



1100 Marion St., Suite 300
Knoxville, Tennessee 37921
tel: 865.963.4300
fax: 865.524-5311

6-SC-22-C / 6-E-22-UR
TIL Version 2
5/23/2022

April 29, 2022
Revised May 20, 2022

Mr. Justin Morgan
Everett Land Development, LLC
134 Rutledge Pike
Blaine, TN 37709

RE: EVERETT WOODS, TRAFFIC IMPACT LETTER (TIL), KNOXVILLE COUNTY, TN.

Dear Mr. Morgan:

CDM Smith has completed its review and analysis for an additional 15 residential units with the development of Everett Woods and its restricted access from Yarnell Road. This review included a comparison of the trips generated for 184 residential units with the previous planned residential density of 169 units studied with the Hickory Creek Residential Development prepared in February 2016. **Figure 1** shows the proposed site plan. Current zoning for the site and its vicinity is illustrated in **Figure 2**. The location of the proposed residential development is north of Everett Road and east of Yarnell Road. This site is north of Interstate 40/75 in west Knox County, Tennessee, near Loudon County. **Figure 3** illustrates the site location relative to local and regional access. The roadway classifications in the site vicinity are illustrated in **Figure 4**.

This Traffic Impact Letter (TIL) evaluated if any further impact of these additional residential units might result from those previously determined for the study prepared for the Vintage Knoxville West impact assessment prepared in December 2021, which addressed the development of both the Everett Woods and Vintage Knoxville West apartments. **Table 1** below provides for the trip generation, using **Trip Generation, 11th Edition**, for the 184 and 169 residential units and the increased number of trips for the site.

Table 1
Everett Woods Trip Generation

Land Use	Land-Use Code	Units	Daily Trips	AM Peak-Hour Trips		PM Peak-Hour Trips	
				Enter	Exit	Enter	Exit
Single-Family	210	184	1768	34	96	111	65
Single-Family	210	169	1635	31	89	103	60
	Change	15	133	3	7	8	5

Reference: Institute of Transportation Engineers TRIP GENERATION, 11th Edition



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As shown in the Everett Woods trip generation, an increase in the AM peak hour trips generated is 10 vehicles and the increase for the PM peak hour is 13 which would be distributed to both accesses to Everett Road and to Yarnell Road. The trip generation for the Vintage Knoxville West is provided in **Table 2**.

Table 2
Vintage Knoxville West Trip Generation

Land Use	Land-Use Code	Units	Daily Trips	AM Peak-Hour Trips		PM Peak-Hour Trips	
				Enter	Exit	Enter	Exit
Multi-Family	220	224	1,970	25	88	88	72

Reference: Knoxville/Knox Co. MPC trip rates adopted in July of 2000

Intersection geometry and traffic control is illustrated in **Figure 5**, and **Figure 6** illustrates the 2021 traffic turning movements for the Everett Woods access streets and for the adjacent intersection of Everett Road and Yarnell Road.

As developed and described in the Vintage Knoxville West traffic study, background traffic developed, limited to the traffic growth, excluding the Everett Woods and Vintage Knoxville West developments is illustrated **Figure 7**, reflecting traffic excluding the current Everett Woods traffic and grown at an annual growth rate of 3-percent from 2021 to 2025. **Figures 8A and 8B** illustrates the trip distribution for the Everett Woods and Vintage Knoxville West developments. The distributed of Everett Woods was also accounted for the restricted access from Cedar Break Drive. Resulting trips for the Vintage Knoxville West and Everett Woods sites are illustrated in **Figures 9A and 9B**, respectively. Projected traffic for 2025 with these developments is illustrated in **Figure 10**.

With this projected traffic, unsignalized analysis and turn lane warrants were conducted to determine if the trips from the additional 15 residential units resulted in any greater impact. Increased delays for the study intersections were negligible and volumes as determined for the Vintage Knoxville West traffic assessment are well below the required thresholds for turn lane consideration for the Everett Woods access streets of Yellow Glen Boulevard and Cedar Break Drive. **Table 3** present the unsignalized capacity and levels of service.

The proposed increase residential density of 15 units for Everett Woods is found to be negligible and the all previous findings and recommendations remain valid for the development.



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Table 3
Unsignalized Capacity and LOS

INTERSECTION	TRAFFIC CONTROL	PEAK PERIOD	V/C	DELAY	LOS
Everett Road & Yarnell Road	STOP	AM	0.35	14.9	B
	SB	PM	0.82	45.1	E
Everett Road & Yellow Glen Blvd/Apt Access E	STOP	AM	0.07 / 0.09	10.2 / 10.3	B / B
	NB/SB	PM	0.06 / 0.07	11.4 / 11.8	B / B
Yarnell Road & Cedar Break Drive	STOP	AM	0.07	10.1	B
	WB	PM	0.04	9.5	A

Note: Average vehicle delay estimated in seconds. STOP control analyses presented by total minor approaches.

If you have any questions regarding this Traffic Impact Letter, please call me.

Sincerely,
CDM Smith Inc.



John F. Gould, P.E.
Senior Transportation Engineer

Enclosures: Figures 1-10
 Turn Lane Warrant Evaluation
 HCM Unsignalized Capacity and LOS Analyses
 Trip Generation
 2021 Traffic without Existing Everett Woods Traffic
 2021 Traffic Counts

