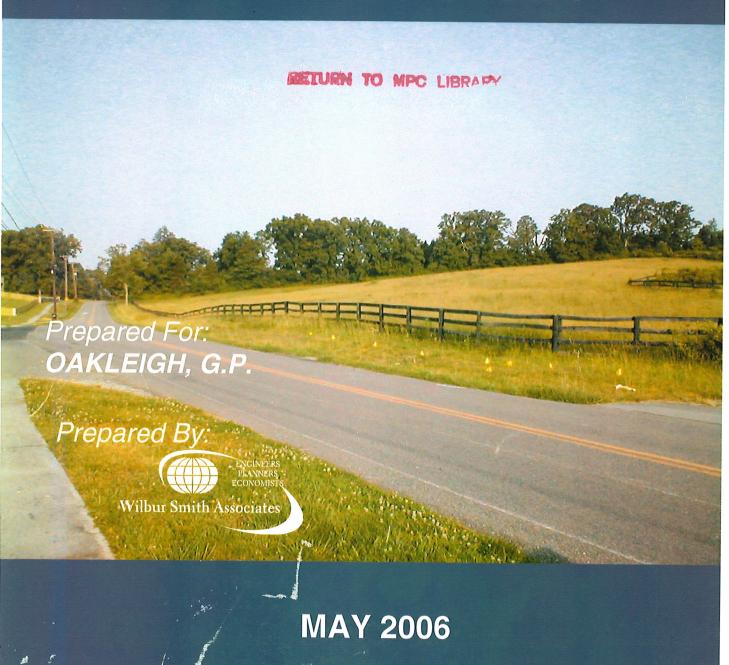
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WOOD CREEK SOUTH SUBDIVISION DEVELOPMENT Knox County, Tennessee

TRAFFIC IMPACT STUDY



WOOD CREEK SOUTH SUBDIVISION

KNOX COUNTY, TENNESSEE

TRAFFIC IMPACT STUDY

Prepared for

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Prepared by

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Project Number 100063

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INTRODUCTION

Wilbur Smith Associates (WSA) is pleased to submit this report to address the impact and access of a proposed residential development located on Tipton Station Road in Southeast Knox County. The basis for this study required the collection of traffic data, generation of anticipated traffic volumes from the proposed site and development of projected traffic volumes from normal growth and from the potential site. Analysis of the resulting traffic projections was conducted to determine the capacity and levels of service for the site accesses. This study will develop measures necessary to mitigate traffic impacts including improved roadway geometrics and traffic control devices within the environs of the proposed residential development.

According to the Knoxville-Knox County Metropolitan Planning Commission's Administrative Rules and Procedures, the proposed residential development site is identified for a Level 1 Traffic Impact Study. WSA discussed with Knox County Department of Engineering and Public Works and MPC to define the study area and address specific concerns relative to the proposed residential development. Therefore, this study will address the anticipated traffic impacts of the proposed residential development site accesses on Tipton Station Road.

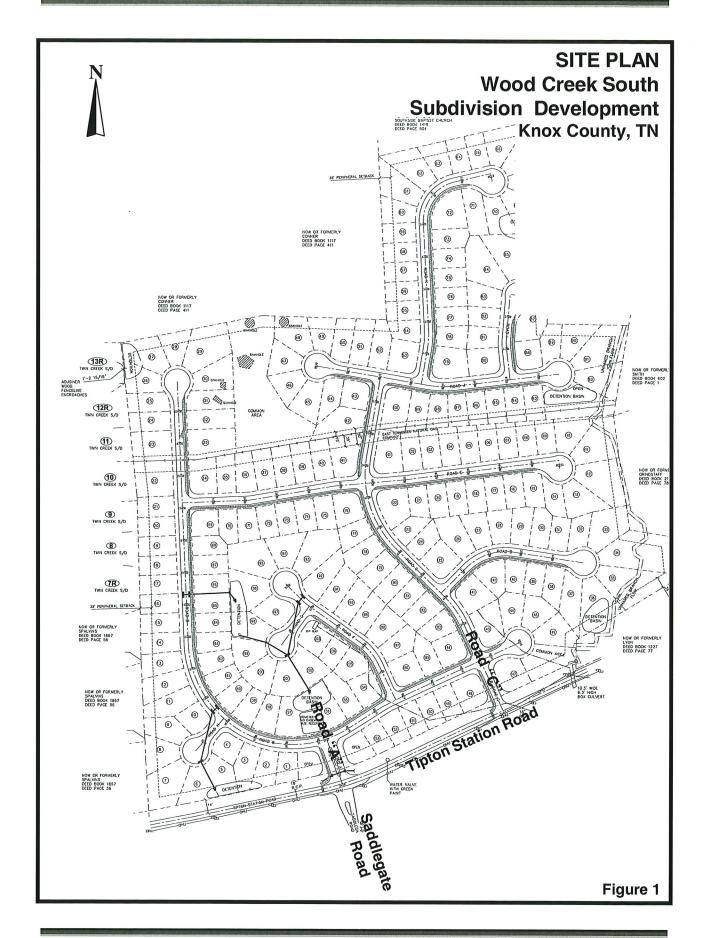
Project Description

The proposed project is a 205 lot single family residential development on approximately 52 acres. This tract is bounded by Twin Creek Subdivision to the west, Southside Baptist Church to the north, Tipton Station Road to the south, and various single family residences which connect to Coatney Road. This site has two proposed access. Road "A" connects to Tipton Station Road opposite Saddlegate Road. Road "C" connects to Tipton Station Road approximately 550 feet east of Road "A". Figure 1 shows the proposed site plan.

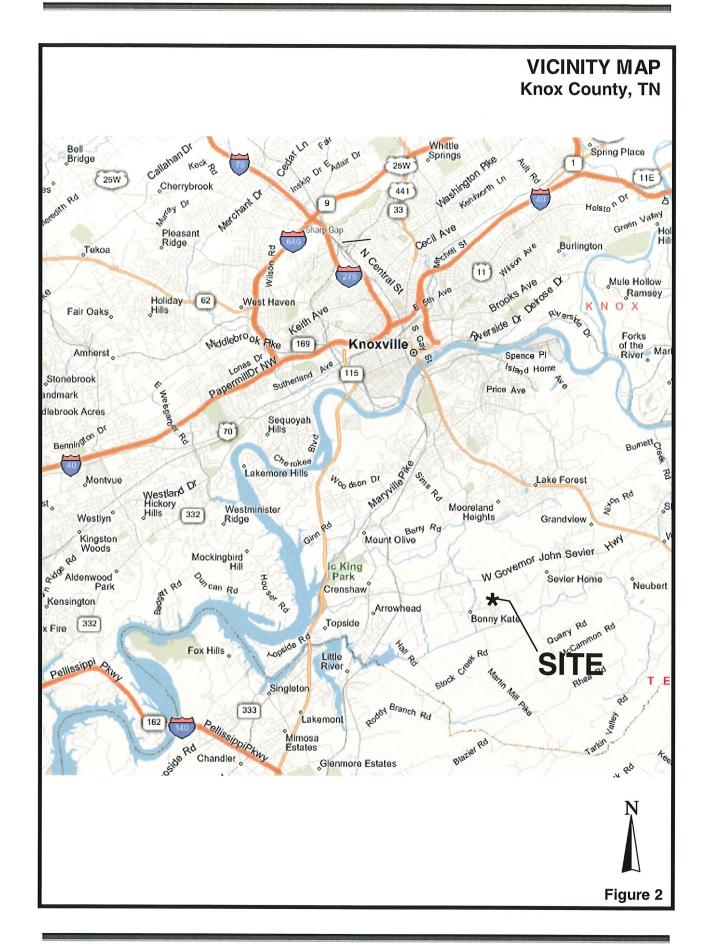
Site Location

The location of the proposed residential development is on Tipton Station Road in southeast Knox County. The site is near Sevier and Blount Counties. The proposed development is located west of Coatney Road and east of Twin Creek Road. Figure 2 illustrates the site location relative to local and regional access.











