

W GALLAHER FERRY ROAD SUBDIVISION

Transportation Impact Analysis

2205 W Gallaher Ferry Road

Knoxville, TN 37932

A Transportation Impact Analysis for the W Gallaher Ferry Road Subdivision

Submitted to

Knoxville - Knox County Planning

Revised March 25, 2022

February 28, 2022

FMA Project No. 592.014

Submitted By:



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Executive Summary

Ball Homes, LLC is proposing a residential development located in Knox County, TN. The project is located north of the intersection of Hickory Creek Road and W Gallaher Ferry Road. The full build out of the development will consist of a subdivision with 81 single family lots. Construction is proposed to take place this year and this study assumes full build out for the development will occur in 2025.

The proposed driveway connection (Road "A") will connect to W Gallaher Ferry Road north of the intersection of Hickory Creek Road.

As a part of the construction of the W Gallaher Ferry Road Subdivision W Gallaher Ferry Road will be realigned at the intersection with Hickory Creek Road and widened between the intersection of Hickory Creek Road and the northern edge of the property line. The approximate length of the roadway improvements is 1,500 feet.

In order to maintain or provide an acceptable level-of-service for each of the intersections studied, some recommendations are presented.

W Gallaher Ferry Road @ Hickory Creek Road

After the completion of the W Gallaher Ferry Road residential development the full buildout traffic conditions for the intersection of W Gallaher Ferry Road at Hickory Creek Road will operate at a LOS B or better for all approaches. There are no recommended improvements to the intersection to accommodate the W Gallaher Ferry Road Subdivision.

A westbound right turn lane and an eastbound left turn lane on Hickory Creek Road are not warranted during either the AM or PM peak hours.

W Gallaher Ferry Road @ Driveway Connection Road "A"

FMA measured the sight distance at the proposed intersection of W Gallaher Ferry Road at the driveway connection (Road "A") in February 2022. At 15 feet from the edge of pavement the sight distance at the proposed intersection is greater than 350 feet looking to the north and 325 feet looking to the south; therefore, the intersection meets the minimum sight distance requirements for a road with a posted speed limit of 30mph.

1 Introduction

1.1 Project Description

This report provides a summary of a traffic impact study that was performed for the W Gallaher Ferry Road Subdivision. The project is located north of the intersection of W Gallaher Ferry Road at Hickory Creek Road in Knox County, Tennessee. The location of the site is shown in Figure 1.

The full build out of the residential development will include 81 single family lots. Construction is proposed to take place this year, and this study assumes full build out for the development will occur in 2025.

The concept plan shows a single driveway connection intersecting W Gallaher Ferry Road at Road "A". The driveway connection (Road "A") is located approximately 1250 feet north of Hickory Creek Road. W Gallaher Ferry Road is a two-lane two-way roadway with no additional turn lanes for storage. The proposed site layout is shown in Figure 2.

As a part of the construction of the W Gallaher Ferry Road Subdivision W Gallaher Ferry Road will be realigned at the intersection with Hickory Creek Road and widened between the intersection of Hickory Creek Road and the northern edge of the property line. The approximate length of the roadway improvements is 1,500 feet.

The purpose of this study is to evaluate the impacts to the traffic conditions caused by the proposed residential development.

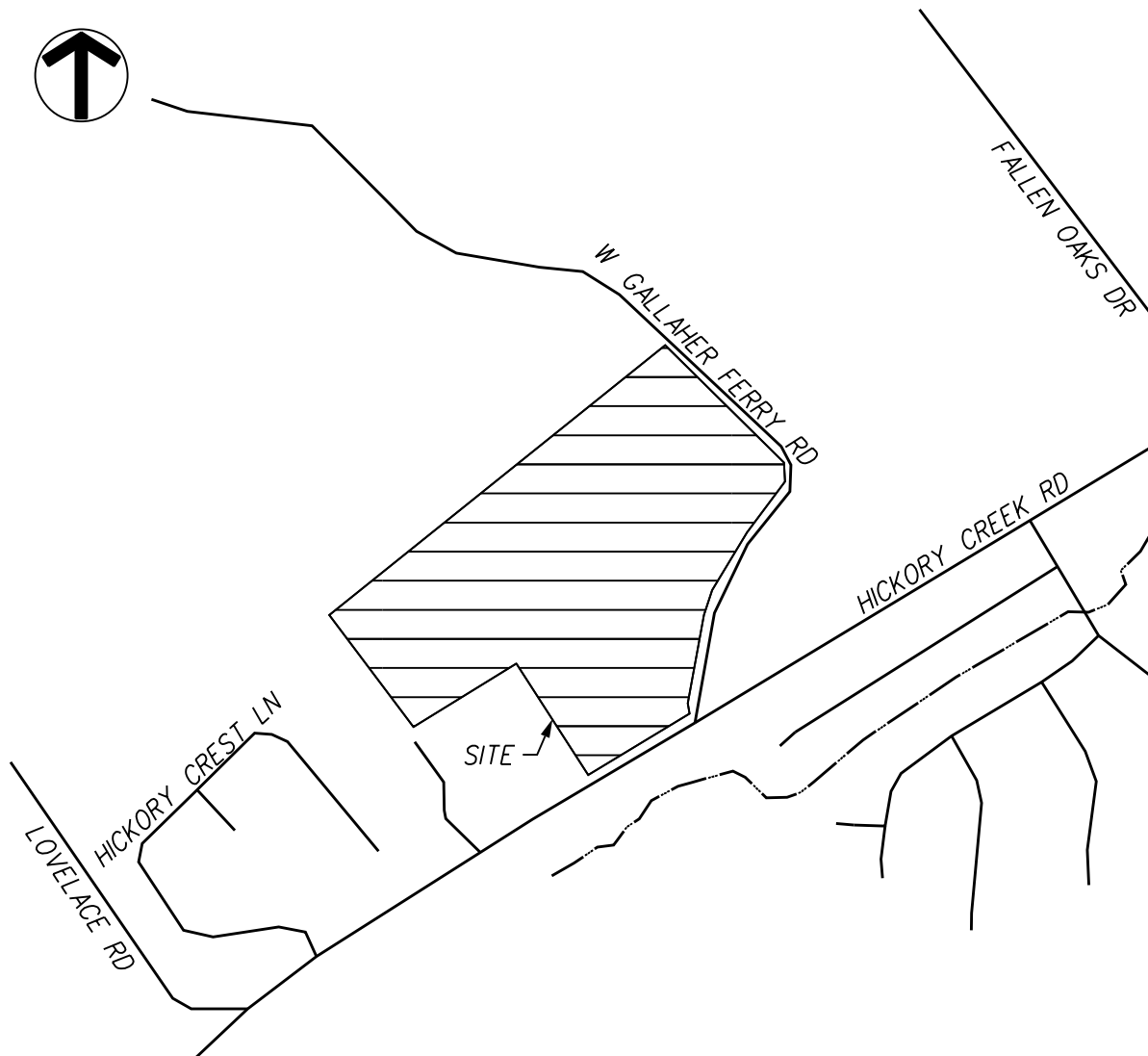


Figure 1: Location Map

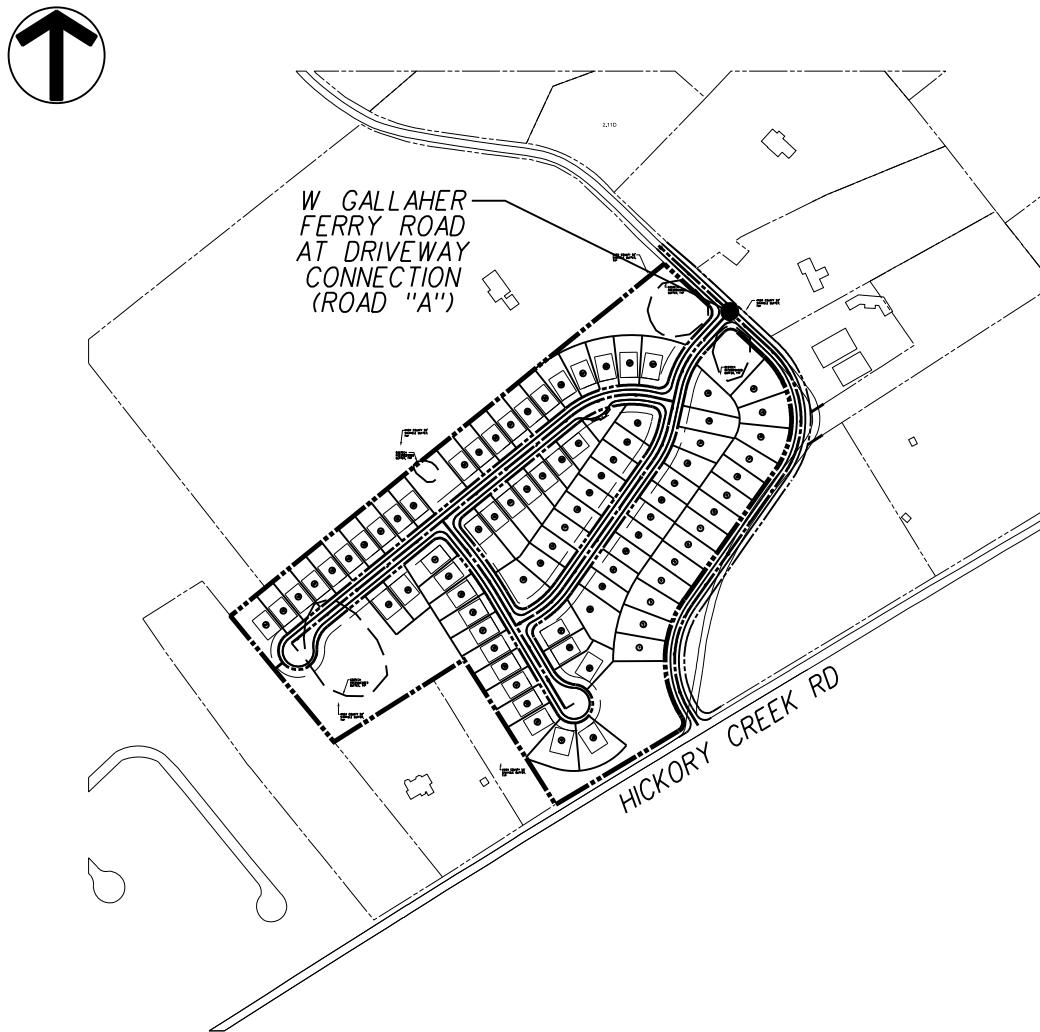


Figure 2: Site Plan

1.2 Existing Site Conditions

W Gallaher Ferry Road is a two-lane road with an approximate width of 19 feet. Knoxville-Knox County Planning does not classify W Gallaher Ferry Road; therefore, it is considered a local street. The posted speed limit on W Gallaher Ferry Road is 30 mph.