Project No. 273153



SITE PLAN

Everett
Woods

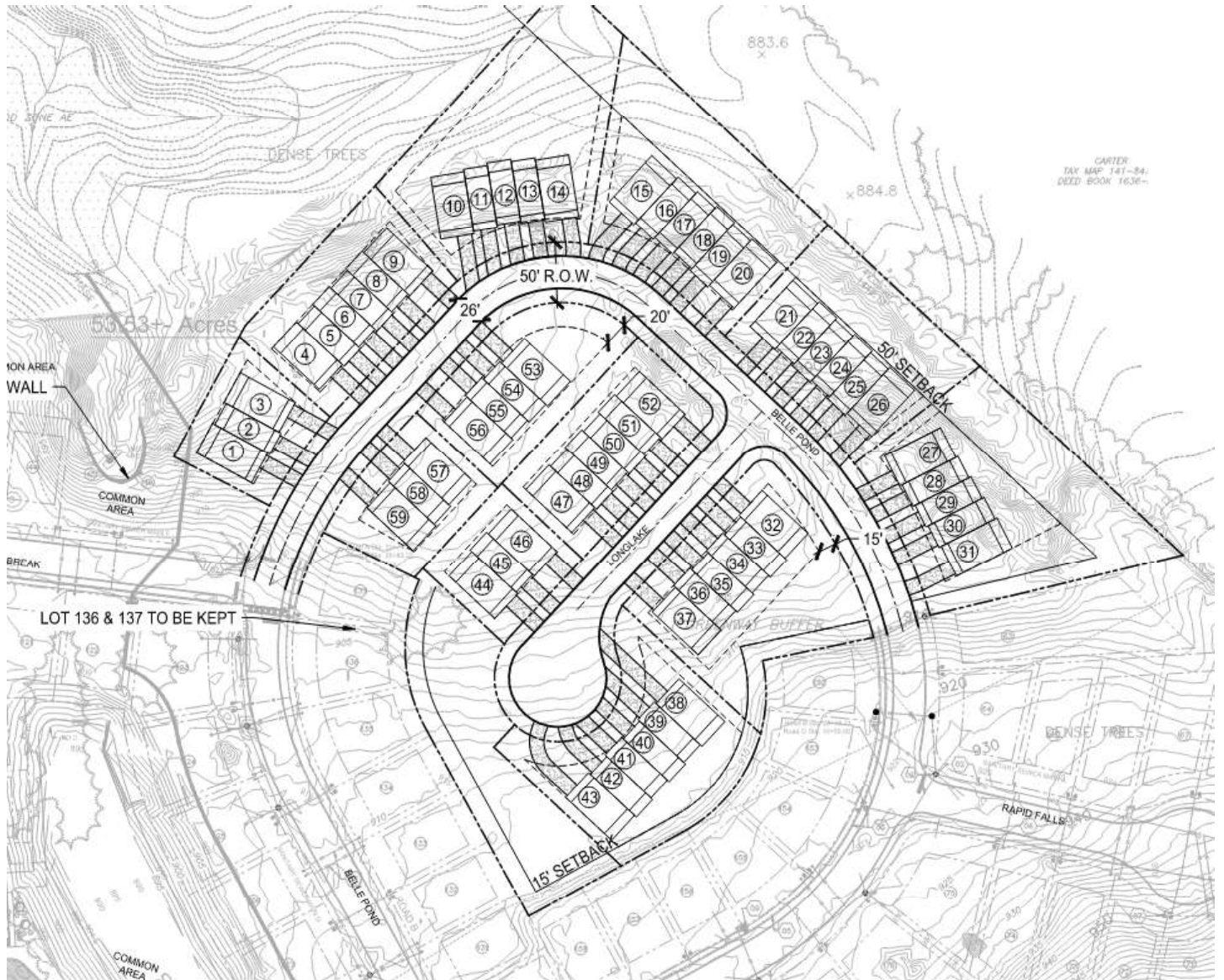


Figure 1

Woods

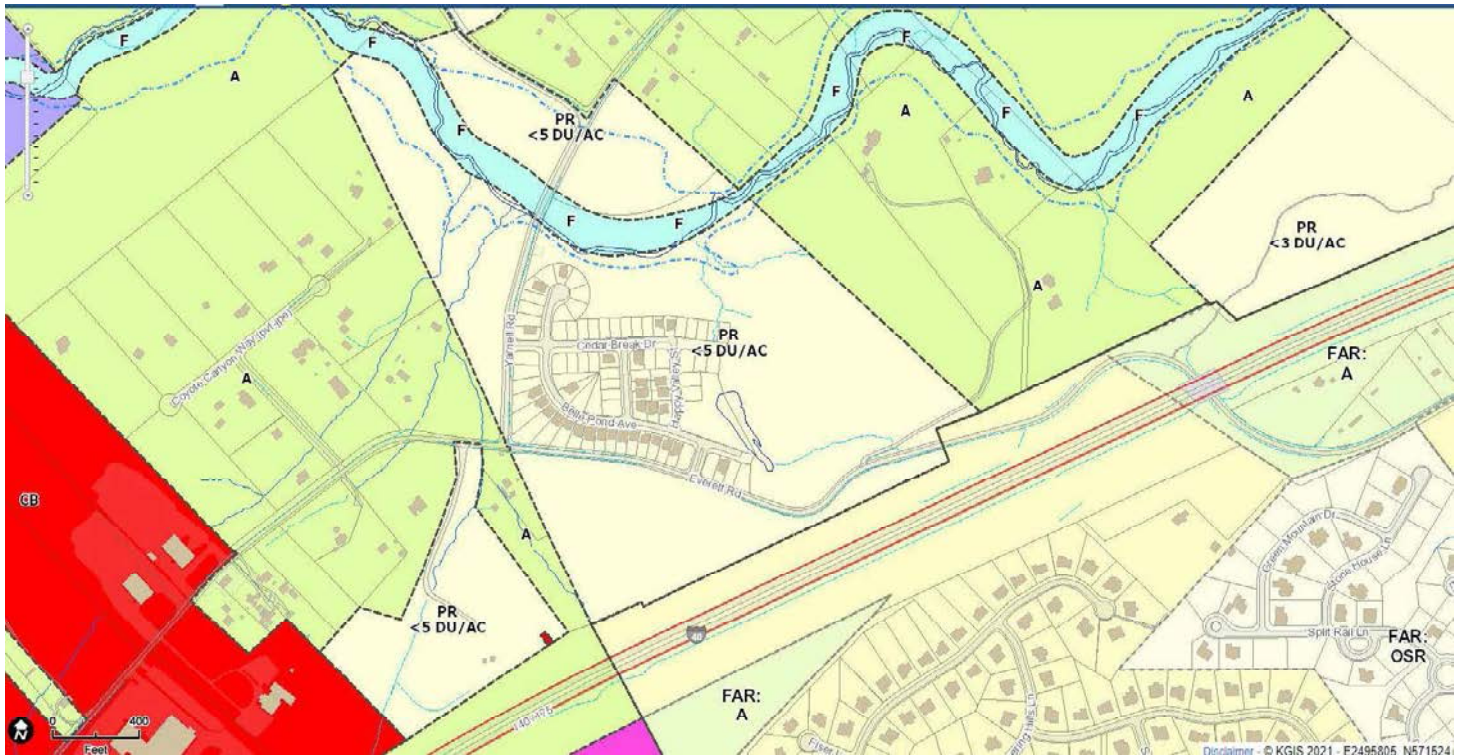


Figure 2

VICINITY
MAP
Everett
Woods

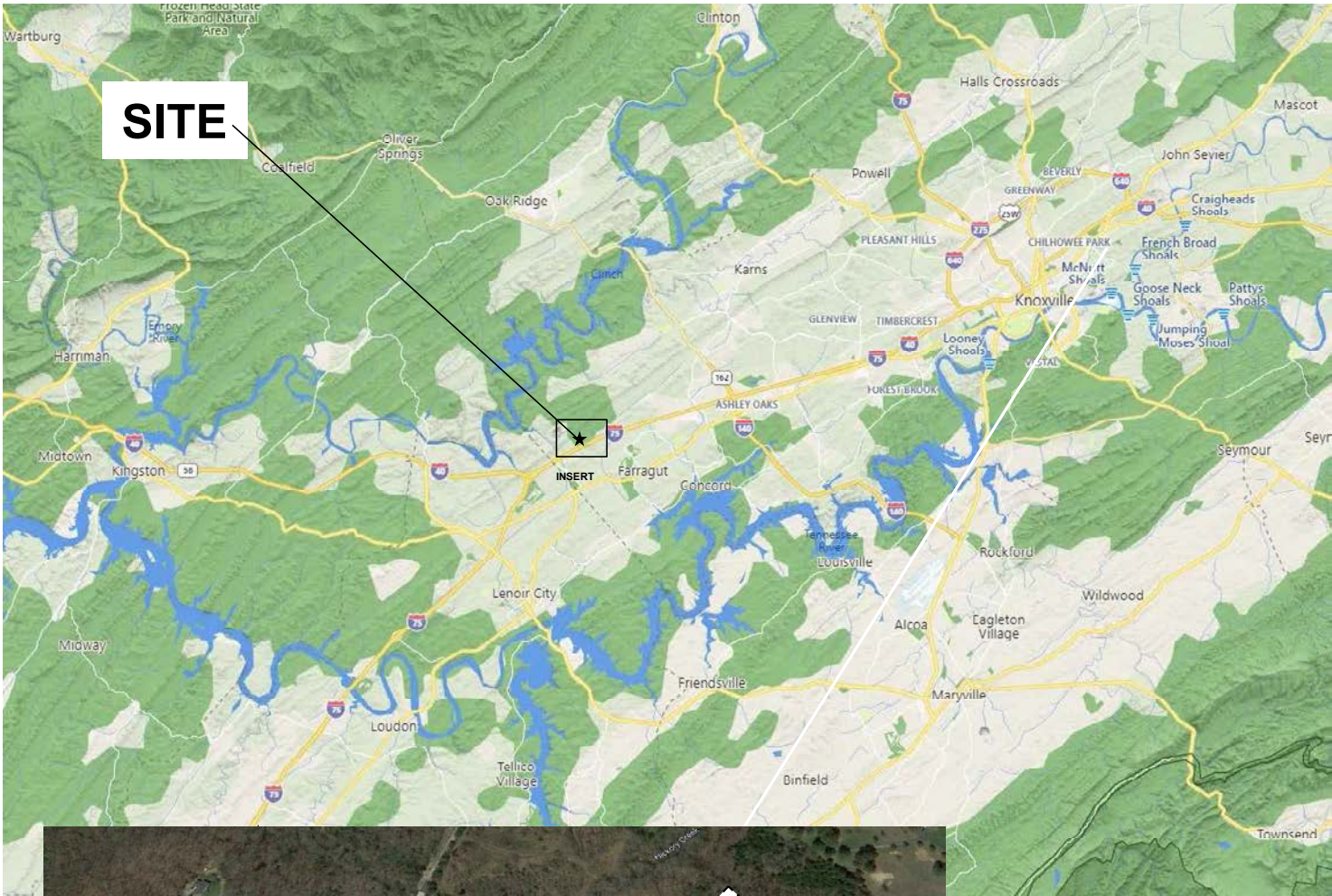


Figure 3

ROADWAY CLASSIFICATION

Everett
Woods

-  Interstate Highway
-  State Highway
-  U.S. Numbered Highway
-  Interstate
-  Freeway and Expressway
-  Principal Arterial
-  Minor Arterial
-  Major Collector
-  Minor Collector
-  National Highway System
-  Major Waterways
-  Park Boundary
-  City Boundary
-  Urban Boundary
-  County Boundary

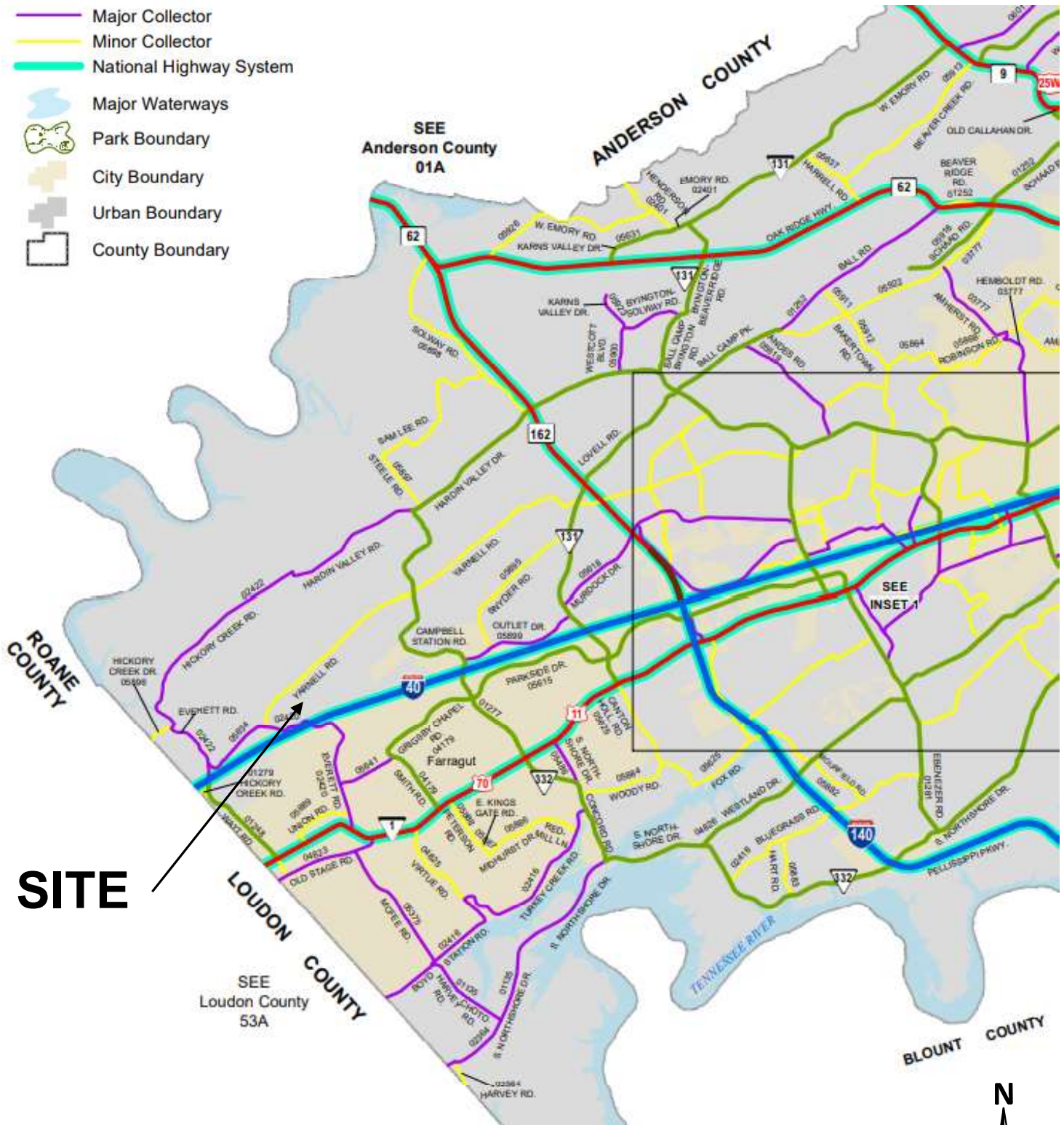
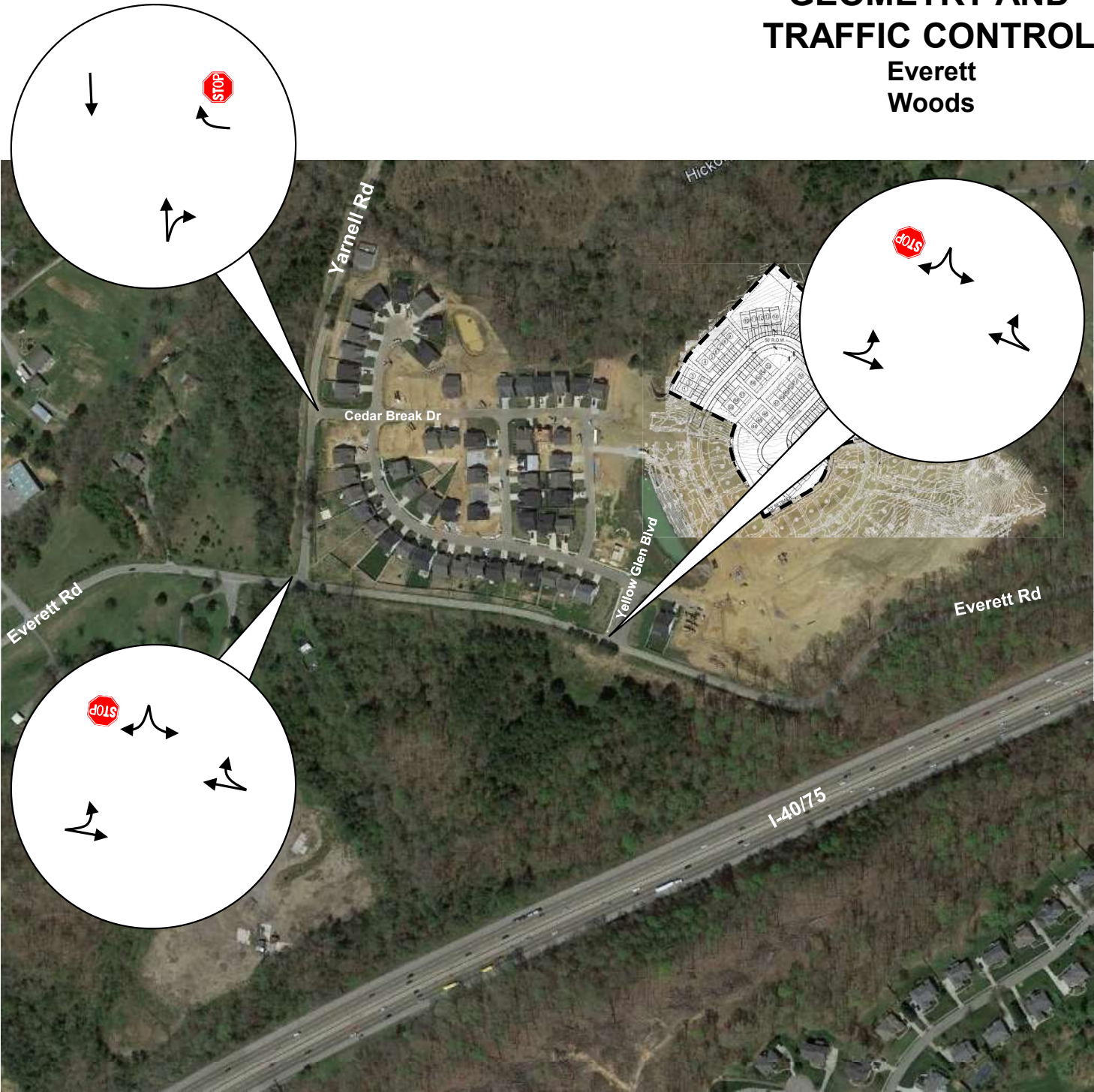


