

Memo

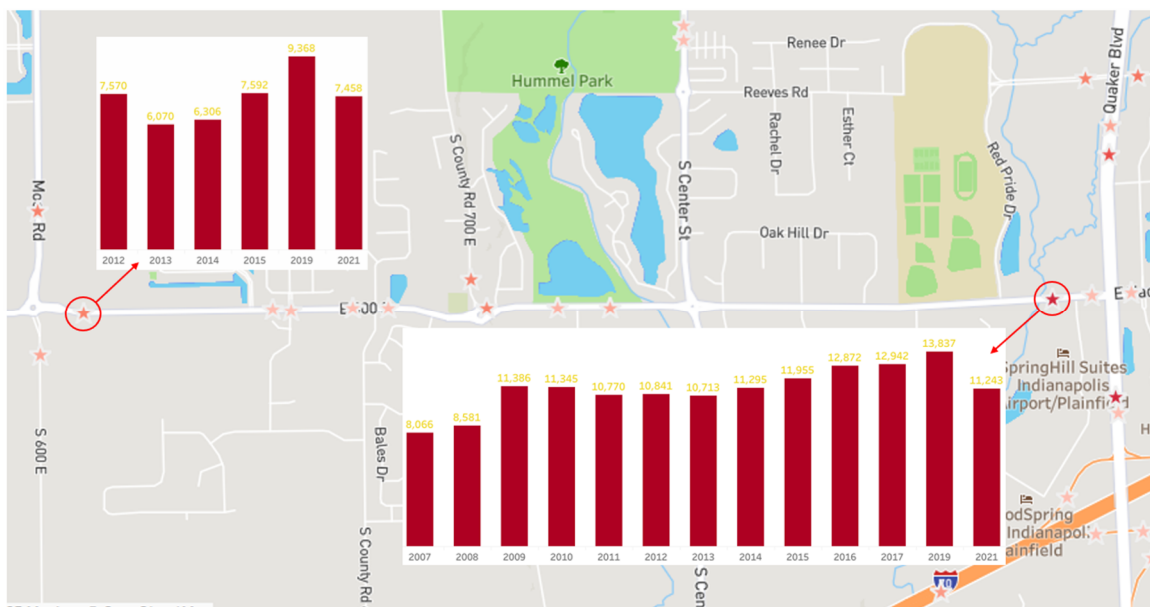


To: Plainfield Plan Commission
From: Scott Singleton, Director of Transportation
cc: Tim Belcher, Executive Director of Development Services
Andrew Klinger, Town Manager
Date: June 30, 2025
Re: PUD-25-015; PP-25-015
Transportation Comments on Westlyn PUD Re-Zone and Primary Plat

SUMMARY OF THE BROADER TRAFFIC CONCERNS ASSOCIATED WITH THE REFERENCED RE-ZONE REQUEST

The 2019 Plainfield Thoroughfare Plan speaks extensively about the expected growth that is going to stress the Town’s existing transportation infrastructure, particularly in and around the southwestern area of Plainfield and Guilford Township. A significant portion of this area remains largely rural with limited access given the barriers imposed by both White Lick Creek and I-70. As a result, Hadley Road has been and will continue to be the primary route that gets burdened with future growth in this area.

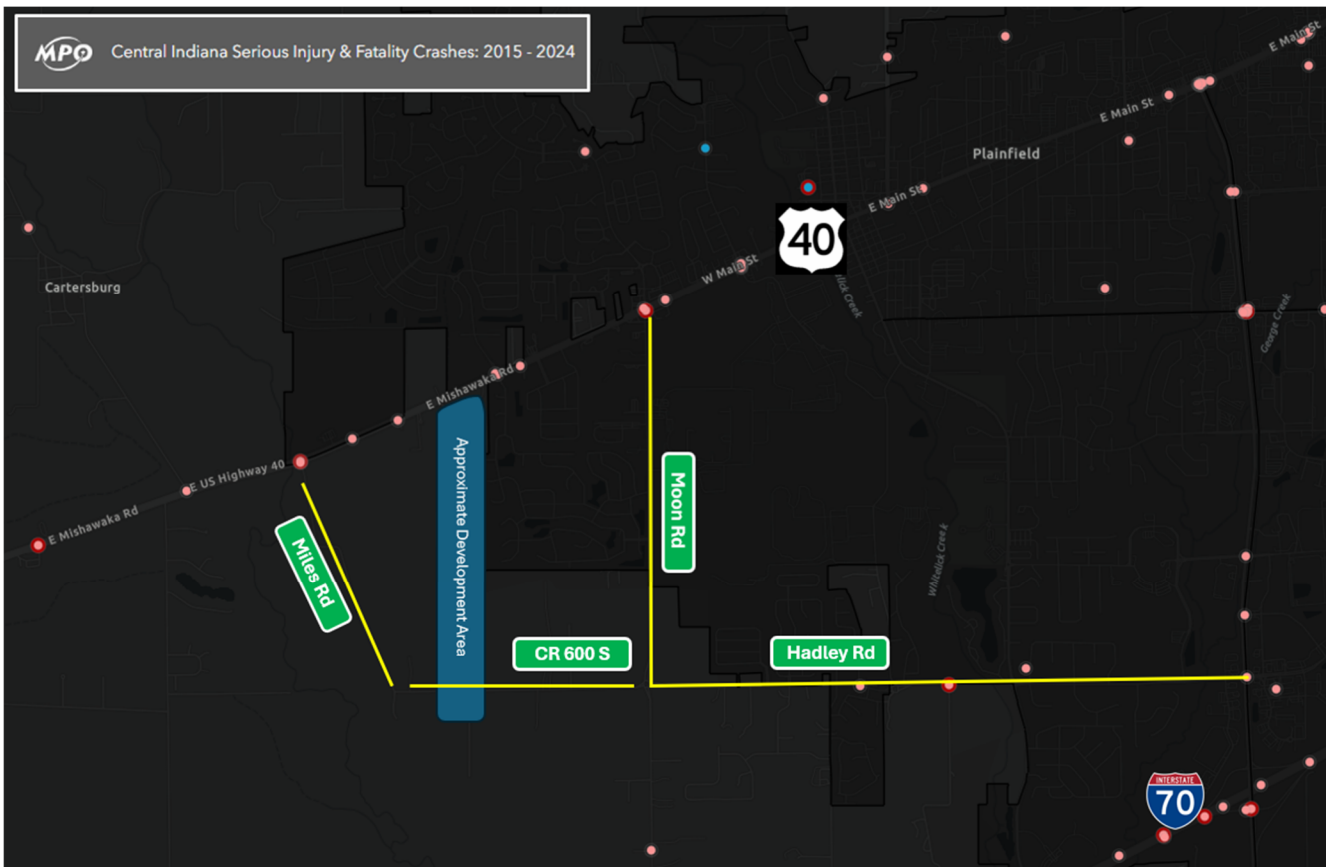
To iterate this point, note the below graphic shows a growth from 8,066 vehicles per day in 2007 to a recorded volume of 13,837 vehicles in 2019. These 5,771 v/d represent a 71.5% increase in just over 10 years. Past approvals for new neighborhoods along the Hadley-Moon Corridor and even up into Saratoga have contributed to this steady and significant increase.



Data collected in 2021 showed a notable dip that was the result of COVID lockdown and work-from-home situations. Since that time, the Town stopped collecting for the same data set. With traffic patterns normalizing over the past few years, these overall counts are expected to have increased.

A popular traffic engineering website (mikeontraffic.com) indicates a 2-lane roadway with left turn lanes has a capacity of approximately 18,300 adt (average daily traffic). Over these past 10 years, the Town has invested significant resources into Hadley and Moon Roads to provide the added capacity these left turn areas create, including the construction of several roundabout intersections. Thus, Hadley Road is operating at around 75% of its available capacity based upon the peak volumes recorded in 2019, but has likely moved beyond 80% given recent developments like Trescott under construction.

