Internal Ca	apture	58,582	1,781	1,700	3,481	2,703	2,419	5,121

 Table 2 – Full Buildout Project Traffic Generation

Kimley-Horn and Associates, Inc.

096956015 – Crossroads-Meadowbrook-Reagan Ranch





Trip Generation Worksheets

Subject Trip (Generation for M	ultifamily Hou	sing (Mid-Rise)		
· · ·	JRP	Date	February 08, 2021	Job No.	096956015
Checked by		Date		Sheet No.	of
TRIP GENERATIO	<u>n Manual</u> 10th Ec	dition, Fitted C			
Independant Variat	ble - Dwelling Un	its (X)			
X = <mark>306</mark> T = Average \	Vehicle Trip Ends	6			
Peak Hour of Adja	acent Street Trat	ffic, One Hou	r Between 7 and 9 a.m.	(Series 200 Pag	<u>ge 74)</u>
Ln(T) = 0.98 Ln(X) Ln(T) = 0.98 *).98	Directional Distribution: T = 102 Aver 27 entering	26% er age Vehicle Trip 75 exiting	
Peak Hour of Adja	acent Street Tra	ffic, One Hou	27 + 75 r Between 4 and 6 p.m.	= 102 (Series 200 Pa	<u>ge 75)</u>
	0.62		Directional Distribution:	61% er	nt. 39% exit.
Ln(T) = 0.96 Ln(X) Ln(T) = 0.96 *	Ln(306.0) - 0).63	T = 130 Aver 79 entering	age Vehicle Trip 51 exiting	Ends
Ln(T) = 0.96 *	Ln(306.0) - 0).63			Ends
	Ln(306.0) - 0	0.63	79 entering	51 exiting	Ends
Ln(T) = 0.96 *	Ln(306.0) - 0 200 Page 73)		79 entering 79 + 51 Directional Distribution: T = 1666 Aver	51 exiting = 130 50% er	o Ends nt. 50% exit. o Ends
Ln(T) = 0.96 * Weekday (Series 2 (T) = 5.45*(X) - 1.7	Ln(306.0) - 0 200 Page 73) 75		79 entering 79 + 51 Directional Distribution: T = 1666 Aver	51 exiting = 130 50% er age Vehicle Trip 833 exiting	o Ends nt. 50% exit. o Ends
Ln(T) = 0.96 * Weekday (Series 2 (T) = 5.45*(X) - 1.7	Ln(306.0) - 0 200 Page 73) 75 306 - 1.	.75	79 entering 79 + 51 Directional Distribution: T = 1666 Aver 833 entering 833 + 833	51 exiting = 130 50% er age Vehicle Trip 833 exiting	o Ends nt. 50% exit. o Ends
Ln(T) = 0.96 * <u>Weekday (Series 2</u> (T) = 5.45*(X) - 1.7 (T) = 5.45 *	Ln(306.0) - 0 200 Page 73) 75 306 - 1. herator, Saturday 73	.75	79 entering 79 + 51 Directional Distribution: T = 1666 Aver 833 entering 833 + 833 Page 79) Directional Distribution:	51 exiting = 130 50% er age Vehicle Trip 833 exiting = 1666	o Ends ht. 50% exit. o Ends ht. 51% exit. o Ends

Project Subject			or Shopping Ce	gan Ranch (Crossroads Mix Use Phase 1)
Designed by				te February 08, 2021 Job No. 096956015
Checked by			Date	
TRIP GENE	RATION		TECHNIQUES	<u>S</u>
				ed Curve Equations
Land Use Co				
				oss Leasable Area (X)
		Area =	10,000	Square Feet
	10.000			
I = Ave	erage Ve	ehicle Trip	Ends	
Peak Hour o	of Adiac	ent Street	Traffic. One H	Hour Between 7 and 9 a.m. (800 Series Page 139)
				Directional Distribution: 62% ent. 38% exit.
T = 0.50 * (X	() + 151.	78		T = 157 Average Vehicle Trip Ends
T = 0.50 *	,	10	+ 151.78	97 entering 60 exiting
Peak Hour of	of Adjac	ent Street	Traffic, One H	Hour Between 4 and 6 p.m. (800 Series Page 140)
				Directional Distribution: 48% ent. 52% exit.
Ln(T) = 0.74				T = 99 Average Vehicle Trip Ends
Ln(T) = 0.74	*	Ln(10)	+ 2.89	48 entering 51 exiting
Weekday (8	00 Serie	e Page 1	88)	
Daily Weekd			<u>, , , , , , , , , , , , , , , , , , , </u>	Directional Distribution: 50% entering, 50% exiting
Ln(T) = 0.68		+ 5.57		T = 1256 Average Vehicle Trip Ends
Ln(T) = 0.68			+ 5.57	628 entering 628 exiting
Saturday Pe	ak Hou	r of Gene	rator (Page 144	14)
Average Sat				Directional Distribution: 52% ent. 48% exit.
Ln(T) = 079		+ 2.79		T = 100 Average Vehicle Trip Ends
Ln(T) = 0.79			+ 2.79	52 entering 48 exiting
				eneration Handbook, 3rd Edition September 2017-Page 190)
AM Peak Ho			n-Pass By	PM Peak Hour = 66% Non-Pass By
AM Peak	IN 64	Out 39	Total 103	
PM Peak	32	39 34	65	
Daily	414	-	828	PM Peak Hour Rate Applied to Daily
Lany	717	717	020	
Pass-By Tri	p Volun	nes (Per II	<u> TE Trip Genera</u>	ation Handbook, 3rd Edition September 2017 -Page 190)
AM Peak Ho			ss By	PM Peak Hour = 34% Pass By
	IN	Out	Total	
AM Peak	33	20	54	
PM Peak	16	17	34	
Daily	214	214	428	PM Peak Hour Rate Applied to Daily

Project (Crossroads-Meadowbro	ook-Reagan Ranch (Crossro	oads Mix Use Phase 1)
Subject	Trip Generation for Hig	h-Turnover (Sit-Down) Resta	aurant
Designed by	JRP	Date February 08	8, 2021 Job No. 096956015
Checked by		Date	Sheet No. of
TRIP GENER	ATION MANUAL TECH	INIQUES	
ITE <u>Trip Gener</u>	<u>ation Manual</u> 10th Edit	ion, Average Rate Equations	6
	e - High Turnover Sit-D		
Independant V	ariable - 1000 Square I	Feet Gross Floor Area (X)	
	or Area = 4,0	00 Square Feet	
X = 4.00	00		
T = Avera	age Vehicle Trip Ends		
Peak Hour of	Adjacent Street Traffi		<u>d 9 a.m. (900 Series Page 97)</u>
Average Week	kday	Directional Di	
T = 9.94 (X)		T = 40	
T = 9.94 *	4.000	22 ente	ering 18 exiting
Peak Hour of	Adjacent Street Traffi	c, One Hour Between 4 an	d 6 p.m. (900 Series Page 98)
Average Week	day	Directional Di	stribution: 62% ent. 38% exit.
T = 9.77 (X)		T = 39	Average Vehicle Trip Ends
T = 9.77 *	4.000	24 ente	ering 15 exiting
Weekday (900) Series Page 96)		
Average Week		Directional Di	stribution: 50% entering, 50% exiting
T = 112.18 (X)		T = 450	Average Vehicle Trip Ends
T = 112.18 *	4.000	225 ente	ering 225 exiting
P.M. Peak Ho	ur of Generator (900 \$	Series Page 100)	
Average Week	day	Directional Di	stribution: 52% ent. 48% exit.
T = 17.41 (X)		T = 70	Average Vehicle Trip Ends
T = 17.41 *	4.000	36 ente	ering 34 exiting
Saturday Pea	k Hour of Generator (900 Series Page 105	
Average Satur	day		stribution: 51% ent. 49% exit.
T = 11.19 (X)		T = 46	Average Vehicle Trip Ends
T = 11.19 *	4.000	23 ente	ering 23 exiting
Non Pass-By	Trip Volumes (Per ITI	E Trip Generation Handboo	ok, 3rd Edition September 2017-Page 207)
AM Peak Hour			57% Non-Pass By
	IN Out To	tal	·
AM Peak		3	
PM Peak		2	
Daily			te Applied to Daily
<u>Pass-By Tr</u> ip	<u>Volumes (Per ITE Tri</u>	o Generation Handbook, 3	rd Edition September 2017 -Page 207)
AM Peak Hour		PM Peak Hour =	43% Pass By
	,	tal	,
AM Peak		8	
PM Peak		7	
Daily			te Applied to Daily
2011	0, 0, 10		