Figure 4

2022
**GEOMETRY AND
TRAFFIC CONTROL**
Everett
Woods



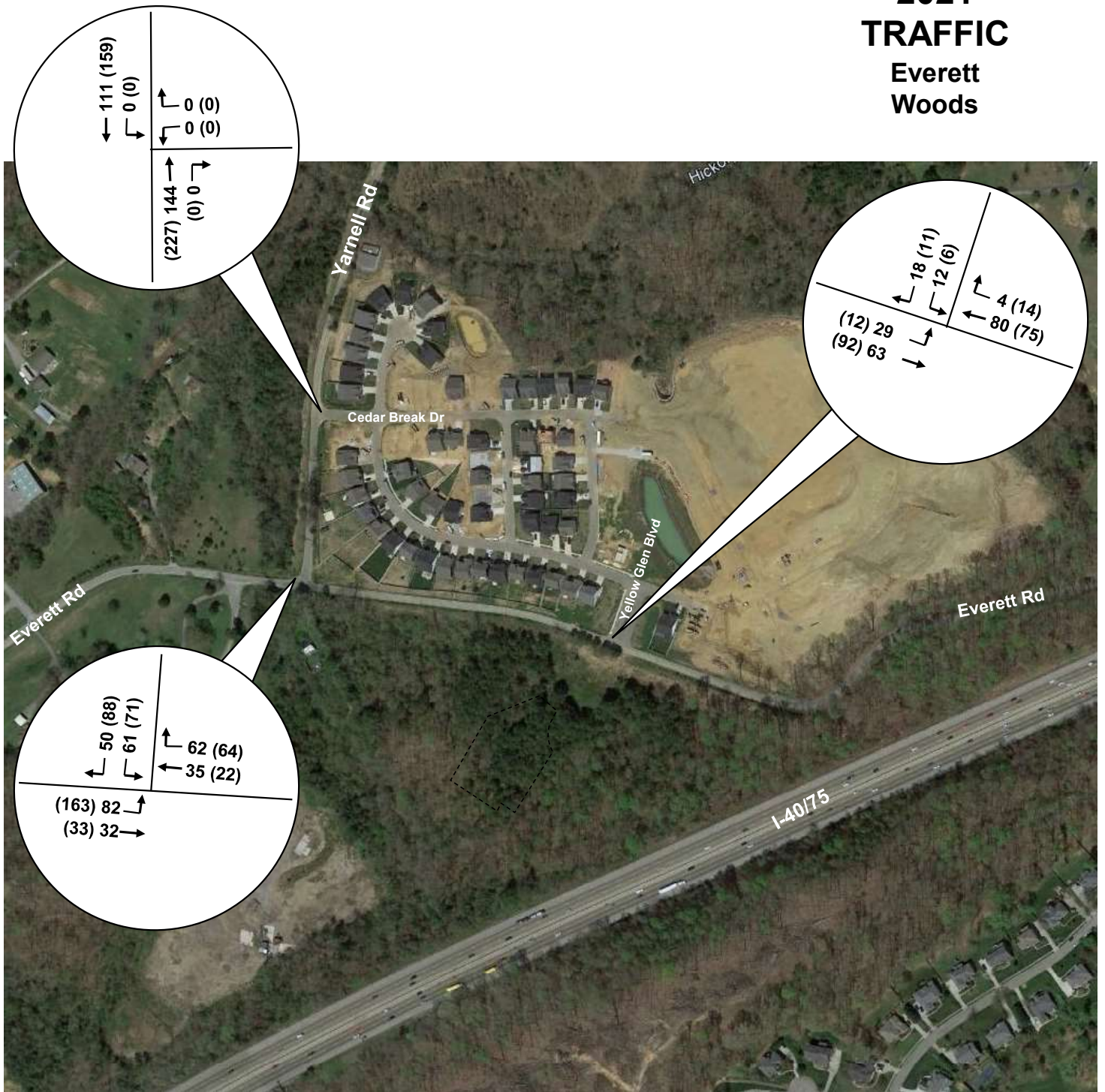
LEGEND

XXX AM PEAK
(XXX) PM PEAK



Figure 5

2021 TRAFFIC Everett Woods



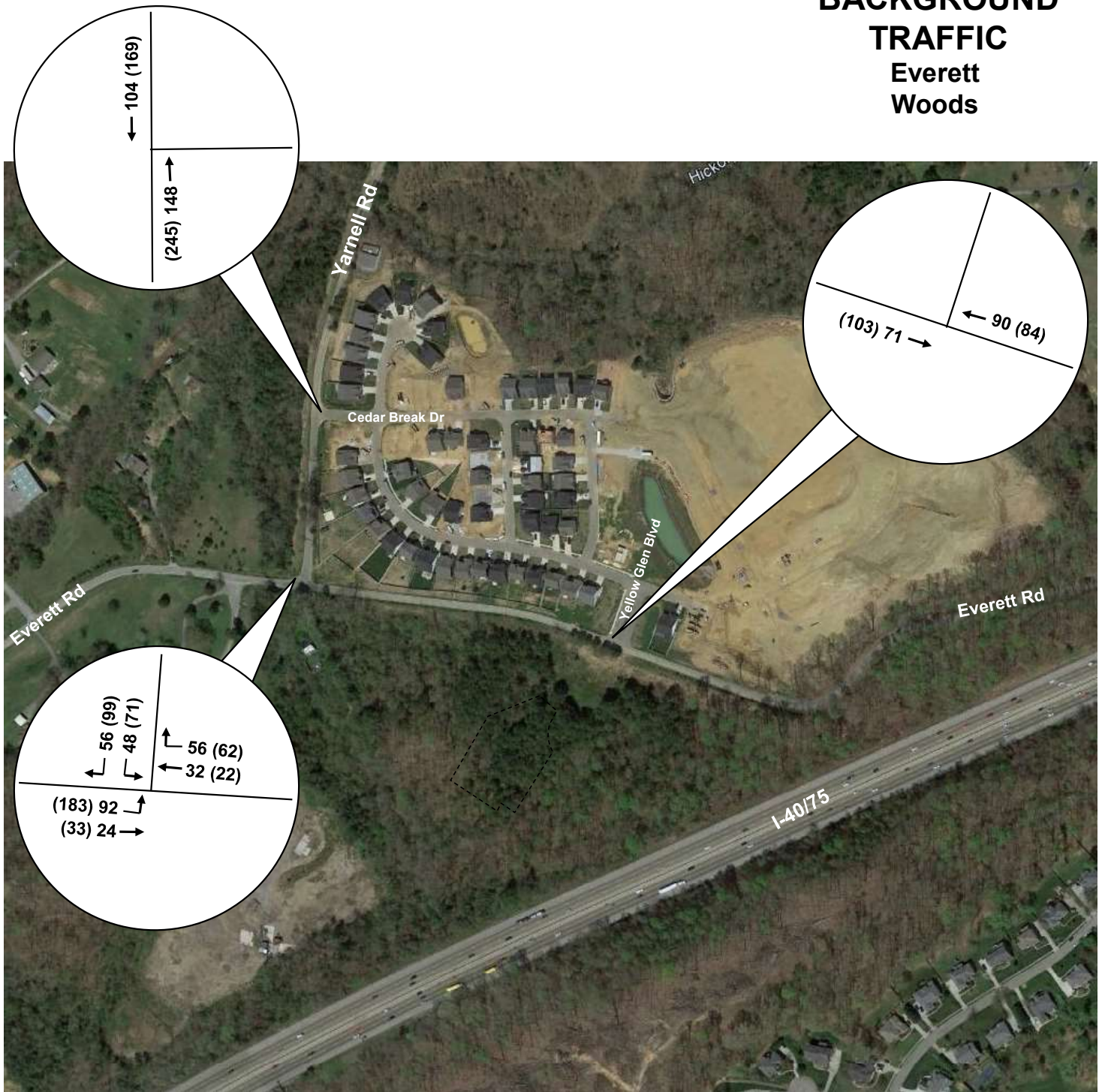
LEGEND

XXX AM PEAK
(XXX) PM PEAK



Figure 6

2025 BACKGROUND TRAFFIC Everett Woods



Traffic projections based on a 3.0% annual growth rate (Factor of 1.12) without Everett Woods and Vintage Knoxville West.

