PEDIGO ROAD SUBDIVISION

TRAFFIC IMPACT STUDY

PEDIGO ROAD, NORTH OF GREENWELL DRIVE
KNOX COUNTY, TENNESSEE

CCI PROJECT NO. 00773-0010

REV. 2

PREPARED FOR:
Southland Engineering Consultants
4909 Ball Road
Knoxville, TN 37931

SUBMITTED BY
Cannon & Cannon, Inc.
8550 Kingston Pike
Knoxville, TN 37919
865.670.8555

CANNON & CANNON INC
CONSULTING ENGINEERS
FIELD SURVEYORS

REVISED
SEPT. 12
2018

PEDIGO ROAD SUBDIVISION

TRAFFIC IMPACT STUDY

PEDIGO ROAD, NORTH OF GREENWELL DRIVE
KNOX COUNTY, TENNESSEE

CCI PROJECT NO. 00773-0010

REVISION 2 (09/12/18)
This report replaces the original traffic impact study (dated 04/27/18) in its entirety. The associated changes are a result of comments received from MPC and Knox County, which were included in REVISION 1, as well as site changes initiated by the developer.

PREPARED FOR:
Southland Engineering Consultants
4909 Ball Road
Knoxville, TN 37931

SUBMITTED BY
Cannon & Cannon, Inc.
8550 Kingston Pike
Knoxville, TN 37919
865.670.8555

REVISED
SEPT. 12
2018

TABLE OF CONTENTS

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

EXECUTIVE SUMMARY

The purpose of this Executive Summary is to provide a concise overview of a traffic impact study that was performed for a proposed single family residential subdivision to be located on Pedigo Road in north Knox County. The project site is located on the west side of Pedigo Road, approximately one mile northwest of the intersection of Pedigo Road with W. Emory Road. The conceptual development plan for this project proposes 241 residential lots to be developed in two separate phases. The project is to have two access roads onto Pedigo Road: the phase 2 access located directly across from Grand Colony Lane and the phase 1 access located across from an existing driveway approximately 1800 feet further north. For evaluation purposes, the two phases will be evaluated together, with all phase 1 traffic assigned to the north access road and all phase 2 traffic assigned to the south access road.

The purpose of this study was the evaluation of the traffic operational and safety impacts of the proposed single family subdivision development upon roadways in the vicinity of the site. Of particular interest are the proposed site access intersections, which include the intersection of Pedigo Road with Grand Colony Lane and Pedigo Road with the proposed north site access roadway. Appropriate intersection evaluations were conducted at these two locations with traffic volumes generated from the proposed development in order to determine the anticipated impacts and to establish recommended measures to mitigate these impacts. These evaluations included intersection capacity analyses, corner sight distance reviews, and turn lane assessments.

The primary conclusion of this study is that the traffic generated from the proposed subdivision will significantly increase traffic on Pedigo Road, but it will not result in major traffic operational impacts. Intersection delays and levels-of-service will be in acceptable ranges (LOS C or better), and neither of the two study intersections will exhibit traffic conditions justifying left or right turn traffic lanes. The following listing is a summary of the study generated improvements and recommendations:

1. Install minimum 30 inch STOP signs on both the south site access and the north site access roadway approaches to Pedigo Road.
2. Provide and maintain the required intersection corner sight distances at the proposed south site access and north site access intersections. This will require removal of some existing brush and trees, especially along the east side of the project site immediately adjacent to Pedigo Road. In addition, two existing features on project site property should be adjusted to help with corner sight distances at two Knox County intersections that lie adjacent to the project site. These include the cutting back of a small embankment on the northeast corner of the intersection of East Copeland Drive at Greenwell Drive/Bishop Road, and the removal of a fence on the northwest corner of Pedigo Road and Greenwell Drive. Further, trimming of some brush and trees along the east side of East Copeland Drive, adjacent to the site access driveway and easement for a few lots on East Copeland Drive, should also be undertaken. This vegetation is also on the roadway ROW or project site property.
3. New site landscaping or site signage that is to be installed for this project is to be properly placed such that sight distances are not obstructed.
4. Have a surveyor certify that final sight distances exceed minimum requirements once both site access roadways are complete and ready to open to traffic.

INTRODUCTION & PURPOSE OF STUDY

This report provides a summary of a traffic impact study that was performed for a proposed single family residential subdivision to be located on Pedigo Road in north Knox County. The project site is located on the west side of Pedigo Road, approximately one mile northwest of the intersection of Pedigo Road with W. Emory Road. FIGURE 1 is a location map identifying the major roadways in the vicinity of the site.

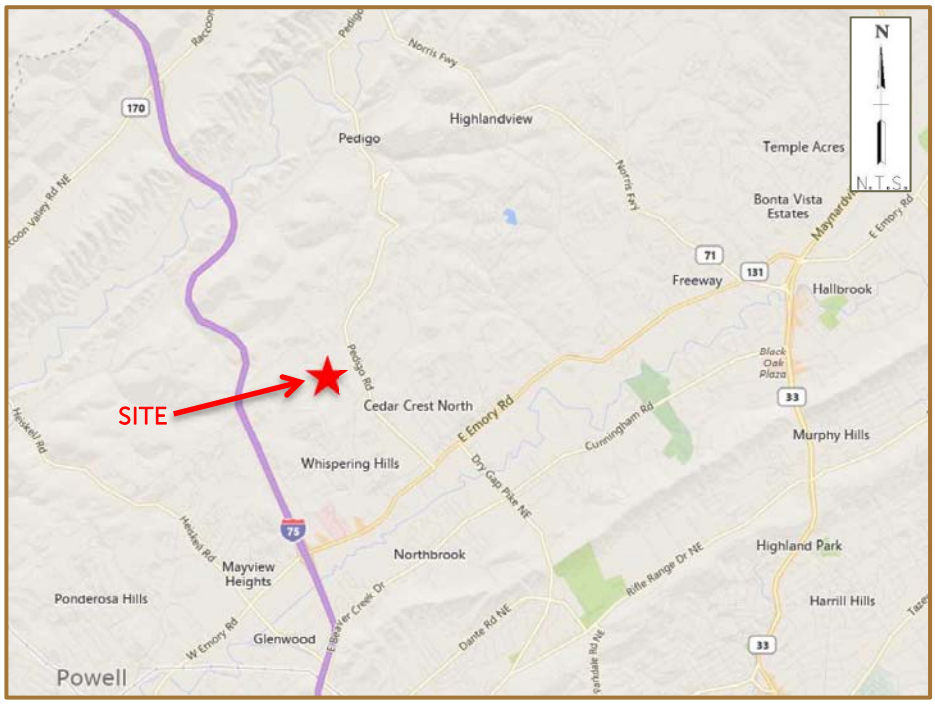


FIGURE 1
LOCATION MAP

The conceptual development plan for this project proposes 241 residential lots to be developed in two separate phases. The project is to have two access roads onto Pedigo Road: the phase 2 access located directly across from Grand Colony Lane and the phase 1 access located across from an existing driveway approximately 1800 feet further north. FIGURE 2 is a Conceptual Site Plan which illustrates the proposed site configuration.

The purpose of this study was the evaluation of the traffic operational and safety impacts of the proposed single family subdivision development upon roadways in the vicinity of the site. Of particular interest are the proposed site access intersections, which include the intersection of Pedigo Road with Grand Colony Lane and Pedigo Road with the proposed north site access roadway. Appropriate intersection evaluations were conducted at these two locations with traffic volumes generated from the proposed development in order to determine the anticipated impacts and to establish recommended measures to mitigate these impacts. These evaluations included intersection capacity analyses, corner sight distance reviews, and turn lane assessments.

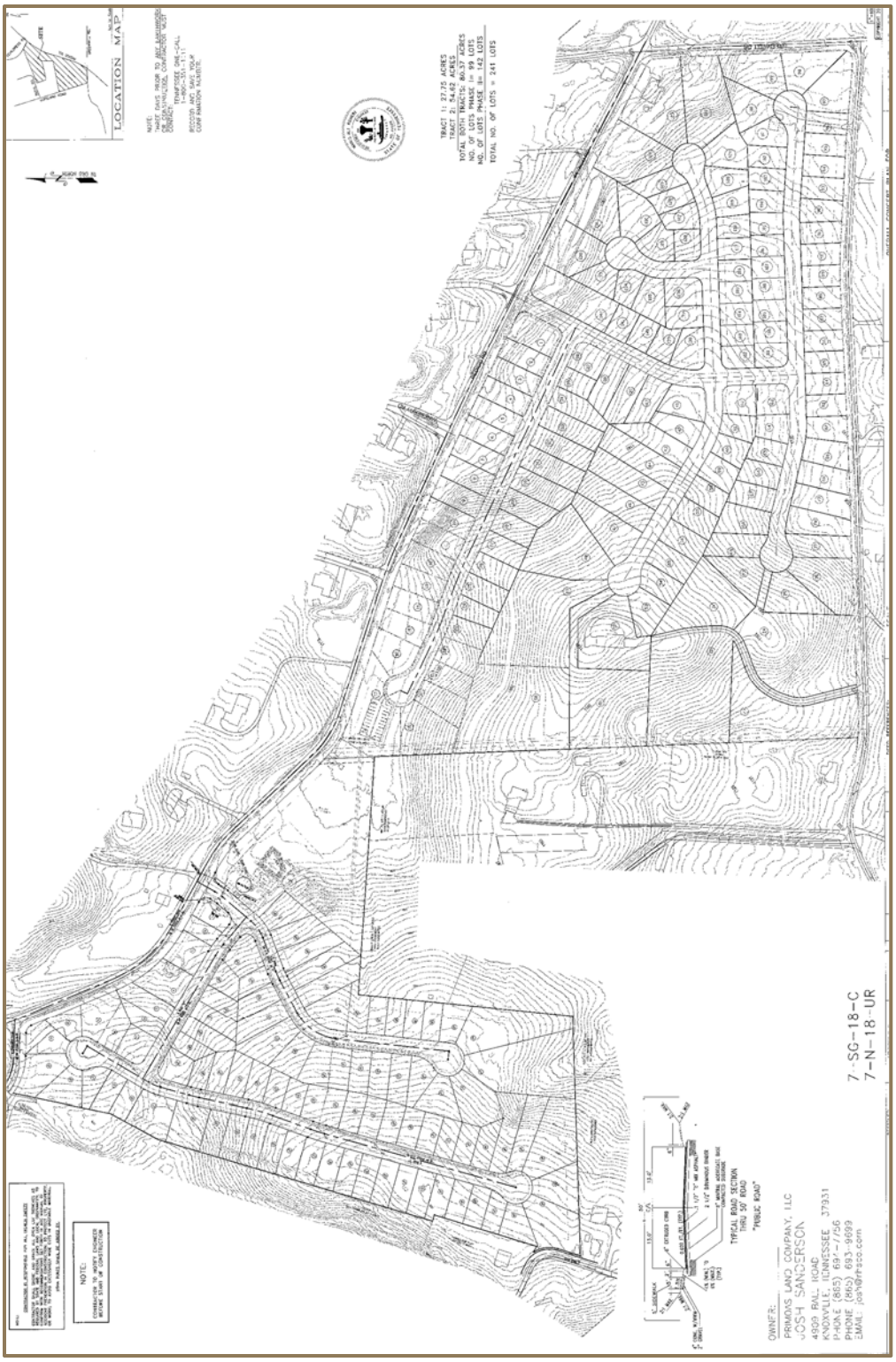


FIGURE 2
CONCEPTUAL SITE PLAN

EXISTING CONDITIONS

EXISTING ROADWAY CONDITIONS

Pedigo Road is classified as a Major Collector roadway by Knox County and the Knoxville/Knox County Metropolitan Planning Commission. In the vicinity of the proposed development, the roadway consists of one through asphalt travel lane in each direction with a width of approximately ten feet each. No shoulders are present. The speed limit in the vicinity of the proposed project is posted as 30 mph. The 2016 AADT on Pedigo Road south of the project site was 3,200.

EXISTING SITE CONDITIONS

The existing site consists of approximately 82 acres located on the west side of Pedigo Road, approximately one mile northwest of the intersection of Pedigo Road with W. Emory Road. The site is currently mostly undeveloped and is covered by some pasture land and some small areas of trees and brush. FIGURE 3 provides an overview of the study site and immediate surrounding area.

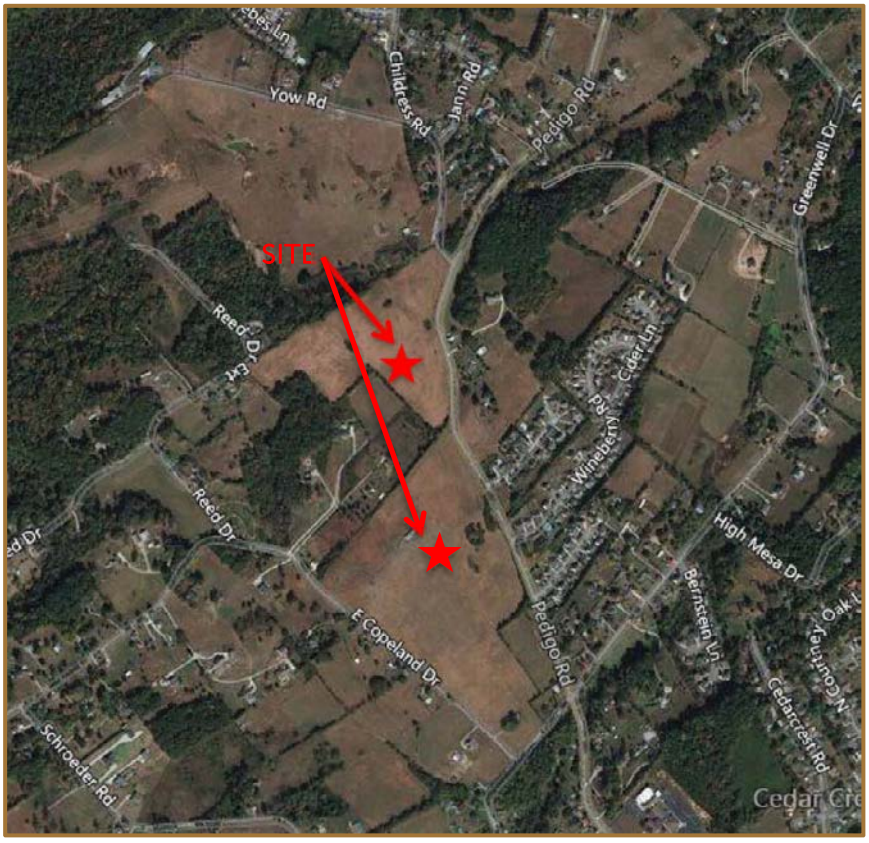


FIGURE 3
EXISTING SITE CONDITIONS

EXISTING TRAFFIC DATA

Current traffic data was gathered for this study. The Tennessee Department of Transportation (TDOT) collects annual average daily traffic (AADT) data annually on roadways in the study area. One count station was found near the project site that was felt to have particular relevance for this study. The most currently available data from this station is contained in Table 1.

