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The Parks at Meadowview

Traffic Impact Analysis

Chatham County, North Carolina

RKA

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TRAFFIC IMPACT ANALYSIS

FOR

THE PARKS AT MEADOWVIEW

LOCATED

IN

CHATHAM COUNTY, NC

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TRAFFIC IMPACT ANALYSIS
THE PARKS AT MEADOWVIEW
CHATHAM COUNTY, NORTH CAROLINA

EXECUTIVE SUMMARY

1. Development Overview

A Traffic Impact Analysis (TIA) was conducted for the proposed Parks at Meadowview development in accordance with North Carolina Department of Transportation (NCDOT) capacity analysis guidelines. The proposed development is to be located south of Parks Meadow Drive and east of NC 87 in Chatham County, North Carolina. The proposed development is expected to be a maximum of 379 single family homes and 67 townhomes and estimated to be built out in 2026. Site access is proposed via two full movement driveways along Park Meadows Drive. One will form a third leg to the western roundabout along Park Meadows Drive, the second driveway will be just east of the western roundabout.

The study analyzes traffic conditions during the weekday AM and PM peak hours for the following scenarios:

- 2022 Existing Traffic Conditions
- 2026 No-Build Traffic Conditions
- 2026 Build Traffic Conditions

2. Existing Traffic Conditions

The study area for the TIA was determined through coordination with the Town and NCDOT and consists of the following existing intersections:

- Old Graham Road and Chapel Ridge Drive
- Parks Meadow Drive and The Parks Drive / Golfer View
- Parks Meadow Drive Western Roundabout
- NC 87 and Parks Meadow Drive

Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersection listed below, in March of 2018 by RKA during a typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods:

- Old Graham Road and Chapel Ridge Drive
- Parks Meadow Drive and The Parks Drive / Golfer View
- Parks Meadow Drive Western Roundabout
- NC 87 and Parks Meadow Drive

3. Site Trip Generation

The proposed development is assumed to consist of 379 single family homes and 67 townhomes. Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE Trip Generation Manual, 10th Edition. Table E-1 provides a summary of the trip generation potential for the site.

Table E-1: Site Trip Generation

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Single family homes (210)	379 DU	3,438	65	185	219	129
Townhomes (220)	67 DU	505	10	34	31	18
Total Trips		**3,943**	**75**	**219**	**250**	**147**

4. Future Traffic Conditions

Through coordination with the Town and NCDOT, it was determined that an annual growth rate of 3% would be used to generate 2026 projected weekday AM and PM peak hour traffic volumes. The following adjacent development was identified to be considered under future conditions:

- Meadowview PUD – Phase 1

5. Capacity Analysis Summary

The analysis considered weekday AM and PM peak hour traffic for 2012 existing, 2026 no-build, and 2026 build conditions. Refer to Section 7 of the TIA for the capacity analysis summary performed at each study intersection.

6. Recommendations

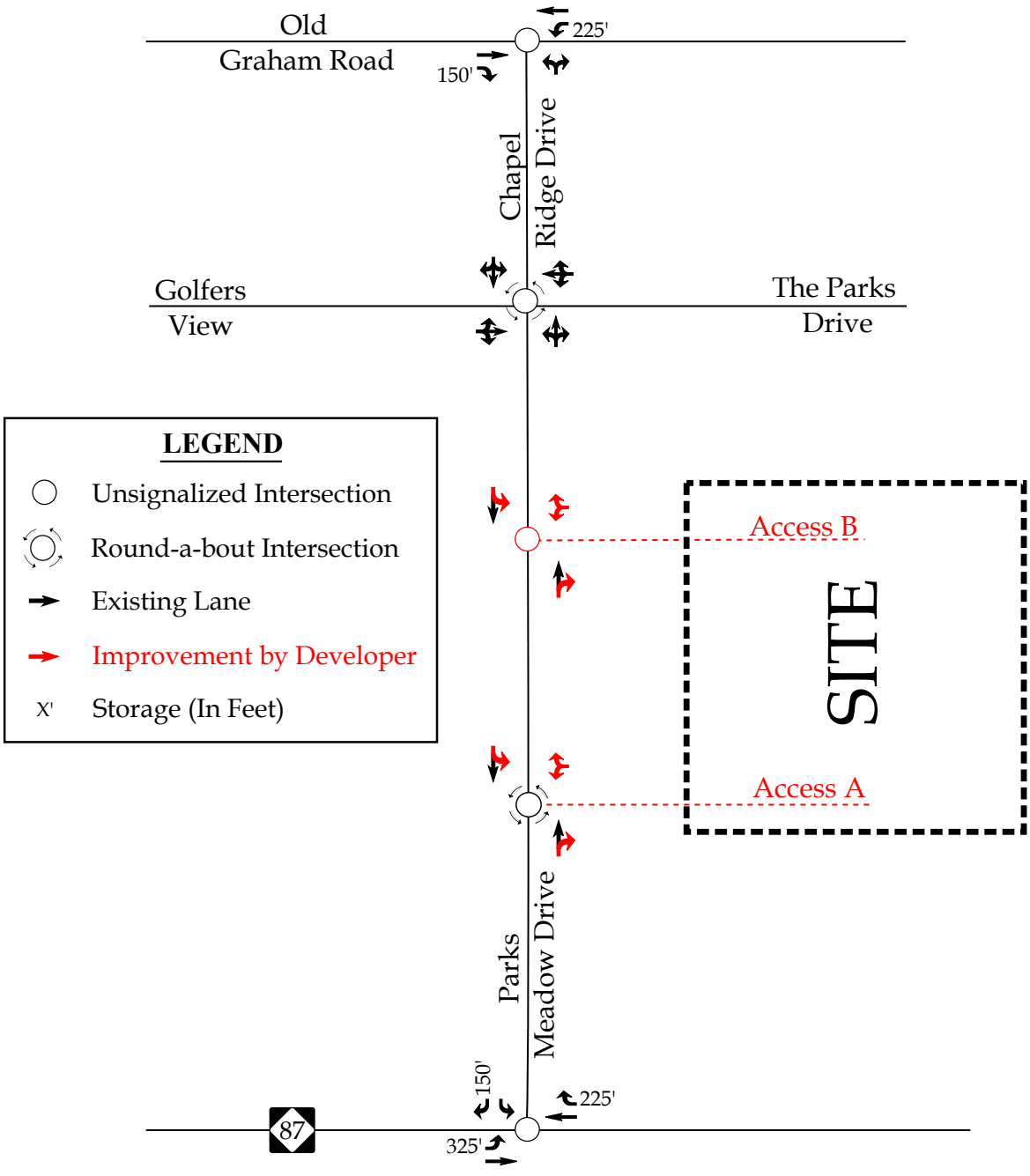
Based on the findings of this study, specific geometric and traffic control improvements have been identified at study intersections. The improvements are summarized below and are illustrated in Figure E-1.

Parks Meadow Drive Western Roundabout and Access A

- Construct northbound approach as a full movement approach with one ingress lane and one egress lanes.
- Provide yield-control for the northbound approach.

Parks Meadow Drive and Access B

- Construct northbound approach as a full movement approach with one ingress lane and one egress lanes.
- Provide stop-control for the northbound approach.



RKA RAMEY KEMP ASSOCIATES	The Parks at Meadowview Pittsboro, NC	Recommended Lane Configurations	
		Scale: Not to Scale	Figure E-1

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TRAFFIC IMPACT ANALYSIS
THE PARKS AT MEADOWVIEW
CHATHAM COUNTY, NORTH CAROLINA

1. INTRODUCTION

The contents of this report present the findings of the Traffic Impact Analysis (TIA) conducted for the proposed Parks at Meadowview development to be located south of Parks Meadow Drive and east of NC 87 in Chatham County, North Carolina. The purpose of this study is to determine the potential impacts to the surrounding transportation system created by traffic generated by the proposed development, as well as recommend improvements to mitigate the impacts.

The proposed development, anticipated to be completed in 2026, is assumed to consist of the following uses:

- 379 single family homes
- 67 townhomes

The study analyzes traffic conditions during the weekday AM and PM peak hours for the following scenarios:

- 2022 Existing Traffic Conditions
- 2026 No-Build Traffic Conditions
- 2026 Build Traffic Conditions

1.1. Site Location and Study Area

The development is proposed to be located south of Parks Meadow Drive and east of NC 87 in Pittsboro, North Carolina. Refer to Figure 1 for the site location map.

The study area for the TIA was determined through coordination with the North Carolina Department of Transportation (NCDOT) and Chatham County (County) and consists of the following existing intersections:

- Old Graham Road and Chapel Ridge Drive (unsignalized)

- Parks Meadow Drive and The Parks Drive / Golfer View (roundabout)
- Parks Meadow Drive Western Roundabout (roundabout)
- NC 87 and Parks Meadow Drive (unsignalized)

Refer to Appendix A for the approved scoping documentation.

1.2. Proposed Land Use and Site Access

The site is expected to be located south of Parks Meadow Drive and east of NC 87. The proposed development, anticipated to be completed in 2026, is assumed to consist of the following uses:

- 379 single family homes
- 67 townhomes

Site access is proposed via two full movement driveways along Park Meadows Drive. One will form a third leg to the western roundabout along Park Meadows Drive, the second driveway will be just east of the western roundabout. An emergency access will provide a connection to The Parks Drive but was not considered as part of this study. Refer to Figure 2 for a copy of the preliminary site plan.

1.3. Adjacent Land Uses

The proposed development is located in an area consisting of undeveloped land and residential development.

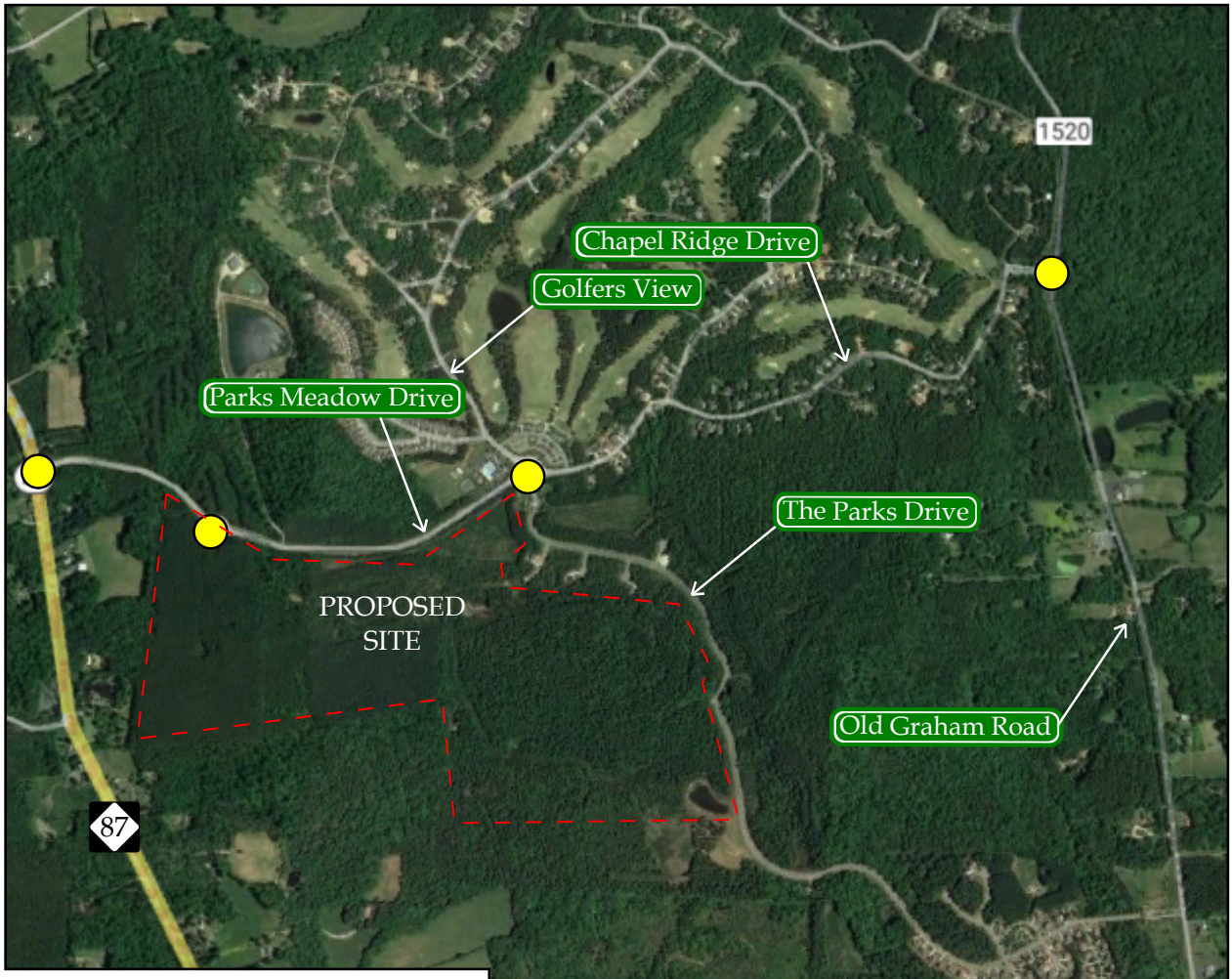
1.4. Existing Roadways

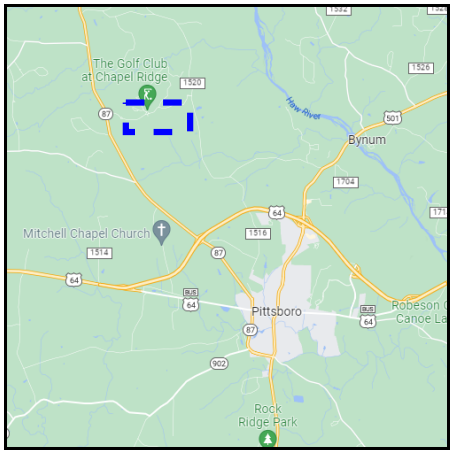
Existing lane configurations (number of traffic lanes on each intersection approach), storage capacities, and other intersection and roadway information within the study area are shown in Figure 3. Table 1 provides a summary of this information, as well.

Table 1: Existing Roadway Inventory

Road Name	Route Number	Typical Cross Section	Speed Limit	Maintained By	2016 AADT (vpd)
Old Graham Road	SR 1520	2-lane undivided	45 mph	NCDOT	1,460*
Chapel Ridge Drive	N/A	2-lane undivided	25 mph	Local	760*
Park Meadows Drive	SR 1680	2-lane undivided	25 mph	NCDOT	1,110*
The Parks Drive	N/A	2-lane undivided	25 mph	Local	200*
Golfers View	N/A	2-lane undivided	25 mph	Local	980*
NC 87		2-lane undivided	55 mph	NCDOT	4,400*

*ADT based on the traffic counts from 2022 and assuming the weekday PM peak hour volume is 10% of the average daily traffic.





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LEGEND

- Proposed Site Location
- Study Intersection
- Study Area

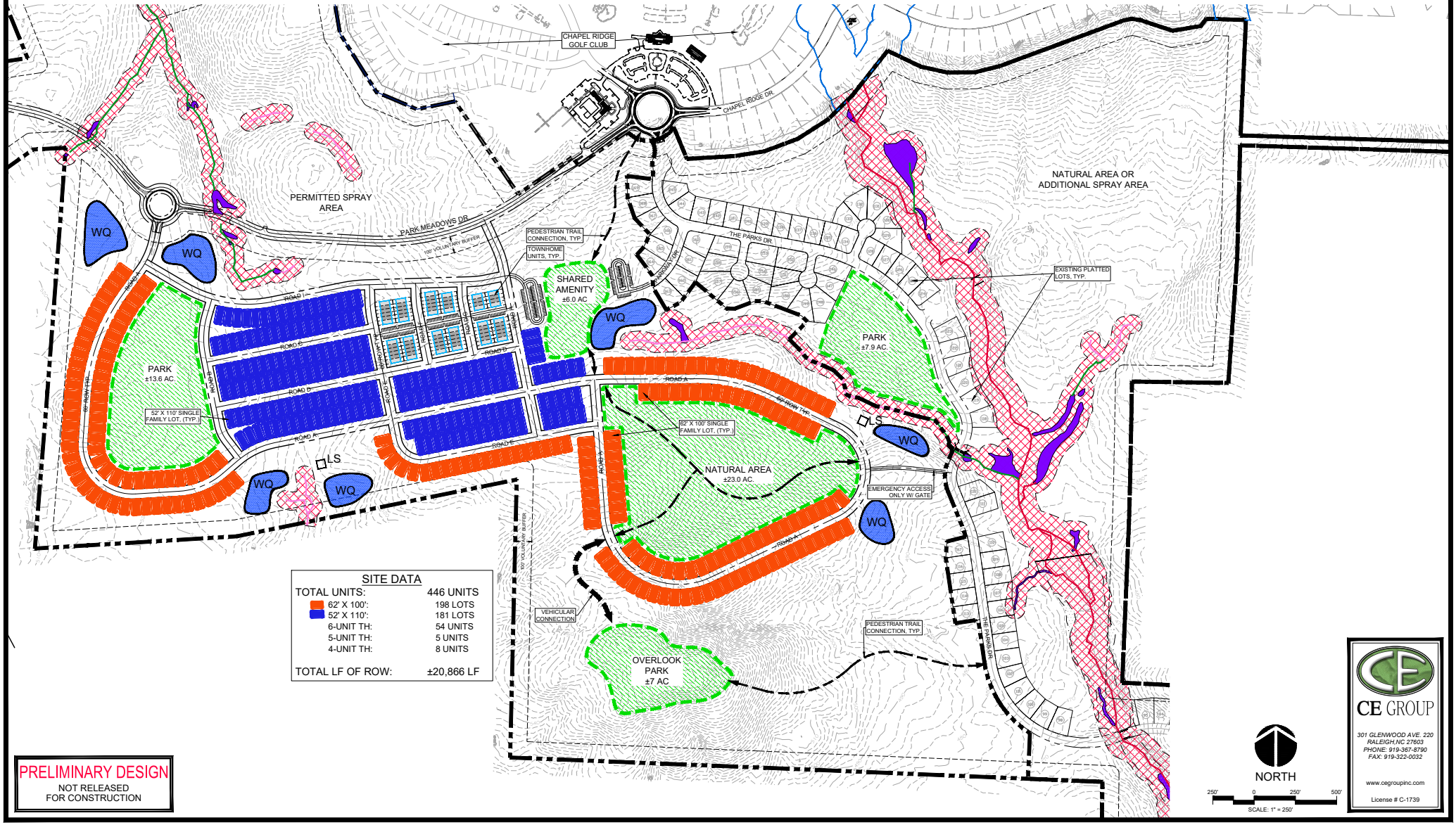
RAMEY KEMP ASSOCIATES	The Parks at Meadowview Pittsboro, NC	Site Location Map	
		Scale: Not to Scale	Figure 1

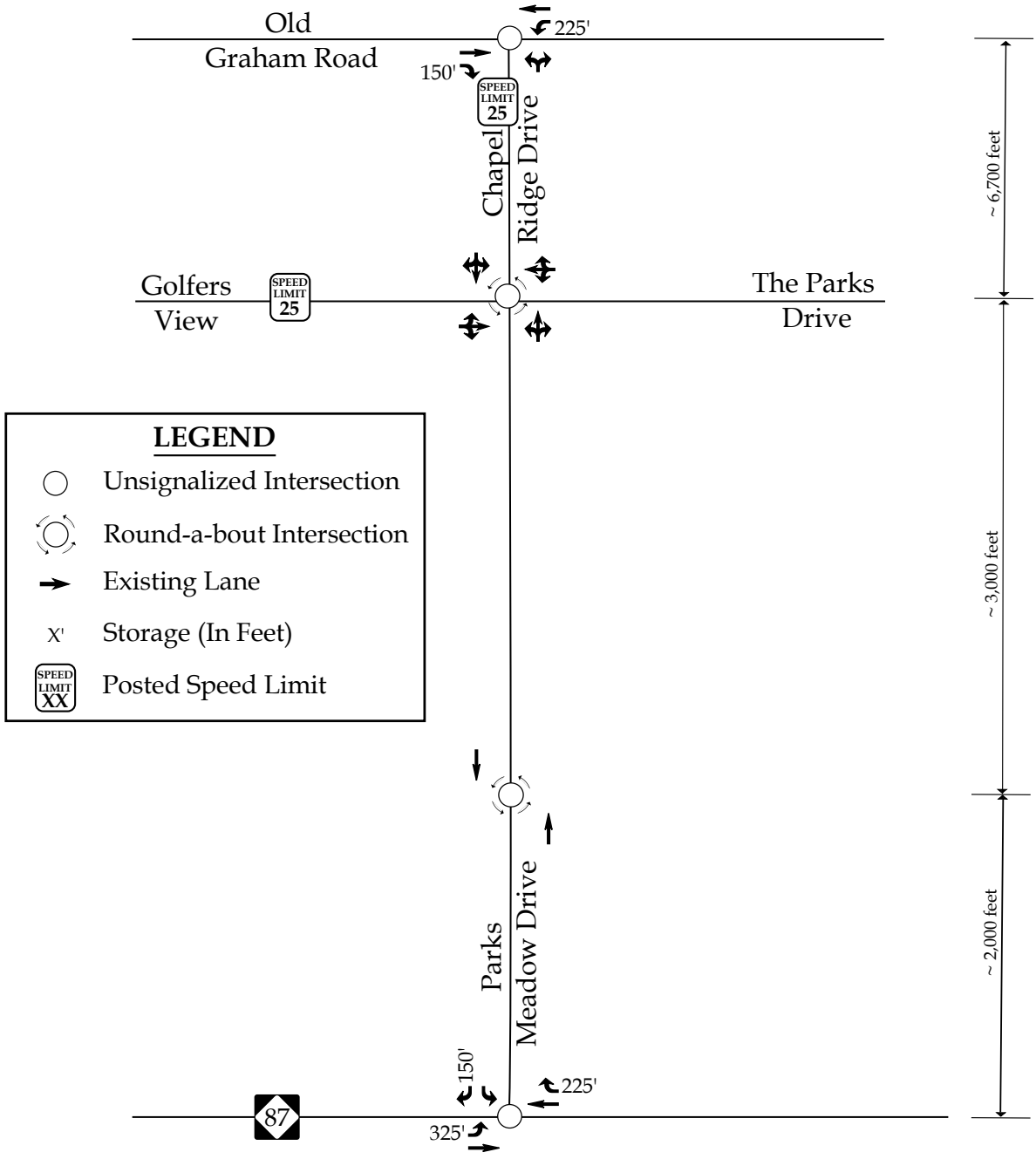
PARKS AT MEADOWVIEW

CONCEPT PLAN - PUD MODIFICATION

CHATHAM COUNTY, NC

JANUARY 26, 2021





RAMEY KEMP ASSOCIATES	The Parks at Meadowview Pittsboro, NC	2022 Existing Lane Configurations	
		Scale: Not to Scale	Figure 3