Project		eadowbrook-Rea							
Subject Designed by		n for Fast-Food	e Febru		-			96956015	
Checked by		Dat		ary 00, 2	021			of	
eneenealsy		24				0.10		0:	
TRIP GENER	ATION MANU	AL TECHNIQU	<u>ES</u>						
ITE <u>Trip Gen</u> e	eration Manual	10th Edition, Av	erage Rate Equ	ations					
Land Use Co	de - Fast Food	Restaurant With	Drive-Through	Window	(934)				
Gross Fl X = 11.	oor Area =	Square Feet Gr 11,000 Sc p Ends		(X)					
Peak Hour of	Adjacent Stre	et Traffic, One	Hour Betweer	n 7 and 9) a.m. ((900 S	eries pa	ge 158)	
Average Wee	kdov		Directior	ool Diatri	oution		51% e	nt. 49%	exit.
T = 40.19 (X)			T =	442			hicle Trip		exit.
T = 40.10 (70) T = 40.19 *	11.000)	225	entering		-	exiting		
			225	+ 21	7 –	442	-		
			-					(50)	
Peak Hour of	Adjacent Stre	et Traffic, One	Hour Betweer	1 4 and 6	5 p.m.	(900 S	eries pa	<u>ge 159)</u>	
Average Wee			Direction					nt. 48%	exit.
T = 32.67 (X)			T =	359		-	hicle Trip		
T = 32.67 *	11.000		187	enterinę	9	172	exiting]	
			187	+	172	=	359		
Weekday (90	0 Series page	<u>157)</u>							
Average Wee	kdav		Direction	nal Distri	oution:	50% e	enterina.	50% exiting	1
T = 470.95 (X	•		T =	5182			hicle Trip		,
T = 470.95 *	11.000)	2591	entering		-	exiting		
			2591	+ 2	2591	=	5182		
0 - (I D.					.001		0102		
Saturday Pe	ak Hour of Gel	nerator (900 Se	ries page 163)	-					
T 5405 00				hal Distri				nt. 49%	exit.
T = 54.86 (X) T = 54.86 *	11.000)	T = 308	603 entering		age Ve 295	hicle Trip exiting		
			308	(*) -29	5 =	603			
<u>Non Pas</u> s-By	<u>Trip Vol</u> umes	(Per ITE Trip	<u>Generatio</u> n Ha	<u>ndbo</u> ok.	3rd E	<u>ditio</u> n	<u>Sept</u> em	<u>ber 201</u> 7)	
AM Peak Hou	ır = 51% l	Non-Pass By	PM Peak Ho				ass By		
	IN Ou								
AM Peak	115 11								
PM Peak Daily	94 86 1296 129		PM Peak Ho	ur Rato /	Annliad	to Dail	v		
July	1200 123		I WII CAN IU	ur raic P	,ppiica	to Dali	y		
		r ITE Trip Gene						<u>017)</u>	
AM Peak Hou		Pass By it Total	PM Peak Ho	ur = 8	50%	Pass E	sy		
AM Peak	IN Ou 110 10								
PM Peak	94 86								
				_	Applied				

Designed byJRPDateFebruary 08, 2021Job No.096956011Checked byDateSheet NooTRIP GENERATION MANUAL TECHNIQUESITE Trip Generation Manual 10th Edition, Average Rate EquationsLand Use Code - Coffee/Donut Shop with Drive Through (937)Independant Variable - 1000 Square Feet Gross Floor Feet (X) Gross Floor Area =2,500X =2.5T = Average Vehicle Trip EndsDirectional Distribution: 51% ent. 49% T = 222T = 88.99 (X) T = 88.99 *2.5T = 88.99 *2.5T = 88.99 *2.5	of
TRIP GENERATION MANUAL TECHNIQUESITE Trip Generation Manual 10th Edition, Average Rate EquationsLand Use Code - Coffee/Donut Shop with Drive Through (937)Independant Variable - 1000 Square Feet Gross Floor Feet (X) Gross Floor Area = 2,500 X = 2.5 T = Average Vehicle Trip EndsDirectional Distribution: 51% ent. 49% T = 88.99 (X)T = 222Average Vehicle Trip Ends	
ITE Trip Generation Manual 10th Edition, Average Rate EquationsLand Use Code - Coffee/Donut Shop with Drive Through (937)Independant Variable - 1000 Square Feet Gross Floor Feet (X) Gross Floor Area = 2,500 X = 2.5 T = Average Vehicle Trip EndsDirectional Distribution: 51% ent. 49% T = 88.99 (X)T = Average Vehicle Trip Ends	exit
ITE Trip Generation Manual 10th Edition, Average Rate EquationsLand Use Code - Coffee/Donut Shop with Drive Through (937)Independant Variable - 1000 Square Feet Gross Floor Feet (X) Gross Floor Area = 2,500 X = 2.5 T = Average Vehicle Trip EndsDirectional Distribution: 51% ent. 49% T = 88.99 (X)T = Average Vehicle Trip Ends	exit
Land Use Code - Coffee/Donut Shop with Drive Through (937) Independant Variable - 1000 Square Feet Gross Floor Feet (X) Gross Floor Area = 2,500 X = 2.5 T = Average Vehicle Trip Ends Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Series 900 Page 232) Directional Distribution: 51% ent. 49% T = 88.99 (X) T = 222 Average Vehicle Trip Ends	exit
Independant Variable - 1000 Square Feet Gross Floor Feet (X) Gross Floor Area = $2,500$ X = 2.5 T = Average Vehicle Trip EndsPeak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Series 900 Page 232)Directional Distribution:T = 88.99 (X)T =222Average Vehicle Trip Ends	exit
Gross Floor Area =2,500 $X = 2.5$ 2.5 $T = Average Vehicle Trip Ends$ Directional Distribution: 51% ent. 49% $T = 88.99 (X)$ $T = 222$ Average Vehicle Trip Ends	exit
Gross Floor Area =2,500 $X = 2.5$ 2.5 $T = Average Vehicle Trip Ends$ Directional Distribution: 51% ent. 49% $T = 88.99 (X)$ $T = 222$ Average Vehicle Trip Ends	exit
T = Average Vehicle Trip EndsDeak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Series 900 Page 232)Directional Distribution: 51% ent. 49% T = 88.99 (X)T = 222Average Vehicle Trip Ends	exit
Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Series 900 Page 232)Directional Distribution: 51% ent. 49%T = 88.99 (X)T = 222Average Vehicle Trip Ends	exit
Directional Distribution:51% ent.49%T = 88.99 (X)T = 222Average Vehicle Trip Ends	exit
T = 88.99 (X) T = 222 Average Vehicle Trip Ends	exit
	O/ICI
Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Series 900 Page 233)	
Directional Distribution: 50% ent. 50%	exit.
T = 43.38 (X) T = 110 Average Vehicle Trip Ends	exit.
T = 43.38 * 2.5 55 entering 55 exiting	
Weekday (Series 900 Page 231)	
Average Weekday Directional Distribution: 50% entering, 50% exit	
(T) = 820.38 (X) T = 2050 Average Vehicle Trip Ends (T) = 820.38 * (2.5) 1025 entering 1025 exiting	
1025 + 1025 = 2050	

Dogianod hy		or Multifamily Hou		Joh No	006056045
Designed by <u> </u>			February 08, 2021		096956015 of
					0/
TRIP GENERATIO	N MANUAL	TECHNIQUES			
TE Trip Generatior	<u>n Manual</u> 10	th Edition, Fitted	Curve Equations		
and Use Code - M	Iultifamily Ho	ousing (Mid-Rise)	(221)		
ndependant Variab	ole - Dwelling	g Units (X)			
X = <mark>300</mark> T = Average V	/ehicle Trip	Ends			
Peak Hour of Adja	icent Street	Traffic, One Ho	ur Between 7 and 9 a.m.	. (Series 200 Pa	<u>ge 74)</u>
_n(T) = 0.98 Ln(X) _n(T) = 0.98 *		- 0.98		: 26% er rage Vehicle Trip 74 exiting	o Ends
			26 + 74		
Peak Hour of Adja	cent Street	Traffic. One Ho	ur Dotwoon 1 and 6 n m	(Carles 200 De	aa 75)
			ur between 4 and 6 p.m	. (Series 200 Pa	<u>ge 75)</u>
_n(T) = 0.96 Ln(X) _n(T) = 0.96 *	- 0.63		Directional Distribution	: 61% er rage Vehicle Trip	nt. 39% exit. DEnds
	- 0.63		Directional Distribution T = 127 Ave	: 61% er rage Vehicle Trip 50 exiting	nt. 39% exit. DEnds
	- 0.63 Ln(300.0)	- 0.63	Directional Distribution T = 127 Ave 77 entering	: 61% er rage Vehicle Trip 50 exiting	nt. 39% exit. DEnds
_n(T) = 0.96 *	- 0.63 Ln(300.0) 200 Page 73	- 0.63	Directional Distribution T = 127 Ave 77 entering 77 + 50 Directional Distribution	i: 61% er rage Vehicle Trip 50 exiting = 127	nt. 39% exit. 9 Ends nt. 50% exit. 9 Ends
_n(T) = 0.96 * <u>Weekday (Series 2</u> (T) = 5.45*(X) - 1.7	- 0.63 Ln(300.0) 200 Page 73 75	- 0.63	Directional Distribution T = 127 Ave 77 entering 77 + 50 Directional Distribution T = 1634 Ave	i: 61% er rage Vehicle Trip 50 exiting = 127 i: 50% er rage Vehicle Trip 817 exiting	nt. 39% exit. 9 Ends nt. 50% exit. 9 Ends
_n(T) = 0.96 * <u>Weekday (Series 2</u> (T) = 5.45*(X) - 1.7	- 0.63 Ln(300.0) 200 Page 73 75 300	- 0.63 2) - 1.75	Directional Distribution T = 127 Ave 77 entering 77 + 50 Directional Distribution T = 1634 Ave 817 entering 817 + 817	i: 61% er rage Vehicle Trip 50 exiting = 127 i: 50% er rage Vehicle Trip 817 exiting	nt. 39% exit. 9 Ends nt. 50% exit. 9 Ends
_n(T) = 0.96 * <u>Weekday (Series 2</u> (T) = 5.45*(X) - 1.7 (T) = 5.45 *	- 0.63 Ln(300.0) 200 Page 73 75 300 erator, Satu	- 0.63 2) - 1.75	Directional Distribution T = 127 Ave 77 entering 77 + 50 Directional Distribution T = 1634 Ave 817 entering 817 + 817 D Page 79) Directional Distribution	i: 61% er rage Vehicle Trip 50 exiting = 127 i: 50% er rage Vehicle Trip 817 exiting = 1634	nt. 39% exit. 5 Ends nt. 50% exit. 5 Ends nt. 51% exit. 5 Ends