LEGEND

XXX AM PEAK
(XXX) PM PEAK



Figure 7

AM PEAK-HOUR TRIP DISTRIBUTION & ASSIGNMENT

Everett
Woods



LEGEND

XX% Entering Trips
(XX%) Exiting Trips



Figure 8A

PM PEAK-HOUR TRIP DISTRIBUTION & ASSIGNMENT

Everett
Woods



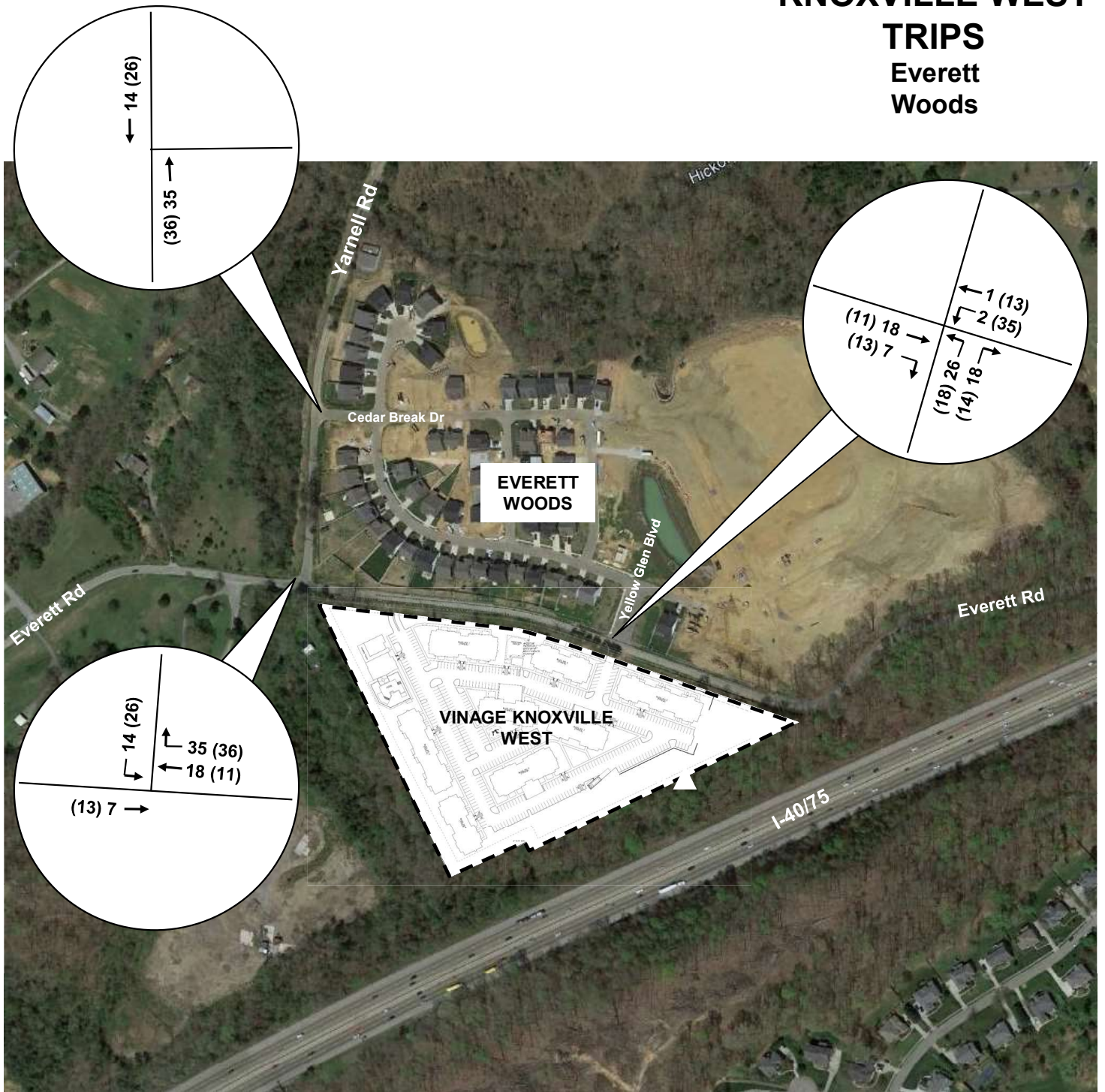
LEGEND

XX% Entering Trips
(XX%) Exiting Trips



Figure 8B

VINTAGE KNOXVILLE WEST TRIPS Everett Woods



LEGEND

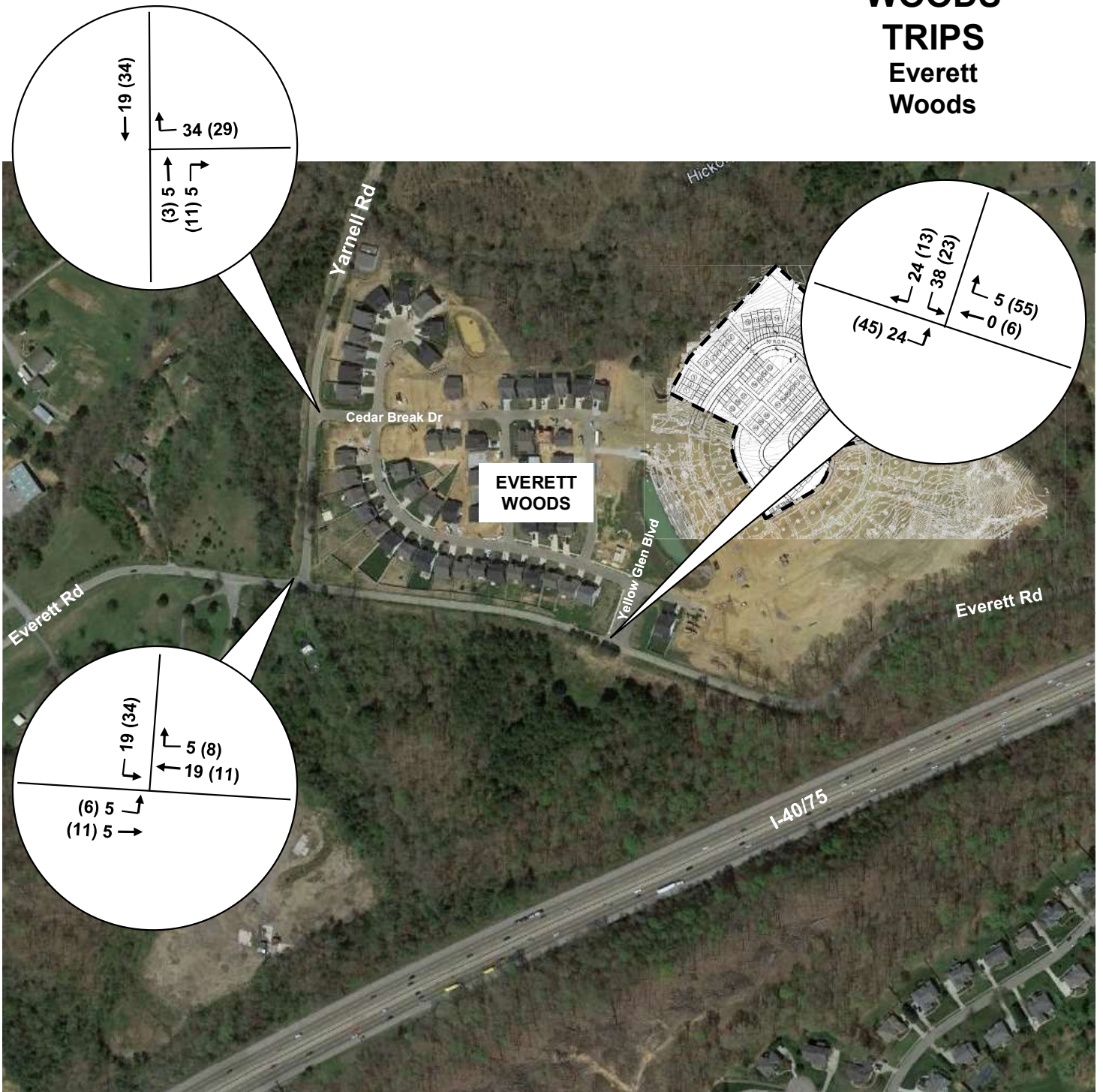
XXX AM PEAK
(XXX) PM PEAK



Figure 9A

EVERETT WOODS TRIPS

Everett
Woods



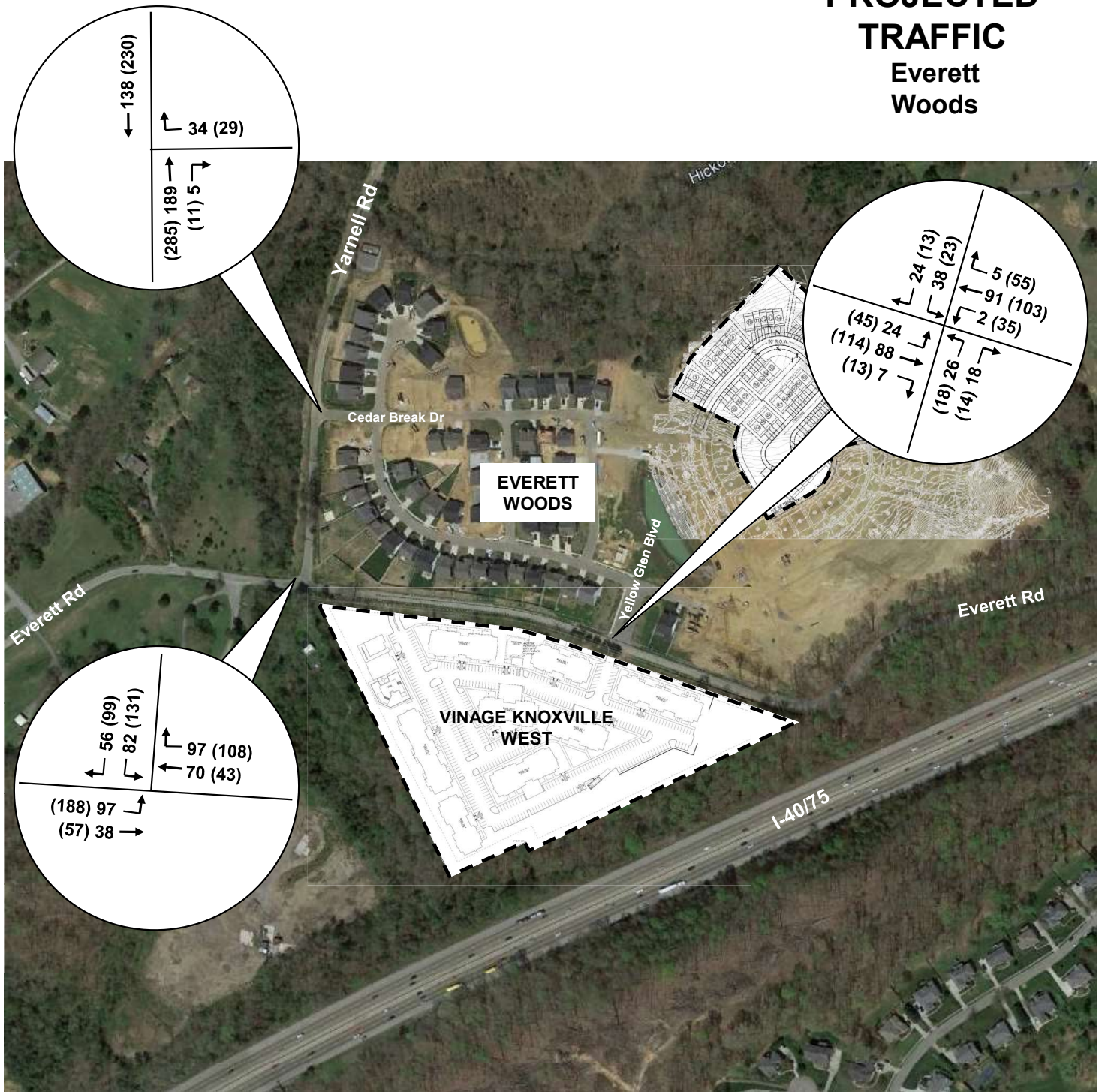
LEGEND

XXX AM PEAK
(XXX) PM PEAK



Figure 9B

2025 PROJECTED TRAFFIC Everett Woods



LEGEND

XXX AM PEAK
(XXX) PM PEAK



Figure 10

LEFT-TURN LANE PROPOSED EVERETT WOODS FROM EVERETT ROAD AND YARNELL ROAD

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	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.

RIGHT-TURN LANE PROPOSED EVERETT WOODS FROM EVERETT ROAD AND YARNELL ROAD

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	138 100 - 199	200 - 249	285 250 - 299	300 - 349	350 - 399
11 Fewer Than 25 25 - 49		NO	Cedar Break Drive			
55 50 - 99				NO	Yellow Glen Blvd	
100 - 149 150 - 199						
200 - 249 250 - 299						Yes
300 - 349 350 - 399				Yes	Yes Yes	Yes Yes
400 - 449 450 - 499			Yes Yes	Yes Yes	Yes Yes	Yes Yes
500 - 549 550 - 599		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
100 - 149 150 - 199			Yes	Yes Yes	Yes Yes	Yes Yes
200 - 249 250 - 299	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.

HCM 6th TWSC
3: Everett Road & Yarnell Road




05/18/2022

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	97	38	70	97	82	56
Future Vol, veh/h	97	38	70	97	82	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	67	67	64	64	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	57	109	152	115	79
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	261	0	-	0	532	185
Stage 1	-	-	-	-	185	-
Stage 2	-	-	-	-	347	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2,218	-	-	-	3,518	3,318
Pot Cap-1 Maneuver	1303	-	-	-	508	857
Stage 1	-	-	-	-	847	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1303	-	-	-	450	857
Mov Cap-2 Maneuver	-	-	-	-	450	-
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	716	-
Approach	EB	WB		SB		
HCM Control Delay, s	5.8	0		14.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1303	-	-	-	557	
HCM Lane V/C Ratio	0.111	-	-	-	0.349	
HCM Control Delay (s)	8.1	0	-	-	14.9	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.4	-	-	-	1.6	

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	88	7	2	91	5	26	1	18	38	1	24
Future Vol, veh/h	24	88	7	2	91	5	26	1	18	38	1	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	96	8	2	99	5	28	1	20	41	1	26
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	104	0	0	104	0	0	271	260	100	269	262	102
Stage 1	-	-	-	-	-	-	152	152	-	106	106	-
Stage 2	-	-	-	-	-	-	119	108	-	163	156	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1488	-	-	1488	-	-	682	645	956	684	643	953
Stage 1	-	-	-	-	-	-	850	772	-	900	807	-
Stage 2	-	-	-	-	-	-	885	806	-	839	769	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1488	-	-	1488	-	-	653	632	956	659	630	953
Mov Cap-2 Maneuver	-	-	-	-	-	-	653	632	-	659	630	-
Stage 1	-	-	-	-	-	-	834	757	-	883	806	-
Stage 2	-	-	-	-	-	-	859	805	-	805	754	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.5			0.2			10.2			10.3		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	747	1488	-	-	1488	-	-	746				
HCM Lane V/C Ratio	0.065	0.018	-	-	0.001	-	-	0.092				
HCM Control Delay (s)	10.2	7.5	0	-	7.4	0	-	10.3				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.3				




HCM 6th TWSC
7: Yarnell Road & Cedar Break Drive





05/18/2022

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	34	189	5	0	138
Future Vol, veh/h	0	34	189	5	0	138
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	37	205	5	0	150
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	208	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	832	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	832	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.5	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBT		
Capacity (veh/h)	-	832		-		
HCM Lane V/C Ratio	-	0.044		-		
HCM Control Delay (s)	-	9.5		-		
HCM Lane LOS	-	A		-		
HCM 95th %tile Q(veh)	-	0.1		-		

HCM 6th TWSC
3: Everett Road & Yarnell Road

05/18/2022

Intersection						
Int Delay, s/veh	18.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	188	57	43	108	131	99
Future Vol, veh/h	188	57	43	108	131	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	67	67	64	64	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	281	85	67	169	185	139
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	236	0	-	0	799	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	647	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1331	-	-	-	355	894
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	521	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	276	894
Mov Cap-2 Maneuver	-	-	-	-	276	-
Stage 1	-	-	-	-	682	-
Stage 2	-	-	-	-	521	-
Approach	EB	WB		SB		
HCM Control Delay, s	6.5	0		45.1		
HCM LOS				E		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1331	-	-	-	393	
HCM Lane V/C Ratio	0.211	-	-	-	0.824	
HCM Control Delay (s)	8.4	0	-	-	45.1	
HCM Lane LOS	A	A	-	-	E	
HCM 95th %tile Q(veh)	0.8	-	-	-	7.5	




Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	114	13	35	103	55	18	1	14	23	1	13
Future Vol, veh/h	48	114	13	35	103	55	18	1	14	23	1	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	124	14	38	112	60	20	1	15	25	1	14
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	172	0	0	138	0	0	461	483	131	461	460	142
Stage 1	-	-	-	-	-	-	235	235	-	218	218	-
Stage 2	-	-	-	-	-	-	226	248	-	243	242	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1405	-	-	1446	-	-	511	483	919	511	498	906
Stage 1	-	-	-	-	-	-	768	710	-	784	723	-
Stage 2	-	-	-	-	-	-	777	701	-	761	705	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1405	-	-	1446	-	-	476	450	919	476	464	906
Mov Cap-2 Maneuver	-	-	-	-	-	-	476	450	-	476	464	-
Stage 1	-	-	-	-	-	-	737	682	-	753	702	-
Stage 2	-	-	-	-	-	-	742	681	-	717	677	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.1			1.4			11.4			11.8		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	597	1405	-	-	1446	-	-	571				
HCM Lane V/C Ratio	0.06	0.037	-	-	0.026	-	-	0.07				
HCM Control Delay (s)	11.4	7.7	0	-	7.6	0	-	11.8				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-	0.2				

HCM 6th TWSC
7: Yarnell Road & Cedar Break Drive

05/18/2022

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	29	285	11	0	230
Future Vol, veh/h	0	29	285	11	0	230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	32	310	12	0	250

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	316	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	724	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	724	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	- 724	-
HCM Lane V/C Ratio	-	- 0.044	-
HCM Control Delay (s)	-	- 10.2	-
HCM Lane LOS	-	- B	-
HCM 95th %tile Q(veh)	-	- 0.1	-



MEMORANDUM

To: Traffic Impact Study Reviewers and Preparers (see attached list)

From: Mike Conger *MC*

Date: August 14, 2000

Subject: Local Trip Generation Rates for Multi-Family Residential Uses

Attached please find a summary of the final report with data plots for the Knox County Local Apartment Trip Generation Study. As you will recall, this report was discussed when the traffic impact study group last convened this past February. A consensus was reached at that meeting that the trip generation rates developed in the local study should be used for new apartment complexes and any other "multi-family" residential uses that are being proposed.

The MPC voted at its July 2000 meeting to officially amend the Traffic Impact Study Guidelines with language which reads that "trip generation rates for proposed uses shall be calculated using the latest edition of the ITE Trip Generation Manual, or using local data when it is available". This amendment allows the full implementation of the new rates, and they should be used for future proposed multi-family developments unless it can be demonstrated otherwise.

Thanks for your assistance and cooperation in this matter, if there are any questions or comments, please let me know.



Suite 403 • City County Building
400 Main Street
Knoxville, Tennessee 37902
865 • 215 • 2500
FAX • 215 • 2068
www.knoxmpc.org

TRAFFIC IMPACT STUDY REVIEWER & PREPARER GROUP

Name	Organization	Phone Number
Daniel Armstrong	Wilbur Smith	584-8584
Rusty Baksa	Land Dev. Solutions	671-2281
Kim Henry Begg	SITE, inc.	693-5010
Mark Best	TDOT	594-9170
Alan Childers	Cannon & Cannon	988-4818
Steve Drummer	Barge Waggoner	637-2810
Mark Geldmeier	City of Knoxville	215-6100
John Gould	Wilbur Smith	584-8584
Barbara Hatcher	SITE, inc.	693-5010
John Heid	AR/TEC	681-8848
Bill Kervin	Allen Hoshall	694-1834
Hollis Loveday	Wilbur Smith	584-8584
David McGinley	City of Knoxville	215-2148
David Moore	TDOT	594-9170
Linda Mosch	Consultant	777-2025
Amanda Rule	TDOT	594-9170
Cindy Pionke	Knox County	215-5800
Pam Porter	TDOT	594-9170
John Sexton	Allen Hoshall	694-1834
Jim Snowden	Knox County	215-5800
Darcy Sullivan	SITE, inc.	693-5010
Jeff Welch	MPC	215-2500

KNOX COUNTY

LOCAL APARTMENT TRIP GENERATION STUDY

PURPOSE

A Traffic Impact Study (TIS) is currently required in Knox County when a proposed development is projected to generate in excess of 750 trips per day. The determinations of when the threshold is met as well as all subsequent analyses in the TIS are performed using the rates and equations given in the Institute of Transportation Engineers (ITE) Trip Generation Manual. Local governmental agencies rely heavily on the accuracy of these trip generation rates in order to correctly predict the impacts of a proposed development on the transportation system. Therefore, in certain instances, it is logical to verify whether the “national” rates and equations given in the ITE Trip Generation Manual are appropriate for use in a specific local area or region.

The decision was made to study the local trip-making characteristics of apartments because of the discrepancy between the trip generation rates for apartments and single family residential land uses as given in the ITE Trip Generation Manual. While these two land uses are similar in nature, the Trip Generation Manual predicts about three less trips per dwelling unit generated by apartments for the average weekday. Additionally the Trip Generation Manual points out that due to the age of their database, which dates back to the 1960's, “the rates for apartments probably had changed over time”. It is also assumed that some of the ITE data had come from larger metropolitan areas with denser development and greater transit use than Knox County, which would contribute to lower trip generation rates. Therefore, this study will be used to either verify the rates given in the Trip Generation Manual or generate new ones that can be applied to locally proposed apartment developments.