2. 2022 EXISTING PEAK HOUR CONDITIONS

2.1. 2022 Existing Peak Hour Traffic Volumes

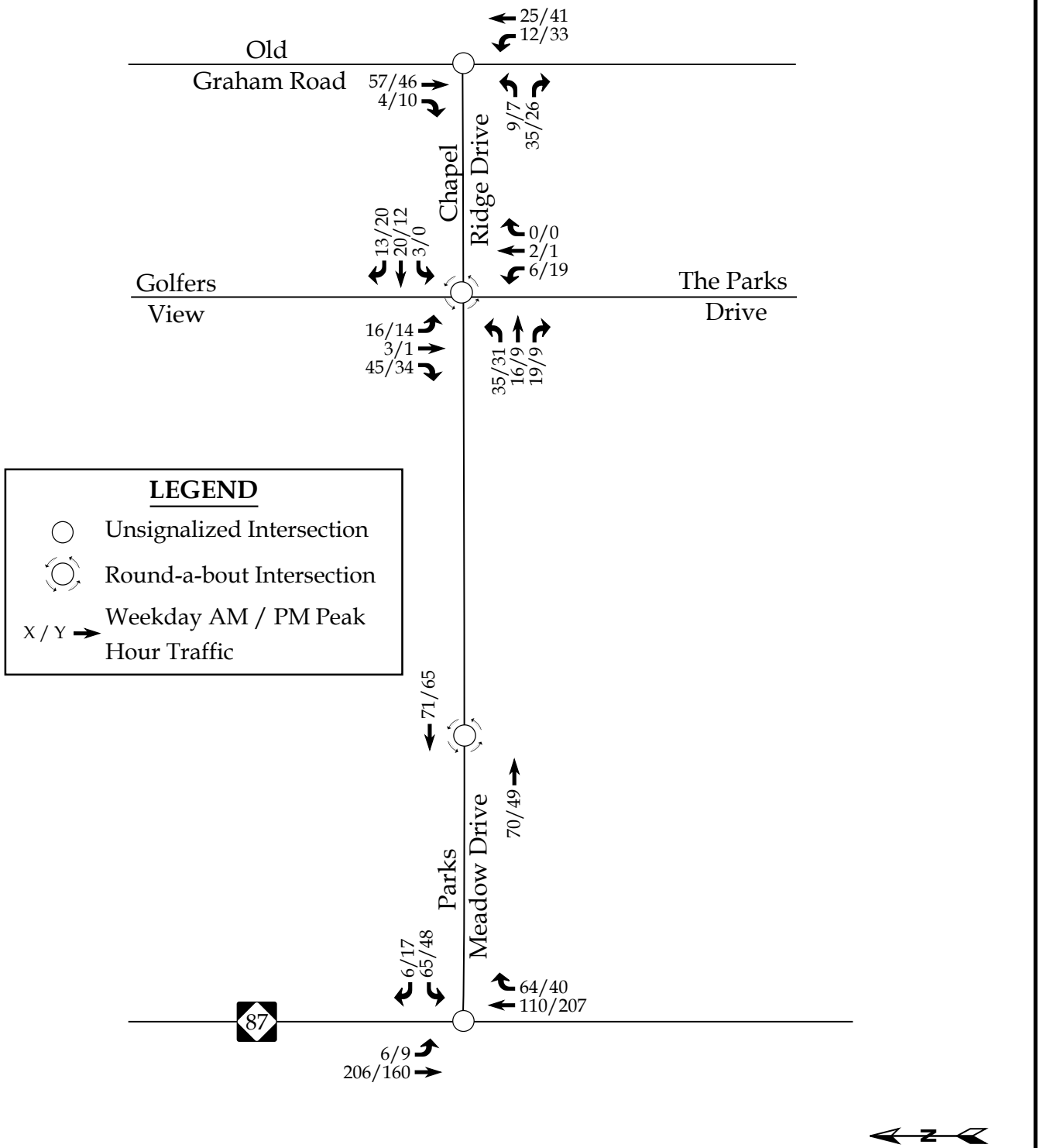
Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersections listed below, in April of 2022 by RKA and Burns Service, Inc. during a typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods:

- Chapel Ridge Drive and Old Graham Road (unsignalized)
- Parks Meadow Drive and The Parks Drive / Golfer View (roundabout)
- Parks Meadow Drive Western Roundabout (roundabout)
- NC 87 and Parks Meadow Drive (unsignalized)

Weekday AM and PM traffic volumes were balanced between study intersections, where appropriate. Refer to Figure 4 for 2022 existing weekday AM and PM peak hour traffic volumes. A copy of the count data is located in Appendix B of this report.

2.2. Analysis of 2022 Existing Peak Hour Traffic Conditions

The 2022 existing weekday AM and PM peak hour traffic volumes were analyzed to determine the current levels of service at the study intersections under existing roadway conditions. The results of the analysis are presented in Section 7 of this report.



RAMEY KEMP ASSOCIATES	The Parks at Meadowview Pittsboro, NC	2022 Existing Peak Hour Traffic	
		Scale: Not to Scale	Figure 4

3. 2026 NO-BUILD PEAK HOUR CONDITIONS

In order to account for growth of traffic and subsequent traffic conditions at a future year, no-build traffic projections are needed. No-build traffic is the component of traffic due to the growth of the community and surrounding area that is anticipated to occur regardless of whether or not the proposed development is constructed. No-build traffic is comprised of existing traffic growth within the study area and additional traffic created as a result of adjacent approved developments.

3.1. Ambient Traffic Growth

Through coordination with the NCDOT and the County, it was determined that an annual growth rate of 3% would be used to generate 2026 projected weekday AM and PM peak hour traffic volumes. Refer to Figure 5 for 2026 projected peak hour traffic.

3.2. Adjacent Development Traffic

Based on coordination with the NCDOT and the County, the following adjacent development was identified to be included as an approved adjacent development in this study:

- Meadowview PUD – Phase 1

Table 2 provides a summary of the adjacent developments.

Table 2: Adjacent Development Information

Development Name	Location	Build-Out Year	Land Use / Intensity	TIA Performed
Meadowview PUD	Along The Parks Drive, south of Parks Meadow Drive	NA	335 single family homes	**RKA**

The Meadowview PUD is located along The Parks Drive, south of Parks Meadow Drive and will consist of 335 single family homes. Due to the TIA being prepared in 2006, an updated trip generation was calculated for the site. Trips were distributed throughout the site utilizing the regional distributions of the proposed site. No improvements to the surrounding roadway

network were included in the study. Adjacent development trips are shown in Figure 6. Adjacent development information can be found in Appendix C.

3.3. Future Roadway Improvements

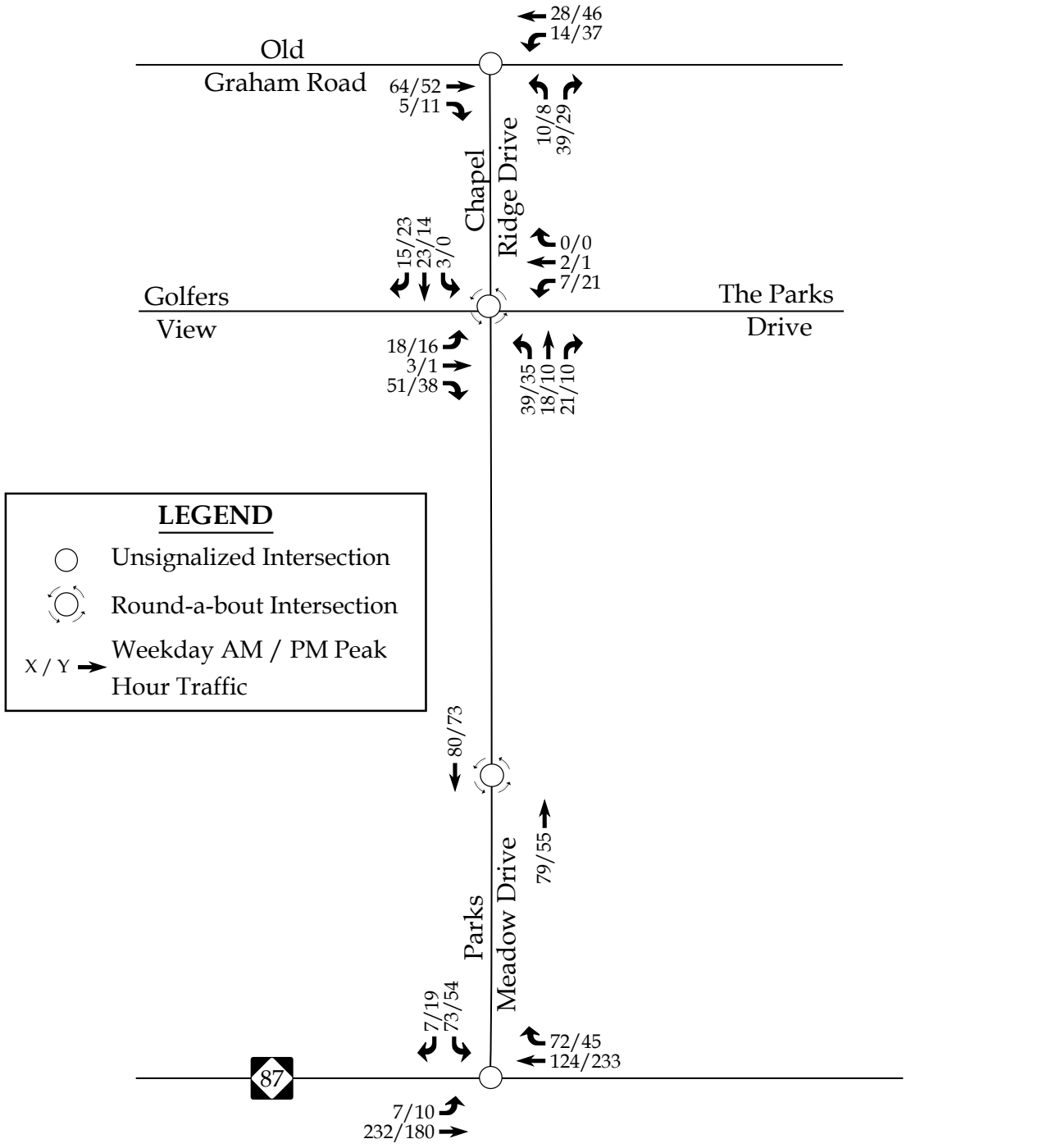
Based on coordination with the NCDOT and the County, it was determined there were no future roadway improvements to consider with this study.

3.4. 2026 No-Build Peak Hour Traffic Volumes

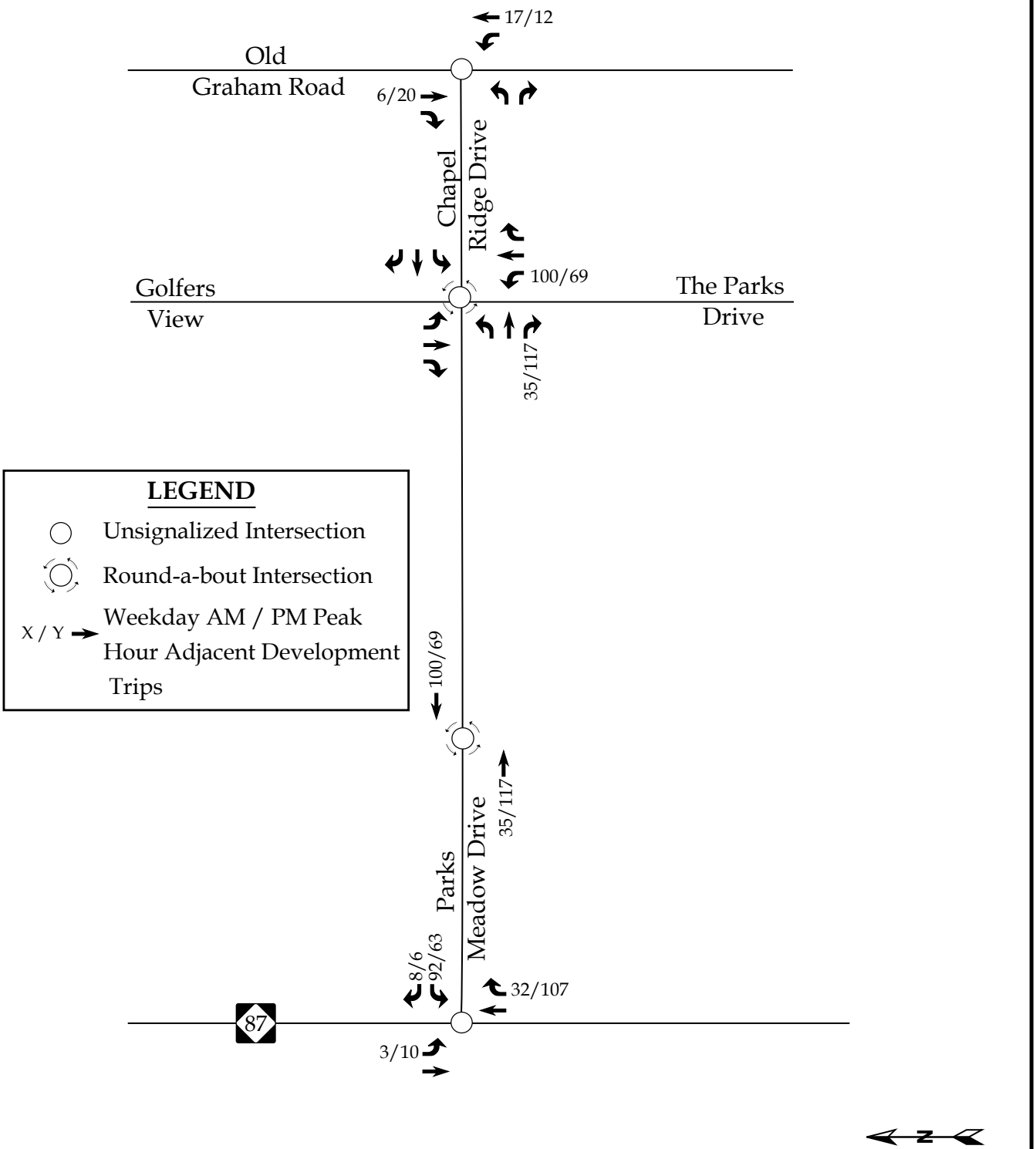
The 2026 no-build traffic volumes were determined by projecting the 2022 existing peak hour traffic to the year 2026. Refer to Figure 7 for an illustration of the 2026 no-build peak hour traffic volumes at the study intersections.

3.5. Analysis of 2026 No-Build Peak Hour Traffic Conditions

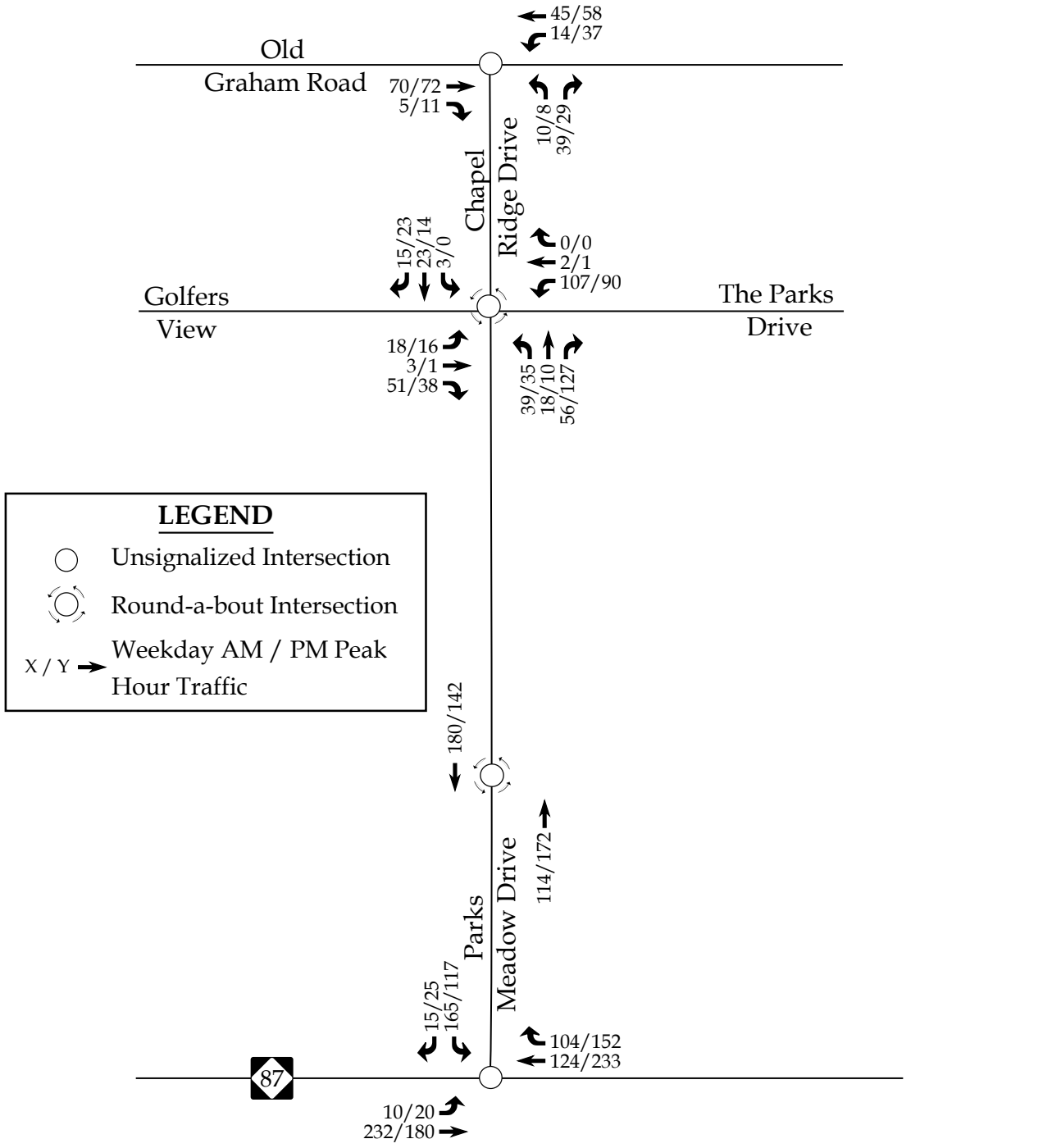
The 2026 no-build AM and PM peak hour traffic volumes at the study intersections were analyzed with future geometric roadway conditions and traffic control. The analysis results are presented in Section 7 of this report.



RKA RAMEY KEMP ASSOCIATES	The Parks at Meadowview Pittsboro, NC	2026 Projected Peak Hour Traffic
		Scale: Not to Scale | Figure 5



RAMEY KEMP ASSOCIATES	The Parks at Meadowview Pittsboro, NC	Adjacent Development Trip Assignment	
		Scale: Not to Scale	Figure 6



RKA RAMEY KEMP ASSOCIATES	The Parks at Meadowview Pittsboro, NC	2026 No-Build Peak Hour Traffic
		Scale: Not to Scale | Figure 7

4. SITE TRIP GENERATION AND DISTRIBUTION

4.1. Trip Generation

The proposed development is assumed to consist of 379 single family homes and 67 townhomes. Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE *Trip Generation Manual*, 11th Edition. Table 3 provides a summary of the trip generation potential for the site.

Table 3: Trip Generation Summary

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Single family homes (210)	379 DU	3,438	65	185	219	129
Townhomes (220)	67 DU	505	10	34	31	18
Total Trips		**3,943**	**75**	**219**	**250**	**147**

It is estimated that the proposed development will generate approximately 3,943 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 294 trips (75 entering and 219 exiting) will occur during the weekday AM peak hour and 397 trips (250 entering and 147 exiting) will occur during the weekday PM peak hour.