TABLE 1: ANNUAL AVERAGE DAILY TRAFFIC COUNT SUMMARY

COUNT YEAR	TDOT COUNT STATION 323*	MPC COUNT STATION**
2016	23,507	3,200
2015	23,274	-
2014	22,555	3,030
2013	24,277	-
2012	23,708	2,600
2011	23,335	-
2010	23,558	2,900

*This station is located on Emory Road (S.R. 131) about 1.5 miles south of the project site.

**This station is located on Pedigo Road north of Emory Road.

In addition to the available AADT data, intersection turning movement traffic counts were conducted specifically for this study at the intersections of Pedigo Road at Grand Colony Lane and Pedigo Road at Childress Road. These data were used to establish the existing volumes at the two study intersections and to establish trip distribution patterns. The existing traffic counts are summarized on FIGURE 4, and the raw data traffic count summary sheets are contained in APPENDIX A.

EXISTING CAPACITY ANALYSES / LEVELS-OF-SERVICE

Capacity analyses employing the methods of the Highway Capacity Manual (HCM2010) were conducted for existing A.M. and P.M. peak hour traffic and roadway conditions at the two study intersections. The results of these analyses are contained in the EVALUATIONS section of this report.

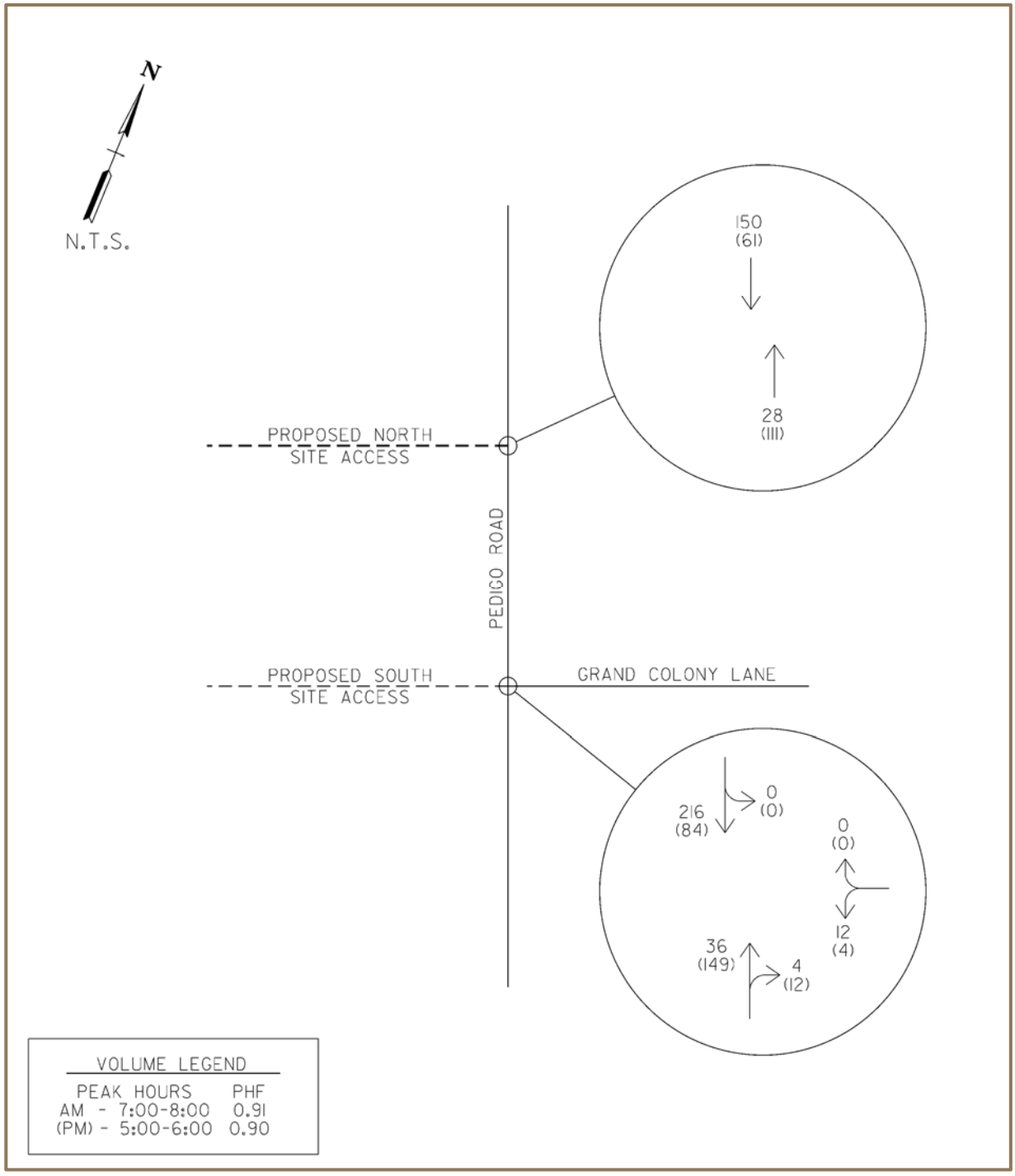


FIGURE 4
EXISTING TRAFFIC VOLUMES (2018)

BACKGROUND CONDITIONS

BACKGROUND TRAFFIC GROWTH

The proposed single family subdivision development is anticipated to be constructed in two general phases. For project evaluation purposes, the two phases will be evaluated together and it is anticipated that completion of both phases will take approximately five years. Therefore, year 2023 was established as the appropriate analysis year for this study. In order to determine traffic volumes resulting solely from background traffic growth to year 2023, it was necessary to establish an annual growth rate for existing traffic. Based on the available AADT traffic counts as well as knowledge of the area, a background annual traffic growth rate of 3.0% was established. Figure 5 contains the background traffic volumes for the two study intersections that would result from a 3.0% annual growth rate from year 2018, when the counts were conducted, to year 2023. The background traffic volumes shown on FIGURE 5 represent year 2023 background growth conditions without traffic related to the proposed development.

BACKGROUND CAPACITY ANALYSES / LEVELS-OF-SERVICE

Capacity analyses employing the methods of the Highway Capacity Manual (HCM2010) were conducted for background A.M. and P.M. peak hour traffic and existing roadway conditions at the two study intersections. The results of these analyses are contained in the EVALUATIONS section of this report.

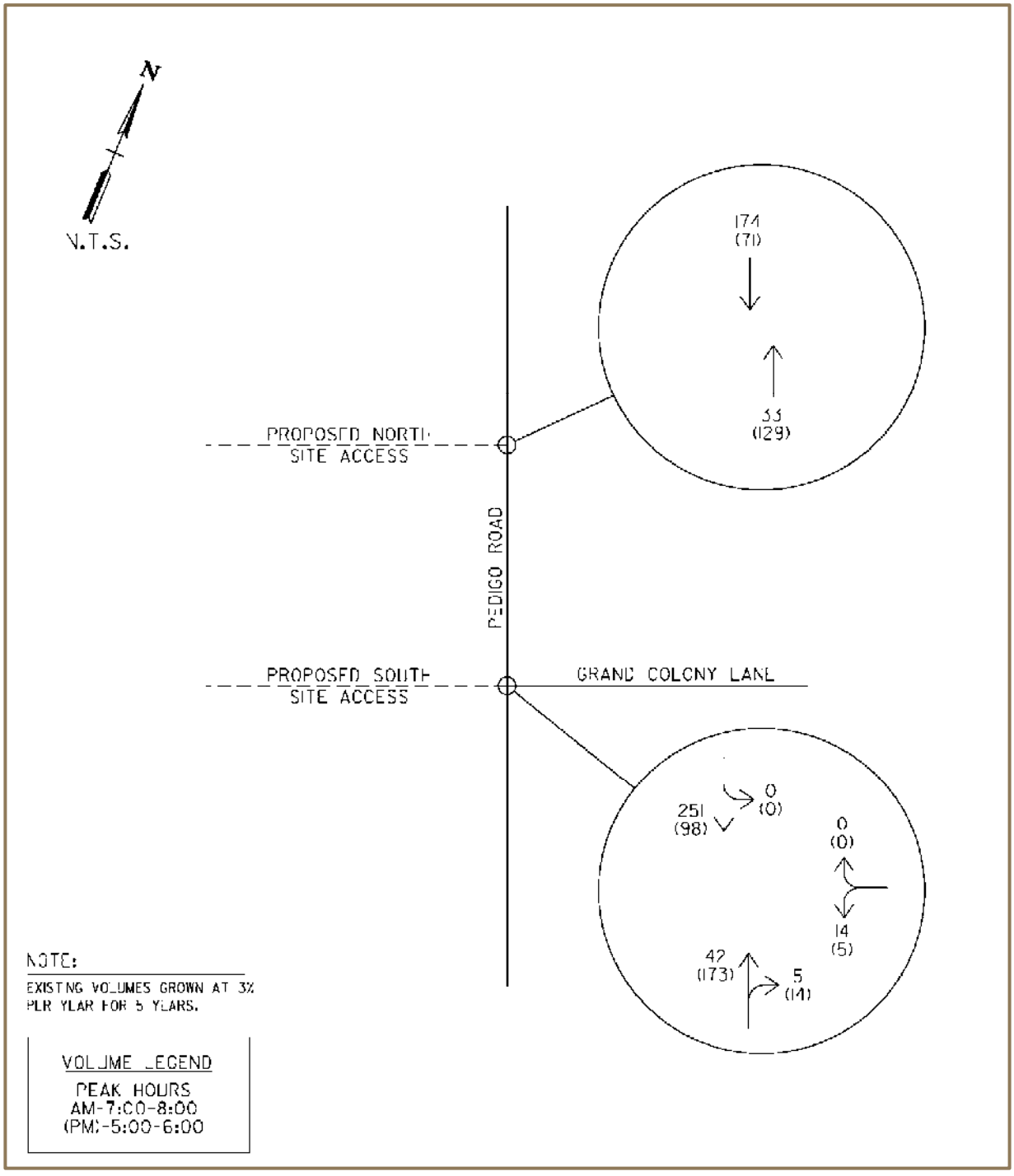


FIGURE 5
BACKGROUND TRAFFIC VOLUMES (2023)

FUTURE CONDITIONS

TRIP GENERATION

In order to estimate the expected traffic volumes to be generated by the proposed development, the procedures recommended by the Institute of Transportation Engineers (ITE) were utilized. Trip generation rates developed by ITE for single-family detached housing were employed to generate the estimated trips for the proposed subdivision. The generated traffic volumes were determined based on the data for the peak hours of adjacent street traffic. See TABLE 2 for a summary of the traffic generated for this project. More detailed information is contained in APPENDIX B.

TABLE 2: TRIP GENERATION SUMMARY

PHASE LAND USE	NO. UNITS	TRIP DESCRIPTION	WEEKDAY (TRIPS/DAY)	AM PEAK HOUR (TRIPS/HR)	PM PEAK HOUR (TRIPS/HR)
Phase 1 (North Access) Single Family Detached Housing (ITE CODE 210)	99	Entering Trips Exiting Trips Total Trips	515 515 1030	19 56 75	64 37 101
Phase 2 (South Access) Single Family Detached Housing (ITE CODE 210)	142	Entering Trips Exiting Trips Total Trips	718 718 1436	26 80 106	89 53 142
PROJECT TOTAL Total of Phases 1 & 2	241	Entering Trips Exiting Trips Total Trips	1233 1233 2466	45 136 181	153 90 243

TRIP DISTRIBUTION AND ASSIGNMENT

FIGURE 6 provides a summary of the trip distribution patterns assumed for this study. These patterns were based on the existing traffic patterns derived from the traffic count conducted at the intersection of Pedigo Road and Grand Colony Lane as well as knowledge of the area. FIGURE 7 provides a summary of the anticipated trips as assigned to the study intersections utilizing the trip generation data from TABLE 2 and the distribution patterns shown on FIGURE 6. Note that due to the low number of trips that would be generated, no trips were assigned to the driveway on East Copeland Drive that will provide access to a small number of lots.

FUTURE TRAFFIC VOLUMES

Future projected traffic volumes were developed by adding the generated trips shown in FIGURE 7 to the 2023 background traffic volumes developed in the previous section and shown in FIGURE 5. These combined year 2023 volumes reflect the existing traffic, the background traffic growth, and the newly

generated traffic from the proposed subdivision. These future volumes are shown on FIGURE 8, and they are the combined volumes used in the analyses of future conditions.

FUTURE CAPACITY ANALYSES / LEVELS-OF-SERVICE

Capacity analyses employing the methods of the Highway Capacity Manual (HCM2010) were conducted for combined A.M. and P.M. peak hour traffic and existing roadway conditions at the two study intersections. The results of these analyses are contained in the EVALUATIONS section of this report along with discussion of the implications of the results.

