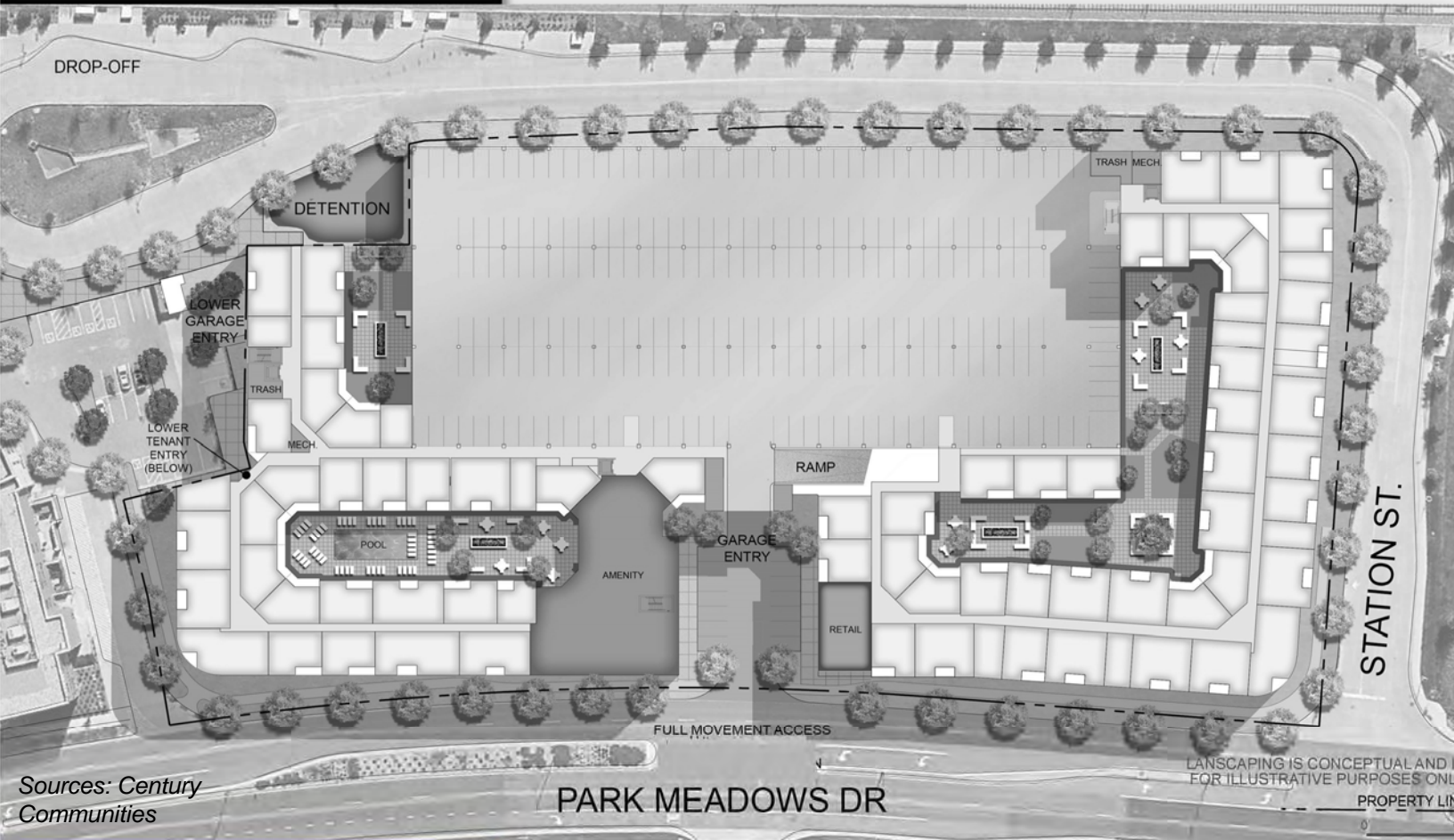


Lincoln Station Multi-Family Traffic Impact Study



Date: March 3, 2021

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- Existing Traffic Data
- Intersection Capacity Worksheets



LINCOLN STATION MULTI-FAMILY DEVELOPMENT TRAFFIC IMPACT STUDY

1.0 Introduction

The Fox Tuttle Transportation Group has prepared this traffic impact study for the proposed development of the Lincoln Station Multi-Family project located on the northeast corner of the intersection of Park Meadows Drive and Station Way (Bus Loop) in Lone Tree, Colorado. It is understood that the project is proposing to build a five-story apartment building that has some ground floor retail. **Figure 1** provides a vicinity map of the Lincoln Station Multi-Family property and study area.

The purpose of this study is to assist in identifying potential traffic impacts within the study area as a result of the Lincoln Station Multi-Family project. The traffic study addresses existing, short-term, and long-term peak hour intersection conditions in the study area with and without the project-generated traffic. The information contained in this study is anticipated to be used by City of Lone Tree staff in identifying any intersection or roadway deficiencies and potential improvements for the build-out condition and long-term future scenarios. This study focused on the weekday AM and PM peak hours which represents the periods of highest volumes on the adjacent streets.

2.0 Project Description

Currently, the property has an underground parking garage for the businesses and residents of the existing Lincoln Station. The project proposes to construct a 425-unit residential building that wraps around the proposed parking garage that will be located on top of the existing parking garage. It is understood that there will be 3,000 square feet of retail space on the ground floor adjacent to Park Meadows Drive.

The project proposes to provide one primary access on Park Meadows Drive that aligns with the existing Kaiser Permanente South Access. It is proposed that moving vehicles will utilize Station Way (Bus Loop). The site plan and existing access are provided on **Figure 2**.

3.0 Study Considerations

3.1 Data Collection

Intersection turning movement volumes were collected in February 2021 at three (3) existing intersections during the weekday AM and PM peak hours, including pedestrians and bicyclists. Daily traffic volumes were also collected for 48 hours on the three approaches of the intersection of Park Meadows Drive and Kaiser Permanente South Access. Existing and historic traffic volumes within and near the study area were gathered from the Colorado Department of Transportation's (CDOT) Transportation Data Management System, DRCOG database, and City of Lone Tree planning documents. The count data was collected during to the COVID-19 pandemic; therefore, the recent data was compared to recently gathered volumes. Refer to **Section 4.3** for details on adjustments made to the existing counts. Count data is provided in the **Appendix**.

3.2 Evaluation Methodology

The traffic operations analysis addressed the unsignalized and signalized intersection operations using the procedures and methodologies set forth by the *Highway Capacity Manual (HCM)*¹. Existing peak hour factor were applied to the intersections for the existing, short-term, and long-term scenarios. Study intersections were evaluated using Synchro software (v10).

3.3 Level of Service Capacity Analysis

A Level of Service analysis was conducted to determine the existing and future performance of the study area intersections and accesses to determine the most appropriate intersection traffic controls and auxiliary lanes for future conditions.

To measure and describe the operational status of the study intersections, transportation engineers and planners commonly use a grading system referred to as "Level of Service" (LOS) that is defined by the *HCM*. LOS characterizes the operational conditions of an intersections traffic flow, ranging from LOS A (indicating very good, free flow operations) and LOS F (indicating congested and sometimes oversaturated conditions). These grades represent the perspective of drivers and are an indication of the comfort and

¹ [Highway Capacity Manual](#), Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 6th Edition (2016).

convenience associated with traveling through the intersections. The intersection LOS is represented as a delay in seconds per vehicle for the intersection as a whole and for each turning movement.

Typically, LOS A through C is considered to be acceptable for the overall intersection operations and LOS D overall during peak hours is acceptable. Individual movements may be allowed to fall to LOS E at signalized intersections. Minor movements at unsignalized intersections, such as left turns onto a major arterial, may be allowed to fall below LOS D if mitigation is not feasible or necessary. Criteria contained in the *HCM* was applied for these analyses in order to determine peak hour LOS for each scenario. A more detailed discussion of LOS methodology is contained in the **Appendix** for reference.

4.0 Existing Conditions

4.1 Roadways

The study area boundaries are based on the amount of traffic to be generated by the project and potential impact to the existing roadway network. The primary public roadways that serve the project site are discussed in the following text and illustrated on **Figure 1**.

Park Meadows Drive is a north-south, minor arterial that travels the length of Lone Tree providing access to SkyRidge Medical Center, the Park Meadows Mall area, retail businesses, restaurants, medical and general office, and multi-family residential communities. Within the study area, Park Meadows Drive has a cross-section that ranges from 68 feet to 78 feet, including 11- to 12-foot through lanes (two per direction), a 16-foot median/center turn lane, and necessary auxiliary lanes at intersections. This roadway currently serves approximately 16,500 vpd south of Station Way (Bus Loop). The posted speed limit is 40 mph within the study area.

Station Street is a local access roadway into Lincoln Station with one lane per direction and diagonal parking. This roadway provides access to the businesses and residents of the existing Lincoln Station. Station Street leads to the existing underground parking garage on the subject property. Drivers are also allowed to use this street to pick-up and drop-off transit riders.

Station Way is the bus loop for Regional Transportation District (RTD) where buses can drop-off and pick-up transit patrons utilizing the light-rail service. This roadway is closed to general traffic.

4.2 Intersections

The study area includes three existing intersections that are listed below with the current traffic control and were analyzed for existing and future year traffic operations:

1. Park Meadows Drive at Station Street / Kaiser Permanente Access [signalized]
2. Park Meadows Drive at Kaiser Permanente South Access [side-street stop-controlled]
3. Park Meadows Drive at Station Way (Bus Loop) [side-street stop-controlled]

The existing lane configuration at each of the study locations are illustrated on **Figure 3**.

4.3 Adjustments to Existing Volumes

As discussed previously, new existing traffic volumes were collected during the COVID-19 pandemic; therefore, the collected intersection volumes were adjusted based on comparison to volumes on Lincoln Avenue and on Park Meadows Drive. Based on data gathered by CDOT, the volumes on Lincoln Avenue near Park Meadows Drive have been reduced by 14% due to the pandemic and volumes Park Meadows Drive near Yosemite Street have been reduced by 11% in the past year. For conservative purposes, the existing count data was increased by a factor of 1.14 to account for any reduction related to the current pandemic. The adjusted existing volumes at each of the study locations are included on **Figure 3**.

4.4 Pedestrian and Bicycle

Currently, there are detached sidewalks on both sides of Park Meadows Drive and Station Street that provide pedestrian and bicyclist access into, through and around the study area.

There are no on-street bike facilities within; however, cyclists are permitted to utilize the travel lanes on the City streets. North of the study area, Park Meadows Drive does provide on-street bike lanes in each direction.

4.5 Transit

The City of Lone Tree is serviced by Regional Transportation District (RTD). The project site is adjacent to the Lincoln Light-Rail Station that is serviced by the light-rail lines E, F, and R which lead to the I-25 business corridor, RidgeGate, Downtown Denver, and the Denver International Airport. RTD provides FlexRide service and Access-a-Ride to/from the station to/from destinations within the City of Lone Tree.