PROCEDURE

The procedures recommended by ITE in conducting local trip generation studies were generally followed for this study, along with some important assumptions that have made. ITE has published a proposed recommended practice entitled “Trip Generation Handbook” which specifically outlines procedures for conducting local trip generation studies and establishing new rates and equations.

The first step in the study was to define the number and location of the sites to be studied, as well as the counting methodology. Initially 14 sites were selected, although one apartment complex – the College Park Apartments – was later omitted due to uncharacteristically high traffic generation numbers. The number of sites used in this study far exceeds the recommended minimum amount suggested by ITE, which is five sites. Traffic counts were taken for week-long periods at 15-minute intervals between July 22, 1996 and August 9, 1996 at the access points to the apartment complexes. A Technical Appendix to this report contains the traffic count data collected at each apartment complex.

RESULTS

The traffic count data was analyzed using spreadsheets in order to determine the weighted average rates and regression equations. In order to be considered valid, the local rates and equations for each time period of analysis that were generated must meet certain statistical criteria. First, the standard deviation of the independent variable (dwelling units) should be no more than 110 percent of the weighted average rate; and secondly, the regression equations require a computed coefficient of determination (R^2) value of at least 0.75 before good data fit is indicated. This statistical criteria is met by the local data results, and in fact it often exceeds the level of data fit given by their counterparts in the ITE Trip Generation Manual. Finally, in order to simplify the use of the local data, plots were generated that appear identical to the actual ones in the ITE Trip Generation Manual.

The resulting rates and equations calculated from the local data indicate that the average weekday trip generation of apartments in this area is well above the national rates reported in the ITE manual. For example, the locally computed average rate for number of trips generated during a weekday is 35% higher than the rate given by ITE (increase from 6.63 trips per dwelling unit to 9.03 trips per dwelling unit). The trip generation rates do not increase as much for the AM and PM peak hours however. The local rate is roughly 8% higher for the AM peak, and 16% higher for the PM peak. The plots from the ITE Trip Generation Manual are included in the Technical Appendix for comparison purposes.

ASSUMPTIONS MADE

Some important assumptions have been made which may affect the results of the local data that was collected:

- It is important to note that the local trip generation rates were computed for the *total* number of dwelling units in the apartment complex, and not necessarily for the number of *occupied* dwelling units. There are several reasons why this was done, chiefly because of the need for comparability with the rates given in ITE Trip Generation Manual, as it does not specify whether the dwelling units are occupied. According to ITE procedures the selected sites must only be of “reasonably full occupancy (i.e. at least 85%)”. The Apartment Association of Greater Knoxville (AAGK) publishes quarterly reports on occupancy levels of apartment complexes, and the report covering the period of the data collection was reviewed to determine occupancy levels. According to the AAGK report from July 1, 1996 – September 30, 1996 all of the apartment complexes surveyed in this study met the minimum 85% occupancy level, with an average occupancy rate for all sites studied of 94%.
- The count data that was collected at each apartment complex was used “raw” meaning that it was not factored for possible daily or seasonal variations. Once again, according to an ITE representative it is not known whether the data used in the Trip Generation Manual was factored or not, so therefore in order to be able to compare

local rates to those in the manual you must assume that count data should not be factored. Additionally, it was felt that apartment complexes would generally not be as susceptible to major seasonal fluctuations as other land uses might be. The local rates were also developed using count data that was collected and averaged over an entire week, which should limit some of the daily variations. Finally, reliable local daily and seasonal variation factors do not truly exist.

CONCLUSION

The local apartment study methodology and results were distributed for comment to a group of local transportation professionals who are directly responsible for either preparing or reviewing traffic impact studies. A meeting was held between this group on February 16, 2000 in order to gather comments and discuss the study in greater detail. The following conclusions are based on the discussion and consensus reached at this meeting:

1. The trip generation rates and equations meet statistical requirements and resulted from a study that followed accepted procedures; therefore they should be adopted for future use. Furthermore, the rates and equations are recommended for use in reviewing the traffic impact of any development termed as “multi-family”, such as townhouse and condominium developments due to their similarity to apartment complexes.
2. The Traffic Access and Impact Study Guidelines and Procedures adopted by MPC should be amended with the language that local data should be used when available, which will allow the implementation of these new multi-family trip generation rates.
3. The following suggestions were made for future consideration:
 - This study should be updated with data collected from local townhouse and condominium developments in order to further justify the use of the new trip generation rates.
 - A statistical comparison should be made between any newly developed rates and the ITE single family trip generation rates to determine if there is a significant difference. If there is no difference then perhaps ITE single-family rates could be used for any residential development proposed in Knox County.

Local Apartment Trip Generation Study

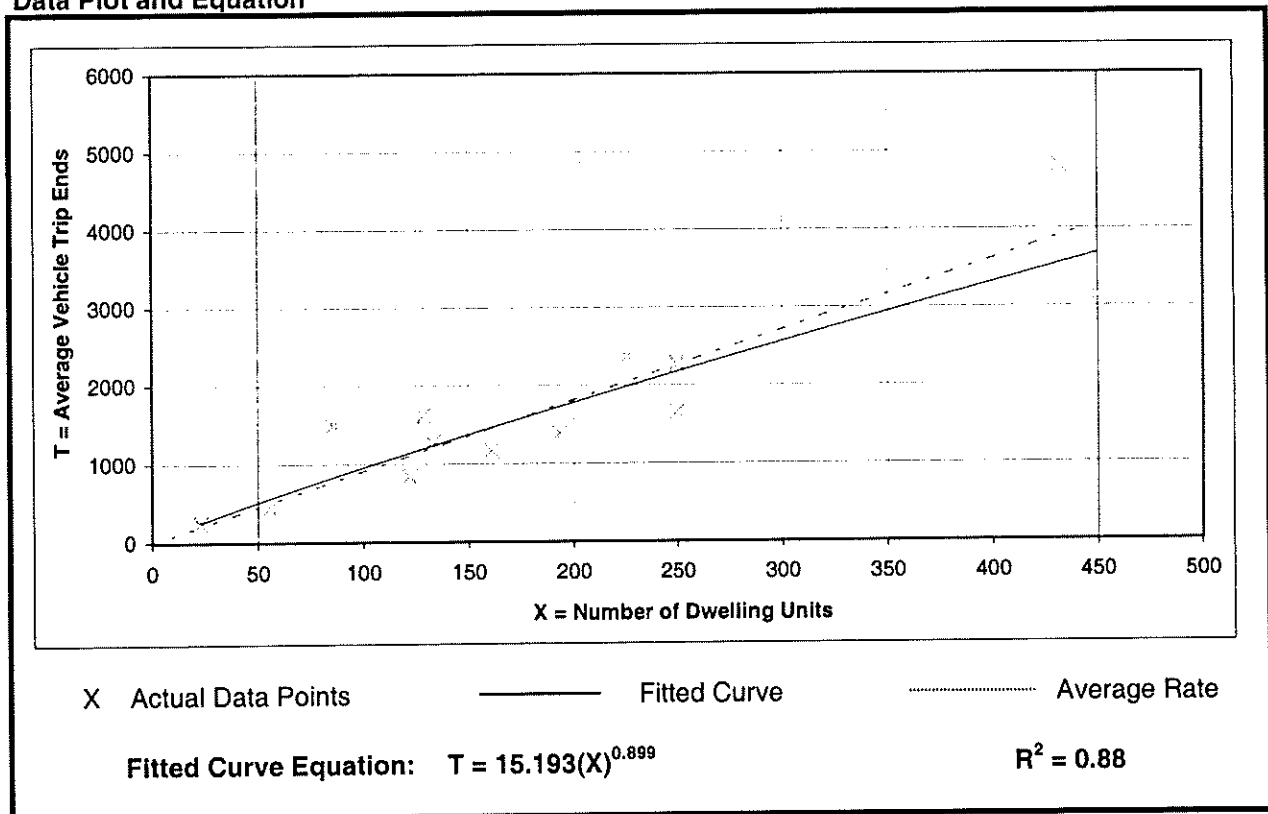
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Number of Studies: 13
Average Number of Dwelling Units: 193
Directional Distribution: 50% entering, 50% exiting

Trip Generation Per Dwelling Unit

Average Rate	Ranges of Rates	Standard Deviation
9.03	6.59 - 17.41	2.47

Data Plot and Equation



Local Apartment Trip Generation Study

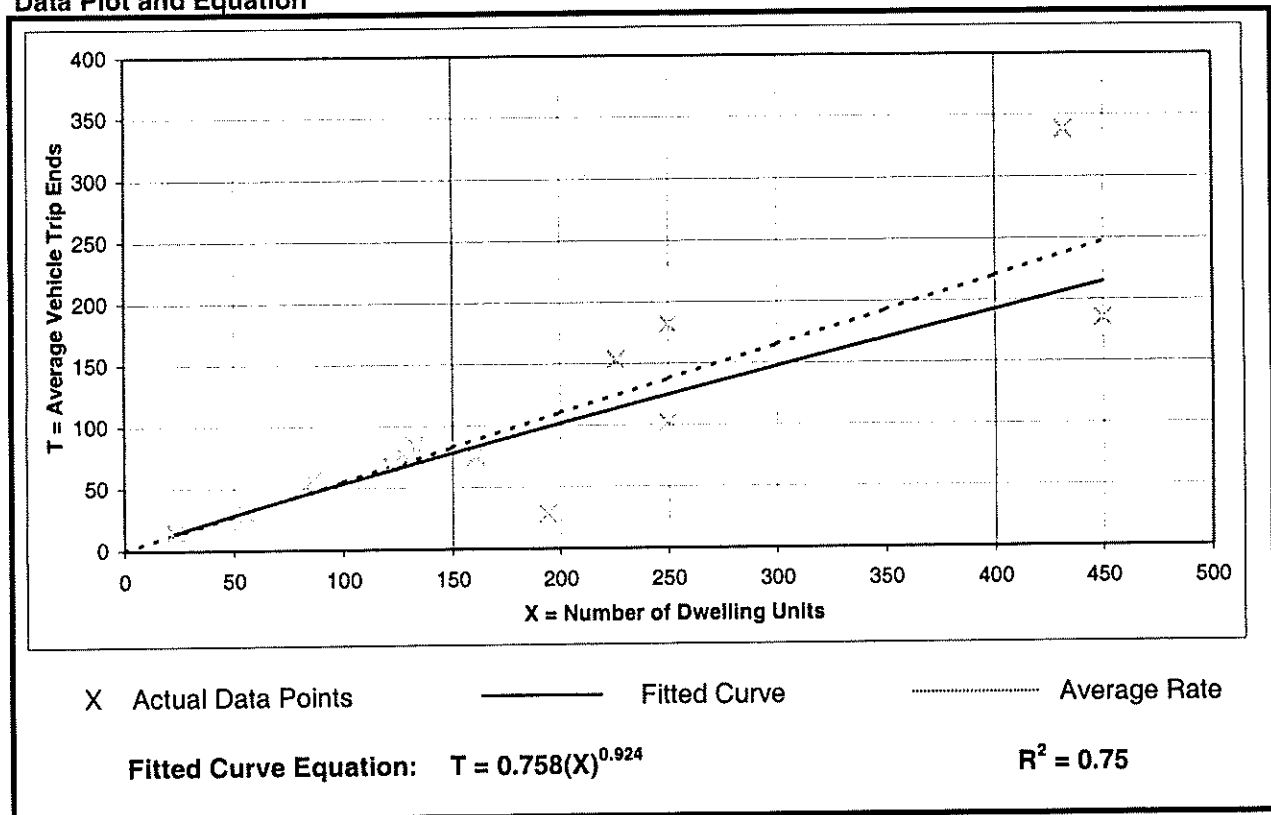
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 13
Average Number of Dwelling Units: 193
Directional Distribution: 22% entering, 78% exiting