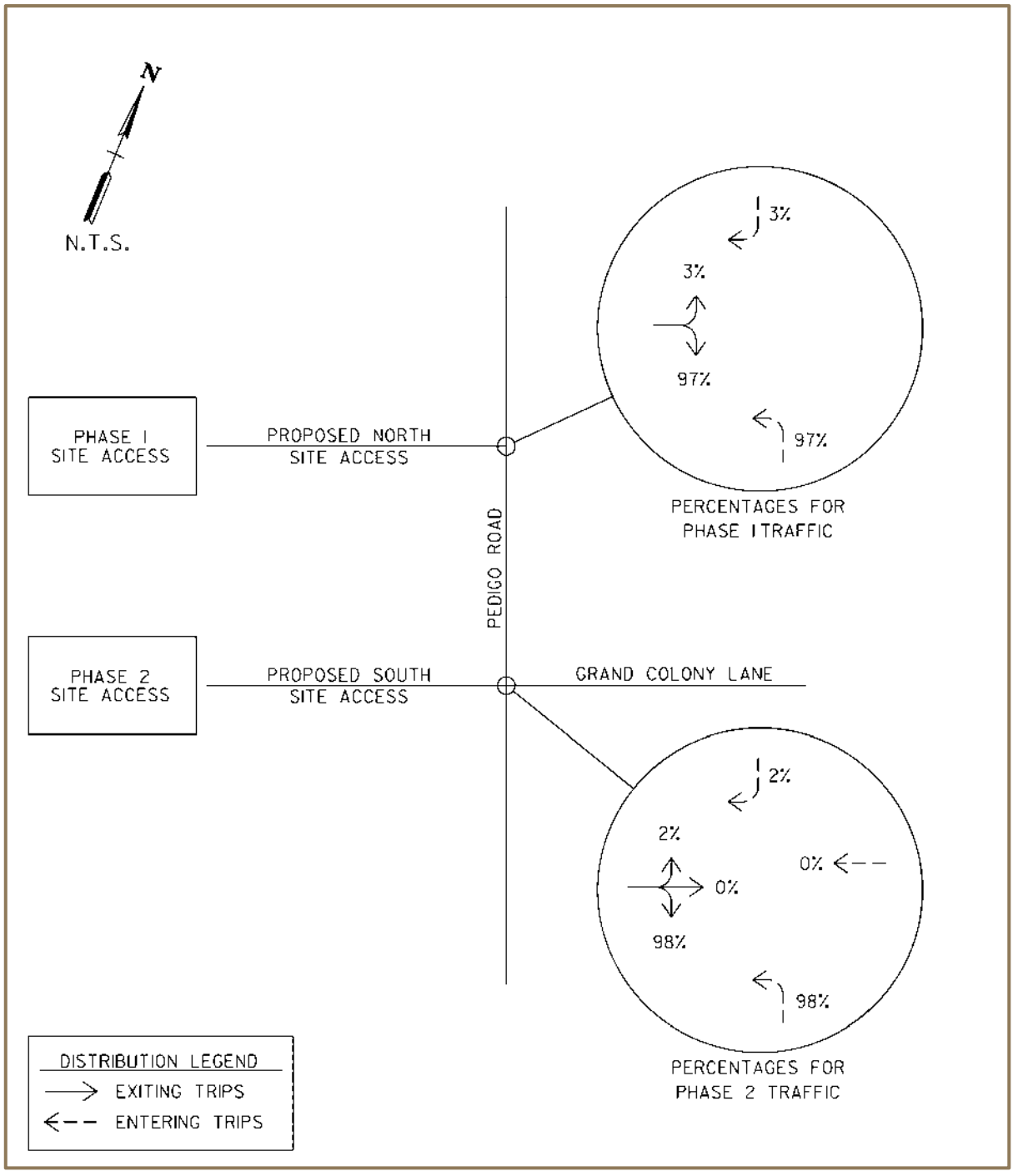


FIGURE 6
TRIP DISTRIBUTION

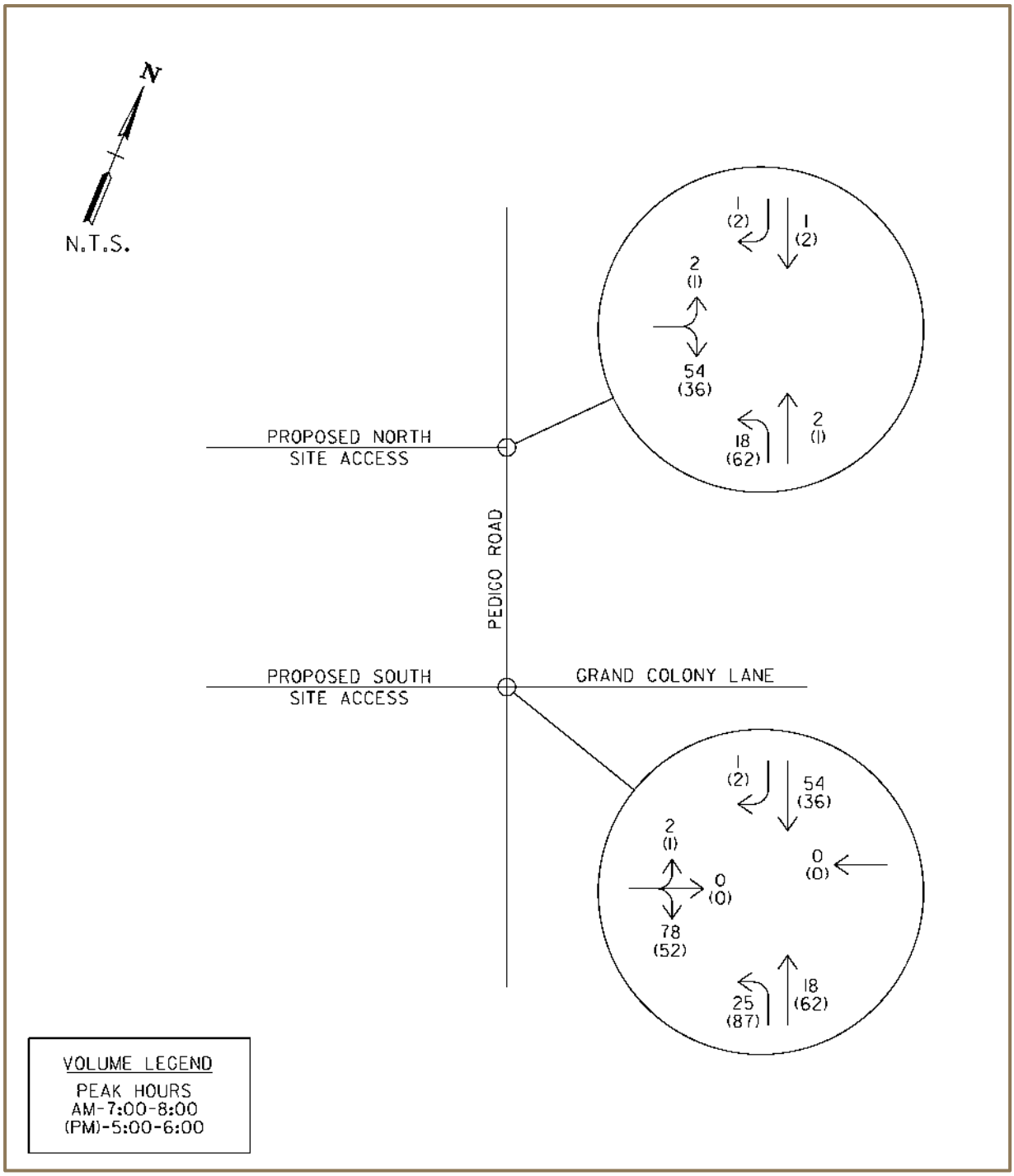


FIGURE 7
TRIP ASSIGNMENT

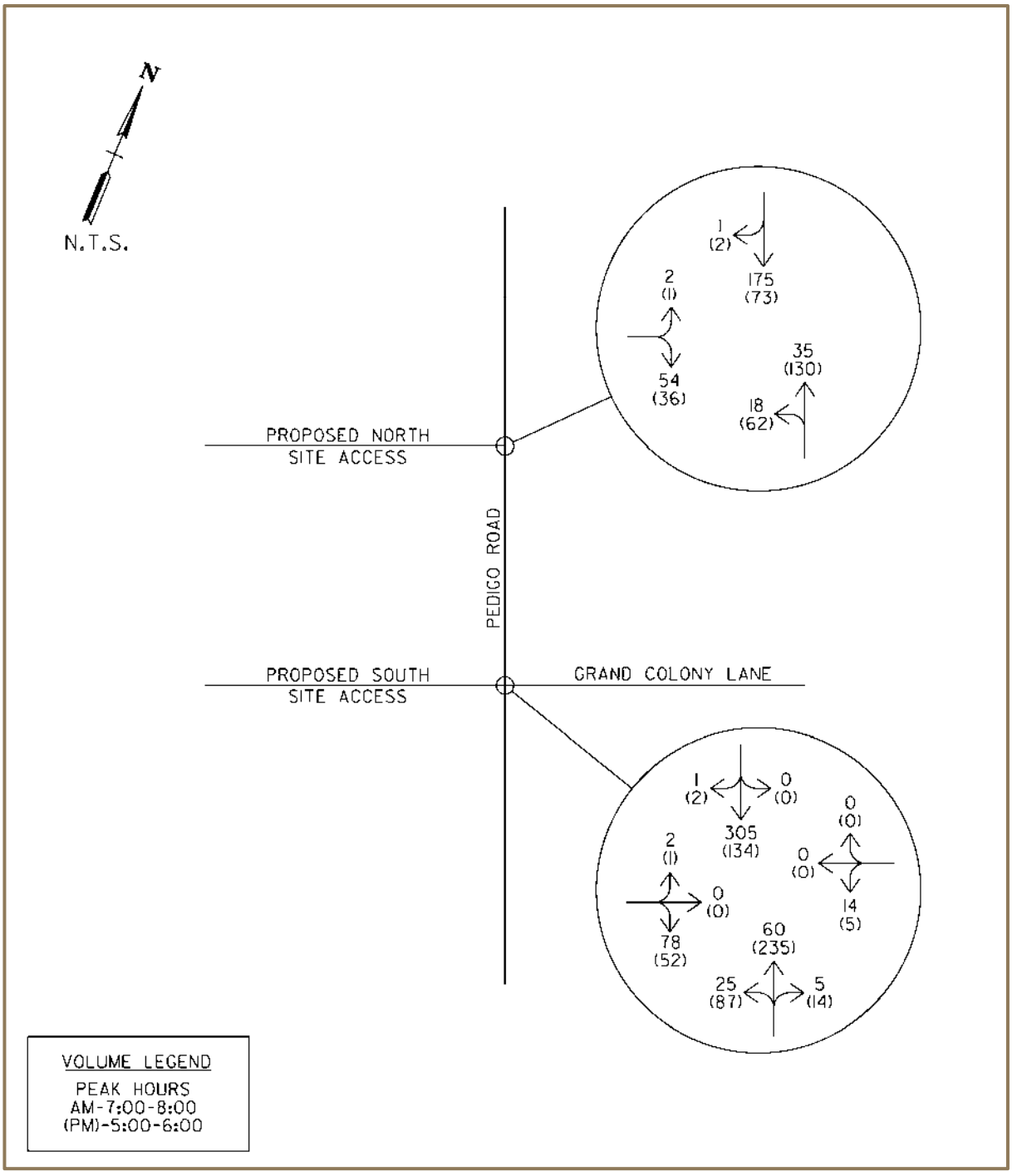


FIGURE 8
COMBINED TRAFFIC VOLUMES (2023)

EVALUATIONS

INTERSECTION CAPACITY ANALYSES

As discussed in the preceding sections of this report, capacity analyses employing the methods of the Highway Capacity Manual (HCM) were conducted for the study intersections for existing, background, and combined traffic conditions. All of these analyses employed the existing roadway conditions, and the combined analyses included both phases 1 and 2 of the development. A summary of the capacity analyses results is shown in TABLE 3.

TABLE 3: CAPACITY ANALYSES SUMMARY

INTERSECTION	TIME PERIOD	YEAR 2018 EXISTING (LOS/DELAY)	YEAR 2023 BACKGROUND (LOS/DELAY)	YEAR 2023 COMBINED (LOS/DELAY)
Pedigo Road and Grand Colony Lane / Proposed South Site Access WESTBOUND APPROACH (SIDE-STREET STOP CONTROLLED)[1]	A.M. P.M.	B 10.2 s. B 10.0 s.	B 10.5 s. B 10.3 s.	B 14.1 s. C 15.8 s.
Pedigo Road and Grand Colony Lane / Proposed South Site Access EASTBOUND APPROACH (SITE) (SIDE-STREET STOP CONTROLLED)[1]	A.M. P.M.	N/A N/A	N/A N/A	B 10.9 s. A 9.4 s.
Pedigo Road / Proposed North Site Access EASTBOUND APPROACH (SITE) (SIDE-STREET STOP CONTROLLED)[1]	A.M. P.M.	N/A N/A	N/A N/A	A 9.6 s. A 8.9 s.

[1]SIDE-STREET STOP CONTROLLED – Level-of-service and Average Vehicular Delay (seconds) for movement or approach utilizing HCM methodology.
See Appendix C for detailed computer print-out summaries and discussion of Capacity and Level-of-Service concepts.

SIGHT DISTANCE ASSESSMENT

Intersection corner sight distances were field evaluated at the two proposed site access locations, as well as two other intersections through which site generated traffic will regularly traverse. These evaluations are summarized below:

1) North Site Access on Pedigo Road - Looking north along Pedigo Road from the proposed stop position on the north site access roadway, the sight distance is estimated to be at least 315 feet before the sight line crosses across private property. Looking south, some brush and small trees on the ROW and project site need to be removed. Once these are removed the sight distance will be well in excess of 300 feet. The posted speed limit along Pedigo Road is 30 mph, so the minimum required sight distance to oncoming traffic is 300 feet, per Knox County regulations.

2) South Site Access on Pedigo Road - Looking north and south along Pedigo Road from the proposed stop position on the south site access roadway, the sight distance assessment found that sight distances well in excess of 300 feet are achievable. Similar to the north site access, existing trees and brush on the west side of Pedigo Road will need to be removed, and these are located on the roadway ROW and project site. The posted speed limit along Pedigo Road is 30 mph, so the minimum required sight distance to oncoming traffic is 300 feet, per Knox County regulations.

3) Site Access Easement for a few lots on East Copeland Drive - Looking north and south along East Copeland Drive from the proposed stop position on the access easement driveway, sight distances in excess of 250 feet are achievable. Similar to the north and south site accesses on Pedigo Road, existing trees and brush on the east side of East Copeland Drive will need to be removed, and these are on the ROW and project site. The posted speed limit along East Copeland Drive is 25 mph, so the minimum required sight distance to oncoming traffic is 250 feet, per Knox County regulations.

4) East Copeland Drive at Bishop Road/Greenwell Drive - Looking west along Bishop Road from the stop position on East Copeland Drive, the sight distance exceeds 300 feet. Looking east along Greenwell Drive from this stop position, the sight distance is approximately 275 feet due to a sag vertical curve in the roadway and an adjacent embankment side slope. The embankment is on the project site property and thus could be cut back to increase the sight distance, likely to exceed 300 feet. The posted speed limit along East Copeland Drive is 30 mph, so the minimum required sight distance to oncoming traffic is 300 feet, per Knox County regulations. Please note that these are existing conditions at the intersection of two Knox County roadways and the anticipated traffic increase due to site traffic will be very small.

5) Pedigo Road at Greenwell Drive - Intersection corner sight distances of at least 300 feet were measured looking north and south along Pedigo Road from stop positions on both the east and west Greenwell Drive approaches. Some brush on the ROW in the southwest corner, within the ROW, needs to be regularly trimmed or removed. In addition, the removal of a fence on the developer's property on the northwest corner would also be helpful. These measures will ensure adequate sight distance in all directions at the intersection. The posted speed limits along both Pedigo Road and Greenwell Drive are 30 mph, so the minimum required sight distance to oncoming traffic is 300 feet, per Knox County regulations. Please note that these are existing conditions at the intersection of two Knox County roadways.