Currently, there are two bus routes that serve the study area with stops at Lincoln Station. Route 403 travels between the Lincoln Station and the Littleton Mineral Station, with stops on Park Meadows Drive,

through Lone Tree and Highlands Ranch. Route 483 travels along Lincoln Avenue from Lone Tree to the Town of Parker with stops at Lincoln Station and along the arterial roadways.

4.6 Existing Intersection Capacity Analysis

The existing volumes, lane configuration, and traffic control are illustrated on **Figure 3**. The results of the LOS calculations for the intersections are summarized in **Table 1**. The 95th percentile queues are summarized in **Table 2**. The intersection Level of Service worksheets are attached in the **Appendix**.

All of the study intersections currently operate overall at LOS B or better in both peak periods with all movements operating at LOS D or better.

5.0 Future Conditions

5.1 Annual Growth Factor and Future Volume Methodology

In order to estimate the future peak hour traffic volumes, the 20-year forecasts from the City of Lone Tree's 2040 Transportation Plan² and Comprehensive Plan³ were utilized. Data was not available for Park Meadows Drive; therefore, the data for Lincoln Avenue and Yosemite Street was employed.

The study's anticipated the traffic growth to be 0.29% annually on Lincoln Avenue to 0.58% annually on Yosemite Street. These low growth rates coincide with this portion of Lone Tree being well developed and built out. Majority of the new growth in the City will be east of I-25. The growth on Park Meadows Drive is anticipated to be minimal since the Lincoln Station Multi-Family site is the last vacant property along the roadway. For conservative purposes, it was assumed that the traffic growth within the study area will be 0.6% annually as determined in the Comprehensive Plan. The number of RTD buses on Station Way was slightly increased by assuming the two existing Routes, #403 and #483, would continue to be in-service and the headways (frequency) would improve from 15 minutes to 10 minutes.

The Year 2025 background volumes are summarized on **Figure 4** and the Year 2040 background volumes are summarized on **Figure 5**.

² City of Lone Tree 2040 Transportation Plan. David Evans and Associates, Inc. March 2020.

³ City of Lone Tree Comprehensive Plan. January 2019.

5.2 Year 2025 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2025 background scenario and to identify any capacity constraints associated with background traffic. The background volumes, lane configuration, and traffic control are illustrated on **Figure 4**.

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the short-term background volumes. The details of LOS for each movement are provided in **Table 1**. The 95th percentile queues are summarized in **Table 2**. The intersection Level of Service worksheets are attached in the **Appendix**. This analysis assumed the existing signal timing at all signalized intersections would remain.

In summary, the study intersections operate similarly to the existing conditions. The study intersections continue to operate overall at LOS B or better and all movements operating at LOS D or better in both peak hours. The 95th percentile queues were estimated for each movement and were determined to be maintained within the existing storage lengths.

5.3 Year 2040 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2040 background scenario and to identify any capacity constraints associated with background traffic in the long-term scenario. The long-term background volumes, lane configuration, and traffic control are illustrated on **Figure 5**.

The Level of Service criteria discussed previously was applied to the study area intersections to determine the impacts with the long-term background volumes. The results of capacity analysis are shown in **Table 1** with the overall LOS and for each movement. The 95th percentile queues are summarized in **Table 2**. The intersection Level of Service worksheets are attached in the **Appendix**.

In summary, the study intersections operate similarly to the existing conditions. The study intersections continue to operate overall at LOS B or better and all movements operating at LOS D or better in both peak hours. The 95th percentile queues were estimated for each movement and were determined to be maintained within the existing storage lengths.

6.0 Future Conditions with the Project

6.1 Proposed Access

The project proposes to have the primary access on Park Meadows Drive that aligns with the existing access on the south side of Kaiser Permanente. This intersection is currently side-street stop-controlled and includes one northbound left-turn and one southbound right-turn. The Kaiser Permanente access provides one left-turn lane and one right-turn lane that includes an acceleration lane. It is proposed that the Lincoln Station Multi-Family access provide one left-turn lane and one right-turn lane for egress and then construct one southbound left-turn lane in the median for ingress. Northbound right-turning vehicles can utilize the existing shared through lane.

The project proposes to utilize Station Way (bus loop) for moving truck operations. This roadway has limited access and restrictions set in place to ensure the bus services are not delayed or impacted by other traffic. Refer to **Section 7.0** for further evaluation and discussion on this access.

6.2 Mobility Access and Circulation

A review of the conceptual site plan indicated that the project would provide enhancements to the existing detached sidewalks by adding street trees, landscaping, and connectivity into the site. It is recommended that pedestrian areas be designated within the parking garage to direct people to safe crossing locations and raise awareness to drivers of people walking.

Based on the 2040 Transportation Plan, Park Meadows Drive will be enhanced with on-street bike lanes connecting the end point, north of the study area, to Lincoln Avenue. The continuous bike lanes will provide bicyclists connectivity to existing and future bike facilities, on- or off-street.

6.3 Trip Generation

A trip generation estimate was performed to determine the traffic characteristics of the proposed Lincoln Station Multi-Family project. The trip rates contained in the Institute of Transportation Engineers (ITE) Trip Generation Handbook and Manual⁴ were applied to estimate the traffic with #221 “Multi-Family Housing (Mid-Rise)” and #820 “Shopping Center.” Trips were estimated for the proposed land uses: 425 multi-family dwelling units and 3,000 square feet of retail.

⁴ Trip Generation Handbook and Manual, 10th Edition, Institute of Transportation Engineers, 2017.

Table 3 provides the detailed trip generation estimates for the project (refer to the **Appendix**). The proposed project is expected to experience mostly new trips, also known as ‘primary trips’, as well as pass-by trips, internal and non-auto trips which are discussed below:

Primary Trips. These trips are made specifically to visit the site and are considered “new” trips. Primary trips would not have been made if the proposed project did not exist. Therefore, this is the only trip type that increases the total number of trips made on a regional basis.

Pass-By Trips. Pass-by trips do not create any increase in the traffic volumes within the primary impact area. In fact, the only impact of the pass-by trips is at the site driveways and adjacent intersections where through movements become turning movements into and out of the site. Therefore, pass-by trips have no additional impact on the road system beyond the site’s driveways or immediately adjacent intersections. With or without pass-by trips, the total trips to/from a project will remain the same. Pass-by was only applied to the retail portion of the site. Per ITE data, the pass-by percentage for “Shopping Center” is 34% in the PM peak hour. For pass-by trips, the methodology set forth in the ITE’s *Trip Generation Manual* (Chapter 10) was utilized.

Non-Auto Trips. These trips are those that are completed by walking, biking, or transit. The existing and future pedestrian and bicycle amenities will encourage residents and visitors to make non-auto trips to/from their homes. The non-auto trips are assumed to be a 20% since the property is adjacent to a light-rail station that provides transit services to the City of Aurora, DTC, Downtown Denver, and patrons can then transfer to other transit services to link to several other communities and business districts. It is anticipated that this value will be greater but set conservatively to evaluate the ability of the roadway system to accommodate this project.

Multi-Use (Internal) Trips. These internal trips occur from one land use or building to another within the site boundaries. Multi-use or multi-purpose trips typically do not affect the exterior site access points, nor add any additional traffic volumes to the adjacent street network. It is anticipated that residents will also visit the retail portion to make an internal trip. These trip types were included in the non-auto percentage.

As shown in **Table 3**, the project was estimated to generate approximately 1,925 daily trips with 125 trips in the AM peak hour and 157 trips in the PM peak hour.

6.4 Trip Distribution and Assignment

The estimated trip volumes were distributed onto the study area street network based on existing traffic characteristics, land uses, and traffic patterns in the area, as well as regional growth and future roadway infrastructure. The following trip distributions were utilized:

- 20% of trips to/from the north via Park Meadows Drive
- 80% of trips to/from the south via Park Meadows Drive

The assumed distributions are shown on **Figure 6**. Using these distribution assumptions, the projected site traffic was assigned to the study area roadway network and appropriate accesses for the weekday AM and PM peak hour periods. The site-generated volumes are shown on **Figure 7**.

6.5 Year 2025 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the proposed Lincoln Station Multi-Family project in the short-term scenario. The site-generated volumes were added to the Year 2025 background volumes and are illustrated on **Figure 8**. The details of the LOS for each movement are listed in **Table 1**. The 95th percentile queues are summarized in **Table 2**. The intersection Level of Service worksheets are attached in the **Appendix**.

The project trips are anticipated to have little to no impact on the operations at the study intersections at the buildout of the project. The overall LOS remains the same at each intersection.

The proposed access that aligns with the Kaiser Permanente South Access is anticipated to have delay in the AM peak hour that would result in the westbound left-turn operating at LOS F. The volumes were compared to the signal warrants thresholds per the *Manual on Uniform Traffic Control Devices*⁵ (MUTCD) and do not meet the criteria to install a signal. The 95th percentile queue for the westbound left-turn was calculated to be 68 feet (about three vehicles) during the morning peak. The delay and queue are typical for a side-street approach to an arterial roadway during a peak period. No mitigation measures are recommended since the queue is minimal and a signal is not warranted.

⁵ *Manual on Uniform Traffic Control Devices*. Federal Highway Administration. 2009 with Revisions in May 2012.

6.6 Year 2040 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the proposed Lincoln Station Multi-Family project in the long-term scenario. The site-generated volumes were added to the Year 2040 background volumes and are illustrated on **Figure 9**. The details of the LOS for each movement are listed in **Table 1**. The 95th percentile queues are summarized in **Table 2**. The intersection Level of Service worksheets are attached in the **Appendix**.

The project trips are anticipated to have little to no impact on the operations at the study intersections in the long-term scenario. The overall LOS remains the same at each intersection.

The proposed access that aligns with the Kaiser Permanente South Access is anticipated to have delay in the AM peak hour that would result in the westbound left-turn operating at LOS F. The volumes were compared to the signal warrants thresholds per the *Manual on Uniform Traffic Control Devices*⁶ (MUTCD) and do not meet the criteria to install a signal. The 95th percentile queue for the westbound left-turn was calculated to be 88 feet (about four vehicles) during the morning peak. The delay and queue are typical for a side-street approach to an arterial roadway during a peak period. No mitigation measures are recommended since the queue is minimal and a signal is not warranted.

7.0 Station Way Level of Service

Station Way (Bus Loop) is the roadway that RTD busses utilize to drop-off and pick-up patrons from the Lincoln Station (light-rail transit). Per an existing perpetual, non-exclusive easement with RTD, the Lincoln Station Multi-Family property is not allowed to designate Station Way as the only or primary access to the site. The easement agreement states that access:

“may be restricted if at any time the traffic on Lot 6 [RTD Parcel], including ingress and egress from Park Meadows Drive, falls below Service Level C as that Level is described in the Highway Capacity Manual – Transportation Research Board.”

⁶ *Manual on Uniform Traffic Control Devices*. Federal Highway Administration. 2009 with Revisions in May 2012.