LOCAL AND REGIONAL ACCESS

Local Access

Tipton Station Road provides local access for the site and connects to Martin Mill Pike which in turn intersects the regional arterial of W. Governor John Sevier Highway (S.R. 168) to the north. Tipton Station Road is a 20-foot wide, 2-lane roadway which is classified as a major collector.

Regional Access

Governor John Sevier Highway extends between Interstate 40 east of the Knoxville CBD and Alcoa Highway (U.S. 129) south of Knoxville. Alcoa Highway is a 4-lane divided major arterial extending from I-40 (west of the Knoxville CBD) to Blount County. Governor John Sevier Highway (S.R. 168) also intersects Chapman Highway to the east. Chapman Highway (U.S. 441) is classified as a major arterial and extends northwest into the Knoxville CBD and southeast towards the Sevier County line and Sevierville. Chapman Highway is a 4-lane raod with shoulders that intersects Tipton Station Road. U.S. 441 (Chapman Highway) intersects Interstate 40 in the Knoxville CBD.

Interstate 40 provides significant east and west regional access throughout Tennessee. To the east, Interstate 40 connects to Interstate 81, which extends into the Tri-Cities area of Tennessee and Virginia. Westbound Interstate 40 connects to Interstate 75, providing north- and southbound connections into neighboring states such as Kentucky and Georgia, respectively. Interstate 40 provides significant east and west regional access throughout Tennessee.

EXISTING TRAFFIC CONDITIONS

Existing Traffic Control

The Saddlegate Road approach to Tipton Station Road is stop controlled. All approaches to the intersection are single lanes. The posted speed limit on Tipton Station Road is 40-mph. Figure 3 shows the existing laneage and traffic control.





TRAFFIC CONTROL & GEOMETRICS Wood Creek South Subdivision Development Knox County, TN







Existing Traffic Control

Figure 3



Existing Traffic Volumes

Peak-hour turning movement counts (TMC) were conducted by WSA in March of 2006 for the intersection of Tipton Station Road and Saddlegate Road. The peak hours were measured to be 7:30 AM to 8:30 AM and 5:00 PM to 6:00 PM. Figure 4 illustrates the resulting intersection turning movements for the AM and PM peak hours.

Existing Capacity and Level of Service

In order to evaluate the current operations of the traffic control devices, capacity and level of service were calculated using the **2000 Highway Capacity Manual, Special Report 209** published by the Transportation Research Board (TRB). Unsignalized intersections are evaluated based on estimated intersection delays, which may be related to level of service (LOS).

Level of service and capacity are the measurements of an intersection's ability to accommodate traffic volumes. Levels of service for intersections range from A to F. A LOS A is the best, and LOS F is failing.

Unsignalized intersections levels of service have lower thresholds of delays than do signalized intersections. A LOS of F exceeds estimated delays of 50 seconds. For urban arterials, minor approaches may frequently experience levels of service E. A full level of service description for unsignalized intersections is presented in Table 1.

TABLE 1
LEVEL OF SERVICE (LOS) DESCRIPTION
FOR TWO-WAY STOP INTERSECTIONS

Level of Service	(seconds)									
A	≤ 10.0									
В	> 10.0	and	≤ 15.0							
С	> 15.0	and	≤ 25.0							
D	> 25.0	and	≤ 35.0							
Е	> 35.0	and	≤ 50.0							
F		> 50.0								

SOURCE: Highway Capacity Manual, TRB Special Report 209

Analyses were conducted using the Synchro Software, developed by Trafficware. Figure 4 displays the very acceptable LOS's for the study intersection.



2006 EXISTING TRAFFIC Wood Creek South Subdivision Development Knox County, TN

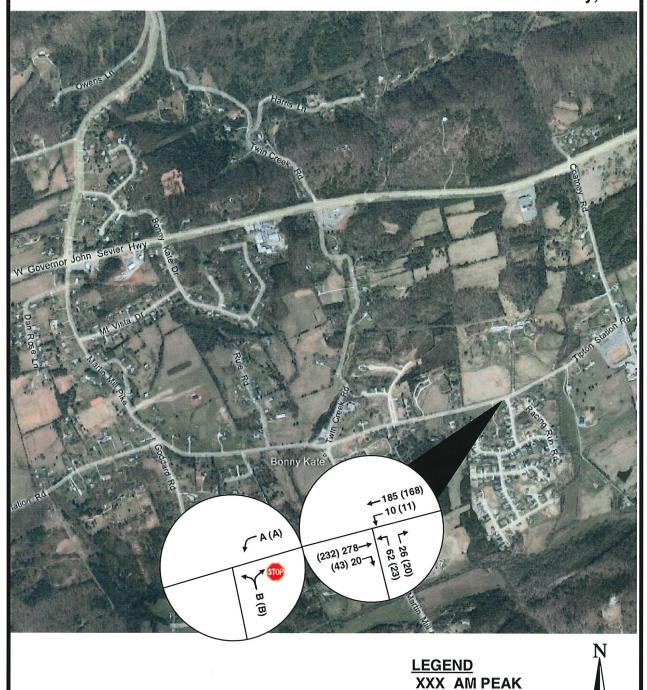




Figure 4

(XXX) PM PEAK

AM LOS

PM LOS

X

(X)

BACKGROUND TRAFFIC CONDITIONS

Background traffic is traffic that can be anticipated regardless of the proposed development. Traffic within the study area should continue to grow due to other developments as well as the continued growth within the surrounding area. This background traffic must be analyzed and evaluated for the purpose of establishing a baseline. In addition, the background traffic reflects the historical traffic volumes in the area of the proposed development.

Background Traffic Volumes

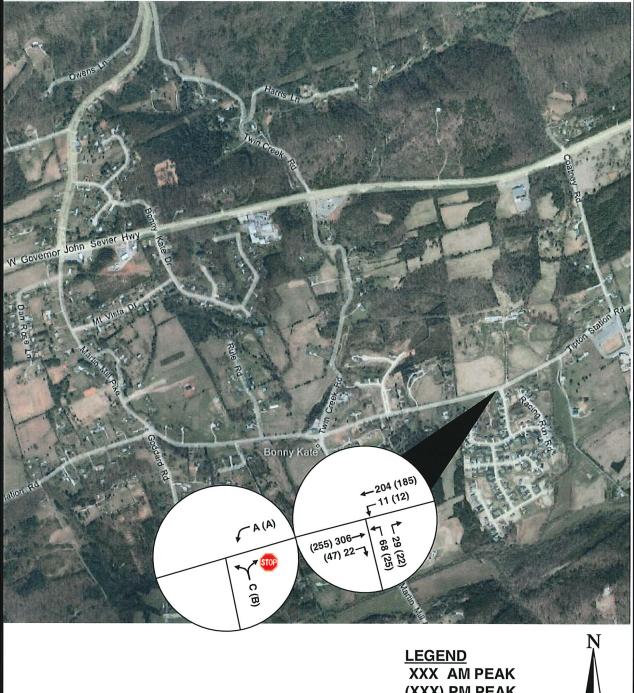
An average growth rate was determined using historical ADT traffic data from the Tennessee Department of Transportation (TDOT) count station #108 on Martin Mill Pike near the Blount County line. This roadway seems to have similar characteristics to Tipton Station Road. The count data covers the period from 1985 to 2005. It indicated that a yearly average of 2.0 percent could be expected for the area. The expected completion of the proposed residential development is to be before 2011. Therefore using a 2.0 percent annual growth rate, the study intersection reflects a 10-percent growth. Figure 5 illustrates the traffic volumes with the appropriately applied growth factor.

Background Capacity and Level of Service

Analysis was performed with the grown traffic volumes and is displayed in Figure 5. The levels of service are measured to be acceptable for the unsignalized study intersection. The exiting Saddlegate Road traffic is expected to experience a LOS C and B in the AM and PM peak hours, respectively.



2011 BACKGROUND TRAFFIC Wood Creek South Subdivision Development Knox County, TN



(XXX) PM PEAK **AM LOS** X (X) PM LOS



Figure 5



PROJECT IMPACTS

Project conditions are developed by generating traffic based on the proposed land uses, distributing the trips to the transportation network, and again conducting analyses for capacity and level of service.