Trip Generation Per Dwelling Unit

Average Rate	Ranges of Rates	Standard Deviation
0.55	0.14 - 0.78	0.18

Data Plot and Equation



Local Apartment Trip Generation Study

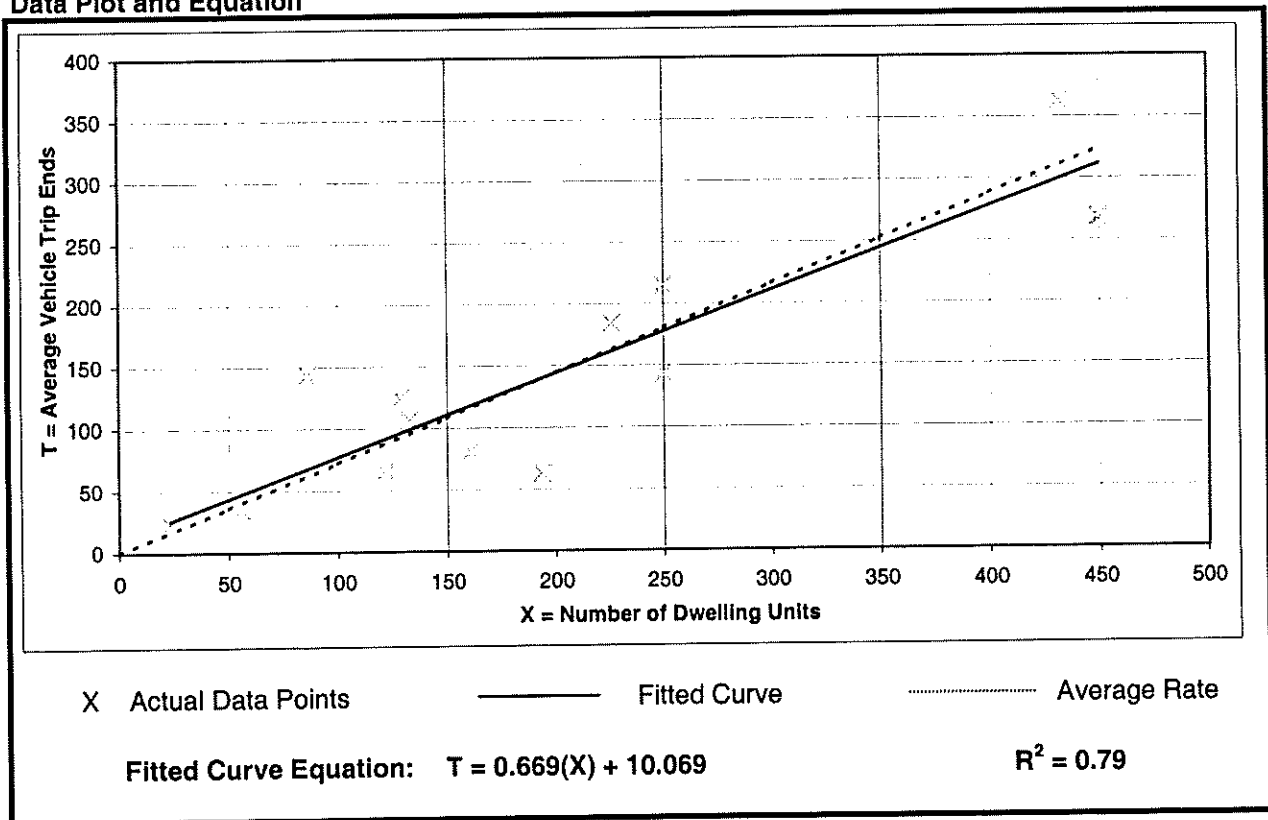
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 13
Average Number of Dwelling Units: 193
Directional Distribution: 55% entering, 45% exiting

Trip Generation Per Dwelling Unit

Average Rate	Ranges of Rates	Standard Deviation
0.72	0.32 - 1.66	0.25

Data Plot and Equation



TRIP GENERATION

MULTI-FAMILY RESIDENTIAL (224 UNITS)-Knoxville-Knox County Planning 2000

DAILY TRIPS

$$T=15.193(X)^{0.899}$$

$$T=15.193(224)^{0.899}$$

$$T=1,970$$

AM PEAK HOUR OF ADJACENT STREET

$$T=0.758(X)^{0.924}$$

$$T=0.758(224)^{0.924}$$

$$T=113$$

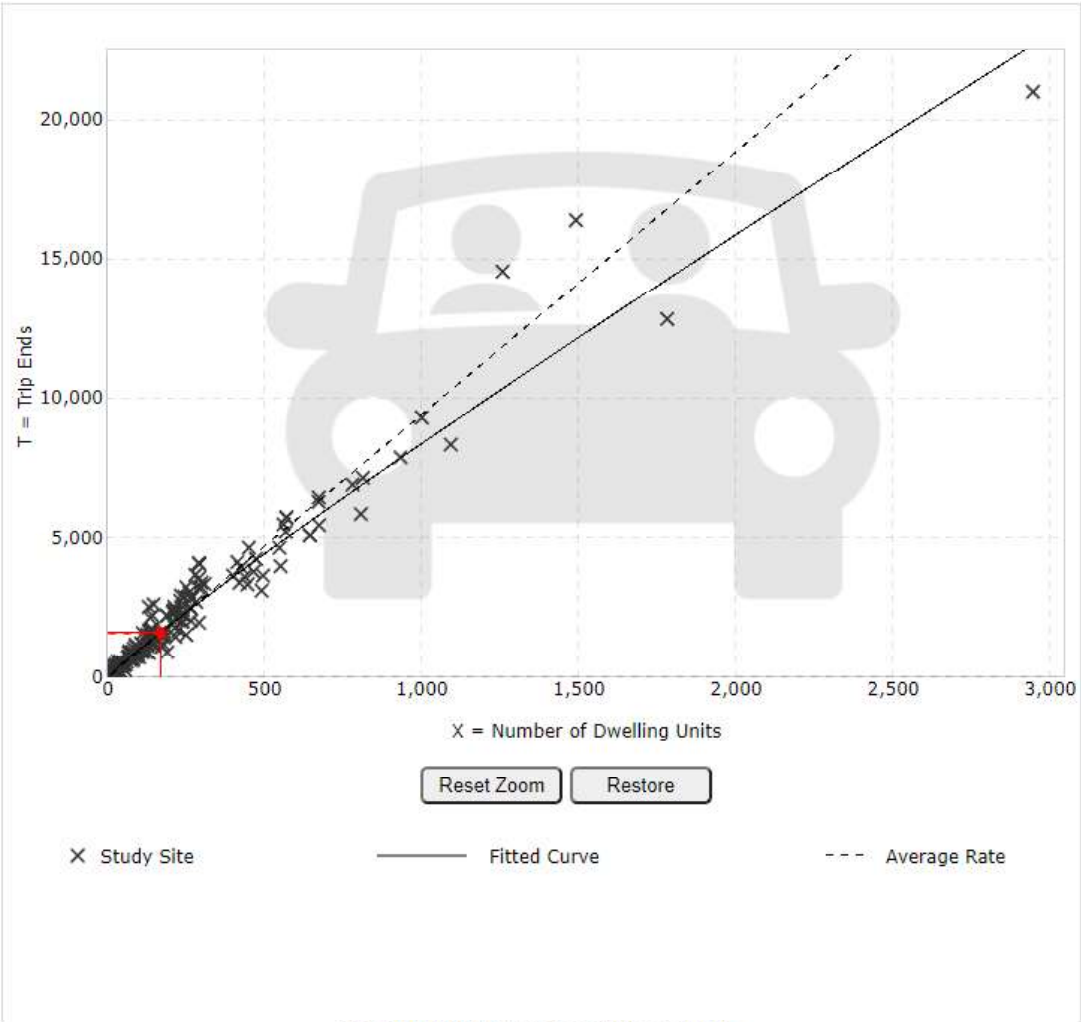
PM PEAK HOUR OF ADJACENT STREET

$$T=0.669(X)+10.069$$

$$T=0.669(224)+10.069$$

$$T=160$$

Data Plot and Equation

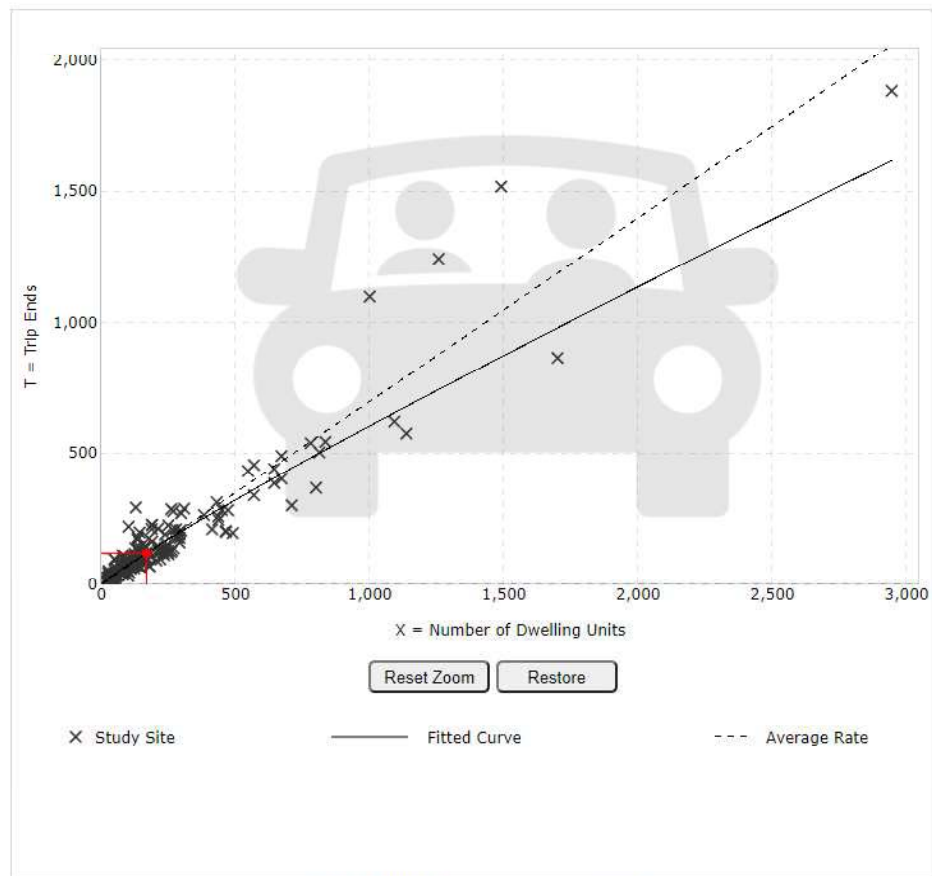


Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:	Single-Family Detached Housing (210) Click for Description and Data Plots
Independent Variable:	Dwelling Units
Time Period:	Weekday
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	174
Avg. Num. of Dwelling Units:	246
Average Rate:	9.43
Range of Rates:	4.45 - 22.61
Standard Deviation:	2.13
Fitted Curve Equation:	$\ln(T) = 0.92 \ln(X) + 2.68$
R ² :	0.95
Directional Distribution:	50% entering, 50% exiting
Calculated Trip Ends:	Average Rate: 1594 (Total), 797 (Entry), 797 (Exit) Fitted Curve: 1635 (Total), 817 (Entry), 818 (Exit)

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:

Single-Family Detached Housing (210) [Click for Description and Data Plots](#)

Independent Variable:

Dwelling Units

Time Period:

Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

192

Avg. Num. of Dwelling Units:

226

Average Rate:

0.70

Range of Rates:

0.27 - 2.27

Standard Deviation:

0.24

Fitted Curve Equation:

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

R²:

0.90

Directional Distribution:

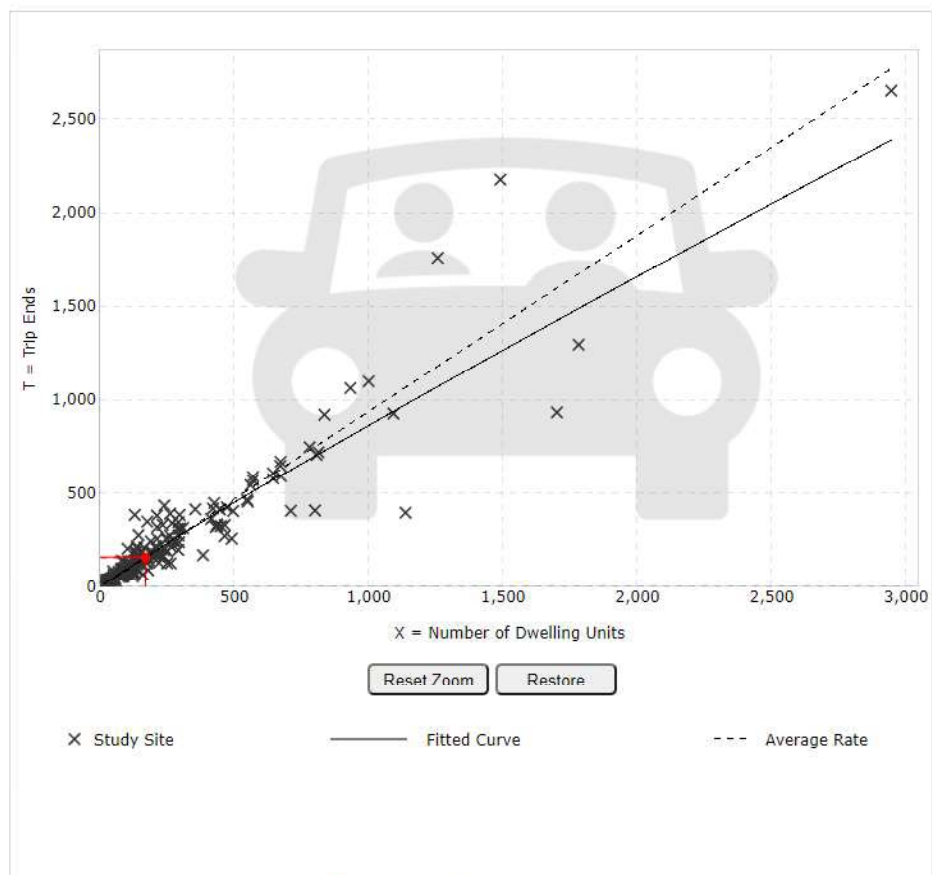
26% entering, 74% exiting

Calculated Trip Ends:

Average Rate: 118 (Total), 30 (Entry), 88 (Exit)

Fitted Curve: 120 (Total), 31 (Entry), 89 (Exit)

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:

Single-Family Detached Housing (210) [Click for Description and Data Plots](#)

Independent Variable:

Dwelling Units

Time Period:

Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

208

Avg. Num. of Dwelling Units:

248

Average Rate:

0.94

Range of Rates:

0.35 - 2.98

Standard Deviation:

0.31

Fitted Curve Equation:

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

R²:

0.92

Directional Distribution:

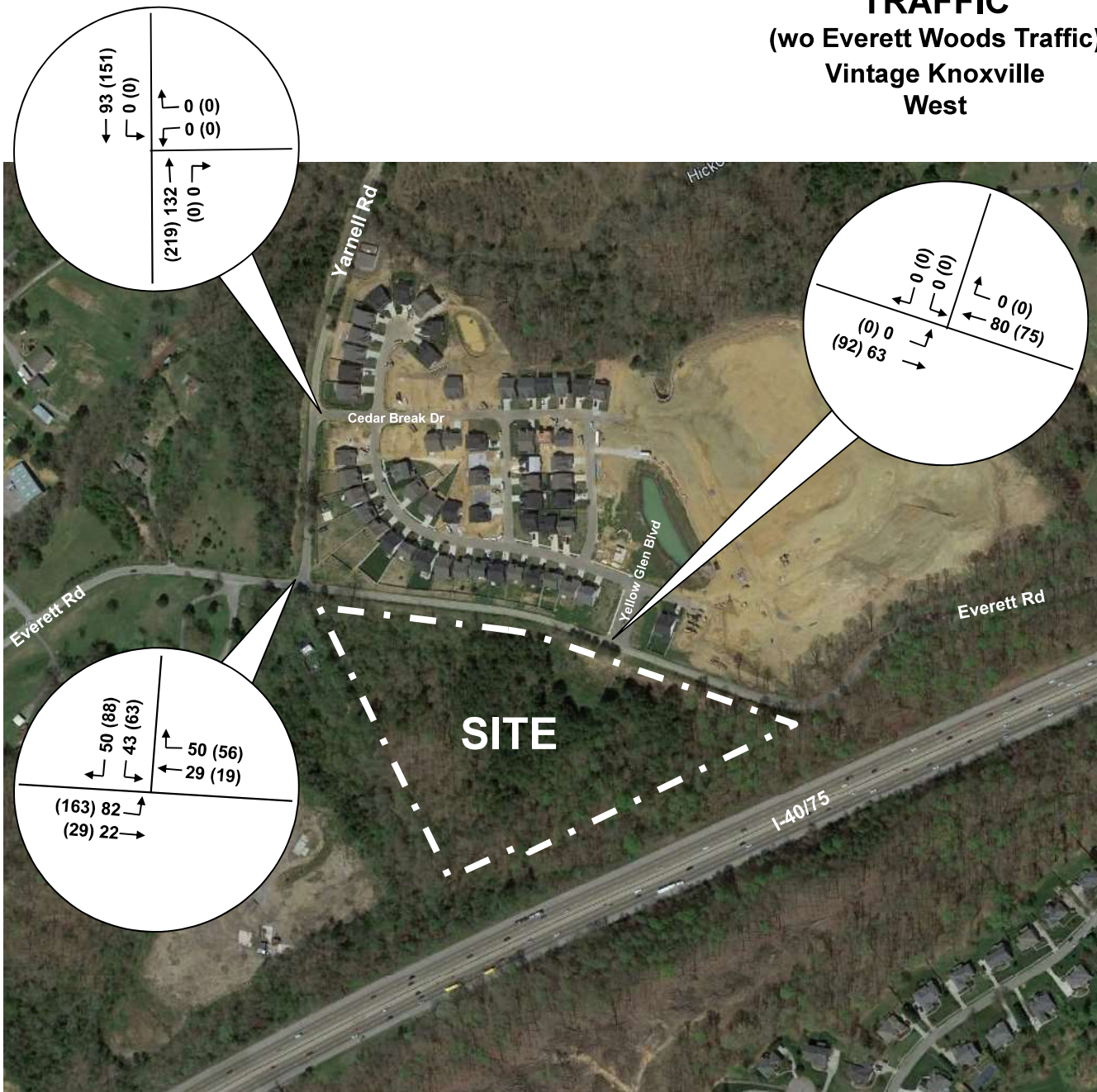
63% entering, 37% exiting

Calculated Trip Ends:

Average Rate: 159 (Total), 100 (Entry), 59 (Exit)

Fitted Curve: 163 (Total), 103 (Entry), 60 (Exit)

2021 TRAFFIC (wo Everett Woods Traffic) Vintage Knoxville West



LEGEND
 XXX AM PEAK
 (XXX) PM PEAK

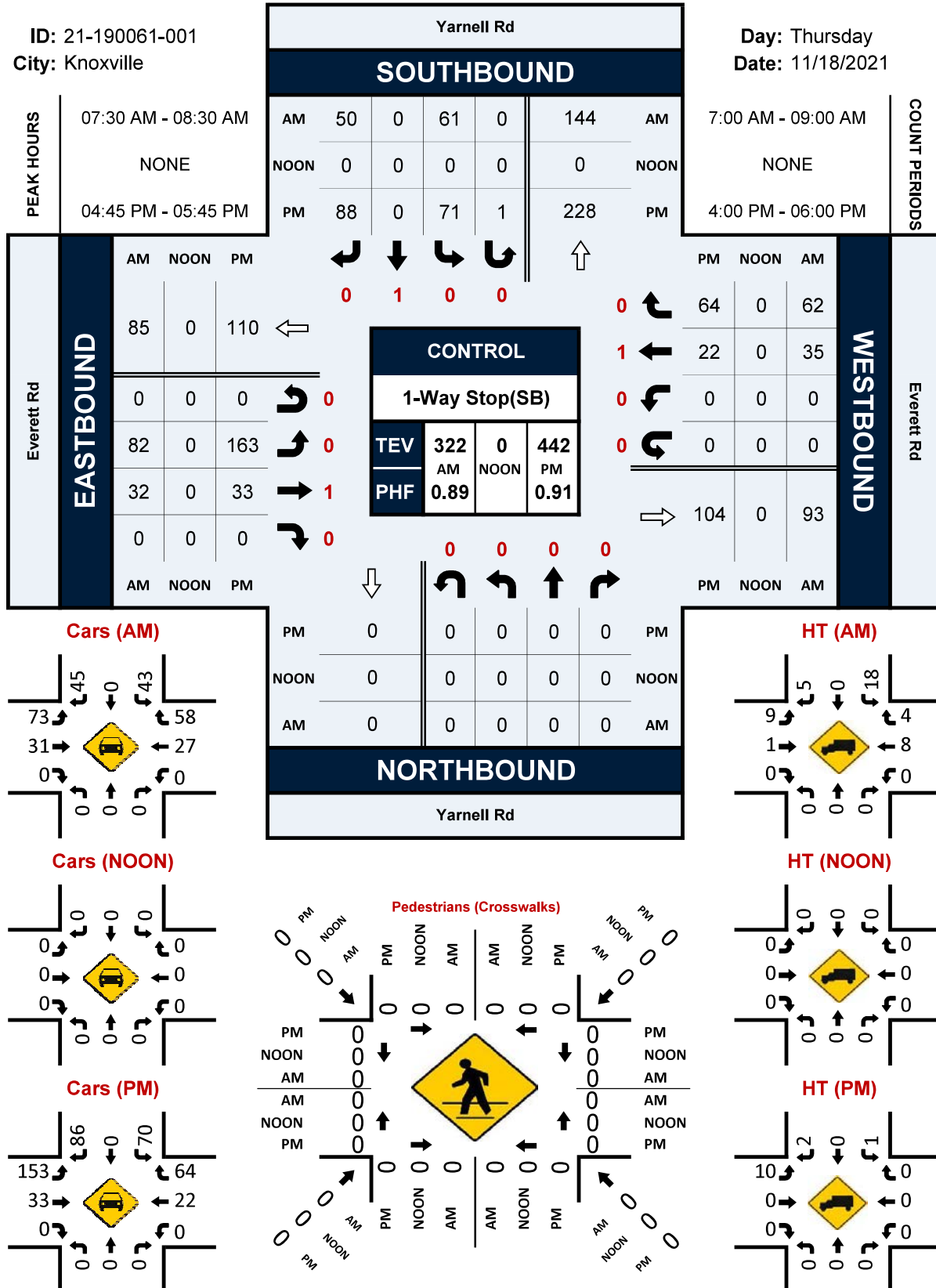


Yarnell Rd & Everett Rd

Peak Hour Turning Movement Count

ID: 21-190061-001
City: Knoxville

Day: Thursday
Date: 11/18/2021



Project ID: 21-190061-001
Location: Yamell Rd & Everett Rd
City: Knoxville

Day: Thursday
Date: 11/18/2021

Start Time	Groups Printed - Cars, P.U. Vans - Heavy Trucks											
	Yamell Rd Northbound						Everett Rd Eastbound					
	Left	Thru	Rgt	Uturn	Peds	App. Total	Left	Thru	Rgt	Uturn	Peds	App. Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	6	0	0	0	0	6
7:30 AM	0	0	0	0	0	0	17	0	0	0	0	17
7:45 AM	0	0	0	0	0	0	15	2	0	0	0	17
Total	0	0	0	0	0	0	34	2	0	0	0	36
	0	0	0	0	0	0	30	24	10	0	0	64
8:00 AM	0	0	0	0	0	0	97	61	21	0	0	179
8:15 AM	0	0	0	0	0	0	25	26	7	0	0	58
8:30 AM	0	0	0	0	0	0	22	16	6	0	0	44
8:45 AM	0	0	0	0	0	0	30	10	10	0	0	50
Total	0	0	0	0	0	0	23	14	6	0	0	43
	0	0	0	0	0	0	66	29	0	0	0	95
BREAK	0	0	0	0	0	0	0	0	0	0	0	0

4:00 PM	0	0	0	0	0	0	15	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	14	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	13	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	15	0	0	0	0	0
Total	0	0	0	0	0	0	57	0	0	0	0	0
	0	0	0	0	0	0	18	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	20	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	18	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	9	0	0	0	0	0
Total	0	0	0	0	0	0	65	0	0	0	0	0
	0	0	0	0	0	0	232	0	245	1	0	478
Grand Total	0	0	0	0	0	0	48.5	0	51.3	0.2	0.0	99.8
Approch %	0.0	0.0	0.0	0.0	0.0	0.0	17.5	0.0	18.5	0.1	0.0	36.2
Cars, P.U. Vans	0	0	0	0	0	0	193	0	218	1	0	412
% Cars, P.U. Vans	0.0	0.0	0.0	0.0	0.0	0.0	83.2	0.0	89.0	100.0	0.0	86.2
Heavy Trucks	0	0	0	0	0	0	39	0	27	0	0	66
% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	16.8	0.0	11.0	0.0	0.0	13.8

Project ID: 21-190061-001
Location: Yamell Rd & Everett Rd
City: Knoxville

PEAK HOURS

Day: Thursday
Date: 11/18/2021

AM

Start Time	Yamell Rd Northbound						Everett Rd Eastbound					
	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru
	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total
Peak Hour Analysis from 07:00 AM - 09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour for Entire Intersection Begins at 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	16	9	0	0	25	0
7:45 AM	0	0	0	0	0	0	24	10	0	0	34	0
8:00 AM	0	0	0	0	0	0	26	7	0	0	33	0
8:15 AM	0	0	0	0	0	0	16	6	0	0	22	0
Total Volume	0	0	0	0	0	0	82	32	0	0	114	0
	0.0	0.0	0.0	0.0	0.0	0.0	71.9	28.1	0.0	0.0	100	0.0
% App. Total	0.0	0.0	0.0	0.0	0.0	0.0	0.816	0.838	0.0	0.838	0.0	0.838
Cars, P.U. Vans	0	0	0	0	0	0	43	0	45	0	88	73
% Cars, P.U. Vans	0.0	0.0	0.0	0.0	0.0	0.0	70.5	0.0	90.0	0.0	79.3	89.0
Heavy Trucks	0	0	0	0	0	0	18	0	5	0	23	9
% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	29.5	0.0	10.0	0.0	20.7	11.0

PM

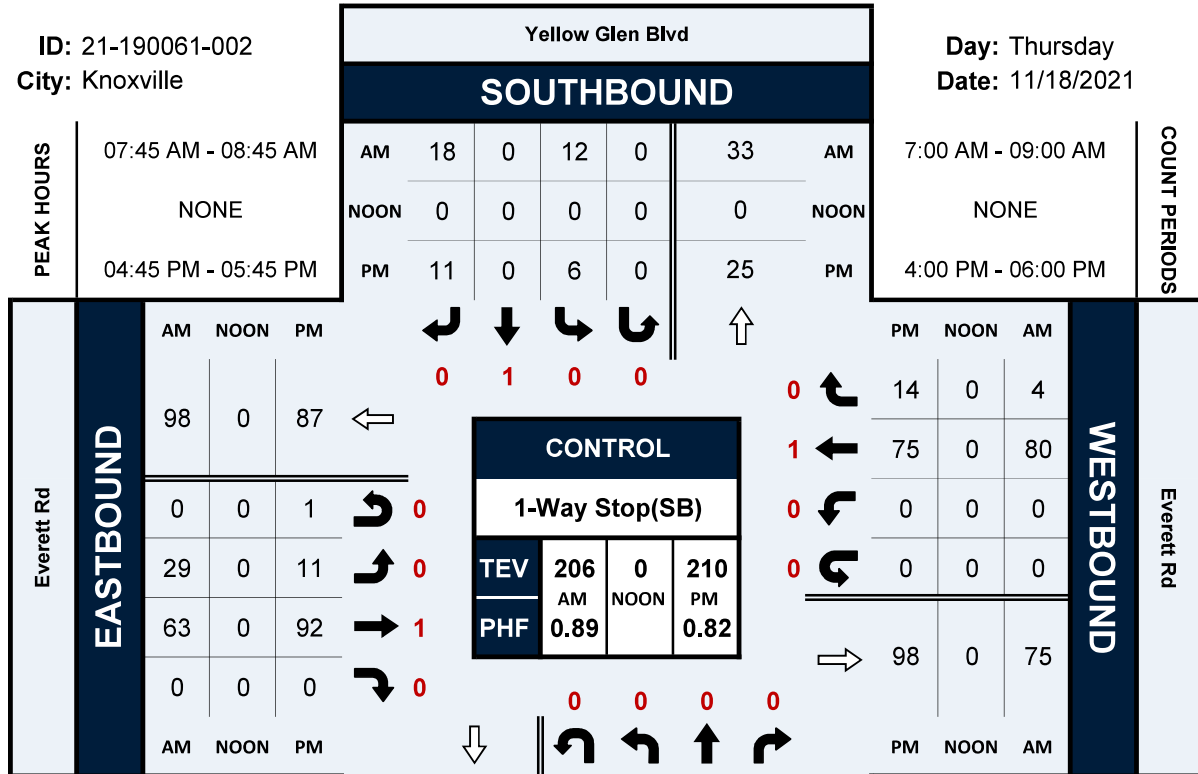
Start Time	Yamell Rd Northbound						Everett Rd Eastbound					
	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru
	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total	App. Total
Peak Hour Analysis from 04:00 PM - 06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour for Entire Intersection Begins at 04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	15	0	20	1	36	41
5:00 PM	0	0	0	0	0	0	18	0	23	0	41	53
5:15 PM	0	0	0	0	0	0	20	0	20	0	40	34
5:30 PM	0	0	0	0	0	0	18	0	25	0	43	35
Total Volume	0	0	0	0	0	0	71	0	88	1	160	183
	0.0	0.0	0.0	0.0	0.0	0.0	44.4	0.0	55.0	0.6	100	83.2
% App. Total	0.0	0.0	0.0	0.0	0.0	0.0	0.930	0.930	0.930	0.930	0.930	0.930
Cars, P.U. Vans	0	0	0	0	0	0	70	0	86	1	157	153
% Cars, P.U. Vans	0.0	0.0	0.0	0.0	0.0	0.0	98.6	0.0	97.7	100.0	98.1	93.9
Heavy Trucks	0	0	0	0	0	0	1	0	2	0	3	10
% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	2.3	0.0	1.9	6.1