Based on the capacity analysis, the westbound approach of Station Way operates at LOS C in the existing and future scenarios without and with the Lincoln Station Multi-Family project. It should be noted that the westbound left-turn movement will operate at LOS D with or without additional buses and/or project trips in the future during the AM peak hour. The 95th percentile for the westbound left-turn was calculated to be one vehicle or less during the morning. The delay and queue are typical for side-street movements on an arterial roadway; however, the LOS D on one movement of Station Way may not be acceptable to the agreed upon easement. **It is recommended that any trips associated with Lincoln Station Multi-Family utilize Station Way (Bus Loop) outside of the AM peak hour (7:00 - 9:00 AM) to reduce any delay to the egress buses and maintain the easement agreement.**

8.0 Queuing Analysis

A queuing analysis was performed to determine if the 95th percentile queues would be accommodated by the existing storage length, to determine the storage lengths for future auxiliary lanes, and if any of the queues would impact an upstream intersection/access. **Table 2** provides the existing storage lengths, as well as the 95th percentile queues for each existing and future scenario as calculated by Synchro (assuming each vehicle utilizes 25 feet of space). It should be noted that the 95th percentile queue length is a theoretical queue that is 1.65 standard deviations above the average queue length. In theory, the 95th percentile queue would be exceeded 5% of the time based on the average queue length, but it is also possible that a queue this long may not occur.

As summarized in **Table 2**, the existing and future queues are maintained within the storage lengths and are not anticipated to impact upstream intersections.

9.0 Signal Warrant Analysis

The intersection of Park Meadows Drive at the proposed access (aligned with the south access for Kaiser Permanente) was evaluated against the signal warrants set forth by the MUTCD. The warrant criteria contained in MUTCD were utilized to determine if and when a signal would be needed for efficient and safe intersection operations. The daily and hourly counts collected and adjusted in February 2021 were utilized for this warrant evaluation. Volumes were forecast for the future scenarios and evaluated as well.

Per the MUTCD, an engineering evaluation should be performed to determine if a traffic signal is warranted based on traffic data (vehicular) and physical characteristics of an intersection. The MUTCD provides criteria for nine warrants related to the safety and operation of the intersection. The MUTCD traffic signal warrants are as follows, with a note if the warrant was determined “applicable” based on the intersection configuration, characteristics, and traffic data:

- Warrant 1 – Eight Hour Vehicular Volume (*applicable*)
- Warrant 2 – Four-Hour Vehicular Volume (*applicable*)
- Warrant 3 – Peak Hour (*not applicable – used for planning purposes*)
- Warrant 4 – Pedestrian Volume (*not applicable*)
- Warrant 5 – School Crossing (*not applicable*)
- Warrant 6 – Coordinated Signal System (*not applicable*)
- Warrant 7 – Crash Experience (*applicable*)
- Warrant 8 – Roadway Network (*not applicable*)
- Warrant 9 – Intersection Near a Grade Crossing (Railroad) (*not applicable*)

The MUTCD guidance states that a traffic signal should not be installed unless one or more of the warrants are met. Though, the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a signal. The MUTCD also states that a traffic signal should not be installed unless an engineering study finds that installing a traffic signal will improve the overall safety and operation of the intersection. The criteria of the MUTCD signal warrants are based on the volume, speed limit, and number of approach lanes. The following conditions were used in the signal warrant analysis:

- **Major Street:** Park Meadows Drive
 - Posted speed: 40 mph
 - Two-lane approach
- **Minor Streets:** Kaiser Permanente South Access / Lincoln Station Multi-Family Access
 - Posted advisory speed: 25 mph or less
 - One-lane approach
 - Right-turn volume on Kaiser Permanente Access was reduced by 30% since there is a right-turn acceleration lane.⁷

⁷ Based on field observations and video documentation, the majority of right-turning drivers do not utilize the acceleration lane to turn onto Park Meadows Drive.

In summary, a signal is not warranted in the existing, short-term or long-term scenarios. The following warrants were evaluated:

- **Warrant 1 (Eight-Hour Vehicular Volumes):** This warrant required volumes thresholds to be exceeded in 8 of 24 hours. The analysis indicated that in Year 2040, the volumes are met for 7 hours and therefore do not meet the signal warrant.
- **Warrant 2 (Four-Hour Vehicular Volumes):** This warrant required volumes thresholds to be exceeded in 4 of 24 hours. The analysis indicated that in Year 2040, the volumes are met for 1 hour and therefore do not meet the signal warrant.
- **Warrant 3 (Peak Hour):** This warrant was not met in either peak hour for any of the scenarios.

Details of the MUTCD signal warrant evaluation are available in the **Appendix**.

10.0 Conclusions

The Lincoln Station Multi-Family project proposes to development the site with a new 425-unit apartment building, 3,000 square feet of retail, and a two-level parking garage. The project proposes to have the primary access on Park Meadows Drive aligning with the Kaiser Permanente South Access. Moving trucks are anticipated to use Station Way (Bus Loop) and it is recommended that use is prohibited in the AM peak hour (7:00AM to 9:00AM) to abide by the existing easement agreement. The Lincoln Station Multi-Family project was estimated to generate approximately 1,896 daily trips with 124 trips in the AM peak hour and 154 trips in the PM peak hour. **It was determined that the existing roadway system can adequately accommodate the projected traffic volumes.** Based on traffic operations and volumes, the proposed access on Park Meadows Drive will remain side-street stop-controlled into the future.

Tables and Figures:

Table 1 – Peak Hour Intersection LOS Summary

Table 2 – Peak Hour Estimated Queue Lengths

Table 3 – Trip Generation Summary

Figure 1 – Vicinity Map

Figure 2 – Site Plan and Access

Figure 3 – Year 2021 Existing Traffic Volumes

Figure 4 – Year 2025 Background Traffic Volumes

Figure 5 – Year 2040 Background Traffic Volumes

Figure 6 – Trip Distribution

Figure 7 – Site-Generated Trips

Figure 8 – Year 2025 Background + Project Traffic Volumes

Figure 9 – Year 2040 Background + Project Traffic Volumes



Lincoln Station Multi-Family Traffic Impact Study
Lone Tree, CO

Table 1 - Peak Hour Intersection Level of Service Summary

Intersection and Critical Lane Groups	Existing		Year 2025 Background		2025 Bkgrd + Project		Year 2040 Background		2040 Bkgrd + Project											
	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS										
STOP SIGN CONTROL																				
#2. Park Meadows Drive & Kaiser South Access / Lincoln Station Access	1	A	1	A	1	A	4	A	2	A	1	A	1	A	5	A	2	A		
Eastbound Left	0	A	19	C	0	A	20	C	0	A	24	C	0	A	22	C	0	A	27	D
Eastbound Right	9	A	10	B	9	A	10	B	9	A	11	B	9	A	11	B	9	A	11	B
Eastbound Through+Right							9	A	10	B			9	A	11	B	9	A	11	B
Westbound Left							63	F	31	D			93	F	38	E	11	B	12	B
Westbound Through+Right							11	B	11	B			11	B	12	B	9	A	10	A
Northbound Left	9	A	9	A	9	A	9	A	9	A	9	A	9	A	9	A	9	A	9	A
Northbound Through+Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Southbound Left							9	A	10	A			9	A	10	A	0	A	0	A
Southbound Through	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Southbound Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
#3. Park Meadows Drive & Station Way (Bus Loop)	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Westbound Left	23	C	17	C	24	C	18	C	25	D	19	C	28	D	20	C	30	D	23	C
Westbound Right	12	B	11	B	13	B	11	B	13	B	12	B	13	B	12	B	13	B	12	B
Northbound Through+Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Southbound Left	0	A	10	A	11	B	10	A	11	B	10	B	11	B	0	A	12	B	11	B
Southbound Through	0	A	0	A	0	A	0	A	0	A	0	A	0	A	10	B	0	A	0	A
SIGNAL CONTROL																				
#1. Park Meadows Drive & Station Street/ Kaiser Access	11	B	15	B	11	B	16	B	11	B	16	B	11	B	16	B	12	B	17	B
Eastbound Left	34	C	32	C	34	C	32	C	34	C	31	C	34	C	31	C	34	C	31	C
Eastbound Through+Right	31	C	30	C	31	C	30	C	31	C	30	C	31	C	30	C	30	C	30	C
Westbound Left+Through+Right	39	D	41	D	39	D	41	D	39	D	41	D	39	D	41	D	39	D	41	D
Northbound Left	7	A	9	A	7	A	9	A	8	A	9	A	8	A	9	A	8	A	9	A
Northbound Through+Right	9	A	12	B	10	A	12	B	10	A	13	B	10	A	13	B	11	B	14	B
Southbound Left	9	A	12	B	8	A	12	B	8	A	10	A	8	A	10	A	8	A	14	B
Southbound Through	10	B	12	B	10	B	12	B	11	B	12	B	11	B	12	B	11	B	13	B
Southbound Right	9	A	9	A	9	A	9	A	9	A	10	A	9	A	10	A	9	A	10	A

Note: Delay represented in average seconds per vehicle.



Table 2 - Peak Hour Estimated Queue Lengths

Intersection and Critical Lane Groups	Ex. Storage Length	Existing		Year 2025 Background		2025 Bkgrd + Project		Year 2040 Background		2040 Bkgrd + Project	
		AM Peak 95th %	PM Peak 95th %	AM Peak 95th %	PM Peak 95th %	AM Peak 95th %	PM Peak 95th %	AM Peak 95th %	PM Peak 95th %	AM Peak 95th %	PM Peak 95th %
#1. Park Meadows Drive & Station Street/ Kaiser Access											
		<i>Signalized</i>		<i>Signalized</i>		<i>Signalized</i>		<i>Signalized</i>		<i>Signalized</i>	
Eastbound Left	65'	14'	49'	14'	50'	14'	50'	16'	52'	16'	52'
Eastbound Through+Right	-	11'	0'	11'	0'	11'	0'	12'	0'	11'	0'
Westbound Left+Through+Right	-	26'	0'	26'	0'	32'	1'	27'	3'	33'	8'
Northbound Left	135'	30'	14'	31'	14'	32'	14'	32'	14'	34'	14'
Northbound Through+Right	-	131'	181'	134'	187'	142'	193'	150'	210'	160'	216'
Southbound Left	65'	9'	5'	9'	5'	11'	8'	10'	5'	11'	8'
Southbound Through	-	118'	140'	121'	143'	126'	147'	136'	106'	142'	164'
Southbound Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
#2. Park Meadows Drive & Kaiser South Access / Lincoln Station Access											
		<i>Stop-Controlled</i>		<i>Stop-Controlled</i>		<i>Stop-Controlled</i>		<i>Stop-Controlled</i>		<i>Stop-Controlled</i>	
Eastbound Left	-	0'	3'	0'	3'	0'	5'	0'	5'	0'	5'
Eastbound Right	65'	3'	15'	3'	15'			3'	18'		
Eastbound Through+Right	-					3'	15'			88'	18'
Westbound Left	100'					68'	25'			3'	33'
Westbound Through+Right	-					3'	3'			0'	3'
Northbound Left	85'	13'	3'	13'	3'	13'	3'	15'	3'	15'	3'
Northbound Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Southbound Left	100'					0'	3'			0'	3'
Southbound Through	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Southbound Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
#3. Park Meadows Drive & Station Way (Bus Loop)											
		<i>Stop-Controlled</i>		<i>Stop-Controlled</i>		<i>Stop-Controlled</i>		<i>Stop-Controlled</i>		<i>Stop-Controlled</i>	
Westbound Left	-	3'	5'	3'	5'	3'	5'	5'	8'	8'	8'
Westbound Right	80'	0'	0'	0'	0'	0'	3'	3'	3'	3'	3'
Northbound Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Southbound Left	100'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Southbound Through	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'