Hickory Creek Road is a two-lane road with an approximate width of 20 feet at the intersection with W Gallaher Ferry Road. Knoxville-Knox County Planning classifies Hickory Creek Road as a Minor Arterial between W Gallaher Ferry Road and Buttermilk Road with a 60-foot right-of-way per the Major Road Plan. The posted speed limit on Hickory Creek Road is 40 mph.

There are no existing sidewalks or designated bike lanes along W Gallaher Ferry Road or in the vicinity of the proposed development.

An aerial photo of the location of the proposed driveway intersection with W Gallaher Ferry Road and an aerial photo of the intersection of W Gallaher Ferry Road at Hickory Creek Road are included in the attachments.

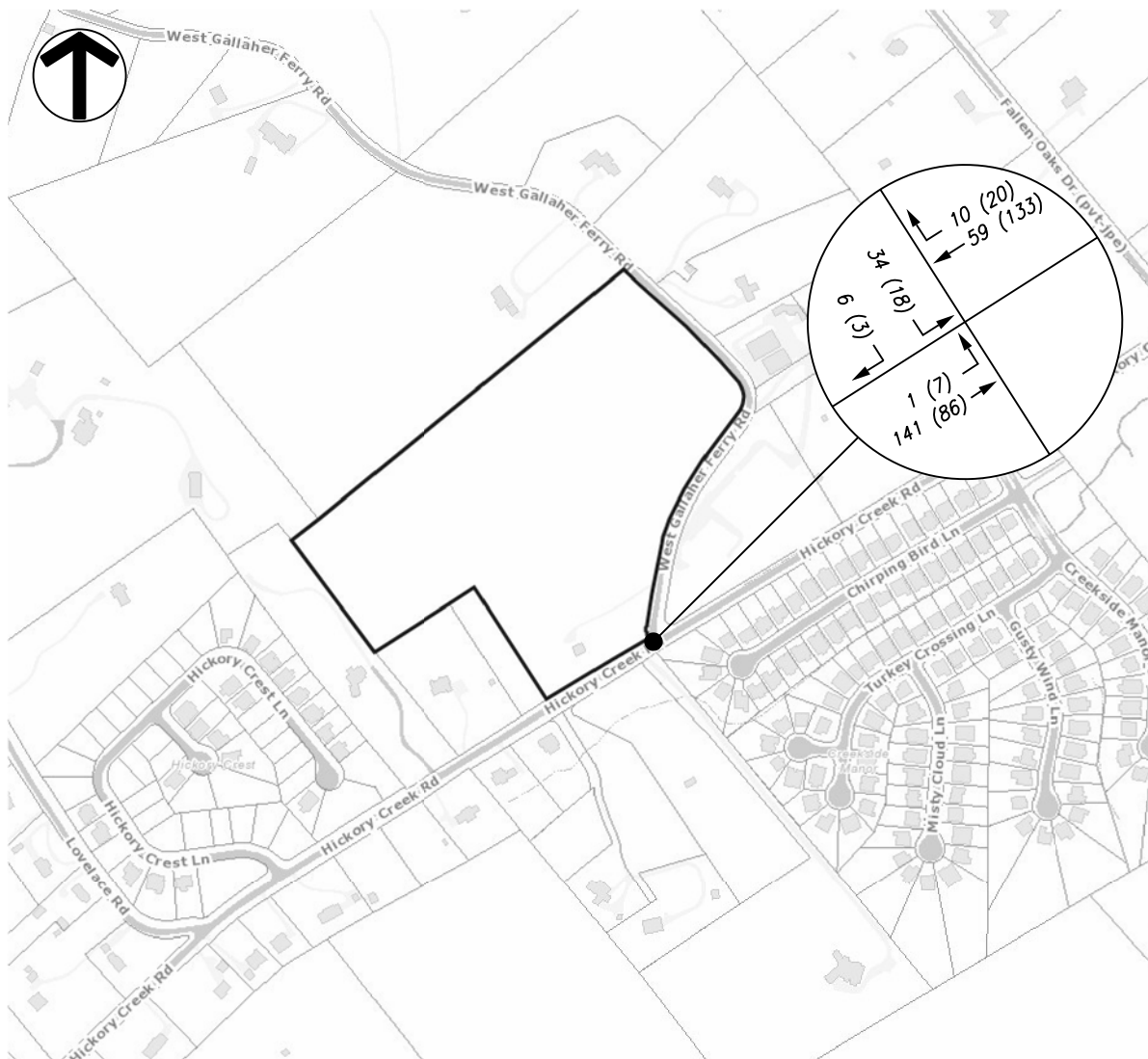
2 Existing Traffic Volumes

FMA conducted a peak hour turning movement count at the intersection of W Gallaher Ferry Road and Hickory Creek Road on Tuesday, February 22, 2022. The weather on Tuesday February 22, 2022 was intermittent rain with light rain occurring during both the AM and PM peak hours.

The current AM peak hour and PM peak hour were determined using the turning movement count that FMA conducted. At the intersection of W Gallaher Ferry Road at Hickory Creek Road, the AM peak hour occurred between 7:15 a.m. and 8:15 a.m., and the PM peak hour occurred between 5:00 p.m. and 6:00 p.m.

The existing volumes including the AM and PM peak hour traffic volumes at the count location are shown in Figure 3, and the count data collected is included in Attachment 2.

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LEGEND:

← 5 (16)

TURNING MOVEMENT VOLUME AM (PM)

Figure 3: 2022 Existing Peak Hour Traffic

3 Background Growth

The Tennessee Department of Transportation (TDOT) and Knoxville Regional Transportation Planning Organization (TPO) maintain count stations in the vicinity of the proposed development.

TDOT count station #470000135 is located on Hickory Creek Road northeast of the intersection of Buttermilk Road at Everett Road. The annual growth rate for this station over the last ten years is approximately 2.87% and the 2021 ADT was 2,193 vehicles per day.

TPO Count Station ID: 093M179 is located on E Gallaher Ferry Road north of the intersection of Hickory Creek Road at Hardin Valley Road. The annual growth rate for this station over the last ten years is approximately 3.72% and the 2019 ADT was 940 vehicles per day.

TPO Count Station ID: 093M353 is located on Hardin Valley Road east of Marietta Church Road. The annual growth rate for this station over the last ten years is approximately 4.44% and the 2020 ADT was 6110 vehicles per day.

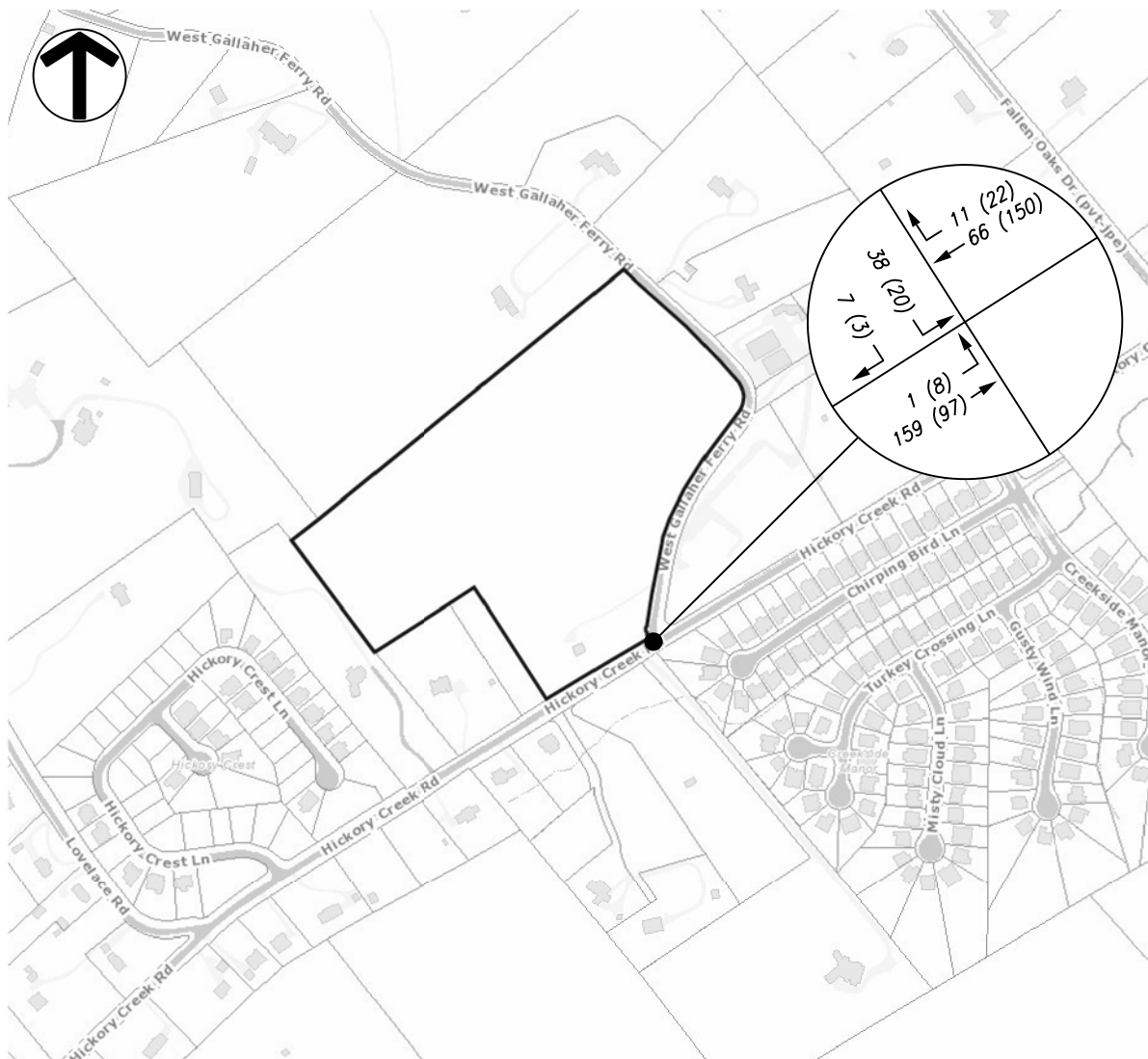
For the purpose of this study, an annual growth rate of 4.0% was assumed for the traffic at the intersection of W Gallaher Ferry Road at Hickory Creek Road until full occupancy is reached in 2025. Trend line growth charts for TDOT count stations are included in Attachment 3.