TURN LANE ASSESSMENT

Left-turn lane and right-turn lane volume thresholds were evaluated for the proposed north site access and south site access intersections under anticipated development conditions. These analyses employed Tables 4A and 4B from the *Knox County Access Control and Driveway Design Policy*, which is based on turn lane criteria developed by Harmelink. The results were that neither a right-turn lane nor a left-turn lane on Pedigo Road are anticipated to be justified at either site access location. The turn lane warrant worksheets are located in APPENDIX C.

CONCLUSIONS & RECOMMENDATIONS

The primary conclusion of this study is that the traffic generated from the proposed subdivision will significantly increase traffic on Pedigo Road, but it will not result in major traffic operational impacts. Intersection delays and levels-of-service will be in acceptable ranges (LOS C or better), and neither of the two study intersections will exhibit traffic conditions justifying left or right turn traffic lanes. The following listing is a summary of the improvements and recommendations that resulted from this study:

1. Install minimum 30 inch STOP signs on both the south site access and the north site access roadway approaches to Pedigo Road.
2. Provide and maintain the required intersection corner sight distances at the proposed south site access and north site access intersections. This will require removal of some existing brush and trees, especially along the east side of the project site immediately adjacent to Pedigo Road. In addition, two existing features on project site property should be adjusted to help with corner sight distances at two Knox County intersections that lie adjacent to the project site. These include the cutting back of a small embankment on the northeast corner of the intersection of East Copeland Drive at Greenwell Drive/Bishop Road, and the removal of a fence on the northwest corner of Pedigo Road and Greenwell Drive. Further, trimming of some brush and trees along the east side of East Copeland Drive, adjacent to the site access driveway and easement for a few lots on East Copeland Drive, should also be undertaken. This vegetation is also on the roadway ROW or project site property.
3. New site landscaping or site signage that is to be installed for this project is to be properly placed such that sight distances are not obstructed.
4. Have a surveyor certify that final sight distances exceed minimum requirements once the proposed south site access and north site access roadways are complete and ready to open to traffic.

APPENDIX

APPENDIX A – TRAFFIC DATA

APPENDIX B – TRIP GENERATION

APPENDIX C - ANALYSES

APPENDIX D – MPC/KNOX COUNTY REVIEW COMMENTS

APPENDIX A – TRAFFIC DATA

Primary Street	Pedigo Rd
Cross Street	N of Emory Rd
2001	
2002	2670
2003	
2004	3050
2005	
2006	3290
2007	
2008	2520
2009	
2010	2900
2011	
2012	2600
2013	
2014	3030
2015	
2016	3200

DATA FROM KNOX MPC

Traffic History

Station #	County	Location	Route #
000323	Knox	KNOXVILLE	SR131

Record	Year	AADT
1	2016	23507
2	2015	23274
3	2014	22555
4	2013	24277
5	2012	23708
6	2011	23335
7	2010	23558
8	2009	20415
9	2008	19820
10	2007	20723
11	2006	20119
12	2005	20206
13	2004	19599
14	2003	18316
15	2002	18203
16	2001	17894
17	2000	16893
18	1999	16145
19	1998	15605
20	1997	16455
21	1996	14725
22	1995	16294
23	1994	12937
24	1993	13343
25	1992	12126
26	1991	11513
27	1990	10786
28	1989	10810
29	1988	9388
30	1987	9218
31	1986	9000
32	1985	7491

Prepared by National Data & Surveying Services

Pedigo Rd & Childress Rd

Peak Hour Turning Movement Count

ID: 18-10007-001
City: Knoxville

Day: Tuesday
Date: 03/27/2018

PEAK HOURS	COUNT PERIODS
07:00 AM - 08:00 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND (Pedigo Rd)

	Left	Thru	Right	U-Turn	Peds	
AM	1	68	0	0	13	AM
NOON	0	0	0	0	0	NOON
PM	0	24	0	0	49	PM

EASTBOUND (Childress Rd)

AM	NOON	PM	
19	0	62	⇦
0	0	0	↶ 0
3	0	0	↱ 0
0	0	0	→ 1
82	0	37	↴ 0

WESTBOUND (Childress Rd)

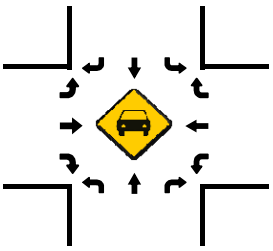
PM	NOON	AM	
0	0	0	↰ 0
0	0	0	← 0
0	0	0	↰ 0
0	0	0	↰ 0
0	0	0	⇨

NORTHBOUND (Pedigo Rd)

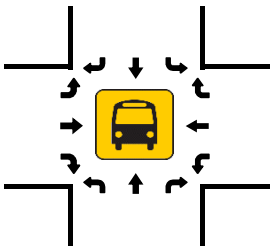
	Left	Thru	Right	U-Turn	Peds	
PM	61	0	62	49	0	PM
NOON	0	0	0	0	0	NOON
AM	150	0	18	10	0	AM

CONTROL			
1-Way Stop (EB)			
TEV	182	0	172
	AM	NOON	PM
PHF	0.91		0.90

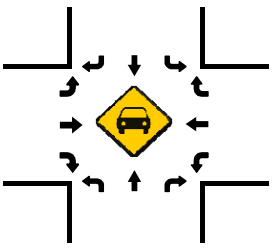
Total Vehicles (AM)



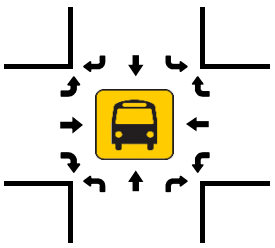
Total Vehicles (AM)



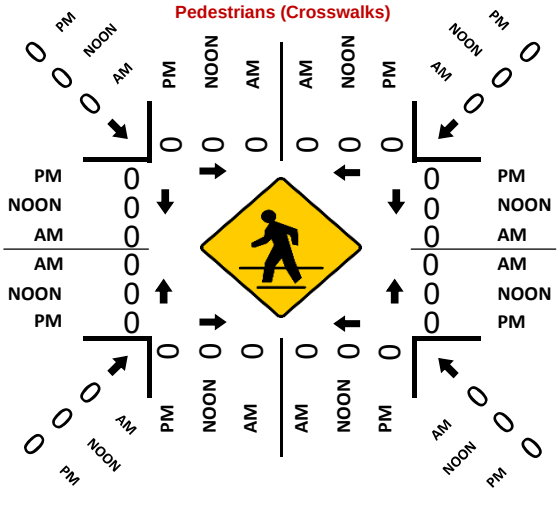
Total Vehicles (NOON)



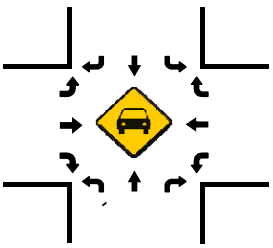
Total Vehicles (NOON)



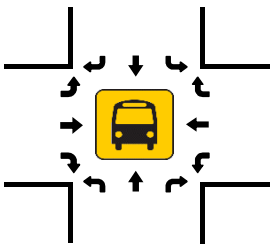
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Project ID: 18-10007-001
Location: Pedigo Rd & Childress Rd
City: Knoxville

PEAK HOURS

Day: Tuesday
Date: 03/27/2018

AM

	Pedigo Rd Northbound					Pedigo Rd Southbound					Childress Rd Eastbound					Childress Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
7:00 AM	3	2	0	0	5	0	15	0	0	15	2	0	21	0	23	0	0	0	0	0	43
7:15 AM	7	3	0	0	10	0	17	1	0	18	0	0	19	0	19	0	0	0	0	0	47
7:30 AM	4	3	0	0	7	0	22	0	0	22	1	0	20	0	21	0	0	0	0	0	50
7:45 AM	4	2	0	0	6	0	14	0	0	14	0	0	22	0	22	0	0	0	0	0	42
Total Volume	18	10	0	0	28	0	68	1	0	69	3	0	82	0	85	0	0	0	0	0	182
% App. Total	64.3	35.7	0.0	0.0	100	0.0	98.6	1.4	0.0	100	3.5	0.0	96.5	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.700					0.784					0.924						0.910
Cars, PU, Vans	18	10	0	0	28	0	68	1	0	69	3	0	82	0	85	0	0	0	0	0	182
% Cars, PU, Vans	100.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0

PM

	Pedigo Rd Northbound					Pedigo Rd Southbound					Childress Rd Eastbound					Childress Rd Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
5:00 PM	7	12	0	0	19	0	10	0	0	10	0	0	7	0	7	0	0	0	0	0	36
5:15 PM	17	12	0	0	29	0	7	0	0	7	0	0	9	0	9	0	0	0	0	0	45
5:30 PM	24	11	0	0	35	0	3	0	0	3	0	0	10	0	10	0	0	0	0	0	48
5:45 PM	14	14	0	0	28	0	4	0	0	4	0	0	11	0	11	0	0	0	0	0	43
Total Volume	62	49	0	0	111	0	24	0	0	24	0	0	37	0	37	0	0	0	0	0	172
% App. Total	55.9	44.1	0.0	0.0	100	0.0	100.0	0.0	0.0	100	0.0	0.0	100.0	0.0	100	0.0	0.0	0.0	0.0	0	
PHF					0.793					0.600					0.841						0.896
Cars, PU, Vans	62	49	0	0	111	0	24	0	0	24	0	0	37	0	37	0	0	0	0	0	172
% Cars, PU, Vans	100.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0

National Data & Surveying Services Intersection Turning Movement Count

Location: Pedigo Rd & Childress Rd
City: Knoxville
Control: 1-Way Stop (EB)

Project ID: 18-10007-001
Date: 3/27/2018

Total

NS/EW Streets:	Pedigo Rd				Pedigo Rd				Childress Rd				Childress Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	2	0	0	0	15	0	0	2	0	21	0	0	0	0	0	43
7:15 AM	7	3	0	0	0	17	1	0	0	0	19	0	0	0	0	0	47
7:30 AM	4	3	0	0	0	22	0	0	1	0	20	0	0	0	0	0	50
7:45 AM	4	2	0	0	0	14	0	0	0	0	22	0	0	0	0	0	42
8:00 AM	4	2	0	0	0	7	0	0	0	0	9	0	0	0	0	0	22
8:15 AM	3	0	0	0	0	11	0	0	0	0	5	0	0	0	0	0	19
8:30 AM	4	2	0	0	0	4	0	0	0	0	10	0	0	0	0	0	20
8:45 AM	4	1	0	0	0	4	0	0	0	0	13	0	0	0	0	0	22
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	33	15	0	0	0	94	1	0	3	0	119	0	0	0	0	0	265
APPROACH %'s :	68.75%	31.25%	0.00%	0.00%	0.00%	98.95%	1.05%	0.00%	2.46%	0.00%	97.54%	0.00%					
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	18	10	0	0	0	68	1	0	3	0	82	0	0	0	0	0	182
PEAK HR FACTOR :	0.643	0.833	0.000	0.000	0.000	0.773	0.250	0.000	0.375	0.000	0.932	0.000	0.000	0.000	0.000	0.000	0.910
	0.700				0.784				0.924								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	20	24	0	0	0	9	0	0	1	0	5	0	0	0	0	0	59
4:15 PM	15	6	0	0	0	6	0	0	0	0	6	0	0	0	0	0	33
4:30 PM	10	15	0	0	0	6	0	0	0	0	6	0	0	0	0	0	37
4:45 PM	17	11	0	0	0	3	1	0	0	0	7	0	0	0	0	0	39
5:00 PM	7	12	0	0	0	10	0	0	0	0	7	0	0	0	0	0	36
5:15 PM	17	12	0	0	0	7	0	0	0	0	9	0	0	0	0	0	45
5:30 PM	24	11	0	0	0	3	0	0	0	0	10	0	0	0	0	0	48
5:45 PM	14	14	0	0	0	4	0	0	0	0	11	0	0	0	0	0	43
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	124	105	0	0	0	48	1	0	1	0	61	0	0	0	0	0	340
APPROACH %'s :	54.15%	45.85%	0.00%	0.00%	0.00%	97.96%	2.04%	0.00%	1.61%	0.00%	98.39%	0.00%					
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	62	49	0	0	0	24	0	0	0	0	37	0	0	0	0	0	172
PEAK HR FACTOR :	0.646	0.875	0.000	0.000	0.000	0.600	0.000	0.000	0.000	0.000	0.841	0.000	0.000	0.000	0.000	0.000	0.896
	0.793				0.600				0.841								

Project ID: 18-10007-001
Location: Pedigo Rd & Childress Rd
City: Knoxville

Day: Tuesday
Date: 03/27/2018

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Pedigo Rd Northbound						Pedigo Rd Southbound						Childress Rd Eastbound						Childress Rd Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	3	2	0	0	0	5	0	15	0	0	0	15	2	0	21	0	0	23	0	0	0	0	0	0	43
7:15 AM	7	3	0	0	0	10	0	17	1	0	0	18	0	0	19	0	0	19	0	0	0	0	0	0	47
7:30 AM	4	3	0	0	0	7	0	22	0	0	0	22	1	0	20	0	0	21	0	0	0	0	0	0	50
7:45 AM	4	2	0	0	0	6	0	14	0	0	0	14	0	0	22	0	0	22	0	0	0	0	0	0	42
Total	18	10	0	0	0	28	0	68	1	0	0	69	3	0	82	0	0	85	0	0	0	0	0	0	182
8:00 AM	4	2	0	0	0	6	0	7	0	0	0	7	0	0	9	0	0	9	0	0	0	0	0	0	22
8:15 AM	3	0	0	0	0	3	0	11	0	0	0	11	0	0	5	0	0	5	0	0	0	0	0	0	19
8:30 AM	4	2	0	0	0	6	0	4	0	0	0	4	0	0	10	0	0	10	0	0	0	0	0	0	20
8:45 AM	4	1	0	0	0	5	0	4	0	0	0	4	0	0	13	0	0	13	0	0	0	0	0	0	22
Total	15	5	0	0	0	20	0	26	0	0	0	26	0	0	37	0	0	37	0	0	0	0	0	0	83
BREAK																									
4:00 PM	20	24	0	0	0	44	0	9	0	0	0	9	1	0	5	0	0	6	0	0	0	0	0	0	59
4:15 PM	15	6	0	0	0	21	0	6	0	0	0	6	0	0	6	0	0	6	0	0	0	0	0	0	33
4:30 PM	10	15	0	0	0	25	0	6	0	0	0	6	0	0	6	0	0	6	0	0	0	0	0	0	37
4:45 PM	17	11	0	0	0	28	0	3	1	0	0	4	0	0	7	0	0	7	0	0	0	0	0	0	39
Total	62	56	0	0	0	118	0	24	1	0	0	25	1	0	24	0	0	25	0	0	0	0	0	0	168
5:00 PM	7	12	0	0	0	19	0	10	0	0	0	10	0	0	7	0	0	7	0	0	0	0	0	0	36
5:15 PM	17	12	0	0	0	29	0	7	0	0	0	7	0	0	9	0	0	9	0	0	0	0	0	0	45
5:30 PM	24	11	0	0	0	35	0	3	0	0	0	3	0	0	10	0	0	10	0	0	0	0	0	0	48
5:45 PM	14	14	0	0	0	28	0	4	0	0	0	4	0	0	11	0	0	11	0	0	0	0	0	0	43
Total	62	49	0	0	0	111	0	24	0	0	0	24	0	0	37	0	0	37	0	0	0	0	0	0	172
Grand Total	157	120	0	0	0	277	0	142	2	0	0	144	4	0	180	0	0	184	0	0	0	0	0	0	605
Apprch %	56.7	43.3	0.0	0.0	0.0		0.0	98.6	1.4	0.0	0.0		2.2	0.0	97.8	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	26.0	19.8	0.0	0.0	0.0	45.8	0.0	23.5	0.3	0.0	0.0	23.8	0.7	0.0	29.8	0.0	0.0	30.4	0.0	0.0	0.0	0.0	0.0	0.0	
Cars, PU, Vans	157	120	0	0	0	277	0	142	2		0	144	4	0	180	0		184	0	0	0		0	0	605
% Cars, PU, Vans	100.0	100.0	0.0	0.0	0.0	100.0	0.0	100.0	100.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0