4.2. Site Trip Distribution and Assignment

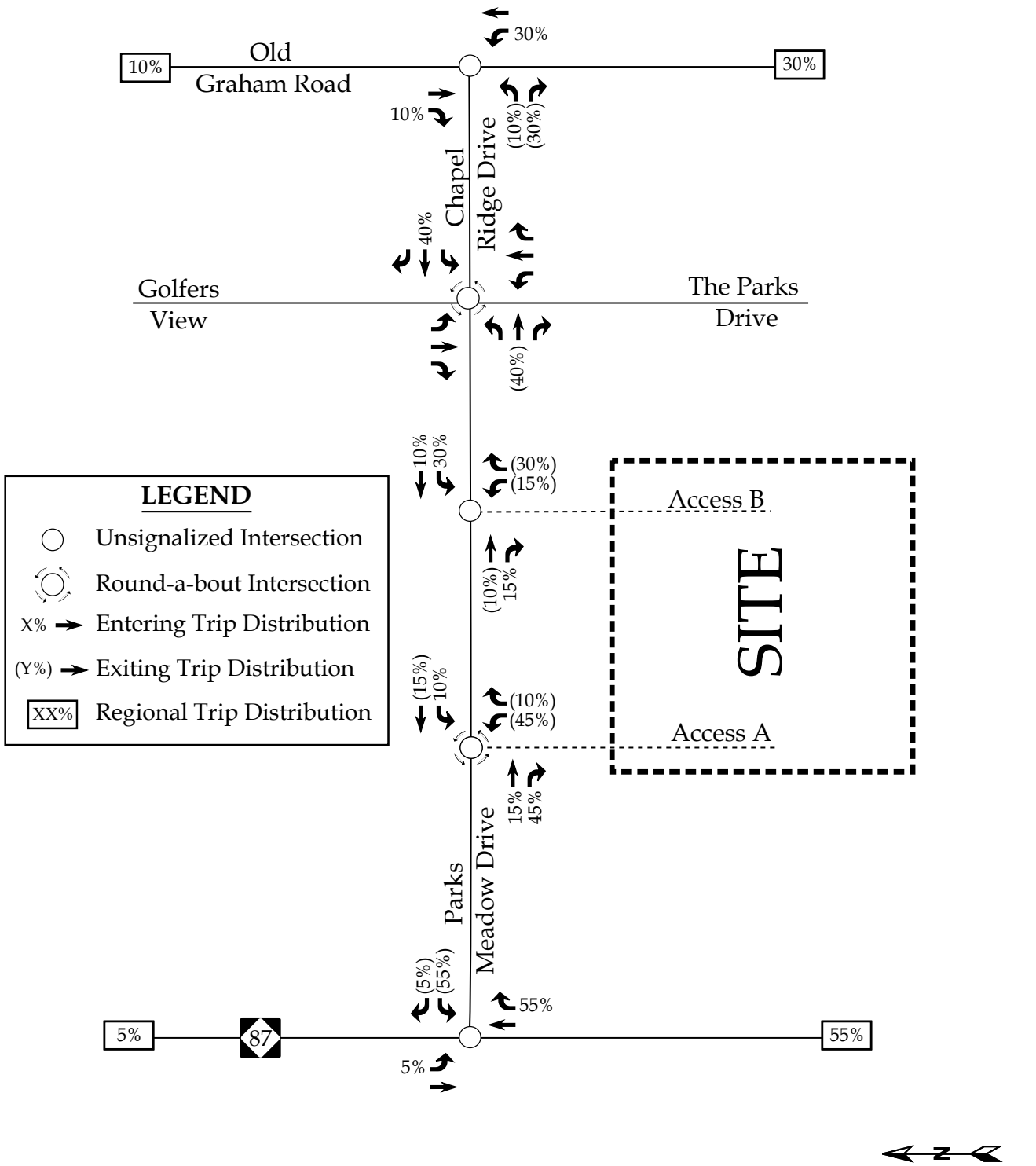
Trip distribution percentages used in assigning site traffic for this development were estimated based on a combination of existing traffic patterns, population centers adjacent to the study area, and engineering judgment.

It is estimated that the site trips will be regionally distributed as follows:

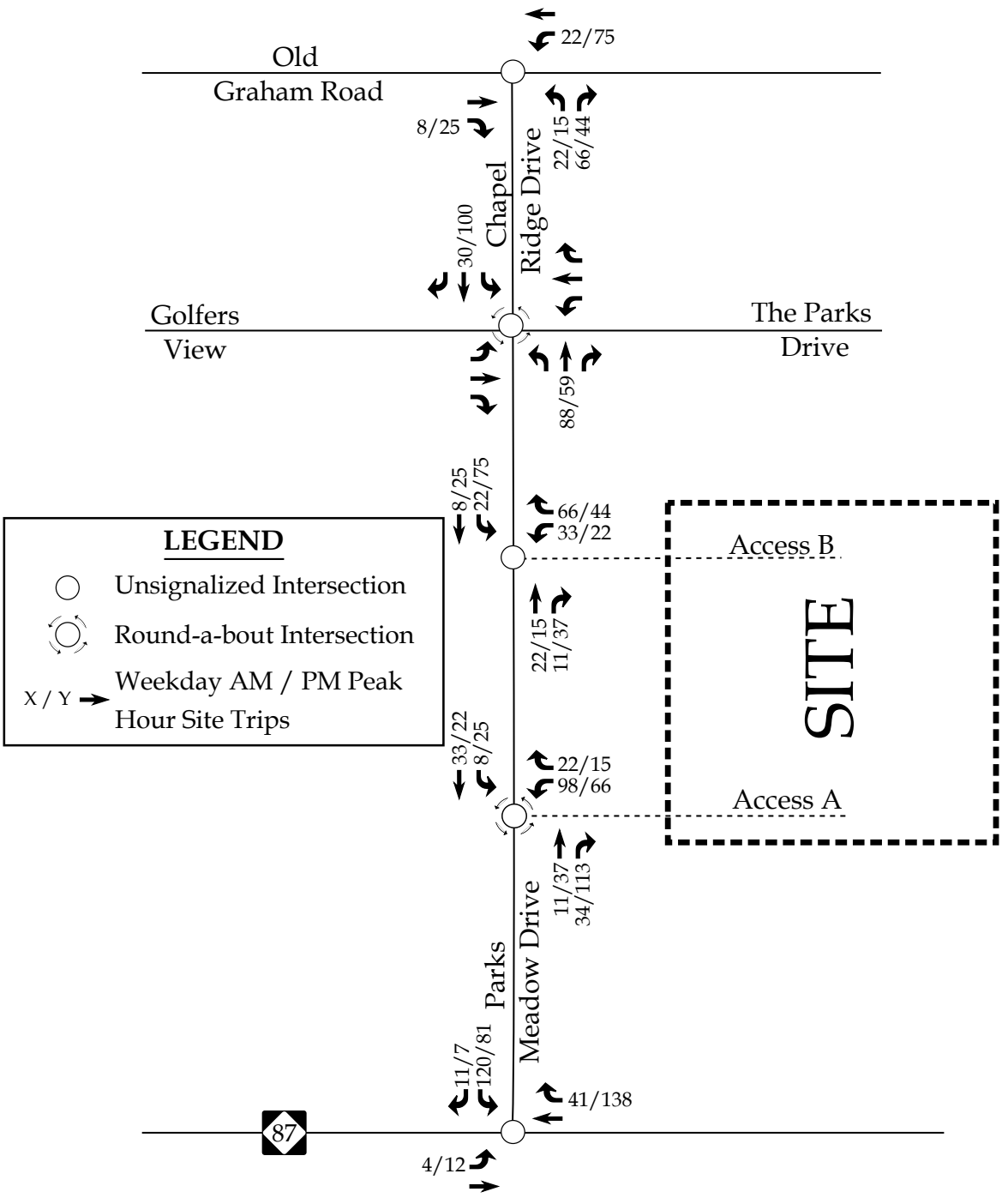
- 10% to/from the north via Old Graham Road
- 5% to/from the north via NC 87

- 30% to/from the south via Old Graham Road
- 55% to/from the south via NC 87

The site trip distribution is shown in Figure 8. Refer to Figure 9 for the site trip assignment.



RAMEY KEMP ASSOCIATES	The Parks at Meadowview Pittsboro, NC	Site Trip Distribution	
		Scale: Not to Scale	Figure 8



RKA RAMEY KEMP ASSOCIATES	The Parks at Meadowview Pittsboro, NC	Site Trip Assignment Scale: Not to Scale | Figure 9

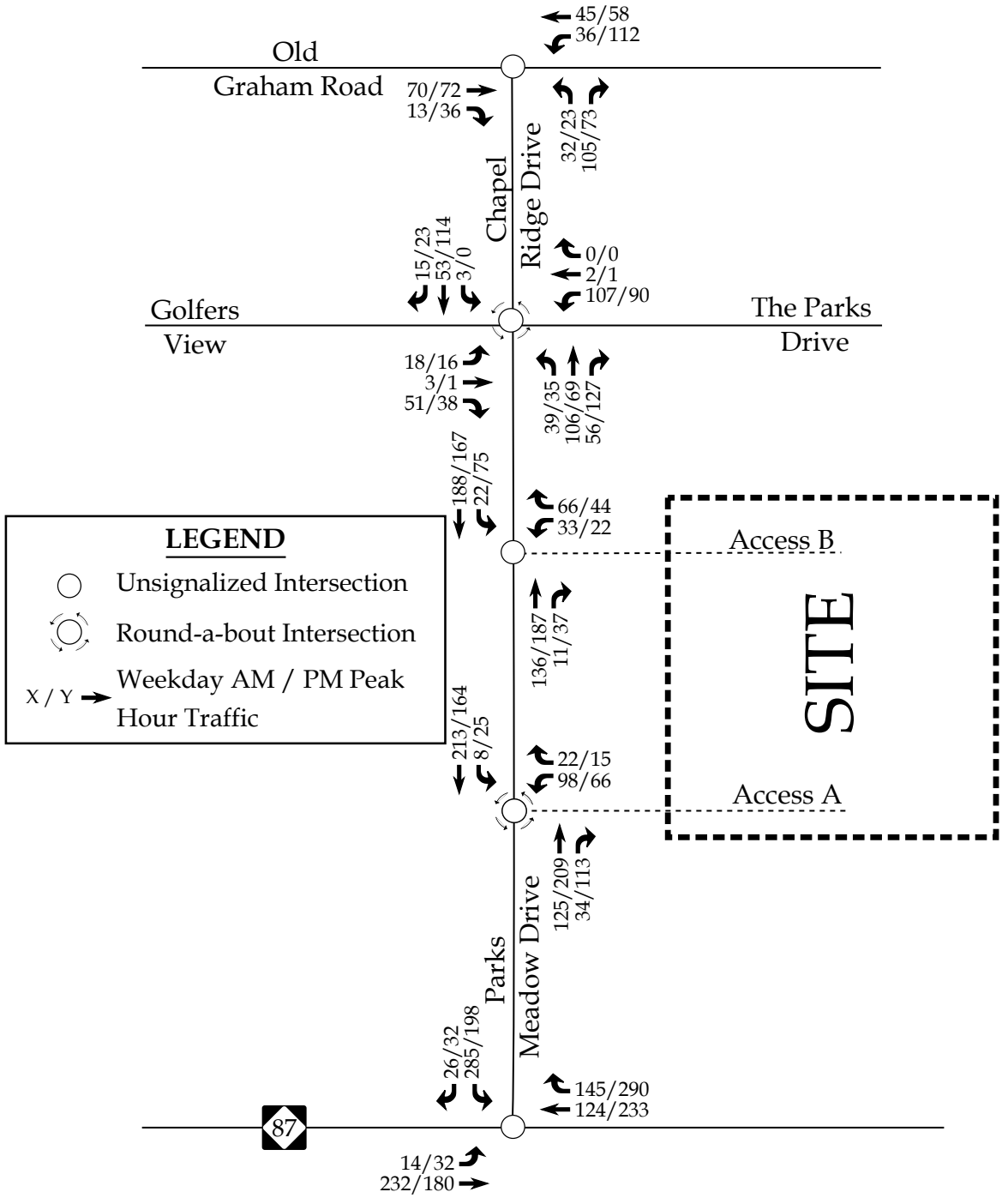
5. 2026 BUILD TRAFFIC CONDITIONS

5.1. 2026 Build Peak Hour Traffic Volumes

To estimate traffic conditions with the site fully built-out, the total site trips were added to the 2026 no-build traffic volumes to determine the 2026 build traffic volumes. Refer to Figure 10 for an illustration of the 2026 build peak hour traffic volumes with the proposed site fully developed.

5.2. Analysis of 2026 Build Peak Hour Traffic Conditions

Study intersections were analyzed with the 2026 build traffic volumes using the same methodology previously discussed for existing and no-build traffic conditions. Intersections were analyzed with improvements necessary to accommodate future traffic volumes. The results of the capacity analysis for each intersection are presented in Section 7 of this report.



RAMEY KEMP ASSOCIATES	The Parks at Meadowview Pittsboro, NC	2026 Build Peak Hour Traffic	
		Scale: Not to Scale	Figure 10

6. TRAFFIC ANALYSIS PROCEDURE

Study intersections were analyzed using the methodology outlined in the *Highway Capacity Manual* (HCM), 6th Edition published by the Transportation Research Board. Capacity and level of service are the design criteria for this traffic study. A computer software package, Synchro (Version 10.3), was used to complete the analyses for most of the study area intersections. Please note that the unsignalized capacity analysis does not provide an overall level of service for an intersection; only delay for an approach with a conflicting movement.

For roundabout intersections, the computer software package Sidra (Version 9) was used to analyze the roundabout's capacity and provides LOS calculations for all approaches and an overall resulting LOS.

The HCM defines capacity as "the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions." Level of service (LOS) is a term used to represent different driving conditions, and is defined as a "qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers." Level of service varies from Level "A" representing free flow, to Level "F" where breakdown conditions are evident. Refer to Table 4 for HCM levels of service and related average control delay per vehicle for both signalized and unsignalized intersections. Control delay as defined by the HCM includes "initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay". An average control delay of 50 seconds at a signalized intersection results in LOS "D" operation at the intersection.

Table 4: Highway Capacity Manual – Levels-of-Service and Delay

UNSIGNALIZED INTERSECTION		SIGNALIZED INTERSECTION	
LEVEL OF SERVICE	**AVERAGE CONTROL DELAY PER VEHICLE (SECONDS)**	**LEVEL OF SERVICE**	**AVERAGE CONTROL DELAY PER VEHICLE (SECONDS)**
A	0-10	A	0-10
B	10-15	B	10-20
C	15-25	C	20-35
D	25-35	D	35-55
E	35-50	E	55-80
F	>50	F	>80

6.1. Adjustments to Analysis Guidelines

Capacity analysis at all study intersections was completed according to the NCDOT Congestion Management Guidelines.

7. CAPACITY ANALYSIS

7.1. Chapel Ridge Drive [EB] and Old Graham Road [NB-SB]

The existing unsignalized intersection of Chapel Ridge Drive and Old Graham Road was analyzed under all traffic conditions with lane configurations and traffic control shown in Table 4. Refer to Table 5 for a summary of the analysis results. Refer to Appendix D for the Synchro capacity analysis reports.

Table 5: Analysis Summary of Chapel Ridge Drive and Old Graham Road

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2022 Existing	EB NB SB	1 LT-RT 1 LT, 1 TH 1 TH, 1 RT	A[2] A[1] --	N/A	A[2] A[1] --	N/A
2026 No-Build	EB NB SB	1 LT-RT 1 LT, 1 TH 1 TH, 1 RT	A[2] A[1] --	N/A	A[2] A[1] --	N/A
2026 Build	EB NB SB	1 LT-RT 1 LT, 1 TH 1 TH, 1 RT	A[2] A[1] --	N/A	B[2] A[1] --	N/A

1. Level of service for major-street left-turn movement.
2. Level of service for minor-street approach.

Capacity analysis of 2022 existing, 2026 no-build, and 2026 build traffic conditions indicates that all approaches are expected to operate at LOS B or better under all conditions during both peak hours. The eastbound approach is expected to degrade from LOS A under 2026 no-build PM conditions to LOS B under 2026 build PM conditions. This degradation is just over the threshold and should not be considered an impact. No significant increases in queue length are expected. No improvements by the developer are recommended.

7.2. Parks Meadow Drive [EB-WB] and The Parks Drive/Golfer View [NB-SB]

The existing roundabout intersection of Parks Meadow Drive and The Parks Drive/Golfer View was analyzed under all traffic conditions with existing lane configurations and traffic control. Refer to Table 6 for a summary of the analysis results. Refer to Appendix E for the Sidra capacity analysis reports.

Table 6: Analysis Summary of Parks Meadow Drive and The Parks Drive/Golfer View

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2022 Existing	EB	1 LT-TH-RT	A	A (3)	A	A (3)
	WB	1 LT-TH-RT	A		A	
	NB	1 LT-TH-RT	A		A	
	SB	1 LT-TH-RT	A		A	
2026 No-Build	EB	1 LT-TH-RT	A	A (4)	A	A (4)
	WB	1 LT-TH-RT	A		A	
	NB	1 LT-TH-RT	A		A	
	SB	1 LT-TH-RT	A		A	
2026 Build	EB	1 LT-TH-RT	A	A (4)	A	A (4)
	WB	1 LT-TH-RT	A		A	
	NB	1 LT-TH-RT	A		A	
	SB	1 LT-TH-RT	A		A	

Capacity analysis of 2022 existing, 2026 no-build, and 2026 build traffic conditions indicates that all approaches are expected to operate at LOS A under all conditions during both peak hours. The overall intersection is expected to operate at LOS A during all scenarios. No significant increases in queue length are expected. No improvements by the developer are recommended.

7.3. Parks Meadow Drive Western Roundabout [EB-WB] and Access A [NB]

The existing roundabout intersection of Parks Meadow Drive Western Roundabout and Access A was analyzed under all traffic conditions with the lane configurations and traffic control shown in Table 7. Refer to Table 7 for a summary of the analysis results. Refer to Appendix F for the Sidra capacity analysis reports.

Table 7: Analysis Summary of Parks Meadow Drive Western Roundabout and Access A

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2022 Existing	EB WB	1 TH 1 TH	A A	A (3)	A A	A (3)
2026 No-Build	EB WB	1 TH 1 TH	A A	A (4)	A A	A (4)
2026 Build	EB WB NB	1 TH-**RT** 1 **LT**-TH **1 LT-RT**	A A A	A (4)	A A A	A (5)

Improvements to lane configurations are shown in bold.

Capacity analysis of 2022 existing, 2026 no-build, and 2026 build traffic conditions indicates that all approaches are expected to operate at LOS A under all conditions during both peak hours. The overall intersection is expected to operate at LOS A during all scenarios. No significant increases in queue length are expected. Turn lanes were not considered for the proposed site driveway due to the traffic along Parks Meadow Drive not being expected to exceed 4,000 vehicles per day (vpd), which is typically the threshold to consider turn lanes. No improvements by the developer are recommended.

7.4. NC 87 [NB-SB] and Parks Meadow Drive [WB]

The existing unsignalized intersections of NC 87 and Parks Meadow Drive were analyzed all build traffic conditions with the lane configurations and traffic control shown in Table 8. Refer to Table 8 for a summary of the analysis results. Refer to Appendix G for the Synchro capacity analysis reports.

Table 8: Analysis Summary of NC 87 and Parks Meadow Drive

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2022 Existing	WB NB SB	1 LT, 1 RT 1 TH, 1 RT 1 LT, 1 TH	B[2] -- A[1]	N/A	B[2] -- A[1]	N/A
2026 No-Build	WB NB SB	1 LT, 1 RT 1 TH, 1 RT 1 LT, 1 TH	B[2] -- A[1]	N/A	B[2] -- A[1]	N/A
2026 Build	WB NB SB	1 LT, 1 RT 1 TH, 1 RT 1 LT, 1 TH	C[2] -- A[1]	N/A	C[2] -- A[1]	N/A

1. Level of service for major-street left-turn movement.
2. Level of service for minor-street approach.

Capacity analysis of 2022 existing, 2026 no-build, and 2026 build traffic conditions indicates that all approaches are expected to operate at LOS B or better under all conditions during both peak hours. The westbound approach is expected to degrade in both peak hours from LOS B under 2026 no-build conditions to LOS C under 2026 build conditions. This degradation is just over the threshold and should not be considered an impact. No significant increases in queue length are expected. No improvements by the developer are recommended.

7.5. Parks Meadow Drive [WB-EB] and Access B [NB]

The proposed intersection of Parks Meadow Drive and Access B was analyzed under 2026 build traffic conditions with the lane configurations and traffic control shown in Table 9. Refer to Table 9 for a summary of the analysis results. Refer to Appendix H for the Synchro capacity analysis reports.

Table 9: Analysis Summary of Parks Meadow Drive and Access B

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2026 Build	EB WB **NB**	1 TH-**RT** 1 **LT**-TH **1 LT-RT**	-- A[1] A[2]	N/A	-- A[1] B[2]	N/A

Improvements to lane configurations are shown in bold.
1. Level of service for major-street left-turn movement.
2. Level of service for minor-street approach.

Capacity analysis 2026 build traffic conditions indicates that all approaches are expected to operate at LOS B or better under all conditions during both peak hours. No significant increases in queue length are expected. Turn lanes were not considered for the proposed site driveway due to the traffic along Parks Meadow Drive not being expected to exceed 4,000 vehicles per day (vpd), which is typically the threshold to consider turn lanes. No improvements by the developer are recommended.

8. CONCLUSIONS

This Traffic Impact Analysis was conducted to determine the potential traffic impacts of the proposed development, located south of Parks Meadow Drive and east of NC 87 in Chatham County, North Carolina. The proposed development is expected to be a residential development and be built out in 2026. Site access is proposed via two full movement driveways along Park Meadows Drive. One will be the third leg to the western roundabout along Park Meadows Drive, the second will be just east of the roundabout along Park Meadows Drive.

The study analyzes traffic conditions during the weekday AM and PM peak hours for the following scenarios:

- 2022 Existing Traffic Conditions
- 2026 No-Build Traffic Conditions
- 2026 Build Traffic Conditions

Trip Generation

It is estimated that the proposed development will generate approximately 294 primary trips (75 entering and 219 exiting) during the weekday AM peak hour and 397 primary trips (250 entering and 147 exiting) during the weekday PM peak hour.