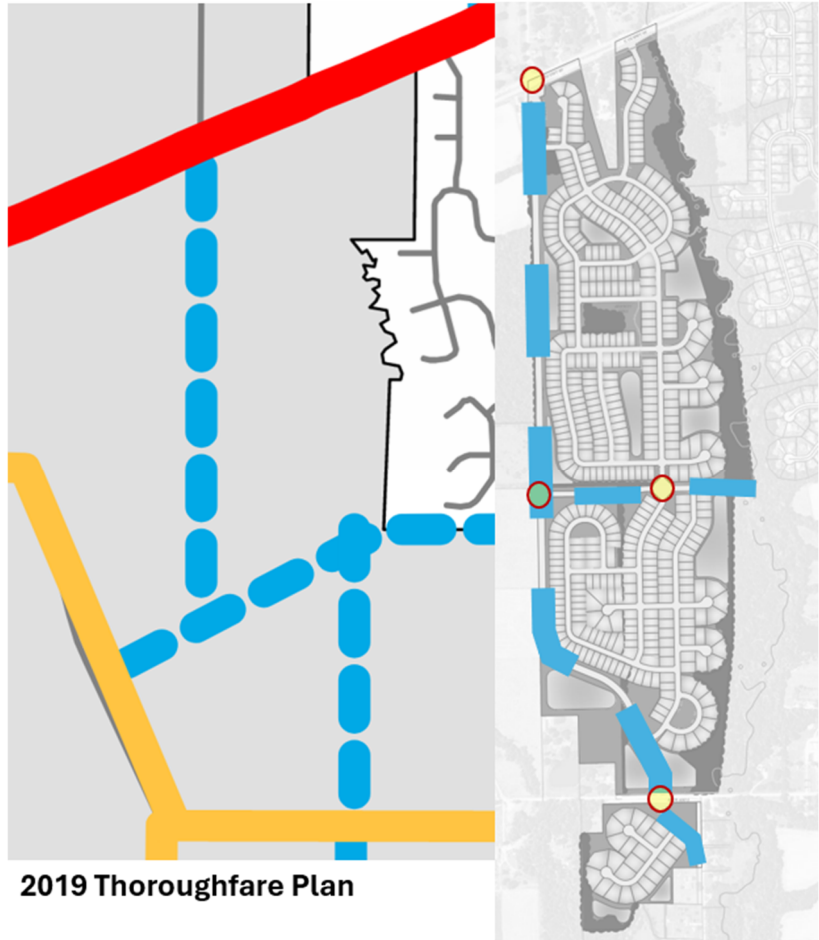
From a safety perspective at this time, past increases in traffic volumes have not created a concerning pattern of severe crashes along the Hadley Road corridor, particularly compared to other areas in Town as evidenced by a review of recorded fatal & incapacitating crashes over a previous 9-year period.



While the MPO does report 3 incapacitating crashes during this period, this does not represent an unusual amount of crashes given the usage volumes. Of note is that a relatively recent crash in 2024 resulted in a fatality near the intersection of Hadley and Hall Road. I reviewed that report where the officer confirmed one of the drivers was traveling at 93mph just prior to impact. The posted speed limit on Hadley Road is 35mph.

Adherence to Thoroughfare Plan

The Westlyn site plan has attempted to accommodate the Town's Thoroughfare Plan by incorporating Residential Collector's for needs to move local traffic both North & South and East & West through this area as it develops. Pulte has agreed to dedicate a full 70' width right-of-way from US 40 down to CR 600 S (aka Hadley Road). Similarly, a 60' width dedication for a future East/West route that is planned to connect to Moon Road in the future is being dedicated across the site. The development hasn't committed to building the entire infrastructure for these future roads, but is proposing to build sufficient distances to fully connect the neighborhood to both US 40 and CR 600 S. Remaining portions of the road would be expected to get built as other, nearby development occurs along an unknown timeline.



To better accommodate future intersection improvements that may be required as development happens, the Petitioner has also committed to dedicating additional property at key intersections to accommodate roundabout improvements.



A significant site layout decision has been to propose the realignment of CR 521 south of CR 600 S to a new location approximately 400' west of its current location. This will align with the new proposed North/South collector but will also serve to move those turning movements to an elevated location where sight distance is improved for drivers. Staff recommends vacating a portion of CR 521 from CR 600 S south to the new tie-in and Pulte is agreeable to coordinate new driveway connections for affected properties. Generally, this approach will increase front and side yards for existing properties that are affected by this change. Staff has discussed this change with the County Engineer who has offered informal support for this approach.

Traffic Engineering Analysis by Petitioner

Per Town Ordinance No. 18-97, the Petitioner is required to complete a Traffic Impact Study because it exceeds the minimum threshold of proposing 150 dwelling units. This analysis/study was completed by A&F Engineering and is attached as Exhibit A.

In addition to the construction of the Residential Collector streets noted above from the Thoroughfare Plan, three notable and more localized improvements are being proposed to support this particular development:

- a. WB Left Turn Lane at West Entrance to US 40
- b. WB Left Turn Lane at East Entrance to US 40
- c. WB Right Turn Lane at Entrance to CR 600 S

The Petitioner is committed to constructing all of these improvements as part of the development. INDOT has been offered the TIS and improvement recommendations due to their impact along US 40, but to my knowledge, no formal response or approval has been provided. An INDOT permit will be required to obtain final plan review, should the Commission/Council approve the project.

No additional improvements to address the existing condition of CR 600 S between the new connection east to the Moon Road roundabout are proposed or are planned at this time.

Pedestrian Connectivity Limitations

Because of some of the non-contiguous lands along the two primary arterial roadways of US 40 and CR 600 S, the neighborhood has not secured a way to create a pedestrian connection from the new construction of the development to the existing Town network of sidewalks and paths. At the time of this Memo, Pulte intends to approach a pair of parcel owners south of the Sugar Grove neighborhood to potentially construct a path along the future East/West Residential Collector as a way to ensure the neighborhood connects to the Town's pedestrian network without relying on other, intervening parcels to develop.

Additional Considerations for Traffic Impacts

For many years now, the Town has been actively pursuing broad traffic solutions directed toward the type of growth that is being considered through this re-zone request.

a. Reconstruction of Quaker Boulevard Interchange

This interchange is approaching the end of its life-cycle and is currently being redesigned to serve as a Diverging Diamond Interchange. Construction is expected in 2027/2028.

b. Gateway Extension and Hackamore Road

The Town has developed a plan with INDOT to improve connectivity at the I-70 and Quaker Boulevard interchange with Gateway Road and to extend Gateway west to Center Street. As areas south of Hadley Road and west of White Lick Creek continue

to develop, this new connection will provide an alternative route to reduce the continued reliance on Hadley Road as the primary route.

c. *I-70 to US 40 Corridor Study*

In 2020, the Town publicized its final draft of a study recommending an alignment of a future road corridor that will provide a new connection between I-70 and US 40. The concept of a new interchange was first proposed as part of the Town's 2004 Comprehensive Plan and was revisited in 2016 & 2019 as part of the Town updating both its Comprehensive & Thoroughfare Plans, respectively.

While it is unclear on the timing such an improvement would be built, the impacts to regional travel in this area are expected to be significant. Based upon current travel forecasts, a new interchange and corridor is not expected to divert a significant amount of traffic away from Hadley Road, but will provide an alternative for some drivers as congestion increases.

d. *Artificial Traffic Gaps*

One of the significant concerns that we are aware of for existing residents along the Hadley Road corridor is increasing delays in finding sufficient gaps in traffic that allow for left turns onto Hadley. Previous investigation and research into this concern has confirmed this is a situation that develops along corridors where roundabouts are repeatedly used as the intersection control method of choice. This is a particularly undesirable effect during peak hours where the thru-volumes create delays for a small amount of vehicles that exceed typical standards for Levels of Service but while performing as intended by moving significant amounts of traffic efficiently.