Project Subject			dowbrook-Rea or Shopping C								
Designed by				ate Feb	ruary 08 3	2021	.Jo	b No.	096956	6015	
Checked by				ate	100, 1	-021			000000		
							_		,		
			TECHNIQUE	S							
ITE Trip Gen	eration	Manual 10	th Edition, Fitt	ed Curve E	quations						
Land Use Co	de - Sh	opping Ce	nter (820)		-						
Independant	Variabl	e - 1000 S	quare Feet Gr	oss Leasab	le Area (X))					
Gross Le	easable	Area =	10,000	Square	Feet						
X = 1	0.000										
T = Ave	rage Ve	ehicle Trip	Ends								
De els Harris			T	Listen Dates		0 (- 400)		
Peak Hour o		ent Stree	Traffic, One		een 7 and ectional Dis			<u>es Pag</u> 62% e		88% e	exit.
T = 0.50 * (X)	+ 151	78					erage Ve			0/0 0	
T = 0.50 *		10	+ 151.78			ering	•	exiting	•		
1 = 0.50		10	+ 101.70		or ente	ang	00	exitinț	3		
<u>Peak Hour o</u>	f Adjac	ent Street	Traffic, One	Hour Betw	een 4 and	6 p.m. (800 Seri	ies Pag	<u>e 140)</u>		
					ectional Dis			48% e		б2% е	exit.
Ln(T) = 0.74	Ln(X) -	+ 2.89		Τ=	= 99	Ave	erage Ve	hicle Tri	p Ends		
Ln(T) = 0.74	*	Ln(10)	+ 2.89		48 ente	ering	51	exiting	g		
Weekday (80	0 Soria	ne Pago 1'	201								
Daily Weekda		es rage is	<u>50)</u>	Dire	ectional Dis	stribution	· 50% e	nterina	50% ex	ritina	
Ln(T) = 0.68		+ 5.57		T =			erage Vel			linig	
Ln(T) = 0.68			+ 5.57			ering	-	exiting			
()		()				0			,		
		r of Gene	rator (Page 14					-00/		004	
Average Satu		. 0.70			ectional Dis			52% e		-8% ε	exit.
Ln(T) = 079			70				erage Ve				
Ln(T) = 0.79		Ln(10)	+ 2.79		52 ente	ering	48	exiting	J		
Non Pass-By	/ Trip \	/olumes (I	Per ITE Trip G	eneration	Handbooł	, 3rd Ed	lition Se	ptembe	r 2017-	Page 19	0)
AM Peak Hou	ur =	66% No	n-Pass By		k Hour =						
	IN	Out	Total								
AM Peak	64	39	103								
PM Peak	32	34	65								
Daily	414	414	828	PM Pea	k Hour Rat	te Applie	d to Dail	У			
Pass-By Trin	Volum	nes (Por l'	E Trip Gener	ration Hand	hook 3rd	Edition	Sontom	hor 201	7 -Page	a 100\	
AM Peak Hou			ss By		k Hour =		Pass B		r -raye	5 130)	
	IN	Out	Total	1 101 1 00		01/0	. 000 D	,			
AM Peak	33	20	54								
	16	17	34								
PM Peak											

	Generation JRP	ation for		Drugstore with	Drive-Th Jary 08,				0969	56015	
Designed by Checked by	JKP		Dai	e redit	iaiy U8,	2021	-		0969		
							Ch		·	0	
TRIP GENERATIO		NUAL T	ECHNIQUE	<u>8</u>							
ITE Trip Generatio	on Manu	<u>ual</u> 10th	Edition, Ave	erage Rate Equa	ations						
Land Use Code -	Pharma	icy/Drug	store with D	rive-Through W	/indow ((881)					
Independant Varia SF= 1400 X = 14.000 T = Average	0			Floor Area (X)							
Peak Hour of Ad	acent	Street T	Traffic, One	Hour Betweer	7 and	9 a.m. ((page S	Series	800 Pa	ge 562))
Average Weekday T = 3.84 (X) (T) = 3.84*	, (14.0))		Directio T = 29	nal Dist 54 enteri	Ave		53% hicle Tærit	ent. Trip End ing	47% s	exit.
				29	+	25	=	54	-		
Peak Hour of Ad	iacent :	Street T	raffic. One	Hour Betweer	n 4 and	6 p.m. ((Series	a 008	age 56	3)	
							•		•	-	ovit
Average Weekday T = 10.29 (X) (T) = 10.29 *	, (14.0))		Directio T = 72	nal Dist 144 enteri	Ave		50% hicle T exit	ent. Trip End ing	50% s	exit.
				72	+	72	=	144			
Weekday (Series	800 pa	age 561	נ								
Average Weekday	,			Directio							
T = 109.16 (X) (T) = 109.16 *	(14.0))		T = 764	1528 enteri		rage Ve 764		Trip End ing	S	
-	,			764	+	764		1528	0		
Saturday Pea	k Hour	of Gen	erator (pag	_				-			
				Directio	nal Dist	ribution		49%	ent.	51%	exit.
T = 8.20 (X) (T) = 8.20 *	(14.0))		T = 56		Ave		hicle 1	rip End	S	-
				56	+	59	=	115			
Non-Pass-by Trij			-		n Hand	book, D	ecemb	er 201	2)		
PM Average Pass	By Per	centage Out	e: 51% Total	Pass By							
	15	13	28	PM Rate Ap	plied to	AM Pea	ık				
	37	37	73								
Daily 3	90	390	780	PM Rate Ap							
•	29	30	59	PM Rate Ap	plied to	Saturda	y				
					ndbook	, Decer	nber 2	<u>)12)</u>			
Saturday 2 Pass-by Trip Vol		centage									
Saturday Pass-by Trip Vol PM Average Pass		centage Out	Total	1 doo by							
Saturday <u>Pass-by Trip Vol</u> PM Average Pass	By Per	-		PM Rate Ap	plied to	AM Pea	ık				
Saturday Pass-by Trip Vol PM Average Pass AM Peak PM Peak	By Per IN 14 35	Out 12 35	Total 26 71	PM Rate Ap			ık				
Saturday Pass-by Trip Vol PM Average Pass AM Peak PM Peak Daily 3	By Per IN 14	Out 12	Total 26		plied to	Daily					