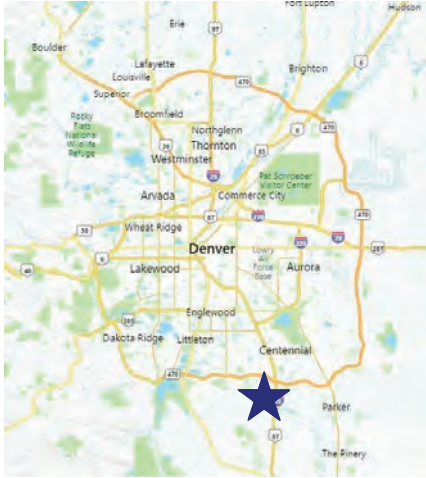
**Lincoln Station Multi-Family
Traffic Impact Study
Lone Tree, CO**



Table 3 - Trip Generation Summary

Land Use	Size	Unit	Internal Capture / Non-Auto Factor	Average Daily Trips				AM Peak Hour Trips				PM Peak Hour Trips			
				Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
Phase 1 - Existing Retail and New Health Center															
#221 Multi-Family Housing (Mid-Rise)	425.0	dwelling units	0.80	5.44	1850	925	925	0.36	122	32	90	0.44	150	92	58
#820 Shopping Center	3.0	ksf	1.00	37.75	113	57	56	0.94	3	2	1	3.81	11	5	6
<i>Pass-by Trips: Shopping Center (PM)</i>			34%		-38	-19	-19		0	0	0		-4	-2	-2
Total New Trips					1925	963	962		125	34	91		157	95	62

Source : ITE Trip Generation 10th Edition, 2017.



LINCOLN STATION MULTI-FAMILY TRAFFIC IMPACT STUDY - LONE TREE, CO
VICINITY MAP

FT Project #	20096	Original Scale	NTS	Date	2/24/2021	Drawn by	CRS	Figure #	1
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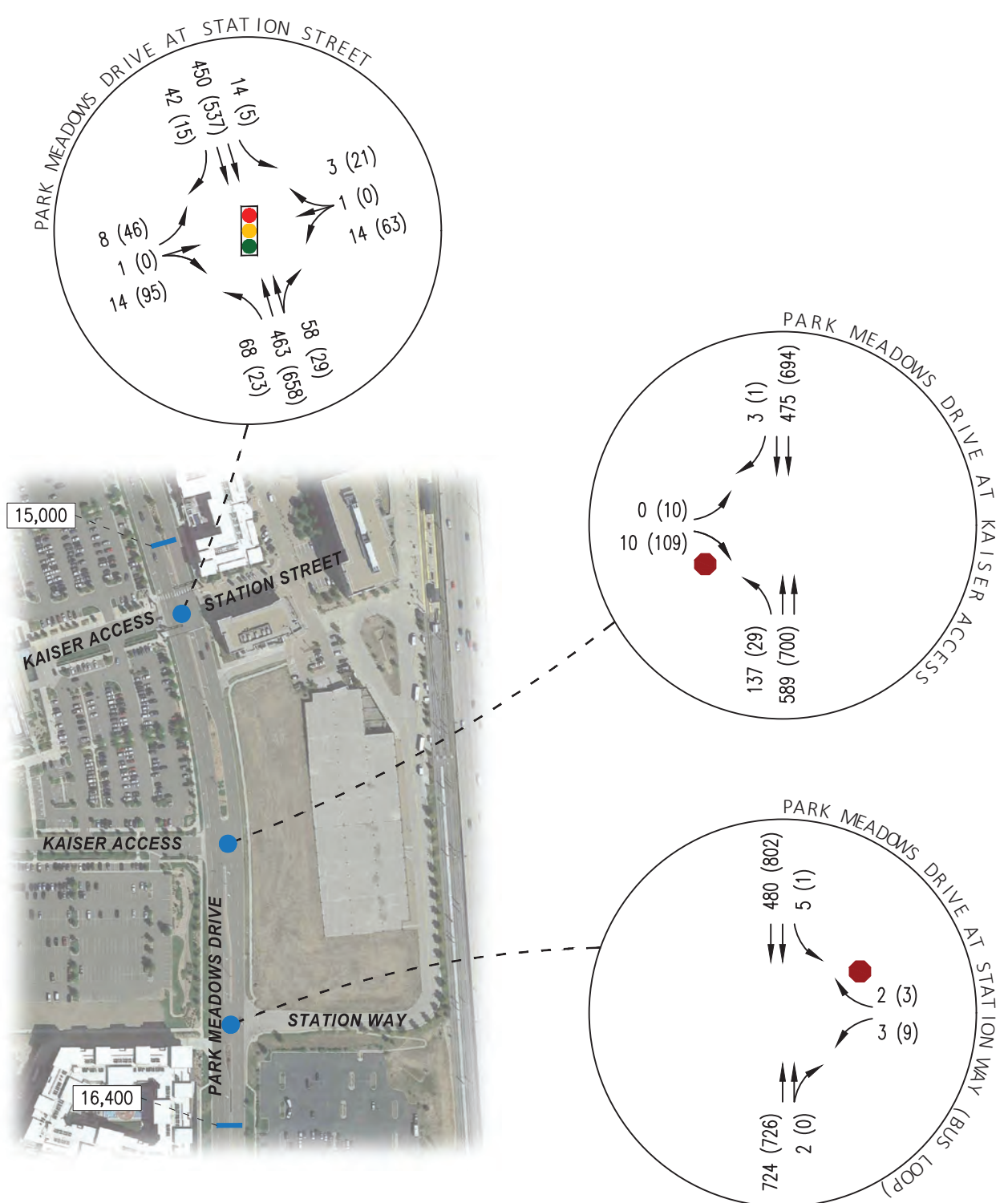


Proposed Access
Full Movement

Existing Access
Full Movement
Side-Street
Stop-Controlled

Note: This is a conceptual site plan that is used for the purpose of illustrating location and access. Refer to the design plans for most current design details.





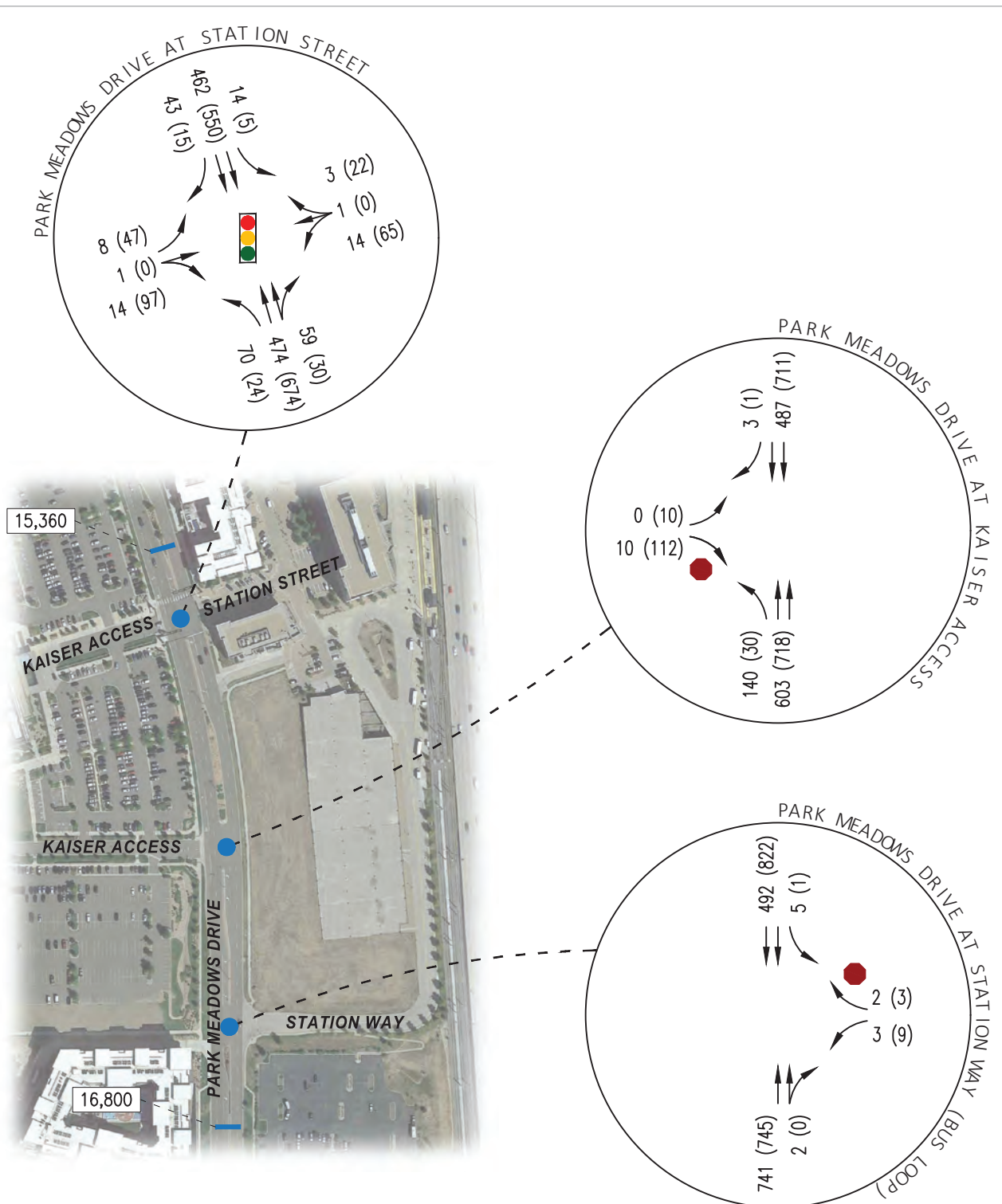
KEY

XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
 XX,XXX DAILY TRAFFIC VOLUME