Creating traffic gaps, particularly during peak hours, will be part of the design considerations when introducing a new traffic signal at the Hadley/Hall Road intersection.

e. *Expanding Hadley Road to 4-lanes of Travel*

Both Hadley and Moon Roads are identified on the Town's Thoroughfare Plan as arterial level roadways, meaning that they are expected to be widened to 4-lanes in the future. This sort of improvement would increase capacity to over 36k vehicles per day. The 2045 Long Range Transportation Plan produced by the Indianapolis Metropolitan Planning Organization has identified this level of improvement as being justified to receive federal funds within the year range of 2036-2045. This determination is based upon their long-term traffic modeling of the region and available funding. This timeline also aligns with the 70-year life expectancy for the bridge over White Lick Creek that was built in 1969.



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TRAFFIC IMPACT STUDY

PROPOSED RESIDENTIAL DEVELOPMENT

PLAINFIELD, INDIANA

PREPARED FOR



APRIL 2025

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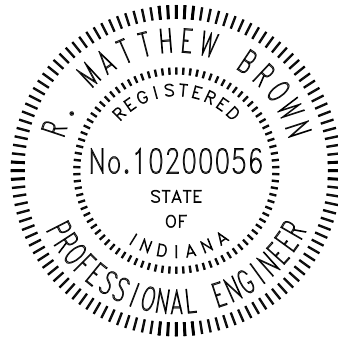
CERTIFICATION

I certify that this **TRAFFIC IMPACT STUDY** has been prepared by me and under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering.

A&F ENGINEERING Co., LLC



April 24, 2025
R. Matt Brown, P.E.
Indiana Registration 10200056



Isadora Ribeiro
Traffic Engineer

INTRODUCTION

This **TRAFFIC IMPACT STUDY**, prepared on behalf of Pulte Group, is for a proposed residential development that is to be located south of US 40 between Moon Road and Miles Road in Plainfield, Indiana.

PURPOSE

The purpose of this analysis is to determine what impact the traffic generated by the proposed development will have on the existing adjacent roadway system. This analysis will identify any existing roadway deficiencies or ones that may occur when this site is developed.

Conclusions will be reached that will determine if the roadway system can accommodate the anticipated traffic volumes or will determine the modifications that will be required to the system if there are identified deficiencies.

Recommendations will be made that will address the conclusions resulting from this analysis. These recommendations will address feasible roadway system improvements to provide safe ingress and egress, to and from the proposed development, with minimal interference to traffic on the public street system.

SCOPE OF WORK

The scope of work for this analysis is as follows:

First, obtain turning movement traffic volume counts between the hours of 6:00 A.M. to 9:00 A.M. and 4:00 P.M. to 7:00 P.M. during a typical weekday at the study intersections.

Second, estimate the number of peak hour trips that will be generated by the proposed development.

Third, estimate the year 2030 background traffic volumes by applying a 1.1% per year growth rate to the existing traffic volumes.

Fourth, assign and distribute the generated traffic from the proposed development to the study intersections.

Fifth, prepare a capacity analysis/level of service analysis and turn lane analysis at the study intersections for each of the following scenarios:

Scenario 1: Existing Traffic Volumes – Based on existing peak hour traffic volumes.

Scenario 2: Year 2030 Background Traffic Volumes – Based on applying a 1.1% per year annual growth rate to the existing traffic volumes.

Scenario 3: Year 2030 Proposed Development Traffic Volumes – Based on the sum of year 2030 background traffic volumes and generated traffic volumes from the proposed development.

Sixth, prepare recommendations for the roadway geometrics that will be needed to accommodate the total traffic volumes once the proposed development is constructed.

Finally, prepare a **TRAFFIC IMPACT STUDY** report documenting all data, analyses, conclusions, and recommendations to provide for the safe and efficient movement of traffic through the study area.

DESCRIPTION OF THE PROPOSED DEVELOPMENT

The proposed development will be located south of US 40 between Moon Road and Miles Road in Plainfield, Indiana. As proposed, the development will consist of approximately 465 single-family homes. The site will be served by two full access drives along US 40, and two full access drives along CR 600 S. **Figure 1** is an area map showing the location and general layout of the proposed site. A detailed site plan is included in the **Appendix**.

STUDY AREA

The study area for this analysis has been defined to include the following intersections:

- US 40 & Miles Road
- US 40 & Moon Road
- CR 600 S & Moon Road
- CR 600 S & CR 521 E
- US 40 & Mecklenburg Drive / Vandalia Boulevard
- US 40 & Proposed West Access Drive
- US 40 & Proposed East Access Drive
- CR 600 S & Proposed North/South Access Drive

Figures 2A & 2B shows the existing intersection geometrics at the existing study intersections.

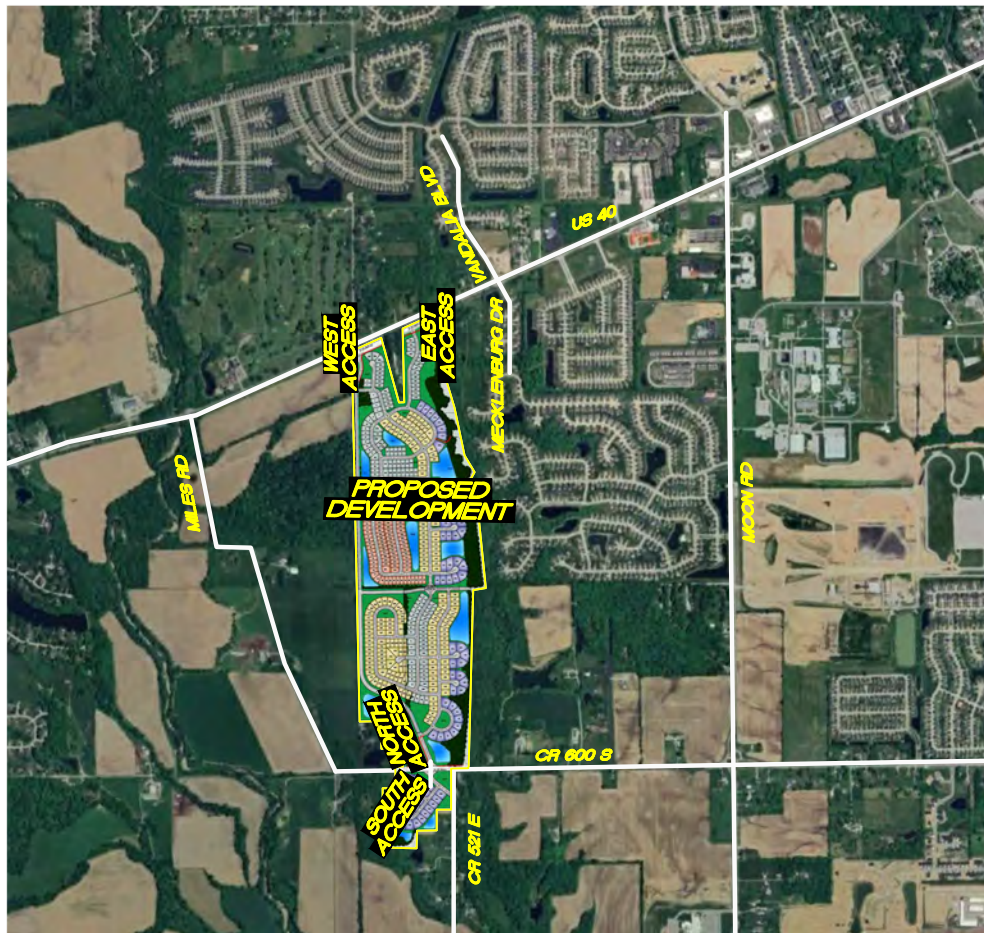
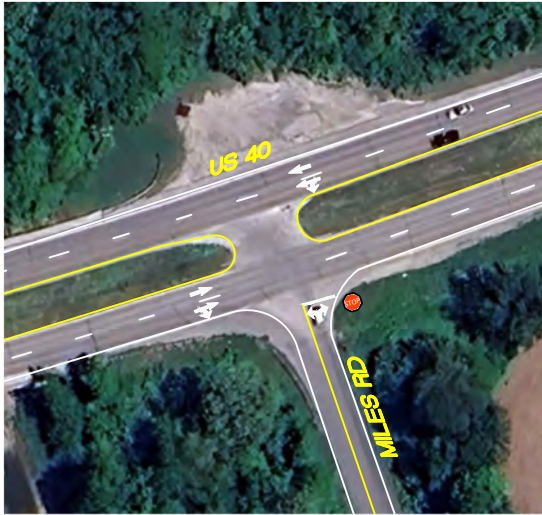
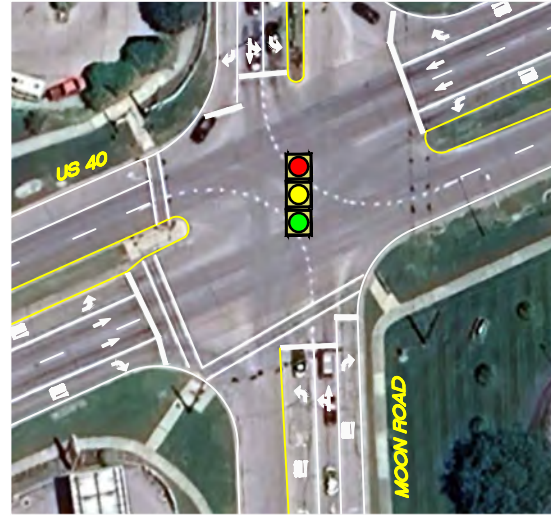


