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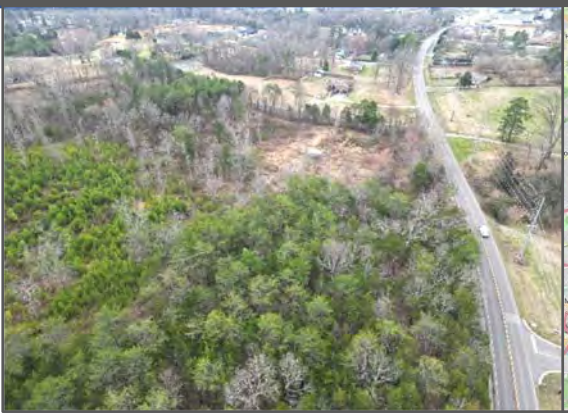
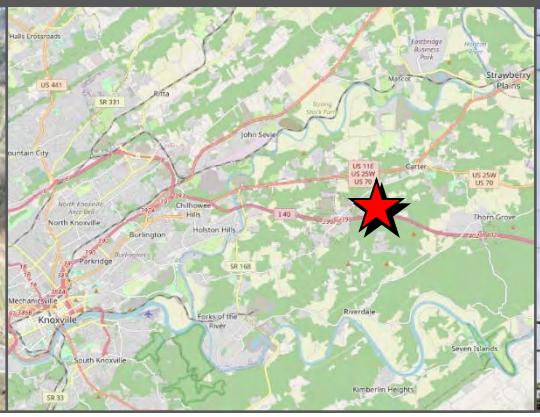
Transportation Impact Letter

7716 Strawberry Plains Pike Subdivision

Knox County, Tennessee





Revised April 14, 2026

Prepared for:
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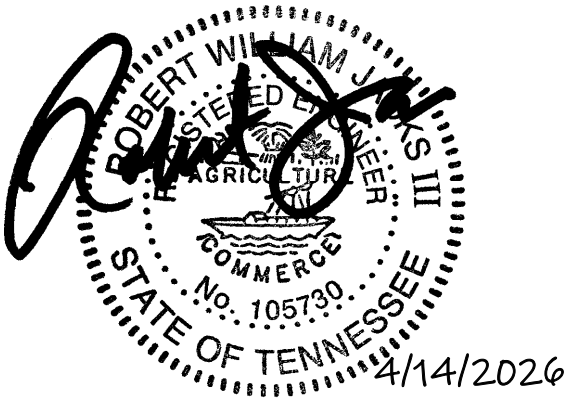

5-SB-26-C / 5-F-26-DP
TIL Version 3
4/14/2026

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▪ EXECUTIVE SUMMARY

Preface:

Mesana Investments, LLC proposes a residential subdivision at 7716 Strawberry Plains Pike in East Knox County, TN. The proposed development will include the construction of 110 single-family attached townhouses on 13.91 +/- acres. The development is referred to in this report as "7716 Strawberry Plains Pike Subdivision" because a formal name has not yet been chosen. The development proposes a single entrance to Strawberry Plains Pike, 725 feet northeast of the existing unsignalized T-intersection with Wooddale Church Road. The subdivision is anticipated to be fully built and occupied by 2029.

Report Results:

The significant findings of this report include the following:

- The proposed 7716 Strawberry Plains Pike Subdivision, with 110 single-family attached townhouses, is estimated to generate 722 vehicle trips at full build-out and occupancy on an average weekday. Of these daily trips, 50 are estimated to occur during the AM peak hour and 55 in the PM peak hour in 2029.
- The Proposed Entrance intersection at Strawberry Plains Pike is calculated to operate with low vehicle delays and short vehicle queues in the projected 2029 conditions.
- The available intersection sight distance at the Proposed Entrance location is adequate to the south but currently slightly less than the required distance looking to the north due to the combination of the horizontal curvature of Strawberry Plains Pike, the existing vegetation on the south side of the road along the development site's road frontage, and existing rock outcroppings on the property edge. It is assumed that the necessary sight distance to the north will be available at this location if vegetation and possibly some of the outcroppings are removed during construction. However, it will need to be verified by a land surveyor or estimated by the civil site engineer in their design to make a final determination.
- The need for separate left- and right-turn lanes at the Proposed Entrance on Strawberry Plains Pike is not expected to meet Knox County thresholds, based on the calculated intersection volumes for the projected 2029 conditions.

Recommendations:

The following recommendations are offered based on the analyses to minimize the impacts of the proposed development on the adjacent transportation system while attempting to achieve an

acceptable traffic flow and improved safety. The recommendations marked with an asterisk indicate an existing transportation need and are not associated with the proposed development's projected impacts.

Strawberry Plains Pike at Proposed Entrance:

- The intersection sight distance to the north will need to be verified by a land surveyor or estimated by the civil site engineer during design to determine whether it will meet the 450-foot requirement in the constructed conditions. The intersection sight distances from the Proposed Entrance at Strawberry Plains Pike must not be impacted by future landscaping, signage, grading, or existing vegetation at the entrance.
- It is recommended that a Stop Sign (R1-1) be installed and a 24" white stop bar be applied at the Proposed Entrance approach at Strawberry Plains Pike. The stop bar should be applied at least 4 feet from the edge of the travel lane on Strawberry Plains Pike, and placed at the desired stopping point that maximizes sight distance.
- The curb radii at the Proposed Entrance on Strawberry Plains Pike should be a minimum of 40 feet to facilitate turns and increase the speed at which vehicles can be removed from the thru movements on Strawberry Plains Pike. A 35-foot radius is recommended for exiting vehicles to enter the Strawberry Plains Pike traffic stream from the proposed development entrance.

7716 Strawberry Plains Pike Subdivision Internal Roads:

- A 25-mph Speed Limit Sign (R2-1) with additional plaque signage, as shown adjacent, is recommended to be posted near the beginning of the Proposed Entrance road off Strawberry Plains Pike. It is also recommended that a "No Outlet" Sign (W14-2a) be posted at the front of the subdivision. This sign can be posted above or below the street name sign, or posted separately (W14-2).
- Stop Signs (R1-1) with 24" white stop bars are recommended to be installed on the internal roadway intersections for the minor approaches of Road "A" at Road "B" and Road "C" at Road "D", and all four approaches at the intersection of Road "B" at Road "C".
- Dual end-of-roadway object markers (OM4-1) should be installed at both ends of Roads "B" and "D" and at the northern end of Road "C".

- Sight distance at the new internal intersections must not be impacted by new signage, parked cars, or future landscaping. With a proposed speed limit of 25 mph in the development, the required intersection sight distances are 250 feet. The civil site engineer should ensure internal sight distances are provided.
- The civil site engineer should provide a centralized mail delivery center location within the development for the subdivision residents.
- All drainage grates and covers for the residential development must be pedestrian and bicycle-safe.
- All road and intersection elements should be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) and the Manual on Uniform Traffic Control Devices (MUTCD), as well as Knox County's specifications and guidelines, to ensure proper roadway operations.

Other Transportation Needs:

* • Along the proposed development site's road frontage, two knocked down and abandoned traffic signs with posts are lying on the south side of Strawberry Plains Pike. These include a Side Road Sign (W2-2L) and a "Utility Work 500 FT" construction sign. These signs should be removed. The Side Road Sign (W2-2L) is shown standing (but leaning) in Google Street View from January 2025, but it is currently lying on the ground. It is not fully understood why this sign was posted at this location since another Side Road Sign (W2-2L) is posted in advance of S Wooddale Road, slightly further to the northeast.

Knocked Down Side Road Sign on Strawberry Plains Pike

Knocked Down Construction Sign on Strawberry Plains Pike

* • It is recommended that Knox County install a Speed Limit Sign (R2-1) for eastbound traffic on Strawberry Plains Pike. Currently, a 40 mph speed limit sign is posted for eastbound traffic near the Interstate 40 entrance/exit ramps. In

contrast, a 45 mph speed limit sign is posted for westbound traffic, beginning at the end of the Carter Elementary school zone (located to the northeast). To provide consistency with the posted limit in the opposite direction of travel, it is recommended to install a 45 mph Speed Limit Sign (R2-1) for eastbound traffic. The sign should be placed in an appropriate location northeast of the existing 40 mph sign, beyond the commercial development near the Interstate.

▪ INTRODUCTION AND ACCESS ROADWAY DESCRIPTIONS

The location of the proposed new residential development, the 7716 Strawberry Plains Pike Subdivision, is shown in Figure 1. This proposed development will be located on the south side of Strawberry Plains Pike near the Carter Community of East Knox County, TN.

Strawberry Plains Pike at the development site runs generally southwest-northeast but is depicted as west-east in this report. Strawberry Plains Pike at the development site is a two-lane road with white edge lines and a double yellow centerline. Just northeast of the site, the centerline is striped for a short distance, creating a passing zone for vehicles traveling northeast.

Strawberry Plains Pike at Proposed Entrance Location (Looking West)

Strawberry Plains Pike traverses between Andrew Johnson Highway (US 11E/SR 34) to the northeast of the project site and Boyds Bridge Pike to the southwest. Along its path from the northeast to the southwest, Strawberry Plains Pike provides access to Carter Elementary School, crosses under Interstate 40, intersects E Governor John Sevier at a traffic signal, and ends near the Holston River, where the roadway continues as Boyds Bridge Pike.

Nearer to the study area, Strawberry Plains Pike primarily provides access to residences, undeveloped properties, a church, and a new recreational business, Big Orange Pickleball. To the southwest of the development site, Strawberry Plains Pike is fronted with gas stations, hotels, banks, fast food restaurants, and other businesses associated with areas near Interstate exits. In addition, a new apartment complex is under construction near the intersection of Strawberry Plains Pike and Huckleberry Lane.

The section of Strawberry Plains Pike at the proposed development site is classified as a Minor Arterial and has a posted speed limit of 45 mph. The asphalt pavement width of Strawberry Plains Pike is 26.5 feet near the Proposed Entrance location.