	Crossroads-Meadov							
-	Trip Generation for I	V 1						
Designed by	JRP	Date	Febru	ary 08, 202		b No. <u>096</u> 9		
Checked by		Date			Shee	et No.	of	
ITE <u>Trip Gene</u> Land Use Cod Independant V Gross Flo X = 8.00	ATION MANUAL TE ration Manual 10th E le - High Turnover S ′ariable - 1000 Squa or Area = 00 age Vehicle Trip End	Edition, Average atit-Down Restaur are Feet Gross F 8,000 Square	rant (932) loor Area					
	Adjacent Street Tr	affic, One Hour						
Average Weel	kday			nal Distribut		5% ent.		
T = 9.94 (X)			Τ=	80	Average Vel	•	lds	
T = 9.94 *	8.000		44	entering	36	exiting		
Peak Hour of	Adjacent Street Tr	affic, One Hour	r Betweer	1 4 and 6 p				
Average Weel	kday		Direction	nal Distribut	tion: 6	2% ent.	38% exit.	
T = 9.77 (X)			Τ=	78	Average Veł	nicle Trip En	lds	
T = 9.77 *	8.000		48	entering	-	exiting		
Weekday (90)	0 Series Page 96)							
Average Weel			Direction	nal Distribut	tion: 50% er	ntering, 50%	exiting	
T = 112.18 (X))		Τ=	898	Average Veh	nicle Trip En	lds	
T = 112.18 *	8.000		449	entering	449	exiting		
P.M. Peak Ho	ur of Generator (90	00 Series Page	<u>100)</u>					
Average Weel	kday		Direction	nal Distribut	tion: 5	2% ent.	48% exit.	
T = 17.41 (X)			Τ=	139	Average Veł	nicle Trip En	lds	
T = 17.41 *	8.000		72	entering	67	exiting		
	k Hour of Generate	or (900 Series F						
Average Satur	-			nal Distribut		1% ent.		
T = 11.19 (X)				90	Average Ver	nicle Trip En	lds	
- · · · ·	8.000		46	entering	44	exiting		
T = 11.19 *	0.000		-	0		5		
Non Pass-By	Trip Volumes (Per		ration Har	ndbook, 3r	d Edition Se	eptember 2	017-Page 207)	
	Trip Volumes (Per r = 57% Non-F	Pass By PM		ndbook, 3r	d Edition Se	eptember 2	<u>017-Page 207)</u>	-
<u>Non Pass-By</u> AM Peak Hou	Trip Volumes (Per r = 57% Non-F IN Out	Pass By PM Total	ration Har	ndbook, 3r	d Edition Se	eptember 2	<u>017-Page 207)</u>	<u>.</u>
<u>Non Pass-By</u> AM Peak Hour AM Peak	Trip Volumes (Per r = 57% Non-F IN Out 25 20	Pass By PM Total 45	ration Har	ndbook, 3r	d Edition Se	eptember 2	<u>017-Page 207)</u>	<u>!</u>
<u>Non Pass-By</u> AM Peak Hour AM Peak PM Peak	Trip Volumes (Per r = 57% Non-F IN Out 25 20 28 17	Pass By PM Total 45 45	<mark>ration Har</mark> ∕I Peak Ho	n dbook, 3r our = 57 ⁴	<u>d Edition Se</u> % Non-Pa	eptember 2 ss By	<u>017-Page 207)</u>	<u>.</u>
Non Pass-By	Trip Volumes (Per r = 57% Non-F IN Out 25 20	Pass By PM Total 45 45	<mark>ration Har</mark> ∕I Peak Ho	n dbook, 3r our = 57 ⁴	d Edition Se	eptember 2 ss By	<u>017-Page 207)</u>	<u>l</u>
Non Pass-By AM Peak Hour AM Peak PM Peak Daily Pass-By Trip	Trip Volumes (Per r = 57% Non-F IN Out 25 20 28 17 256 256 Volumes (Per ITE 1) 100 100	Pass By PM Total 45 45 512 PM Trip Generation	<u>ration Har</u> ∄ Peak Ho ∄ Peak Ho n Handbo	ndbook, 3r our = 57 ⁴ our Rate Ap ok, 3rd Ed	<u>d Edition Se</u> % Non-Pa plied to Daily <u>ition Septen</u>	eptember 2 ss By / nber 2017 -		<u>l</u>
<u>Non Pass-By</u> AM Peak Hour AM Peak PM Peak Daily <u>Pass-By Trip</u>	Trip Volumes (Per r = 57% Non-F IN Out 25 20 28 17 256 256 Volumes (Per ITE * r = 43% Pass	Pass By PM Total 45 45 512 PM <u>Trip Generation</u> By PM	<u>ration Har</u> ⁄I Peak Ho ∕I Peak Ho	ndbook, 3r our = 57 ⁴ our Rate Ap ok, 3rd Ed	<u>d Edition Se</u> % Non-Pa plied to Daily <u>ition Septen</u>	eptember 2 ss By / nber 2017 -		<u>l</u>
<u>Non Pass-By</u> AM Peak Hour AM Peak PM Peak Daily <u>Pass-By Trip</u>	Trip Volumes (Per r = 57% Non-F IN Out 25 20 28 17 256 256 Volumes (Per ITE for the second	Pass By PM Total 45 512 PM Trip Generation By PM Total	<u>ration Har</u> ∄ Peak Ho ∄ Peak Ho n Handbo	ndbook, 3r our = 57 ⁴ our Rate Ap ok, 3rd Ed	<u>d Edition Se</u> % Non-Pa plied to Daily <u>ition Septen</u>	eptember 2 ss By / nber 2017 -		<u>.</u>
<u>Non Pass-By</u> AM Peak Hour AM Peak PM Peak Daily <u>Pass-By Trip</u> AM Peak Hour AM Peak	Trip Volumes (Per r = 57% Non-F IN Out 25 20 28 17 256 256 Volumes (Per ITE 7) r = 43% Pass IN Out 19 15	Pass By PM Total 45 512 PM Trip Generation By PM Total 35	<u>ration Har</u> ∄ Peak Ho ∄ Peak Ho n Handbo	ndbook, 3r our = 57 ⁴ our Rate Ap ok, 3rd Ed	<u>d Edition Se</u> % Non-Pa plied to Daily <u>ition Septen</u>	eptember 2 ss By / nber 2017 -		<u>!</u>
Non Pass-By AM Peak Hour AM Peak PM Peak Daily Pass-By Trip	Trip Volumes (Per r = 57% Non-F IN Out 25 20 28 17 256 256 Volumes (Per ITE for the second	Pass By PM Total 45 512 PM Trip Generation By PM Total 35 34	<u>ration Har</u> // Peak Ho // Peak Ho <u>n Handbo</u> // Peak Ho	ndbook, 3r pur = 57 ⁴ pur Rate Ap our Rate Ap our = 43 ⁴	<u>d Edition Se</u> % Non-Pa plied to Daily <u>ition Septen</u>	eptember 2 ss By / nber 2017 -		<u>-</u>

				h Drive-Through		
Designed by Checked by	JRP	Dat		uary 08, 2021		of
TRIP GENERAT	ION MANUA		<u>E3</u>			
ITE <u>Trip Genera</u>	tion Manual 10	0th Edition, Av	erage Rate Equ	uations		
Land Use Code	- Fast Food R	estaurant With	Drive-Through	ר Window (934)		
X = 11.000	Area =	11,000 So		(X)	Fast	
Peak Hour of A	djacent Stree	t Traffic, One	Hour Betwee	n 7 and 9 a.m.	(900 Series page 158)	
Average Weekda	ay		Directio	nal Distribution		exit.
T = 40.19 (X) T = 40.19 *	11.000		T = 225		rage Vehicle Trip Ends 217 exiting	
			225	+ 217 =	0	
Peak Hour of A	djacent Stree	t Traffic, One	Hour Betwee	n 4 and 6 p.m.	(900 Series page 159)	
Average Weekda	ay		Directio	nal Distribution		exit.
T = 32.67 (X)	44.000		T =		rage Vehicle Trip Ends	
T = 32.67 *	11.000		187	entering	172 exiting	
			187	+ 172	= 359	
Weekday (900 S	Series page 1	<u>57)</u>				
Average Weekda	ay				50% entering, 50% exitin	ng
T = 470.95 (X) T = 470.95 *	11.000		T =	5182 Ave entering	rage Vehicle Trip Ends 2591 exiting	
1 = 470.00	11.000			0	0	
			2591		= 5182	
Saturday Peak	Hour of Gene	erator (900 Se		-		
T = 54.86 (X)			Directio T =	nal Distribution 603 Ave	: 51% ent. 49% rage Vehicle Trip Ends	exit.
T = 54.86 (x) T = 54.86 *	11.000		308	entering	295 exiting	
			308	(*) -295 =	603	
					Edition September 2017)	<u>.</u>
AM Peak Hour =		on-Pass By	PM Peak Ho	our = 50%	Non-Pass By	
AM Peak	IN Out 115 111	Total 225				
PM Peak	94 86	180				
Daily	1296 1296	2592	PM Peak Ho	our Rate Applied	d to Daily	
					on September 2017)	
AM Peak Hour =	49% Pa IN Out	ass By Total	PM Peak Ho	50%	Pass By	
AM Peak	110 106	1 otal 217				
PM Peak	94 86	180				
i wiri ouri						

Designed by	JRP		h Drive Through oruary 08, 2021	Job No. 0969	56015
Checked by		Date		Sheet No.	of
TRIP GENERATIO	ON MANUAL TECHN	<u>IIQUES</u>			
ITE Trip Generatio	<u>n Manual</u> 10th Editio	n, Average Rate	Equations		
Land Use Code - C	Coffee/Donut Shop wi	ith Drive Through	ו (937)		
Gross Floor A X = 2.5	ole - 1000 Square Fe rea = /ehicle Trip Ends		eet (X)		
Peak Hour of Adja	acent Street Traffic,	One Hour Betw	veen 7 and 9 a.m	. (Series 900 Page	<u>232)</u>
T = 88.99 (X) T = 88.99 *	2.5	Direct T = 113		rage Vehicle Trip Er	
Peak Hour of Adja	acent Street Traffic,	One Hour Betw	veen 4 and 6 p.m	n. (Series 900 Page	<u>233)</u>
T = 43.38 (X) T = 43.38 *	2.5	Direc T = 55		: 50% ent. rage Vehicle Trip Er 55 exiting	
Weekday (Series	900 Page 231)				
Average Weekday (T) = 820.38 (X) (T) = 820.38 *			2050 Ave 5 entering	: 50% entering, 509 rage Vehicle Trip Er 1025 exiting = 2050	

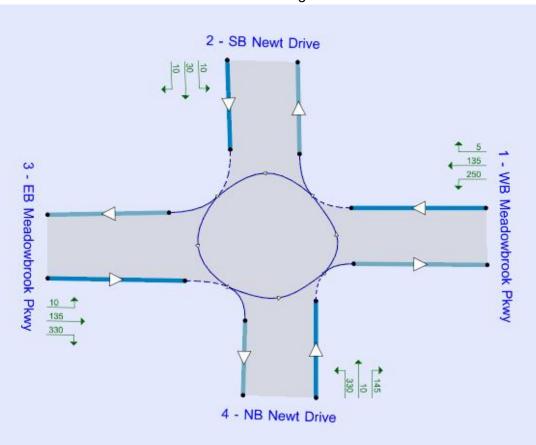
Intersection Operational Outputs

Overall 2026 & 2040 Operations Summary
--

							AM								F	PM		
	Set ID	Queue (PCE)	95% Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Network Residual Capacity	Set ID	Queue (PCE)	95% Queue (PCE)	Delay (s)	V/C Ratio	LOS	Intersection Delay (s)	Intersection LOS	Network Residual Capacity
Single Lane Roundabout - 2026																		
1 - WB Meadowbrook Pkwy		0.8	2.8	6.74	0.44	Α			56 %		0.8	2.7	6.52	0.45	Α			74 %
2 - SB Newt Drive	D1	0.1	0.5	5.36	0.07	Α	6.86	A	[3 - EB	D2	0.1	0.5	5.07	0.08	Α	5.89	Α	[1 - WB
3 - EB Meadowbrook Pkwy		1.1	2.1	7.49	0.51	Α	0.00	A .	Meadowbrook	02	0.6	2.7	5.94	0.36	Α	5.09	~	Meadowbrook
4 - NB Newt Drive		1.0	2.1	6.50	0.48	Α			Pkwy]		0.6	2.7	5.30	0.39	Α			Pkwy]
									Single Lane Rou	ındab	oout - 20	40						
1 - WB Meadowbrook Pkwy		1.8	3.4	10.62	0.63	В			29 %		1.8	3.6	10.67	0.64	В			28 %
2 - SB Newt Drive	D3	0.2	0.5	6.78	0.14	Α	9.31	A	[1 - WB	D4	0.2	0.5	6.63	0.16	Α	9.66	Α	[3 - EB
3 - EB Meadowbrook Pkwy	05	1.6	2.3	9.71	0.62	Α	3.51	A	Meadowbrook	04	1.8	3.7	10.89	0.64	В	5.00	A	D - ED Meadowbrook
4 - NB Newt Drive		1.3	1.8	7.90	0.55	Α			Pkwy]		1.2	2.0	7.73	0.53	Α			Pkwy]