Adjustments to Analysis Guidelines

Capacity analysis at all study intersections was completed according to NCDOT Congestion Management Guidelines. Refer to section 6.1 of this report for a detailed description of any adjustments to these guidelines made throughout the analysis.

Intersection Capacity Analysis Summary

All the study area intersections (including the proposed site driveways) are expected to operate at acceptable levels-of-service under existing and future year conditions.

9. RECOMMENDATIONS

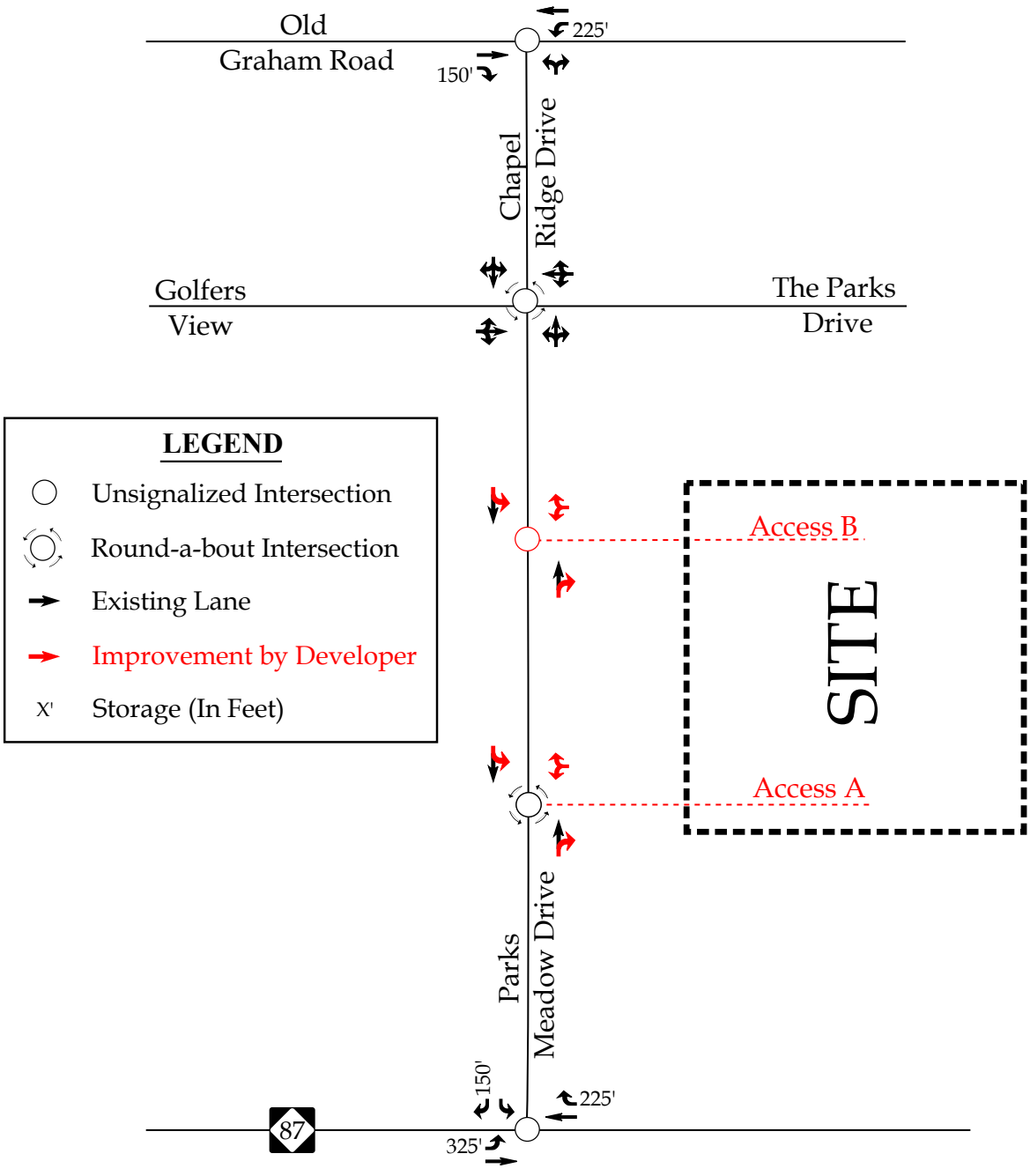
Based on the findings of this study, specific geometric improvements have been identified and are recommended to accommodate future traffic conditions. See a more detailed description of the recommended improvements below. Refer to Figure 11 for an illustration of the recommended lane configuration for the proposed development.

Parks Meadow Drive Western Roundabout and Access A

- Construct northbound approach as a full movement approach with one ingress lane and one egress lane.
- Provide yield-control for the northbound approach.

Parks Meadow Drive and Access B

- Construct northbound approach as a full movement approach with one ingress lane and one egress lane.
- Provide stop-control for the northbound approach.



RKA RAMEY KEMP ASSOCIATES	The Parks at Meadowview Pittsboro, NC	Recommended Lane Configurations	
		Scale: Not to Scale	Figure 11

TECHNICAL APPENDIX

APPENDIX A

SCOPING DOCUMENTATION

NCDOT Traffic Impact Analysis Need Screening / Scoping Request

TIA Need Screening → TIA Scoping → TIA Submittal

A Traffic Impact Analysis (TIA) may be required for developments based on the site trip generation estimates, site context, or at the discretion of the NCDOT District Engineer. The Applicant or the TIA Consultant shall submit this form along with the site plan to the District Engineer to determine the TIA need and, if a TIA is required, initiate the TIA scoping process. Without an approved scope, the TIA is incomplete and will be rejected until the study is revised to conform to NCDOT's TIA requirements.

Project Name: The Parks At Meadowview **Previous Name:** If Applicable

Location: East of NC 87 and south of Parks Meadow Dr **County:** Chatham **Municipality:** Town

Project Description: A residential development consisting of 379 single family homes and 67 tomnhomes

Project Contact:	Applicant	TIA Consultant
Company Name	True Homes	Ramey Kemp Associates
Contact Person	Jon Ward	Caroline Cheeves, PE
Phone Number	714-425-4732	919-872-5115
Email	jward@truehomesusa.com	ccheeves@rameykemp.com
Mailing Address	900 Perimeter Park Dr, Suite E Mooresville, NC 27560	5808 Faringdon Place Raleigh, NC 27609

Site Plan Prepared By: Ce Group **Site Plan Date:** 01/26/2021

See site plan/vicinity map requirements on page 2.

Parcel Size: 261.23 Acre(s) **Anticipated Build-Out Year:** 2026

Weekday Site Trip Generation - Do NOT adjust for mode split, pass-by, internal capture, or diverted trips.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
210	Single Family	379	Units	3438	Adj. Street	65	185	250	219	129	348	ITE Equation
220	Multifamily (Low)	67	Untis	505	Adj. Street	10	34	44	31	18	49	ITE Equation
Total				3943		75	219	294	250	147	397	

Refer to the current *NCDOT Congestion Management Capacity Analysis Guidelines* for acceptable trip calculation methods and data sources.

**Explain local or other data sources, if used: ITE Trip Generation Manual 11th Edition

☒ The estimated site trips meet NCDOT's TIA trip threshold of 3,000 daily trips.

☐ The estimated site trips meet the municipal TIA trip threshold of _____

☐ This project is located in a known STIP and/ or local CIP project # _____

☐ This project includes a rezoning request.

☐ The proposed site access is located within 1,000 feet of an interchange.

☐ The Applicant requests for a new or modified control-of-access break.

☐ The Applicant requests for a new or modified median break.

Applicant's Signature | Print Name | Date

NCDOT Traffic Impact Analysis Need Screening / Scoping Request

TIA Need Screening → TIA Scoping → TIA Submittal

Site Plan/Vicinity Map Requirement for TIA Need Screening: While the site plan may not be finalized during the TIA scoping stage, the graphic representation of the proposed development shall provide adequate details on the development scope and context. More specifically, the site plan/map shall clearly show the location and type of each access point, spacing to adjacent and opposing driveways or intersections, internal street network, proposed buildings/parcels with their anticipated uses and sizes at full build-out and, if applicable, any nearby interstate, US, NC or Secondary Roads (SR).

Project Name: _____ **Project Reference Number:** _____

☒ **A TIA is Required by the Local Government.** In addition, the study area is expected to include NCDOT maintained transportation facilities.

☒ **A TIA is Required by NCDOT,** per the *Policy on Street and Driveway Access to North Carolina Highways*.

If either or both of the boxes above are checked, the Applicant/TIA Consultant is hereby requested to fill out as much as possible of the following TIA scoping checklist, and return it along with the supporting documents to NCDOT prior to the scoping meeting.

☐ **A TIA is NOT required**. This decision is based on the development information presented above. Changes in the development plan will require re-evaluation of the TIA need, and may necessitate a TIA. The Applicant should inform the District Engineer of any significant changes in a timely fashion to avoid delays or rejections of the driveway permit / encroachment agreement applications.

Additional Comments:

The TIA need decision is made by the NCDOT Division ____ District____ on _____.

_____ _____

NCDOT District Representative's Signature | Print Name

Email concurrence may be used in lieu of the signature.

NCDOT TIA Scoping Checklist

TIA Need Screening → TIA Scoping → TIA Submittal

Project Name: The Parks At Meadowview **TIA Scoping Date:** 4/4/2022

☒ **TIA Need Screening Forms are Attached.** Project Reference #: _____ Decision Date: _____

☒ **Site Plan and Access**

☒ Provide a site plan illustrating site access, internal and external roadways, buildings and land uses.
Refer to NCDOT's *Policy on Street and Driveway Access to North Carolina Highways* pages 14 and 15 for site plan requirements.

☒ Identify site access.

New Access	On Road	Access Type		Driveway Spacing		
	Road Name	Permitted Movements	Traffic Control	Distance (ft)	Direction	Nearest Intersection / Access
Access A	Park Meadows Dr	Roundabout	Yield	2000	East	NC 87
Access B	Park Meadows Dr	Conventional Full-Mvmt	2-Way Stop	1175	West	The Parks Dr
Access C						
Access D						
Access E						
Access F						
Access G						
Access H						

Existing Access	Existing Intersection of		Access Modification	**Proposed Interconnectivity** (If Applicable)		
	Road A	Road B		Connector #	Road Connected	Adjacent Development
Access 1			Please Select	Connector 1		
Access 2				Connector 2		
Access 3				Connector 3		
Access 4				Connector 4		

☐ Additional access clarifications and provisions (e.g., proposed control-of-access or median breaks, modifications of existing access, loading/unloading area access, bike/pedestrian accommodation).

☐ **Proposed K-12 School Site**

☐ NCDOT MSTA School Traffic Calculator for Select School Type shall be used.

☐ Peak Hour Factors (PHFs) shall be adjusted/weighted for new school trips (0.5 PHF by default).

☐ Internal school circulation analysis is required, and should be submitted in advance or concurrent with the TIA submittal.

☐ Clarify traffic operation plans (e.g. traffic circulation pattern, pedestrian access, drop-off/pick-up zone location and configuration, queue storage area and, if applicable, staggered start times).

☒ Trip Generation

The TIA Consultant shall prepare trip generation estimates following the current *NCDOT Congestion Management Capacity Analysis Guidelines*, and submit the calculation sheets and supporting information to the District Engineer for approval prior to capacity analysis.

ITE LUC	Proposed Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
210	Single Family	379	Units	3438	Adj. Street	65	185	250	219	129	348	ITE Equation
220	Multifamily (Low)	67	Units	505	Adj. Street	10	34	44	31	18	49	ITE Equation
Unadjusted Site Trips				3943		75	219	294	250	147	397	
Internal Capture Trips (Attach Calculation Sheets)												Please Select
Internal Capture % of Unadjusted Site Trips				%			%			%		
LUC	Proposed Land Use	Any Internal Trips?		Pass-By % of External Trips								
		Please Select		%			%			%		Please Select
				%			%			%		
				%			%			%		
				%			%			%		
				%			%			%		
Pass-By Trips (Attach Calculation Sheets)												
Adjacent Street Volumes												Please Select
Non-Pass-By Primary Trips												
Diverted Trips, if Applicable and Justifiable												Please Select

**Explain local or other data sources, if used:

ITE Trip Generation Manual 11th Edition

☐ Existing Site Trip Information for Redevelopment Projects (Attach separate sheets as needed)

ITE LUC	Existing Land Use	Size	Unit	Daily Trips	Peak Hour Type	AM Peak Hour Trips			PM Peak Hour Trips			Data Source
						Enter	Exit	Total	Enter	Exit	Total	
					Please Select							Please Select
Total Existing Site Trips												

☒ **Trip Distribution**

☒ Trip distribution diagrams are submitted concurrently with this document (attach separate sheets).

☐ Trip distribution diagrams will be submitted separately, along with supporting information, to the District Engineer for review and approval prior to capacity analysis. The trip distribution shall be based on the current and anticipated traffic patterns, as well as instructions noted below.

If required by the District Engineer, the following additional diagrams shall also be submitted:

☐ Mixed-Use Developments (separate diagrams for residential, commercial, and office trips)

☐ Inter-Development Trips (if 'internal" trips cross public streets)

☐ Pass-By Trips

☐ Diverted Trips

☐ Each Analysis Period

☐ **Mode Split**

☐ Provide Data Source and Justification

Mode / Period	Auto		
AM Peak	%	%	%
PM Peak	%	%	%
Daily	%	%	%
	%	%	%

☐ Identify proper infrastructure and accommodation for other modes of travel.

☒ **Analysis Peak Periods:**

☒ Weekday AM Peak 7:00-9:00 AM

☒ Weekday PM Peak 4:00-6:00 PM

☐ Weekday Midday Peak _____

☐ Weekday PM School Peak _____

☐ Weekend _____ Peak _____

☐ Other _____

☒ Study Area Intersections and Data Collection

The study area shall include the site access intersections (both new and existing) identified under "Site Plan and Access" on page 1, as well as the following external and, if applicable, internal intersections.

External Intersection	Intersection of		Traffic Control	Intersection Turning Movement Counts			Notes
	Road A	Road B		New / Existing	Date of Counts	Growth Adjustment	
#1	NC 87	Parks Meadow Dr	2-Way Stop	Require New Counts			
#2	Parks Meadow Dr	West Roundabou.	Yield	Require New Counts			
#3	Parks Meadow Dr	The Parks Drive	Yield	Require New Counts			
#4	Chapel Ridge Dr	Old Graham Rd	2-Way Stop	Require New Counts			
#5							
#6							
#7							
#8							
#9							
#10							
#11							
#12							

Internal Intersection	Intersection of		Access Type		Intersection Spacing		
	Road A	Road B	Traffic Control	Permitted Movements	Distance (ft)	Direction	Nearest Intersection
#101			Please Select	Please Select		Please Select	
#102							
#103							
#104							
#105							

The following data will be collected:

☒ New traffic turning movement counts in ☒ 15-min intervals ☐ 5-min intervals (near schools)
Unless otherwise noted above, new traffic counts shall be collected at the existing study intersections during the analysis periods. Weekday counts shall avoid Mondays, Fridays, holidays, school breaks, road closures, and major weather events.

☐ To account for the impact of existing and/or proposed school traffic, PHFs will be adjusted for:

intersections numbered: _____

and access points numbered: _____

☐ Traffic Forecast Data for TIP: _____

☒ Roadway/Intersection Configuration & Traffic Control

☐ Traffic Signal Phasing & Timing Data

☐ Crash Data: _____ Period: _____

☐ Other:

☒ Future Year Conditions

☒ Project Build-Out Year: 2026

☒ Future Analysis Year(s): _____

☐ Identify below any funded/committed future transportation improvements, as well as any approved but incomplete developments near the site.

Funded STIP / Local CIP Project	Project Description	Year Complete

Nearby Approved Development	Location	Future Land Use (exclude any completed phases)	Committed Improvements

☒ Annual Growth Factor: 3 %

Justification/Data Source: NCDOT historic count data

☐ Local Comprehensive Transportation Plan Compliance

☐ Identify Applicable Local Transportation Planning Documents

☐ Identify Applicable Roadways inside the Study Area

Road Name	Classification	Speed Limit	Proposed Cross-Section	Proposed Right-of-Way	Compliance Requirements	Affect Study Intersection #

☒ Study Method

The traffic analysis shall follow the current *NCDOT Congestion Management Capacity Analysis Guidelines*, *Policy on Street and Driveway Access to North Carolina Highways*, and use the current approved version of analysis software (e.g. Synchro/SimTraffic, HCS, Sidra Intersection, TransModeler).

The study shall include the following analysis scenarios for each analysis period.

1. Existing Conditions
2. Future No-Build Conditions (existing + background growth + approved developments + committed or funded improvements)
3. Future Build Conditions (future no-build + site trips)
4. Future Build with Improvements Conditions (future build traffic with improvements to mitigate the proposed development's impacts) and, if applicable:

☐ 5. TIP Design Year Analysis _____

☐ 6. Alternative Access Scenario (without proposed control-of-access or median break / modification)

The following additional analysis/outputs should be provided as warranted:

☐ Signal Warrant Analysis for accesses/intersections _____
☐ Multi-Modal Level of Service Analysis
☐ School Loading Zone Traffic Simulation
☐ Phasing Analysis (scope separately as needed)
☐ Safety/Crash Analysis
☐ Control-of-Access Modification Justification
☐ Median Break / Modification Justification
☐ Other _____

☒ Submittals

In addition to the hardcopies required below, the TIA Consultant shall provide the District Engineer and, if required, the local government an electronic copy of the study documents, including the latest site plan, figures and appendices, in searchable PDF files and the original traffic analysis files (e.g., Synchro, HCS). To expedite review, the NCDOT electronic submittals shall also be delivered concurrently to:

☐ Div. Traffic Engr ☐ Regional Traffic Engr ☐ Congestion Management ☐ Other _____

Submittals	NCDOT		Local Government	
	Electronic	Hardcopy	Electronic	Hardcopy
Trip Generation & Distribution	Required		Please Select	
Draft TIA Report	Required			
Final Sealed TIA Report	Required			

☐ **Additional Comments (**municipal TIA requirements, approved variations from NCDOT guidelines)

Agreement by All Parties

The undersigned agree to the contents and methodology described above for completing the required traffic impact analysis for the proposed development identified herein. Any changes to the above methodology contemplated by the Applicant or the TIA Consultant must be submitted to the District Engineer in writing. If approved by NCDOT, then such changes may be accepted for the TIA report. Subsequent revisions to the development plan (e.g. land use, density, site access, or schedule) may require additional scoping and analysis, and may modify the TIA requirements.

This agreement shall become effective on the date approved by NCDOT, and shall expire ____ months after the effective date or upon significant changes to the roadway network and/or development assumptions, whichever occurs first. Once expired, renewal or re-scoping will be required for subsequent TIA submittals.

APPLICANT

_____	_____	_____
Signature	Print Name	Date

TIA CONSULTANT

_____	_____	_____
Signature	Print Name	Date

LOCAL GOVERNMENT REPRESENTATIVE (If Applicable)

_____	_____	_____
Signature	Print Name	Date

Email concurrence may be used in lieu of the signature.

NCDOT DISTRICT REPRESENTATIVE

Reviewed and approved by the NCDOT Division ____District____ on _____.

_____	_____
Signature	Print Name

Email concurrence may be used in lieu of the signature.

NCDOT TIA Submittal Checklist

TIA Need Screening → TIA Scoping → TIA Submittal

Submittal: Final Sealed TIA Report **Document Date:** 5/27/2022

Project Name: The Parks At Meadowview **Previous Name:** If Applicable

NCDOT Division: 8 **District:** 1 **County:** Chatham **Municipality:** Chatham

TIA Consultant: Rka Submitted By: Caroline Cheeves, PE

Phone Number: 919-872-5115 Email: Ccheeves@Rameykemp.Com

TIA Scoping Checklist Approval Date: 5/6/2022 **Unadjusted Daily Site Trips:** 3943

☒ The approved TIA Scoping Checklist is included in this submittal.

☒ LOS D or better is expected at all study intersections after proposed mitigations.

☒ The study report is sealed by a NC Professional Engineer with expertise in traffic engineering.

☒ This study has identified all known deficiencies with and without the proposed development.