LINCOLN STATION MULTI-FAMILY TRAFFIC IMPACT STUDY - LONE TREE, CO
 YEAR 2021 EXISTING TRAFFIC VOLUMES

FT Project #	20096	Original Scale	NTS	Date	2/24/2021	Drawn by	CRS	Figure #	3
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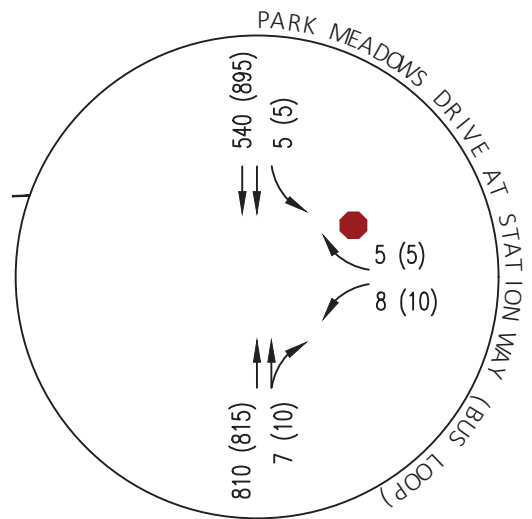
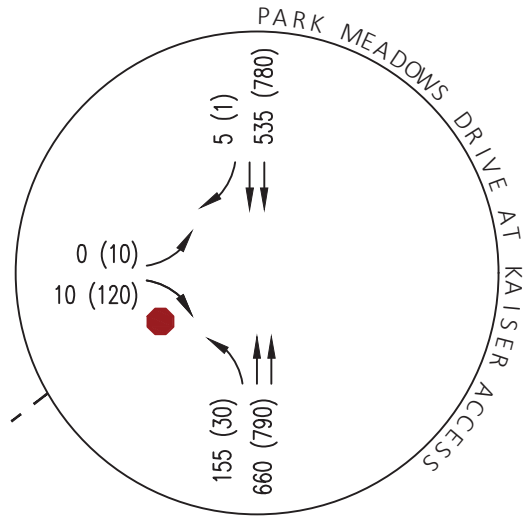
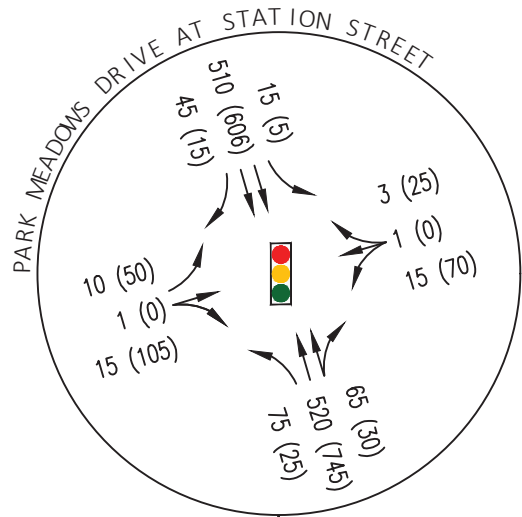
KEY

XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
 XX,XXX DAILY TRAFFIC VOLUME



LINCOLN STATION MULTI-FAMILY TRAFFIC IMPACT STUDY - LONE TREE, CO
 YEAR 2023 BACKGROUND TRAFFIC VOLUMES

FT Project #	20096	Original Scale	NTS	Date	2/24/2021	Drawn by	CRS	Figure #	4
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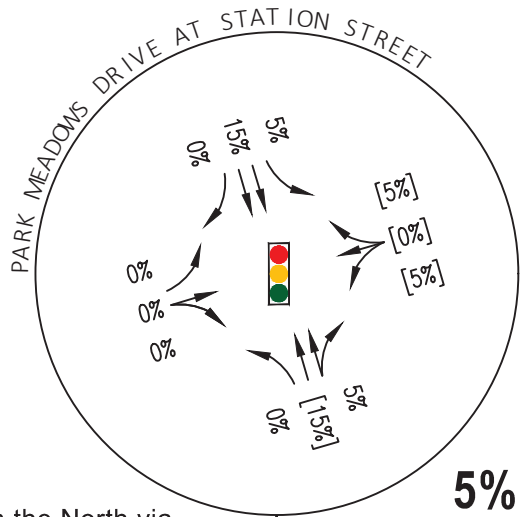
KEY

XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
 XX,XXX DAILY TRAFFIC VOLUME



LINCOLN STATION MULTI-FAMILY TRAFFIC IMPACT STUDY - LONE TREE, CO
 YEAR 2040 BACKGROUND TRAFFIC VOLUMES

FT Project #	20096	Original Scale	NTS	Date	2/24/2021	Drawn by	CRS	Figure #	5
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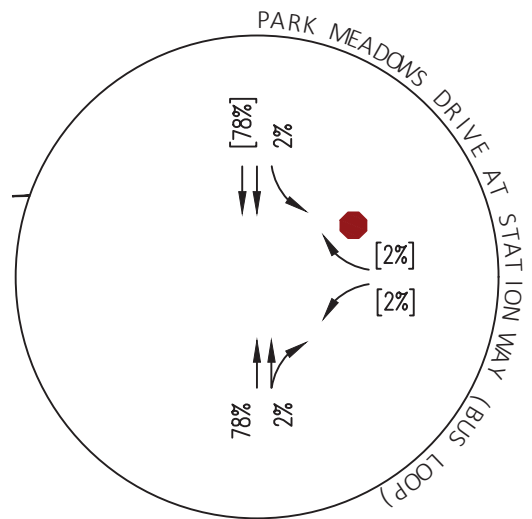
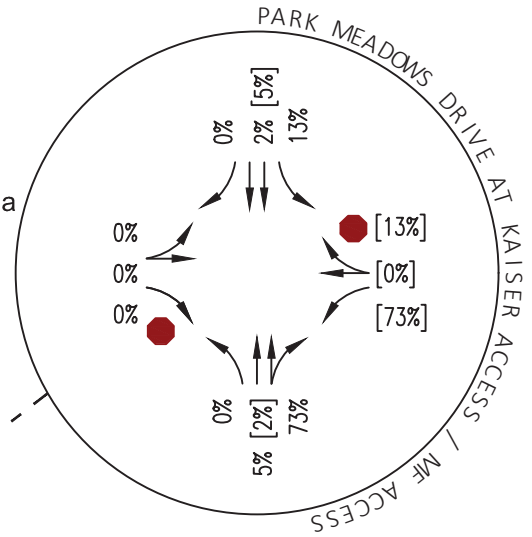


20%

To / From the North via
Park Meadows Drive

5%

To / From the
Lincoln Station Area



80%

To / From the South via
Park Meadows Drive

KEY

XX% [XX%] ENTERING [EXITING] TRIP PERCENTAGE

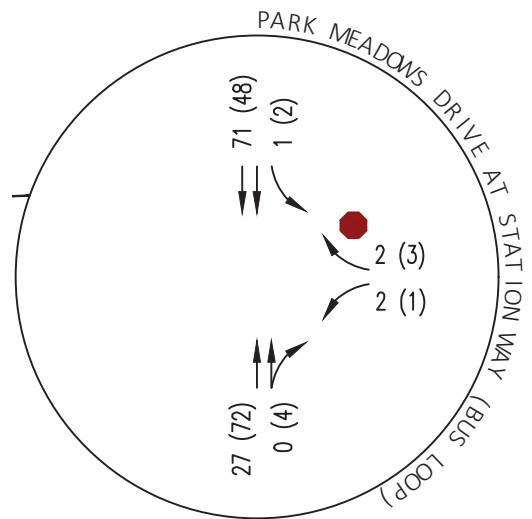
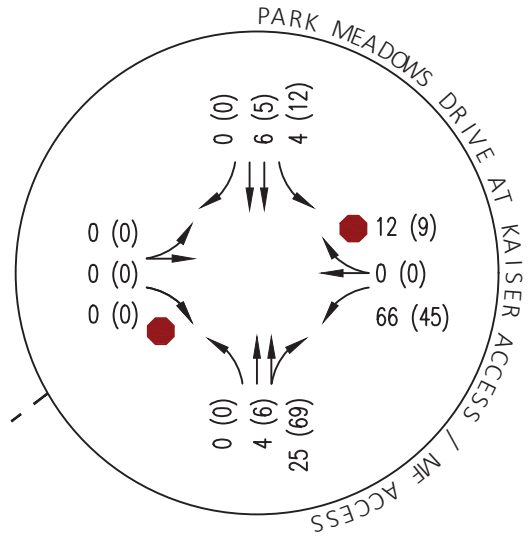
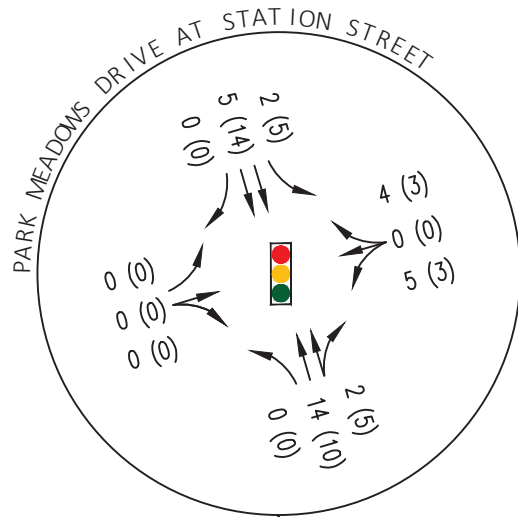
----- PROPOSED ACCESS



TRANSPORTATION GROUP

LINCOLN STATION MULTI-FAMILY TRAFFIC IMPACT STUDY - LONE TREE, CO
TRIP DISTRIBUTION

FT Project #	20096	Original Scale	NTS	Date	2/24/2021	Drawn by	CRS	Figure #	6
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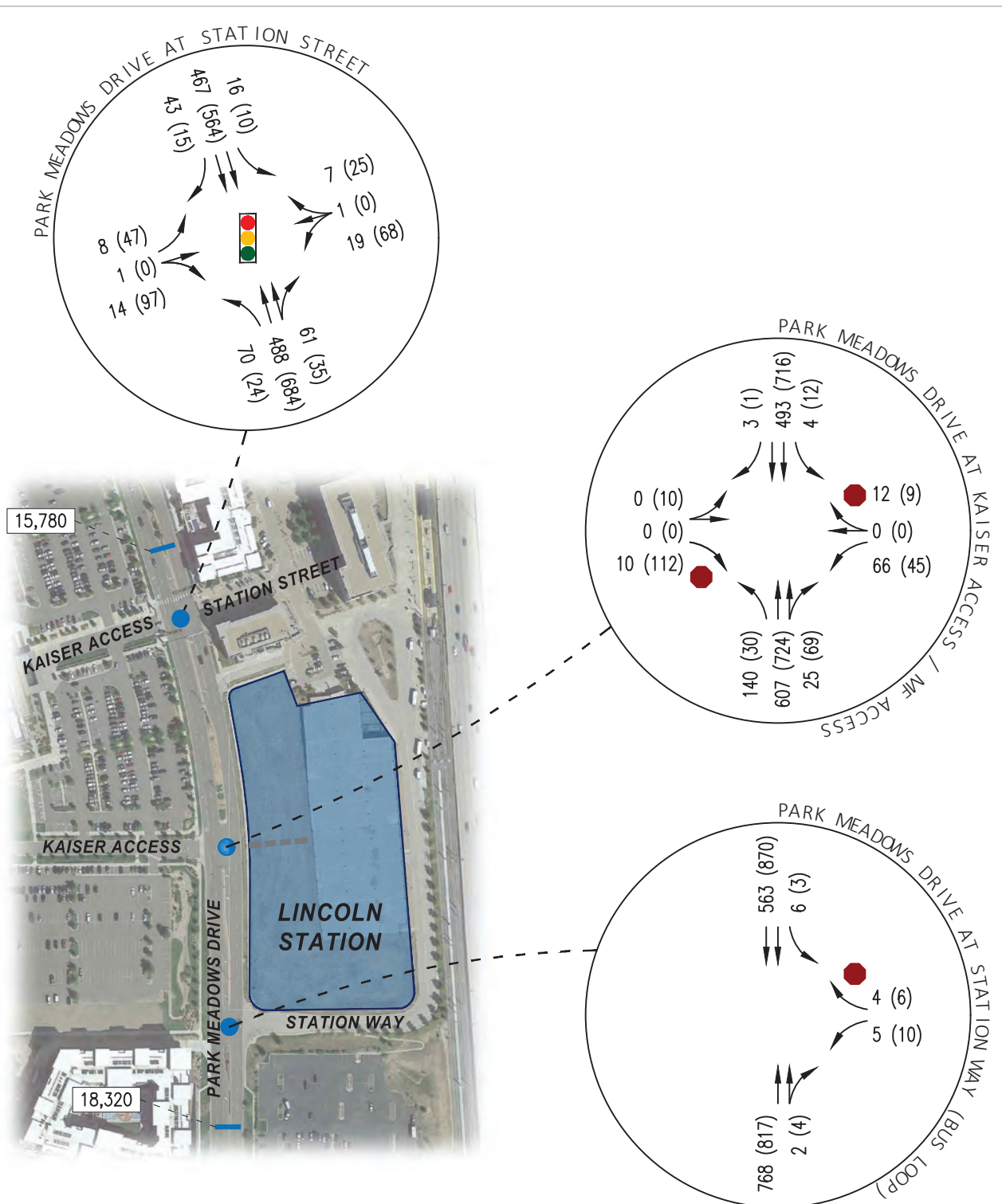
KEY