FIGURE 1
AREA MAP

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US 40 & MILES ROAD



US 40 & MOON RD



CR 600 S & CR 521 E



CR 600 S & MOON RD

FIGURE 2A

**EXISTING INTERSECTION
 GEOMETRICS**

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US 40 & MECKLENBURG DR/VANDALIA BLVD

FIGURE 2B
EXISTING INTERSECTION
GEOMETRICS

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PLAINFIELD, INDIANA

DESCRIPTION OF ABUTTING STREET SYSTEM

The proposed development will be primarily served by the public roadway system that includes US 40, Miles Road, Moon Road, CR 600 S, CR 521 E, Mecklenburg Drive and Vandalia Boulevard.

TABLE 1 – DESCRIPTION OF THE ABUTTING STREET SYSTEM

STREET NAME	NUMBER OF LANES	SPEED LIMIT (MPH)	FUNCTIONAL CLASS
US 40	4	40	Principal Arterial
Miles Road	2	40	Local Road
Moon Road	2	35	Major Collector
CR 600 S	2	40	Local Road
CR 521 E	2	Not posted	Local Road
Mecklenburg Drive	2	Not posted	Local Road
Vandalia Boulevard	2	35	Local Road

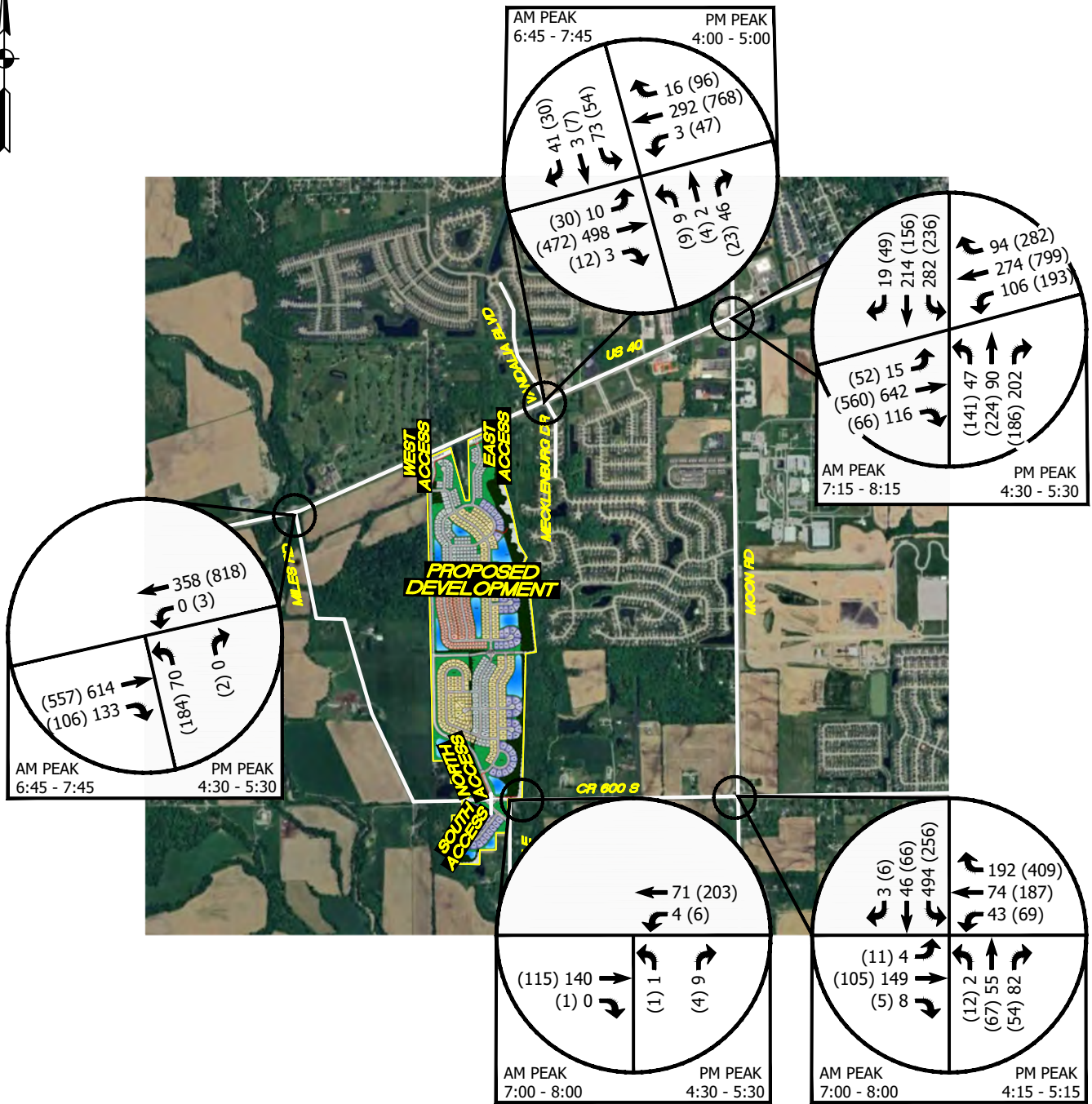
* Functional classification based on INDOT roadway inventory.

EXISTING TRAFFIC VOLUMES

Turning movement traffic volume counts were collected by A&F Engineering at the study intersections between the hours of 6:00 AM to 9:00 AM and 4:00 PM to 7:00 PM during a typical weekday in August 2024 & February 2025 under good weather conditions. According to the turning movement, traffic volume counts, the AM and PM peak hours vary slightly at each of the study intersections. Hence, the actual peak hours are used at each study intersection to create a “worse-case” traffic volume scenario. The intersection count output summary sheets are included in the **Appendix**, and the AM and PM peak hour traffic volumes at the study intersections are shown in **Figure 3**.