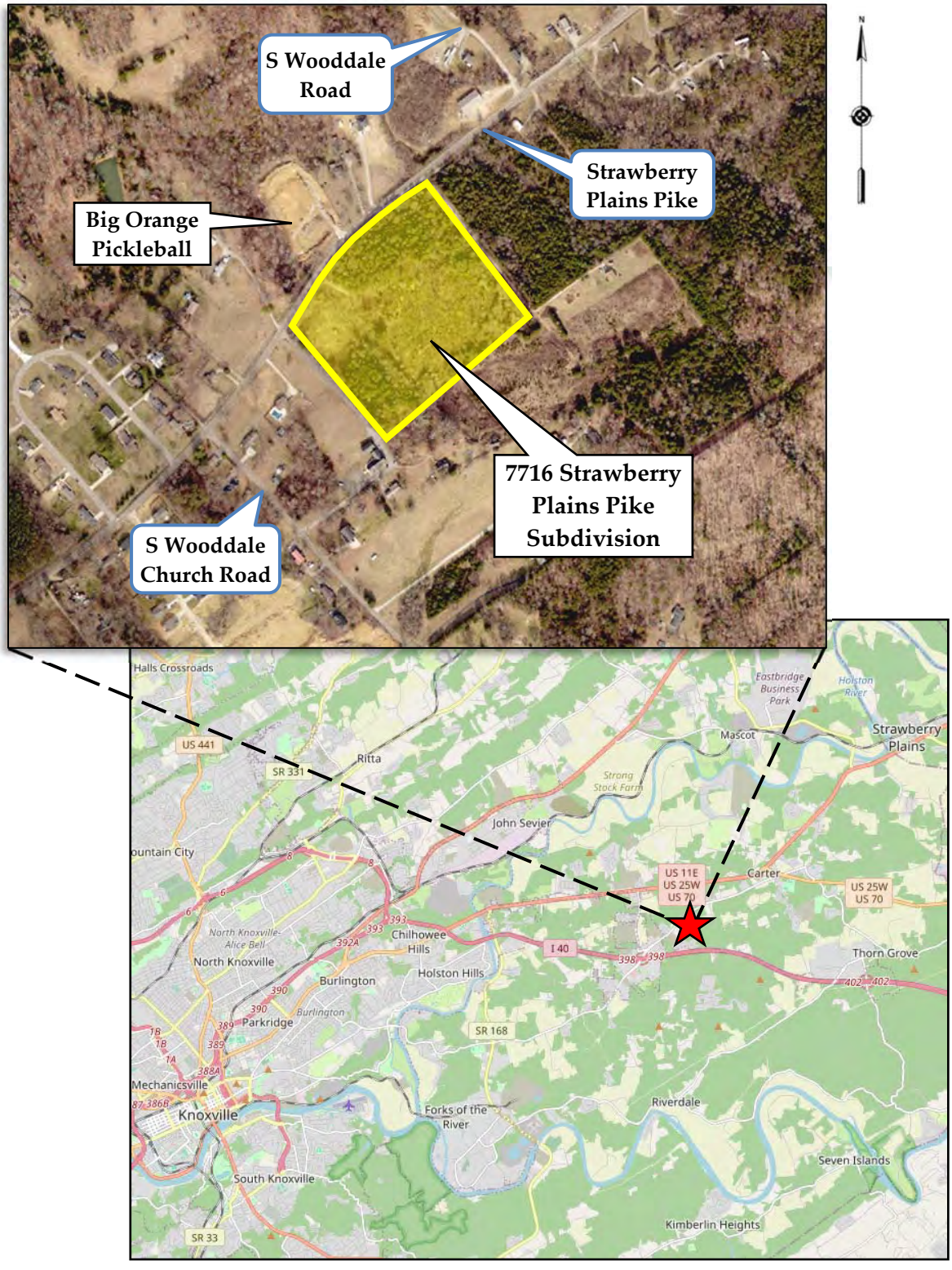

Figure 1
Location Map

- **PROJECT DESCRIPTION:**

The proposed development will include a single entrance on the south side of Strawberry Plains Pike, 725 feet northeast of the existing unsignalized T-intersection of Strawberry Plains Pike at Wooddale Church Road, and 470 feet from an entrance to the new recreational business, Big Orange Pickleball.

The 7716 Strawberry Plains Pike Subdivision is projected to be fully built and occupied by residents by 2029. The residential development will include 110 single-family townhouses on a 13.91-acre, nearly square-shaped parcel. The existing development parcel is mostly wooded, having been partially logged in the last twenty years. Until recently, the property provided access to a small shed/barn from Strawberry Plains Pike, but that access has since become overgrown with vegetation and unmaintained. This shed/barn will be removed during the construction of the subdivision.

Access to the townhouses will be via four new internal roads, each 26 feet wide and private. The internal roads will not have sidewalks; aside from a one-acre park/common area for the residents, the development will not provide any other amenities.

The proposed site layout from Urban Engineering, Inc. is shown in Figure 2 with the roads in the plan labeled as Roads "A" through "D". Figure 3 shows the location of the development property at Strawberry Plains Pike, the traffic count location conducted for the study, and the current traffic signage along Strawberry Plains Pike in the study area. The traffic signage shown in Figure 3 consists solely of warning and regulatory signage near the development site along Strawberry Plains Pike.

Figure 2
Proposed Plan Layout
7716 Strawberry Plains Pike Subdivision

Not to Scale – Annotated by Ajax Engineering for Display Purposes

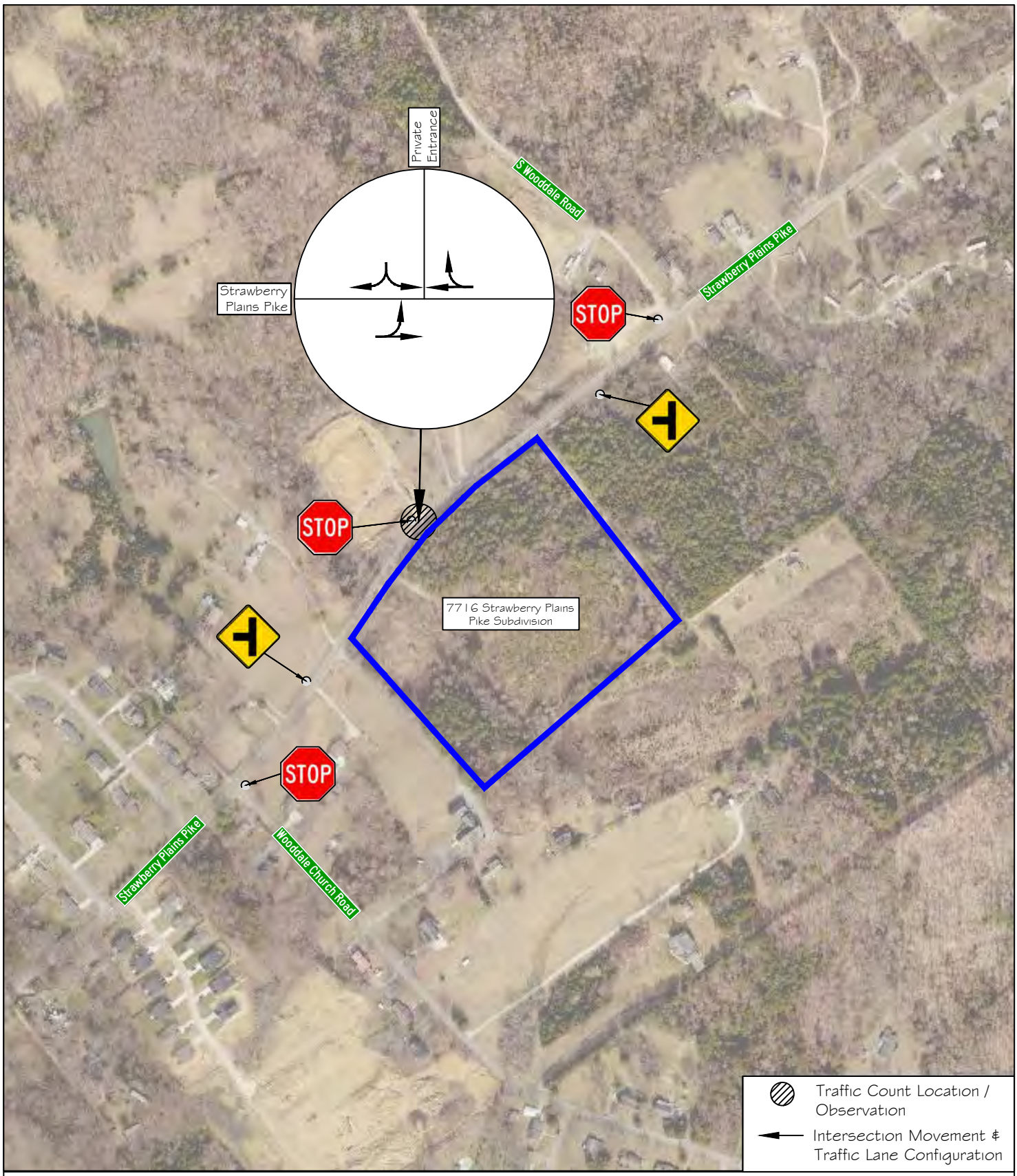

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FIGURE 3

7716 Strawberry Plains Pike Subdivision

Traffic Count Location, Traffic Signage & Existing Lane Configurations

▪ EXISTING TRAFFIC CONDITIONS

For this report, a 6-hour traffic count was conducted at Strawberry Plains Pike in front of the proposed development property at the entrance intersection for Big Orange Pickleball on Wednesday, March 4th, 2026. Local public schools were in session when the traffic count was conducted. Based on the collected traffic volumes, the AM and PM peak hours were observed to be 7:00 – 8:00 am and 4:45 – 5:45 pm. The manual tabulated peak AM and PM peak hour traffic counts at the roadway are shown in Figure 4, and the Appendix contains the full traffic count results.

Overall, the thru movements on Strawberry Plains Pike showed predominant westbound flows in the AM peak hour and eastbound flows in the PM peak hour. Nearly non-existent turning movements to and from Big Orange Pickleball were recorded during the observed AM and PM peak hours.

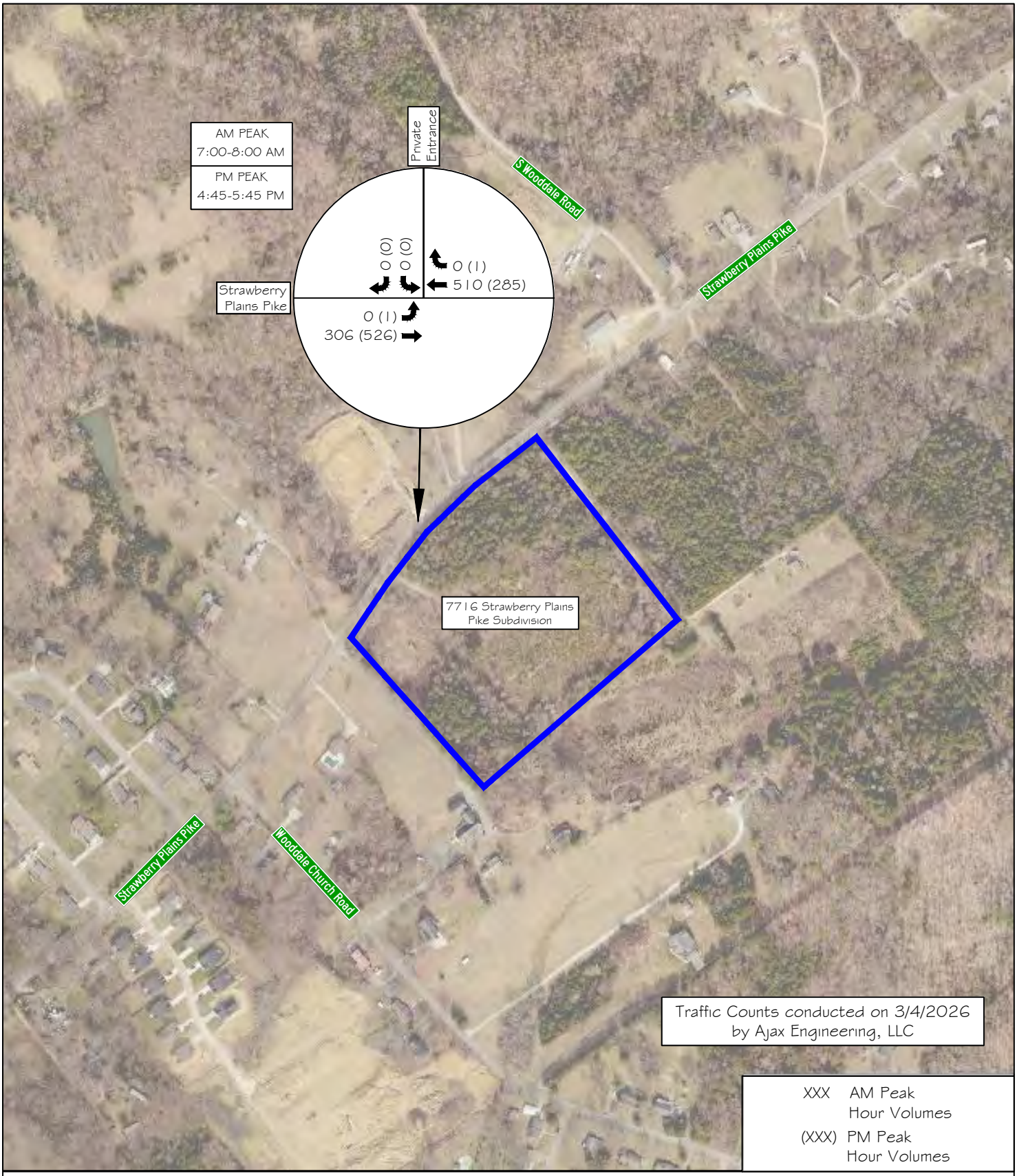

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FIGURE 4

7716 Strawberry Plains Pike Subdivision

2026 Peak Hour Traffic Volumes - Existing Traffic Conditions

▪ PROJECTED TRAFFIC CONDITIONS WITHOUT THE PROJECT

Horizon year traffic conditions represent the projected traffic volumes in the study area if the proposed project is not developed (no-build option). This proposed residential development's build-out and full occupancy are assumed to occur by 2029.