Trip Generation

Project traffic was determined using the publication, **Trip Generation**, **7th Edition**. This reference is published by the Institute of Transportation Engineers (ITE) and represents national data collected for many different land uses including industrial, residential, and commercial uses. **Trip Generation** is an essential tool in calculating the traffic, which may be generated by a proposed development. The study will generate traffic for approximately 52 acres for Planned Residential. This development is a total of 205 single-family units. From the trip generation calculations, the proposed site may generate approximately 2,010 daily trips. Table 2 presents the trip generation of this proposed site.

TABLE 2
TRIP GENERATION

			DAILY	AM P		PM PE	AK
LAND USE	L.U.C.	UNITS	TRIPS	ENTER	EXIT	ENTER	EXIT
Road "A"				12	3,8	43	25
Road "C"				25	78	86	51
Single Family	210	205	2,012 🗸	37 v	116	129	76

Trip Distribution and Assignment

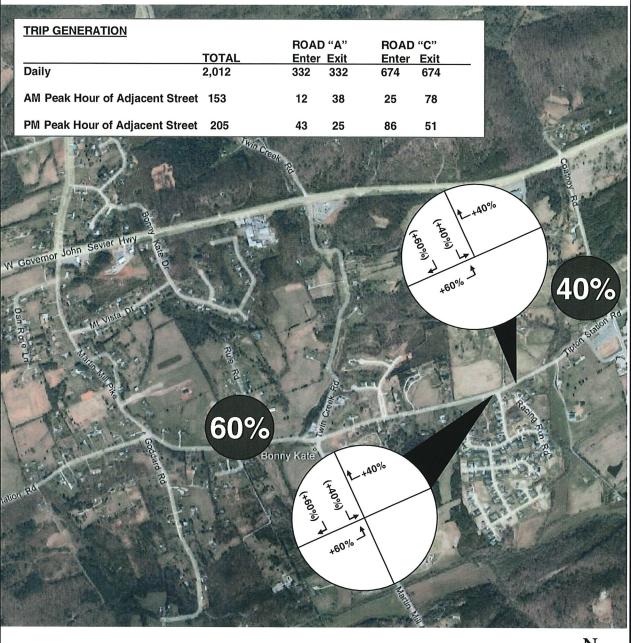
Using the turning-movement counts for the study intersections, trips are distributed to the adjacent streets with 60-percent of the generated trips distributed west and 40-percent assigned east on Tipton Station Road. Upon reviewing the proposed site plan, for study purposes a boundary was assumed to establish the units that would use Road "A" and Road "C". It was assumed that 67-percent on the units located on northeast of the development would utilize Road "C" and the remaining 33-percent would utilize Road "A". Figure 6 illustrates the traffic distribution.

Project Traffic Volumes

By multiplying the trips generated by the distribution percentages, the project traffic volumes were determined. Figure 7 illustrates the resulting project traffic volumes associated with the proposed project.



TRIP DISTRIBUTION Wood Creek South Subdivision Development Knox County, TN



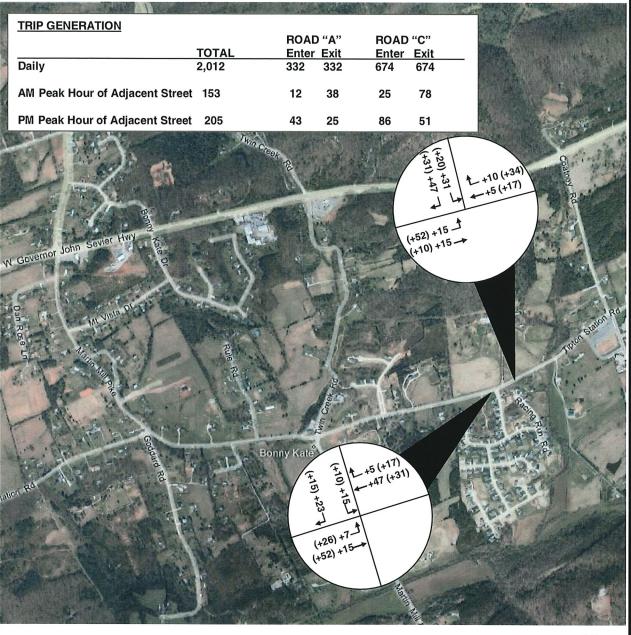
LEGEND
XXX ENTERING TRIPS
(XXX) EXITING TRIPS



Figure 6



PROJECT TRIPS Wood Creek South Subdivision Development Knox County, TN



LEGEND XXX AM PEAK (XXX) PM PEAK



Figure 7



Total Projected Traffic Volumes

Background and project traffic volumes were added together to develop post-development traffic volumes for the year 2011. Figure 8 illustrates this 2011 projection. Using this projection, mitigation measures including traffic control devices and roadway and intersection geometry can be evaluated.

Projected Capacity and Level of Service

The development traffic from the site was analyzed to project the impact the unsignalized intersections. The resulting LOS analyses are shown in Figure 8. Both study-area intersections will operate at a very acceptable LOS with the development fully built out.

Sight Distance

The project is proposed to access Tipton Station Road opposite an existing subdivision street at Road "A" and a new connection at Road "C". Tipton Station Road is posted 40-mph for the section adjacent the proposed site. Measured sight distance at the proposed Road "A" intersection with Saddlegate Road is approximately 600 feet looking left and right. The measurements for Road "C" are approximately 480 feet and 600 feet looking left and right, respectively. The required distance is 305 feet to meet the minimum stopping sight-distance for American Association of State Highway and Transportation Officials (AASHTO) and 400 feet to meet the Knox County Minimum Corner Sight-distance Standard. The proposed site accesses, therefore, meet both criteria to be acceptable for safe operations.

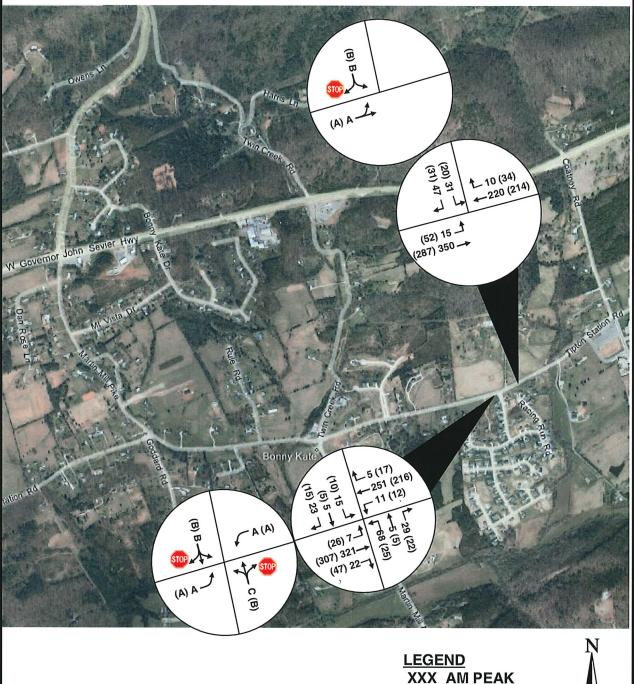
Auxiliary Lane Evaluation

Knox County's Access Control and Driveway Design Policy was used to evaluate the need for auxiliary lanes at the proposed site access intersections of Road "A" and Road "C". The worksheets are provided in the Appendix.

Tipton Station Road is a two-lane roadway with minimal shoulders. Based on Knox County's criteria for turn lanes for two-lane roadways with a prevailing speed of 36 mph to 45 mph, a left-turn lane is not warranted with full build out of the project in 2011 during the AM and PM peak hours at either Road "A" or Road "C". Also, right-turn lanes are not warranted during the AM and PM peak hour with full build out conditions. Using the capacity and LOS analyses, the intersection operated at acceptable levels of service and within the intersection's capacity, suggesting that additional lanes are not required.