2026 Total AM Peak Hour

Intersection Diagram



Volumes

From \ To	1 - WB Meadowbrook Pkwy	2 - SB Newt Drive	3 - EB Meadowbrook Pkwy	4 - NB Newt Drive	Total
1 - WB Meadowbrook Pkwy	0	5	135	250	390
2 - SB Newt Drive	10	0	10	30	50
3 - EB Meadowbrook Pkwy	135	10	0	330	475
4 - NB Newt Drive	145	10	330	0	485
Total	290	25	475	610	-

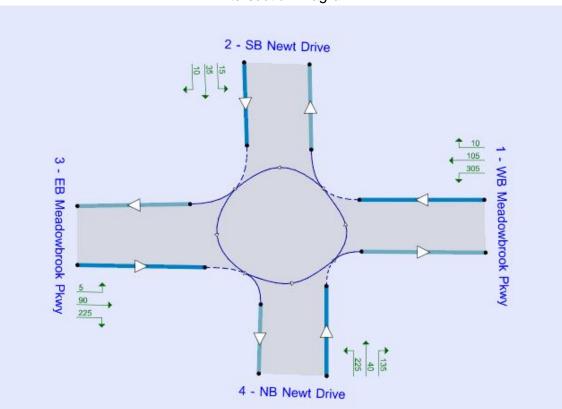
		Truck Perc	centages		
From \ To	1 - WB Meadowbrook Pkwy	2 - SB Newt Drive	3 - EB Meadowbrook Pkwy	4 - NB Newt Drive	Average
1 - WB Meadowbrook Pkwy	0	3	3	3	2
2 - SB Newt Drive	3	0	3	3	2
3 - EB Meadowbrook Pkwy	3	3	0	3	2
4 - NB Newt Drive	3	3	3	0	2
Average	2	2	2	2	-

2026 Total AM Peak Hour

Geometry and Analysis Results

Leg	1 - WB Meadowbrook	2 - SB Newt Drive	3 - EB Meadowbrook	4 - NB Newt Drive
V - Approach road half-width (ft)	14.00	14.00	14.00	14.00
E - Entry width (ft)	14.00	14.00	14.00	14.00
l' - Effective flare length (ft)	0.0	0.0	0.0	0.0
R - Entry radius (ft)	65.0	65.0	65.0	65.0
D - Inscribed circle diameter (ft)	130.0	130.0	130.0	130.0
PHI - Conflict (entry) angle (deg)	20.0	20.0	20.0	20.0
Exit only				
Leg has bypass				
Percentage intercept adjustment (%)	90.00	90.00	90.00	90.00
Average Demand (PCE/hr)	390	50	475	485
Max Delay (s)	6.74	5.36	7.49	6.50
Max LOS	A	A	A	A
Max 95th percentile Queue (PCE)	2.8	0.5	2.1	2.1
Max V/C Ratio	0.44	0.07	0.51	0.48

2026 Total PM Peak Hour



Intersection Diagram

		voiui	Volumes						
From \ To	1 - WB Meadowbrook Pkwy	2 - SB Newt Drive	3 - EB Meadowbrook Pkwy	4 - NB Newt Drive	Total				
1 - WB Meadowbrook Pkwy	0	10	105	305	420				
2 - SB Newt Drive	15	0	10	35	60				
3 - EB Meadowbrook Pkwy	90	5	0	225	320				
4 - NB Newt Drive	135	40	225	0	400				
Total	240	55	340	565	-				



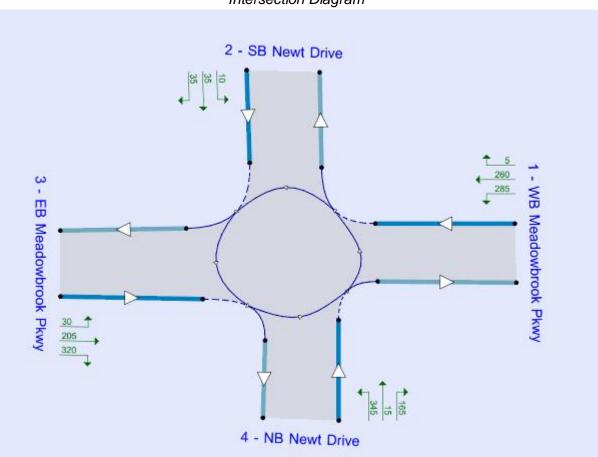
Truck Percentages						
From \ To	1 - WB Meadowbrook Pkwy	2 - SB Newt Drive	3 - EB Meadowbrook Pkwy	4 - NB Newt Drive	Average	
1 - WB Meadowbrook Pkwy	0	3	3	3	2	
2 - SB Newt Drive	3	0	3	3	2	
3 - EB Meadowbrook Pkwy	3	3	0	3	2	
4 - NB Newt Drive	0	3	3		2	
Average	2	2	2	2	-	

2026 Total PM Peak Hour

Geometry and Analysis Results

Leg	1 - WB Meadowbrook	2 - SB Newt Drive	3 - EB Meadowbrook	4 - NB Newt Drive
V - Approach road half-width (ft)	14.00	14.00	14.00	14.00
E - Entry width (ft)	14.00	14.00	14.00	14.00
l' - Effective flare length (ft)	0.0	0.0	0.0	0.0
R - Entry radius (ft)	65.0	65.0	65.0	65.0
D - Inscribed circle diameter (ft)	130.0	130.0	130.0	130.0
PHI - Conflict (entry) angle (deg)	20.0	20.0	20.0	20.0
Exit only				
Leg has bypass				
Percentage intercept adjustment (%)	90.00	90.00	90.00	90.00
Average Demand (PCE/hr)	420	60	320	400
Max Delay (s)	6.52	5.07	5.94	5.30
Max LOS	A	A	A	A
Max 95th percentile Queue (PCE)	2.7	0.5	2.7	2.7
Max V/C Ratio	0.45	0.08	0.36	0.39

2040 Total AM Peak Hour



Intersection Diagram

Volumes

From \ To	1 - WB Meadowbrook Pkwy	2 - SB Newt Drive	3 - EB Meadowbrook Pkwy	4 - NB Newt Drive	Total
1 - WB Meadowbrook Pkwy	0	5	260	285	550
2 - SB Newt Drive	10	0	35	35	80
3 - EB Meadowbrook Pkwy	205	30	0	320	555
4 - NB Newt Drive	165	15	345	0	525
Total	380	50	640	640	

Meadowbrook Parkway & Newt Drive El Paso County, Colorado Roundabout Operational Analysis

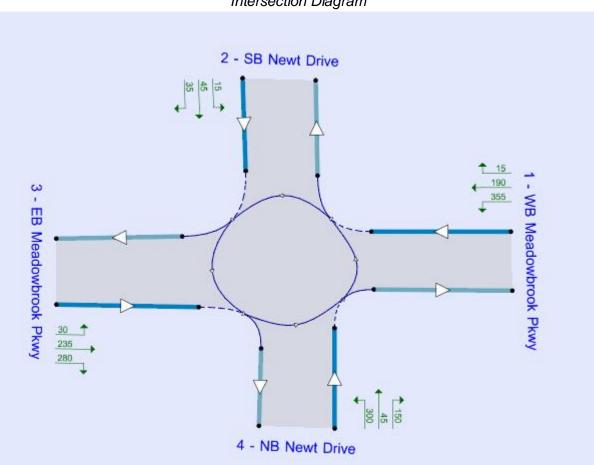
Truck Percentages						
From \ To	1 - WB Meadowbrook Pkwy	2 - SB Newt Drive	3 - EB Meadowbrook Pkwy	4 - NB Newt Drive	Average	
1 - WB Meadowbrook Pkwy	0	3	3	3	2	
2 - SB Newt Drive	3	0	3	3	2	
3 - EB Meadowbrook Pkwy	3	3	0	3	2	
4 - NB Newt Drive	3	3	3		2	
Average	2	2	2	2	-	

2040 Total AM Peak Hour

Geometry and Analysis Results

Leg The screen is locked to the cu	rrent TYPE of item. Cli	ck the padlock again t	to lock to the current l	PARTICULAR item or s
V - Approach road half-width (ft)	14.00	14.00	14.00	14.00
E - Entry width (ft)	14.00	14.00	14.00	14.00
l' - Effective flare length (ft)	0.0	0.0	0.0	0.0
R - Entry radius (ft)	65.0	65.0	65.0	65.0
D - Inscribed circle diameter (ft)	130.0	130.0	130.0	130.0
PHI - Conflict (entry) angle (deg)	20.0	20.0	20.0	20.0
Exit only				
Leg has bypass				
Percentage intercept adjustment (%)	90.00	90.00	90.00	90.00
Average Demand (PCE/hr)	550	80	555	525
Max Delay (s)	10.62	6.78	9.71	7.90
Max LOS	В	A	A	A
Max 95th percentile Queue (PCE)	3.4	0.5	2.3	1.8
Max V/C Ratio	0.63	0.14	0.62	0.55