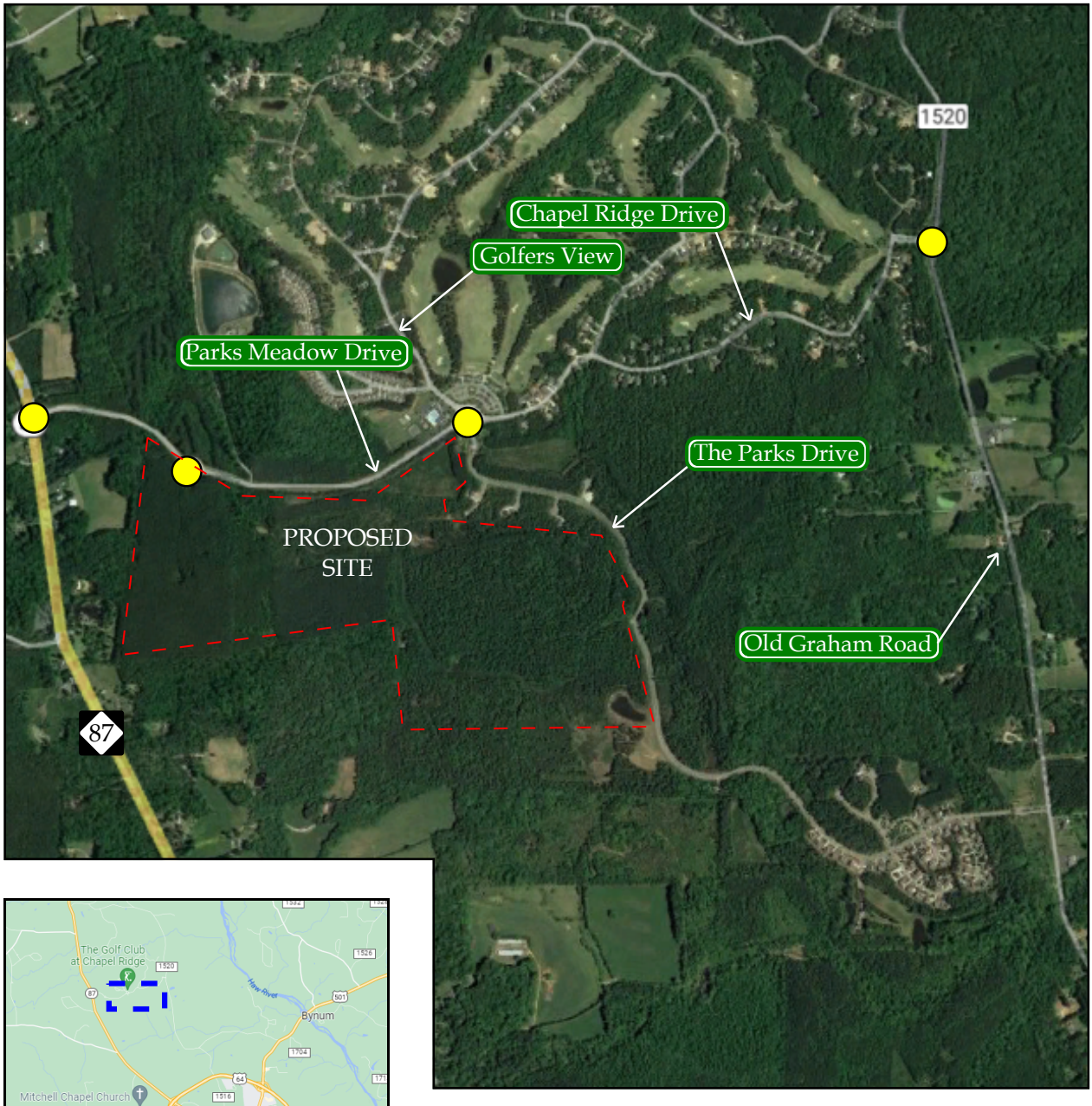
☒ This study has identified mitigation measures to adequately accommodate the site trips.

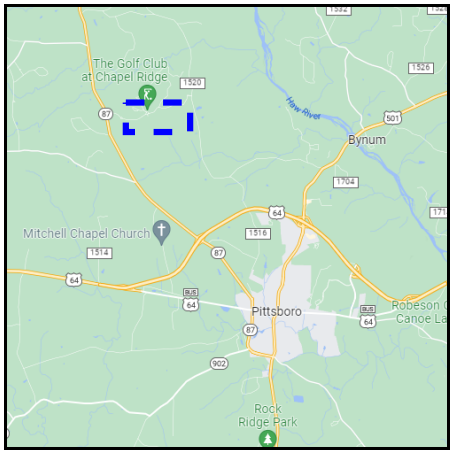
Explain here if any of the boxes above are unchecked:

The undersigned affirms that, except for the deviations noted below, the TIA submittal conforms to the current *NCDOT Congestion Management Capacity Analysis Guidelines*, *Policy on Street and Driveway Access to North Carolina Highways*, and the TIA Scoping Checklist approved by the NCDOT District Office. The undersigned also acknowledges that the TIA will be rejected if the deviations and justifications are not properly documented and approved by NCDOT.

Deviations and Justifications (e.g., changes in site plan, development schedule, site trip and off-site trip estimates, study area, data collection, analysis period and method. Attached separate sheets if needed.)

TIA Consultant's Signature (Professional Engineer of TIA Record)	Print Name	Date





N

LEGEND

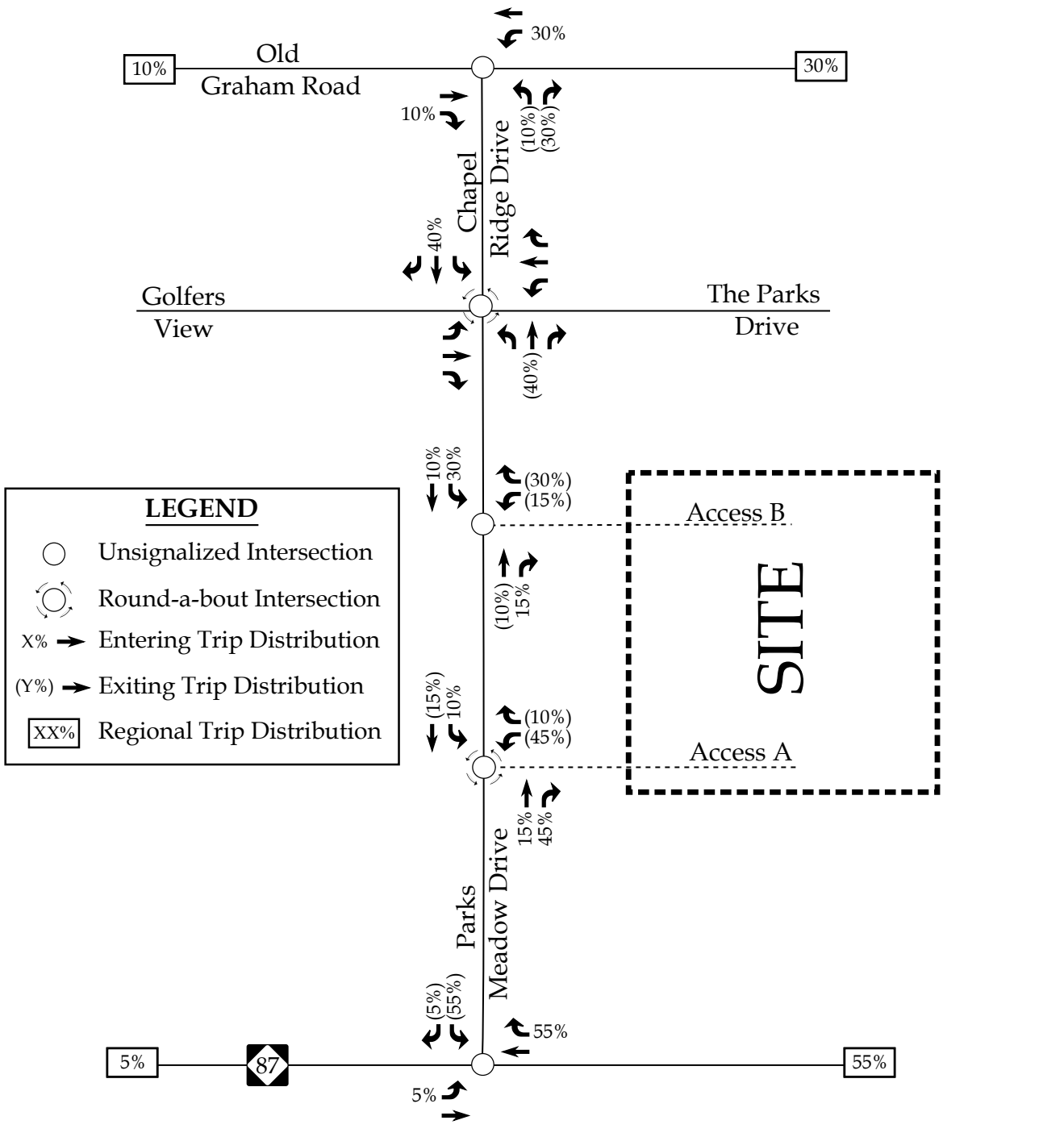
- Proposed Site Location
- Study Intersection
- Study Area

RKA
RAMEY KEMP ASSOCIATES

The Parks at Meadowview
Pittsboro, NC

Site Location Map

Scale: Not to Scale



RAMEY KEMP ASSOCIATES

The Parks at Meadowview
Pittsboro, NC

Site Trip Distribution

Scale: Not to Scale

APPENDIX B

TRAFFIC COUNTS

TRAFFIC DATA COLLECTION

File Name : Chatham(Chapel Ridge and Old Graham)AM Peak
Site Code :
Start Date : 4/14/2022
Page No : 1

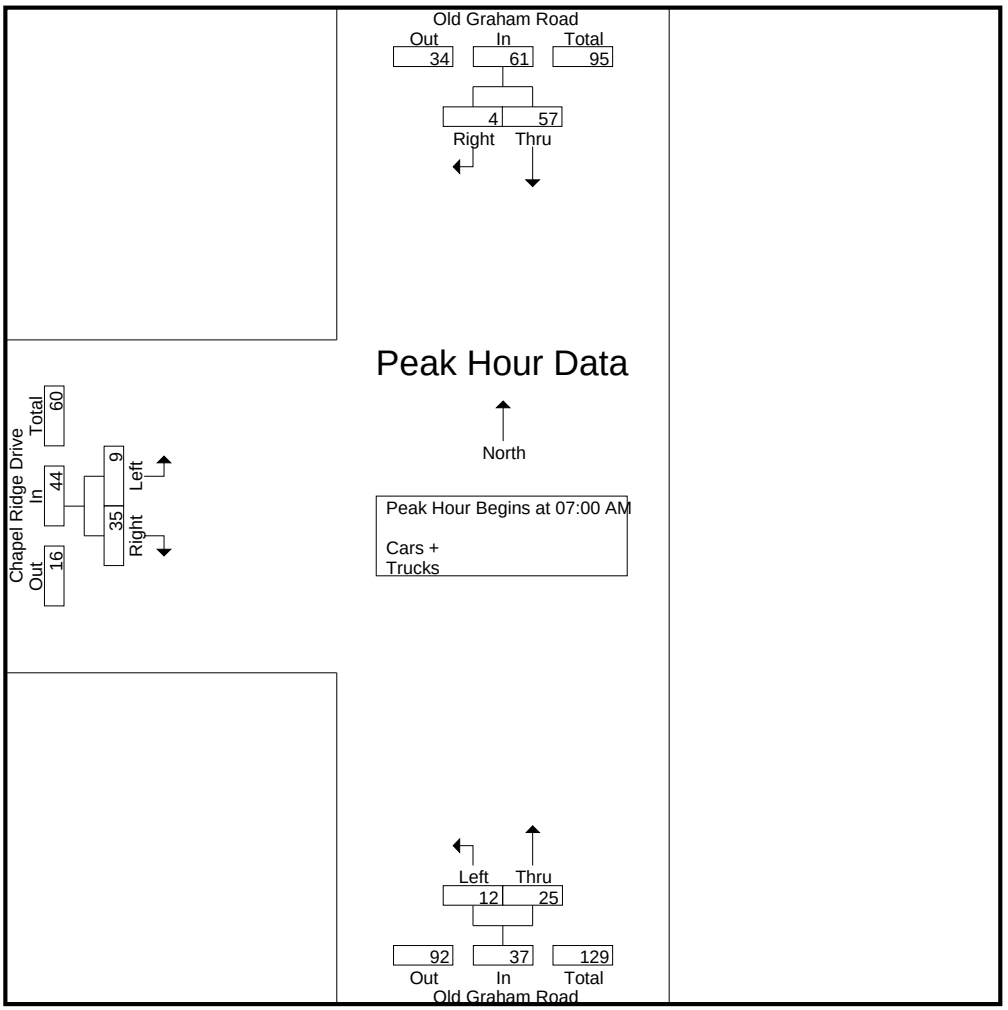
Groups Printed- Cars + - Trucks

	Old Graham Road Southbound			Old Graham Road Northbound			Chapel Ridge Drive Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
07:00 AM	0	17	17	6	1	7	10	1	11	35
07:15 AM	0	13	13	3	3	6	10	4	14	33
07:30 AM	2	15	17	9	3	12	9	2	11	40
07:45 AM	2	12	14	7	5	12	6	2	8	34
Total	4	57	61	25	12	37	35	9	44	142
08:00 AM	1	17	18	9	4	13	10	1	11	42
08:15 AM	2	12	14	6	2	8	9	0	9	31
08:30 AM	0	9	9	2	3	5	7	1	8	22
08:45 AM	1	10	11	3	1	4	5	0	5	20
Total	4	48	52	20	10	30	31	2	33	115
Grand Total	8	105	113	45	22	67	66	11	77	257
Apprch %	7.1	92.9		67.2	32.8		85.7	14.3		
Total %	3.1	40.9	44	17.5	8.6	26.1	25.7	4.3	30	
Cars +	8	103	111	44	21	65	66	10	76	252
% Cars +	100	98.1	98.2	97.8	95.5	97	100	90.9	98.7	98.1
Trucks	0	2	2	1	1	2	0	1	1	5
% Trucks	0	1.9	1.8	2.2	4.5	3	0	9.1	1.3	1.9

TRAFFIC DATA COLLECTION

File Name : Chatham(Chapel Ridge and Old Graham)AM Peak
Site Code :
Start Date : 4/14/2022
Page No : 2

	Old Graham Road Southbound			Old Graham Road Northbound			Chapel Ridge Drive Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	**17**	**17**	6	1	7	**10**	1	11	35
07:15 AM	0	13	13	3	3	6	10	**4**	**14**	33
07:30 AM	**2**	15	17	**9**	3	**12**	9	2	11	**40**
07:45 AM	2	12	14	7	**5**	12	6	2	8	34
Total Volume	4	57	61	25	12	37	35	9	44	142
% App. Total	6.6	93.4		67.6	32.4		79.5	20.5		
PHF	.500	.838	.897	.694	.600	.771	.875	.563	.786	.888



TRAFFIC DATA COLLECTION

File Name : Chatham(Chapel Ridge and Old Graham)PM Peak
Site Code :
Start Date : 4/13/2022
Page No : 1

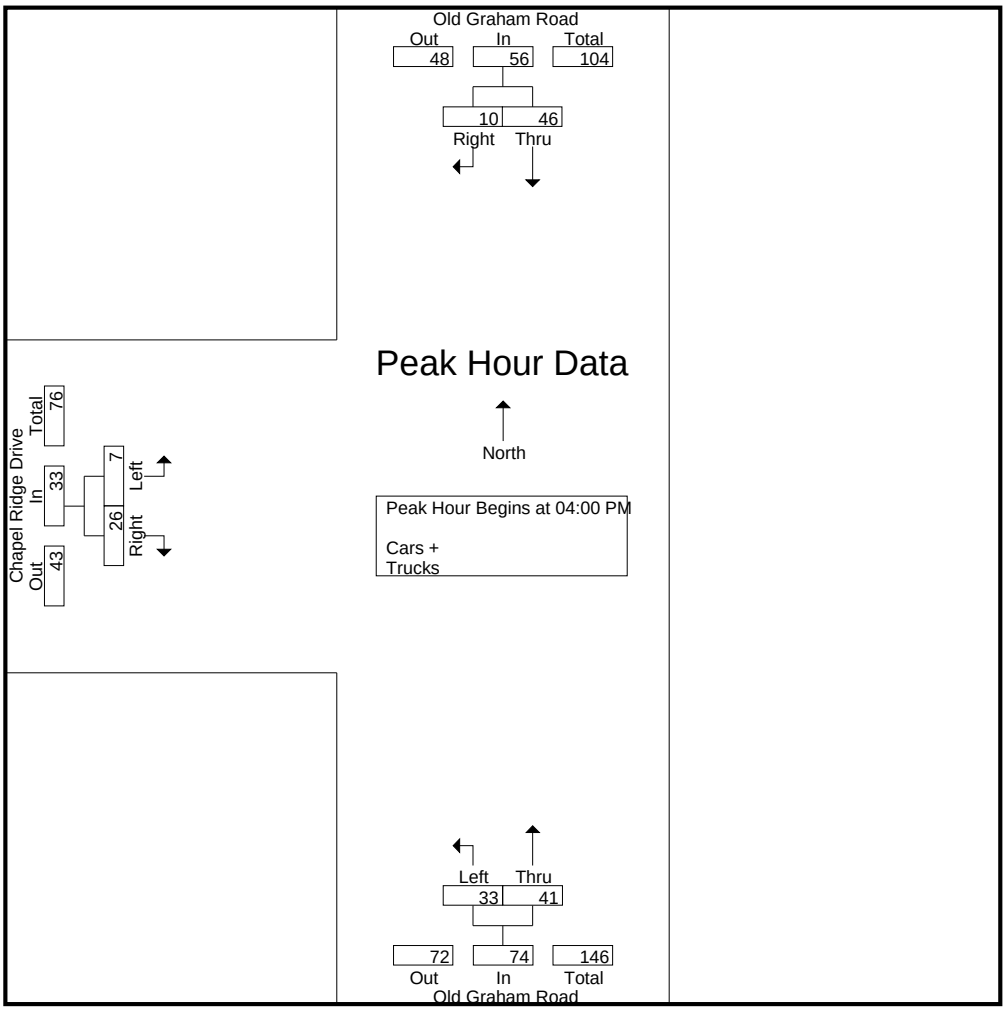
Groups Printed- Cars + - Trucks

	Old Graham Road Southbound			Old Graham Road Northbound			Chapel Ridge Drive Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
04:00 PM	3	16	19	10	4	14	7	1	8	41
04:15 PM	3	9	12	9	15	24	7	2	9	45
04:30 PM	1	10	11	7	9	16	8	1	9	36
04:45 PM	3	11	14	15	5	20	4	3	7	41
Total	10	46	56	41	33	74	26	7	33	163
05:00 PM	0	12	12	12	3	15	11	0	11	38
05:15 PM	2	4	6	16	7	23	7	4	11	40
05:30 PM	0	13	13	12	7	19	6	1	7	39
05:45 PM	0	8	8	11	8	19	8	0	8	35
Total	2	37	39	51	25	76	32	5	37	152
Grand Total	12	83	95	92	58	150	58	12	70	315
Apprch %	12.6	87.4		61.3	38.7		82.9	17.1		
Total %	3.8	26.3	30.2	29.2	18.4	47.6	18.4	3.8	22.2	
Cars +	12	76	88	91	56	147	56	12	68	303
% Cars +	100	91.6	92.6	98.9	96.6	98	96.6	100	97.1	96.2
Trucks	0	7	7	1	2	3	2	0	2	12
% Trucks	0	8.4	7.4	1.1	3.4	2	3.4	0	2.9	3.8

TRAFFIC DATA COLLECTION

File Name : Chatham(Chapel Ridge and Old Graham)PM Peak
Site Code :
Start Date : 4/13/2022
Page No : 2

	Old Graham Road Southbound			Old Graham Road Northbound			Chapel Ridge Drive Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**3**	**16**	**19**	10	4	14	7	1	8	41
04:15 PM	3	9	12	9	**15**	**24**	7	2	**9**	**45**
04:30 PM	1	10	11	7	9	16	**8**	1	9	36
04:45 PM	3	11	14	**15**	5	20	4	**3**	7	41
Total Volume	10	46	56	41	33	74	26	7	33	163
% App. Total	17.9	82.1		55.4	44.6		78.8	21.2		
PHF	.833	.719	.737	.683	.550	.771	.813	.583	.917	.906



TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow Dr and The Parks Dr Golfer View)
Site Code :
Start Date : 4/14/2022
Page No : 1