2011 PROJECTED TRAFFIC Wood Creek South Subdivision Development Knox County, TN



LEGEND
XXX AM PEAK
(XXX) PM PEAK
X AM LOS
(X) PM LOS



Figure 8



RECOMMENDATIONS

The analyses conducted and the review of the traffic volumes identified the following recommendations:

- Minimize landscaping, using low growing vegetation, and signing at the proposed street accesses to insure that safe sight distance is maintained.
- Use a minimum intersection radius of 25-foot for the efficient and safe ingress and egress of the site.
- Post the proposed streets with a STOP sign (R1-1) at Tipton Station Road.
- Intersection design should conform to the recommended standards and practices of the American Association of State Highway and Transportation Officials, the Institute of Transportation Engineers, and the Knox County Department of Engineering and Public Works.

CONCLUSION

The study of this proposed residential development evaluated the projected traffic conditions. Background traffic was determined using a 2.0-percent annual growth rate until the year 2011. Traffic associated with the proposed project was then generated and distributed to the proposed site accesses. Using the identified turning movements for the projected traffic conditions, unsignalized capacity and level of service analyses were conducted using the **2000 Highway Capacity Manual**. Unsignalized levels of service were found to be very acceptable for the existing traffic conditions and would further continue to be very acceptable in 2011 with and without the proposed development for the intersection of Road "A" and Road "C" at Tipton Station Road. The sight distances for Road "A" and Road "C" will be adequate based on field measurements for a posted 40-mph speed limit. With the recommendations of this report, the efficient and safe flow of traffic should be maintained.



APPENDIX

Historical ADT's

Trip Generation

HCS Unsignalized Analyses

Traffic Counts

Auxiliary Lane Evaluations

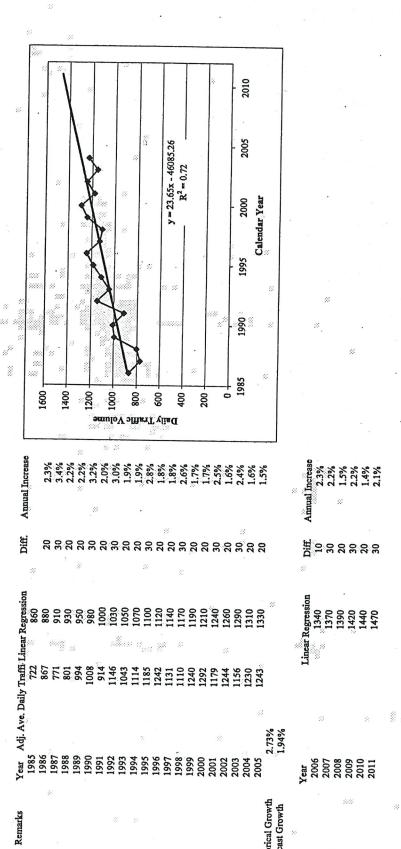


2003-2005 Traffic Counts for Knox County

Station	Street	Location	2003	2004	2005
C136	Taliwa Ct	E of Chapman Hwy	735	2001	1,142
M343	Tarklin Valley Rd	W of Spangler Rd	733	430	1,142
M344	Tarwater Rd	S of Tipton Station Rd		90	
C164	Taylor Rd	E of Woodlawn Pk	1,732	90	1 507
C378	Tazewell Pk	S of Jacksboro Pk	1,752	19,730	1,567
C383	Tazewell Pk	E of Shannondale Rd		12,432	
C384	Tazewell Pk	E of Murphy Rd	+	15,048	
T006	Tazewell Pk	S of Twin Oak Ln	8,169	8,373	8,129
T054	Tazewell Pk	E of Felix Rd	15,638	15,949	
T205	Tazewell Pk	At Union Co Line	5,590	5,999	16,039 5,941
T283	Tazewell Pk	N of Luttrell Rd	13,282	13,889	
M216	Tell Mynatt Rd	E of Tell Mynatt Rd	13,202	670	14,358
C232	Tennessee Ave	E of Western Ave	3,284	070	2.004
C239	Tennessee Ave	E of Burnside St	2,778		3,064
T319	Texas Ave	N of Western Ave	7,449	7,965	2,389
M214	Texas Valley Rd	E of Maynardville Pk	7,443	900	7,833
C046	The Gallery	S of Kingston Pk	2,871	900	2 202
C471	Third Creek Rd	N of Middlebrook Pk N	2,071	4,989	3,303
M202	Thomas Weaver Rd	W of Loyston Rd		4,969	
M218	Thompson School Rd	N of Emory Rd		2,620	
M039	Thorngrove Pk	100' E of Huckleberry Springs	600	2,020	044
	Thorngrove Pk	E of Boyd Bridge Rd	1,840		941
T098	Thorngrove Pk	N of Kodak Rd	915	955	2,438
	Tillery Dr	W of Central Ave Pk	913	4,686	1,012
	Tillery Dr	N of Bradshaw Garden Dr		2,512	
C441	Tillery Dr	N of Wilson Rd	++	1,935	
M046	Tipton Station Rd	W of Burleson Rd	4,410	4,840	4 747
M047	Tipton Station Rd	100' W of Haws Rd	2,140	2,620	4,747 2,465
M377	Tipton Station Rd	E of Maryville Pk	2,140	1,490	2,405
	Tobler Ln	S of Sutherland Ave	3,490	1,490	0.470
C231	Toms St	N of Beaumont Ave	2,083		3,473
M264	Tooles Bend Rd	S of Northshore Dr	1,370		2,056
	Topside Rd	100' W of Woodview Dr	590	590	1,420
M073	Turkey Creek Rd	W of Concord Rd	4,910	3,100	5,761

Location
MARTIN PK-NEAR BLOUNT CO LINE

Route #



Single-Family Detached Housing 137 " , 4 C

(210)

Average Vehicle Trip Ends vs: Dwelling Units

Weekday

X= 205 units

T= 2012 trips

Number of Studies:

350

332 ENTER 332 BUT

Avg. Number of Dwelling Units: 197

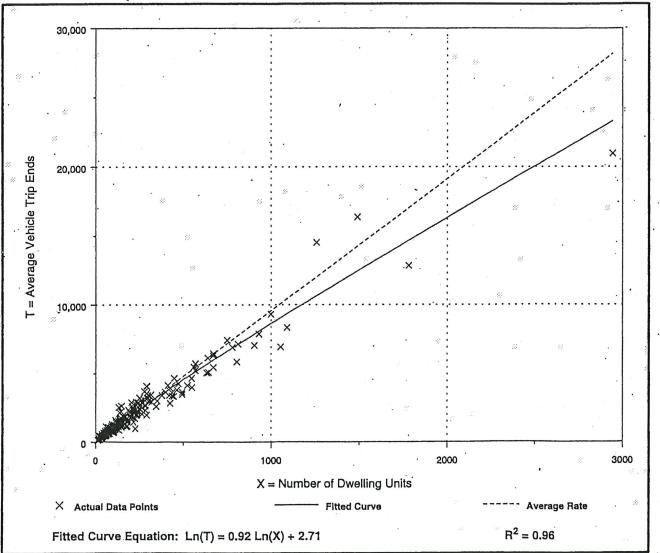
On a:

Directional Distribution: 50% entering, 50% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation					
9.57	4.31 - 21.85	3.69					

Data Plot and Equation



Single-Family Detached Housing

(210)

Average Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

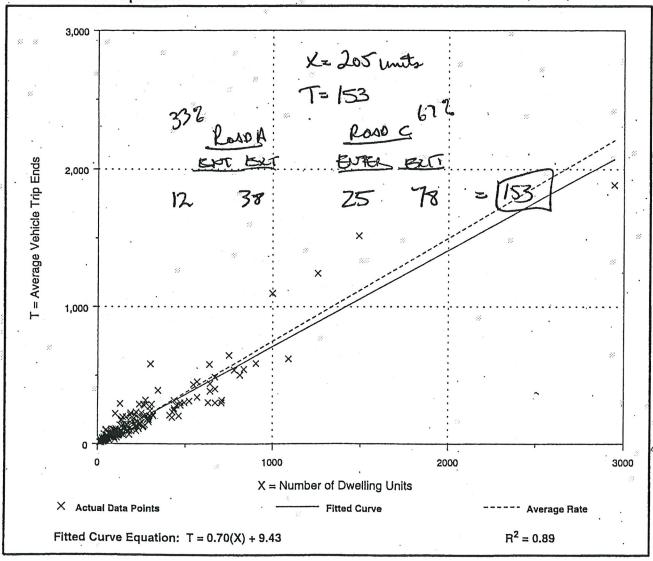
Number of Studies: 274 Avg. Number of Dwelling Units: 201