Figure 4 demonstrates the projected background peak hour volumes at the studied intersections after applying the background growth rate to the existing conditions.

3.1 Hickory Creek Roadway Project

Knox County Engineering and Public Works is proposing a future project to construct a roundabout at the intersection of Hickory Creek Road at Hardin Valley Road. The project is currently in the preliminary engineering phase and has a proposed letting date that has yet to be determined.

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LEGEND:

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TURNING MOVEMENT VOLUME AM (PM)

Figure 4: 2025 Background Peak Hour Traffic

4 Trip Generation and Trip Distribution

Ball Homes, LLC residential development proposes a subdivision with 81 single-family lots. Single-Family Detached Housing or Land Use 210 was used to calculate site trips for the development using the fitted curve equations from the *Trip Generation, 11th Edition*, published by the Institute of Transportation Engineers. Land use worksheets are included in the Attachment 4.

The total trips generated by the full buildout of the W Gallaher Ferry Road subdivision was estimated to be 831 daily trips. The estimated trips are 61 trips during the AM peak hour and 82 trips during the PM peak hour. A trip generation summary is shown in Table 4-1.

Table 4-1
W Gallaher Ferry Road
Trip Generation Summary

Land Use	Density	Daily Trips	AM Peak Hour		PM Peak Hour	
			Enter	Exit	Enter	Exit
Single-Family Detached Housing (Land Use 210)	81 lots	831	16	45	52	30

The existing distribution of traffic on W Gallaher Ferry Road at the intersection with Hickory Creek Road is approximately 20% northbound and 80% southbound during the AM peak hour, and 55% northbound and 45% southbound during the PM peak hour.

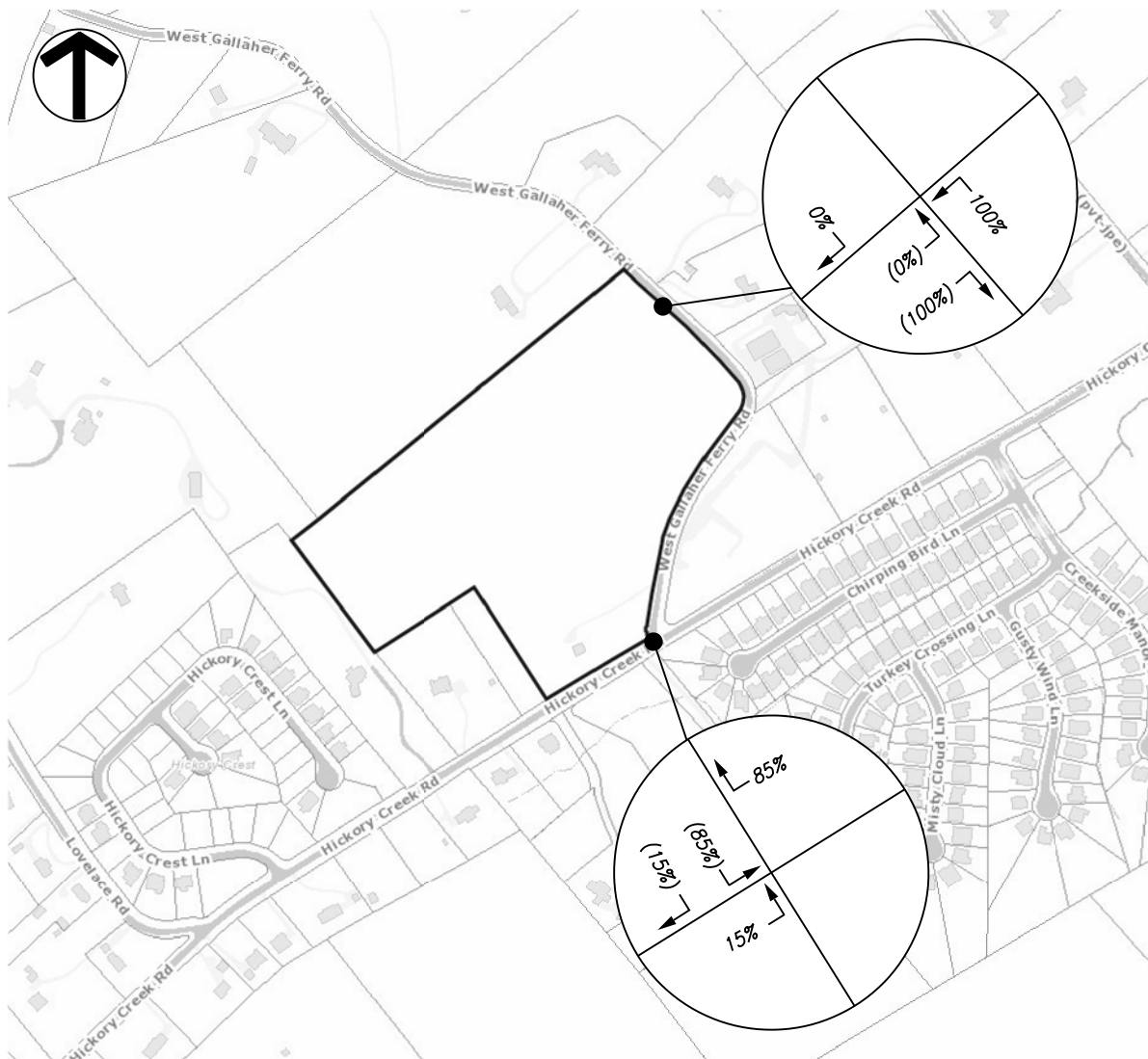
The existing distribution of traffic on Hickory Creek Road at the intersection with W Gallaher Ferry Road is approximately 65% eastbound and 35% westbound during the AM peak hour, and 40% eastbound and 60% westbound during the PM peak hour.

The directional distribution of the traffic generated by the W Gallaher Ferry Road residential development was determined using the existing traffic volumes at the intersection of W Gallaher Ferry Road at Hickory Creek Road in combination with the concept plan layout. FMA assumed that 100% of traffic from the proposed development would enter/exit from the intersection of W Gallaher Ferry Road and Hickory Creek Road. FMA also assumed that traffic travelling to/from Hardin Valley Road would be 85% during both the AM and PM peak hour and traffic travelling to/from the intersection of Buttermilk Road at Everett Road would be 15% during both the AM and PM peak hour.

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Figure 5 shows the peak hour trip distribution for the W Gallaher Ferry Road subdivision. Figure 6 shows the peak hour site trips generated by the W Gallaher Ferry Road subdivision and Figure 7 shows the 2025 full buildout peak hour traffic including the background traffic data combined with the peak hour site trips for the W Gallaher Ferry Road subdivision.

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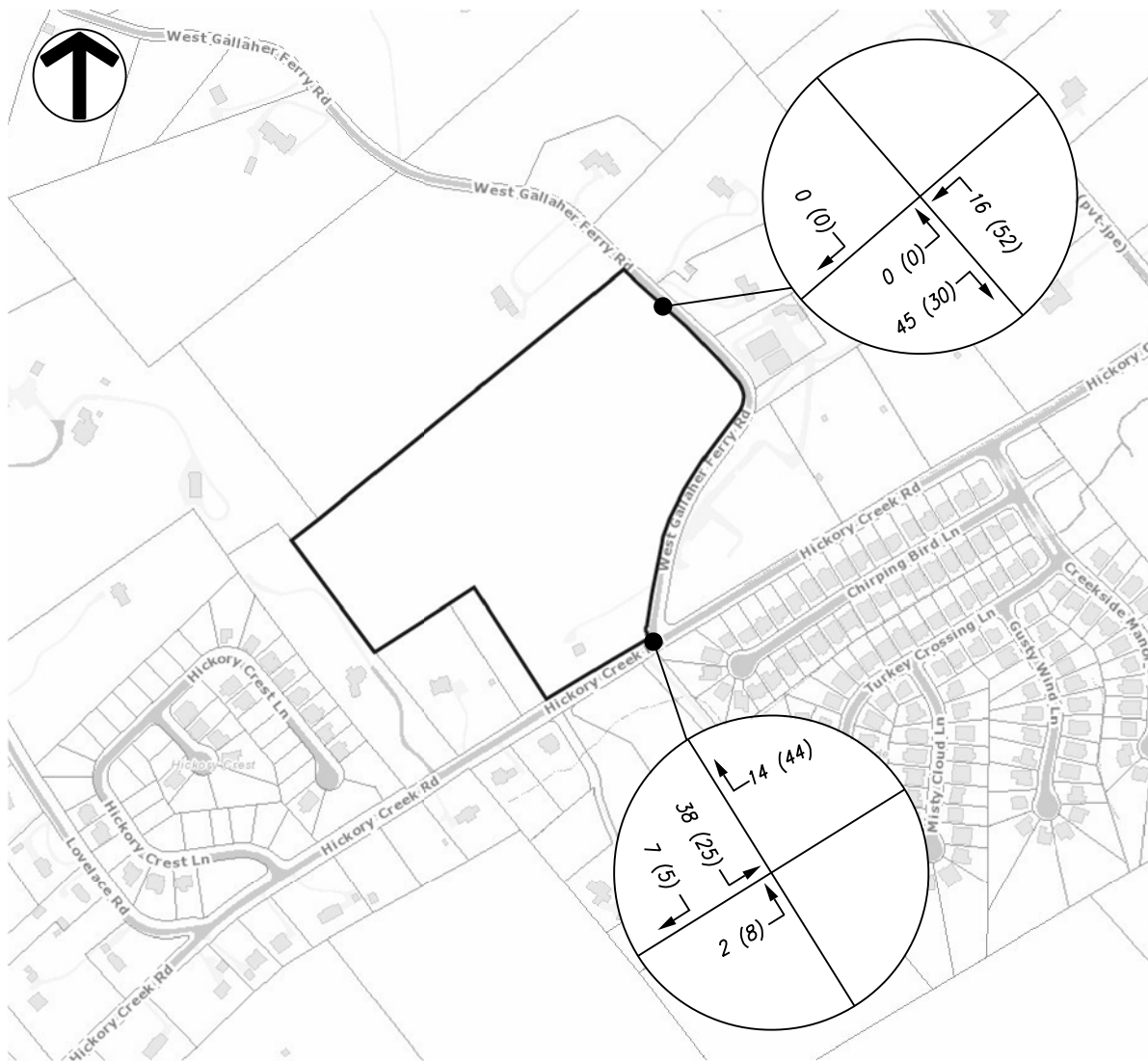


LEGEND:

← 50% (50%) TRIP DISTRIBUTION ENTERING (EXITING)