There is only one annual vehicular traffic count location in the near vicinity, and the Tennessee Department of Transportation (TDOT) conducts it. The count location data is the following and can be viewed with further details in the Appendix:

- Existing vehicular roadway traffic:
  TDOT reported the following Average Annual Daily Traffic (AADT):
  - Strawberry Plains Pike, east of S Molly Bright Road and northeast of the development site, recorded 5,232 vehicles per day in 2024. Between 2014 and 2024, this count station has reported an average annual growth rate of -1.5%.

Thus, for this report, an annual growth rate of 2% was assumed to ensure a conservative result. This growth factor was applied to the existing thru volumes tabulated on Strawberry Plains Pike to estimate future volumes for the horizon year of 2029, excluding the proposed development traffic to account for potential traffic growth in the study area. This potential would also include the new apartment complex, Universal at Strawberry Plains, under construction to the southwest, closer to Interstate 40. Figure 5 shows the projected 2029 horizon year traffic volumes during the AM and PM peak hours on Strawberry Plains Pike adjacent to the proposed development site at the Big Orange Pickleball entrance and the thru volumes at the Proposed Entrance location.

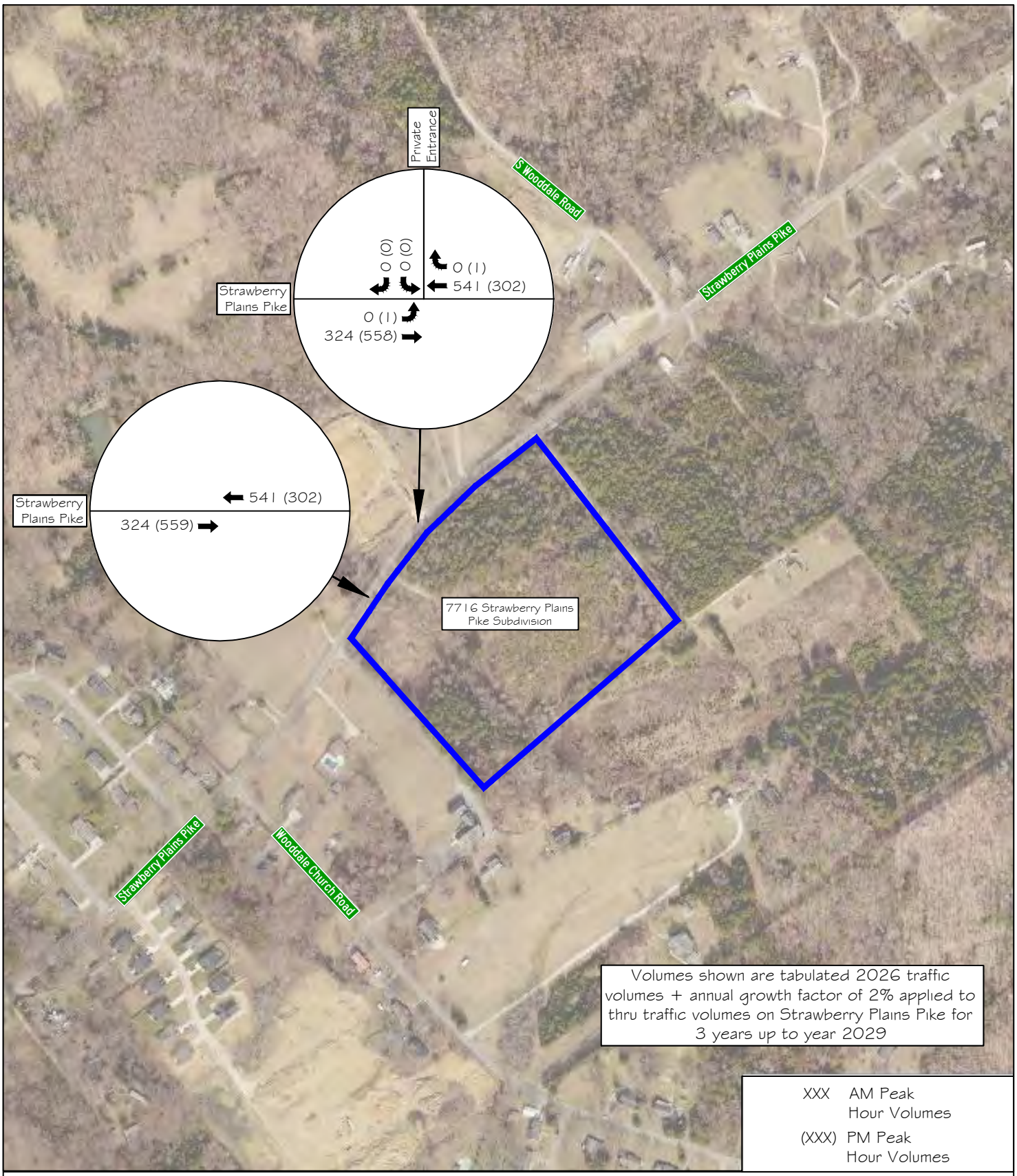

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FIGURE 5

7716 Strawberry Plains Pike Subdivision

2029 Peak Hour Traffic Volumes - Projected Traffic Conditions Without the Project

▪ TRIP GENERATION

A generated trip is a single, one-directional vehicle movement that enters or exits the study site. The estimated traffic generated by the proposed 110 units in the 7716 Strawberry Plains Pike Subdivision development was calculated using rates and equations from the Trip Generation Manual, 12th Edition, an Institute of Transportation Engineers (ITE) publication.

The data and calculations for the proposed land use are shown in the Appendix. A summary of this information is presented in Table 1:

TABLE 1
TRIP GENERATION FOR 7716 STRAWBERRY PLAINS PIKE SUBDIVISION
110 Attached Townhouses

ITE LAND USE CODE	LAND USE DESCRIPTION	# OF UNITS	WEEKDAY GENERATED TRAFFIC	WEEKDAY GENERATED TRAFFIC AM PEAK HOUR			WEEKDAY GENERATED TRAFFIC PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
#215	Single-Family Attached Housing	110	722	25%	75%		57%	43%	
				13	37	50	31	24	55
Total New Volume Site Trips			**722**	**13**	**37**	**50**	**31**	**24**	**55**

ITE Trip Generation Manual, 12th Edition
Trips calculated by using Fitted Curve Equations

For the proposed 7716 Strawberry Plains Pike Subdivision, it is estimated that 13 vehicles will enter and 37 will exit, for a total of 50 trips generated during the AM peak hour in 2029. Similarly, it is estimated that 31 vehicles will enter and 24 will exit, for a total of 55 trips generated during the PM peak hour in 2029. The calculated trips for an average weekday are estimated at 722 vehicles for the proposed development. No vehicle trip reductions were included in the calculations or analysis.

- **TRIP DISTRIBUTION AND ASSIGNMENT:**

In addition to the observed and tabulated thru movements on Strawberry Plains Pike, an auxiliary brief traffic count was conducted to help estimate the future distribution of trips generated by the proposed development. This other count was conducted on Strawberry Plains Pike at its intersection with West and East Grinnell Circle, approximately 1,500 feet southwest of the proposed development site. West and East Grinnell Circle provides access to 19 single-family detached houses, with no other road access points besides Strawberry Plains Pike. This auxiliary count was conducted only during the identified AM and PM peak hours (2 hours).

The observed entering and exiting splits at these existing residential roads are projected to be a good analog for future residents of the 7716 Strawberry Plains Pike Subdivision development, since these roads serve a residential land use similar to that proposed for the development site. The entering and exiting percentages during the observed AM and PM peak hours to and from West and East Grinnell Circle at Strawberry Plains Pike are shown in the adjacent table:

Observed Entering and Exiting Vehicle Distribution at Strawberry Plains Pike and W/E Grinnell Circle

AM PEAK HOUR		
	Volumes	%
ENTER FROM WEST	0	0%
ENTER FROM EAST	2	100%
EXIT TO WEST	4	67%
EXIT TO EAST	2	17%
PM PEAK HOUR		
ENTER FROM WEST	10	71%
ENTER FROM EAST	4	29%
EXIT TO WEST	4	80%
EXIT TO EAST	1	20%

Thus, taking into account the observed thru-movement traffic flows on Strawberry Plains Pike, the entering and exiting movements at the nearby residential road entrances, and the site's location on Strawberry Plains Pike, the assumed projected trip distribution for the 7716 Strawberry Plains Pike Subdivision was estimated and is shown in Figure 6. Overall, a 70/30 split on Strawberry Plains Pike was assumed, with the majority portion being to and from the west.

Figure 6 shows the projected distribution of traffic entering and exiting the proposed residential subdivision at the Proposed Entrance. Figure 7 shows the traffic assignment for the computed trips generated by the 7716 Strawberry Plains Pike Subdivision, based on the assumed distribution of trips shown in Figure 6.