2040 Total PM Peak Hour



Intersection Diagram

Vol	umes
voi	นเมษง

From \ To	1 - WB Meadowbrook Pkwy	2 - SB Newt Drive	3 - EB Meadowbrook Pkwy	4 - NB Newt Drive	Total
1 - WB Meadowbrook Pkwy	0	15	190	355	560
2 - SB Newt Drive	15	0	35	45	95
3 - EB Meadowbrook Pkwy	235	30	0	280	545
4 - NB Newt Drive	150	45	300	0	495
Total	400	90	525	680	

Meadowbrook Parkway & Newt Drive El Paso County, Colorado Roundabout Operational Analysis

2040	Total	РМ	Peak	Hour
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i leien i ereenne.gee						
From \ To	1 - WB Meadowbrook Pkwy	2 - SB Newt Drive	3 - EB Meadowbrook Pkwy	4 - NB Newt Drive	Average	
1 - WB Meadowbrook Pkwy	0	3	3	3	2	
2 - SB Newt Drive	3	0	3	3	2	
3 - EB Meadowbrook Pkwy	3	3	0	2	2	
4 - NB Newt Drive	3	3	3	0	2	
Average	2	2	2	2	-	

Truck Percentages

Geometry and Analysis Results

Leg	1 - WB Meadowbrook	2 - SB Newt Drive	3 - EB Meadowbrook	4 - NB Newt Drive
V - Approach road half-width (ft)	14.00	14.00	14.00	14.00
E - Entry width (ft)	14.00	14.00	14.00	14.00
l' - Effective flare length (ft)	0.0	0.0	0.0	0.0
R - Entry radius (ft)	65.0	65.0	65.0	65.0
D - Inscribed circle diameter (ft)	130.0	130.0	130.0	130.0
PHI - Conflict (entry) angle (deg)	20.0	20.0	20.0	20.0
Exit only				
Leg has bypass				
Percentage intercept adjustment (%)	90.00	90.00	90.00	90.00
Average Demand (PCE/hr)	560	95	545	495
Max Delay (s)	10.67	6.63	10.89	7.73
Max LOS	В	A	В	A
Max 95th percentile Queue (PCE)	3.6	0.5	3.7	2.0
Max V/C Ratio	0.64	0.16	0.64	0.53

Int Delay, s/veh	8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4		<u>۲</u>	↑	۰¥	
Traffic Vol, veh/h	0	0	20	0	0	55
Future Vol, veh/h	0	0	20	0	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	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	0	0	22	0	0	60

Major/Minor	Major1	Ν	/lajor2	ľ	/linor1	
Conflicting Flow All	0	0	1	0	45	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	44	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1622	-	965	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	978	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver		-	1622	-	951	1084
Mov Cap-2 Maneuver	-	-	-	-	878	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	964	-
Approach	EB		WB		NB	
HCM Control Delay, s			7.2		8.5	
HCM LOS	U		1.2		0.5 A	
					A	
Minor Lane/Major Mvr	nt N	BLn1	EBT	EBR	WBL	WBT

Minor Lano/Major Minin	NUCLIN		LDI	TIDE		
Capacity (veh/h)	1084	-	-	1622	-	
HCM Lane V/C Ratio	0.055	-	-	0.013	-	
HCM Control Delay (s)	8.5	-	-	7.2	-	
HCM Lane LOS	А	-	-	А	-	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

Int Delay, s/veh	7.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	et -		٦	1	Y	
Traffic Vol, veh/h	0	0	55	0	0	35
Future Vol, veh/h	0	0	55	0	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	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	0	0	60	0	0	38

		4		-		
Major/Minor	Major	1	Major2	ľ	Minor1	
Conflicting Flow All		0 0	1	0	121	1
Stage 1			-	-	1	-
Stage 2			-	-	120	-
Critical Hdwy			4.12	-	6.42	6.22
Critical Hdwy Stg 1			-	-	5.42	-
Critical Hdwy Stg 2			-	-	5.42	-
Follow-up Hdwy			2.218	-	3.518	3.318
Pot Cap-1 Maneuver			1622	-	874	1084
Stage 1			-	-	1022	-
Stage 2			-	-	905	-
Platoon blocked, %				-		
Mov Cap-1 Maneuve	r		1622	-	842	1084
Mov Cap-2 Maneuve			-	-	792	-
Stage 1			-	-	1022	-
Stage 2			-	-	872	-
5						
		_				
Approach	E	3	WB		NB	
HCM Control Delay,	S	0	7.3		8.4	
HCM LOS					А	
Minor Lane/Major Mv	/mt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		1084		LDI	1622	1107
		1004	-	-	1022	-

	1001		1022			
HCM Lane V/C Ratio	0.035	-	- 0.037	-		
HCM Control Delay (s)	8.4	-	- 7.3	-		
HCM Lane LOS	А	-	- A	-		
HCM 95th %tile Q(veh)	0.1	-	- 0.1	-		

Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	et 👘		٦	1	Y	
Traffic Vol, veh/h	195	5	15	260	15	45
Future Vol, veh/h	195	5	15	260	15	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	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	212	5	16	283	16	49

Major/Minor	Major1		Major2		Vinor1	
Conflicting Flow All	0	0	217	0	530	215
Stage 1	-	-	-	-	215	-
Stage 2	-	. <u>-</u>	-	-	315	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	· _	-		5.42	-
Critical Hdwy Stg 2	-		-	-	5.42	-
Follow-up Hdwy	-		2.218		3.518	3 3 1 8
Pot Cap-1 Maneuver				-	510	825
Stage 1	-		1000	-	821	- 025
Stage 2					740	-
Platoon blocked, %	_	-	-		740	-
			1050		E04	0.05
Mov Cap-1 Maneuve			1353	-	001	825
Mov Cap-2 Maneuve	r -	-	-	-	581	-
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	731	-
Approach	EB		WB		NB	
HCM Control Delay,	s 0		0.4		10.3	
HCM LOS					В	
Minor Lane/Major Mv	rmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		747		-	1353	
HCM Lane V/C Ratio		0.087			0.012	
		0.007	-	-	0.012	-

HCM Lane V/C Ratio	0.087	-	- 0.012			
HCM Control Delay (s)	10.3	-	- 7.7	- 1		
HCM Lane LOS	В	-	- A	- \		
HCM 95th %tile Q(veh)	0.3	-	- 0) -		

HCM Lane LOS

HCM 95th %tile Q(veh)

В

0.2

-

-

Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4		٦	1	Y	
Traffic Vol, veh/h	260	15	45	195	10	30
Future Vol, veh/h	260	15	45	195	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	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	283	16	49	212	11	33

N / a ! a # / N / ! a #	Malar1		Malano		1:000	
Major/Minor	Major1		Major2		Vinor1	
Conflicting Flow All	0	0	299	0	601	291
Stage 1	-	-	-	-	291	-
Stage 2	-	-	-	-	310	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1262	-	463	748
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	744	-
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	r-	-	1262	-	445	748
Mov Cap-2 Maneuver		-		-	539	-
Stage 1	_	_	_	-		-
Stage 2	-				715	-
Stage 2					715	
Approach	EB		WB		NB	
HCM Control Delay, s	s 0		1.5		10.6	
HCM LOS					В	
Minor Lane/Major Mv	rmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)		682	-	-	1262	-
HCM Lane V/C Ratio)	0.064	-	-	0.039	-
HCM Control Delay (s	s)	10.6	-	-	8	-
		-				

А

0.1

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Int Delay, s/veh	7.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4		<u>۲</u>	↑	<u>۲</u>	1
Traffic Vol, veh/h	55	0	460	20	0	160
Future Vol, veh/h	55	0	460	20	0	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	215	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	60	0	500	22	0	174

Major/Minor	Major1	Major2	Mino	or1
Conflicting Flow All	0	0 60	0 10	82 60
Stage 1	-		-	60 ·
Stage 2	-		- 10	22 ·
Critical Hdwy	-	- 4.12	- 6.	42 6.22
Critical Hdwy Stg 1	-			42 ·
Critical Hdwy Stg 2	-		- 5.	42 ·
Follow-up Hdwy	-	- 2.218		18 3.318
Pot Cap-1 Maneuve	r -	- 1544		41 1005
Stage 1	-			63 ·
Stage 2	-		- 3	47 ·
Platoon blocked, %	-	-	-	
Mov Cap-1 Maneuve		- 1544	- 1	63 1005
Mov Cap-2 Maneuve	er -			09 -
Stage 1	-			63 ·
Stage 2	-		- 2	35 -
Approach	EB	WB		√B
HCM Control Delay,		8.1		0.3
HCM LOS	5 0	0.1		A.5
				/、

Minor Lane/Major Mvmt	NBLn1 NBLn2	EBT	EBR WBL	WBT	
Capacity (veh/h)	- 1005	-	- 1544	-	
HCM Lane V/C Ratio	- 0.173	-	- 0.324	-	
HCM Control Delay (s)	0 9.3	-	- 8.4	-	
HCM Lane LOS	A A	-	- A	-	
HCM 95th %tile Q(veh)	- 0.6	-	- 1.4	-	

Int Delay, s/veh	6.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4		<u>۲</u>	1	<u>آ</u>	1
Traffic Vol, veh/h	35	0	305	55	0	110
Future Vol, veh/h	35	0	305	55	0	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	215	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	38	0	332	60	0	120