Figure 5: Peak Hour Trip Distribution

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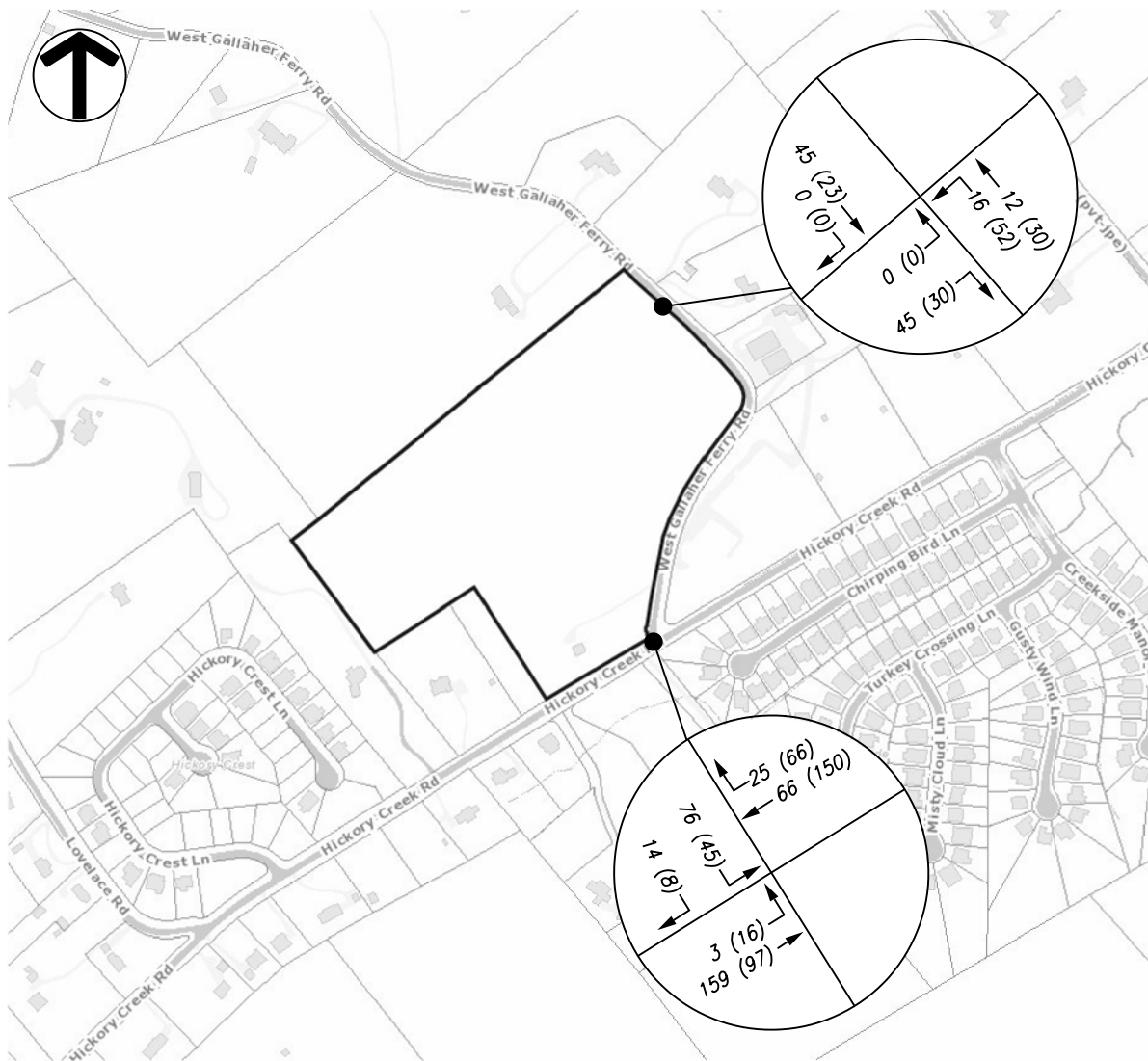
LEGEND:

← 5 (16)

TURNING MOVEMENT VOLUME AM (PM)

Figure 6: W Gallaher Ferry Road Subdivision
 Peak Hour Site Trips

W Gallaher Ferry Road Subdivision
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LEGEND:

← 5 (16)

TURNING MOVEMENT VOLUME AM (PM)

Figure 7: 2025 Full Buildout Site Traffic

5 Projected Capacity and Level of Service

The existing intersection of W Gallaher Ferry Road at Hickory Creek Road is a three-legged intersection with a stop sign for southbound traffic on W Gallaher Ferry Road.

Unsignalized intersection capacity analyses were performed using the Highway Capacity Software (HCS7) for the AM and PM peak hours to evaluate the existing, background and full buildout conditions at the intersection of W Gallaher Ferry Road at Hickory Creek Road.

The results from the analyses are expressed with a term “level of service” (LOS), which is based on the amount of delay experienced at the intersection. The LOS index ranges from LOS A, indicating excellent traffic conditions with minimal delay, to LOS F indicating very congested conditions with excessive delay. LOS D generally is considered the minimum acceptable condition in urban areas. The HCS7 worksheets are included in Attachments 5, 6 and 7.

Table 5-1 shows the results of the capacity analyses.

Table 5-1
Intersection Analysis
Level of Service (LOS) Summary

Delay (sec)/LOS		
W Gallaher Ferry Road @ Hickory Creek Road (Existing 2022)		
AM Peak	EB Left Turn	7.4 / A
	SB Approach	10.0 / A
PM Peak	EB Left Turn	7.5 / A
	SB Approach	9.9 / A
W Gallaher Ferry Road @ Hickory Creek Road (Background 2025)		
AM Peak	EB Left Turn	7.4 / A
	SB Approach	10.2 / B
PM Peak	EB Left Turn	7.6 / A
	SB Approach	10.2 / B
W Gallaher Ferry Road @ Hickory Creek Road (Full Buildout 2025)		
AM Peak	EB Left Turn	7.4 / A
	SB Approach	10.8 / B
PM Peak	EB Left Turn	7.7 / A
	SB Approach	10.7 / B

6 Turn Lane Warrant Analysis

The intersection of Hickory Creek Road at W Gallaher Ferry Road was evaluated to determine if a westbound right turn lane or an eastbound left turn lane are warranted. The Knox County Department of Engineering and Public Works handbook, "Access Control and Driveway Design Policy," was used to analyze the information.

There are no turn lanes warranted at the intersection of Hickory Creek Road at W Gallaher Ferry Road during either the AM or PM peak hours after the full buildout of the W Gallaher Ferry Road Subdivision.

The intersection of W Gallaher Ferry Road at the proposed driveway connection (Driveway "A") was evaluated to determine if a northbound left turn lane or southbound right turn lane are warranted. The Knox County Department of Engineering and Public Works handbook, "Access Control and Driveway Design Policy," was used to analyze the information.

There are no turn lanes warranted at the intersection of W Gallaher Ferry Road at Driveway "A" during either the AM or PM peak hours after the full buildout of the W Gallaher Ferry Road Subdivision,

The turn lane warrant worksheets and analysis are included in Attachment 8.

7 Conclusions and Recommendations

7.1 W Gallaher Ferry Road @ Hickory Creek Road

The existing, background and full buildout conditions at the unsignalized intersection of W Gallaher Ferry Road at Hickory Creek Road were analyzed using the Highway Capacity Software (HCS7).

The existing traffic conditions for the eastbound left turn movement (Hickory Creek Road) operate at a LOS A during both the AM and PM peak hours and the southbound approach (W Gallaher Ferry Road) operates at a LOS A during both the AM and PM peak hours.

The background traffic conditions for the eastbound left turn movement (Hickory Creek Road) operate at a LOS A during both the AM and PM peak hours and the southbound approach (W Gallaher Ferry Road) operates at a LOS B during both the AM and PM peak hours.

After the completion of the W Gallaher Ferry Road residential development the full buildout traffic conditions for the intersection of W Gallaher Ferry Road at Hickory Creek Road will operate as follows. The eastbound left turn movement (Hickory Creek Road) will continue to operate at a LOS A during both the AM and PM peak hours. The southbound approach (W Gallaher Ferry Road) will continue to operate at a LOS B during both the AM and PM peak hours.

The 95% queue length is defined as the queue length that has only a 5-percent probability of being exceeded during the analysis time period. The 95% queue length is typically used to determine the length of turning lanes in order to minimize the risk of blockage.

The unsignalized intersection capacity analysis shows the full buildout 95% queue length for the southbound approach (W Gallaher Ferry Road) of less than one car length during both the AM and PM peak hours. Based on the HCS7 queue analysis the existing storage at the intersection of W Gallaher Ferry Road at Hickory Creek Road is adequate and no improvements to the intersection are necessary in order to accommodate the W Gallaher Ferry Road residential development.

A westbound right turn lane and an eastbound left turn lane on Hickory Creek Road are not warranted during either the AM or PM peak hours per the Knox County Department of Engineering and Public Works handbook, "Access Control and Driveway Design Policy."

The minimum required sight distance for a road with a posted speed limit of 40 mph is 400 feet in each direction in accordance with the "Knoxville-Knox County Subdivision Regulations" amended through February 13, 2020. FMA measured the sight distance at the existing intersection of W Gallaher Ferry Road at Hickory Creek Road in February 2022. At 15 feet from the edge of pavement the existing sight distance is greater than 450 feet eastbound and greater than 450 feet westbound. Any existing site distance measurements may not reflect the future conditions at the intersection after road realignment and will need to be re-verified.

7.2 W Gallaher Ferry Road @ Driveway Connection (Road "A")

W Gallaher Ferry Road is not classified by the Major Road Plan; therefore, it is considered a local street. The minimum intersection spacing required on a local street is 125 feet per the "Knoxville-Knox County Subdivision Regulations" amended through February 13, 2020. The driveway connection (Road "A") is located approximately 1,250 feet north of the intersection with Hickory Creek Road and exceeds the typical minimum separation on a local street; therefore, no change is necessary.

A southbound right turn lane and a northbound left turn lane on W Gallaher Ferry Road are not warranted during either the AM or PM peak hours per the Knox County Department of Engineering and Public Works handbook, "Access Control and Driveway Design Policy."

The minimum required sight distance for a road with a posted speed limit of 30 mph is 300 feet in each direction in accordance with the "Knoxville-Knox County Subdivision Regulations" amended through February 13, 2020. FMA measured the sight distance at the proposed intersection of W Gallaher Ferry Road at the driveway connection (Road "A") in February 2022. At 15 feet from the edge of pavement the sight distance at the proposed intersection is greater than 350 feet looking to the north and 325 feet looking to the south. Attachment 9 shows photos of the sight distance at the proposed intersection.