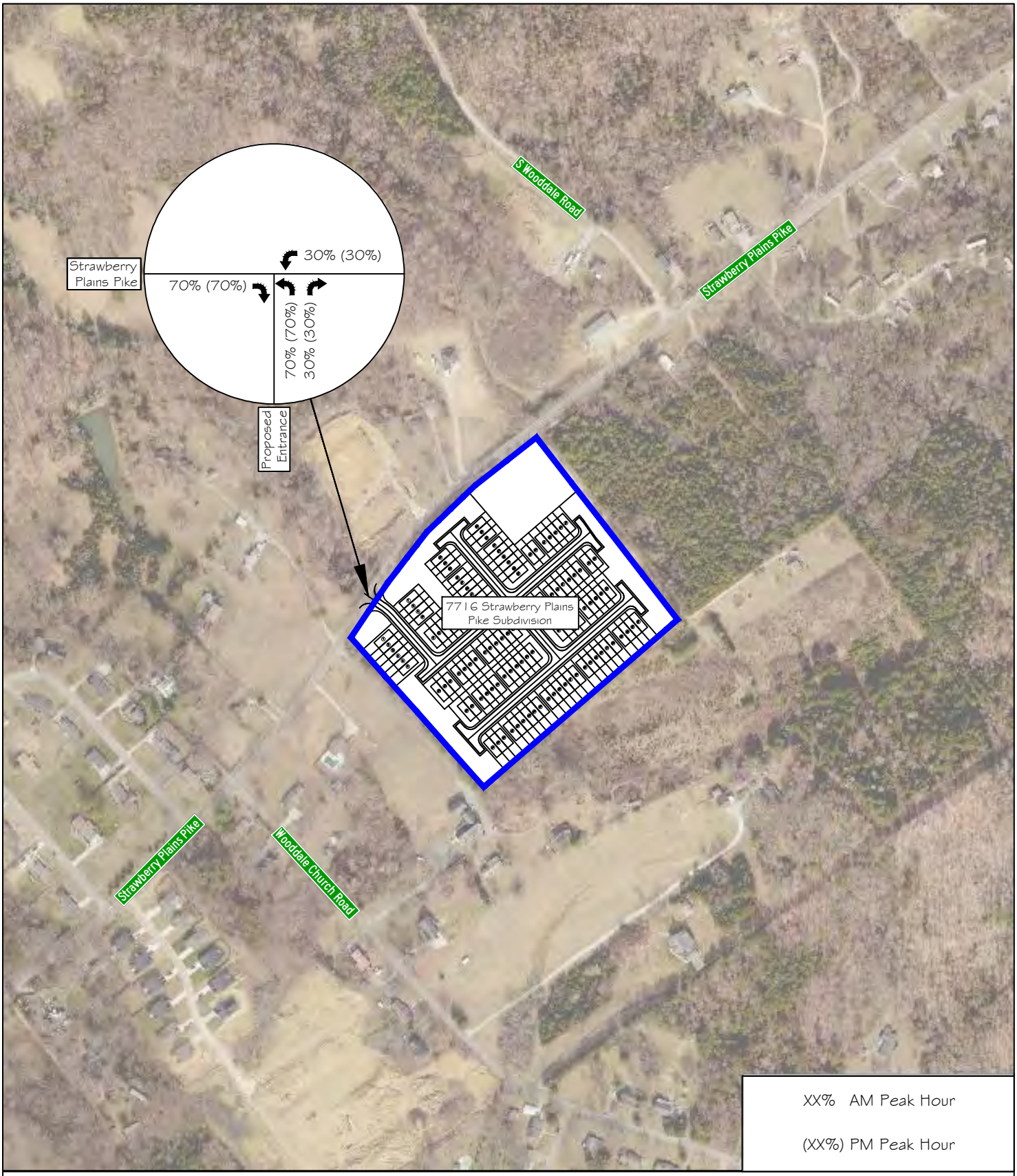

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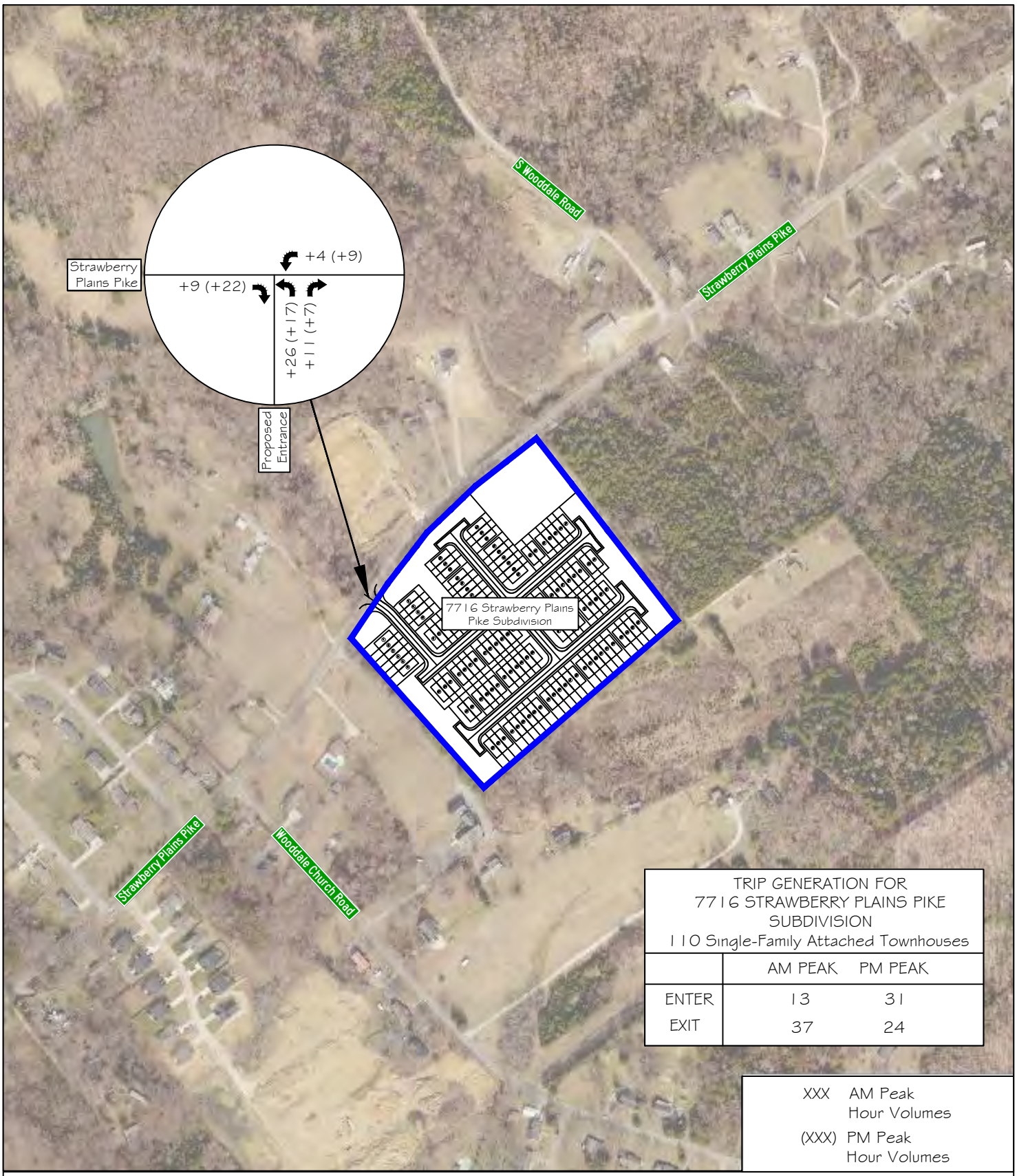
FIGURE 6

7716 Strawberry Plains Pike Subdivision

Directional Distribution of Generated Traffic during AM and PM Peak Hour



TRIP GENERATION FOR 7716 STRAWBERRY PLAINS PIKE SUBDIVISION 110 Single-Family Attached Townhouses		
	AM PEAK	PM PEAK
ENTER	13	31
EXIT	37	24

XXX AM Peak Hour Volumes

(XXX) PM Peak Hour Volumes

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FIGURE 7

7716 Strawberry Plains Pike Subdivision

Traffic Assignment of Generated Traffic during AM and PM Peak Hour

- **PROJECTED TRAFFIC CONDITIONS WITH THE PROJECT:**

The calculated peak hour traffic generated by the 7716 Strawberry Plains Pike Subdivision was added to the 2029 horizon year traffic by following the predicted trip distributions and assignments. This procedure was completed to obtain the total projected traffic volumes at the Proposed Entrance for the 7716 Strawberry Plains Pike Subdivision upon full build-out and occupancy in 2029. Figure 8 shows the projected 2029 AM and PM peak hour traffic volumes, including trips generated by the 7716 Strawberry Plains Pike Subdivision at the entrance intersection.

Capacity analyses were conducted to determine the projected Level of Service (LOS) at the Proposed Entrance with the development traffic in 2029, as shown in Figure 8. The intersection capacity results for the projected 2029 peak hour traffic are shown in Table 2. As shown in Table 2, the intersection is projected to experience very low to average vehicle delays during the 2029 AM and PM peak hours.

TABLE 2
INTERSECTION CAPACITY ANALYSIS RESULTS -
2029 PEAK HOUR PROJECTED TRAFFIC CONDITIONS WITH THE PROJECT

INTERSECTION	TRAFFIC CONTROL	APPROACH/ MOVEMENT	AM PEAK			PM PEAK		
			LOS [a]	DELAY [b] (seconds)	v/c [c]	LOS [a]	DELAY [b] (seconds)	v/c [c]
Strawberry Plains Pike (WB & EB) at Proposed Entrance (NB)	STOP Unsignalized	Northbound Left/Right	C	16.9	0.120	C	16.9	0.081
		Westbound Left	A	8.0	0.004	A	8.8	0.012

Note: All analyses were calculated in Synchro 12 software and reported using HCM 7th Edition intersection methodology
[a] Level of Service , [b] Average Delay (sec/vehicle) , [c] Volume-to-Capacity Ratio

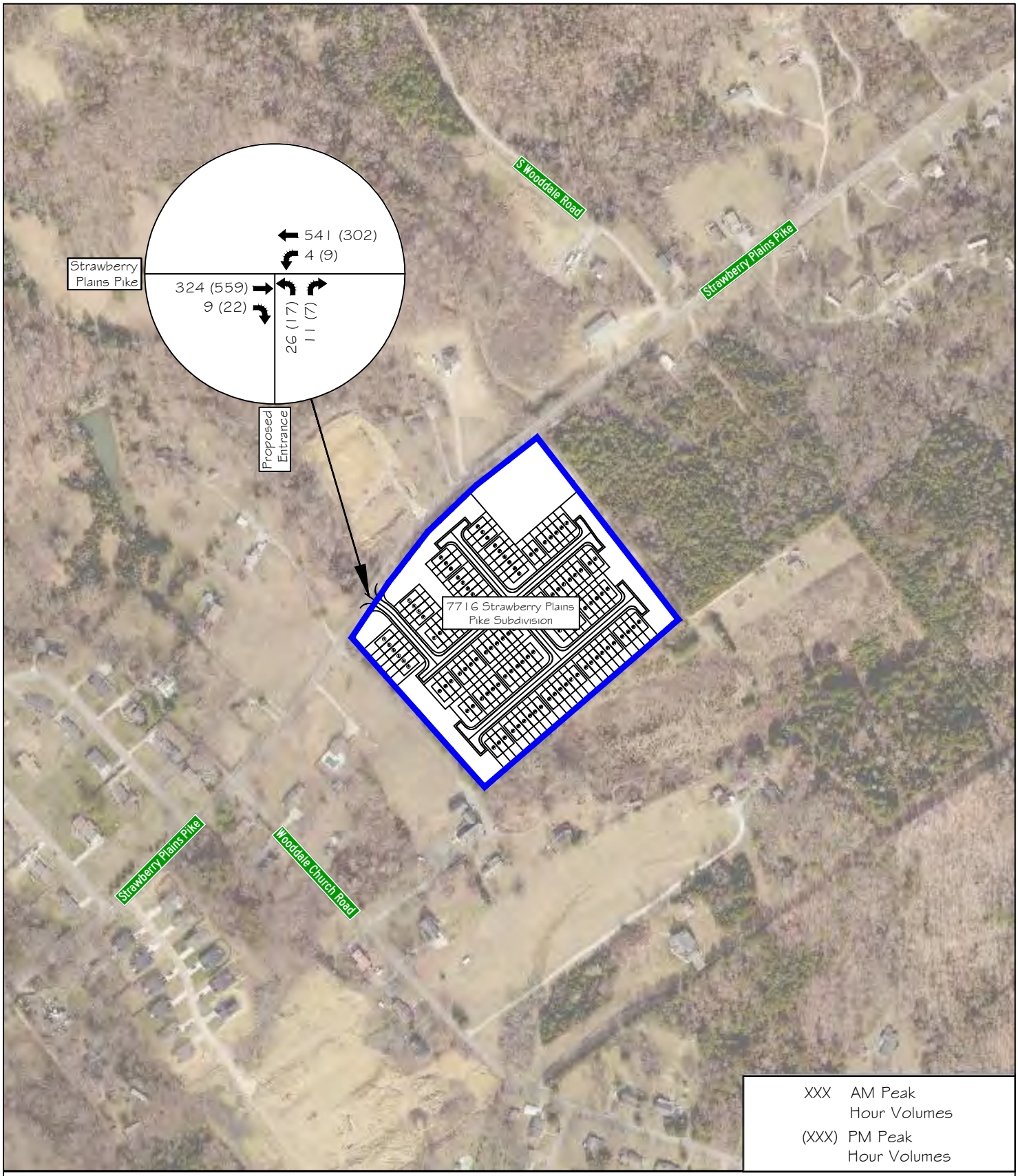

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FIGURE 8

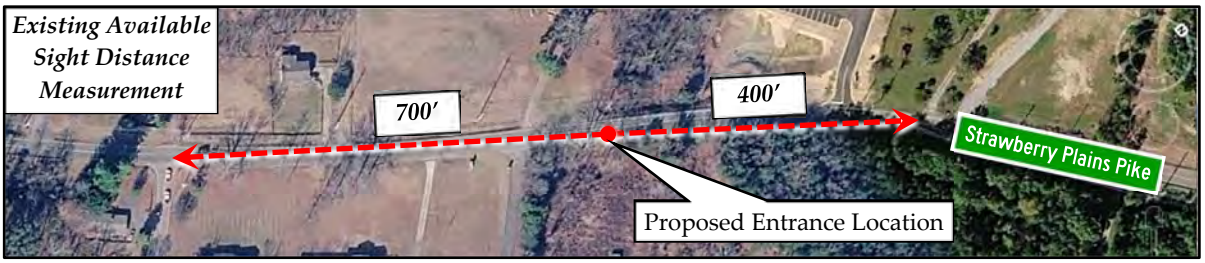
7716 Strawberry Plains Pike Subdivision

2029 Peak Hour Traffic Volumes - Projected Traffic Conditions With the Project

▪ EVALUATION OF SIGHT DISTANCE

With a posted speed limit of 45 mph on Strawberry Plains Pike at the Proposed Entrance location, an Intersection Sight Distance (ISD) of 450 feet is necessary, based on Knox County's policy requiring 10 feet of sight distance per 1 mph of speed. This distance is required for a motorist to exit safely to the left or right at Strawberry Plains Pike from the Proposed Entrance.