Major/Minor	Major1	Major2	Mino	r1
Conflicting Flow All	0	0 38	0 7	62 38
Stage 1	-		-	38 -
Stage 2	-		- 7	24 -
Critical Hdwy	-	- 4.12	- 6.	42 6.22
Critical Hdwy Stg 1	-		- 5.	42 -
Critical Hdwy Stg 2	-		- 5.	42 -
Follow-up Hdwy	-	- 2.218	- 3.5	18 3.318
Pot Cap-1 Maneuver	r -	- 1572	- 3	73 1034
Stage 1	-		- 9	84 -
Stage 2	-		- 4	- 08
Platoon blocked, %	-	-	-	
Mov Cap-1 Maneuve	er -	- 1572	- 2	94 1034
Mov Cap-2 Maneuve	er -		- 3	37 -
Stage 1	-		- 9	84 -
Stage 2	-		- 3	79 -
Approach	EB	WB	1	IB
HCM Control Delay,		6.7		.9
HCM LOS	3 0	0.7	, c	A
				А

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	1034	-	-	1572	-
HCM Lane V/C Ratio	-	0.116	-	-	0.211	-
HCM Control Delay (s)	0	8.9	-	-	7.9	-
HCM Lane LOS	А	А	-	-	A	-
HCM 95th %tile Q(veh)	-	0.4	-	-	0.8	-

Int Delay, s/veh	7.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4		<u>۲</u>	1	<u>آ</u>	1
Traffic Vol, veh/h	195	45	430	205	70	150
Future Vol, veh/h	195	45	430	205	70	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	215	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	212	49	467	223	76	163

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0 261	0 1394	237
Stage 1	-		- 237	-
Stage 2	-		- 1157	-
Critical Hdwy	-	- 4.12	- 6.42	6.22
Critical Hdwy Stg 1	-		- 5.42	-
Critical Hdwy Stg 2	-		- 5.42	-
Follow-up Hdwy	-	- 2.218	- 3.518	3.318
Pot Cap-1 Maneuver	-	- 1303	- 156	802
Stage 1	-		- 802	-
Stage 2	-		- 299	-
Platoon blocked, %	-	-	-	
Mov Cap-1 Maneuver		- 1303	- 100	802
Mov Cap-2 Maneuver	-		- 166	-
Stage 1	-		- 802	-
Stage 2	-		- 192	-
Approach	EB	WB	NB	
HCM Control Delay, s	; 0	6.3	21.2	
HCM LOS			С	

Minor Lane/Major Mvmt	NBLn11	VBLn2	EBT	EBR	WBL	WBT	
Capacity (veh/h)	166	802	-	-	1303	-	
HCM Lane V/C Ratio	0.458	0.203	-	-	0.359	-	
HCM Control Delay (s)	43.8	10.6	-	-	9.3	-	
HCM Lane LOS	E	В	-	-	А	-	
HCM 95th %tile Q(veh)	2.1	0.8	-	-	1.7	-	

Int Delay, s/veh	5.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	et -		٦	1	٦	1
Traffic Vol, veh/h	250	35	335	185	55	115
Future Vol, veh/h	250	35	335	185	55	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	215	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	272	38	364	201	60	125

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0 310	0 1220	291
Stage 1	-		- 291	-
Stage 2	-		- 929	-
Critical Hdwy	-	- 4.12	- 6.42	6.22
Critical Hdwy Stg 1	-		- 5.42	-
Critical Hdwy Stg 2	-		- 5.42	-
Follow-up Hdwy	-	- 2.218	- 3.518	3.318
Pot Cap-1 Maneuver	-	- 1250	- 199	748
Stage 1	-		- 759	-
Stage 2	-		- 385	-
Platoon blocked, %	-	-	-	
Mov Cap-1 Maneuve	r -	- 1250	- 141	748
Mov Cap-2 Maneuve	r -		- 228	-
Stage 1	-		- 759	-
Stage 2	-		- 273	-
Approach	EB	WB	NB	
HCM Control Delay,		5.8	15.8	
	0	0.0	10.0	

С HCM LOS

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	228	748	-	-	1250	-
HCM Lane V/C Ratio	0.262	0.167	-	-	0.291	-
HCM Control Delay (s)	26.3	10.8	-	-	9.1	-
HCM Lane LOS	D	В	-	-	А	-
HCM 95th %tile Q(veh)	1	0.6	-	-	1.2	-

Intersection

Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	el 👘			1		1
Traffic Vol, veh/h	210	0	0	475	0	260
Future Vol, veh/h	210	0	0	475	0	260
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage	,# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	228	0	0	516	0	283

Major/Minor	Major1	Ν	lajor2	ſ	Minor1	
Conflicting Flow All	0		-	-	-	228
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-		3.318
Pot Cap-1 Maneuver	-	-	0	-	0	811
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		~ · · ·
Mov Cap-1 Maneuver			-	-	-	811
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		11.8	
HCM LOS					В	
Minor Lane/Major Mvr	nt	NBLn1	EBT	EBR	WBT	
Capacity (veh/h)	<u>III</u>	811	LDI	LDI	VVDI	
HCM Lane V/C Ratio		0.348	-	-	-	
HCM Control Delay (s	.)	11.8	-	-	-	
HCM Lane LOS)	B	-	-	_	
HCM 95th %tile Q(vel	h)	1.6	-	-	-	
	9	1.0	-	-	-	

HCM Lane LOS

HCM 95th %tile Q(veh)

В

0.8

-

-

-

-

-

-

Int Delay, s/veh	2.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	ef 👘			1		1
Traffic Vol, veh/h	140	0	0	360	0	180
Future Vol, veh/h	140	0	0	360	0	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage	,# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	152	0	0	391	0	196

Major/Minor	Major1	Ν	lajor2	Ν	Minor1	
Conflicting Flow All	0	0	-	-	-	152
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	894
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver		-	-	-	-	894
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		10.2	
HCM LOS					В	
Minor Lane/Major Mvr	nt N	VBLn1	EBT	EBR	WBT	
			EDI	EDK	VVDI	
Capacity (veh/h)		894	-	-	-	
HCM Lane V/C Ratio		0.219 10.2	-	-	-	
HCM Control Delay (s)	10.2	-	-	-	

HCM 95th %tile Q(veh)

Int Delay, s/veh	2.7						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	Į
Lane Configurations	4			↑		1	1
Traffic Vol, veh/h	310	30	0	635	0	245	,
Future Vol, veh/h	310	30	0	635	0	245)
Conflicting Peds, #/hr	0	0	0	0	0	0)
Sign Control	Free	Free	Free	Free	Stop	Stop	;
RT Channelized	-	None	-	None	-	None	÷
Storage Length	-	-	-	-	-	0)
Veh in Median Storage,	,# 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	ļ
Heavy Vehicles, %	2	2	2	2	2	2)
Mvmt Flow	337	33	0	690	0	266	,

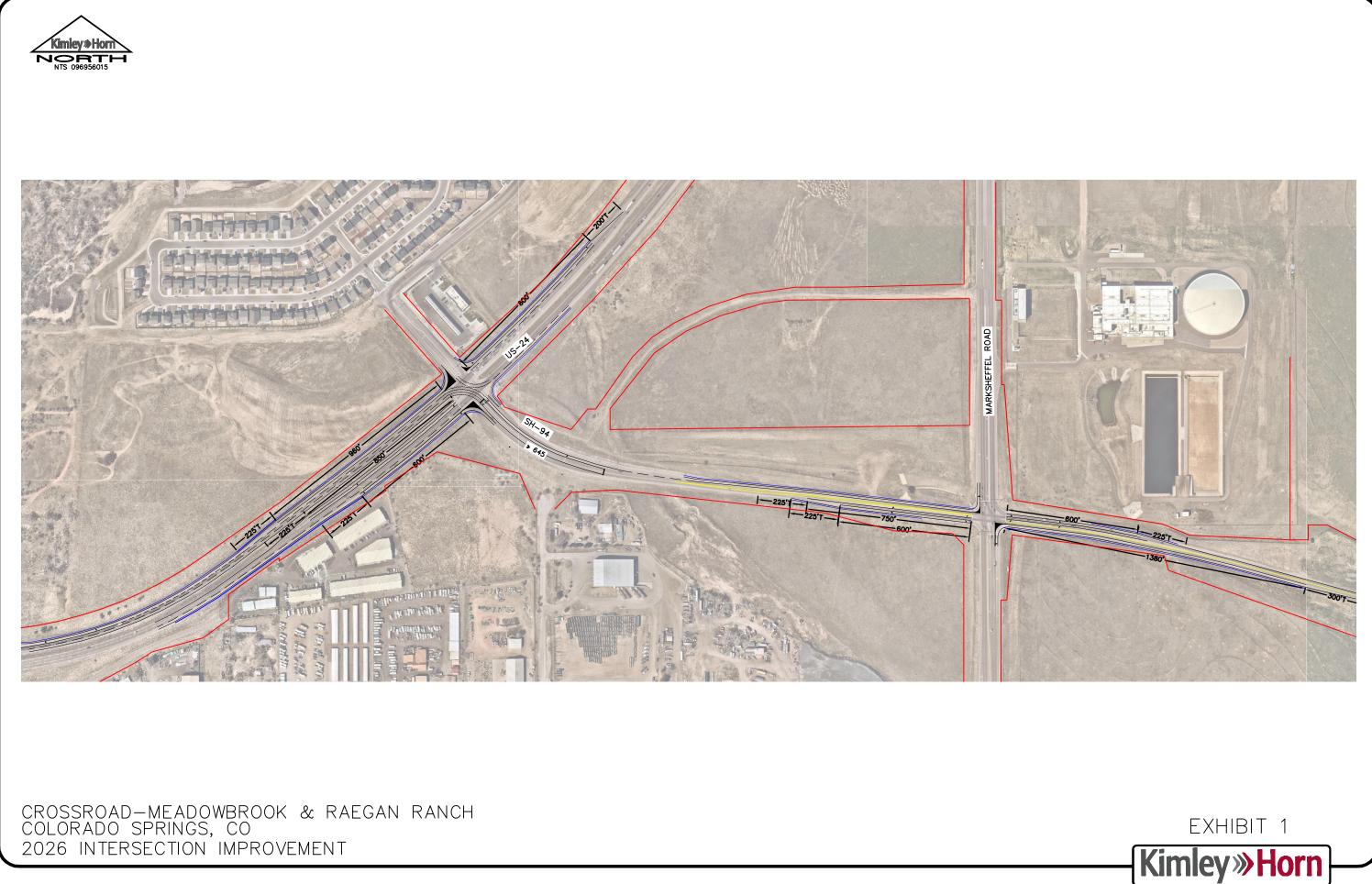
Major/Minor N	/lajor1	Ν	lajor2	N	/linor1	
Conflicting Flow All	0	0	-	-	-	354
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-		3.318
Pot Cap-1 Maneuver	-	-	0	-	0	690
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	690
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		13.5	
HCM LOS					В	
Minor Long/Major Mumi	+ N	IDI n1	ГДТ		WDT	
Minor Lane/Major Mvm		IBLn1	EBT	EBR	WBT	
Capacity (veh/h)		690	-	-	-	
HCM Lane V/C Ratio		0.386	-	-	-	
HCM Control Delay (s)		13.5	-	-	-	
HCM Lane LOS		В	-	-	-	