Any existing site distance measurements may not reflect the future conditions at the intersection after road realignment and will need to be re-verified. Sight distance must also be verified for all future driveway connections shown for lots in the subdivision that are fronting on W Gallaher Ferry Road.

Any required sight distance easements for the internal subdivision intersections of Road "A", Road "B" and Road "C" should be coordinated with Knox County Engineering and Public Works and included on the final design drawings prior to construction of the subdivision.

The width of Road "A", Road "B" and Road "C" will have a width of 26 feet in accordance with the "Knoxville-Knox County Subdivision Regulations" amended through February 13, 2020.

7.3 W Gallaher Ferry Road

W Gallaher Ferry Road is currently aligned with Hickory Creek Road at an approximate fifty-degree angle. The existing width of W Gallaher Ferry Road at the intersection with Hickory Creek Road is approximately 19 feet. W Gallaher Ferry Road is not classified per the Major Road Plan, but it functions more like a collector than a local subdivision street.

The concept plan for the W Gallaher Ferry Subdivision proposes the realignment of W Gallaher Ferry Road between the intersection of Hickory Creek Road at station 0+00 to station 15+08.40. The realignment includes adjusting the angle of the intersection to a ninety-degree angle and widening the existing roadway. Any proposed roadway improvements need to be coordinated with Knox County Engineering and Public Works.

Attachment 1
Aerial Photos

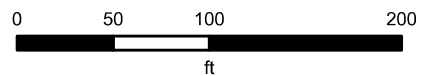


W Gallaher Ferry Rd. at Proposed Driveway

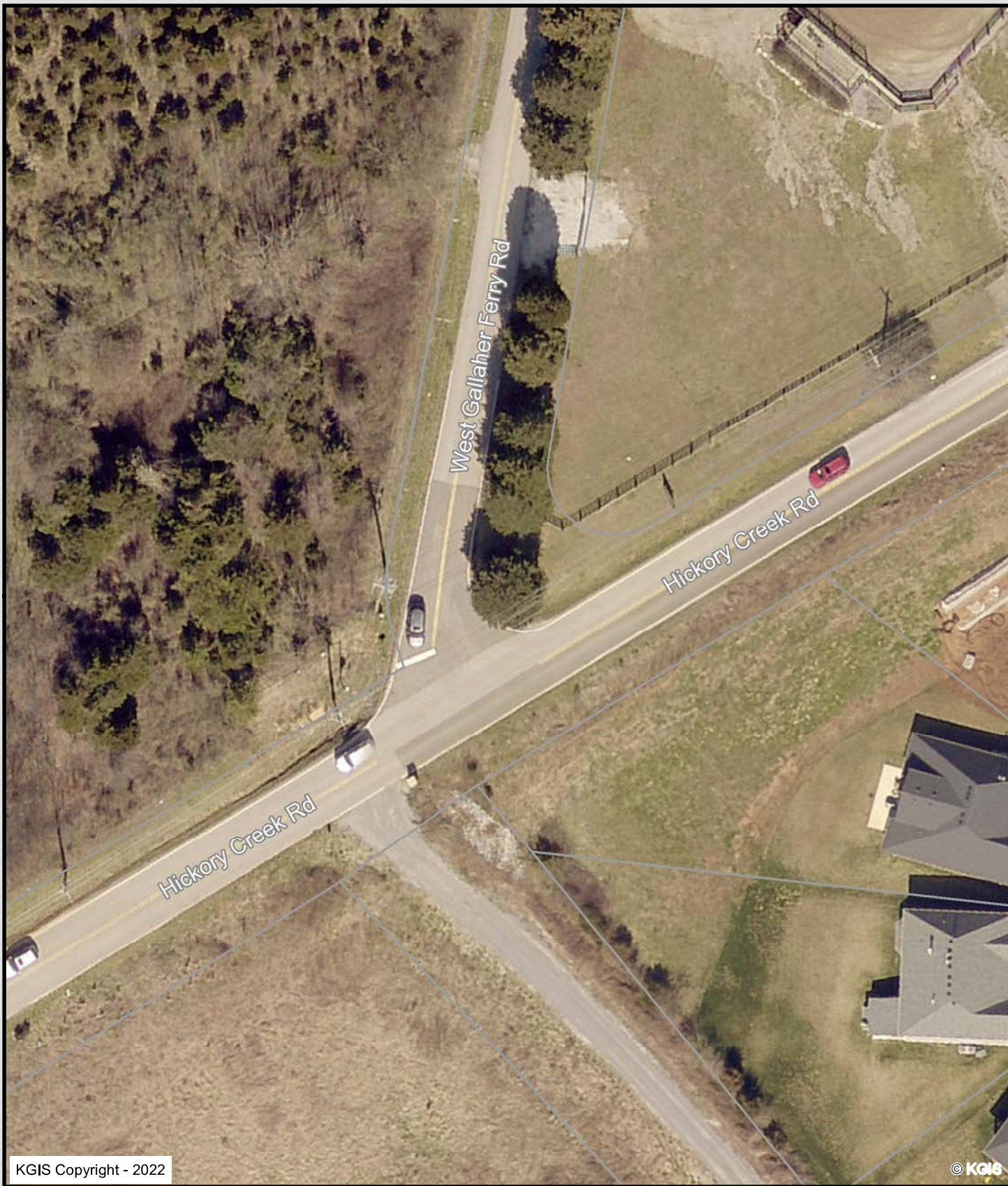
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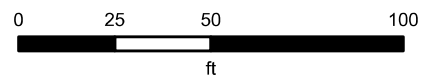


W Gallaher Ferry at Hickory Creek

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Attachment 2

Traffic Counts

Project: 2205 W Gallaher Ferry Road Subdivision

Intersection: Hickory Creek Road at W Gallaher Ferry Road

Date Conducted: Tuesday February 22, 2022

	Hickory Creek Road Eastbound			Hickory Creek Road Westbound			W Gallaher Ferry Road Southbound			
Start	Left	Thru	Total	Thru	Right	Total	Left	Right	Total	Int. Total
7:00 AM	1	26	27	9	4	13	3	2	5	45
7:15 AM	0	31	31	10	2	12	14	1	15	58
7:30 AM	1	39	40	15	2	17	8	2	10	67
7:45 AM	0	38	38	21	6	27	8	2	10	75
Total	2	134	136	55	14	69	33	7	40	245
8:00 AM	0	33	33	13	0	13	4	1	5	51
8:15 AM	0	18	18	19	1	20	4	1	5	43
8:30 AM	0	17	17	14	2	16	5	0	5	38
8:45 AM	1	20	21	19	2	21	5	0	5	47
Total	1	88	89	65	5	70	18	2	20	179
5:00 PM	2	21	23	33	8	41	4	1	5	69
5:15 PM	2	23	25	34	3	37	5	0	5	67
5:30 PM	3	20	23	4	35	39	4	2	6	68
5:45 PM	0	22	22	5	31	36	5	0	5	63
Total	7	86	93	76	77	153	18	3	21	267
Grand Total	10	308	318	196	96	292	69	12	81	691
Approach %	3.1	96.9		67.1	32.9		85.2	14.8		
Total %	1%	45%	46%	28%	14%	42%	10%	2%	12%	

Project: W Gallaher Ferry Road

Intersection: W Gallaher Ferry Road at Hickory Creek Road

Date Conducted: Tuesday February 22, 2022

AM Peak Hour	7:15 AM - 8:15 AM	251
PM Peak Hour	5:00 PM - 6:00 PM	267

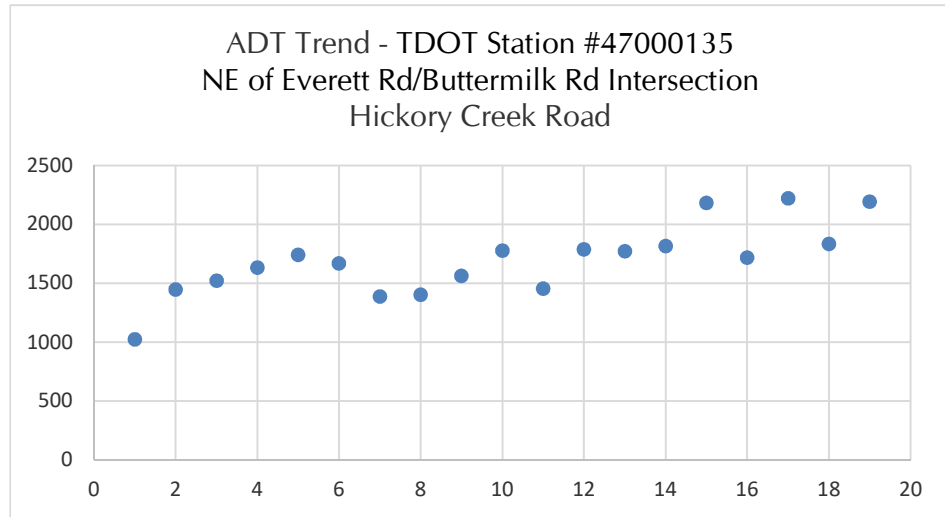
	Hickory Creek Road Eastbound			Hickory Creek Road Westbound			W Gallaher Ferry Road Southbound			
Start	Left	Thru	Total	Thru	Right	Total	Left	Right	Total	Int. Total
Peak Hour Analysis from 7:00 AM to 9:00 AM										
AM Peak Hour begins at 7:15 AM										
7:15 AM	0	31	31	10	2	12	14	1	15	58
7:30 AM	1	39	40	15	2	17	8	2	10	67
7:45 AM	0	38	38	21	6	27	8	2	10	75
8:00 AM	0	33	33	13	0	13	4	1	5	51
Total Volume	1	141	142	59	10	69	34	6	40	251
Future (4% over 3 yrs)	1	159		66	11		38	7		282
PHF	0.25	0.90		0.70	0.42		0.61	0.75		0.84
Peak Hour Analysis from 4:00 PM to 6:00 PM										
PM Peak Hour begins at 5:00 PM										
5:00 PM	2	21	23	33	8	41	4	1	5	69
5:15 PM	2	23	25	34	3	37	5	0	5	67
5:30 PM	3	20	23	35	4	39	4	2	6	68
5:45 PM	0	22	22	31	5	36	5	0	5	63
Total Volume	7	86	93	133	20	153	18	3	21	267
Future (4% over 3 yrs)	8	97		150	22		20	3		300
PHF	0.58	0.93		0.95	0.63		0.90	0.38		0.97

Attachment 3

ADT Trends

Adjusted
Average Daily

Year	Traffic
2003	1024
2004	1447
2005	1521
2006	1632
2007	1742
2008	1669
2009	1387
2010	1403
2011	1564
2012	1778
2013	1454
2014	1787
2015	1773
2016	1817
2017	2182
2018	1717
2019	2220
2020	1833
2021	2193