Visual observations of the sight distances at the Proposed Entrance location on Strawberry Plains Pike were measured using a Nikon Laser Rangefinder. The available intersection sight distance was visually estimated at 700 feet to the south on Strawberry Plains Pike, and 400 feet to the north. The combination of the horizontal curvature of Strawberry Plains Pike, the existing vegetation on the south side along the development site's road frontage, and existing rock outcroppings on the property edge all contribute to limiting the existing available sight distance to the north. It is assumed that the necessary sight distance to the north will be available at this location if vegetation and possibly some of the outcroppings are removed during construction. However, it will need to be verified by a land surveyor or estimated by the civil site engineer in its design to make a final determination. Images of the existing sight distances at the Proposed Entrance location are labeled in the following image with the required ISD and the rangefinder-measured sight distances.



View of Sight Distance on Strawberry Plains Pike at the Proposed Entrance Location (Looking West)

View of Sight Distance on Strawberry Plains Pike at the Proposed Entrance Location (Looking East)

▪ EVALUATION OF TURN LANE THRESHOLDS

The need for separate left- and right-turn lanes was evaluated under projected 2029 conditions at the intersection of Strawberry Plains Pike and the Proposed Entrance.

The criteria used for these turn lane evaluations were based on Knox County's "Access Control and Driveway Design Policy". This design policy relates vehicle volume thresholds based on prevailing speeds for two-lane and four-lane roadways. The Proposed Entrance intersection is within a 45 mph speed zone; therefore, the intersection was evaluated based on the posted speed limit. The worksheets for these evaluations are provided in the Appendix.

Based on the projected 2029 traffic volumes at the Proposed Entrance intersection, separate left or right-turn entering lanes on Strawberry Plains Pike are not expected to meet Knox County thresholds.

- **PROJECTED VEHICLE QUEUES**

An additional software program calculated the projected vehicle queues for the 2029 AM and PM peak hours at the studied intersection. The previously mentioned Synchro Traffic Software includes SimTraffic.

The calculated vehicle queue results were based on the average of outcomes from 10 traffic simulations in the software. The 95th percentile vehicle queue lengths at the studied intersection are shown in Table 3 under the projected 2029 conditions. The vehicle queue worksheet results from the SimTraffic Software (Version 12) are in the Appendix.

Table 3 reports the results and shows short vehicle queues on Strawberry Plains Pike and the Proposed Entrance road. For comparison, one passenger-vehicle length is considered 25 feet when vehicle spacing is included. Thus, the longest calculated vehicle queues are expected on the Proposed Entrance road, at just under two passenger vehicles in length.

TABLE 3
VEHICLE QUEUE SUMMARY -
2029 PEAK HOUR PROJECTED TRAFFIC CONDITIONS WITH THE PROJECT

INTERSECTION	TRAFFIC CONTROL	APPROACH/ MOVEMENT	95th PERCENTILE VEHICLE QUEUE LENGTH (ft)	
			AM PEAK HOUR	PM PEAK HOUR
Strawberry Plains Pike (WB & EB) at Proposed Entrance (NB)	STOP Unsignalized	Northbound Left/Right	51	42
		Westbound Left/Thru	15	26

Note: All analyses were calculated in SimTraffic 12 software

APPENDICES

TRAFFIC COUNT DATA

Major Street: Strawberry Plains Pike (WB and EB)
Minor Street: Private Entrance (SB) (Big Orange Pickleball)
Traffic Control: Stop Conditions on Minor Street

3/4/2026 (Wednesday)
Warm & Sunny/Overcast
Conducted by: Ajax Engineering

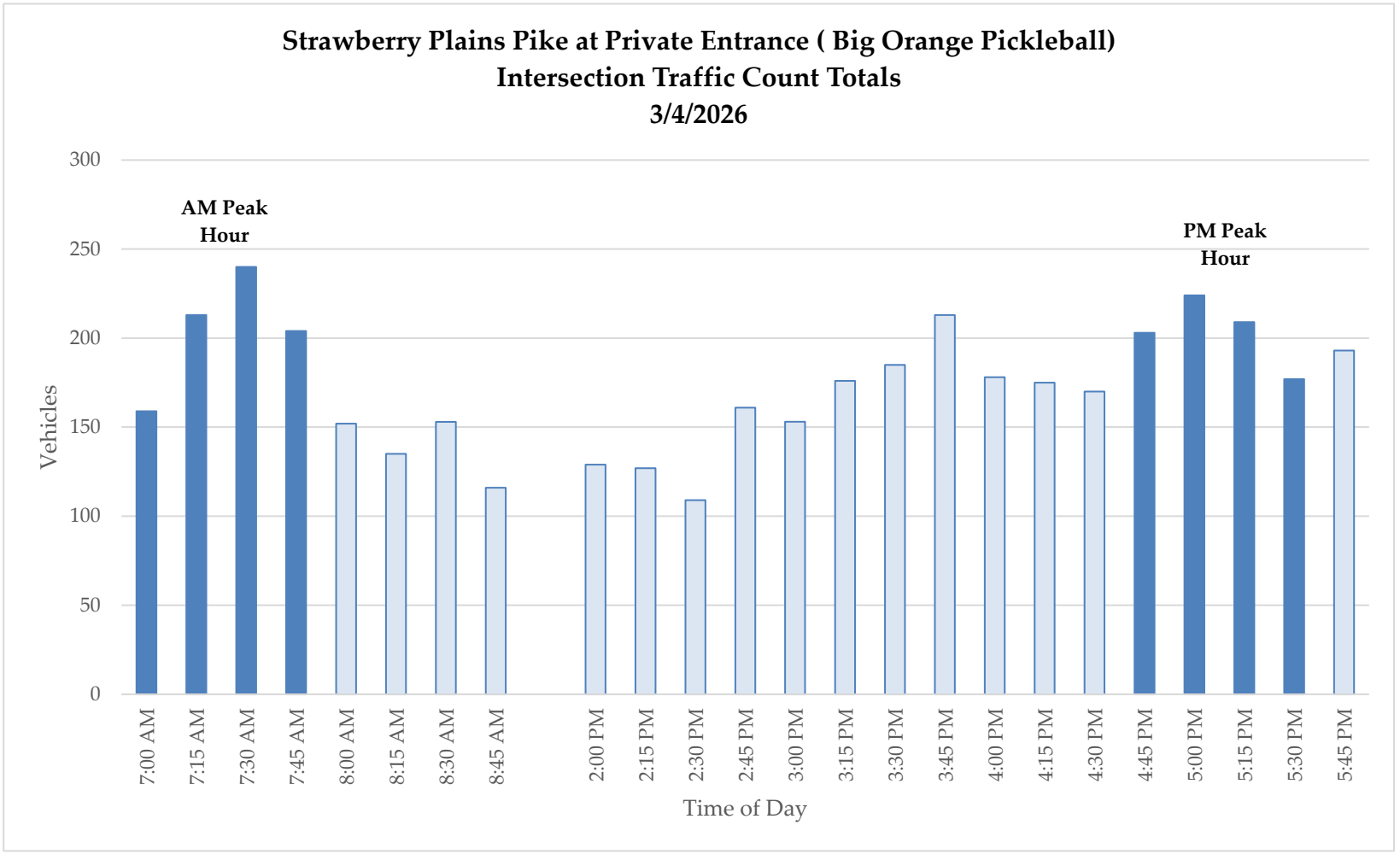
	Private Entrance		Strawberry Plains Pike		Strawberry Plains Pike			
TIME	SOUTHBOUND		WESTBOUND		EASTBOUND		VEHICLE	PEAK
BEGIN	LT	RT	THRU	RT	LT	THRU	TOTAL	HOUR
7:00 AM	0	0	93	0	0	66	159	**7:00 AM - 8:00 AM**
7:15 AM	0	0	130	0	0	83	213	
7:30 AM	0	0	161	0	0	79	240	
7:45 AM	0	0	126	0	0	78	204	
8:00 AM	0	0	92	0	1	59	152	
8:15 AM	0	0	77	0	0	58	135	
8:30 AM	0	0	77	0	0	76	153	
8:45 AM	0	0	64	0	0	52	116	
TOTAL	0	0	820	0	1	551	1372	
2:00 PM	0	1	42	0	1	85	129	
2:15 PM	0	0	47	0	0	80	127	
2:30 PM	0	0	35	0	0	74	109	
2:45 PM	0	0	78	0	1	82	161	
3:00 PM	0	0	59	0	1	93	153	
3:15 PM	0	0	71	1	0	104	176	
3:30 PM	0	2	89	0	0	94	185	
3:45 PM	0	0	108	0	0	105	213	
4:00 PM	0	1	76	0	0	101	178	
4:15 PM	0	0	58	0	0	117	175	
4:30 PM	0	0	63	0	0	107	170	
4:45 PM	0	0	71	0	0	132	203	**4:45 PM - 5:45 PM**
5:00 PM	0	0	78	0	0	146	224	
5:15 PM	0	0	87	1	1	120	209	
5:30 PM	0	0	49	0	0	128	177	
5:45 PM	0	1	79	0	3	110	193	
TOTAL	0	5	1090	2	7	1678	2782	

2026 AM Peak Hour **7:00 AM - 8:00 AM**

	Private Entrance		Strawberry Plains Pike		Strawberry Plains Pike	
TIME	SOUTHBOUND		WESTBOUND		EASTBOUND	
BEGIN	LT	RT	THRU	RT	LT	THRU
7:00 AM	0	0	93	0	0	66
7:15 AM	0	0	130	0	0	83
7:30 AM	0	0	161	0	0	79
7:45 AM	0	0	126	0	0	78
TOTAL	**0**	**0**	**510**	**0**	**0**	**306**
TRUCK %	**0.0%**	**0.0%**	**2.9%**	**0.0%**	**0.0%**	**4.9%**
PHF $_{mvmt}$	**-**	**-**	**0.79**	**-**	**-**	**0.92**
PHF $_{app}$	**-**		**0.79**		**0.92**	
PHF $_{int}$	**0.85**					