Prepared by National Data & Surveying Services

Pedigo Rd & Grand Colony Ln

Peak Hour Turning Movement Count

ID: 18-10009-001
City: Knoxville

Day: Tuesday
Date: 04/03/2018

PEAK HOURS	COUNT PERIODS
07:00 AM - 08:00 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Pedigo Rd — SOUTHBOUND

	L	T	R	U	Total	
AM	0	216	0	0	36	AM
NOON	0	0	0	0	0	NOON
PM	0	84	0	0	149	PM

Grand Colony Ln — EASTBOUND

	L	T	R	U
AM	0	0	0	0
NOON	0	0	0	0
PM	0	0	0	0

Grand Colony Ln — WESTBOUND

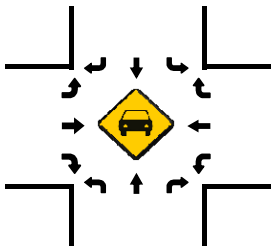
	L	T	R	U
AM	0	0	4	0
NOON	0	0	0	0
PM	0	0	12	0

Pedigo Rd — NORTHBOUND

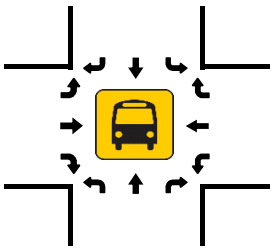
	L	T	R	U	Total	
AM	1	0	36	4	229	AM
NOON	0	0	0	0	0	NOON
PM	0	0	149	12	88	PM

CONTROL			
1-Way Stop (WB)			
TEV	269	0	249
	AM	NOON	PM
PHF	0.86		0.90

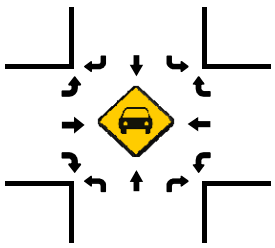
Total Vehicles (AM)



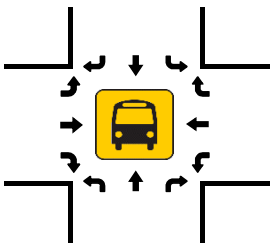
Total Vehicles (AM)



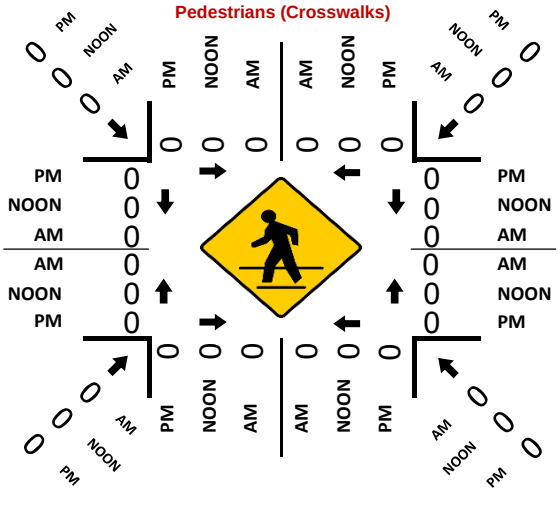
Total Vehicles (NOON)



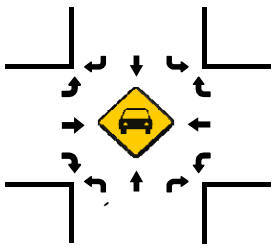
Total Vehicles (NOON)



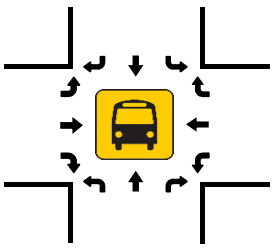
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Project ID: 18-10009-001
Location: Pedigo Rd & Grand Colony Ln
City: Knoxville

PEAK HOURS

Day: Tuesday
Date: 04/03/2018

AM

	Pedigo Rd Northbound					Pedigo Rd Southbound					Grand Colony Ln Eastbound					Grand Colony Ln Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 07:00 AM to 09:00 AM																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
7:00 AM	0	10	1	0	11	0	51	0	0	51	0	0	0	0	0	5	0	0	0	5	67
7:15 AM	0	10	2	0	12	0	49	0	0	49	0	0	0	0	0	3	0	0	0	3	64
7:30 AM	0	10	0	1	11	0	65	0	0	65	0	0	0	0	0	2	0	0	0	2	78
7:45 AM	0	6	1	0	7	0	51	0	0	51	0	0	0	0	0	2	0	0	0	2	60
Total Volume	0	36	4	1	41	0	216	0	0	216	0	0	0	0	0	12	0	0	0	12	269
% App. Total	0.0	87.8	9.8	2.4	100	0.0	100.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0	100.0	0.0	0.0	0.0	100	
PHF					0.854					0.831										0.600	0.862
Cars, PU, Vans	0	36	4	1	41	0	216	0	0	216	0	0	0	0	0	12	0	0	0	12	269
% Cars, PU, Vans	0.0	100.0	100.0	100.0	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0

PM

	Pedigo Rd Northbound					Pedigo Rd Southbound					Grand Colony Ln Eastbound					Grand Colony Ln Westbound					
Start Time	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
4:00 PM	0	44	1	0	45	0	23	0	0	23	0	0	0	0	0	0	0	0	0	0	68
4:15 PM	0	36	3	0	39	0	16	0	0	16	0	0	0	0	0	2	0	0	0	2	57
4:30 PM	0	32	3	0	35	0	19	0	0	19	0	0	0	0	0	1	0	0	0	1	55
4:45 PM	0	37	5	0	42	0	26	0	0	26	0	0	0	0	0	1	0	0	0	1	69
Total Volume	0	149	12	0	161	0	84	0	0	84	0	0	0	0	0	4	0	0	0	4	249
% App. Total	0.0	92.5	7.5	0.0	100	0.0	100.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0	100.0	0.0	0.0	0.0	100	
PHF					0.894					0.808										0.500	0.902
Cars, PU, Vans	0	149	12	0	161	0	84	0	0	84	0	0	0	0	0	4	0	0	0	4	249
% Cars, PU, Vans	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	100.0

National Data & Surveying Services Intersection Turning Movement Count

Location: Pedigo Rd & Grand Colony Ln
City: Knoxville
Control: 1-Way Stop (WB)

Project ID: 18-10009-001
Date: 4/3/2018

Total

NS/EW Streets:	Pedigo Rd				Pedigo Rd				Grand Colony Ln				Grand Colony Ln				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	10	1	0	0	51	0	0	0	0	0	0	5	0	0	0	67
7:15 AM	0	10	2	0	0	49	0	0	0	0	0	0	3	0	0	0	64
7:30 AM	0	10	0	1	0	65	0	0	0	0	0	0	2	0	0	0	78
7:45 AM	0	6	1	0	0	51	0	0	0	0	0	0	2	0	0	0	60
8:00 AM	0	9	0	0	0	29	0	0	0	0	0	0	4	0	0	0	42
8:15 AM	0	10	1	0	0	24	0	0	0	0	0	0	3	0	0	0	38
8:30 AM	0	11	3	0	0	28	0	0	0	0	0	0	1	0	0	0	43
8:45 AM	0	9	0	0	0	18	0	0	0	0	0	0	4	0	0	0	31
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	75	8	1	0	315	0	0	0	0	0	0	24	0	0	0	423
APPROACH %'s :	0.00%	89.29%	9.52%	1.19%	0.00%	100.00%	0.00%	0.00%					100.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	36	4	1	0	216	0	0	0	0	0	0	12	0	0	0	269
PEAK HR FACTOR :	0.000	0.900	0.500	0.250	0.000	0.831	0.000	0.000	0.000	0.000	0.000	0.000	0.600	0.000	0.000	0.000	0.862
		0.854				0.831								0.600			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	44	1	0	0	23	0	0	0	0	0	0	0	0	0	0	68
4:15 PM	0	36	3	0	0	16	0	0	0	0	0	0	2	0	0	0	57
4:30 PM	0	32	3	0	0	19	0	0	0	0	0	0	1	0	0	0	55
4:45 PM	0	37	5	0	0	26	0	0	0	0	0	0	1	0	0	0	69
5:00 PM	0	27	2	0	0	23	0	0	0	0	0	0	1	0	1	0	54
5:15 PM	0	33	2	0	0	16	0	0	0	0	0	0	1	0	0	0	52
5:30 PM	0	41	0	0	0	25	0	0	0	0	0	0	1	0	0	0	67
5:45 PM	0	25	2	0	0	12	0	0	0	0	0	0	2	0	0	0	41
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	275	18	0	0	160	0	0	0	0	0	0	9	0	1	0	463
APPROACH %'s :	0.00%	93.86%	6.14%	0.00%	0.00%	100.00%	0.00%	0.00%					90.00%	0.00%	10.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	149	12	0	0	84	0	0	0	0	0	0	4	0	0	0	249
PEAK HR FACTOR :	0.000	0.847	0.600	0.000	0.000	0.808	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.902
		0.894				0.808								0.500			

Project ID: 18-10009-001
Location: Pedigo Rd & Grand Colony Ln
City: Knoxville

Day: Tuesday
Date: 04/03/2018

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Pedigo Rd Northbound						Pedigo Rd Southbound						Grand Colony Ln Eastbound						Grand Colony Ln Westbound						
Start Time	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total	Int. Total
7:00 AM	0	10	1	0	0	11	0	51	0	0	0	51	0	0	0	0	0	0	5	0	0	0	0	5	67
7:15 AM	0	10	2	0	0	12	0	49	0	0	0	49	0	0	0	0	0	0	3	0	0	0	0	3	64
7:30 AM	0	10	0	1	0	11	0	65	0	0	0	65	0	0	0	0	0	0	2	0	0	0	0	2	78
7:45 AM	0	6	1	0	0	7	0	51	0	0	0	51	0	0	0	0	0	0	2	0	0	0	0	2	60
Total	0	36	4	1	0	41	0	216	0	0	0	216	0	0	0	0	0	0	12	0	0	0	0	12	269
8:00 AM	0	9	0	0	0	9	0	29	0	0	0	29	0	0	0	0	0	0	4	0	0	0	0	4	42
8:15 AM	0	10	1	0	0	11	0	24	0	0	0	24	0	0	0	0	0	0	3	0	0	0	0	3	38
8:30 AM	0	11	3	0	0	14	0	28	0	0	0	28	0	0	0	0	0	0	1	0	0	0	0	1	43
8:45 AM	0	9	0	0	0	9	0	18	0	0	0	18	0	0	0	0	0	0	4	0	0	0	0	4	31
Total	0	39	4	0	0	43	0	99	0	0	0	99	0	0	0	0	0	0	12	0	0	0	0	12	154
BREAK																									
4:00 PM	0	44	1	0	0	45	0	23	0	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	68
4:15 PM	0	36	3	0	0	39	0	16	0	0	0	16	0	0	0	0	0	0	2	0	0	0	0	2	57
4:30 PM	0	32	3	0	0	35	0	19	0	0	0	19	0	0	0	0	0	0	1	0	0	0	0	1	55
4:45 PM	0	37	5	0	0	42	0	26	0	0	0	26	0	0	0	0	0	0	1	0	0	0	0	1	69
Total	0	149	12	0	0	161	0	84	0	0	0	84	0	0	0	0	0	0	4	0	0	0	0	4	249
5:00 PM	0	27	2	0	0	29	0	23	0	0	0	23	0	0	0	0	0	0	1	0	1	0	0	2	54
5:15 PM	0	33	2	0	0	35	0	16	0	0	0	16	0	0	0	0	0	0	1	0	0	0	0	1	52
5:30 PM	0	41	0	0	0	41	0	25	0	0	0	25	0	0	0	0	0	0	1	0	0	0	0	1	67
5:45 PM	0	25	2	0	0	27	0	12	0	0	0	12	0	0	0	0	0	0	2	0	0	0	0	2	41
Total	0	126	6	0	0	132	0	76	0	0	0	76	0	0	0	0	0	0	5	0	1	0	0	6	214
Grand Total	0	350	26	1	0	377	0	475	0	0	0	475	0	0	0	0	0	0	33	0	1	0	0	34	886
Apprch %	0.0	92.8	6.9	0.3	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		97.1	0.0	2.9	0.0	0.0		
Total %	0.0	39.5	2.9	0.1	0.0	42.6	0.0	53.6	0.0	0.0	0.0	53.6	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.1	0.0	0.0	3.8	
Cars, PU, Vans	0	350	26	1	0	377	0	475	0		0	475	0	0	0	0		0	33	0	1		0	34	886
% Cars, PU, Vans	0.0	100.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	100.0

APPENDIX B – TRIP GENERATION

Phase 1

Single-Family Detached Housing
(210)