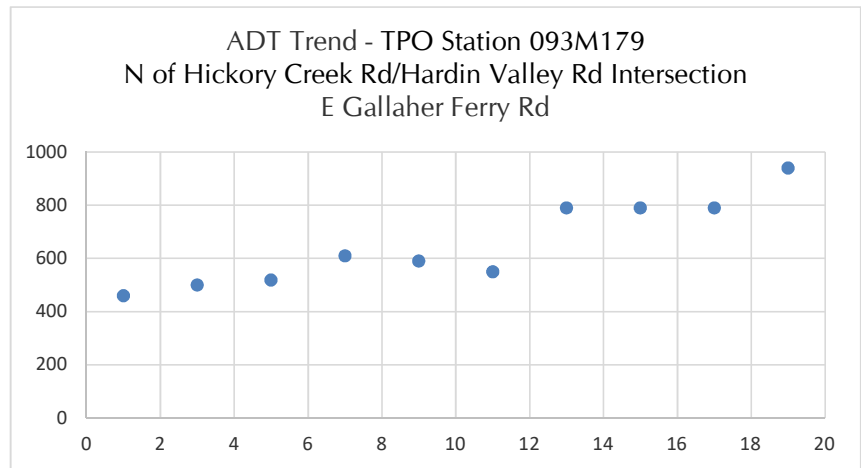


Most Recent Trend Line Growth

Year	ADT
2011	1564
2021	2193

Annual Percent Growth	2.87%
-----------------------	-------

Year	Adjusted Average Daily Traffic
2001	460
2003	500
2005	519
2007	610
2009	590
2011	550
2013	790
2015	790
2017	790
2019	940



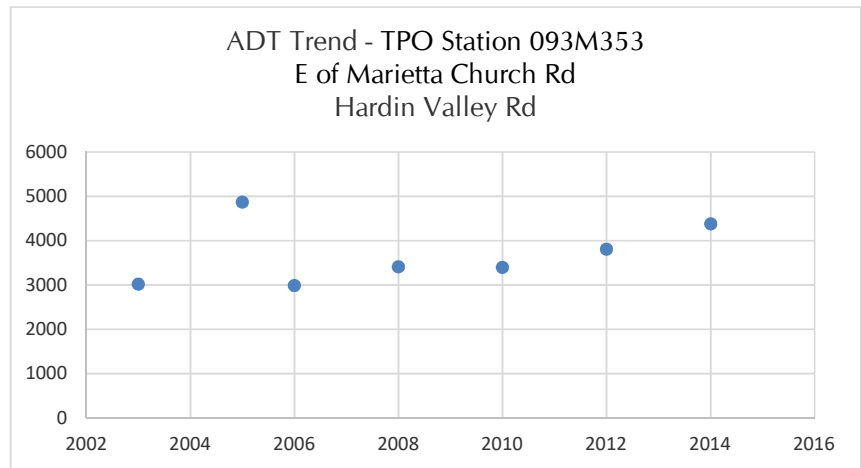
Most Recent Trend Line Growth

Year	ADT
2009	590
2019	940

Annual Percent Growth	3.72%
------------------------------	--------------

Adjusted
Average Daily

Year	Traffic
2003	3020
2004	
2005	4871
2006	2990
2007	
2008	3410
2009	
2010	3400
2011	
2012	3810
2013	
2014	4380
2015	
2016	5340
2017	
2018	
2019	6920
2020	6110



Most Recent Trend Line Growth

Year	ADT
2010	3400
2020	6110

Annual Percent Growth	4.44%
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Attachment 4

Trip Generation

Project: W Gallaher Ferry Road Subdivision

Date Conducted: 03/23/2022

Single-Family Detached Housing (LUC 210)

81 Single Family Lots

Average Daily Traffic

$$\ln(T) = 0.92\ln(X) + 2.68$$

$$\ln(T) = 0.92\ln(81) + 2.68$$

$$T = 831$$

Peak Hour of Adjacent Street Traffic

One Hour Between 7 and 9 a.m.

$$\ln(T) = 0.91\ln(X) + 0.12$$

$$\ln(T) = 0.91\ln(81) + 0.12$$

$$T = 61$$

Peak Hour of Adjacent Street Traffic

One Hour Between 4 and 6 p.m.

$$\ln(T) = 0.94\ln(X) + 0.27$$

$$\ln(T) = 0.94\ln(81) + 0.27$$

$$T = 82$$

Time Period	Total Trips	Percent		Number	
		Enter	Exit	Enter	Exit
Weekday (24 hours)	831	50%	50%	416	416
AM Peak Hour	61	26%	74%	16	45
PM Peak Hour	82	63%	37%	52	30

Land Use: 210

Single-Family Detached Housing

Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates based on a small sample of sites are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 251), and higher than those for senior adult housing -- single-family (Land Use 251). Further analysis of this housing type will be conducted in a future edition of *Trip Generation Manual*.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

For 30 of the study sites, data on the number of residents and number of household vehicles are available. The overall averages for the 30 sites are 3.6 residents per dwelling unit and 1.5 vehicles per dwelling unit.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Arizona, California, Connecticut, Delaware, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Jersey, North Carolina, Ohio, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, Virginia, and West Virginia.

Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077, 1078, 1079

Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 174

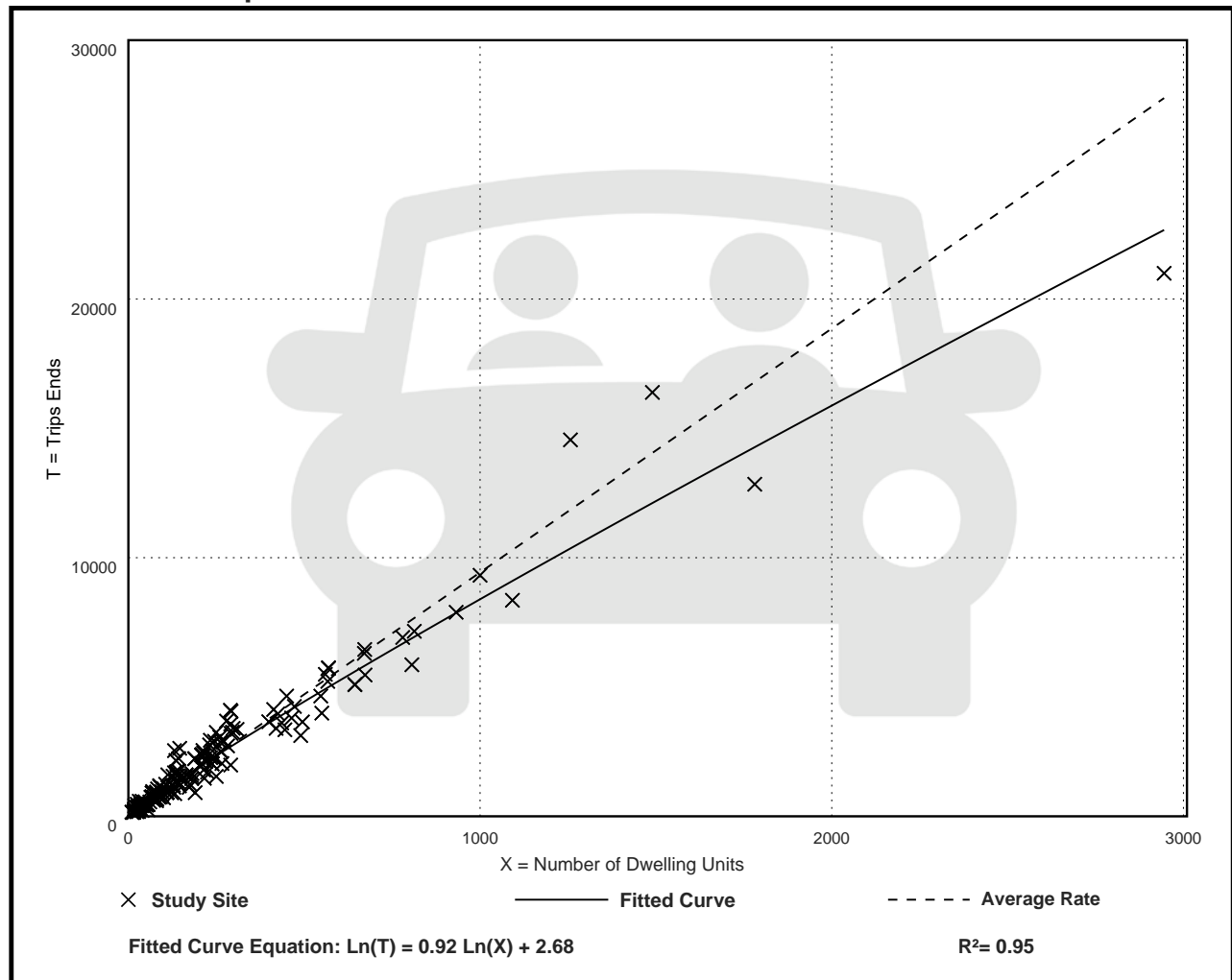
Avg. Num. of Dwelling Units: 246

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

Data Plot and Equation



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: 192

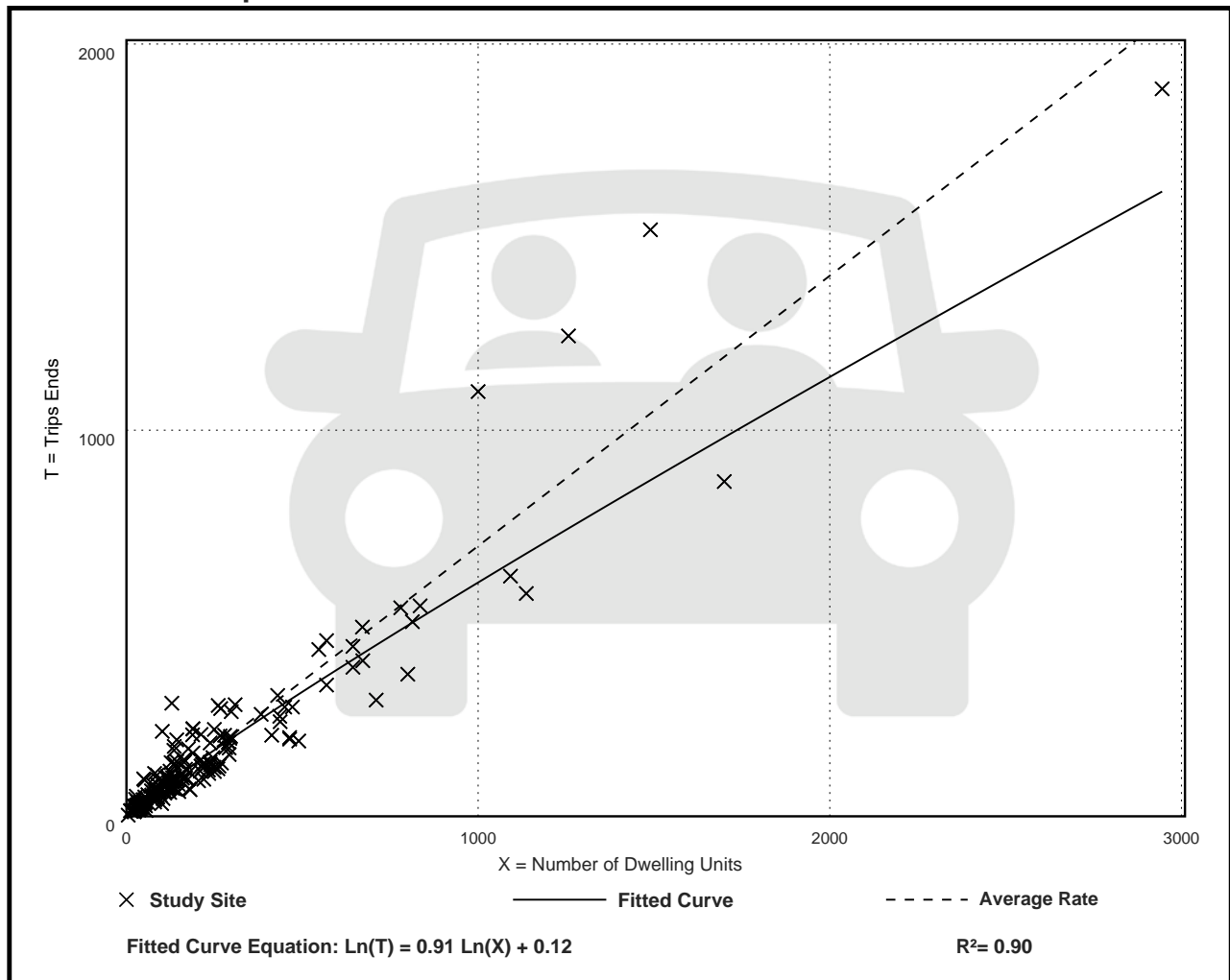
Avg. Num. of Dwelling Units: 226

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



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: 208

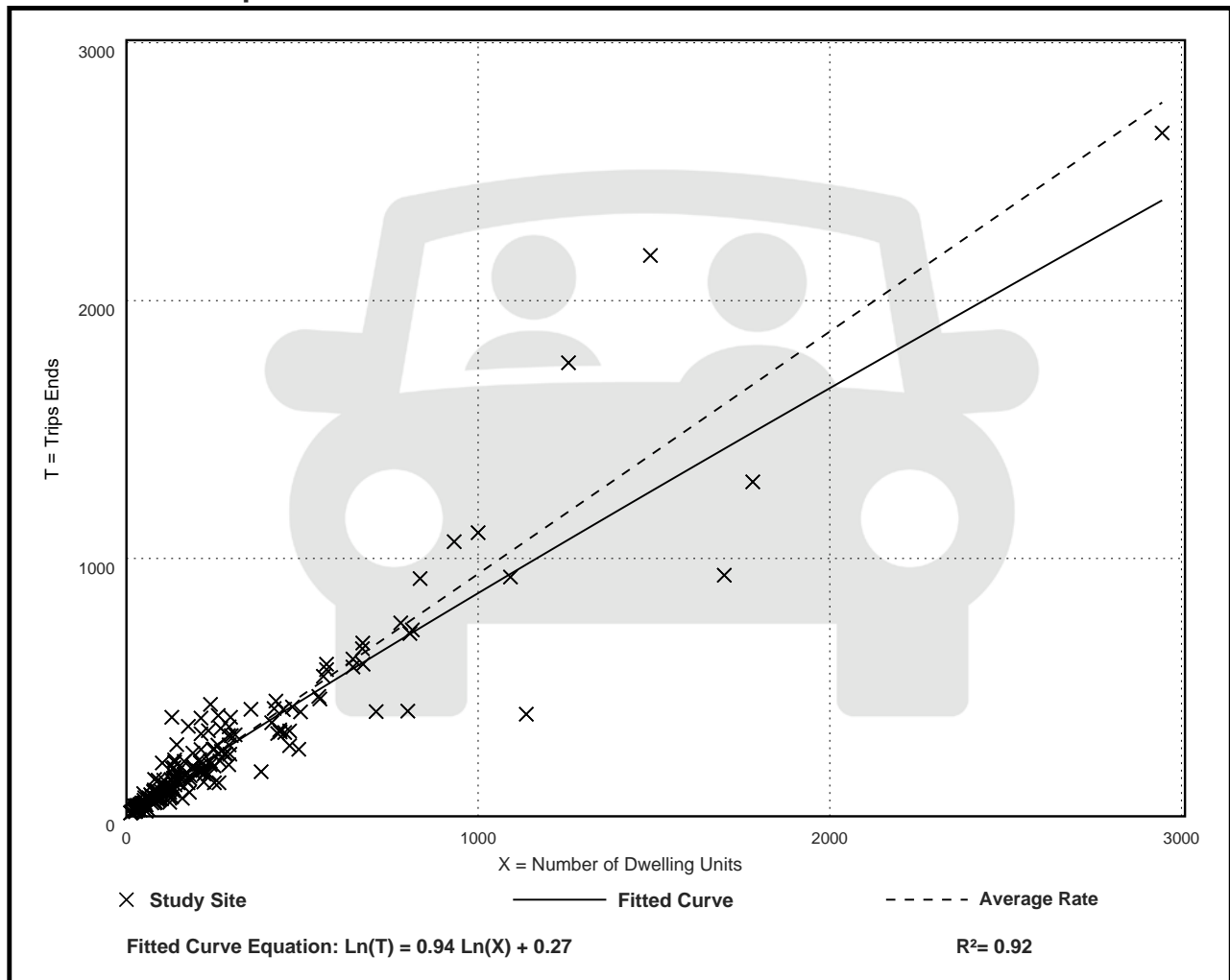
Avg. Num. of Dwelling Units: 248

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



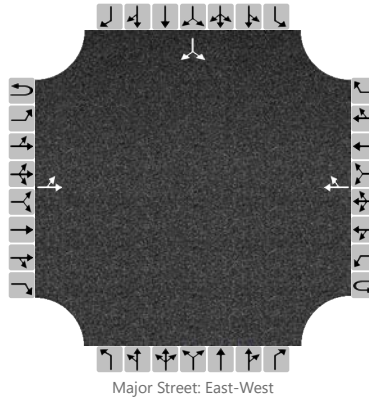
Attachment 5
Intersection Worksheets – Existing AM/PM Peaks

HCS7 Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	W Gallaher at Hickory Cr
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	2/28/2022	East/West Street	Hickory Creek Road
Analysis Year	2022	North/South Street	W Gallaher Ferry Road
Time Analyzed	Existing AM Peak	Peak Hour Factor	0.84
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	592.014 - W Gallaher Ferry Rd S/D		

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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		1	141				59	10						34		6
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

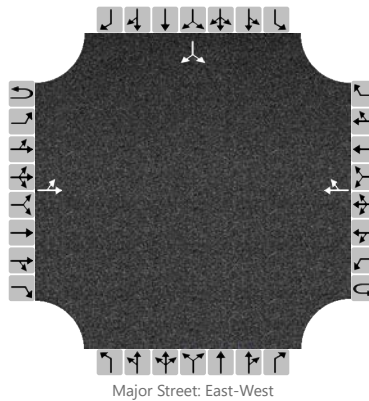
Flow Rate, v (veh/h)		1													47	
Capacity, c (veh/h)		1514													770	
v/c Ratio		0.00													0.06	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.4													10.0	
Level of Service, LOS		A													A	
Approach Delay (s/veh)	0.0												10.0			
Approach LOS													A			

HCS7 Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	W Gallaher at Hickory Cr
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	2/28/2022	East/West Street	Hickory Creek Road
Analysis Year	2022	North/South Street	W Gallaher Ferry Road
Time Analyzed	Existing PM Peak	Peak Hour Factor	0.97
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	592.014 - W Gallaher Ferry Rd S/D		

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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		7	86				133	20						18		3
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7													22	
Capacity, c (veh/h)		1421													753	
v/c Ratio		0.00													0.03	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		7.5													9.9	
Level of Service, LOS		A													A	
Approach Delay (s/veh)	0.6												9.9			
Approach LOS													A			

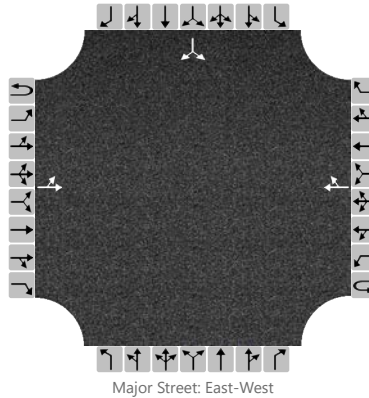
Attachment 6
Intersection Worksheets – Background AM/PM Peaks

HCS7 Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	W Gallaher at Hickory Cr
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	2/28/2022	East/West Street	Hickory Creek Road
Analysis Year	2025	North/South Street	W Gallaher Ferry Road
Time Analyzed	Background AM Peak	Peak Hour Factor	0.84
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	592.014 - W Gallaher Ferry Rd S/D		

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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		1	159				66	11						38		7
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

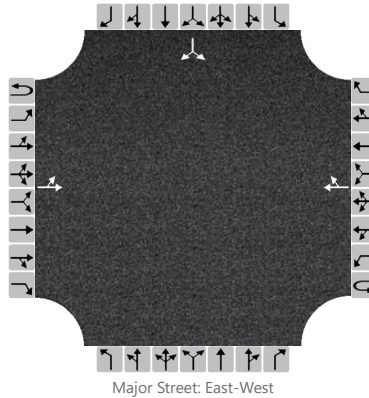
Flow Rate, v (veh/h)		1													53	
Capacity, c (veh/h)		1502													743	
v/c Ratio		0.00													0.07	
95% Queue Length, Q ₉₅ (veh)		0.0													0.2	
Control Delay (s/veh)		7.4													10.2	
Level of Service, LOS		A													B	
Approach Delay (s/veh)	0.0												10.2			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	W Gallaher at Hickory Cr
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	2/28/2022	East/West Street	Hickory Creek Road
Analysis Year	2025	North/South Street	W Gallaher Ferry Road
Time Analyzed	Background PM Peak	Peak Hour Factor	0.97
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	592.014 - W Gallaher Ferry Rd S/D		