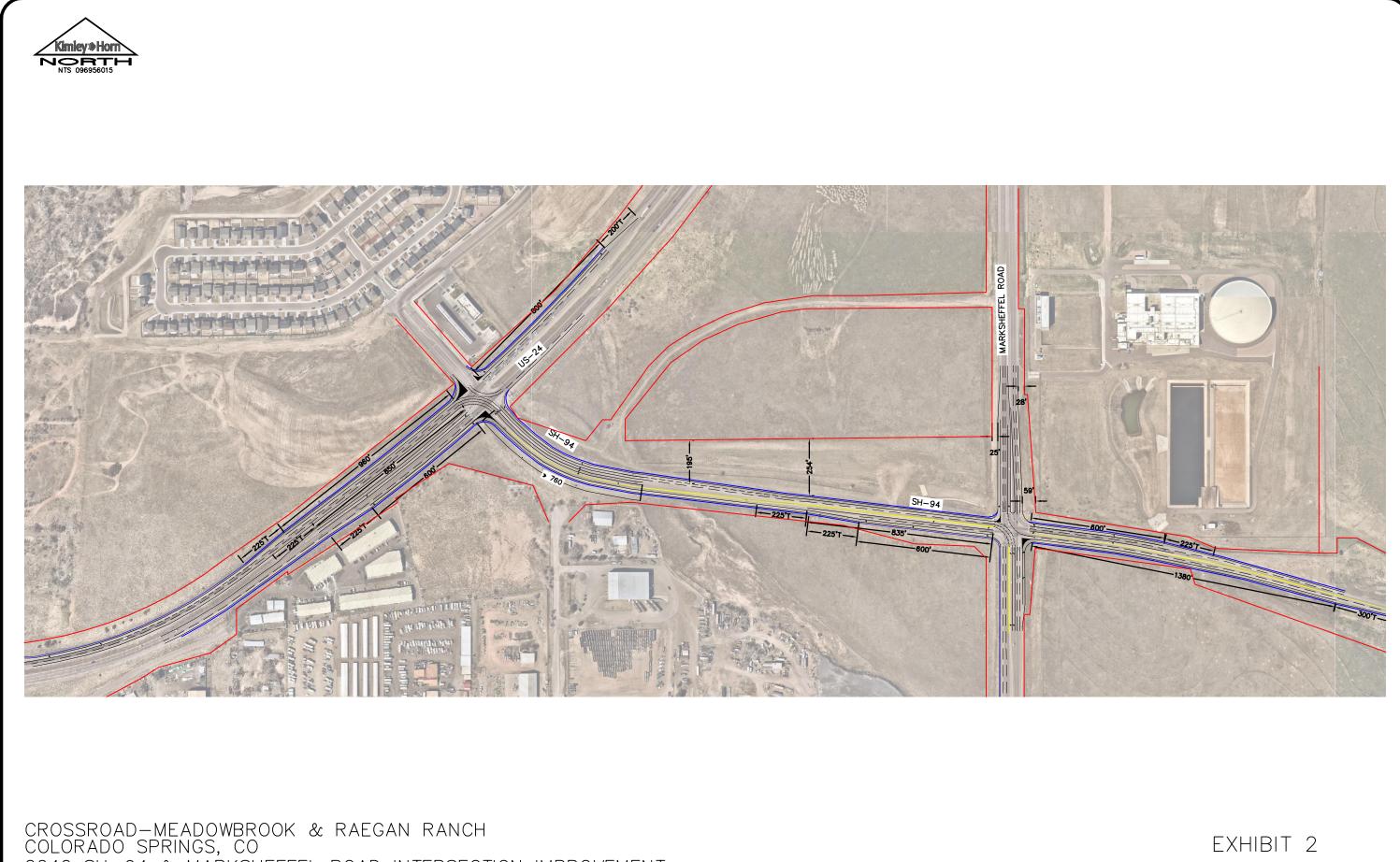
1.8

Int Delay, s/veh	2.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	et -			1		1
Traffic Vol, veh/h	345	25	0	520	0	195
Future Vol, veh/h	345	25	0	520	0	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage	,# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	375	27	0	565	0	212

Major/Minor N	/lajor1	Ν	/lajor2	I	/linor1	
Conflicting Flow All	0		-	-	-	389
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.318
Pot Cap-1 Maneuver	-	-	0	-	0	659
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	659
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		13	
HCM LOS					В	
Minor Lane/Major Mvm	ł	NBLn1	EBT	EBR	WBT	
	ι		EDI	EDK	VVDI	
Capacity (veh/h) HCM Lane V/C Ratio		659	-	-	-	
		0.322 13	-	-	-	
HCM Control Delay (s) HCM Lane LOS		B	-	-	-	
HCM 25th %tile Q(veh)		в 1.4	-	-	-	
		1.4	-	-	-	

SH-94 and US-24 Improvement Exhibits





2040 SH-94 & MARKSHEFFEL ROAD INTERSECTION IMPROVEMENT



Proposed Site Plan

		LOT TA	ABLE					
	LOT NO.	SF/AC)±	USE				
	1	42,957SF± / (D.986AC±	COMMERCIAL				
	2	38,580SF± / (D.886AC±	COMMERCIAL				
	3	33,348SF± / (D.766AC±	COMMERCIAL				
	4	31,582SF± / 0).725AC±	COMMERCIAL				
	5	34,445SF± / (0.791AC±	COMMERCIAL				
	6	36,566SF± / (D.839AC±	COMMERCIAL				
	7	38,339SF± / (D.880AC±	COMMERCIAL				
	8	99,693SF± / 2	2.289AC±	COMMERCIAL				
	9	65,950SF± /	1.514AC±	COMMERCIAL				
	10	63,729SF± / 1	1.464AC±	COMMERCIAL				
	11	553,338SF± / ^	12.703AC±	MULTI-FAMILY				
		TRACT	FABLE					
TRACT	SIZE SF/ACRES±	OWNERSHIP & MAINTENANCE		USE				
А	135,900SF / 3.120 AC±	CRMD #1	**PARK/OPEN SPACE/DRAINAGE/PUBLIC IMPROVEMENT/PUBLIC UTILITY/LANDSCAPING/SIDEWALKS& PEDESTRIAN EASEMENT					
В	5,968SF / 0.137 AC±	CSE LLC	OPEN SPACE/DRAINAGE/PUBLIC IMPROVEMENT/PUBLIC UTILITY/LANDSCAPING/SIDEWALKS/SIGNAGE & PEDESTRIAN EASEMENT					
С	44,375SF / 1.019 AC±	CRMD #1	PRIVATE ROAD/VEHICULAR ACCESS/DRAINAGE/PUBLIC IMPROVEMENT/PUBLIC UTILITY/LANDSCAPING/SIDEWALKS & PEDESTRIAN EASEMENT					
D	40,467SF / 0.929 AC±	CRMD #1	PRIVATE ROAD/VEHICULAR ACCESS/DRAINAGE/PUBLIC IMPROVEMENT/PUBLIC UTILITY/LANDSCAPING/SIDEWALKS & PEDESTRIAN EASEMENT					
TOTAL 226,710SF / 5.205 AC±								
CRMD #1 = Cr	ossroads Metropolitan District Nos	.1&2	1					
CSE LLC = Col	orado Springs Equities LLC							

NOT PART OF THIS SUBDIVISION

(PAUE) PRIVATE ACCESS & UTILITY EASEMENT UTILITY EASEMENT (UE) (SB) SETBACK LINE PROPERTY BOUNDARY LINE _____ _ _ _ APPROXIMATE PROPOSED LOT/TRACT LINE _____ APPROXIMATE PROPOSED SETBACK LINE _____ APPROXIMATE PROPOSED ACCESS & UTILITY EASEMENT LINE APPROXIMATE PROPOSED CURB. GUTTER AND SIDEWALK

 APPROXIMATE PROPOSED CURB & GUTTER
 EXISTING EDGE OF ASPHALT
 EXISTING TOPOGRAPHY (MINOR)

— EXISTING TOPOGRAPHY (MAJOR) APPROXIMATE PROPOSED CURB 25' RADIUS (TYPICAL)

JOVENCHI II ZONE: CR CAD-O VACANT

OF