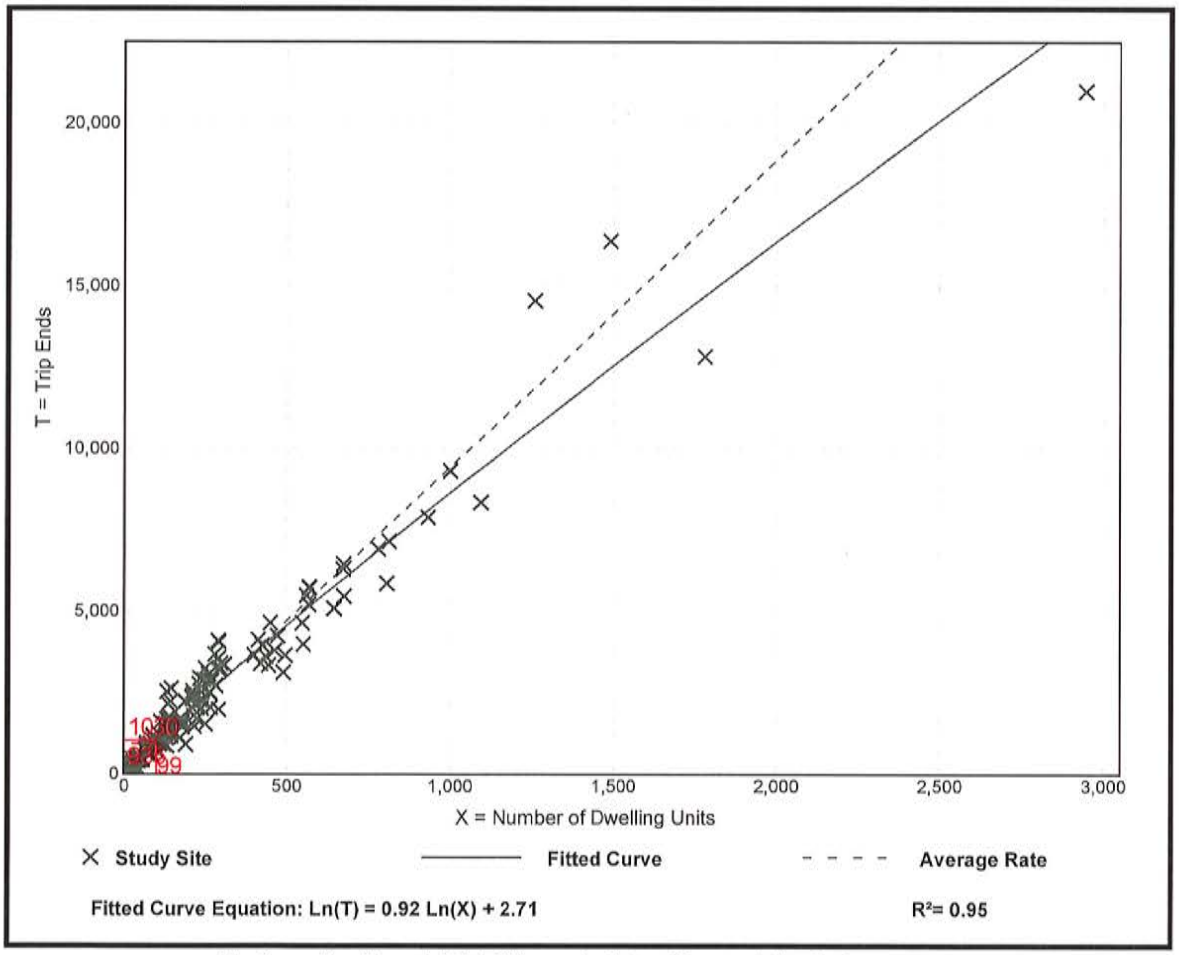
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 159
Avg. Num. of Dwelling Units: 264
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Phase 1

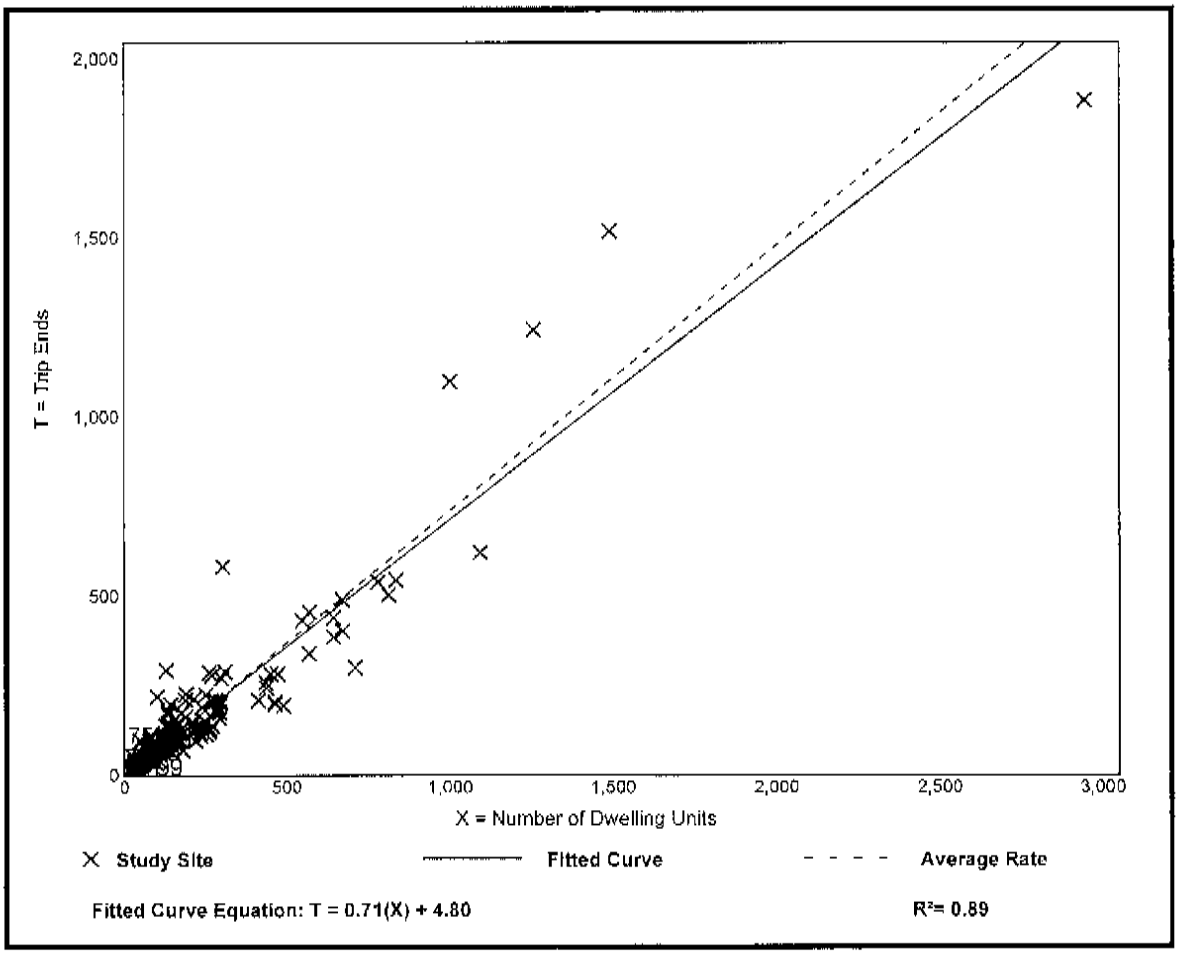
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	173
Avg. Num. of Dwelling Units:	219
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Phase 1

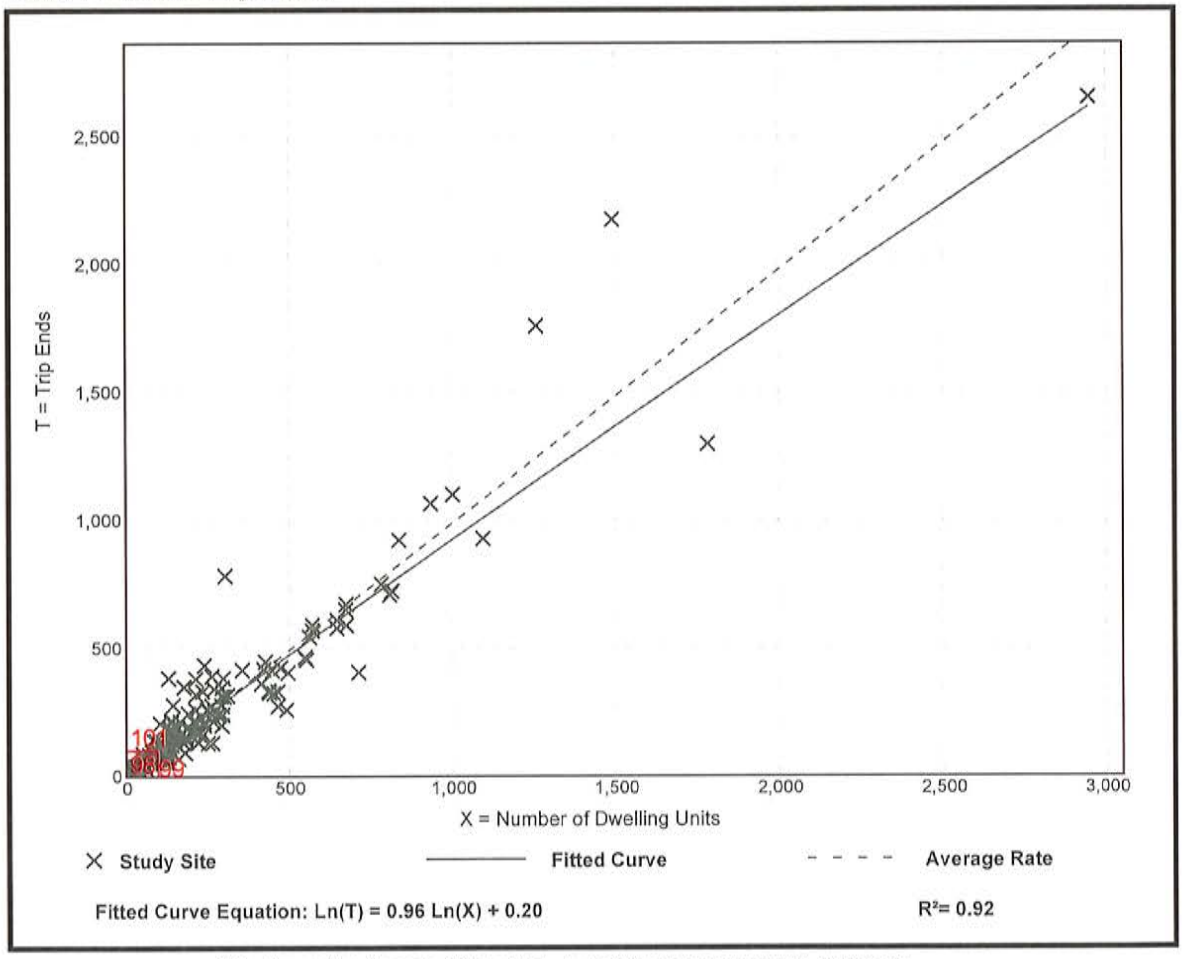
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	190
Avg. Num. of Dwelling Units:	242
Directional Distribution:	63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Phase 2

Single-Family Detached Housing
(210)

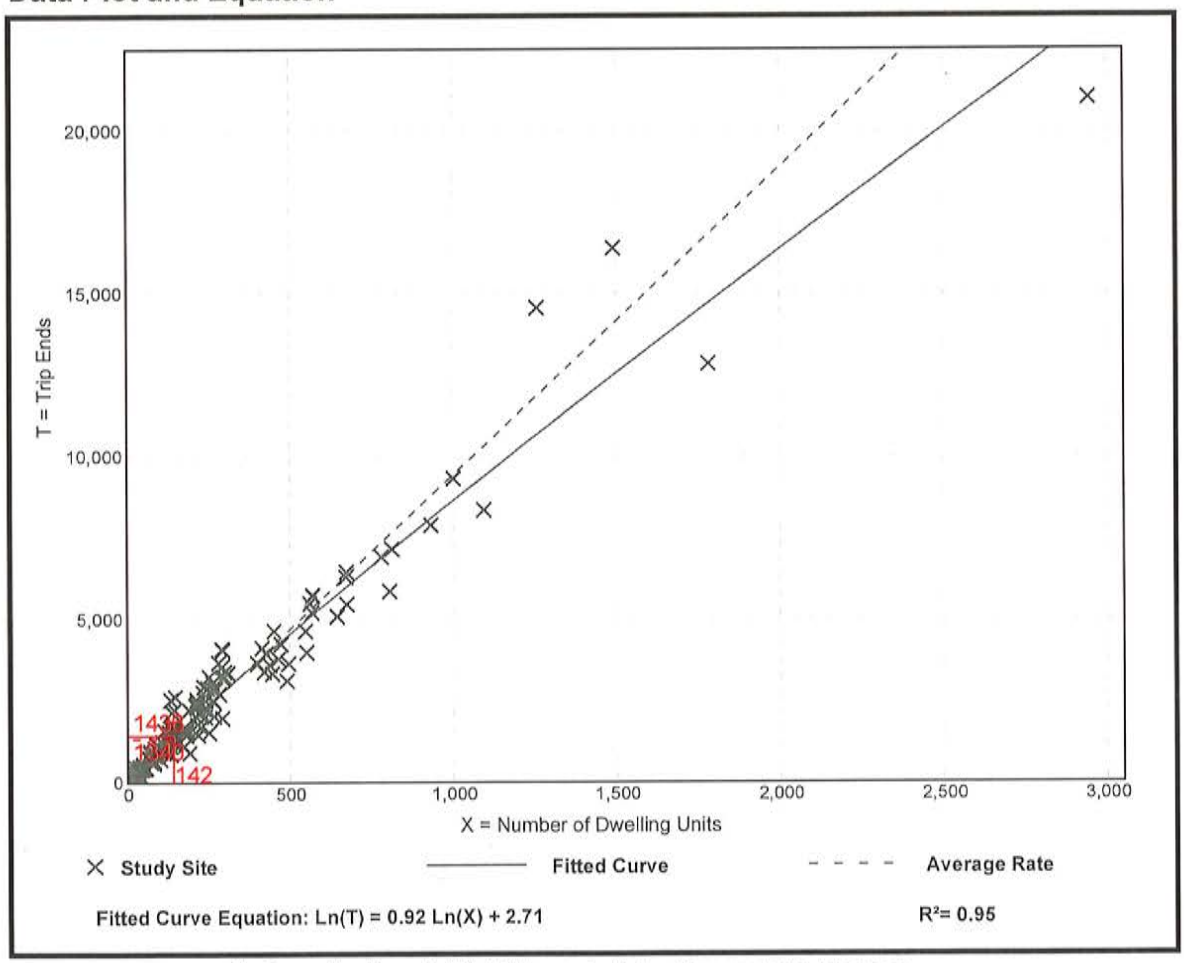
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 159
Avg. Num. of Dwelling Units: 264
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Phase 2