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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		8	97				150	22						20		3
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		8													24	
Capacity, c (veh/h)		1397													722	
v/c Ratio		0.01													0.03	
95% Queue Length, Q ₉₅ (veh)		0.0													0.1	
Control Delay (s/veh)		7.6													10.2	
Level of Service, LOS		A													B	
Approach Delay (s/veh)	0.6												10.2			
Approach LOS													B			

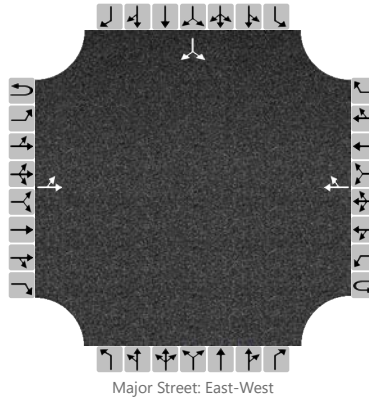
Attachment 7
Intersection Worksheets – Full Buildout AM/PM Peaks

HCS7 Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	W Gallaher at Hickory Cr
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	3/23/2022	East/West Street	Hickory Creek Road
Analysis Year	2025	North/South Street	W Gallaher Ferry Road
Time Analyzed	Full Buildout AM Peak	Peak Hour Factor	0.84
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	592.014 - W Gallaher Ferry Rd S/D		

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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		3	159				66	25						76		14
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

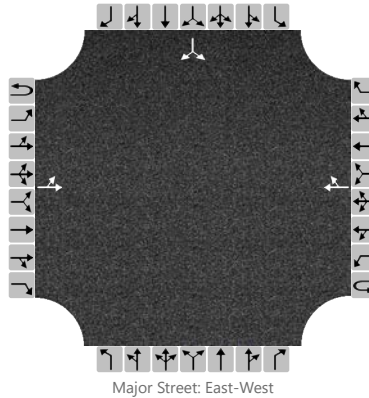
Flow Rate, v (veh/h)		4													107	
Capacity, c (veh/h)		1480													729	
v/c Ratio		0.00													0.15	
95% Queue Length, Q ₉₅ (veh)		0.0													0.5	
Control Delay (s/veh)		7.4													10.8	
Level of Service, LOS		A													B	
Approach Delay (s/veh)	0.2												10.8			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

General Information

Analyst	Addie Kirkham	Intersection	W Gallaher at Hickory Cr
Agency/Co.	Ardurra	Jurisdiction	Knox County
Date Performed	2/28/2022	East/West Street	Hickory Creek Road
Analysis Year	2025	North/South Street	W Gallaher Ferry Road
Time Analyzed	Full Buildout PM Peak	Peak Hour Factor	0.97
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	592.014 - W Gallaher Ferry Rd S/D		

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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		16	97				150	66						45		8
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		16													54	
Capacity, c (veh/h)		1345													687	
v/c Ratio		0.01													0.08	
95% Queue Length, Q ₉₅ (veh)		0.0													0.3	
Control Delay (s/veh)		7.7													10.7	
Level of Service, LOS		A													B	
Approach Delay (s/veh)	1.1												10.7			
Approach LOS													B			

Attachment 8
Turn Lane Warrant Analysis

TABLE 4A

LEFT-TURN LANE VOLUME THRESHOLDS FOR TWO-LANE ROADWAYS WITH A PREVAILING SPEED OF 35 MPH OR LESS

(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	AM Peak 16 LT	170	140	115	100	80
250 - 299	PM Peak 52 LT	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	460	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.

TABLE 4B
RIGHT-TURN LANE VOLUME THRESHOLDS
FOR TWO-LANE ROADWAYS WITH A PREVAILING SPEED OF 35 MPH OR LESS

RIGHT-TURN VOLUME	THROUGH VOLUME PLUS LEFT-TURN VOLUME *					
	<100	100 - 199	200 - 249	250 - 299	300 - 349	350 - 399
Fewer Than 25						
25 - 49						
50 - 99	AM Peak 0 RT PM Peak 0 RT					
100 - 149						
150 - 199						
200 - 249						Yes
250 - 299						
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 - 600	+ / > 600
Fewer Than 25						Yes
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.

TABLE 5A

LEFT-TURN LANE VOLUME THRESHOLDS
FOR TWO-LANE ROADWAYS WITH A PREVAILING SPEED OF 36 TO 45 MPH

(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	250	180	AM Peak 3 LT	110	80	70
150 - 199	200	140	105	90	70	60
200 - 249	160	115	PM Peak 16 LT	75	65	55
250 - 299	130	100	75	65	60	50
300 - 349	110	90	70	60	55	45
350 - 399	100	80	65	55	50	40
400 - 449	90	70	60	50	45	35
450 - 499	80	65	55	45	40	30
500 - 549	70	60	45	35	35	25
550 - 599	65	55	40	35	30	25
600 - 649	60	45	35	30	25	25
650 - 699	55	35	35	30	25	20
700 - 749	50	35	30	25	20	20
750 or More	45	35	25	25	20	20

OPPOSING VOLUME	THROUGH VOLUME PLUS RIGHT-TURN VOLUME *					
	350 - 399	400 - 449	450 - 499	500 - 549	550 - 599	=/ > 600
100 - 149	70	60	50	45	40	35
150 - 199	60	55	45	40	35	30
200 - 249	55	50	40	35	30	30
250 - 299	50	45	35	30	30	30
300 - 349	45	40	35	30	25	25
350 - 399	40	35	30	25	25	20
400 - 449	35	30	30	25	20	20
450 - 499	30	25	25	20	20	20
500 - 549	25	25	20	20	20	15
550 - 599	25	20	20	20	20	15
600 - 649	25	20	20	20	20	15
650 - 699	20	20	20	20	20	15
700 - 749	20	20	20	15	15	15
750 or More	20	20	20	15	15	15

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

TABLE 5B

**RIGHT-TURN LANE VOLUME THRESHOLDS
FOR TWO-LANE ROADWAYS WITH A PREVAILING SPEED OF 36 TO 45 MPH**

RIGHT-TURN VOLUME	THROUGH VOLUME PLUS LEFT-TURN VOLUME *					
	<100	100 - 199	200 - 249	250 - 299	300 - 349	350 - 399
Fewer Than 25 25 - 49 50 - 99						
100 - 149 150 - 199	AM Peak 25 RT	PM Peak 66 RT				
200 - 249 250 - 299					Yes	Yes Yes
300 - 349 350 - 399			Yes	Yes Yes	Yes Yes	Yes Yes
400 - 449 450 - 499		Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
500 - 549 550 - 599	Yes	Yes Yes	Yes Yes	Yes 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 - 600	+ / > 600
Fewer Than 25 25 - 49 50 - 99				Yes	Yes Yes	Yes Yes
100 - 149 150 - 199		Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
200 - 249 250 - 299	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
300 - 349 350 - 399	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
400 - 449 450 - 499	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
500 - 549 550 - 599	Yes Yes	Yes Yes	Yes Yes	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.

Attachment 9

Sight Distance



W Gallaher Ferry Road at Driveway Connection – Looking South



W Gallaher Ferry Road at Driveway Connection – Looking North



Date: March 25, 2022

Project Name: W. Gallaher Ferry Rd Subdivision

To: Knoxville-Knox County Planning

Subject: W. Gallaher Ferry Rd Subdivision TIS Comments (4-E-22-C/4-I-22-UR)

Dear Knoxville-Knox County Planning staff,

The following comment response document is submitted to address comments dated March 14, 2022:

- 1. Reviewer Comment:** Please correct the reference from TDOT to instead be Knox County as the agency responsible for the roundabout project at Hickory Creek Rd/Hardin Valley Rd at E. Gallaher Ferry Rd.

Response: On page 10, Section 3.1 of the TIA, the reference to TDOT as the agency responsible for the roundabout project was corrected to "Knox County Engineering and Public Works."

- 2. Reviewer Comment:** It appears that an incorrect formula/miscalculation was done for the AM Peak trip generation. The value should be 61 total trips instead of the 79 that were computed. Please either update all analyses with the correct value (preferred) or state that the analyses were done with a more conservative value so any conclusions/recommendations are still valid.

Response: The formula used to calculate the AM Peak Trip Generation was corrected and updated in Attachment 4 and in Table 4-1. Figure 6 and Figure 7 were updated as well as the HCS7 report for the Full Buildout AM Peak Hour in Attachment 7 and the turn lane warrants in Attachment 8.

- 3. Reviewer Comment:** Please correct the start time of the A.M. peak hour to be 7:15 a.m. on the traffic count summary page in the attachments.

Response: The start time of the AM peak hour was corrected to be 7:15 A.M. on the traffic count summary page in the attachments.

- 4. Reviewer Comment:** The TIS should not explicitly state the width of the realigned section of W Gallaher Ferry Rd since this will need to be determined in conjunction with Knox County Engineering & Public Works. A 26' wide road may be undesirable in this situation due to encouraging on-street parking. While this road is not specifically classified as a collector in the Major Road Plan it clearly functions

more like one than a typical local subdivision street and the TIS should acknowledge this.

Response: The explicitly stated width of the realigned section of W Gallaher Ferry Road (23') was removed from the TIA on pages 3 and 4. On page 21, section 7.3, it was noted that the road functions similarly to a collector more than a typical local subdivision street, and any proposed roadway improvements need to be coordinated with Knox County Engineering & Public Works.

5. **Reviewer Comment:** The TIS needs to state additional background regarding the realignment of W Gallaher Ferry Rd and how it will improve the intersection angle at Hickory Creek Rd. Also, please include acknowledgement of the road realignment in the conclusions/recommendations section of the TIS.

Response: On page 21, added Section 7.3 W Gallaher Ferry Road to the Conclusions and Recommendations.

6. **Reviewer Comment:** The TIS should also note that any existing sight distance measurements may not reflect the future conditions after the road realignment and will need to be re-verified. Also, include a statement about the need to verify sight distance is available for all future driveway connections shown for the new lots in this subdivision that are fronting on W Gallaher Ferry Rd.

Response: On page 20, section 7.1, it was noted that existing sight distance measurements may not reflect future conditions at the intersection after road realignment and will required re-verification. On page 21, section 7.2, it was noted that existing sight distance measurements may not reflect future conditions at the intersection after road realignment and will require re-verification; It was also noted that sight distance must be verified for all future driveway connections shown for lots in the subdivision that are fronting on W Gallaher Ferry Road.

Sincerely,



Addie Kirkham, P.E.