2026 PM Peak Hour **4:45 PM - 5:45 PM**

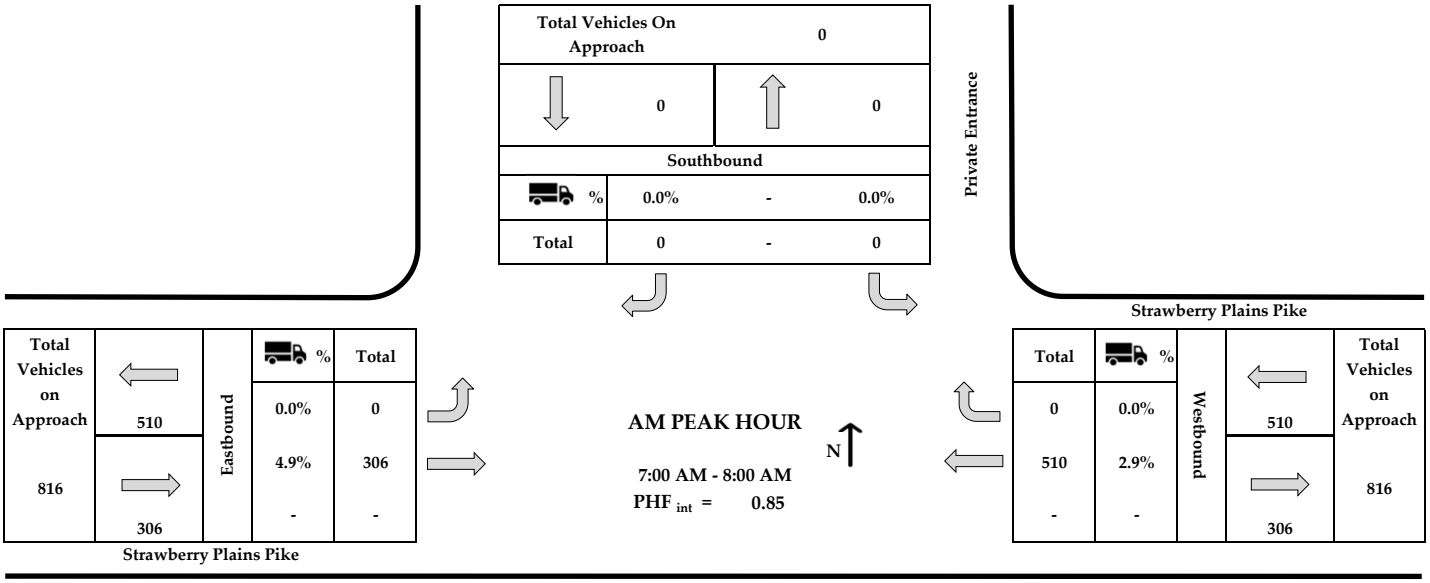
	Private Entrance		Strawberry Plains Pike		Strawberry Plains Pike	
TIME	SOUTHBOUND		WESTBOUND		EASTBOUND	
BEGIN	LT	RT	THRU	RT	LT	THRU
4:45 PM	0	0	71	0	0	132
5:00 PM	0	0	78	0	0	146
5:15 PM	0	0	87	1	1	120
5:30 PM	0	0	49	0	0	128
TOTAL	**0**	**0**	**285**	**1**	**1**	**526**
TRUCK %	**0.0%**	**0.0%**	**1.8%**	**0.0%**	**0.0%**	**1.1%**
PHF $_{mvmt}$	**-**	**-**	**0.82**	**0.25**	**0.25**	**0.90**
PHF $_{app}$	**-**		**0.81**		**0.90**	
PHF $_{int}$	**0.91**					

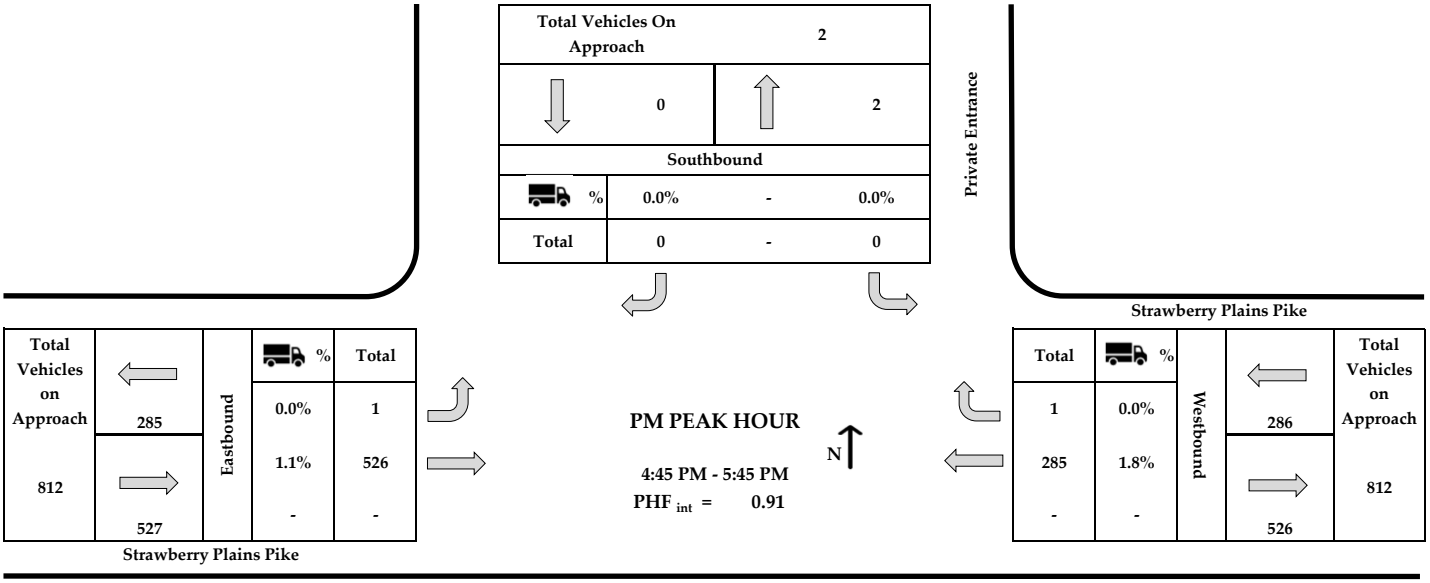

Strawberry Plains Pike at Private Entrance (Big Orange Pickleball)
Intersection Traffic Count Totals
3/4/2026
AM Peak Hour
PM Peak Hour
Vehicles
300
250
200
150
100
50
0
7:00 AM
7:15 AM
7:30 AM
7:45 AM
8:00 AM
8:15 AM
8:30 AM
8:45 AM
2:00 PM
2:15 PM
2:30 PM
2:45 PM
3:00 PM
3:15 PM
3:30 PM
3:45 PM
4:00 PM
4:15 PM
4:30 PM
4:45 PM
5:00 PM
5:15 PM
5:30 PM
5:45 PM
Time of Day

PEAK HOUR DATA

Major Street: Strawberry Plains Pike (WB and EB)
Minor Street: Private Entrance (SB) (Big Orange Pickleball)
Traffic Control: Stop Conditions on Minor Street

3/4/2026 (Wednesday)
Warm & Sunny/Overcast
Conducted by: Ajax Engineering



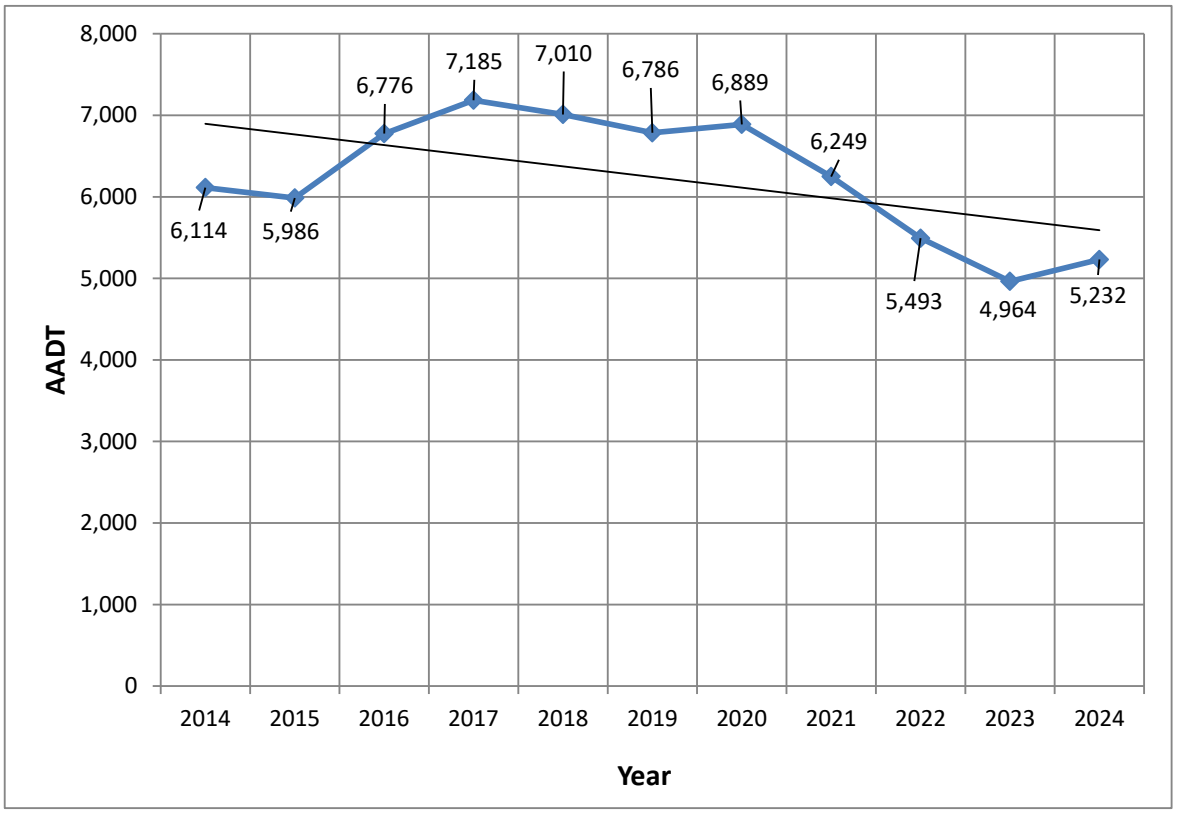


Historical Traffic Counts

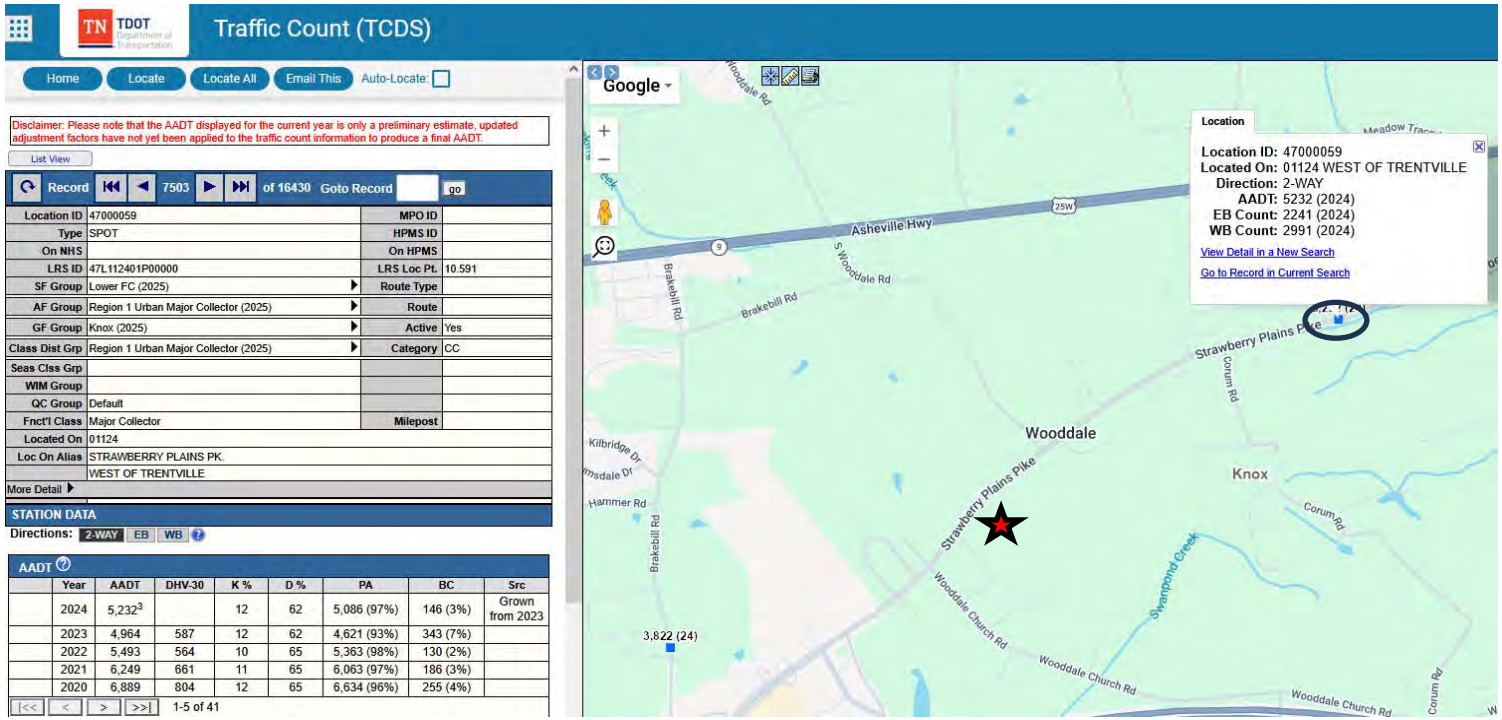
Organization: TDOT
Station ID #: 47000059
Location: Strawberry Plains Pike, east of S Molly Bright Road