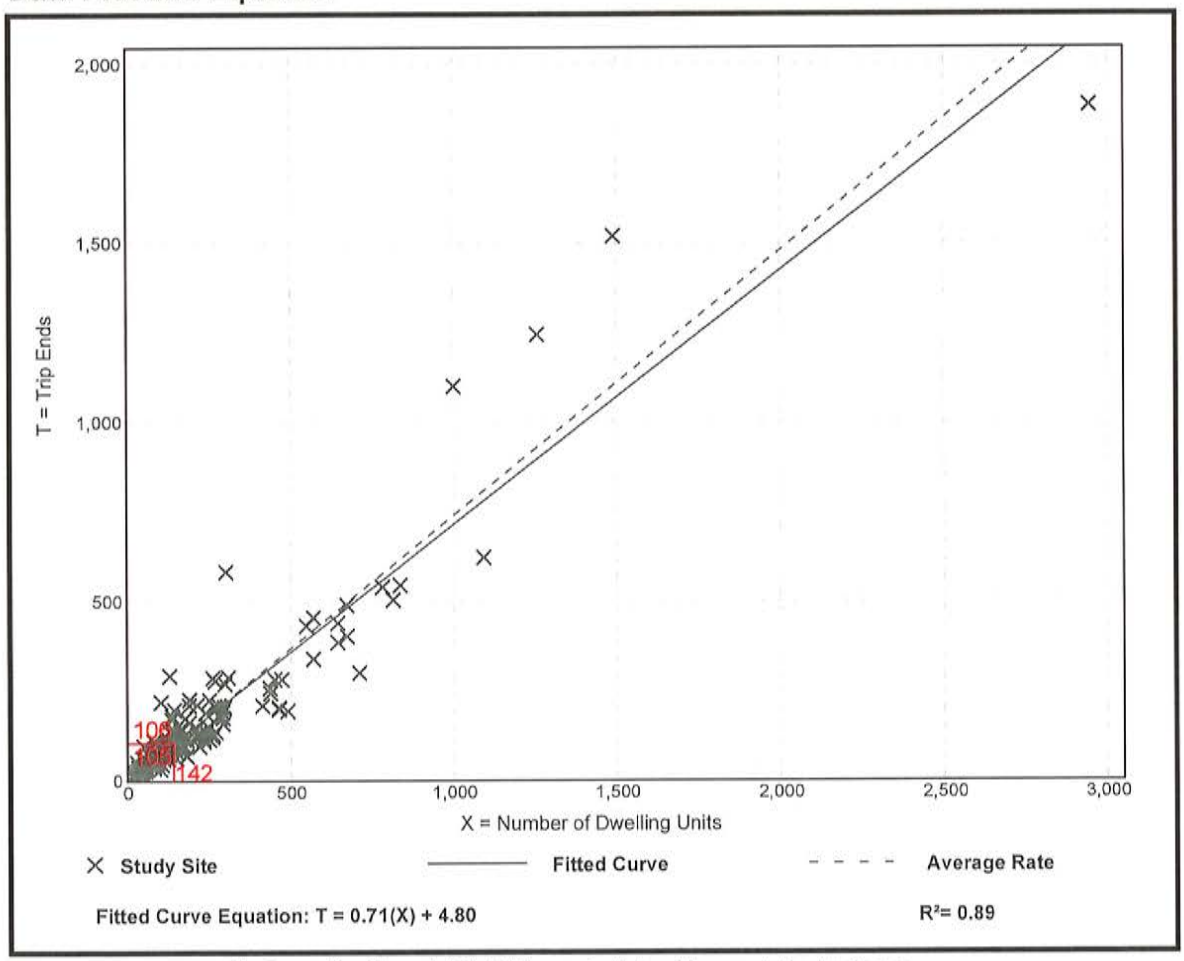
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	173
Avg. Num. of Dwelling Units:	219
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Phase 2

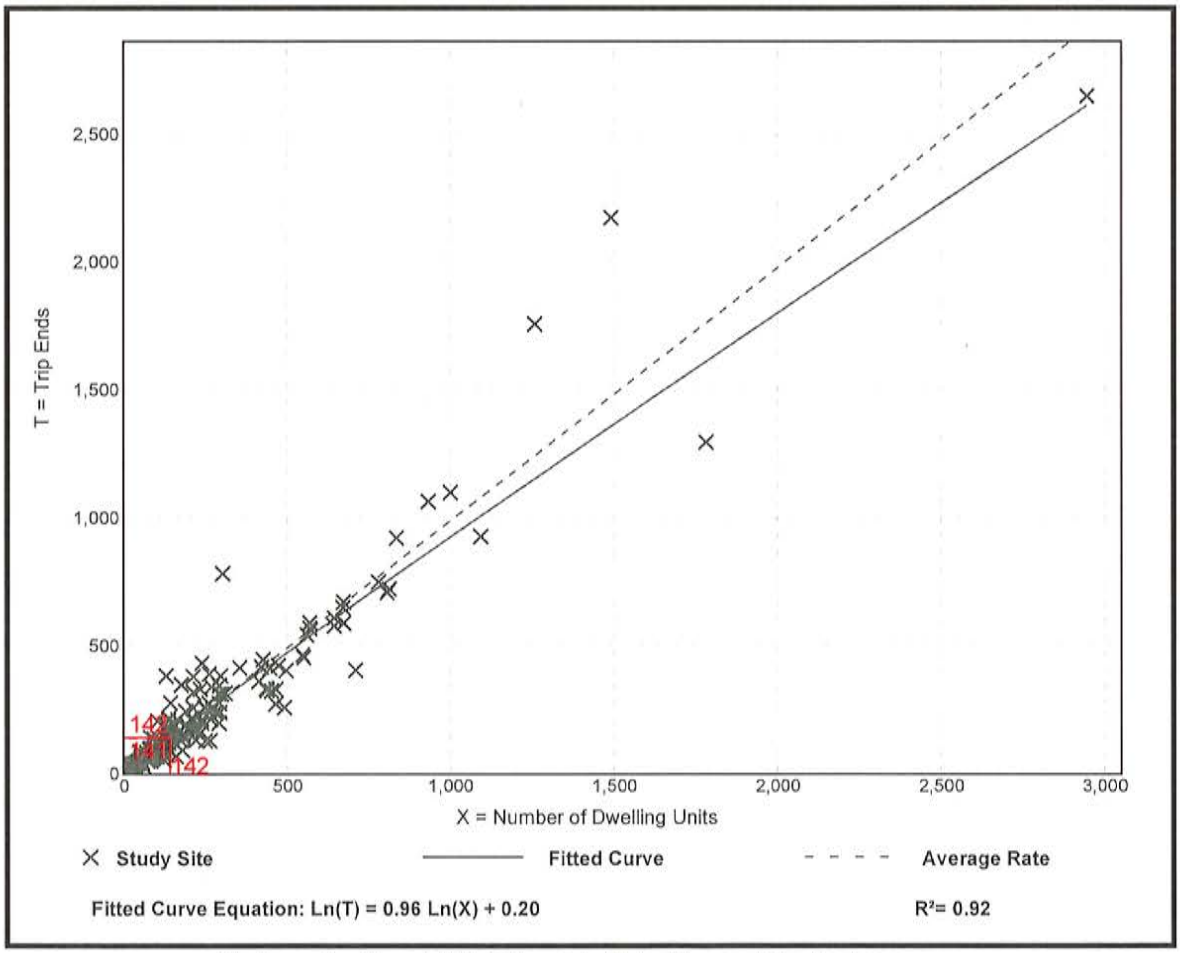
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	190
Avg. Num. of Dwelling Units:	242
Directional Distribution:	63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

APPENDIX C - ANALYSES

CAPACITY AND LEVEL-OF-SERVICE CONCEPTS

In a general sense, a roadway is similar to a pipeline or other material carrying conduit in that it has a certain capacity for the amount of material (vehicles) that it can efficiently carry. As the number of vehicles in a given time period gradually increases, the quality of traffic flow gradually decreases. On roadway sections this results in increasing turbulence in the traffic stream, and at intersections it results in increasing stops and delay. As the volumes begin to approach the capacity of the facility, these problems rapidly magnify, with resulting serious levels of congestion, stops, delay, excess fuel consumption, pollutant emissions, etc.

The Transportation Research Board has published the Year 2010 Highway Capacity Manual (HCM2010), which establishes theoretical techniques to quantify the capacity conditions on all types of roadways, intersections, ramps, pedestrian facilities, etc. A basic concept that is applicable to most of these techniques is the idea of level of service (LOS). This concept establishes a rating system that quantifies the quality of traffic flow, as perceived by motorists and/or passengers. The general system is similar to a school grade scale, and is outlined as follows:

Level of Service (LOS)	General Quality of Traffic Flow	Description of Corresponding Conditions
A	Excellent	Roadways – Free flow, high maneuverability Intersections – Very few stops, very low delay
B	Very Good	Roadways – Free flow, slightly lower maneuverability Intersections – Minor stops, low delay
C	Good	Roadways – Stable flow, restricted maneuverability Intersections – Significant stops, significant delay
D	Fair	Roadways – Marginally stable flow, congestion seriously restricts maneuverability Intersections – High stops, long but tolerable delay
E	Poor	Roadways – Unstable flow*, lower operating speeds, congestion severely restricts maneuverability Intersections – All vehicles stop, very long queues and very long intolerable delay
F	Very Poor	Roadways – Forced flow, stoppages may be lengthy, congestion severely restricts maneuverability Intersections – All vehicles stop, extensive queues and extremely long intolerable delay

*Unstable flow is such that minor fluctuations or disruptions can result in rapid degradation to LOS F.

LOS CRITERIA: SIGNALIZED & UNSIGNALIZED INTERSECTIONS

LOS	CONTROL DELAY (S/VEH)		
	SIGNALIZED	UNSIGNALIZED	ROUNDABOUT
A	≤10	≤10	≤10
B	>10-20	>10-15	>10-15
C	>20-35	>15-25	>15-25
D	>35-55	>25-35	>25-35
E	>55-80	>35-50	>35-50
F	>80	>50	>50

Another measure of intersection capacity that is often used in the evaluation of intersection operations is the volume to capacity (V/C) ratio. This ratio is defined as "the ratio of flow rate to capacity", and is a good measure of how much of an intersection's available capacity has been used up by the analysis volumes. Conversely, it also provides an indication of the reserve capacity available for future growth in traffic volumes.

The Intersection Capacity Utilization (ICU) is another measure that expresses a value similar to the V/C ratio. Specifically, the ICU method "sums the amount of the time required to serve all movements at saturation for a given cycle length and divides by that reference cycle length." The ICU is considered a more accurate measure of volume to capacity conditions for a signalized intersection, primarily because it accounts for the effects of the signal timing on intersection capacity.

HCS7 Two-Way Stop-Control Report

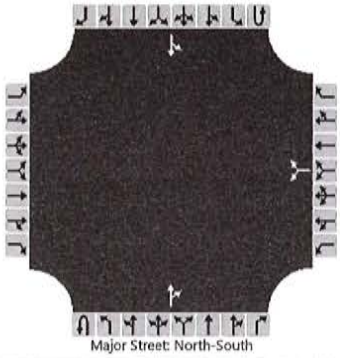
General Information

Analyst	ALC
Agency/Co.	Cannon & Cannon, Inc.
Date Performed	4/24/2018
Analysis Year	2018
Time Analyzed	Existing AM Peak
Intersection Orientation	North-South
Project Description	Existing AM, Existing Geometry and Traffic Control

Site Information

Intersection	Pedigo at Grand Colony
Jurisdiction	Knox County
East/West Street	Grand Colony Lane
North/South Street	Pedigo Road
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						12		0			36	4		0	216	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

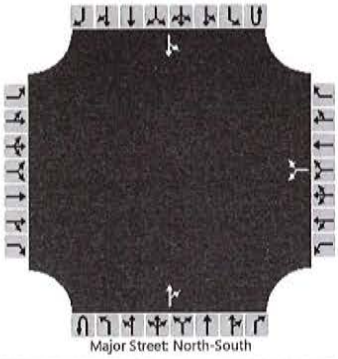
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							13							0		
Capacity, c (veh/h)							709							1558		
v/c Ratio							0.02							0.00		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
Control Delay (s/veh)							10.2							7.3		
Level of Service (LOS)							B							A		
Approach Delay (s/veh)					10.2								0.0			
Approach LOS					B											

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	ALC	Intersection	Pedigo at Grand Colony
Agency/Co.	Cannon & Cannon, Inc.	Jurisdiction	Knox County
Date Performed	4/24/2018	East/West Street	Grand Colony Lane
Analysis Year	2018	North/South Street	Pedigo Road
Time Analyzed	Existing PM Peak	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Existing PM, Existing Geometry and Traffic Control		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						4		0			149	12		0	84	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

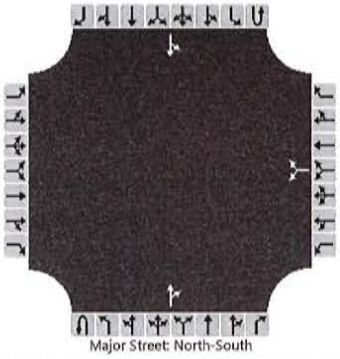
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							4							0		
Capacity, c (veh/h)							721							1391		
v/c Ratio							0.01							0.00		
95% Queue Length, Q_{95} (veh)							0.0							0.0		
Control Delay (s/veh)							10.0							7.6		
Level of Service (LOS)							B							A		
Approach Delay (s/veh)					10.0								0.0			
Approach LOS					B											

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	ALC	Intersection	Pedigo at Grand Colony
Agency/Co.	Cannon & Cannon, Inc.	Jurisdiction	Knox County
Date Performed	4/24/2018	East/West Street	Grand Colony Lane
Analysis Year	2018	North/South Street	Pedigo Road
Time Analyzed	Background AM Peak	Peak Hour Factor	0.91
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Backgrou AM, Existing Geometry and Traffic Control		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						14		0			42	5		0	251	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

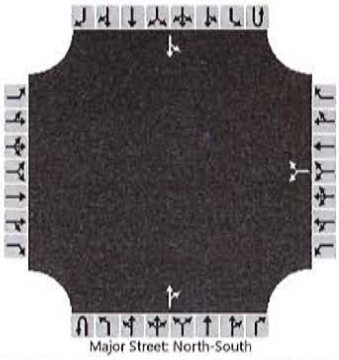
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							15							0		
Capacity, c (veh/h)							667							1548		
v/c Ratio							0.02							0.00		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
Control Delay (s/veh)							10.5							7.3		
Level of Service (LOS)							B							A		
Approach Delay (s/veh)						10.5								0.0		
Approach LOS						B										