YEAR 2030 BACKGROUND TRAFFIC VOLUMES

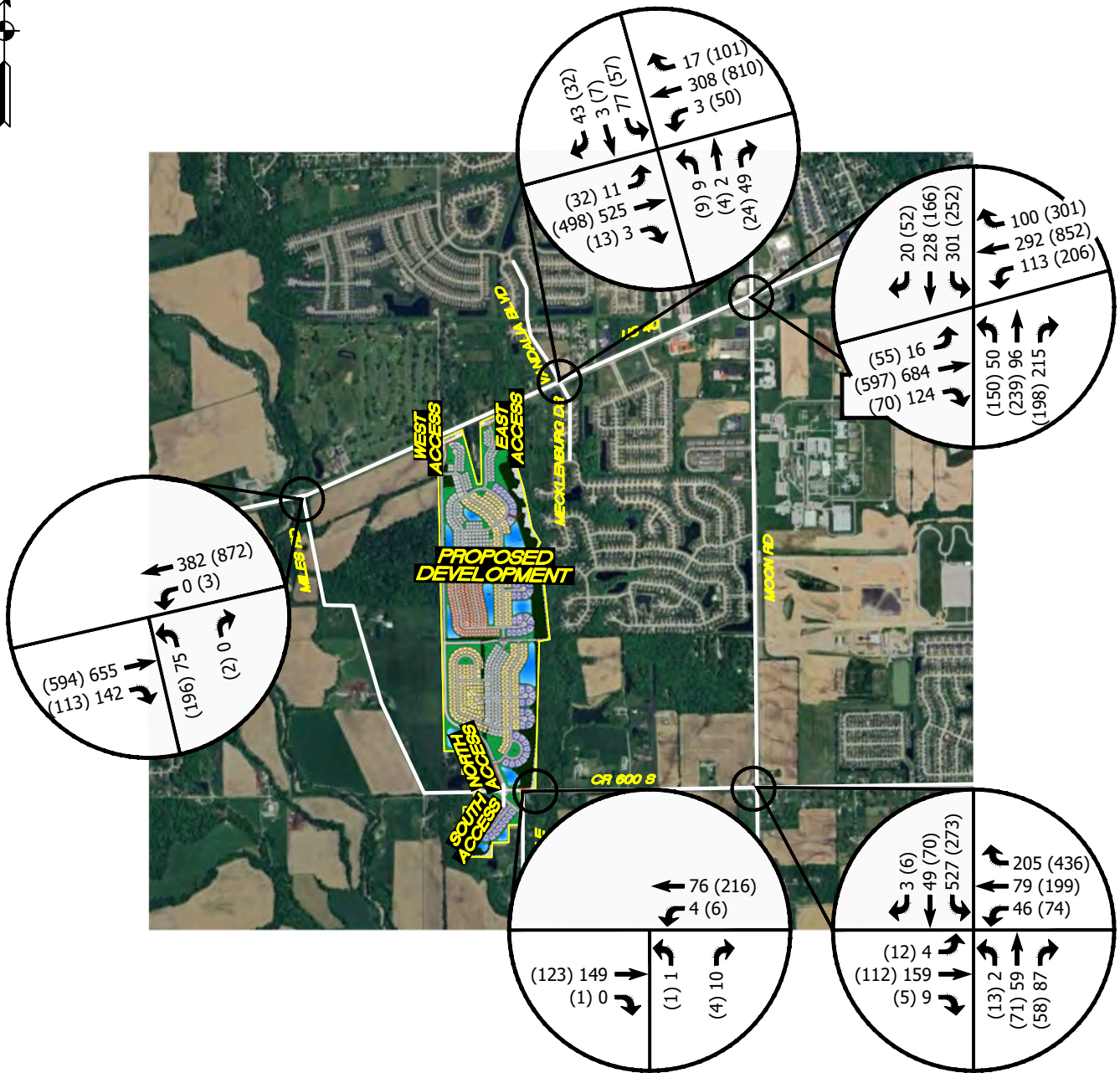
In order to account for the annual growth in traffic volumes that would occur due to future development outside of the study area over the next 5 years, a 1.1% per year non-compounded growth rate was first applied to the existing traffic volumes to yield the total year 2030 background traffic volumes shown in **Figure 4**.



LEGEND
 XX = A.M. PEAK HOUR
 (XX) = P.M. PEAK HOUR
 * = NEGLIGIBLE

FIGURE 3
EXISTING TRAFFIC VOLUMES

TRAFFIC IMPACT STUDY
PULTE GROUP
PLAINFIELD, INDIANA



LEGEND
 XX = A.M. PEAK HOUR
 (XX) = P.M. PEAK HOUR
 * = NEGLIGIBLE

FIGURE 4
YEAR 2030 BACKGROUND
TRAFFIC VOLUMES

TRAFFIC IMPACT STUDY
PULTE GROUP
PLAINFIELD, INDIANA

GENERATED TRIPS FOR PROPOSED DEVELOPMENT

The estimate of newly generated traffic is a function of the development size and of the character of the land use. The ITE *Trip Generation Manual*¹ was used to calculate the number of trips that will be generated by the proposed development. This report is a compilation of trip data for various land uses as collected by transportation professionals throughout the United States in order to establish the average number of trips generated by those land uses. **Table 2** summarizes the trips that will be generated by the subject site.

TABLE 2 – TOTAL GENERATED TRIPS FOR PROPOSED DEVELOPMENT

DEVELOPMENT INFORMATION			GENERATED TRIPS			
LAND USE	ITE CODE	SIZE	AM PEAK HOUR		PM PEAK HOUR	
			ENTER	EXIT	ENTER	EXIT
Single-Family Detached Housing	210	465 DU	76	226	265	156

PASS-BY & INTERNAL TRIPS

Pass-by trips are trips that are already in the existing traffic stream along the adjacent public roadway system that enter a site, utilize the site, and then return to the existing traffic stream. Residential developments don't typically generate a significant number of pass-by trips. Therefore, pass-by trips were not considered in this study.

An internal trip results when a trip is made between two or more land uses without traversing the external public roadway system. The proposed development is a single land use. Therefore, internal trips were not considered in this study.

¹ *Trip Generation Manual*, Institute of Transportation Engineers, Eleventh Edition, 2021.