YEAR	AADT
2014	6,114
2015	5,986
2016	6,776
2017	7,185
2018	7,010
2019	6,786
2020	6,889
2021	6,249
2022	5,493
2023	4,964
2024	5,232

Trendline



2014 - 2024 Growth Rate = -14.4%
Average Annual Growth Rate = -1.5%


TN TDOT
Traffic Count (TCDS)
Home
Locate
Locate All
Email This
Auto-Locate:
Disclaimer: Please note that the AADT displayed for the current year is only a preliminary estimate, updated adjustment factors have not yet been applied to the traffic count information to produce a final AADT.
List View
Record 7503 of 16430 Goto Record go
Location ID 47000059
Type SPOT
On NHS
LRS ID 47L112401P00000
SF Group Lower FC (2025)
AF Group Region 1 Urban Major Collector (2025)
GF Group Knox (2025)
Class Dist Grp Region 1 Urban Major Collector (2025)
Seas Clss Grp
WIM Group
QC Group Default
Fnct'l Class Major Collector
Located On 01124
Loc On Alias STRAWBERRY PLAINS PK
WEST OF TRENTVILLE
More Detail
MPO ID
HPMS ID
On HPMS
LRS Loc Pt. 10.591
Route Type
Route
Active Yes
Category CC
Milepost
STATION DATA
Directions: 2-WAY EB WB
AADT
Year AADT DHV-30 K % D % PA BC Src
2024 5,232[3] 12 62 5,086 (97%) 146 (3%) Grown from 2023
2023 4,964 587 12 62 4,621 (93%) 343 (7%)
2022 5,493 564 10 65 5,363 (98%) 130 (2%)
2021 6,249 661 11 65 6,063 (97%) 186 (3%)
2020 6,889 804 12 65 6,634 (96%) 255 (4%)
1-5 of 41
Google
Location
Location ID: 47000059
Located On: 01124 WEST OF TRENTVILLE
Direction: 2-WAY
AADT: 5232 (2024)
EB Count: 2241 (2024)
WB Count: 2991 (2024)
View Detail in a New Search
Go to Record in Current Search
Asheville Hwy
S Wooddale Rd
Brakebill Rd
Strawberry Plains Pike
Corum Rd
Wooddale
Knox
Hammer Rd
Swanpond Creek
Wooddale Church Rd
3,822 (24)

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	324	9	4	541	26	11
Future Vol, veh/h	324	9	4	541	26	11
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	-2	-
Peak Hour Factor	92	92	79	79	90	90
Heavy Vehicles, %	5	0	0	3	0	0
Mvmt Flow	352	10	5	685	29	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	362	0	1052	357
Stage 1	-	-	-	-	357	-
Stage 2	-	-	-	-	695	-
Critical Hdwy	-	-	4.1	-	6	6
Critical Hdwy Stg 1	-	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	-	5	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1208	-	285	705
Stage 1	-	-	-	-	741	-
Stage 2	-	-	-	-	539	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1208	-	283	705
Mov Cap-2 Maneuver	-	-	-	-	283	-
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	539	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.06	16.89
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	344	-	-	13	-
HCM Lane V/C Ratio	0.12	-	-	0.004	-
HCM Ctrl Dly (s/v)	16.9	-	-	8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	559	22	9	302	17	7
Future Vol, veh/h	559	22	9	302	17	7
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	-2	-
Peak Hour Factor	90	90	81	81	90	90
Heavy Vehicles, %	1	0	0	2	0	0
Mvmt Flow	621	24	11	373	19	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	646	0	1028	633
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	395	-
Critical Hdwy	-	-	4.1	-	6	6
Critical Hdwy Stg 1	-	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	-	5	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	949	-	293	500
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	949	-	289	500
Mov Cap-2 Maneuver	-	-	-	-	289	-
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	716	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.26	16.89
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	329	-	-	52	-
HCM Lane V/C Ratio	0.081	-	-	0.012	-
HCM Ctrl Dly (s/v)	16.9	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Land Use: 215
Single-Family Attached Housing

Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space. This land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

Additional Data

The sites were surveyed in the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Georgia, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Utah, and Wisconsin.

Source Numbers

357, 390, 418, 525, 571, 583, 638, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

Single-Family Attached Housing
(215)

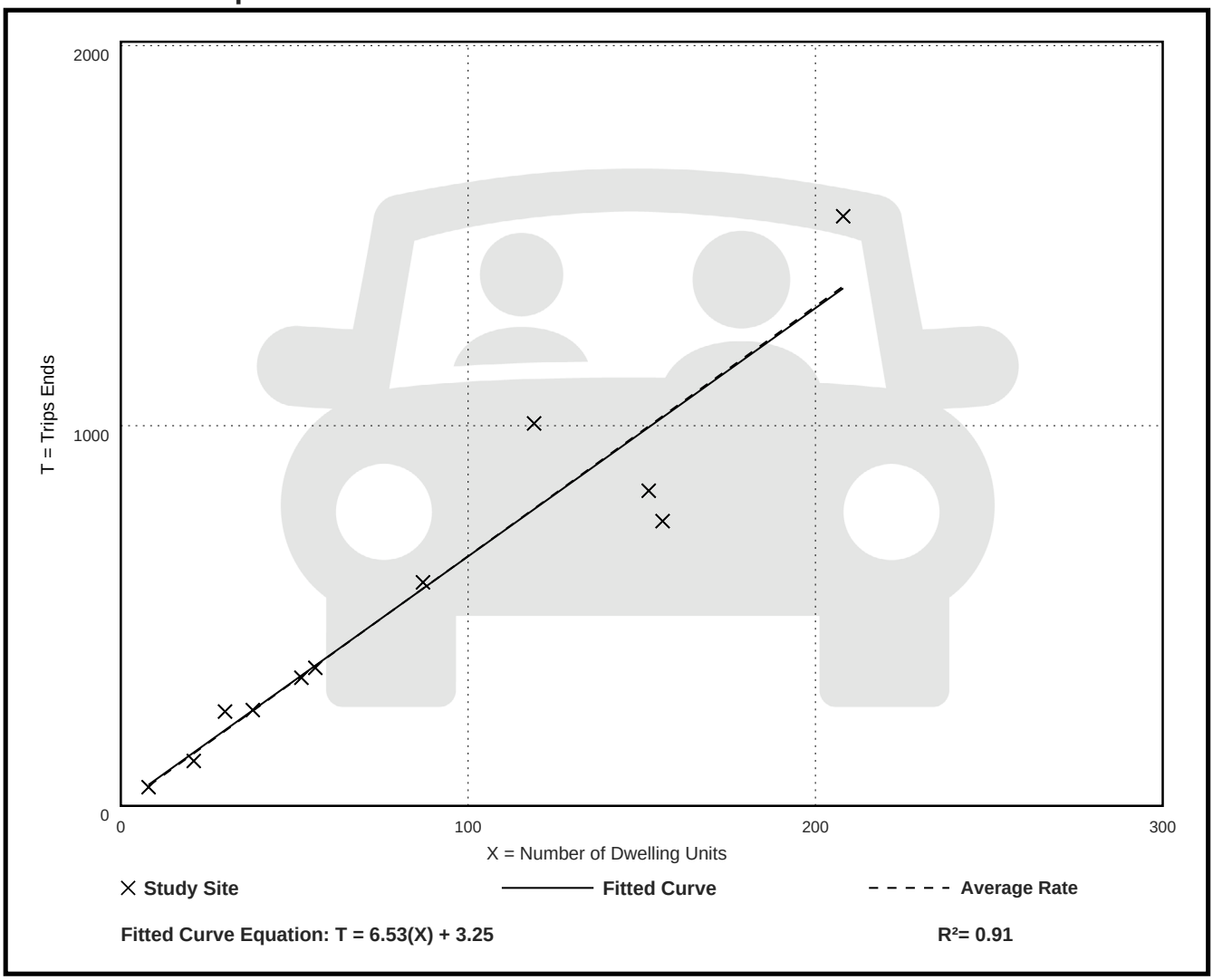
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. Num. of Dwelling Units: 84
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.57	4.80 - 8.45	1.28

Data Plot and Equation



Fitted Curve Equation: T = 6.53(X) + 3.25

R^2= 0.91

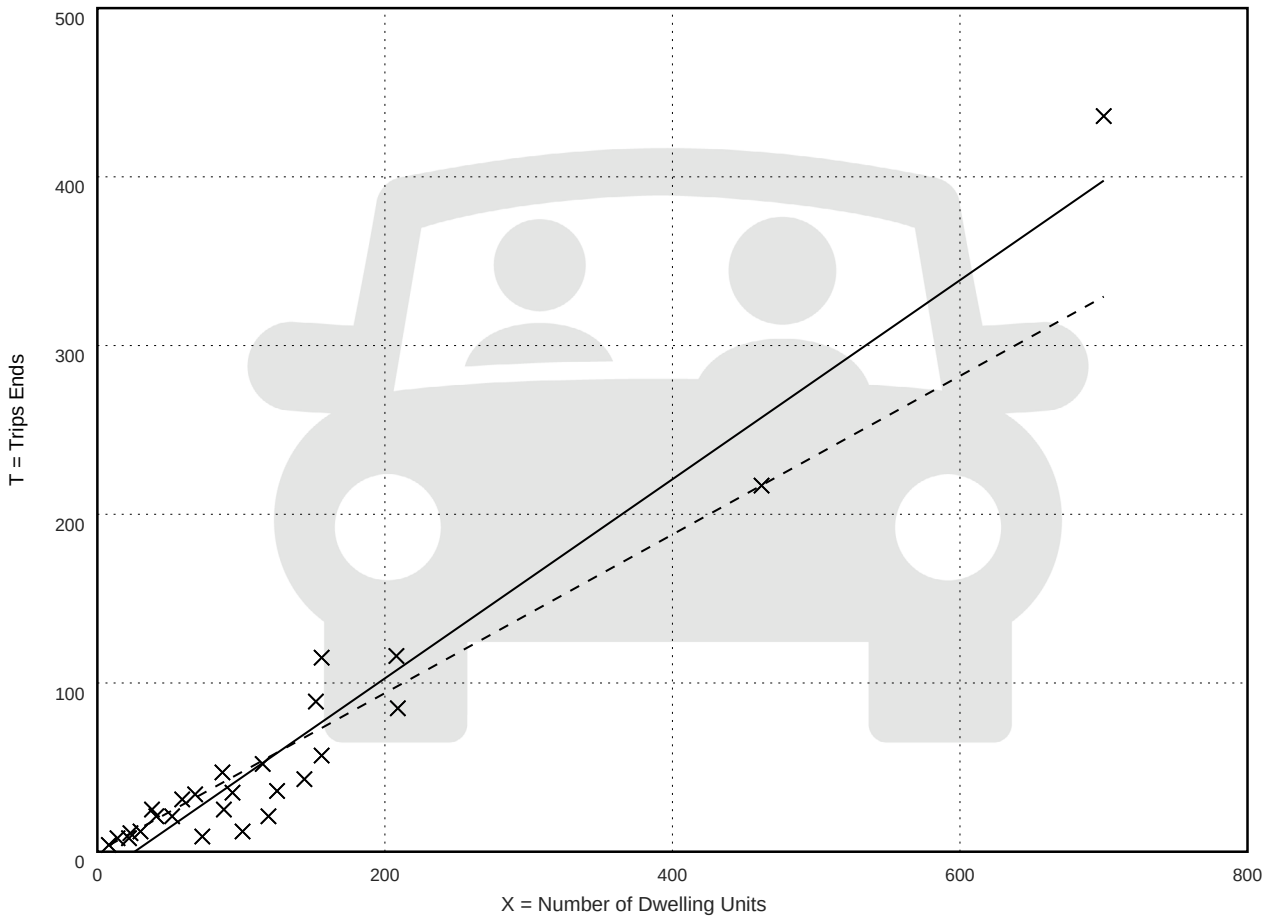
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	26
Avg. Num. of Dwelling Units:	129
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.47	0.12 - 0.74	0.16