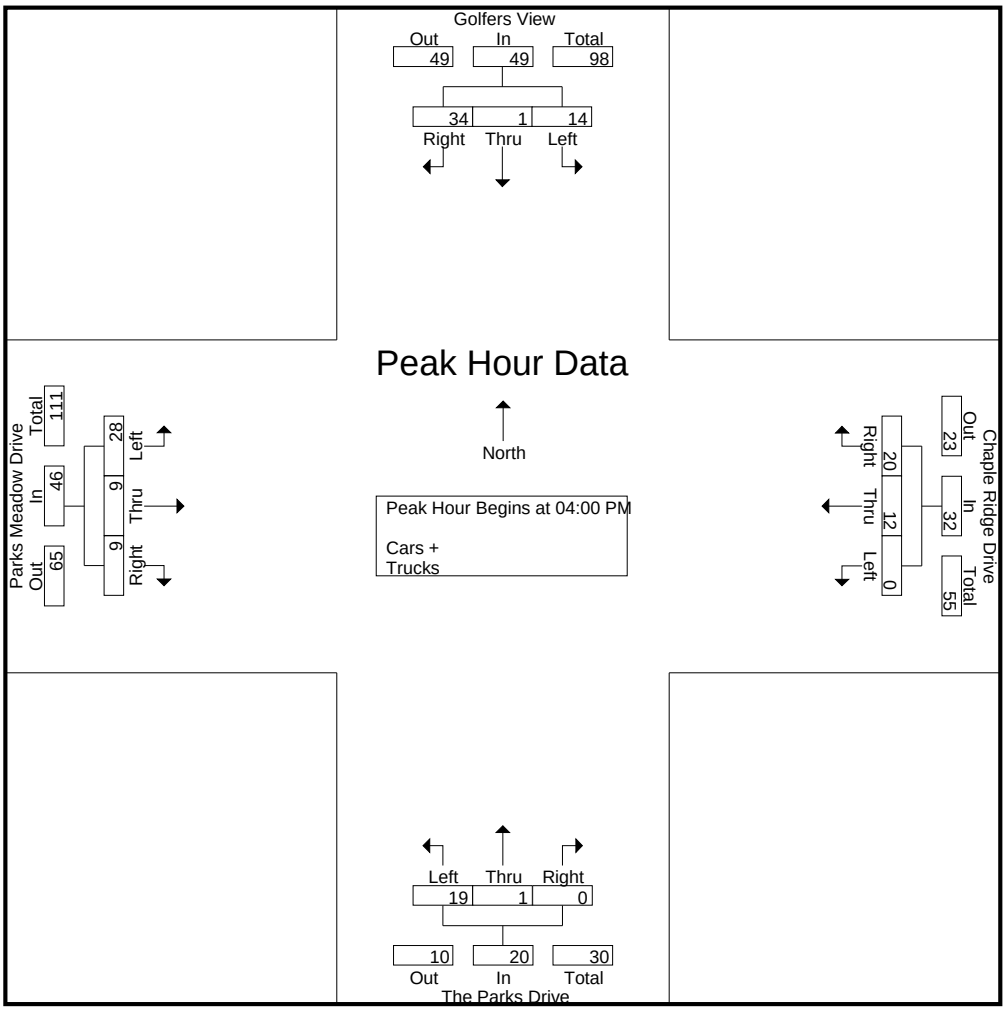
Groups Printed- Cars + - Trucks

	Golfers View Southbound				Chaple Ridge Drive Westbound				The Parks Drive Northbound				Parks Meadow Drive Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
04:00 PM	9	0	2	11	3	4	0	7	0	1	9	10	5	2	3	10	38
04:15 PM	9	0	5	14	10	5	0	15	0	0	6	6	0	1	12	13	48
04:30 PM	10	0	4	14	2	1	0	3	0	0	3	3	2	4	4	10	30
04:45 PM	6	1	3	10	5	2	0	7	0	0	1	1	2	2	9	13	31
Total	34	1	14	49	20	12	0	32	0	1	19	20	9	9	28	46	147
05:00 PM	9	0	3	12	4	2	0	6	0	0	2	2	1	5	9	15	35
05:15 PM	13	0	3	16	5	2	0	7	0	1	0	1	1	1	7	9	33
05:30 PM	9	2	5	16	7	2	0	9	0	0	1	1	2	1	5	8	34
05:45 PM	11	0	0	11	4	3	0	7	0	1	5	6	2	6	7	15	39
Total	42	2	11	55	20	9	0	29	0	2	8	10	6	13	28	47	141
Grand Total	76	3	25	104	40	21	0	61	0	3	27	30	15	22	56	93	288
Apprch %	73.1	2.9	24		65.6	34.4	0		0	10	90		16.1	23.7	60.2		
Total %	26.4	1	8.7	36.1	13.9	7.3	0	21.2	0	1	9.4	10.4	5.2	7.6	19.4	32.3	
Cars +	73	3	24	100	38	20	0	58	0	3	17	20	9	22	55	86	264
% Cars +	96.1	100	96	96.2	95	95.2	0	95.1	0	100	63	66.7	60	100	98.2	92.5	91.7
Trucks	3	0	1	4	2	1	0	3	0	0	10	10	6	0	1	7	24
% Trucks	3.9	0	4	3.8	5	4.8	0	4.9	0	0	37	33.3	40	0	1.8	7.5	8.3

TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow Dr and The Parks Dr Golfer View)
Site Code :
Start Date : 4/14/2022

	Golfers View Southbound				Chaple Ridge Drive Westbound				The Parks Drive Northbound				Parks Meadow Drive Eastbound				
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 Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	9	0	2	11	3	4	0	7	0	**1**	**9**	**10**	**5**	2	3	10	38
04:15 PM	9	0	**5**	**14**	**10**	**5**	0	**15**	0	0	6	6	0	1	**12**	**13**	**48**
04:30 PM	**10**	0	4	14	2	1	0	3	0	0	3	3	2	**4**	4	10	30
04:45 PM	6	**1**	3	10	5	2	0	7	0	0	1	1	2	2	9	13	31
Total Volume	34	1	14	49	20	12	0	32	0	1	19	20	9	9	28	46	147
% App. Total	69.4	2	28.6		62.5	37.5	0		0	5	95		19.6	19.6	60.9		
PHF	.850	.250	.700	.875	.500	.600	.000	.533	.000	.250	.528	.500	.450	.563	.583	.885	.766



TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow Dr and The Parks Dr Golfer View)
Site Code :
Start Date : 4/14/2022
Page No : 1

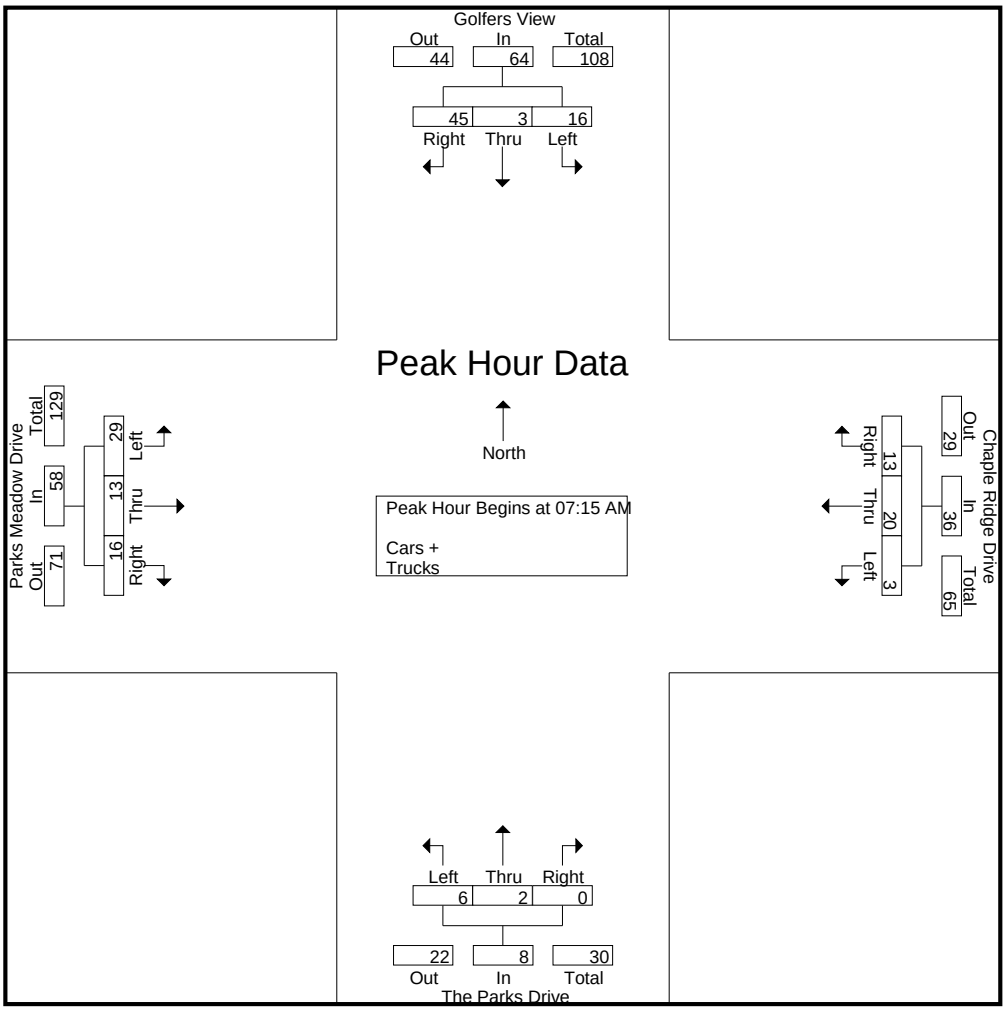
Groups Printed- Cars + - Trucks

	Golfers View Southbound				Chaple Ridge Drive Westbound				The Parks Drive Northbound				Parks Meadow Drive Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
07:00 AM	6	0	5	11	1	2	1	4	0	0	0	0	3	1	5	9	24
07:15 AM	13	1	7	21	1	4	2	7	0	0	1	1	2	0	2	4	33
07:30 AM	12	1	3	16	0	8	1	9	0	1	0	1	3	3	7	13	39
07:45 AM	8	1	2	11	4	6	0	10	0	0	3	3	6	8	12	26	50
Total	39	3	17	59	6	20	4	30	0	1	4	5	14	12	26	52	146
08:00 AM	12	0	4	16	8	2	0	10	0	1	2	3	5	2	8	15	44
08:15 AM	8	0	0	8	5	2	0	7	0	0	2	2	6	1	6	13	30
08:30 AM	2	1	5	8	3	0	0	3	0	1	0	1	3	4	12	19	31
08:45 AM	9	0	5	14	2	1	2	5	0	0	1	1	5	4	6	15	35
Total	31	1	14	46	18	5	2	25	0	2	5	7	19	11	32	62	140
Grand Total	70	4	31	105	24	25	6	55	0	3	9	12	33	23	58	114	286
Apprch %	66.7	3.8	29.5		43.6	45.5	10.9		0	25	75		28.9	20.2	50.9		
Total %	24.5	1.4	10.8	36.7	8.4	8.7	2.1	19.2	0	1	3.1	4.2	11.5	8	20.3	39.9	
Cars +	64	3	31	98	23	25	4	52	0	2	8	10	25	18	55	98	258
% Cars +	91.4	75	100	93.3	95.8	100	66.7	94.5	0	66.7	88.9	83.3	75.8	78.3	94.8	86	90.2
Trucks	6	1	0	7	1	0	2	3	0	1	1	2	8	5	3	16	28
% Trucks	8.6	25	0	6.7	4.2	0	33.3	5.5	0	33.3	11.1	16.7	24.2	21.7	5.2	14	9.8

TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow Dr and The Parks Dr Golfer View)
Site Code :
Start Date : 4/14/2022
Page No : 2

	Golfers View Southbound				Chaple Ridge Drive Westbound				The Parks Drive Northbound				Parks Meadow Drive Eastbound				
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 Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**13**	**1**	**7**	**21**	1	4	**2**	7	0	0	1	1	2	0	2	4	33
07:30 AM	12	1	3	16	0	**8**	1	9	0	**1**	0	1	3	3	7	13	39
07:45 AM	8	1	2	11	4	6	0	**10**	0	0	**3**	**3**	**6**	**8**	**12**	**26**	**50**
08:00 AM	12	0	4	16	**8**	2	0	10	0	1	2	3	5	2	8	15	44
Total Volume	45	3	16	64	13	20	3	36	0	2	6	8	16	13	29	58	166
% App. Total	70.3	4.7	25		36.1	55.6	8.3		0	25	75		27.6	22.4	50		
PHF	.865	.750	.571	.762	.406	.625	.375	.900	.000	.500	.500	.667	.667	.406	.604	.558	.830



TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow Dr Western Roundabout)
Site Code :
Start Date : 4/14/2022
Page No : 1

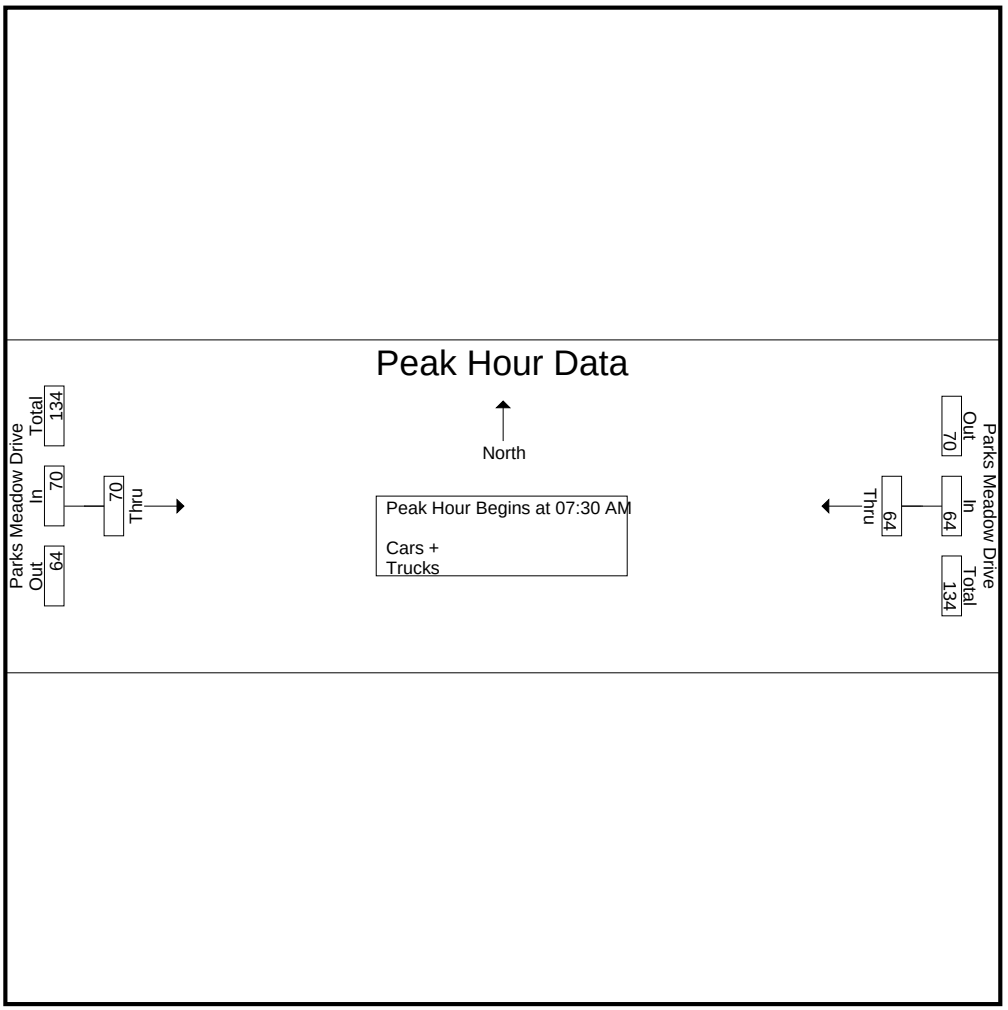
Groups Printed- Cars + - Trucks

	Parks Meadow Drive Westbound		Parks Meadow Drive Eastbound		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
07:00 AM	8	8	8	8	16
07:15 AM	18	18	5	5	23
07:30 AM	18	18	13	13	31
07:45 AM	17	17	27	27	44
Total	61	61	53	53	114
08:00 AM	16	16	13	13	29
08:15 AM	13	13	17	17	30
08:30 AM	5	5	20	20	25
08:45 AM	10	10	13	13	23
Total	44	44	63	63	107
Grand Total	105	105	116	116	221
Apprch %	100		100		
Total %	47.5	47.5	52.5	52.5	
Cars +	100	100	99	99	199
% Cars +	95.2	95.2	85.3	85.3	90
Trucks	5	5	17	17	22
% Trucks	4.8	4.8	14.7	14.7	10

TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow Dr Western Roundabout)
Site Code :
Start Date : 4/14/2022
Page No : 2

	Parks Meadow Drive Westbound		Parks Meadow Drive Eastbound		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 07:30 AM					
07:30 AM	**18**	**18**	13	13	31
07:45 AM	17	17	**27**	**27**	**44**
08:00 AM	16	16	13	13	29
08:15 AM	13	13	17	17	30
Total Volume	64	64	70	70	134
% App. Total	100		100		
PHF	.889	.889	.648	.648	.761



TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow Dr Western Roundabout)
Site Code :
Start Date : 4/14/2022
Page No : 1

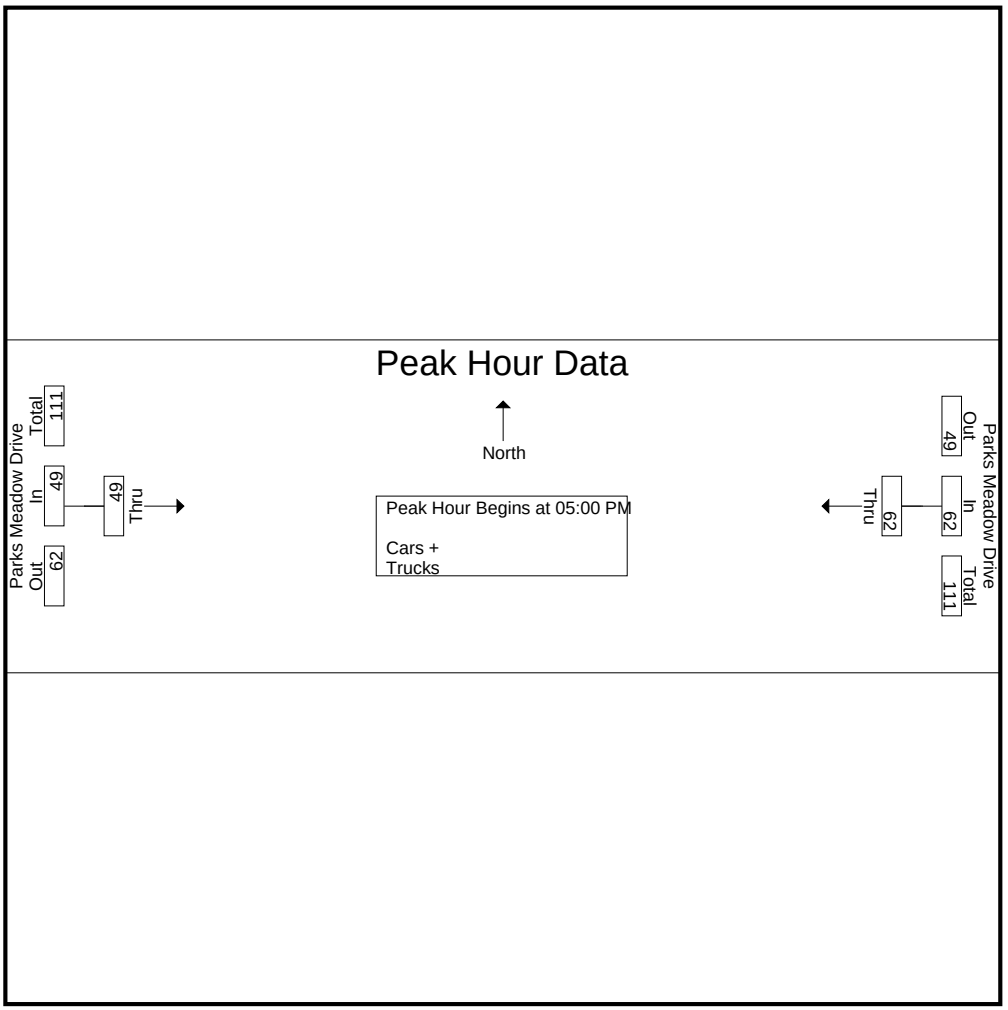
Groups Printed- Cars + - Trucks

	Parks Meadow Drive Westbound		Parks Meadow Drive Eastbound		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
04:00 PM	23	23	8	8	31
04:15 PM	16	16	12	12	28
04:30 PM	15	15	12	12	27
04:45 PM	10	10	12	12	22
Total	64	64	44	44	108
05:00 PM	14	14	14	14	28
05:15 PM	15	15	9	9	24
05:30 PM	11	11	11	11	22
05:45 PM	22	22	15	15	37
Total	62	62	49	49	111
Grand Total	126	126	93	93	219
Apprch %	100		100		
Total %	57.5	57.5	42.5	42.5	
Cars +	110	110	87	87	197
% Cars +	87.3	87.3	93.5	93.5	90
Trucks	16	16	6	6	22
% Trucks	12.7	12.7	6.5	6.5	10

TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow Dr Western Roundabout)
Site Code :
Start Date : 4/14/2022
Page No : 2

	Parks Meadow Drive Westbound		Parks Meadow Drive Eastbound		
Start Time	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1					
Peak Hour for Entire Intersection Begins at 05:00 PM					
05:00 PM	14	14	14	14	28
05:15 PM	15	15	9	9	24
05:30 PM	11	11	11	11	22
05:45 PM	**22**	**22**	**15**	**15**	**37**
Total Volume	62	62	49	49	111
% App. Total	100		100		
PHF	.705	.705	.817	.817	.750



TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow and NC 87)
Site Code :
Start Date : 4/14/2022
Page No : 1