ASSIGNMENT AND DISTRIBUTION OF GENERATED TRIPS

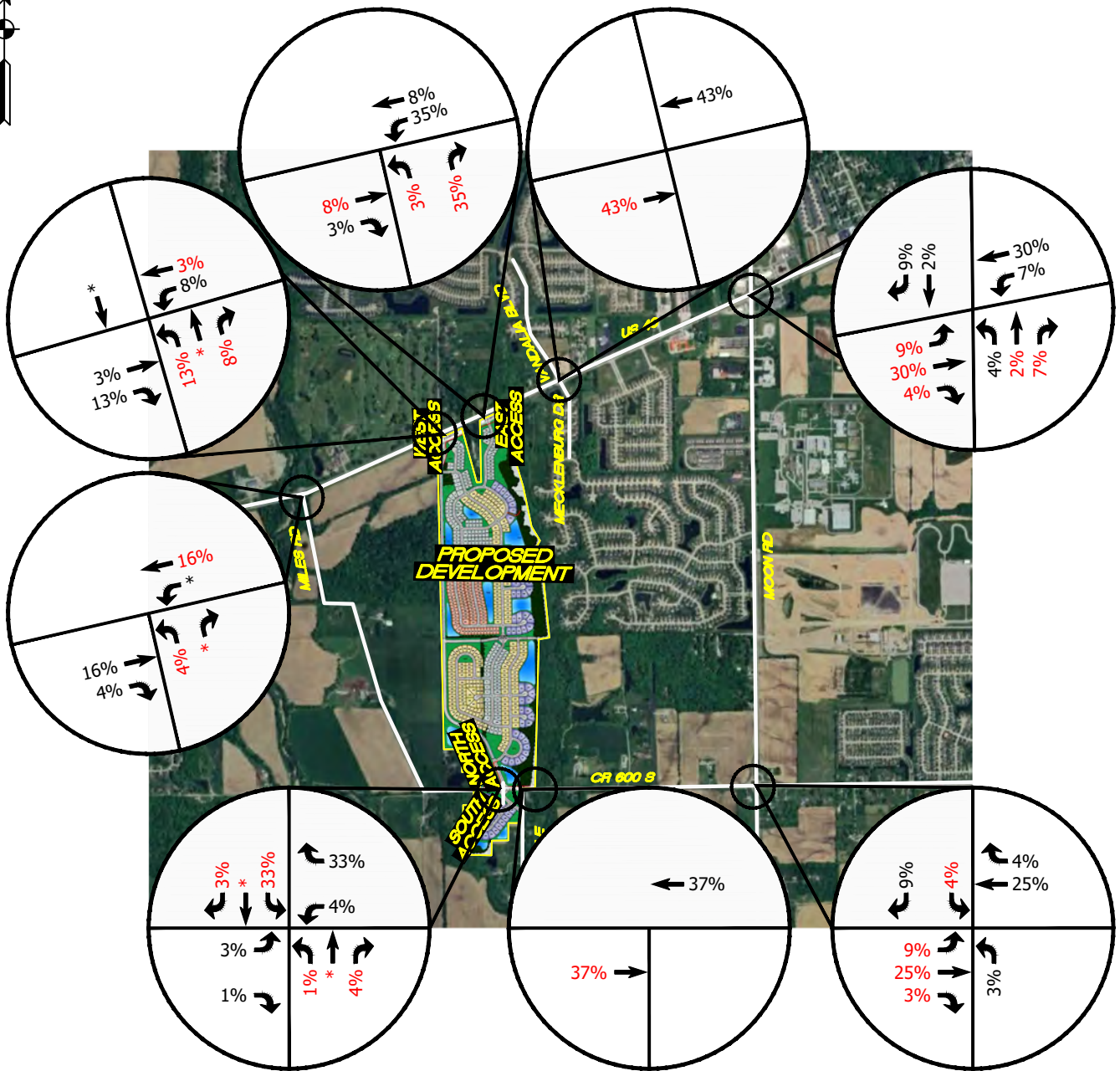
The study methodology used to determine the traffic volumes from the site that will be added to the street system is defined as follows:

1. The volume of traffic that will enter and exit the proposed development must be assigned to the access points and to the public street system. Using the traffic volume data collected for this analysis, traffic to and from the site has been assigned to the proposed driveways and to the public street system that will be serving the site.
2. To determine the volumes of traffic that will be added to the public roadway system, the generated traffic must be distributed by direction to the public roadways at their intersection with the driveways. For the proposed development, the trip distribution was based on the location of the development, the existing traffic patterns, and the assignment of generated traffic.

Figure 5 illustrates the assignment and distribution of generated traffic volumes for the proposed development.

GENERATED TRIPS ADDED TO THE STREET SYSTEM

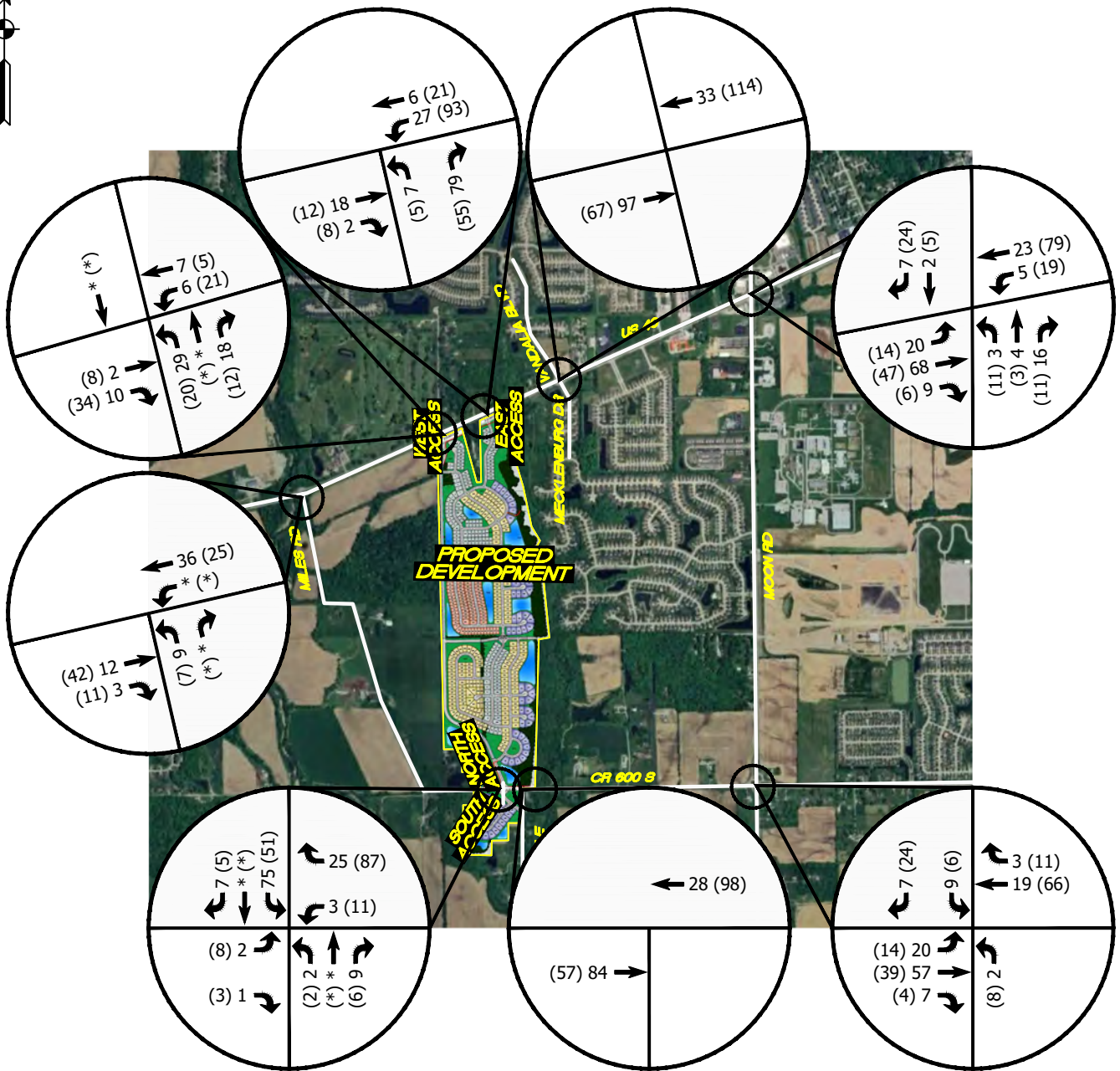
The generated traffic volumes that can be expected from the proposed development have been assigned and distributed to each of the study intersections. These volumes were determined based on the previously discussed trip generation data, assignment and distribution of generated traffic. The total peak hour generated traffic volumes from the proposed development are shown in **Figure 6**. **Figure 7** shows the sum of the year 2030 background traffic volumes and generated traffic volumes from the proposed development.