Directional Distribution: 25% entering, 75% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
 0.75	0.33 - 2.27	0.90

Data Plot and Equation



Single-Family Detached Housing (210)

Average Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

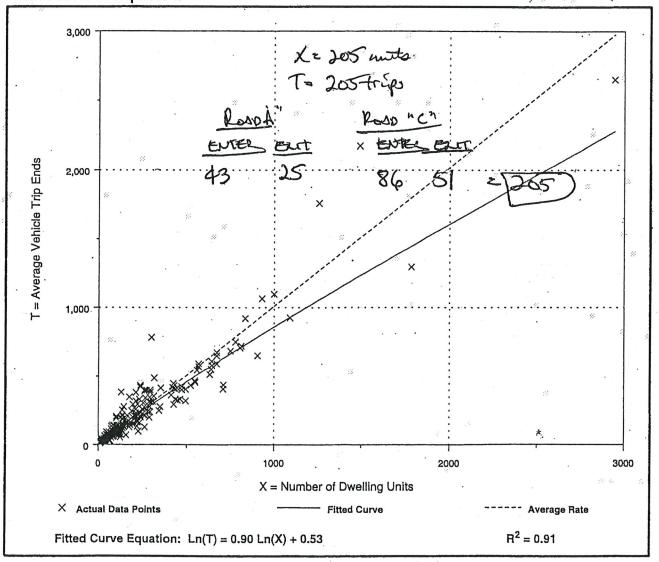
Number of Studies: 302 Avg. Number of Dwelling Units: 214

Directional Distribution: 63% entering, 37% exiting

Trip Generation per Dwelling Unit

5	Average Rate	 Range of Rates	Standard Deviation].
9	1.01	0.42 - 2.98	1.05	

Data Plot and Equation



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vC2, stage 2 conf vol												
vCu, unblocked vol	206			331		Tribine to this work are with a description of	548	548	320	577	559	206
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tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			84	100	96	100	100	100
cM capacity (veh/h)	1366			1228			444	440	721	408	434	835
Direction, Lane #	EB 1	WB 1	NB 1	SB 1						The last		
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Volume Left	0	11	69	0								
Volume Right	22	0.	29	0								
cSH	1366	1228	501	1700		ac no solvenia						
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Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
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C2, stage 2 conf vol											S. A.C. Layer	Ciro transport			
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Control Delay (s)	0.0	0.6	11.8	0.0											
ane LOS		Α	В	Α		4 2 3 4 4 5 4 5 4 5 4 5 5 5 5 5 5 5 5 5 5 5					bariling,				
Approach Delay (s)	0.0	0.6	11.8	0.0			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	-112 d 1121		Total Target					
pproach LOS	and the street and the street of the street		В	Α							· 当自己的 自己是 8				
ntersection Summary												en exam			
verage Delay			1.2								1				
ntersection Capacity Ut	ilization	2	27.9%	IC	J Level	of Serv	ice		Α						
nalysis Period (min)	The state of the second	DATE OF THE PARTY	15		The state of the s			The State of the S		and the latest the		A			
										100					

	•	\rightarrow	*	1	4	*	1	†	-	1	↓	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	restaurant and a second	- ↔			4			4			4	
Sign Control		Free			Free			Stop			Stop	
Grade	17/2/2011	0%	MANAGEMENT AND		0%			0%	400		0%	
Volume (veh/h)	0.	306	₩ 22	11	204	0	68	0.	29	+ 0	0	0 🦠
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0.	340	24	12	227	. 0	76	0	32	0	0	
Pedestrians			What hat the same	Domining Conscious and	de trade par l'agre du sur se		nd to the construction and district	Control to Name of Control		No. 6 de el compressor de la compressor		
Lane Width (ft)												
Walking Speed (ft/s)	A PROGRAMMA				enickelstetekszek		55/10/ = Table 46		Maria Alexandra	Marketine and the same and	to a contract of the contract	The state of the state of the state of
Percent Blockage												
Right turn flare (veh)	(5.267) Peter (*)				te Make englance	HAN STATE OF BOAT SEC	Market Company		von che se Minigrani	en statut en	THE STREET STREET	THE RESERVE ASSESSMENT
Median type								None			None	
Median storage veh)		Mac Carolina	to the contra	in in the property			alada araba a	-10/201410711002	SCHOOL SECTION			No. of the state of the state of the
Upstream signal (ft) pX, platoon unblocked												
vC, conflicting volume	227		al attemptatete	201	The last year	rates, serve	000		A		Recovery For the	
vC, conflicting volume vC1, stage 1 conf vol				364			603	603	352	636	616	227
vC1, stage 1 conf vol		35,14077,1495						fing suffer			Tank Sayahasar	to the same
vCu, unblocked vol	227			364			602	602	250	000		
tC, single (s)	4.1	Angle (Cal		4.1			603 7.1	603 6.5	352 6.2	636	616	227
tC, 2 stage (s)				1245 1 71 5				0.0	0.2	7.1	6.5	6.2
tF(s)	2.2			2.2			3.5	4.0	3.3	2 5	4.0	2.0
p0 queue free %	100			99	4-2005		81	100	95	3.5 100	4.0 100	3.3 100
cM capacity (veh/h)	1342	SACE (PE),		1194		1747 W 1744	408	409	691	370	402	813
TO SEPARATE AND ADDRESS OF THE PROPERTY OF THE	and a reconstruction of the	W/D Z		AND THE REAL PROPERTY OF THE SHEET			400.	409	.091	310	402	813
Direction, Lane #	EB 1	WB 1	NB 1	SB 1			(1), (1), (4)				特温度型	
Volume Total Volume Left	364	239	108	0								
Volume Right	0 24	12	76	0								
cSH	1342	0 1194	32	4700								
Volume to Capacity	0.00	0.01	465	1700		resconduction.				Carrier Marchae		
Queue Length 95th (ft)	0.00	1	0.23	0.00								
Control Delay (s)	0,0	0.5	15.1	0.0		MILLERY THE	· 9:52#75.54	(This little		(ASSESSED AS	two and an ever	
_ane LOS	0,0	0.3 A	19.1	Committee by a record								
Approach Delay (s)	0.0	0.5	15.1	A 0.0		(1847) 1 859	74847.1121,5		577,2437467	f)/(8),		
Approach LOS		4, 0,0	C	Α								
ntersection Summary											hanz im M	
Average Delay			2.5							্ প্রকাশে (ব বিশ	(4) (1) (4) (4)	社体上等
ntersection Capacity Uti	lization		31.9%	ıc	U Level	of Serv	rice	io natro	Α	C. ((XX) 2-31		
Analysis Period (min)	aucosi (CRO)	MARKEL SE	15		AND STATES OF STREET,							REAL
		477 (7 1481)								pestication.		