Yellow Glen Blvd & Everett Rd

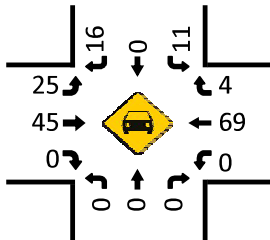
Peak Hour Turning Movement Count

ID: 21-190061-002
City: Knoxville

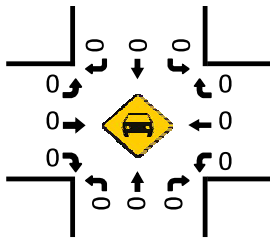
Day: Thursday
Date: 11/18/2021



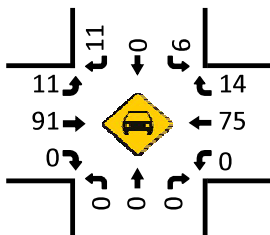
Cars (AM)



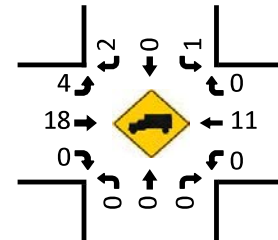
Cars (NOON)



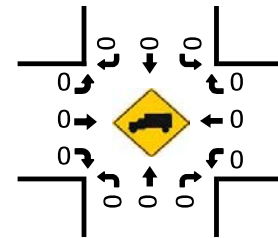
Cars (PM)



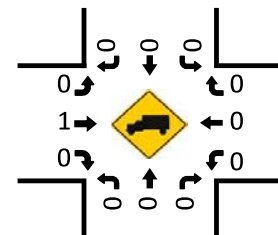
HT (AM)



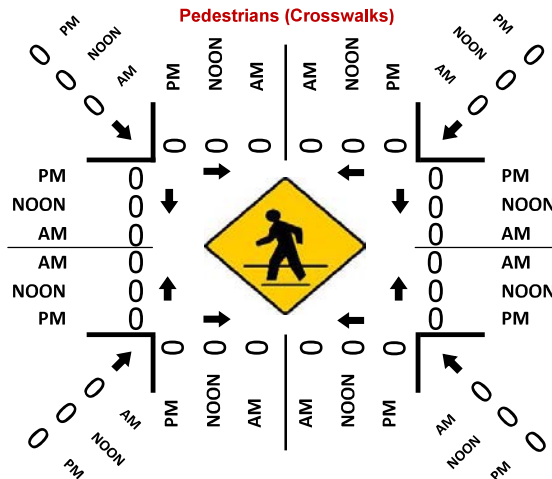
HT (NOON)



HT (PM)



Pedestrians (Crosswalks)



Start Time	Yellow Glen Blvd Northbound						Yellow Glen Blvd Southbound						Everett Rd Eastbound						Everett Rd Westbound																	
	Left			Thru			Rgt			Uturn			Peds			App. Total			Left			Thru			Rgt			Uturn			Peds			App. Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	7	0	0	9	2	5	0	0	7	0	0	0	8	0	0	0	0	0	8					
7:15 AM	0	0	0	0	0	0	0	1	0	8	0	0	0	0	0	9	1	11	0	0	12	0	11	3	0	0	0	0	0	14						
7:30 AM	0	0	0	0	0	0	0	4	0	6	0	0	0	10	7	20	0	0	0	0	27	0	16	0	0	0	0	0	16							
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	5	17	0	0	0	26	0	26	1	0	0	0	0	27								
Total	0	0	0	0	0	0	0	10	0	23	0	0	0	33	19	53	0	0	0	72	0	61	4	0	0	0	65	170								
8:00 AM	0	0	0	0	0	0	0	1	0	5	0	0	6	12	0	0	18	0	0	0	18	0	24	1	0	0	25	49								
8:15 AM	0	0	0	0	0	0	0	4	0	5	0	0	9	5	15	0	0	20	0	0	20	0	14	1	0	0	15	44								
8:30 AM	0	0	0	0	0	0	0	4	0	6	0	0	10	9	19	0	0	28	0	0	28	0	16	1	0	0	17	55								
8:45 AM	0	0	0	0	0	0	0	0	0	8	0	0	8	4	16	0	0	20	0	0	20	0	11	0	0	0	11	39								
Total	0	0	0	0	0	0	0	9	0	24	0	0	33	24	62	0	0	86	0	0	86	0	65	3	0	0	68	187								

4:00 PM	0	0	0	0	0	0	2	0	4	0	0	6	2	22	0	0	0	24	0	8	0	0	0	0	33
4:15 PM	0	0	0	0	0	0	2	0	2	0	0	4	1	21	0	0	0	22	0	9	3	0	0	0	38
4:30 PM	0	0	0	0	0	0	0	2	0	2	0	4	2	16	0	0	0	18	0	14	1	0	0	0	37
4:45 PM	0	0	0	0	0	0	2	0	0	0	0	2	2	19	0	0	0	21	0	14	4	0	0	0	41
Total	0	0	0	0	0	0	8	0	8	0	0	16	7	78	0	0	0	85	0	45	8	0	0	0	154
5:00 PM	0	0	0	0	0	0	1	0	2	0	0	3	2	26	0	0	0	28	0	15	4	0	0	0	50
5:15 PM	0	0	0	0	0	0	0	3	0	0	0	10	4	24	0	1	0	29	0	20	5	0	0	0	64
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	3	23	0	0	0	26	0	26	1	0	0	0	27
5:45 PM	0	0	0	0	0	0	1	0	2	0	0	3	4	10	0	0	14	0	17	5	0	0	0	0	39
Total	0	0	0	0	0	0	5	0	13	0	0	18	13	83	0	1	0	97	0	78	15	0	0	0	206

Grand Total	0	0	0	0	0	0	32	0	68	0	0	100	63	276	0	1	0	340	0	249
Approch %	0.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0	68.0	0.0	0.0	100.0	18.5	81.2	0.0	0.3	0.0	0.0	89.2	10.8
Total %	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	9.5	0.0	0.0	13.9	8.8	38.4	0.0	0.1	0.0	47.3	0.0	34.6
Cars, P.U. Vans	0.0	0.0	0.0	0.0	0.0	0.0	31	0	64	0	95	57	243	0	1	301	0	234	30	264
% Cars, P.U. Vans	0.0	0.0	0.0	0.0	0.0	0.0	96.9	0.0	94.1	0.0	95.0	90.5	88.0	0.0	100.0	88.5	0.0	94.0	100.0	94.6
Heavy Trucks	0	0	0	0	0	0	1	0	4	0	5	6	33	0	0	39	0	15	0	15
% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	5.9	0.0	5.0	9.5	12.0	0.0	0.0	11.5	0.0	6.0	0.0	5.4

PEAK HOURS

AM

Start Time	Yellow Glen Blvd Northbound					Southbound					Everett Rd Eastbound					Everett Rd Westbound				
	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total
	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total

Peak Hour Analysis from 07:00 AM - 09:00 AM
Peak Hour for Entire Intersection Begins at 07:45 AM

7:45 AM	0	0	0	0	0	3	0	2	0	5	9	17	0	0	26	0	26	1	0	27
8:00 AM	0	0	0	0	0	1	0	5	0	6	6	12	0	0	18	0	24	1	0	25
8:15 AM	0	0	0	0	0	4	0	5	0	9	5	15	0	0	20	0	14	1	0	15
8:30 AM	0	0	0	0	0	4	0	6	0	10	9	19	0	0	28	0	16	1	0	17
Total Volume	0	0	0	0	0	12	0	18	0	30	29	63	0	0	92	0	80	4	0	84
% App. Total	0.0	0.0	0.0	0.0	0.0	40.0	0.0	60.0	0.0	100	31.5	68.5	0.0	0.0	100	0.0	95.2	4.8	0.0	100
PHF										0.760					0.821					0.888
Cars, P.U. Vans	0	0	0	0	0	11	0	16	0	27	25	45	0	0	70	0	69	4	0	73
% Cars, P.U. Vans	0.0	0.0	0.0	0.0	0.0	91.7	0.0	88.9	0.0	90.0	86.2	71.4	0.0	0.0	76.1	0.0	86.3	100.0	0.0	86.9
Heavy Trucks	0	0	0	0	0	1	0	2	0	3	4	18	0	0	22	0	11	0	0	11
% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	8.3	0.0	11.1	0.0	10.0	13.8	28.6	0.0	0.0	23.9	0.0	13.8	0.0	0.0	13.1

PM

Start Time	Yellow Glen Blvd Northbound					Southbound					Everett Rd Eastbound					Everett Rd Westbound				
	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total
	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total

Peak Hour Analysis from 04:00 PM - 06:00 PM
Peak Hour for Entire Intersection Begins at 04:45 PM

4:45 PM	0	0	0	0	0	2	0	0	0	2	2	19	0	0	21	0	14	4	0	18
5:00 PM	0	0	0	0	0	1	0	2	0	3	2	26	0	0	28	0	15	4	0	19
5:15 PM	0	0	0	0	0	3	0	0	0	10	4	24	0	1	29	0	20	5	0	25
5:30 PM	0	0	0	0	0	0	0	2	0	2	3	23	0	0	26	0	26	1	0	27
Total Volume	0	0	0	0	0	6	0	11	0	17	11	92	0	1	104	0	75	14	0	89
% App. Total	0.0	0.0	0.0	0.0	0.0	35.3	0.0	64.7	0.0	100	10.6	88.5	0.0	1.0	100	0.0	84.3	15.7	0.0	100
PHF										0.425					0.897					0.824
Cars, P.U. Vans	0	0	0	0	0	6	0	11	0	17	11	91	0	1	103	0	75	14	0	89
% Cars, P.U. Vans	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	100.0	98.9	0.0	100.0	99.0	0.0	100.0	0.0	100.0	99.5
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0

Via Email: gouldjf@cdmsmith.com

MAY 13, 2022

John F. Gould, P.E.
CDM Smith
1100 Marion St., Suite 300
Knoxville, TN 37921

RE: Everett Woods Phase 2C TIL Review Comments (6-SC-22-C/6-E-2-UR)

Dear Mr. Gould,

The Transportation Impact Letter (TIL) for the above referenced use on review case that was received on April 29, 2022 has been reviewed by staff from Knox County Department of Engineering & Public Works and Knoxville-Knox County Planning. We have identified the following comments related to the TIL that we require further information/revision on for the review of this case:

1. The first paragraph states that the development is “south” of Everett Road, please correct this to say “north”.
Revised
2. In the first paragraph, it is stated that there is “a comparison of the trips generated for 184 residential units with the trip generation of the previous planned residential density of 169 units studied with the Hickory Creek Residential Development prepared in February 2016.” Please clearly note that the version of ITE’s Trip Generation has changed since the 2016 study such that the numbers reported and net change are different than what previously would have been computed.
Revised
3. In Table 1, please move the word “Change” over one column to the left and insert ‘15’ into its place for the unit count change.
Revised
4. The intersection of Yarnell Road and Cedar Break Drive has been converted to Right-In Right-Out only operation with a channelizing island recently being installed. Please reflect this change in the Figures, Table 3, HCM analysis and the turn lane warrant analysis.
Revised

Please provide a **PDF** of the following: a **signed and sealed letter** addressing these concerns in a **comment response sheet** (with the indication of where/how the comments were addressed) attached to the back of a **fully revised TIL** by Noon on Monday, May 23, 2022. If you have any questions, please contact me.

Sincerely,



Mike Conger, P.E.
Knoxville-Knox County Planning

CC: Mike Reynolds, AICP, Knoxville-Knox County Planning
Stephanie Hargrove, Knox County Engineering & Public Works



Knoxville-Knox County Planning | KnoxPlanning.org
400 Main Street, Suite 403 | Knoxville, TN 37902 | 865.215.2500