LEGEND
 XX = INBOUND TRAFFIC
 XX = OUTBOUND TRAFFIC
 * = NEGLIGIBLE

FIGURE 5
ASSIGNMENT & DISTRIBUTION
OF GENERATED
TRAFFIC VOLUMES FROM
PROPOSED DEVELOPMENT

TRAFFIC IMPACT STUDY
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PLAINFIELD, INDIANA



LEGEND
 XX = A.M. PEAK HOUR
 (XX) = P.M. PEAK HOUR
 * = NEGLIGIBLE

FIGURE 6
GENERATED TRAFFIC VOLUMES FROM PROPOSED DEVELOPMENT

**TRAFFIC IMPACT STUDY
 PULTE GROUP
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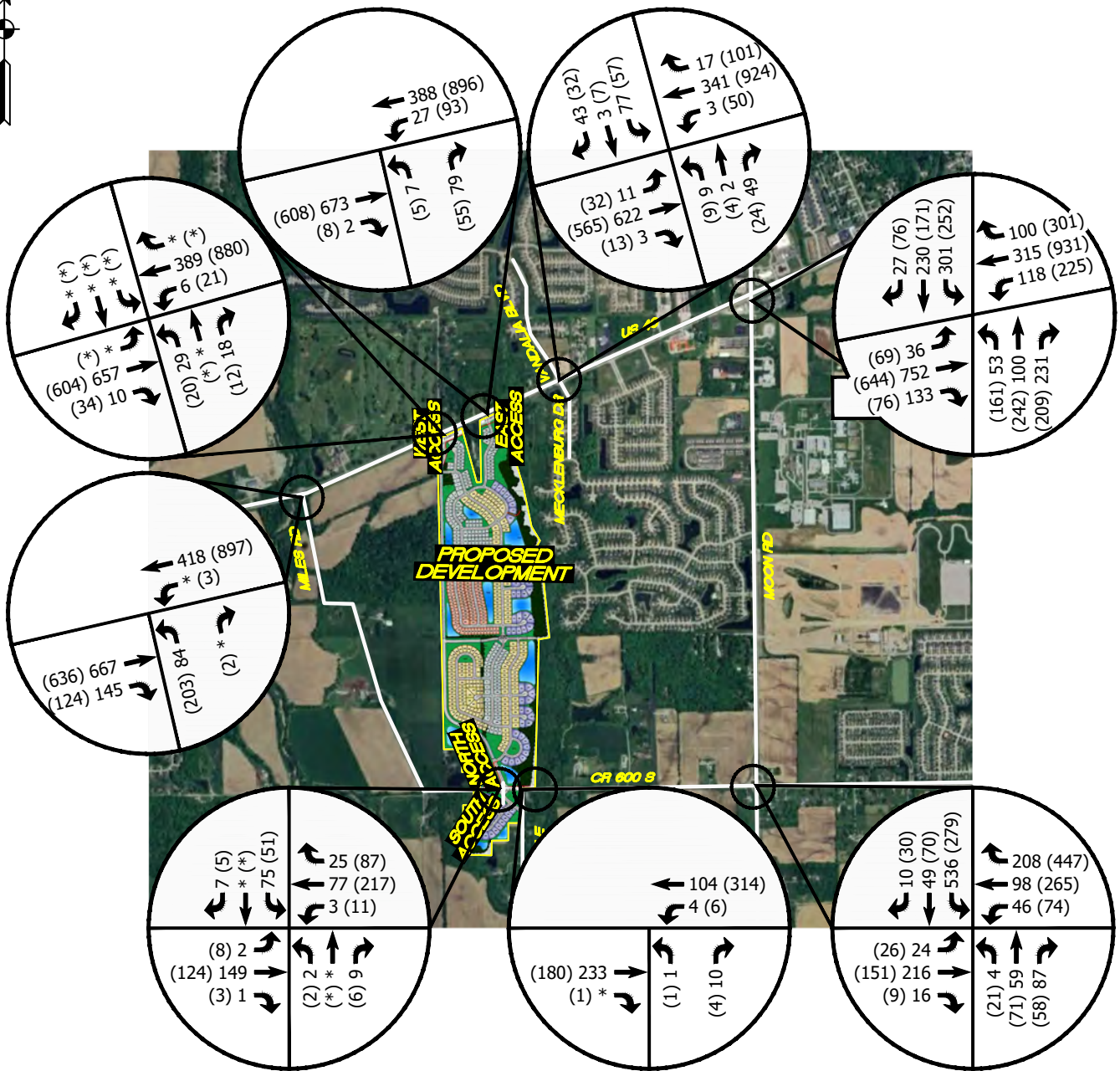


FIGURE 7

SUM OF YEAR 2030 BACKGROUND TRAFFIC VOLUMES & GENERATED TRAFFIC VOLUMES FROM PROPOSED DEVELOPMENT

**TRAFFIC IMPACT STUDY
 PULTE GROUP
 PLAINFIELD, INDIANA**

TURN LANE ANALYSIS

The year 2030 background traffic volumes were combined with the generated traffic volumes from the proposed development to determine if turn lanes would be required along US 40, and/or CR 600 S at the proposed access drive locations. This analysis was done in accordance with the INDOT *Driveway Permit Guide*² and the results are summarized in the following table.

TABLE 3 –TURN LANE WARRANT ANALYSIS SUMMARY

LOCATION	SCENARIO	RIGHT-TURN LANE	LEFT-TURN LANE
US 40 & Proposed West Access Drive	Total Year 2030 Traffic Volumes + Generated Traffic Volumes	X	✓
US 40 & Proposed East Access Drive	Total Year 2030 Traffic Volumes + Generated Traffic Volumes	X	✓
CR 600 S & Proposed North Access Drive	Total Year 2030 Traffic Volumes + Generated Traffic Volumes	✓	X
CR 600 S & Proposed South Access Drive	Total Year 2030 Traffic Volumes + Generated Traffic Volumes	X	X

✓=Turn Lane warranted; X=Turn Lane not warranted

The graphs that show the turn lane warrant criteria are shown in the **Appendix**. There are no graphical left-turn lane warrants for the proposed access drives along US 40. However, per the INDOT Permit Manual, since US 40 is a four-lane highway with a median width equal to or greater than 24 feet, a left-turn lane is warranted along US 40 at the access drive locations. Furthermore, it should be noted that where turn lanes are not shown to be warranted, turn treatments could be required based on local standards.

CAPACITY ANALYSIS

The "efficiency" of an intersection is based on its ability to accommodate the traffic volumes that approach the intersection. It is defined by the Level-of-Service (LOS) of the intersection. The LOS is determined by a series of calculations commonly called a "capacity analysis". Input data into a capacity analysis includes traffic volumes, intersection geometry, and number and use of lanes. To determine the LOS at each of the study intersections, a capacity analysis has been made using the recognized computer program *Synchro/Sim Traffic*³. This program allows intersections

² INDOT *Driveway Permit Guide, Version 1.4*, Indiana Department of Transportation, April 2024

³ *Synchro/Sim Traffic 12*, Cubic Transportation Systems, 2023.

to be analyzed and optimized using the capacity calculation methods outlined within the *Highway Capacity Manual (HCM 7th Edition)*⁴. In addition, roundabout capacity analyses were conducted using the recognized computer program *SIDRA*⁵ with INDOT *SIDRA* parameters. The following list shows the delays related to the levels of service for unsignalized & signalized/RAB intersections:

<u>Level of Service</u>	<u>Control Delay (seconds/vehicle)</u>	
	<u>UNSIGNALIZED</u>	<u>SIGNALIZED/RAB</u>
A	Less than or equal to 10	Less than or equal to 10
B	Between 10.1 and 15	Between 10.1 and 20
C	Between 15.1 and 25	Between 20.1 and 35
D	Between 25.1 and 35	Between 35.1 and 55
E	Between 35.1 and 50	Between 55.1 and 80
F	greater than 50	greater than 80

CAPACITY ANALYSIS SCENARIOS

To evaluate the proposed development's effect on the public street system, a series of traffic volume scenarios were analyzed to determine the adequacy of the existing roadway network. From this analysis, necessary recommendations can be made to improve the public street system so it will accommodate future traffic volumes. An analysis has been made for the peak hours at each of the study intersections for the following traffic volume scenarios:

Scenario 1: Existing Traffic Volumes – Based on existing peak hour traffic volumes. **Figure 3** is a summary of these traffic volumes.