- XX (XX) AM (PM) PEAK HOUR TRIP VOLUME
- XX,XXX DAILY TRIP VOLUME
- PROPOSED ACCESS



LINCOLN STATION MULTI-FAMILY TRAFFIC IMPACT STUDY - LONE TREE, CO
SITE-GENERATED TRIPS

FT Project #	20096	Original Scale	NTS	Date	3/2/2021	Drawn by	CRS	Figure #	7
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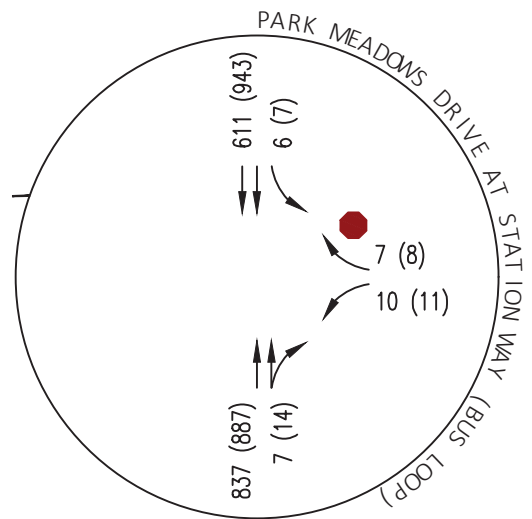
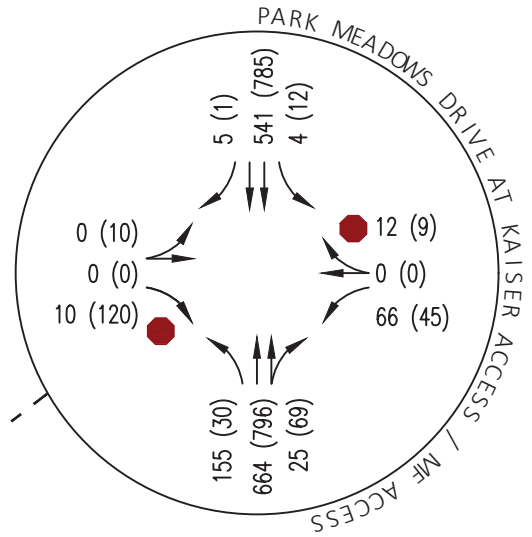
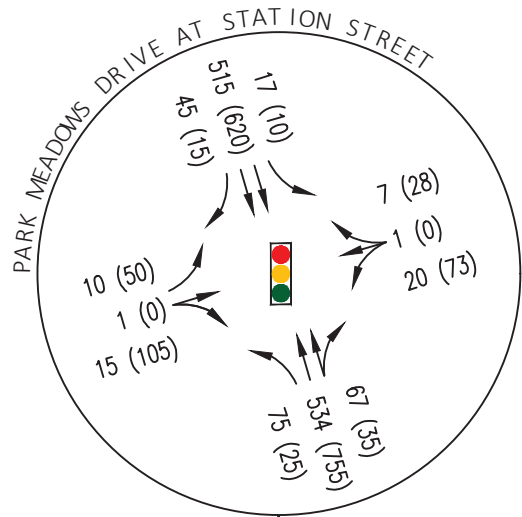
KEY

- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
- XX,XXX DAILY TRAFFIC VOLUME
- PROPOSED ACCESS



LINCOLN STATION MULTI-FAMILY TRAFFIC IMPACT STUDY - LONE TREE, CO
 YEAR 2025 BKGRD + PROJECT TRAFFIC VOLUMES

FT Project #	20096	Original Scale	NTS	Date	3/2/2021	Drawn by	CRS	Figure #	8
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KEY

- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
- XX,XXX DAILY TRAFFIC VOLUME
- PROPOSED ACCESS



Appendix:

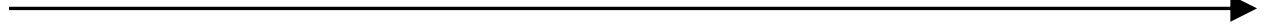
Level of Service Definitions

Existing Traffic Data

Intersection Capacity Worksheets

Signal Warrant Evaluation





Level of Service Definitions

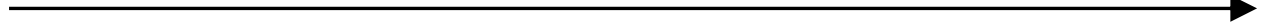


LEVEL OF SERVICE DEFINITIONS

In rating roadway and intersection operating conditions with existing or future traffic volumes, “Levels of Service” (LOS) A through F are used, with LOS A indicating very good operation and LOS F indicating poor operation. Levels of service at signalized and unsignalized intersections are closely associated with vehicle delays experienced in seconds per vehicle. More complete level of service definitions and delay data for signal and stop sign controlled intersections are contained in the following table for reference.

Level of Service Rating	Delay in seconds per vehicle (a)		Definition
	Signalized	Unsignalized	
A	0.0 to 10.0	0.0 to 10.0	Low vehicular traffic volumes; primarily free flow operations. Density is low and vehicles can freely maneuver within the traffic stream. Drivers are able to maintain their desired speeds with little or no delay.
B	10.1 to 20.0	10.1 to 15.0	Stable vehicular traffic volume flow with potential for some restriction of operating speeds due to traffic conditions. Vehicle maneuvering is only slightly restricted. The stopped delays are not bothersome and drivers are not subject to appreciable tension.
C	20.1 to 35.0	15.1 to 25.0	Stable traffic operations, however the ability for vehicles to maneuver is more restricted by the increase in traffic volumes. Relatively satisfactory operating speeds prevail, but adverse signal coordination or longer vehicle queues cause delays along the corridor.
D	35.1 to 55.0	25.1 to 35.0	Approaching unstable vehicular traffic flow where small increases in volume could cause substantial delays. Most drivers are restricted in ability to maneuver and selection of travel speeds due to congestion. Driver comfort and convenience are low, but tolerable.
E	55.1 to 80.0	35.1 to 50.0	Traffic operations characterized by significant approach delays and average travel speeds of one-half to one-third the free flow speed. Vehicular flow is unstable and there is potential for stoppages of brief duration. High signal density, extensive vehicle queuing, or corridor signal progression/timing are the typical causes of vehicle delays at signalized corridors.
F	> 80.0	> 50.0	Forced vehicular traffic flow and operations with high approach delays at critical intersections. Vehicle speeds are reduced substantially, and stoppages may occur for short or long periods of time because of downstream congestion.

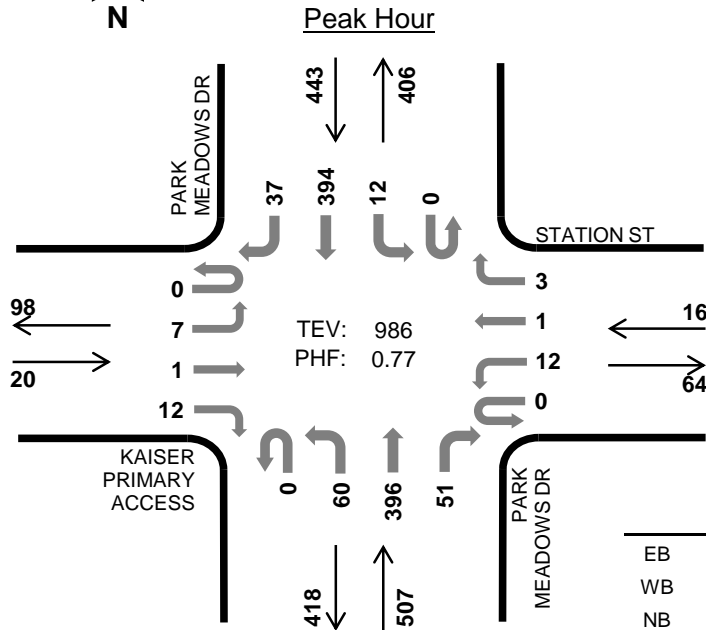
(a) Delay ranges based on Highway Capacity Manual (6th Edition, 2016) criteria.