	1	\rightarrow	*	1	←	*	1	†	<i>></i>	-	↓	1
Movement	EBL	EBT.	EBR	WBL	WBT!	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	25 miles (miles / b. b. co.)	4			4			4			4	
Sign Control		Free			Free			Stop			Stop	
Grade	***	0%			0%			0%			0%	
Volume (veh/h)	0	255	47	12	185	0	25	0	22	0	0	0.
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	283	52	1.3	206	0	28	0	24	0.	0.	: h-0
Pedestrians	britarisherovera economica	rai Characharha e den		Control Martin Control Control Control		V 400 - 170 V 100 - 100						
Lane Width (ft)						tatu (T. 1 sto. Na pakek t						
Walking Speed (ft/s)	Control & printing from Associations	fraction terms become in	THE WATER COMMENTS OF THE		and the same of th	-		Tables of the same Assessment of the same				
Percent Blockage					(11) (13) (2)		ara 71					
Right turn flare (veh)		Strainer authorized	fictiones and a	Total Control Control		redesimilarity rest	Addition 1 West Addition	internations and	water territoria de la	California de Sancia de Sancia		
Median type								None	Hann		None	
Median storage veh)	Medical Care			4424	11 Control of Cartery	Single Control of the control of		And the control of the charge			Telegraph Alb, sects, etch-down School	nachtanas revenuences
Upstream signal (ft)						47 19 19						
pX, platoon unblocked	000	Note to the second			anni serventer			Mineral Action and the				
vC, conflicting volume	206			336			542	542	309	566	568	206
vC1, stage 1 conf vol	100-100 Maria (100	a garar	Tables and a				the of the same to		anjanisati dengan	(Slotnik Bryton tile s	New york and the first	
vC2, stage 2 conf vol	200			000								
vCu, unblocked vol	206	Sext Santy	W W . 2774	336	e terredoren in		542	542	309	566	568	206
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6,5	6.2
tC, 2 stage (s) tF (s)	2.2	r persona	48.000.000.00	2.2		77.04370akh	0.5	100	0.0		* 10	0.0
p0 queue free %	100			99			3.5	4.0	3.3	3.5	4.0	3.3
cM capacity (veh/h)	1366			1224	4.0.55		94	100	97	100	100	100
	THE RESERVE OF THE PARTY OF THE PARTY.			NATURAL PROPERTY.		, 1954 (1954)	448	443	731	417	428	835
Direction, Lane #	EB 1	WB 1	NB 1	SB 1							計り事業	
Volume Total	336	219	52	O								
Volume Left	0	13	28	0	T-200-00-00-00-00-00-00-00-00-00-00-00-00		www.longecom					
Volume Right	52	MAN 0 (24	0								
cSH	1366	1224	547	1700				. 2 (22)				Angrokonacommunika
Volume to Capacity	0.00	0.01	0.10	0.00								
Queue Length 95th (ft)	0	1	8	0	NEW OF STREET			e victoria e su	RAUS THAT	Z Mikrosomotos	er of frameworks	
Control Delay (s)	0.0	0.6	12.3	0.0		ka limb	is abab					
ane LOS		A	B	A								i de Ministrato e di Min
Approach Delay (s) Approach LOS	0.0	0.6	12.3	0.0						no bij		
••		ALIN MARINE DE CANADA	В	Α						i.		
ntersection Summary												
Average Delay	120.000030000	SERVER STANDARDS	1.3	n on king your harrows.	trop to be promised any some	the second second second second second	And the state of t		Non-in-thickness to the second	CORN Sections and Communication	CV0-0475104794470444444444	· ·
ntersection Capacity Uti	lization		29.6%	IC	U Leve	of Serv	/ice		. A			
Analysis Period (min)			15									

	<i>*</i>	→	` `	-	—	1	4	†	<i>*</i>	- 1	1	1
Movement	EBL	EBT	EBR	· WBL	WBT	WBR.	NBL	NBT.	NBR .	SBL	SBT	SBR
Lane Configurations		43-			4			4			4	
Sign Control		Free			Free			Stop			Stop	
Grade	A CONTRACTOR OF STREET	0%			0%		With the State of	0%			0%	
Volume (veh/h)	7.	321	22	11	251	5	68		29	15	5	23
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	357	24	12	279	6	76	6	32	17	6	26
Pedestrians		Continue to the contract of	Michigan were the part of the sales								100	NA CONTRACTOR
Lane Width (ft)												
Walking Speed (ft/s)		TO THE RESERVE OF THE PARTY.			Company and a state of the bayes,			e The Land of the Control		the extraorders have an extraory man	there is an a factor of the particular and the particular and the factor of the particular and the parti	ACTION CONTROL
Percent Blockage												
Right turn flare (veh)				. 1. 1. 2. 3 4 7 7 7						THE THE SHE SHOW		
Median type Median storage veh)						Lichard		None			None	
Upstream signal (ft)	ar Secretary, A.						and to Market				your and the second	
pX, platoon unblocked		dia Aireia I										
vC, conflicting volume	284	16.0.5576.19		381			719	693	369	726	702	202
vC1, stage 1 conf vol	207	18 PR 1846					118	093	309	726	703	282
vC2, stage 2 conf vol	(/5.j.v.6)V			Nggahaya		MARKET WAY		general S				
vCu, unblocked vol	284	ii a dada da		381			719	693	369	726	703	282
tC, single (s)	4.1			4.1	1.		7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)	les san real interp	THE REAL PROPERTY.	March Carter			Mine M. Strand .			allin allin dalin	Carpine Car		
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99	**************************************	a day and dalam art again	99	and the property of the El		77	98	95	95	98	97
cM capacity (veh/h)	1278			1177			324	361	677	316	356	757
Direction, Lane#	EB 1	WB ₁ 1	NB 1	SB 1								
Volume Total	389	297	1137	48		1.3444						
Volume Left	8	12	. 76	17	eriningeno	One Charles and Comment		STATE OF THE PARTY OF				and the state of
Volume Right	24	6	32	26 :								
cSH	1278	1177	383	468							or and the same of the same of the same of	
Volume to Capacity	0.01	0.01	0.30	0.10								
Queue Length 95th (ft)	0	1	30	8		217				NOTES OF STREET		
Control Delay (s)	0.2	0.4	18.3	13.6					tabustaan Cabustaan			
Lane LOS	A	A	C	В		PER MATERIAL MERCAL	NEW PORTSON	ristana arang		ter e ez veterre	New years	Marie Paris
Approach Delay (s) Approach LOS	0.2	0.4	18.3	13.6								15-3-17
Approach LOS			C	В								
Intersection Summary												
Average Delay		eligis protophy protopy account them, ac	3.5	LONG THE COLUMN TO A THE COLUM		COLOR SET ON THE WAY A STATE OF THE SET OF T	ACCORDANGES CONTRACTOR					
Intersection Capacity Ut	llization.		38.0%	i IC	U Leve	of Serv	/ice		A			
Analysis Period (min)		'Tarena et es	15			ar entire to a pro-		The state of the state of			paka sa atau	CONTROL OF THE SERVE
			图像 特别		1.3845.474.5		de Aben de la companya de la company					

	*	$f^{-1} \longrightarrow f$	-		-	4						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	(v.) v.					
Lane Configurations		4	₽		N/F							A Lamber
Sign Control		Free	Free		Stop							
Grade		0%	0%		0%			no article in the later fitting	on to make the good 22%.	A STATE OF THE STA	N 2-4-4-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	Intelligible Committee
Volume (veh/h)	15	350	220	10	31	47						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90					TV Kreeven Co. Rose Co.	TOTAL CHICAGO
Hourly flow rate (vph)	17	389	244	11	34	52						
Pedestrians	Proportion to the control	urkaliforna horasi mater	alle the first the section of the se	nd de elle manufacture des adars de	Michigan Memphania Adaptivita	g half the conditional transport and the condition that the		Charles of the better construction of the	Toron Street Viscout Annual Viscout			
Lane Width (ft)												
Walking Speed (ft/s)	, 10.75 J. 200 C. 10		en e	of a West Transco	to business they		LOSS - Marinet Works		h (voed) where observed		a sporter with our property	udoentenadamo y
Percent Blockage												
Right turn flare (veh)			a kisawa na ana	(2) 74 (2) 21 (2) 21				Mark Bank And Andrews	Spirita Market Science	TARMEN AND AND ADDRESS	60 Y 11 11 11 11 11 11 11 11 11 11 11 11 1	matagionismus
Median type					None							
Median storage veh)	fatgas anxen					realization of the second	SERIES NO.	AND PROPERTY.	SEE GATEO	tarbout ment, state	Yestian herein	ar nga ma
Upstream signal (ft) pX, platoon unblocked												
vC, conflicting volume	256			nosere une	670	OFO		Yeş Xeliyanı banı			, 10 miles 200 miles	
vC1, stage 1 conf vol	200	ation, region.			672	250						
vC2, stage 2 conf vol	44.720.703		Maria PR					V. 11. (12.)	MANUSANA.	a kantan	4.716.71.115.75.	eroria
vCu, unblocked vol	256			Endbild.	672	250						
tC, single (s)	4.1				6.4	6.2	iks yr a		atyon ay	1917 (1917)		
tC, 2 stage (s)					U.T	0. 2 ₇			in Man			
tF(s)	2.2		TRACE I		3.5	3.3						1534
p0 queue free %	99		udioni, ils V		92	93	Nakitasi SA					
cM capacity (veh/h)	1309				416	789	2003 MT (92) 24					
Direction, Lane #	EB 1	WB 1	SB1									
Volume Total	406	256	87									
Volume Left	17	0	34									
Volume Right	0	11	52								1.0	
cSH	1309	1700	581	DIDASTACINO!	Talendo li de alcadelo		nderbt, tet i	•		Allowed A		
Volume to Capacity	0.01	0.15	0.15					1,1				
Queue Length 95th (ft)	1	0	13				uron di di di	ir deluta e i ded	=10/11 and 10 at			
Control Delay (s)	0.4	0.0	12.3									12.4
Lane LOS	Α		В		AND THE RESERVE A		**************************************	1674	A TO MAKE THE STREET		en sammensking	
Approach Delay (s)	0.4	0.0	12.3					5,41, 51 do				
Approach LOS			В						and the second supplied the second	a control of the same		and a supple
Intersection Summary			(1) A					1.945				
Average Delay			1.7									
Intersection Capacity Ut	ilization		11.9%	IC	U Level	of Service			Α			
Analysis Period (min)		- ANNA STATE OF STATE	15	1.000 11.000 - 1.000 13.000	5 %	and the state of t	sin an in New York	ena en en en en Esta (1921)	arantimotista (III)		na alfraichte dibak	THE CHARLES
是是是是一个是一个												