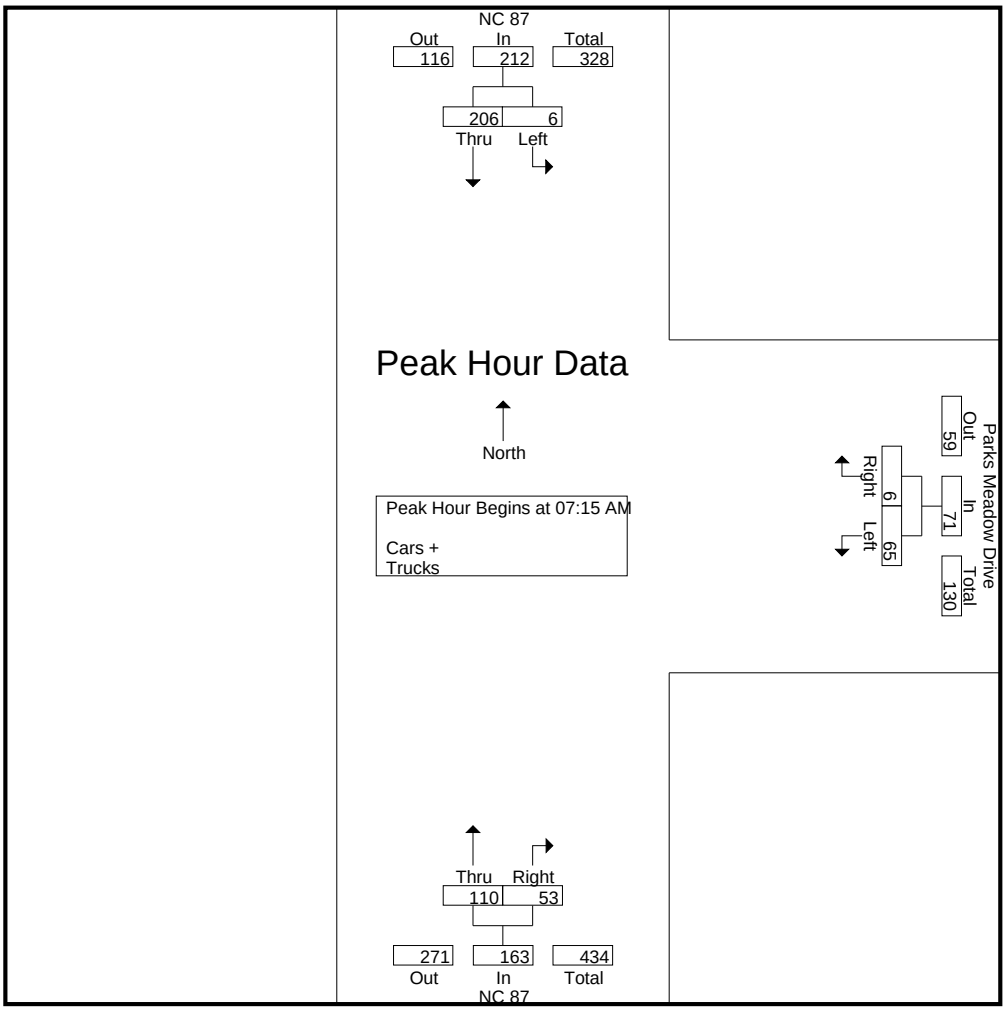
Groups Printed- Cars + - Trucks

	NC 87 Southbound			Parks Meadow Drive Westbound			NC 87 Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
07:00 AM	57	0	57	0	8	8	7	19	26	91
07:15 AM	52	0	52	0	18	18	7	31	38	108
07:30 AM	51	0	51	0	19	19	13	26	39	109
07:45 AM	54	5	59	1	15	16	21	27	48	123
Total	214	5	219	1	60	61	48	103	151	431
08:00 AM	49	1	50	5	13	18	12	26	38	106
08:15 AM	40	2	42	1	8	9	20	20	40	91
08:30 AM	48	0	48	0	5	5	16	18	34	87
08:45 AM	44	1	45	0	9	9	15	28	43	97
Total	181	4	185	6	35	41	63	92	155	381
Grand Total	395	9	404	7	95	102	111	195	306	812
Apprch %	97.8	2.2		6.9	93.1		36.3	63.7		
Total %	48.6	1.1	49.8	0.9	11.7	12.6	13.7	24	37.7	
Cars +	357	8	365	6	91	97	96	155	251	713
% Cars +	90.4	88.9	90.3	85.7	95.8	95.1	86.5	79.5	82	87.8
Trucks	38	1	39	1	4	5	15	40	55	99
% Trucks	9.6	11.1	9.7	14.3	4.2	4.9	13.5	20.5	18	12.2

TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow and NC 87)
Site Code :
Start Date : 4/14/2022

	NC 87 Southbound			Parks Meadow Drive Westbound			NC 87 Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	52	0	52	0	18	18	7	**31**	38	108
07:30 AM	51	0	51	0	**19**	**19**	13	26	39	109
07:45 AM	**54**	**5**	**59**	1	15	16	**21**	27	**48**	**123**
08:00 AM	49	1	50	**5**	13	18	12	26	38	106
Total Volume	206	6	212	6	65	71	53	110	163	446
% App. Total	97.2	2.8		8.5	91.5		32.5	67.5		
PHF	.954	.300	.898	.300	.855	.934	.631	.887	.849	.907



TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow and NC 87)
Site Code :
Start Date : 4/14/2022
Page No : 1

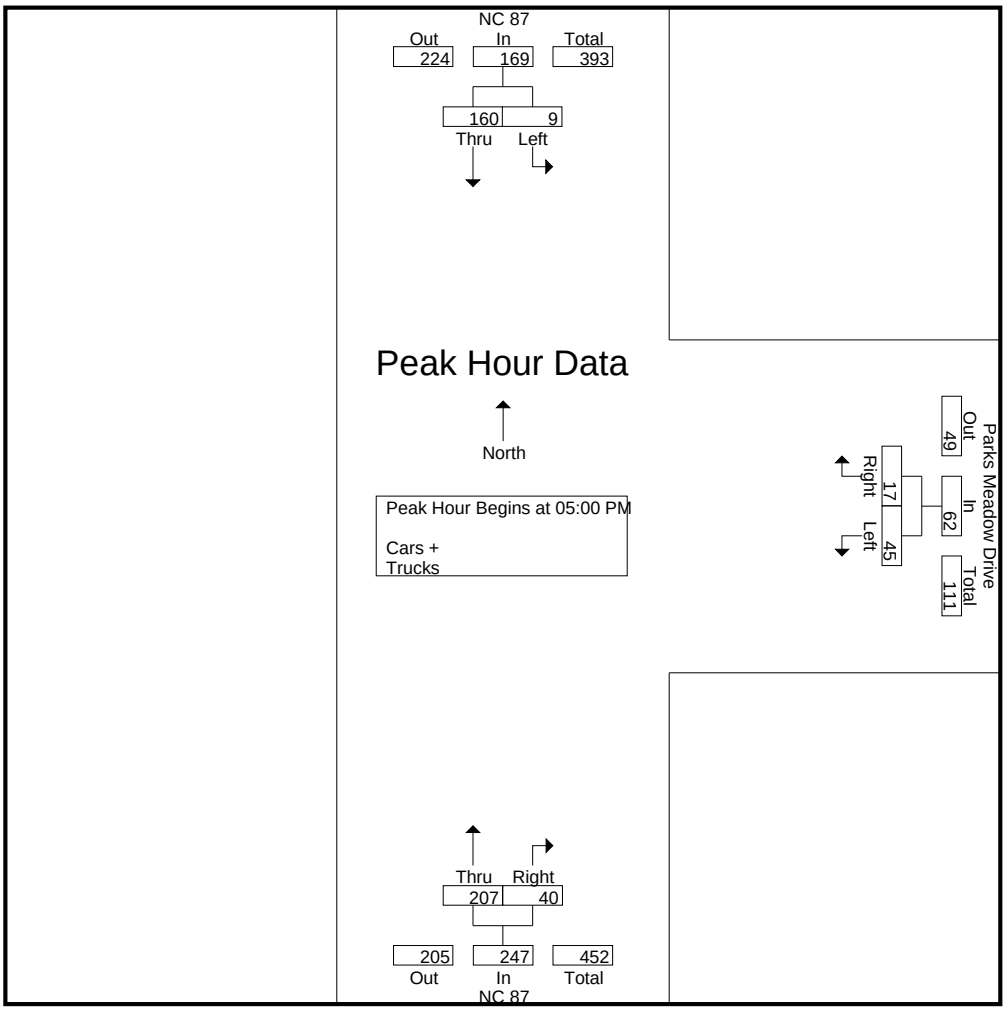
Groups Printed- Cars + - Trucks

	NC 87 Southbound			Parks Meadow Drive Westbound			NC 87 Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
04:00 PM	34	1	35	1	18	19	7	33	40	94
04:15 PM	39	2	41	3	18	21	10	60	70	132
04:30 PM	28	0	28	1	13	14	10	54	64	106
04:45 PM	43	3	46	2	10	12	10	47	57	115
Total	144	6	150	7	59	66	37	194	231	447
05:00 PM	33	3	36	3	9	12	11	46	57	105
05:15 PM	48	3	51	4	14	18	8	51	59	128
05:30 PM	40	2	42	2	8	10	8	53	61	113
05:45 PM	39	1	40	8	14	22	13	57	70	132
Total	160	9	169	17	45	62	40	207	247	478
Grand Total	304	15	319	24	104	128	77	401	478	925
Apprch %	95.3	4.7		18.8	81.2		16.1	83.9		
Total %	32.9	1.6	34.5	2.6	11.2	13.8	8.3	43.4	51.7	
Cars +	281	15	296	22	90	112	74	383	457	865
% Cars +	92.4	100	92.8	91.7	86.5	87.5	96.1	95.5	95.6	93.5
Trucks	23	0	23	2	14	16	3	18	21	60
% Trucks	7.6	0	7.2	8.3	13.5	12.5	3.9	4.5	4.4	6.5

TRAFFIC DATA COLLECTION

File Name : Chatham(Parks Meadow and NC 87)
Site Code :
Start Date : 4/14/2022
Page No : 2

	NC 87 Southbound			Parks Meadow Drive Westbound			NC 87 Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	33	**3**	36	3	9	12	11	46	57	105
05:15 PM	**48**	3	**51**	4	**14**	18	8	51	59	128
05:30 PM	40	2	42	2	8	10	8	53	61	113
05:45 PM	39	1	40	**8**	14	**22**	**13**	**57**	**70**	**132**
Total Volume	160	9	169	17	45	62	40	207	247	478
% App. Total	94.7	5.3		27.4	72.6		16.2	83.8		
PHF	.833	.750	.828	.531	.804	.705	.769	.908	.882	.905



APPENDIX C

ADJACENT DEVELOPMENT INFORMATION

RAMEY KEMP & ASSOCIATES, INC.
TRANSPORTATION ENGINEERS

4928-A Windy Hill Drive
Raleigh, North Carolina 27609
Phone: 919.872.5115
Fax: 919.878.5416

April 7, 2006

Robert D. Swain
Community Properties, Inc.
1000 St. Albans Drive, Suite 400
Raleigh, North Carolina 27609

Subject: Traffic Assessment - Proposed Meadowview PUD Revision

Dear Mr. Swain:

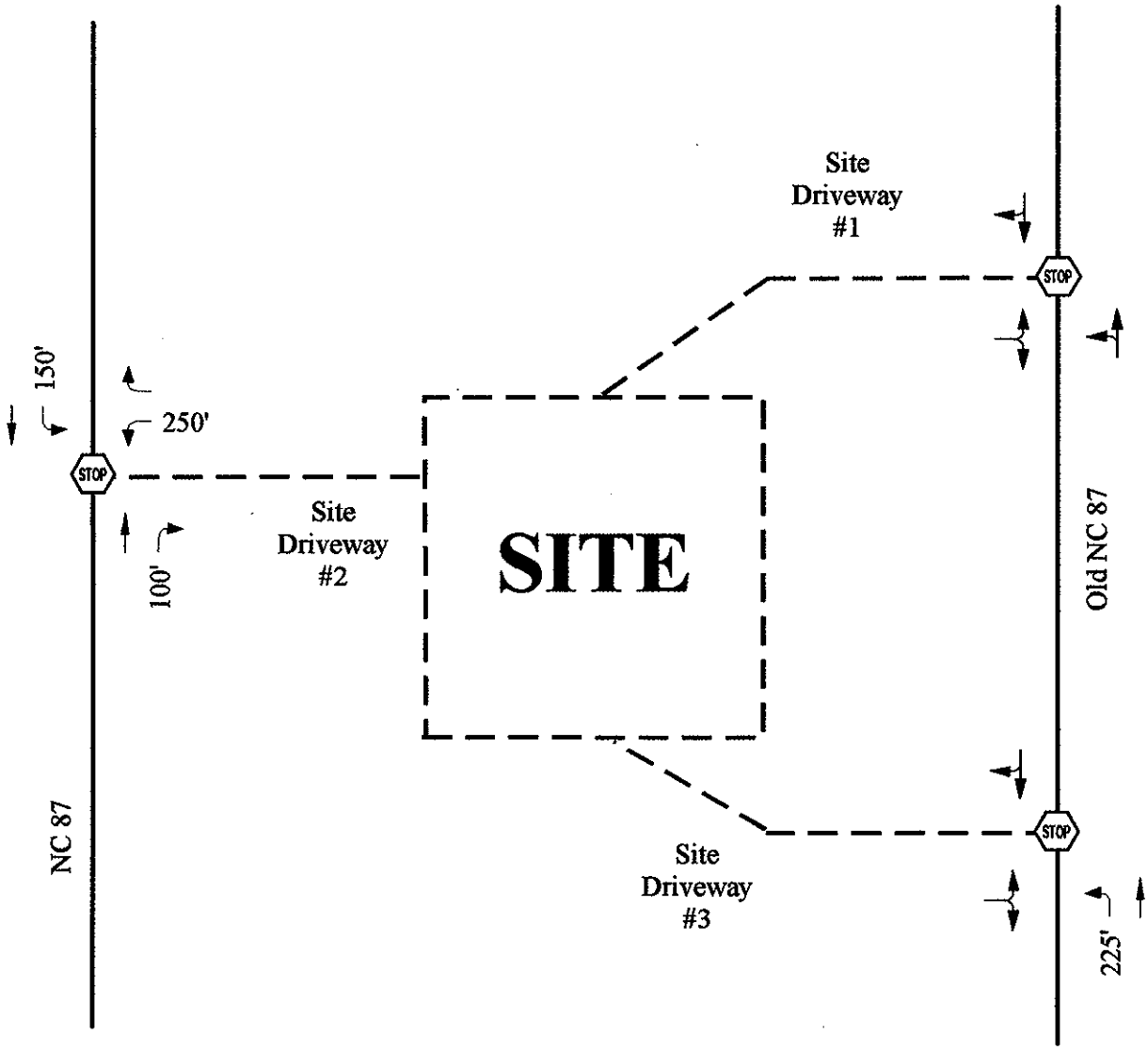
This letter provides a summary of the updated traffic assessment (TA) prepared by Ramey Kemp and Associates, Inc. (RKA) for the proposed Meadowview PUD to be located on the west side of Old NC 87 approximately four miles west of US 15-501. A TA was prepared on April 8, 2005 for the development that considered Meadowview would include 715 single family homes and Chapel Ridge would include 700 single family homes and a golf course. The updated Meadowview PUD plan indicates full build out would include a total of 739 single family homes. Chapel Ridge has been approved with 677 single family homes and a golf course. The previous TA considered a total of 1,415 single family homes and a golf course, which included both the Meadowview and Chapel Ridge developments. With the revisions to the Meadowview PUD plan and the approved Chapel Ridge development, a total of 1,416 single family homes and a golf course would now be built at these sites.

Since there is a net increase of only 1 single family home (1,415 homes versus 1,416 homes) between the previously completed TA and the currently approved and proposed developments, an updated TA and analysis was not necessary. Intersection operations and analysis results would be expected to be the same as in the previous TA report. The improvements recommended in the previous TA will be sufficient for the revised Meadowview PUD. Refer to Figure 1 for the recommended improvements at study intersections as shown in the previous TA. If you should have any questions, or comments, please free to contact me at (919) 872-5115.

Sincerely,
Ramey Kemp and Associates, Inc.

Rynal G. Stephenson, PE

cc: Mr. Mark Ashness, PE, ASLA, CE Group, Inc.



LEGEND

→ Existing Lane Configuration

→ Improvement by Developer

N

MEADOWVIEW DEVELOPMENT
Chatham County, North Carolina

RECOMMENDED LANE CONFIGURATIONS

	Scale: Not to Scale	Figure 1

APPENDIX D

CAPACITY ANALYSIS CALCULATIONS

CHAPEL RIDGE DRIVE

&

OLD GRAHAM ROAD

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	35	12	25	57	4
Future Vol, veh/h	9	35	12	25	57	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	39	13	28	63	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	117	63	67	0	-	0
Stage 1	63	-	-	-	-	-
Stage 2	54	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	879	1002	1535	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	969	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	872	1002	1535	-	-	-
Mov Cap-2 Maneuver	872	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	969	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	2.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1535	-	972	-	-
HCM Lane V/C Ratio	0.009	-	0.05	-	-
HCM Control Delay (s)	7.4	-	8.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	26	33	41	46	10
Future Vol, veh/h	7	26	33	41	46	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	29	37	46	51	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	171	51	62	0	-	0
Stage 1	51	-	-	-	-	-
Stage 2	120	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	819	1017	1541	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	905	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	799	1017	1541	-	-	-
Mov Cap-2 Maneuver	799	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	905	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	3.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1541	-	961	-	-
HCM Lane V/C Ratio	0.024	-	0.038	-	-
HCM Control Delay (s)	7.4	-	8.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	39	14	45	70	5
Future Vol, veh/h	10	39	14	45	70	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	43	16	50	78	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	160	78	84	0	-	0
Stage 1	78	-	-	-	-	-
Stage 2	82	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	831	983	1513	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	822	983	1513	-	-	-
Mov Cap-2 Maneuver	822	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	941	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1513	-	945	-	-
HCM Lane V/C Ratio	0.01	-	0.058	-	-
HCM Control Delay (s)	7.4	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	29	37	58	72	11
Future Vol, veh/h	8	29	37	58	72	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	32	41	64	80	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	226	80	92	0	-	0
Stage 1	80	-	-	-	-	-
Stage 2	146	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	762	980	1503	-	-	-
Stage 1	943	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	741	980	1503	-	-	-
Mov Cap-2 Maneuver	741	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	881	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	2.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1503	-	916	-	-
HCM Lane V/C Ratio	0.027	-	0.045	-	-
HCM Control Delay (s)	7.5	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	105	36	45	70	13
Future Vol, veh/h	32	105	36	45	70	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	117	40	50	78	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	208	78	92	0	-	0
Stage 1	78	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	780	983	1503	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	759	983	1503	-	-	-
Mov Cap-2 Maneuver	759	-	-	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	896	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	3.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1503	-	920	-	-
HCM Lane V/C Ratio	0.027	-	0.165	-	-
HCM Control Delay (s)	7.5	-	9.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	73	112	58	72	36
Future Vol, veh/h	23	73	112	58	72	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	225	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	81	124	64	80	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	392	80	120	0	-	0
Stage 1	80	-	-	-	-	-
Stage 2	312	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	612	980	1468	-	-	-
Stage 1	943	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	561	980	1468	-	-	-
Mov Cap-2 Maneuver	561	-	-	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	742	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	5.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1468	-	831	-	-
HCM Lane V/C Ratio	0.085	-	0.128	-	-
HCM Control Delay (s)	7.7	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.4	-	-

APPENDIX E

CAPACITY ANALYSIS CALCULATIONS

PARKS MEADOW DRIVE

&

THE PARKS DRIVE / GOLFER VIEW

MOVEMENT SUMMARY

Site: 2 [2022 Existing AM (Site Folder: General)]

Parks Meadow Drive and The Parks Drive / Golfer View
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: The Parks Drive														
3	L2	6	2.0	7	2.0	0.012	3.0	LOS A	0.1	1.3	0.19	0.07	0.19	27.5
8	T1	4	2.0	4	2.0	0.012	3.0	LOS A	0.1	1.3	0.19	0.07	0.19	23.9
18	R2	4	2.0	4	2.0	0.012	3.0	LOS A	0.1	1.3	0.19	0.07	0.19	23.9
Approach		14	2.0	16	2.0	0.012	3.0	LOS A	0.1	1.3	0.19	0.07	0.19	25.3
East: Chapel Ridge Drive														
1	L2	4	2.0	4	2.0	0.032	3.1	LOS A	0.1	3.4	0.15	0.05	0.15	27.8
6	T1	20	2.0	22	2.0	0.032	3.1	LOS A	0.1	3.4	0.15	0.05	0.15	24.1
16	R2	13	2.0	14	2.0	0.032	3.1	LOS A	0.1	3.4	0.15	0.05	0.15	24.1
Approach		37	2.0	41	2.0	0.032	3.1	LOS A	0.1	3.4	0.15	0.05	0.15	24.5
North: Golfers View														
7	L2	16	2.0	18	2.0	0.055	3.2	LOS A	0.2	6.1	0.12	0.04	0.12	27.7
4	T1	4	2.0	4	2.0	0.055	3.2	LOS A	0.2	6.1	0.12	0.04	0.12	24.0
14	R2	45	2.0	50	2.0	0.055	3.2	LOS A	0.2	6.1	0.12	0.04	0.12	24.0
Approach		65	2.0	72	2.0	0.055	3.2	LOS A	0.2	6.1	0.12	0.04	0.12	24.8
West: Parks Meadow Drive														
5	L2	35	2.0	39	2.0	0.059	3.2	LOS A	0.3	6.5	0.11	0.03	0.11	27.3
2	T1	16	2.0	18	2.0	0.059	3.2	LOS A	0.3	6.5	0.11	0.03	0.11	23.8
12	R2	19	2.0	21	2.0	0.059	3.2	LOS A	0.3	6.5	0.11	0.03	0.11	23.8
Approach		70	2.0	78	2.0	0.059	3.2	LOS A	0.3	6.5	0.11	0.03	0.11	25.4
All Vehicles		186	2.0	207	2.0	0.059	3.2	LOS A	0.3	6.5	0.13	0.04	0.13	25.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [2022 Existing PM (Site Folder: General)]