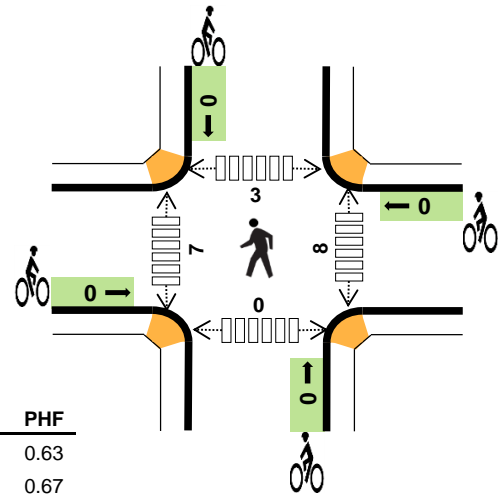
Existing Traffic Data



PARK MEADOWS DR KAISER PRIMARY ACCESS



Date: Tue, Feb 02, 2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	0.0%	0.63
WB	0.0%	0.67
NB	0.6%	0.80
SB	0.2%	0.71
TOTAL	0.4%	0.77

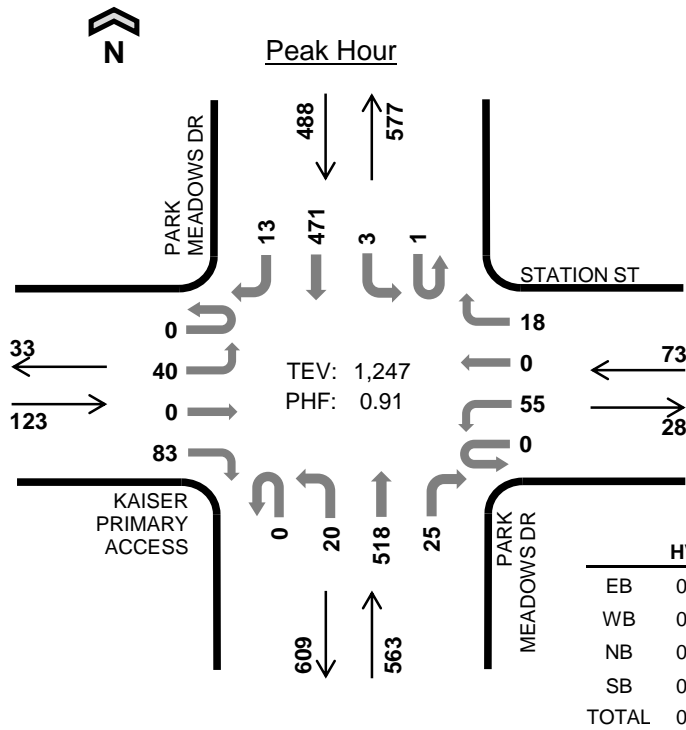
Two-Hour Count Summaries

Interval Start	KAISER PRIMARY ACCESS				STATION ST				PARK MEADOWS DR				PARK MEADOWS DR				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	1	0	1	0	0	0	9	66	12	0	1	54	3	147	0
7:15 AM	0	0	0	1	0	3	0	1	0	5	109	13	0	4	91	7	234	0
7:30 AM	0	2	0	2	0	2	0	0	0	21	122	15	0	1	149	5	319	0
7:45 AM	0	4	1	2	0	4	0	2	0	18	89	11	0	3	84	11	229	929
8:00 AM	0	1	0	7	0	3	1	0	0	16	76	12	0	4	70	14	204	986
8:15 AM	0	5	0	6	0	5	1	1	0	24	86	13	0	1	61	12	215	967
8:30 AM	0	12	0	6	0	5	0	1	0	14	81	13	0	2	70	12	216	864
8:45 AM	0	6	0	7	0	1	0	3	0	12	85	11	0	0	72	13	210	845
Count Total	0	30	1	32	0	24	2	8	0	119	714	100	0	16	651	77	1,774	0
Peak Hour	0	7	1	12	0	12	1	3	0	60	396	51	0	12	394	37	986	0

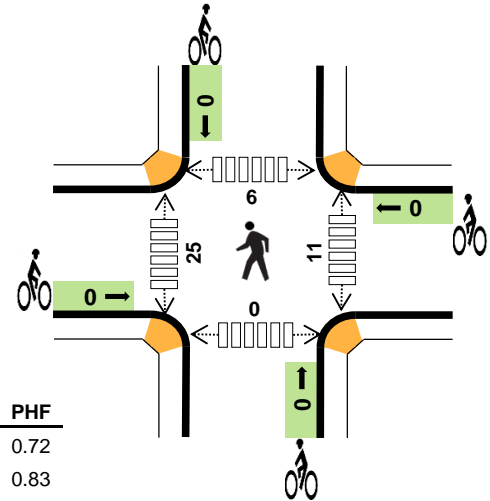
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	1	2	0	0	0	0	0	1	0	0	0	1
7:15 AM	0	0	1	0	1	0	0	0	0	0	3	2	1	0	6
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
7:45 AM	0	0	1	1	2	0	0	0	0	0	3	4	1	0	8
8:00 AM	0	0	1	0	1	0	0	0	0	0	0	1	1	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	1	1	2	0	0	0	0	0	0	2	0	0	2
8:45 AM	0	0	0	2	2	0	0	0	1	1	0	1	0	0	1
Count Total	0	0	5	5	10	0	0	0	1	1	9	11	3	0	23
Peak Hour	0	0	3	1	4	0	0	0	0	0	8	7	3	0	18

PARK MEADOWS DR KAISER PRIMARY ACCESS



Date: Tue, Feb 02, 2021
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	0.0%	0.72
WB	0.0%	0.83
NB	0.7%	0.89
SB	0.8%	0.84
TOTAL	0.6%	0.91

Two-Hour Count Summaries

Interval Start	KAISER PRIMARY ACCESS				STATION ST				PARK MEADOWS DR				PARK MEADOWS DR				15-min Total	Rolling One Hour
	Eastbound		Westbound		Westbound		Northbound		Southbound		Southbound		Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	8	0	18	0	14	0	0	0	10	115	3	0	0	100	3	271	0
4:15 PM	0	14	0	29	0	11	0	6	0	9	106	3	0	2	121	6	307	0
4:30 PM	0	14	0	21	0	17	0	5	0	7	114	8	0	0	102	2	290	0
4:45 PM	0	6	0	15	0	14	0	4	0	4	147	8	0	0	109	1	308	1,176
5:00 PM	0	6	0	18	0	13	0	3	0	0	151	6	1	1	139	4	342	1,247
5:15 PM	0	7	0	8	0	3	0	2	0	3	152	5	0	2	122	0	304	1,244
5:30 PM	0	8	0	12	0	7	0	3	0	4	123	5	0	1	121	1	285	1,239
5:45 PM	0	6	0	7	0	4	0	2	1	2	113	5	0	1	97	3	241	1,172
Count Total	0	69	0	128	0	83	0	25	1	39	1,021	43	1	7	911	20	2,348	0
Peak Hour	0	40	0	83	0	55	0	18	0	20	518	25	1	3	471	13	1,247	0

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

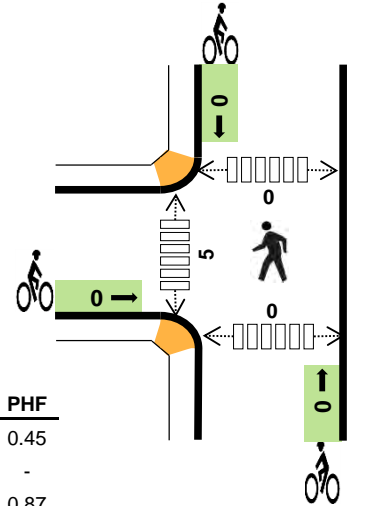
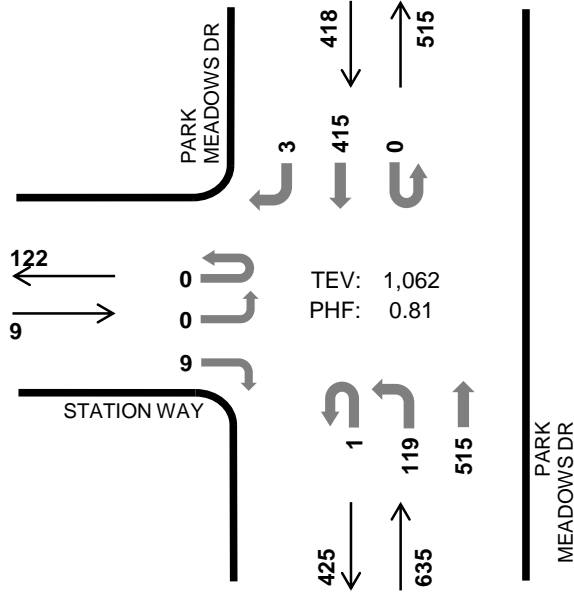
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	4	0	0	4
4:15 PM	0	0	1	1	2	0	0	0	0	0	2	3	0	0	5
4:30 PM	0	0	1	2	3	0	0	0	0	0	5	8	1	0	14
4:45 PM	0	0	1	0	1	0	0	0	0	0	1	8	4	0	13
5:00 PM	0	0	1	1	2	0	0	0	0	0	3	6	1	0	10
5:15 PM	0	0	0	1	1	0	0	0	0	0	3	2	1	0	6
5:30 PM	0	0	1	0	1	0	0	0	0	0	3	6	2	0	11
5:45 PM	0	0	1	1	2	0	0	0	0	0	2	5	0	0	7
Count Total	0	0	7	6	13	0	0	0	0	0	19	42	9	0	70
Peak Hour	0	0	4	4	8	0	0	0	0	0	11	25	6	0	42

PARK MEADOWS DR STATION WAY



Peak Hour

Date: Tue, Feb 02, 2021
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	0.0%	0.45
WB	-	-
NB	0.5%	0.87
SB	0.5%	0.73
TOTAL	0.5%	0.81

Two-Hour Count Summaries

Interval Start	STATION WAY				0				PARK MEADOWS DR				PARK MEADOWS DR				15-min Total	Rolling One Hour
	Eastbound		Westbound		Northbound		Southbound		UT		LT		TH		RT			
7:00 AM	0	1	0	0	0	0	0	0	0	25	76	0	0	0	50	0	152	0
7:15 AM	0	0	0	2	0	0	0	0	0	32	136	0	0	0	92	1	263	0
7:30 AM	0	0	0	0	0	0	0	0	1	27	154	0	0	0	144	0	326	0
7:45 AM	0	0	0	2	0	0	0	0	0	31	116	0	0	0	100	2	251	992
8:00 AM	0	0	0	5	0	0	0	0	0	29	109	0	0	0	79	0	222	1,062
8:15 AM	0	0	0	5	0	0	0	0	0	26	110	0	0	0	71	0	212	1,011
8:30 AM	0	0	0	9	0	0	0	0	0	24	113	0	0	0	75	2	223	908
8:45 AM	0	0	0	4	0	0	0	0	1	25	108	0	0	0	74	0	212	869
Count Total	0	1	0	27	0	0	0	0	2	219	922	0	0	0	685	5	1,861	0
Peak Hour	0	0	0	9	0	0	0	0	1	119	515	0	0	0	415	3	1,062	0

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

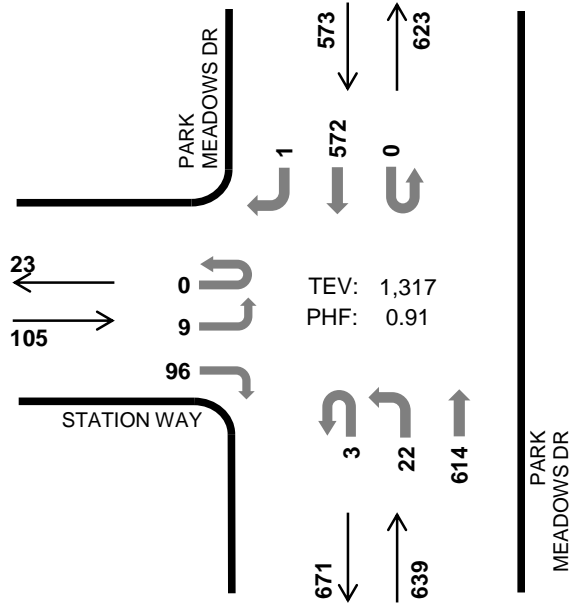
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1
7:15 AM	0	0	1	1	2	0	0	0	0	0	3	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3
7:45 AM	0	0	1	1	2	0	0	0	0	0	4	3	0	0	7
8:00 AM	0	0	1	0	1	0	0	0	0	0	1	1	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	1	1	2	0	0	0	0	0	0	1	0	0	1
8:45 AM	0	0	0	2	2	0	0	0	1	1	1	1	0	0	2
Count Total	0	0	5	5	10	0	0	0	1	1	12	8	0	0	20
Peak Hr	0	0	3	2	5	0	0	0	0	0	10	5	0	0	15