	*	-	*	1	+		1	1	1	-		4
Movement	EBL	EBT:	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	-	ቆ			₩			4			€\$	
Sign Control		Free			Free			Stop			Stop	
Grade		0%		and the second second second second	0%	No Carte Carte Carte Carte	de de la Maderia de presenta en el meso	0%			0%	
Volume (veh/h)	26	307	47.	12	216	17	25	5	22	10	5,	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph) Pedestrians	29	341	52	13	240	19	28	6	24	11	6	17
Lane Width (ft)								Stavetski je i			a singaban	
Walking Speed (ft/s)	Seas in 1				ILIA LA							
Percent Blockage												
Right turn flare (veh)		27.6			al fall (S. Jan							
Median type						[6]][1](5]		None			None	
Median storage veh)			2.6 的。从这样					INOLIC			INOLIG	
Upstream signal (ft)												
pX, platoon unblocked	of the surveyor, rate	and the state of the same	i territoria de la Co		ali in Septim					udos Albert		
vC, conflicting volume	259			393			721	711	367	728	727	249
vC1, stage 1 conf vol			STATE OF STA	entrate in quantum				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	e Andrew Total or	iber inde ok 1688	Color Scientific Sciences	
vC2, stage 2 conf vol												
vCu, unblocked vol	259	Th office Testings surgery	**************************************	393			721	711	367	728	727	249
tC, single (s)	4,1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)								water a representation of the second	A A A A A A A A A A A A A A A A A A A	programment to the section and the	on any or death or a character of symbols	
tF (s)	2.2			2.2	7 5 37 (5) 3,4 (5) 1 (6)		3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98		a Chicago and a single	99			91	98	96	96	98	98
cM capacity (veh/h)	1306			1165			323	346	678	314	339	789
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	bwiley K							
Volume Total	422	272	58	33								⊒(a, a, 23). Stany v = 1, t
Volume Left	29	13	28	11	THE STREET			A CONTRACTOR OF THE CONTRACTOR				
Volume Right	52	19	24	17								
cSH	1306	1165	418	457		The state of the state of	Three territories			listoria martina de la	**** *********************************	
Volume to Capacity	0.02	0.01	0.14	0.07								
Queue Length 95th (ft) Control Delay (s)	2	1 0.5	12	6 13.5	HITHPALL)		tie to som			and a state per	STORE AND AND	
Lane LOS	ο. <i>/</i> Α		. 15.0 B	13.5 B					i wani			
Approach Delay (s)	0.7	0.5	15.0	13.5					Negavita,			
Approach LOS	, U.I.	., 0.5	B	В								
Intersection Summary	Majari (18)											
Average Delay			2.2		ake (responsible to the					istaly to dive	海村市 (共和)等	34 1 1 1 5 E
Intersection Capacity Ut	ilization		39.5%	i ic	Ulevel	of Serv	vice		· · · · · · · · · · · · ·			
Analysis Period (min)	AND RESIDENCE OF A		15	190 W. PA.		J. 501.					Marie San	a Ed. Biri
	1507 (11)											

	*	-	-	*	1	1	
Movement	EBL	"EBT"	WBT	WBR	SBL	SBR	
Lane Configurations		લી	₽.	211 - 22	k _e r		and the second of the second o
Sign Control		Free	Free		Stop		
Grade		0%	0%	TV BE VANDE	0%		
Volume (veh/h)	52	287	214	34	20	31	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly flow rate (vph)	58	319	238	38	22	34	
Pedestrians	Make The other transcensors	Chi Mika-e dyna Tabadana				And the second s	
Lane Width (ft)							
Walking Speed (ft/s)		Charles Artistance of Technology	·	17 m A-man			
Percent Blockage							
Right turn flare (veh)	ėvis, ovisis arko			The Sale Landson in the Control			
Median type					None		
Median storage veh)	a decentración	Linn William Fair			Nagarlangan og skredd	V 200310000000000000000000000000000000000	
Upstream signal (ft) pX, platoon unblocked							
vC, conflicting volume	276				004		
vC1, stage 1 conf vol	2/0	Michanik.			691	257	
vC2, stage 2 conf vol					Tajiratan ila	Agasha, Petropas	
vCu, unblocked vol	276				691	257	
tC, single (s)	4.1	Williakoby.			6.4	6.2	
tC, 2 stage (s)	Carrier d'Arth				0.4	, 0.2	
tF (s)	2.2				3.5	3.3	
p0 queue free %	96		aty in the Mi	Australia di aki	94	96	
cM capacity (veh/h)	1287				392	782	
Direction, Lane#	EB 1	WB 1	CD 4				
Volume Total		-	SB 1			4.38,44	
Volume Left	377 58	276	57				
Volume Right	0	0 38	22 34				
cSH	1287	1700	562				
Volume to Capacity	0.04	0.16	0.10				
Queue Length 95th (ft)	4	0.10	8			Bulletin (19 milion)	
Control Delay (s)	1.6	0.0	12.1				
Lane LOS	Α		В				
Approach Delay (s)	່ 1.6	0.0	12.1				
Approach LOS		COMPOSITOR (L)	В	Selve de Statejak	disentation		
Intersection Summary							
Average Delay	and water of the		1.8	A STATE OF THE STA		and an expensive state of the s	
Intersection Capacity Uti	ilization	4	4.6%	ICI	I I evel	of Service	A
Analysis Period (min)			076 15		LCVCI	OI OCIVICE	Δ.