Data Plot and Equation



Fitted Curve Equation: T = 0.59(X) - 15.25

R^2= 0.94

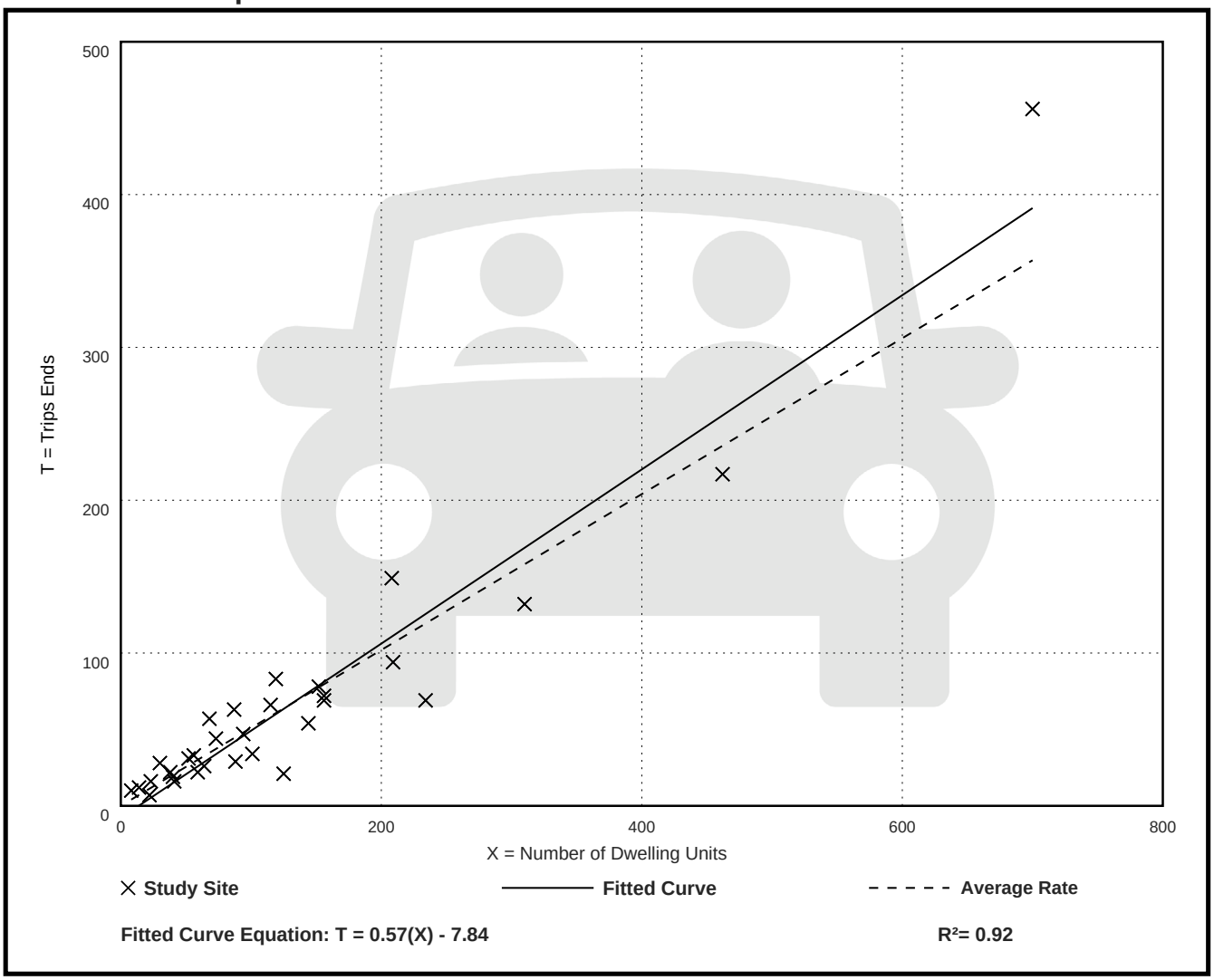
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	31
Avg. Num. of Dwelling Units:	131
Directional Distribution:	57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.17 - 1.25	0.16

Data Plot and Equation



Fitted Curve Equation: T = 0.57(X) - 7.84

R^2= 0.92

TRIP GENERATION FOR 7716 STRAWBERRY PLAINS PIKE SUBDIVISION

110 Attached Townhouses

ITE LAND USE CODE	LAND USE DESCRIPTION	# OF UNITS	WEEKDAY GENERATED TRAFFIC	WEEKDAY GENERATED TRAFFIC AM PEAK HOUR			WEEKDAY GENERATED TRAFFIC PM PEAK HOUR		
				ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
#215	Single-Family Attached Housing	110	722	25%	75%		57%	43%	
				13	37	50	31	24	55
Total New Volume Site Trips			**722**	**13**	**37**	**50**	**31**	**24**	**55**

ITE Trip Generation Manual, 12th Edition

Trips calculated by using Fitted Curve Equations

TRIP GENERATION FOR 7716 STRAWBERRY PLAINS PIKE SUBDIVISION

110 Attached Townhouses

110 Units = X

Weekday:

Fitted Curve Equation: T = 6.53(X) + 3.25

T = 6.530 * 110 + 3.25

T = 722 trips

Peak Hour of Adjacent Traffic between 7 and 9 am:

Fitted Curve Equation: T = 0.59(X) - 15.25

T = 0.590 * 110 - 15.25

T = 50 trips

Peak Hour of Adjacent Traffic between 4 and 6 pm:

Fitted Curve Equation: T = 0.57(X) - 7.84

T = 0.570 * 110 - 7.84

T = 55 trips

Table 5A. Left-Turn Lane Volume Thresholds
For Two-Lane Roadways with a Prevailing Speed of 36 to 45 MPH

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

OPPOSING VOLUME	THROUGH VOLUME PLUS RIGHT-TURN VOLUME*					
	100 - 149	150 - 199	200 - 249	250 - 299	300 - 349	350 - 399
100 - 149 150 - 199	250 200	180 140	140 105	110 90	80 70	70 60
200 - 249 250 - 299	160 130	115 100	85 75	75 65	65 60	55 50
300 - 349 350 - 399	110 100	90 80	70 65	60 55	55 50	45 40
400 - 449 450 - 499	90 80	70 65	60 55	50 45	45 40	35 30
500 - 549 550 - 599	70 65	60 55	45 40	35 35	35 30	25 25
600 - 649 650 - 699	60 55	45 35	35 35	30 30	25 25	25 20
700 - 749 750 or More	50 45	35 35	30 25	25 25	20 20	20 20

541

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

324+9 = 333

Strawberry Plains Pike at Proposed Entrance

2029 Projected AM WB Left Turns = 4

Left Turn Lane NOT Warranted

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

Table 5B. Right-Turn Lane Volume Thresholds
For Two-Lane Roadways with a Prevailing Speed of 36 to 45 MPH

324

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

Strawberry Plains Pike at Proposed Entrance

2029 Projected AM EB Right Turns = 9

Right Turn Lane NOT Warranted

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					Yes	Yes
50 - 99				Yes	Yes	Yes
100 - 149			Yes	Yes	Yes	Yes
150 - 199		Yes	Yes	Yes	Yes	Yes
200 - 249	Yes	Yes	Yes	Yes	Yes	Yes
250 - 299	Yes	Yes	Yes	Yes	Yes	Yes
300 - 349	Yes	Yes	Yes	Yes	Yes	Yes
350 - 399	Yes	Yes	Yes	Yes	Yes	Yes
400 - 449	Yes	Yes	Yes	Yes	Yes	Yes
450-499	Yes	Yes	Yes	Yes	Yes	Yes
500 - 549	Yes	Yes	Yes	Yes	Yes	Yes
550 - 599	Yes	Yes	Yes	Yes	Yes	Yes
600 or More	Yes	Yes	Yes	Yes	Yes	Yes

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

Table 5A. Left-Turn Lane Volume Thresholds
For Two-Lane Roadways with a Prevailing Speed of 36 to 45 MPH

302

(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 - 149 150 - 199	250 200			110 90	80 70	70 60
200 - 249 250 - 299	160 130			75 65	65 60	55 50
300 - 349 350 - 399	110 100			60 55	55 50	45 40
400 - 449 450 - 499	90 80			50 45	45 40	35 30
500 - 549 550 - 599	70 65	60 55	45 40	35 35	30 30	25 25
600 - 649 650 - 699	60 55	45 35	35 35	30 30	25 25	25 20
700 - 749 750 or More	50 45	35 35	30 25	25 25	20 20	20 20

Strawberry Plains Pike at Proposed Entrance

2029 Projected PM WB Left Turns = 9

Left Turn Lane NOT Warranted

559+22 = 581

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

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

Table 5B. Right-Turn Lane Volume Thresholds
For Two-Lane Roadways with a Prevailing Speed of 36 to 45 MPH

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

559

RIGHT-TURN VOLUME	THROUGH VOLUME PLUS LEFT-TURN VOLUME*					
	350 - 399	400 - 449	450 - 499	500 - 549	550 - 600	+ / >600
22 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
300 - 349 350 - 399	Yes Yes	Yes 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
600 or More	Yes	Yes	Yes	Yes	Yes	Yes

Strawberry Plains Pike at
Proposed Entrance

2029 Projected PM
EB Right Turns = 22

Right Turn Lane NOT
Warranted

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

Intersection: 4: Proposed Entrance & Strawberry Plains Pike

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	35	60
Average Queue (ft)	2	23
95th Queue (ft)	15	51
Link Distance (ft)	316	284
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 4: Proposed Entrance & Strawberry Plains Pike

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	49	40
Average Queue (ft)	5	17
95th Queue (ft)	26	42
Link Distance (ft)	316	284
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

11812 Black Road
Knoxville, Tennessee 37932
Phone (865) 556-0042
ajaxengineering@gmail.com

April 14, 2026

PROJECT NAME: 7716 Strawberry Plains Pike Subdivision
SUBJECT: Response Document for the 7716 Strawberry Plains Pike Subdivision TIL Review

Knoxville/Knox County Planning & Knox County Engineering and Public Works Staff:

The following response document addresses the comment in Mike Conger's, P.E.'s, email dated April 13th, 2026. This letter is added to the end of the revised TIL report in the Appendix.

1) **Please increase the right-turn entering radius recommendation at the access to Strawberry Plains Pike to 40 feet or use a tapered entrance to reduce right turn deceleration conflicts due to the higher speeds on Strawberry Plains Pike.**

   Response: A revision to the TIL addressing this curb radius request has been added to Page 2, 3rd bullet point.

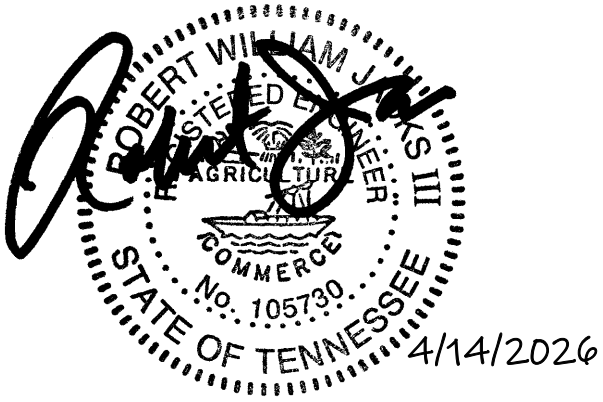
In addition to the revision listed above, other changes in the report include the following:

- Updated Title Page
- Updated Page Footer Date
- Added this response letter to the Appendix

If you have any questions or further comments, don't hesitate to contact me. We look forward to your approval.

Sincerely,

Ajax Engineering, LLC
Robert W. Jacks, P.E.



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