PARK MEADOWS DR STATION WAY

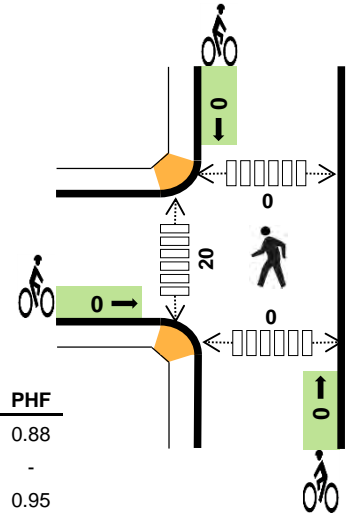


Peak Hour

Date: Tue, Feb 02, 2021
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:45 PM to 5:45 PM



TEV: 1,317
 PHF: 0.91



	HV %:	PHF
EB	0.0%	0.88
WB	-	-
NB	0.5%	0.95
SB	0.5%	0.84
TOTAL	0.5%	0.91

Two-Hour Count Summaries

Interval Start	STATION WAY				0				PARK MEADOWS DR				PARK MEADOWS DR				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	5	0	25	0	0	0	0	0	10	108	0	0	0	131	0	279	0
4:15 PM	0	2	0	17	0	0	0	0	0	9	125	0	0	0	161	0	314	0
4:30 PM	0	0	0	18	0	0	0	0	0	10	120	0	0	0	144	0	292	0
4:45 PM	0	6	0	24	0	0	0	0	1	6	157	0	0	0	131	0	325	1,210
5:00 PM	0	1	0	20	0	0	0	0	2	6	160	0	0	0	171	0	360	1,291
5:15 PM	0	1	0	27	0	0	0	0	0	4	161	0	0	0	141	1	335	1,312
5:30 PM	0	1	0	25	0	0	0	0	0	6	136	0	0	0	129	0	297	1,317
5:45 PM	0	0	0	9	0	0	0	0	0	4	116	0	0	0	117	1	247	1,239
Count Total	0	16	0	165	0	0	0	0	3	55	1,083	0	0	0	1,125	2	2,449	0
Peak Hour	0	9	0	96	0	0	0	0	3	22	614	0	0	0	572	1	1,317	0

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

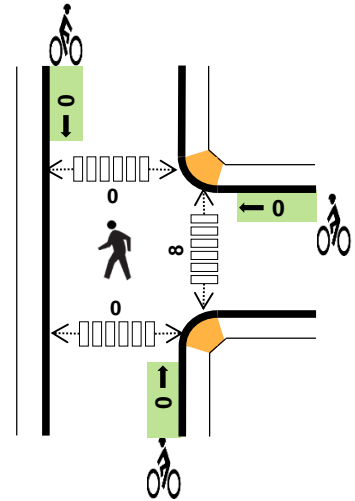
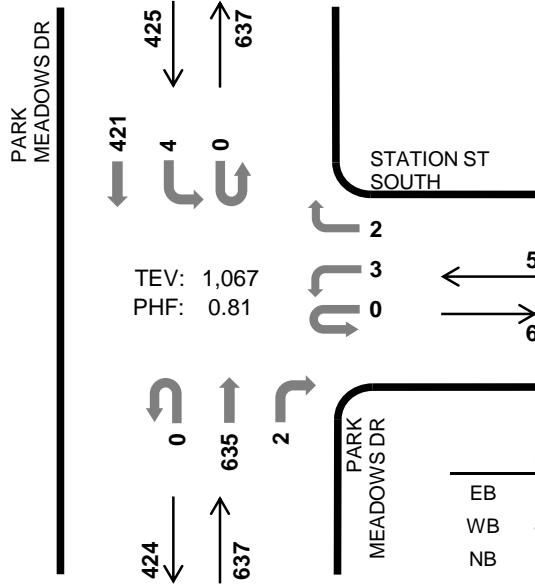
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	1	0	2	0	0	0	0	0	0	4	0	0	4
4:15 PM	0	0	0	1	1	0	0	0	0	0	1	4	0	0	5
4:30 PM	0	0	2	1	3	0	0	0	0	0	5	8	0	0	13
4:45 PM	0	0	0	1	1	0	0	0	0	0	3	6	0	0	9
5:00 PM	0	0	1	1	2	0	0	0	0	0	3	5	0	0	8
5:15 PM	0	0	1	1	2	0	0	0	0	0	7	4	0	0	11
5:30 PM	0	0	1	0	1	0	0	0	0	0	3	5	0	0	8
5:45 PM	0	0	1	1	2	0	0	0	0	0	3	6	0	0	9
Count Total	1	0	7	6	14	0	0	0	0	0	25	42	0	0	67
Peak Hr	0	0	3	3	6	0	0	0	0	0	16	20	0	0	36

PARK MEADOWS DR STATION ST SOUTH



Peak Hour

Date: Tue, Feb 02, 2021
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	-	-
WB	40.0%	0.63
NB	0.3%	0.88
SB	0.5%	0.73
TOTAL	0.6%	0.81

Two-Hour Count Summaries

Interval Start	0				STATION ST SOUTH				PARK MEADOWS DR				PARK MEADOWS DR				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	97	1	0	0	54	0	153	0
7:15 AM	0	0	0	0	0	1	0	1	0	0	171	1	0	1	92	0	267	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	182	0	0	0	146	0	328	0
7:45 AM	0	0	0	0	0	1	0	0	0	0	147	1	0	3	99	0	251	999
8:00 AM	0	0	0	0	0	1	0	1	0	0	135	0	0	0	84	0	221	1,067
8:15 AM	0	0	0	0	0	0	0	0	0	0	136	0	0	0	77	0	213	1,013
8:30 AM	0	0	0	0	0	0	0	0	0	0	135	0	0	0	77	0	212	897
8:45 AM	0	0	0	0	0	1	0	0	0	0	137	1	0	1	81	0	221	867
Count Total	0	0	0	0	0	4	0	3	0	0	1,140	4	0	5	710	0	1,866	0
Peak Hour	0	0	0	0	0	3	0	2	0	0	635	2	0	4	421	0	1,067	0

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

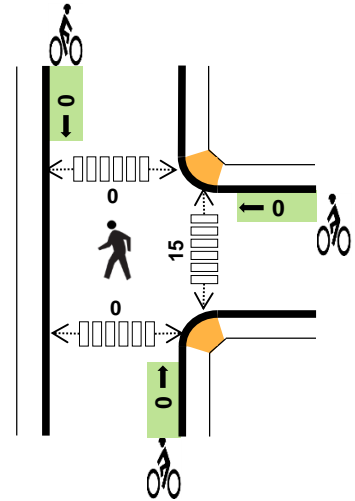
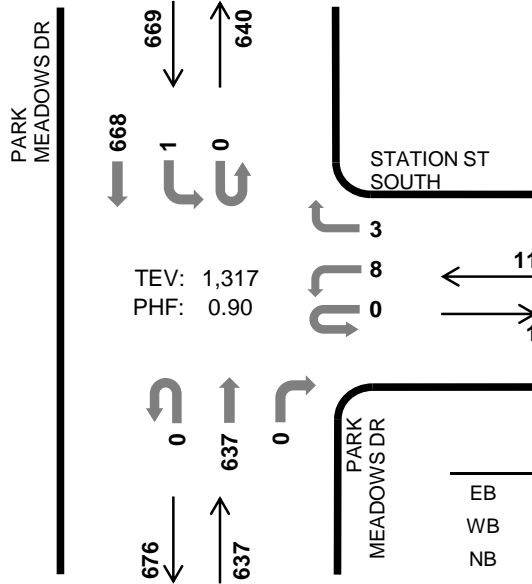
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	0	0	1	0	0	0	0	0	1	2	0	0	3
7:15 AM	0	1	0	1	2	0	0	0	0	0	3	2	0	0	5
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
7:45 AM	0	0	1	1	2	0	0	0	0	0	3	5	0	0	8
8:00 AM	0	1	1	0	2	0	0	0	0	0	1	1	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	1	1	2	0	0	0	0	0	0	1	0	0	1
8:45 AM	0	0	0	2	2	0	0	0	1	1	0	2	1	0	3
Count Total	0	3	3	5	11	0	0	0	1	1	9	15	1	0	25
Peak Hr	0	2	2	2	6	0	0	0	0	0	8	9	0	0	17

PARK MEADOWS DR STATION ST SOUTH



Peak Hour

Date: Tue, Feb 02, 2021
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	-	-
WB	9.1%	0.55
NB	0.3%	0.96
SB	0.4%	0.86
TOTAL	0.5%	0.90

Two-Hour Count Summaries

Interval Start	0				STATION ST SOUTH				PARK MEADOWS DR				PARK MEADOWS DR				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	2	0	0	113	0	0	0	156	0	271	0
4:15 PM	0	0	0	0	0	0	0	1	0	0	134	0	0	0	178	0	313	0
4:30 PM	0	0	0	0	0	2	0	0	0	0	133	0	0	1	161	0	297	0
4:45 PM	0	0	0	0	0	1	0	0	0	0	163	0	0	0	153	0	317	1,198
5:00 PM	0	0	0	0	0	2	0	3	0	0	165	0	0	1	193	0	364	1,291
5:15 PM	0	0	0	0	0	5	0	0	0	0	166	0	0	0	164	0	335	1,313
5:30 PM	0	0	0	0	0	0	0	0	0	0	143	0	0	0	158	0	301	1,317
5:45 PM	0	0	0	0	0	2	0	1	0	0	118	0	0	0	128	0	249	1,249
Count Total	0	0	0	0	0	12	0	7	0	0	1,135	0	0	2	1,291	0	2,447	0
Peak Hour	0	0	0	0	0	8	0	3	0	0	637	0	0	1	668	0	1,317	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	0	1	2	0	0	0	1	1	1	3	1	0	5
4:15 PM	0	0	0	1	1	0	0	0	0	0	1	4	0	0	5
4:30 PM	0	0	2	1	3	0	0	0	0	0	6	7	0	0	13
4:45 PM	0	0	0	1	1	0	0	0	0	0	4	7	0	0	11
5:00 PM	0	1	0	1	2	0	0	0	0	0	1	5	0	0	6
5:15 PM	0	0	1	1	2	0	0	0	0	0	7	6	0	0	13
5:30 PM	0	0	1	0	1	0	0	0	0	0	3	5	0	0	8
5:45 PM	0	1	0	1	2	0	0	0	0	0	3	5	0	0	8
Count Total	0	3	4	7	14	0	0	0	1	1	26	42	1	0	69
Peak Hr	0	1	2	3	6	0	0	0	0	0	15	23	0	0	38