Parks Meadow Drive and The Parks Drive / Golfer View
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: The Parks Drive														
3	L2	19	2.0	21	2.0	0.024	3.0	LOS A	0.1	2.5	0.17	0.06	0.17	27.1
8	T1	4	2.0	4	2.0	0.024	3.0	LOS A	0.1	2.5	0.17	0.06	0.17	23.7
18	R2	4	2.0	4	2.0	0.024	3.0	LOS A	0.1	2.5	0.17	0.06	0.17	23.7
Approach		27	2.0	30	2.0	0.024	3.0	LOS A	0.1	2.5	0.17	0.06	0.17	26.0
East: Chapel Ridge Drive														
1	L2	4	2.0	4	2.0	0.031	3.1	LOS A	0.1	3.4	0.17	0.06	0.17	27.9
6	T1	12	2.0	13	2.0	0.031	3.1	LOS A	0.1	3.4	0.17	0.06	0.17	24.1
16	R2	20	2.0	22	2.0	0.031	3.1	LOS A	0.1	3.4	0.17	0.06	0.17	24.1
Approach		36	2.0	40	2.0	0.031	3.1	LOS A	0.1	3.4	0.17	0.06	0.17	24.5
North: Golfers View														
7	L2	14	2.0	16	2.0	0.044	3.1	LOS A	0.2	4.8	0.13	0.04	0.13	27.7
4	T1	4	2.0	4	2.0	0.044	3.1	LOS A	0.2	4.8	0.13	0.04	0.13	24.0
14	R2	34	2.0	38	2.0	0.044	3.1	LOS A	0.2	4.8	0.13	0.04	0.13	24.0
Approach		52	2.0	58	2.0	0.044	3.1	LOS A	0.2	4.8	0.13	0.04	0.13	24.9
West: Parks Meadow Drive														
5	L2	31	2.0	34	2.0	0.041	3.1	LOS A	0.2	4.5	0.10	0.03	0.10	27.2
2	T1	9	2.0	10	2.0	0.041	3.1	LOS A	0.2	4.5	0.10	0.03	0.10	23.7
12	R2	9	2.0	10	2.0	0.041	3.1	LOS A	0.2	4.5	0.10	0.03	0.10	23.7
Approach		49	2.0	54	2.0	0.041	3.1	LOS A	0.2	4.5	0.10	0.03	0.10	25.8
All Vehicles		164	2.0	182	2.0	0.044	3.1	LOS A	0.2	4.8	0.14	0.04	0.14	25.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [2026 No-Build AM (Site Folder: General)]

Parks Meadow Drive and The Parks Drive / Golfer View
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: The Parks Drive														
3	L2	107	2.0	119	2.0	0.103	3.7	LOS A	0.5	11.7	0.22	0.10	0.22	26.6
8	T1	4	2.0	4	2.0	0.103	3.7	LOS A	0.5	11.7	0.22	0.10	0.22	23.4
18	R2	4	2.0	4	2.0	0.103	3.7	LOS A	0.5	11.7	0.22	0.10	0.22	23.4
Approach		115	2.0	128	2.0	0.103	3.7	LOS A	0.5	11.7	0.22	0.10	0.22	26.4
East: Chapel Ridge Drive														
1	L2	4	2.0	4	2.0	0.041	3.5	LOS A	0.2	4.3	0.30	0.16	0.30	27.7
6	T1	23	2.0	26	2.0	0.041	3.5	LOS A	0.2	4.3	0.30	0.16	0.30	24.0
16	R2	15	2.0	17	2.0	0.041	3.5	LOS A	0.2	4.3	0.30	0.16	0.30	24.0
Approach		42	2.0	47	2.0	0.041	3.5	LOS A	0.2	4.3	0.30	0.16	0.30	24.3
North: Golfers View														
7	L2	18	2.0	20	2.0	0.070	3.7	LOS A	0.3	7.6	0.29	0.16	0.29	27.5
4	T1	4	2.0	4	2.0	0.070	3.7	LOS A	0.3	7.6	0.29	0.16	0.29	23.8
14	R2	51	2.0	57	2.0	0.070	3.7	LOS A	0.3	7.6	0.29	0.16	0.29	23.8
Approach		73	2.0	81	2.0	0.070	3.7	LOS A	0.3	7.6	0.29	0.16	0.29	24.6
West: Parks Meadow Drive														
5	L2	39	2.0	43	2.0	0.096	3.5	LOS A	0.4	11.0	0.12	0.03	0.12	27.4
2	T1	18	2.0	20	2.0	0.096	3.5	LOS A	0.4	11.0	0.12	0.03	0.12	23.8
12	R2	56	2.0	62	2.0	0.096	3.5	LOS A	0.4	11.0	0.12	0.03	0.12	23.8
Approach		113	2.0	126	2.0	0.096	3.5	LOS A	0.4	11.0	0.12	0.03	0.12	24.9
All Vehicles		343	2.0	381	2.0	0.103	3.6	LOS A	0.5	11.7	0.21	0.10	0.21	25.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [2026 No-Build PM (Site Folder: General)]

Parks Meadow Drive and The Parks Drive / Golfer View
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: The Parks Drive														
3	L2	90	2.0	100	2.0	0.086	3.6	LOS A	0.4	9.7	0.19	0.08	0.19	26.7
8	T1	4	2.0	4	2.0	0.086	3.6	LOS A	0.4	9.7	0.19	0.08	0.19	23.4
18	R2	4	2.0	4	2.0	0.086	3.6	LOS A	0.4	9.7	0.19	0.08	0.19	23.4
Approach		98	2.0	109	2.0	0.086	3.6	LOS A	0.4	9.7	0.19	0.08	0.19	26.4
East: Chapel Ridge Drive														
1	L2	4	2.0	4	2.0	0.039	3.4	LOS A	0.2	4.1	0.28	0.14	0.28	27.8
6	T1	14	2.0	16	2.0	0.039	3.4	LOS A	0.2	4.1	0.28	0.14	0.28	24.0
16	R2	23	2.0	26	2.0	0.039	3.4	LOS A	0.2	4.1	0.28	0.14	0.28	24.0
Approach		41	2.0	46	2.0	0.039	3.4	LOS A	0.2	4.1	0.28	0.14	0.28	24.4
North: Golfers View														
7	L2	16	2.0	18	2.0	0.054	3.5	LOS A	0.2	5.8	0.26	0.12	0.26	27.5
4	T1	4	2.0	4	2.0	0.054	3.5	LOS A	0.2	5.8	0.26	0.12	0.26	23.9
14	R2	38	2.0	42	2.0	0.054	3.5	LOS A	0.2	5.8	0.26	0.12	0.26	23.9
Approach		58	2.0	64	2.0	0.054	3.5	LOS A	0.2	5.8	0.26	0.12	0.26	24.8
West: Parks Meadow Drive														
5	L2	35	2.0	39	2.0	0.145	3.9	LOS A	0.7	17.6	0.12	0.04	0.12	27.5
2	T1	10	2.0	11	2.0	0.145	3.9	LOS A	0.7	17.6	0.12	0.04	0.12	23.8
12	R2	127	2.0	141	2.0	0.145	3.9	LOS A	0.7	17.6	0.12	0.04	0.12	23.8
Approach		172	2.0	191	2.0	0.145	3.9	LOS A	0.7	17.6	0.12	0.04	0.12	24.5
All Vehicles		369	2.0	410	2.0	0.145	3.7	LOS A	0.7	17.6	0.18	0.07	0.18	25.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [2026 Build AM (Site Folder: General)]

Parks Meadow Drive and The Parks Drive / Golfer View
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: The Parks Drive														
3	L2	107	2.0	119	2.0	0.114	4.2	LOS A	0.5	12.8	0.34	0.20	0.34	26.5
8	T1	4	2.0	4	2.0	0.114	4.2	LOS A	0.5	12.8	0.34	0.20	0.34	23.3
18	R2	4	2.0	4	2.0	0.114	4.2	LOS A	0.5	12.8	0.34	0.20	0.34	23.3
Approach		115	2.0	128	2.0	0.114	4.2	LOS A	0.5	12.8	0.34	0.20	0.34	26.2
East: Chapel Ridge Drive														
1	L2	4	2.0	4	2.0	0.070	3.8	LOS A	0.3	7.6	0.31	0.17	0.31	27.6
6	T1	53	2.0	59	2.0	0.070	3.8	LOS A	0.3	7.6	0.31	0.17	0.31	24.0
16	R2	15	2.0	17	2.0	0.070	3.8	LOS A	0.3	7.6	0.31	0.17	0.31	24.0
Approach		72	2.0	80	2.0	0.070	3.8	LOS A	0.3	7.6	0.31	0.17	0.31	24.2
North: Golfers View														
7	L2	18	2.0	20	2.0	0.072	3.8	LOS A	0.3	7.8	0.33	0.19	0.33	27.5
4	T1	4	2.0	4	2.0	0.072	3.8	LOS A	0.3	7.8	0.33	0.19	0.33	23.8
14	R2	51	2.0	57	2.0	0.072	3.8	LOS A	0.3	7.8	0.33	0.19	0.33	23.8
Approach		73	2.0	81	2.0	0.072	3.8	LOS A	0.3	7.8	0.33	0.19	0.33	24.6
West: Parks Meadow Drive														
5	L2	39	2.0	43	2.0	0.170	4.2	LOS A	0.8	21.1	0.13	0.04	0.13	27.4
2	T1	106	2.0	118	2.0	0.170	4.2	LOS A	0.8	21.1	0.13	0.04	0.13	23.8
12	R2	56	2.0	62	2.0	0.170	4.2	LOS A	0.8	21.1	0.13	0.04	0.13	23.8
Approach		201	2.0	223	2.0	0.170	4.2	LOS A	0.8	21.1	0.13	0.04	0.13	24.4
All Vehicles		461	2.0	512	2.0	0.170	4.1	LOS A	0.8	21.1	0.24	0.13	0.24	24.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [2026 Build PM (Site Folder: General)]

Parks Meadow Drive and The Parks Drive / Golfer View
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: The Parks Drive														
3	L2	90	2.0	100	2.0	0.092	3.8	LOS A	0.4	10.3	0.28	0.15	0.28	26.6
8	T1	4	2.0	4	2.0	0.092	3.8	LOS A	0.4	10.3	0.28	0.15	0.28	23.4
18	R2	4	2.0	4	2.0	0.092	3.8	LOS A	0.4	10.3	0.28	0.15	0.28	23.4
Approach		98	2.0	109	2.0	0.092	3.8	LOS A	0.4	10.3	0.28	0.15	0.28	26.3
East: Chapel Ridge Drive														
1	L2	4	2.0	4	2.0	0.134	4.2	LOS A	0.6	15.5	0.31	0.17	0.31	27.5
6	T1	114	2.0	127	2.0	0.134	4.2	LOS A	0.6	15.5	0.31	0.17	0.31	23.9
16	R2	23	2.0	26	2.0	0.134	4.2	LOS A	0.6	15.5	0.31	0.17	0.31	23.9
Approach		141	2.0	157	2.0	0.134	4.2	LOS A	0.6	15.5	0.31	0.17	0.31	24.0
North: Golfers View														
7	L2	16	2.0	18	2.0	0.061	3.9	LOS A	0.3	6.4	0.37	0.23	0.37	27.4
4	T1	4	2.0	4	2.0	0.061	3.9	LOS A	0.3	6.4	0.37	0.23	0.37	23.8
14	R2	38	2.0	42	2.0	0.061	3.9	LOS A	0.3	6.4	0.37	0.23	0.37	23.8
Approach		58	2.0	64	2.0	0.061	3.9	LOS A	0.3	6.4	0.37	0.23	0.37	24.7
West: Parks Meadow Drive														
5	L2	35	2.0	39	2.0	0.195	4.4	LOS A	1.0	24.9	0.13	0.04	0.13	27.4
2	T1	69	2.0	77	2.0	0.195	4.4	LOS A	1.0	24.9	0.13	0.04	0.13	23.8
12	R2	127	2.0	141	2.0	0.195	4.4	LOS A	1.0	24.9	0.13	0.04	0.13	23.8
Approach		231	2.0	257	2.0	0.195	4.4	LOS A	1.0	24.9	0.13	0.04	0.13	24.2
All Vehicles		528	2.0	587	2.0	0.195	4.2	LOS A	1.0	24.9	0.23	0.12	0.23	24.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

APPENDIX F

CAPACITY ANALYSIS CALCULATIONS

PARKS MEADOW DRIVE WESTERN ROUNDABOUT

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ACCESS A

MOVEMENT SUMMARY

Site: 3 [2022 Existing AM (Site Folder: General)]

Parks Meadow Drive Western Roundabout
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: Parks Meadow Drive														
6	T1	71	2.0	79	2.0	0.058	3.1	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
Approach		71	2.0	79	2.0	0.058	3.1	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
West: Parks Meadow Drive														
2	T1	70	2.0	78	2.0	0.057	3.1	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
Approach		70	2.0	78	2.0	0.057	3.1	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
All Vehicles		141	2.0	157	2.0	0.058	3.1	LOS A	0.0	0.0	0.00	0.00	0.00	26.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [2022 Existing PM (Site Folder: General)]

Parks Meadow Drive Western Roundabout
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: Parks Meadow Drive														
6	T1	65	2.0	72	2.0	0.053	3.1	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
Approach		65	2.0	72	2.0	0.053	3.1	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
West: Parks Meadow Drive														
2	T1	49	2.0	54	2.0	0.040	3.0	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
Approach		49	2.0	54	2.0	0.040	3.0	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
All Vehicles		114	2.0	127	2.0	0.053	3.0	LOS A	0.0	0.0	0.00	0.00	0.00	26.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [2026 No-Build AM (Site Folder: General)]

Parks Meadow Drive Western Roundabout
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: Parks Meadow Drive														
6	T1	180	2.0	200	2.0	0.148	3.9	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
Approach		180	2.0	200	2.0	0.148	3.9	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
West: Parks Meadow Drive														
2	T1	114	2.0	127	2.0	0.094	3.4	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
Approach		114	2.0	127	2.0	0.094	3.4	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
All Vehicles		294	2.0	327	2.0	0.148	3.7	LOS A	0.0	0.0	0.00	0.00	0.00	26.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [2026 No-Build PM (Site Folder: General)]

Parks Meadow Drive Western Roundabout
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: Parks Meadow Drive														
6	T1	142	2.0	158	2.0	0.117	3.6	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
Approach		142	2.0	158	2.0	0.117	3.6	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
West: Parks Meadow Drive														
2	T1	172	2.0	191	2.0	0.141	3.8	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
Approach		172	2.0	191	2.0	0.141	3.8	LOS A	0.0	0.0	0.00	0.00	0.00	26.0
All Vehicles		314	2.0	349	2.0	0.141	3.7	LOS A	0.0	0.0	0.00	0.00	0.00	26.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [2026 Build AM (Site Folder: General)]

Parks Meadow Drive Western Roundabout
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Access A														
3	L2	98	2.0	109	2.0	0.114	4.0	LOS A	0.5	12.9	0.29	0.16	0.29	24.2
18	R2	22	2.0	24	2.0	0.114	4.0	LOS A	0.5	12.9	0.29	0.16	0.29	23.2
Approach		120	2.0	133	2.0	0.114	4.0	LOS A	0.5	12.9	0.29	0.16	0.29	24.0
East: Parks Meadow Drive														
1	L2	8	2.0	9	2.0	0.203	4.8	LOS A	1.0	25.4	0.28	0.15	0.28	25.1
6	T1	213	2.0	237	2.0	0.203	4.8	LOS A	1.0	25.4	0.28	0.15	0.28	24.6
Approach		221	2.0	246	2.0	0.203	4.8	LOS A	1.0	25.4	0.28	0.15	0.28	24.6
West: Parks Meadow Drive														
2	T1	125	2.0	139	2.0	0.132	3.8	LOS A	0.6	15.8	0.06	0.01	0.06	24.9
12	R2	34	2.0	38	2.0	0.132	3.8	LOS A	0.6	15.8	0.06	0.01	0.06	24.3
Approach		159	2.0	177	2.0	0.132	3.8	LOS A	0.6	15.8	0.06	0.01	0.06	24.8
All Vehicles		500	2.0	556	2.0	0.203	4.3	LOS A	1.0	25.4	0.22	0.11	0.22	24.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [2026 Build PM (Site Folder: General)]

Parks Meadow Drive Western Roundabout
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Access A														
3	L2	66	2.0	73	2.0	0.085	4.1	LOS A	0.4	9.1	0.37	0.24	0.37	24.2
18	R2	15	2.0	17	2.0	0.085	4.1	LOS A	0.4	9.1	0.37	0.24	0.37	23.2
Approach		81	2.0	90	2.0	0.085	4.1	LOS A	0.4	9.1	0.37	0.24	0.37	24.0
East: Parks Meadow Drive														
1	L2	25	2.0	28	2.0	0.168	4.3	LOS A	0.8	20.4	0.22	0.10	0.22	25.1
6	T1	164	2.0	182	2.0	0.168	4.3	LOS A	0.8	20.4	0.22	0.10	0.22	24.6
Approach		189	2.0	210	2.0	0.168	4.3	LOS A	0.8	20.4	0.22	0.10	0.22	24.7
West: Parks Meadow Drive														
2	T1	209	2.0	232	2.0	0.272	5.1	LOS A	1.5	38.3	0.14	0.05	0.14	24.5
12	R2	113	2.0	126	2.0	0.272	5.1	LOS A	1.5	38.3	0.14	0.05	0.14	23.9
Approach		322	2.0	358	2.0	0.272	5.1	LOS A	1.5	38.3	0.14	0.05	0.14	24.3
All Vehicles		592	2.0	658	2.0	0.272	4.7	LOS A	1.5	38.3	0.20	0.09	0.20	24.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

APPENDIX G

CAPACITY ANALYSIS CALCULATIONS

NC 87

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PARKS MEADOW DRIVE

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	65	6	110	64	6	206
Future Vol, veh/h	65	6	110	64	6	206
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	225	325	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	7	122	71	7	229

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	365	122	0	0	193	0
Stage 1	122	-	-	-	-	-
Stage 2	243	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	635	929	-	-	1380	-
Stage 1	903	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	632	929	-	-	1380	-
Mov Cap-2 Maneuver	632	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	793	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	632	929	1380	-
HCM Lane V/C Ratio	-	-	0.114	0.007	0.005	-
HCM Control Delay (s)	-	-	11.4	8.9	7.6	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	48	17	207	40	9	160
Future Vol, veh/h	48	17	207	40	9	160
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	225	325	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	19	230	44	10	178

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	428	230	0	0	274	0
Stage 1	230	-	-	-	-	-
Stage 2	198	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	584	809	-	-	1289	-
Stage 1	808	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	579	809	-	-	1289	-
Mov Cap-2 Maneuver	579	-	-	-	-	-
Stage 1	808	-	-	-	-	-
Stage 2	828	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	579	809	1289	-
HCM Lane V/C Ratio	-	-	0.092	0.023	0.008	-
HCM Control Delay (s)	-	-	11.8	9.6	7.8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	165	15	124	104	10	232
Future Vol, veh/h	165	15	124	104	10	232
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	225	325	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	183	17	138	116	11	258

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	418	138	0	0	254	0
Stage 1	138	-	-	-	-	-
Stage 2	280	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	591	910	-	-	1311	-
Stage 1	889	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	586	910	-	-	1311	-
Mov Cap-2 Maneuver	586	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	761	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	586	910	1311	-
HCM Lane V/C Ratio	-	-	0.313	0.018	0.008	-
HCM Control Delay (s)	-	-	13.9	9	7.8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.1	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	117	25	233	152	20	180
Future Vol, veh/h	117	25	233	152	20	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	225	325	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	130	28	259	169	22	200

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	503	259	0	0	428	0
Stage 1	259	-	-	-	-	-
Stage 2	244	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	528	780	-	-	1131	-
Stage 1	784	-	-	-	-	-
Stage 2	797	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	518	780	-	-	1131	-
Mov Cap-2 Maneuver	518	-	-	-	-	-
Stage 1	784	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	518	780	1131	-
HCM Lane V/C Ratio	-	-	0.251	0.036	0.02	-
HCM Control Delay (s)	-	-	14.3	9.8	8.2	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	1	0.1	0.1	-

Intersection	
Int Delay, s/veh	6.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	285	26	124	145	14	232
Future Vol, veh/h	285	26	124	145	14	232
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	225	325	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	317	29	138	161	16	258

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	428	138	0	0	299	0
Stage 1	138	-	-	-	-	-
Stage 2	290	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	584	910	-	-	1262	-
Stage 1	889	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	576	910	-	-	1262	-
Mov Cap-2 Maneuver	576	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	749	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.8	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	576	910	1262	-
HCM Lane V/C Ratio	-	-	0.55	0.032	0.012	-
HCM Control Delay (s)	-	-	18.6	9.1	7.9	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	3.3	0.1	0	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	198	32	233	290	32	180
Future Vol, veh/h	198	32	233	290	32	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	225	325	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	220	36	259	322	36	200

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	531	259	0	0	581	0
Stage 1	259	-	-	-	-	-
Stage 2	272	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	509	780	-	-	993	-
Stage 1	784	-	-	-	-	-
Stage 2	774	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	491	780	-	-	993	-
Mov Cap-2 Maneuver	491	-	-	-	-	-
Stage 1	784	-	-	-	-	-
Stage 2	746	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	491	780	993	-
HCM Lane V/C Ratio	-	-	0.448	0.046	0.036	-
HCM Control Delay (s)	-	-	18.1	9.8	8.8	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	2.3	0.1	0.1	-

APPENDIX H

CAPACITY ANALYSIS CALCULATIONS

PARKS MEADOW DRIVE

&

ACCESS B

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	101	11	22	88	33	66
Future Vol, veh/h	101	11	22	88	33	66
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	12	24	98	37	73

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	124	0	264	118
Stage 1	-	-	-	-	118	-
Stage 2	-	-	-	-	146	-
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	-	-	1463	-	725	934
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	881	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1463	-	713	934
Mov Cap-2 Maneuver	-	-	-	-	713	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	866	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	847	-	-	1463	-
HCM Lane V/C Ratio	0.13	-	-	0.017	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	70	37	75	98	22	44
Future Vol, veh/h	70	37	75	98	22	44
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	41	83	109	24	49

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	119	0	374	99
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	275	-
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	-	-	1469	-	627	957
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1469	-	589	957
Mov Cap-2 Maneuver	-	-	-	-	589	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	725	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	792	-	-	1469	-
HCM Lane V/C Ratio	0.093	-	-	0.057	-
HCM Control Delay (s)	10	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-