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	ALC	Intersection	Pedigo at Grand Colony
Agency/Co.	Cannon & Cannon, Inc.	Jurisdiction	Knox County
Date Performed	4/24/2018	East/West Street	Grand Colony Lane
Analysis Year	2023	North/South Street	Pedigo Road
Time Analyzed	Background PM Peak	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Background PM, Exist. Geometry and Traffic Control		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						5		0			173	14		0	98	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							6							0		
Capacity, c (veh/h)							681							1357		
v/c Ratio							0.01							0.00		
95% Queue Length, Q_{95} (veh)							0.0							0.0		
Control Delay (s/veh)							10.3							7.7		
Level of Service (LOS)							B							A		
Approach Delay (s/veh)					10.3								0.0			
Approach LOS					B											

HCS7 Two-Way Stop-Control Report

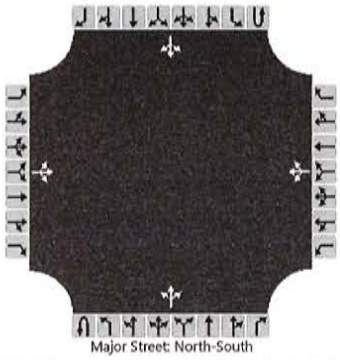
General Information

Analyst	TSN
Agency/Co.	Cannon & Cannon, Inc.
Date Performed	9/6/2018
Analysis Year	2023
Time Analyzed	Combined AM Peak
Intersection Orientation	North-South
Project Description	Combined AM, Proposed Geometry and Traffic Control

Site Information

Intersection	Pedigo at Grand Colony
Jurisdiction	Knox County
East/West Street	Grand Colony/South Access
North/South Street	Pedigo Road
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	0	78		14	0	0		25	60	5		0	305	1
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

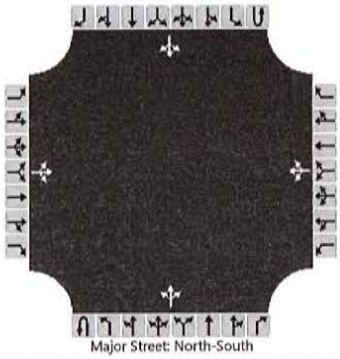
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			88				15			27				0		
Capacity, c (veh/h)			697				412			1217				1522		
v/c Ratio			0.13				0.04			0.02				0.00		
95% Queue Length, Q_{95} (veh)			0.4				0.1			0.1				0.0		
Control Delay (s/veh)			10.9				14.1			8.0		0.2		7.4		0.0
Level of Service (LOS)			B				B			A		A		A		A
Approach Delay (s/veh)		10.9				14.1				2.4				0.0		
Approach LOS		B				B										

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	TSN	Intersection	Pedigo at Grand Colony
Agency/Co.	Cannon & Cannon, Inc.	Jurisdiction	Knox County
Date Performed	9/6/2018	East/West Street	Grand Colony/South Access
Analysis Year	2023	North/South Street	Pedigo Road
Time Analyzed	Combined PM Peak	Peak Hour Factor	0.90
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Combined PM, Proposed Geometry and Traffic Control		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	52		5	0	0		87	235	14		0	134	2
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3				3		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.13	6.53	6.23		7.13	6.53	6.23		4.13				4.13		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.03	3.33		3.53	4.03	3.33		2.23				2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			59				6			97				0		
Capacity, c (veh/h)			872				339			1424				1280		
v/c Ratio			0.07				0.02			0.07				0.00		
95% Queue Length, Q_{95} (veh)			0.2				0.0			0.2				0.0		
Control Delay (s/veh)			9.4				15.8			7.7		0.6		7.8		0.0
Level of Service (LOS)			A				C			A		A		A		A
Approach Delay (s/veh)	9.4				15.8				2.5				0.0			
Approach LOS	A				C											

HCS7 Two-Way Stop-Control Report

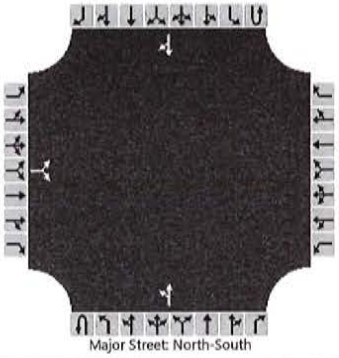
General Information

Analyst	ALC
Agency/Co.	Cannon & Cannon, Inc.
Date Performed	9/6/2018
Analysis Year	2023
Time Analyzed	Combined AM Peak
Intersection Orientation	North-South
Project Description	Combined AM, Proposed Geometry and Traffic Control

Site Information

Intersection	Pedigo at North Access
Jurisdiction	Knox County
East/West Street	North Access
North/South Street	Pedigo Road
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		2		54						18	35				175	1
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			62							20						
Capacity, c (veh/h)			840							1374						
v/c Ratio			0.07							0.01						
95% Queue Length, Q_{95} (veh)			0.2							0.0						
Control Delay (s/veh)			9.6							7.7						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		9.6								2.7						
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

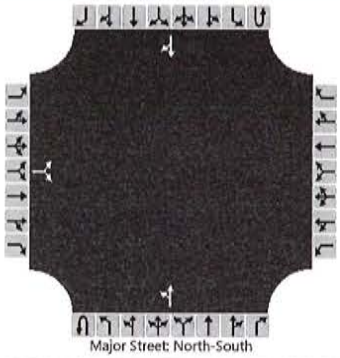
General Information

Analyst	ALC
Agency/Co.	Cannon & Cannon, Inc.
Date Performed	9/6/2018
Analysis Year	2023
Time Analyzed	Combined PM Peak
Intersection Orientation	North-South
Project Description	Combined PM, Proposed Geometry and Traffic Control

Site Information

Intersection	Pedigo at North Access
Jurisdiction	Knox County
East/West Street	North Access
North/South Street	Pedigo Road
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		1		36						62	130				73	2
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			41							69						
Capacity, c (veh/h)			959							1507						
v/c Ratio			0.04							0.05						
95% Queue Length, Q_{95} (veh)			0.1							0.1						
Control Delay (s/veh)			8.9							7.5						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		8.9								2.7						
Approach LOS		A														

TABLE 4A KNOX COUNTY LEFT-TURN LANE VOLUME THRESHOLDS FOR 2-LANE ROADWAYS WITH A PREVAILING SPEED OF 0 TO 35 MPH	Project No: 00773-0010 Project Name: Pedigo Road Subdivision Notes: 2023 Combined

(If the left-turn volume exceeds the table value a left-turn lane is needed)

OPPOSING VOLUME	THROUGH VOLUME PLUS RIGHT-TURN VOLUME *					
	100 - 149	150 - 199	200 - 249	250 - 299	300 - 349	350 - 399
100 - 149	300	235	✳ 185 ✳	145	120	100
150 - 199	245	200	160	130	110	90
200 - 249	205	170	140	115	100	80
250 - 299	175	150	125	105	90	70
300 - 349	155	135	110	95	80	65
350 - 399	135	120	100	85	70	60
400 - 449	120	105	90	75	65	55
450 - 499	105	90	80	70	60	50
500 - 549	95	80	70	65	55	50
550 - 599	85	70	65	60	50	45
600 - 649	75	65	60	55	45	40
650 - 699	70	60	55	50	40	35
700 - 749	65	55	50	45	35	30
750 or More	60	50	45	40	35	30

OPPOSING VOLUME	THROUGH VOLUME PLUS RIGHT-TURN VOLUME *					
	350 - 399	400 - 449	450 - 499	500 - 549	550 - 599	= / > 600
100 - 149	100	80	70	60	55	50
150 - 199	90	75	65	55	50	45
200 - 249	80	72	60	55	50	45
250 - 299	70	65	55	50	45	40
300 - 349	65	60	50	50	45	40
350 - 399	60	55	50	45	40	40
400 - 449	55	50	45	45	40	35
450 - 499	50	45	45	40	35	35
500 - 549	50	45	40	40	35	35
550 - 599	45	40	40	35	35	35
600 - 649	40	35	35	35	35	30
650 - 699	35	35	35	30	30	30
700 - 749	30	30	30	30	30	30
750 or More	30	30	30	30	30	30

* Or through volume only if a right-turn lane exists

Intersection	Time Period	Opposing Volume	Through Volume	Left-Turn Volume	Warrant Threshold	Left-Turn Lane Warranted (Yes / No)
Pedigo/G.C. Ln.	A.M.	306	65	25	**N/A**	No
✳→ Pedigo/G.C. Ln.	P.M.	136	249	87	**185**	No
Pedigo/N. Access	A.M.	176	35	18	**N/A**	No
Pedigo/N. Access	P.M.	75	130	62	**N/A**	No

Source: Knox County Department of Engineering and Public Works "Access Control and Driveway Design Policy"

TABLE 4B KNOX COUNTY RIGHT-TURN LANE VOLUME THRESHOLDS FOR 2-LANE ROADWAYS WITH A PREVAILING SPEED OF 0 TO 35 MPH	Project No: 00773-0010 Project Name: Pedigo Road Subd. Notes: 2023 Combined

RIGHT-TURN VOLUME	THROUGH VOLUME PLUS LEFT-TURN VOLUME *					
	< 100	100 - 199	200 - 249	250 - 299	300 - 349	350 - 399
Fewer Than 25	(4)	(2) (3)			(1)	
25 - 49						
50 - 99						
100 - 149						
150 - 199						
200 - 249						
250 - 299						Yes
300 - 349					Yes	Yes
350 - 399				Yes	Yes	Yes
400 - 449			Yes	Yes	Yes	Yes
450 - 499			Yes	Yes	Yes	Yes
500 - 549		Yes	Yes	Yes	Yes	Yes
550 - 599		Yes	Yes	Yes	Yes	Yes
600 or More	Yes	Yes	Yes	Yes	Yes	Yes

RIGHT-TURN VOLUME	THROUGH VOLUME PLUS LEFT-TURN VOLUME *					
	350 - 399	400 - 449	450 - 499	500 - 549	550 - 599	= / > 600
Fewer Than 25						
25 - 49						Yes
50 - 99					Yes	Yes
100 - 149				Yes	Yes	Yes
150 - 199			Yes	Yes	Yes	Yes
200 - 249		Yes	Yes	Yes	Yes	Yes
250 - 299	Yes	Yes	Yes	Yes	Yes	Yes
300 - 349	Yes	Yes	Yes	Yes	Yes	Yes
350 - 399	Yes	Yes	Yes	Yes	Yes	Yes
400 - 449	Yes	Yes	Yes	Yes	Yes	Yes
450 - 499	Yes	Yes	Yes	Yes	Yes	Yes
500 - 549	Yes	Yes	Yes	Yes	Yes	Yes
550 - 599	Yes	Yes	Yes	Yes	Yes	Yes
600 or More	Yes	Yes	Yes	Yes	Yes	Yes

* Or through volume only if a left-turn lane exists

	Intersection	Time Period	Through Volume	Right-Turn Volume	Right-Turn Lane Warranted (Yes / No)
(1)	Pedigo/G.C. Ln.	A.M.	305	1	No
(2)	Pedigo/G.C. Ln.	P.M.	134	2	No
(3)	Pedigo/N. Access	A.M.	175	1	No
(4)	Pedigo/N. Access	P.M.	73	2	No

Source: Knox County Department of Engineering and Public Works "Access Control and Driveway Design Policy"

APPENDIX D - MPC/KNOX COUNTY REVIEW COMMENTS

CANNON & CANNON INC
CONSULTING ENGINEERS · FIELD SURVEYORS

Date: July 9, 2018

Project Name: Pedigo Road Subdivision Traffic Impact Study Review
(7-N-18-UR & 7-SG-18-C)

To: MPC and Knox County

Subject: TIS Comment Response Document for Pedigo Road Subdivision
Review Comments Dated June 28, 2018

Dear MPC and Knox County Staff:

The following comment response document is submitted to address comments dated June 28, 2018:

Reviewer Comment 1: At the top of pages 1 & 2, please refer to the given 'Summary' and 'Introduction' as "sections" instead of "report".

Response: EXECUTIVE SUMMARY first sentence reworded to provide better wording. INTRODUCTION AND PURPOSE OF STUDY first sentence not reworded. This is not appropriate since this section does not summarize the complete traffic study. It is only an introduction to the study/report.

Reviewer Comment 2: On pages 1, 14 & 15, the study mentions the sight distances exceed minimum requirements. The study needs to evaluate the North Site Access sight distance potentially crossing over a lot on the opposite side of the road due to a horizontal curve.

Response: This has now been evaluated. See attached revised Sheet 13.

Reviewer Comment 3: There was no discussion about several lots accessing E Copeland Drive. Refer to the most recent site plan, and please add this to the overall study evaluation.

Response: This has been mentioned and included. See attached revised Sheet 14 for the related sight distance assessment of the associated East Copeland Drive driveway intersection.

Reviewer Comment 4: On page 9 under Trip Distribution and Assignment (4th line down), "intersection" should be plural since there are two site access points studied.

Response: This has been corrected in the report.

TEL 865.670.8555
CANNON-CANNON.COM
KNOXVILLE 8550 Kingston Pike
MEMPHIS Knoxville, TN 37919
BOWLING GREEN FAX 865.670.8866

Reviewer Comment 5: On page 13 under Intersection Capacity Analysis (2nd line down), "intersection" should be plural since there are two site access points studied.

Response: This has been corrected in the report. See attached revised Sheet 13.

Reviewer Comment 5a: In Table 3, only the westbound level-of-service and delay are shown. Please add the eastbound direction.

Response: This information has been added to the table. See attached revised Sheet 13.

Reviewer Comment 5b: Under Sight Distance Assessment, please evaluate the sight distance for the intersections of Pedigo Rd. at Greenwell Dr., E Copeland Dr. at Greenwell Dr., and the access easement for several lots along E Copeland Dr.

Response: These have now been evaluated. See attached revised Sheet 14.

Reviewer Comment 6: On page 14 under Turn Lane Assessment (4th line down), change "or" to "nor" to match "neither".

Response: This has been corrected in the report. See attached revised Sheet 14.

Reviewer Comment 6a: Evaluate the need for a right-turn lane at the south access point in the southbound movement. The northbound movement for Grand Colony Lane was evaluated, which is not the access for this subdivision.

Response: This has been corrected in the report. See attached revised APPENDIX TABLE 4B (Knox County Right-Turn Lane Volume Thresholds).

Sincerely,

Alan L. Childers, P.E.

Attachments