Wilbur Smith Associates

1100 Marion Street Suite 200 Knoxville, TN 37921

File Name: Tipton Sta w Saddlegate Site Code: 00001111

Start Date : 3/9/2006

Page No : 1

								Group	s Printed	- Unshi	fted							
				bound		Т		Station bound			Saddle	gate Ro	i	7		Station I	Rd	
	Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
П	07:00 AM	0	0	0	0	. 1	20	0	21	10	0	1	11	0	15	2	17	49
	07:15 AM	0	0	0	0	1	61	0	62	20	0	2	22	0	28	3	31	115
	07:30 AM	0	0	0	0	3	79	0	82	25	0	5	30	0	46	8	54	166
Π.	07:45 AM Total	0	0 0	0	0	16	<u>28</u> 188	0	29	14	0	5_	19	0	53	4_	57	105
Ш	i otai į	U	U	. 0	0 1	b	188	0	194	69	0	13	82	0	142	17	159	435
	MA 00:80	0	0	0	0	4	28	0	32	15	0	5	20	0	50	3	53	105
_	08:15 AM	0	0	0	0	2	50	0	52	8	ŏ	11	19	ő	129	5	134	205
	08:30 AM	0	0	0	0	1	42	. 0	43	13	0	1	14	Ō	37	4	41	98
11-	08:45 AM	00	0	0	0	3_	24	0	27	7	0	2	9	0	14	1	15	51
	Total	. 0	0	0	0	10	144	0	154	43	0	19	62	0	230	13	243	459
Н																		
	02:00 PM	0	0	0	0	1	15	0	16	2	0	0	2	0	14	3	17	35
	02:15 PM	0	0	0	0	2	18	0	20	3	0	1	4	Ö	9	2	11	35
	02:30 PM	0	0	0	0	2	21	0	23	2	0	. 1	3	0	11	4	15	41
-	02:45 PM	0 0	0_	0	0	1_	26	0	27	6	0	2	8	0	21	10	31	66_
	Total	Ü	0	0	0	6	80	0	86	13	0	4	17	0	55	19	74	177
	03:00 PM	0	0	0	0	2	17	0	19	5	0	2	7	0	36	12	48	74
	03:15 PM	0	0	0	0	3	17	Ö	20	2	ő	ō	2	0.	21	8	29	51
Н	03:30 PM	0	0	0	0	5	30	0	35	4	Ō	5	9	Ö	42	6	48	92
Ш.	03:45 PM	0	0	00	0	10	134	0_	144	. 4	0_	2	6	0	45	8	53	203
	Total	0	0	0	0	20	198	0	218	15	0	9	24	0	144	34	178	420
	04:00 PM	0	0	0	οl	5	32	0	37	7		_	401	•	40			
Ш	04:00 FM	0	0	0	0	1	35	0	36	7 7	0	5 0	12	0	40 30	4 6	44 36	93 79
	04:30 PM	ő	Ö	ŏ	ő	4	26	0	30	.0	0	2	2	0	35	3	38	79
_	04:45 PM	0	0	0	ō	3	32	Ö	35	3	ő	5	8	0	55	16	71	114
	Total	0	0	0	0	13	125	0	138	17	0	12	29	0	160	29	189	356
Ш	05:00 PM	0	0	0	οl	5	25	0	40		•		4-1				1	
	05:15 PM	. 0	0	0	0	4	35 42	0	40 46	6 4	0	9 3	15 7	0	51	8	59	114
	05:30 PM	Ô	Ö	0	ő	2	55	0	57	7	0	1	8	0	66 62	12 9	78 71	131 136
	05:45 PM	Ö	Ö	Ö	ő	ō	36	Ö	36	6	0	7	13	0	53	14	67	116
	Total	0	0	0	0	11	168	0	179	23	0	20	43	. 0	232	43	275	497
	O T 1	•	•	•	ا ء			_										
(n	Grand Total Apprch %	0 0	. 0	0	0	66	903	0	969	180	0	77	257	0	963	155	1118	2344
	Total %	0	0	0	0	6.8 2.8	93.2 38.5	0	44.0	70 7.7	0	30		0	86.1	13.9		
	10tai 70	,	U	U	U	2.8	38.3	U	41.3	7.7	0	3.3	11	0	41.1	6.6	47.7	

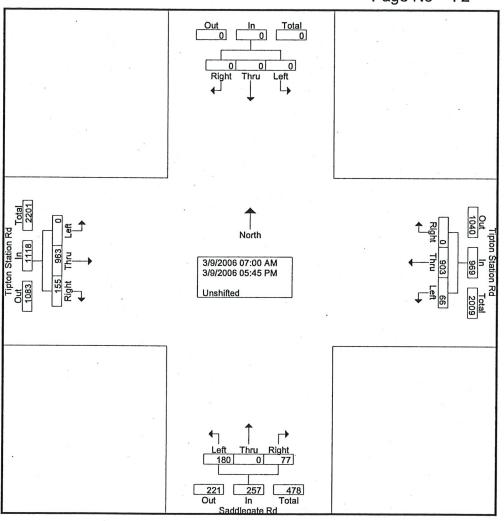
Wilbur Smith Associates

1100 Marion Street Suite 200 Knoxville, TN 37921

File Name: Tipton Sta w Saddlegate

Site Code : 00001111 Start Date : 3/9/2006

Page No : 2



Wilbur Smith Associates

1100 Marion Street Suite 200 Knoxville, TN 37921

File Name: Tipton Sta w Saddlegate Site Code: 00001111

Site Code : 00001111 Start Date : 3/9/2006

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		South	bound		1	ipton S West	tation bound	Rd			gate Ro	d	. Т	•	Station bound	Rd	
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Anal						of 1											
Peak Hour for E	ntire Inte	rsectior	Begins	at 07:30	AM												
07:30 AM	. 0	0	0	0	3	79	0	82	25	0	5	30	0	46	8	54	166
07:45 AM	0	0	0	0	1	28	0	29	14	0	5	19	0	53	4	57	105
08:00 AM	0	0	0	0	4	28	0	32	15	0	5	20	0	50	3	53	105
08:15 AM	0	0	0	0	2	50	0	52	8	0	11	19	0	129	5	134	205
Total Volume	0	0	0	0	10	185	0	195	62	0	26	88	0	278	20	298	581
% App. Total	0	0	0_		5.1	94.9	0		70.5	0	29.5		0	93.3	6.7		
PHF	.000	.000	.000	.000	.625	.585	.000	.595	.620	.000	.591	.733	.000	.539	.625	.556	.709
Peak Hour Anal Peak Hour for E	ntire Inte					of 1										¥	
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	. 0	. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	.0	0	0	0	0	0	. 0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		. 0	0_	0		0_	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Peak Hour Analy Peak Hour for E	ntire Inte		Begins		PM							1					
05:00 PM	0	0	0	0	5	35	0	40	6	0	9	15	0	51	8	59	114
05:15 PM	0	0	0	0	4	42	0	46	4	0	3	7	0	66	.12	78	131
05:30 PM	0	0 -	0	0	. 2	55	0	57	7	0	1	8	0	62	9	71	136
05:45 PM	0	0	0	0	0	36	0	36	6	0	7_	13	0	53	14	67	116
Total Volume	0	0	0	0	11	168	0	179	23	0	20	43	0	232	43	275	497
% App. Total	0	0	0	000	6.1	93.9	0	70-	53.5	0	46.5		0	84.4	15.6		
PHF	.000	.000	.000	.000	.550	.764	.000	.785	.821	.000	.556	.717	.000	.879	.768	.881	.914

TABLE 5A TABLE 5A 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	THROU	GH VOLUME	PLUS RIGH	IT-TURN V	OLUME	*
VOLUME	100 - 149	150 - 199	200 - 249	250 - 299	300 - 349	350 - 399
100 - 149	250	180	140	110	80	70
150 - 199	200	140	105	90	70	60
200 - 249 250 - 299	160 130	115 100	85 75	75 T 6	65 7	(55) (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	30	25	20
700 - 749	50	35	30	25	20	20
750 or More	45	35	25	25	20	20

OPPOSING	THROU	GH VOLUME	PLUS RIGH	T-TURN	VOLUMI	C *
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	
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

RIGHT-TURN LONE WARRANTS ARE NOT MET

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

RIGHT-TURN	THRO	OUGH VOLUM	E PLUS LEE	T-TURN	VOLUMI	; *
VOLUME	<100	100 - 199	200 - 249	250 - 299	300 - 349	350 - 399
Fewer Than 25 25 - 49 50 - 99		*	No Mo	750	*	
100 - 149 150 - 199	· · · · · · · · · · · · · · · · · · ·					
200 - 249 250 - 299		**			Yes	Yes Yes
300 - 349 350 - 399			Yes	Yes Yes	Yes Yes	Yes Yes
400 - 449 450 - 499) (Constants)	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	THRO	DUGH VOLUM	E PLUS LEF	T-TURN	VOLUM	E *
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.

ROSO MA "

ROD "C)

25 (246) 235 (232)

~ 10 (34) ~ 120 (214) 261 261

		,		