Scenario 2: Year 2030 Background Traffic Volumes – Based on applying a 1.1% per year annual growth rate to the existing traffic volumes. **Figure 4** is a summary of these traffic volumes.

Scenario 3: Year 2030 Proposed Development Traffic Volumes – Based on the sum of year 2030 background traffic volumes and generated traffic volumes from the proposed development. **Figure 7** is a summary of these traffic volumes.

The following tables summarize the level of service results at each study intersection. The *Synchro (HCM 7th Edition)* and *SIDRA* intersection reports illustrating the capacity analysis results are included in the **Appendix**.

⁴ *Highway Capacity Manual (HCM), 7th Edition* Transportation Research Board, The National Academies of Sciences, Washington, DC, 2022.

⁵ *SIDRA INTERSECTION 9.1*, Akcelik and Associates Pty Ltd, 2023

TABLE 4 – LEVEL OF SERVICE SUMMARY: US 40 & MILES ROAD

APPROACH	AM PEAK				PM PEAK			
	Scenarios				Scenarios			
	1A	2A	3A	3B	1A	2A	3A	3B
Northbound Approach	C	C	C	C	D	D	E	E
Westbound Left-Turn	A	A	A	A	A	A	A	A

Scenario A considers existing intersection geometrics.

Scenario B considers construction an exclusive right-turn lane on the northbound approach.

TABLE 5 – LEVEL OF SERVICE SUMMARY: US 40 & MOON ROAD

APPROACH	AM PEAK			PM PEAK		
	Scenarios			Scenarios		
	1	2	3	1	2	3
Northbound Approach	C	C	C	C	C	C
Southbound Approach	C	C	C	C	C	D
Eastbound Approach	C	C	C	C	C	C
Westbound Approach	C	C	C	C	C	C
Intersection	C	C	C	C	C	C

TABLE 6 – LEVEL OF SERVICE SUMMARY: CR 600 S & MOON ROAD

APPROACH	AM PEAK			PM PEAK		
	Scenarios			Scenarios		
	1	2	3	1	2	3
Northbound Approach	A	A	B	A	A	A
Southbound Approach	A	A	A	A	A	B
Eastbound Approach	A	A	A	A	A	A
Westbound Approach	A	A	A	A	A	A
Intersection	A	A	A	A	A	B

TABLE 7 – LEVEL OF SERVICE SUMMARY: CR 600 S & CR 521 E

APPROACH	AM PEAK			PM PEAK		
	Scenarios			Scenarios		
	1	2	3	1	2	3
Northbound Approach	A	A	B	A	A	B
Westbound Left-Turn	A	A	A	A	A	A

TABLE 8 – LEVEL OF SERVICE SUMMARY: US 40 & MECKLENBURG DR/VANDALIA BLVD

APPROACH	AM PEAK			PM PEAK		
	Scenarios			Scenarios		
	1	2	3	1	2	3
Northbound Approach	C	C	C	C	C	C
Southbound Approach	C	C	C	C	C	C
Eastbound Approach	B	B	B	B	B	B
Westbound Approach	B	B	B	B	B	C
Intersection	B	B	B	B	B	C

TABLE 9 – LEVEL OF SERVICE SUMMARY: US 40 & PROPOSED WEST ACCESS DRIVE

APPROACH	AM PEAK	PM PEAK
	Scenario 3	Scenario 3
Northbound Approach	C	D
Southbound Approach	A	A
Eastbound Approach	---	---
Westbound Approach	A	A

Analysis considers construction of the northbound access drive with one inbound and at least one outbound lane that will stop for US 40, and installation of an exclusive westbound left-turn lane along US 40.

TABLE 10 – LEVEL OF SERVICE SUMMARY: US 40 & PROPOSED EAST ACCESS DRIVE

APPROACH	AM PEAK	PM PEAK
	Scenario 3	Scenario 3
Northbound Approach	B	B
Westbound Left-Turn	A	A

Analysis considers construction of the northbound access drive with one inbound and at least one outbound lane that will stop for US 40, and installation of an exclusive westbound left-turn lane along US 40.

TABLE 11 – LEVEL OF SERVICE SUMMARY: CR 600 S & PROPOSED NORTH/SOUTH ACCESS DRIVE

APPROACH	AM PEAK	PM PEAK
	Scenario 3	Scenario 3
Northbound Approach	A	A
Southbound Approach	B	B
Eastbound Left-Turn	A	A
Westbound Left-Turn	A	A

Analysis considers construction of the northbound and southbound access drives with one inbound and at least one outbound lane that will stop for CR 600 S, and installation of an exclusive westbound right-turn lane along CR 600 S.

CONCLUSIONS & RECOMMENDATIONS

The conclusions that follow are based on existing traffic volume data, trip generation, assignment and distribution of generated traffic, and the capacity analyses/level of service results. Based on the analysis and the resulting conclusions of this study, the following recommendations are formulated to ensure that the roadway system will accommodate the increased traffic volumes from the proposed development.

US 40 & MILES ROAD

Capacity analyses have shown that the northbound approach currently operates at acceptable levels of services during the AM and PM peak hours. However, once the generated traffic volumes from the proposed development are added to the intersection, the northbound approach will operate below acceptable levels of service during the PM peak hour. Additional capacity analyses have shown that the installation of an exclusive right-turn does not improve the level-of-service, but decreases the average delay along the northbound approach by approximately 36 seconds.

US 40 & MOON ROAD

Capacity analyses for all traffic volume scenarios have shown that this intersection currently operates and will continue to operate at acceptable levels of service during the AM and PM peak hours with existing intersection conditions. Therefore, no improvements are recommended at this intersection.

CR 600 S & MOON ROAD

Capacity analyses for all traffic volume scenarios have shown that all approaches to this intersection currently operate and will continue to operate at acceptable levels of service during the AM and PM peak hours with existing intersection conditions. Therefore, no improvements are recommended at this intersection.

CR 600 S & CR 521 E

Capacity analyses for all traffic volume scenarios have shown that all approaches to this intersection currently operate and will continue to operate at acceptable levels of service during the AM and PM peak hours with existing intersection conditions. Therefore, no improvements are recommended at this intersection.

US 40 & MECKLENBURG DRIVE /VANDALIA BOULEVARD

Capacity analyses for all traffic volume scenarios have shown that this intersection currently operates and will continue to operate at acceptable levels of service during the AM and PM peak hours with existing intersection conditions. Therefore, no improvements are recommended at this intersection.

US 40 & PROPOSED WEST ACCESS DRIVE

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following intersection conditions:

- Construction of the northbound proposed full-access drive with one inbound and at least one outbound lane.
- Construction of an exclusive westbound left-turn lane along US 40 at the access drive location.
- The intersection should be stop-controlled with the access drive stopping for US 40.

US 40 & PROPOSED EAST ACCESS DRIVE

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following intersection conditions:

- Construction of the northbound full-access access drive with one inbound and at least one outbound lane.
- Construction of an exclusive westbound left-turn lane along US 40 at the access drive location.
- The intersection should be stop-controlled with the access drive stopping for US 40.

CR 600 S & PROPOSED NORTH/SOUTH ACCESS DRIVE

Capacity analyses have shown that all approaches to this intersection will operate at acceptable levels of service during the AM and PM peak hours with the following intersection conditions:

- Construction of the northbound and southbound proposed full-access drives with one inbound and at least one outbound lane.
- Construction of an exclusive westbound right-turn lane along CR 600 S at the access drive location.
- The intersection should be stop-controlled with the access drive stopping for CR 600 S.