Williamson Road Traffic Impact/Planning Study

Final Report

MCRPC Mercer County Regional Planning Commission

Hempfield Township
Mercer County, Pennsylvania

PENNDOT

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August 28, 2012
MCRP.A.00003

WILLIAMSON ROAD
TRAFFIC AND PLANNING STUDY

For Submission to:

HEMPFIELD TOWNSHIP, MERCER COUNTY
MERCER COUNTY REGIONAL PLANNING COMMISSION
PENNDOT 1-0

August 28, 2012
TPD # MCPR.A.00003

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EXECUTIVE SUMMARY

1. The purpose of this study is to take a proactive planning approach to the Williamson Road corridor by applying Smart Transportation Principles to plan for commercial growth and potential rezoning along Williamson Road for the next ten years.
2. The focus of this study will be the area of Williamson Road between Hadley Road (SR 0358) and Donation Road (SR 4025).
3. The existing Hadley Road (SR 0358) corridor west of Williamson Road is an example of growth under the old transportation and planning land use cycle. This area is characterized by relatively small commercial lots with individual driveways and in some cases, multiple driveways accessing Hadley Road. The commercial buildings are relatively close to the highway and the driveways are closely spaced. This study will focus on implementing new planning methods (Smart Transportation) to the Williamson Road corridor to avoid the old land use cycles of the past.
4. As identified by the project stakeholders, the following existing transportation issues were identified:
   - Missing northbound left turn arrow at Williamson Road & Hadley Road
   - Driveways too close to existing traffic signal at Williamson Road & Hadley Road
   - Too many driveways along Hadley Road
5. Future development concerns identified by the project stakeholders were as follows:
   - Congestion at Hadley Road & Williamson Road
   - Development along Williamson Road looking like Hadley Road
   - Future development traffic demand along Williamson Road
   - Future roadway needs to accommodate growth
   - Infrastructure costs associated with development growth
   - How to plan, fund, and implement future improvements
6. Manual traffic counts were conducted on 15-minute intervals during the weekday morning (7:00 to 9:00 A.M.), weekday evening (4:00 to 6:00 P.M.) and Saturday midday (11:00 A.M. to 1:00 P.M.) peak periods. Counts were conducted at the following intersections:
   - Williamson Road & Wal-Mart Driveway
   - Williamson Road & Hadley Road
   - Williamson Road & Donation Road
7. Automatic Traffic Recorder (ATR) counts were conducted along the following roadways in the vicinity of the proposed study area in order to determine the existing traffic volumes/patterns on a 24-hour weekday basis:
   - Hadley Road east of Williamson Road
   - Hadley Road west of Williamson Road
   - Williamson Road north of Donation Road
   - Williamson Road south of Hadley Road
   - Williamson Road north of Hadley Road
   - Williamson Road north of Wal-Mart
8. Various open spaces within the study area were identified for future development. For the study, three land use assumptions scenarios were developed for the six primary land use areas identified.

9. In summary, the traffic analysis made the following assumptions:

    - Traffic growth rate = 0.48% per year (compounded);
    - A 10-year planning horizon was used (2022);
    - For each land use scenario, assumed that ALL parcels would fully develop over the 10-year planning horizon. This is an overestimate for what the market would likely absorb but conservative for this analysis;
    - Traffic signal timings would be optimized for the 2022 planning horizon.

10. The results of the traffic analysis were as follows:

    - Overall intersection level of service was D or better for all land use scenarios;
    - Future traffic forecasts for all land use scenarios can be fully absorbed by the existing roadway network;
    - Rezoning could occur on a case by case basis as opposed to a complete overhaul of the zoning ordinance/map to limit future development related traffic;
    - Queuing was only an issue at the intersection of Hadley Road & Williamson Road. In particular, the northbound approach queue will continue to grow through 2022;
    - Signal retiming periodically (every 3 years or after each major land development) will allow the existing roadway system to operate at an acceptable Level of Service through 2022;
    - The addition of a left turn arrow for northbound Williamson Road at Hadley Road would reduce these queues;
    - As development continues along the southern leg of Williamson Road, an additional westbound left turn arrow may also be needed based upon development traffic demands along Williamson Road;
    - Although Hadley Road (west of Williamson Road) was not identified as a crash cluster, crashes do occur more frequently on this roadway segment compared to Williamson Road. Implementation of access management design features as opposed to a continuous center left turn lane with numerous driveways (similar to Hadley Road) is recommended to balance access to larger development parcels with acceptable mobility through the corridor.

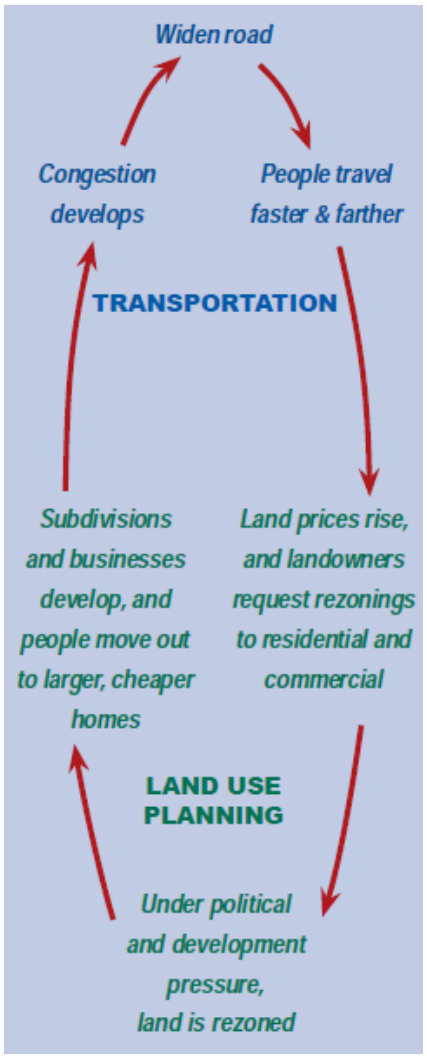
11. The following planning/implementation/funding recommendations were identified to implement the recommended traffic improvement along Williamson Road.

    - Zoning Map – No changes recommended. The forecasted traffic volumes based upon the existing zoning can be readily accommodated by the existing roadway network. Potential zoning changes based upon market trends can be accommodated on a case by case basis in the future.
    - Zoning Ordinance – Recommend adopting an Access Management Overlay District. A preliminary access management ordinance is attached in the Appendix. The Township can further discuss if this overlay district will be limited to the undeveloped portion of Williamson Road or extended to the entire C (commercial) district along Hadley Road and Williamson Road.
    - Official Map – Based upon discussions and feedback from the stakeholder group, an official map is NOT recommended at this time.
    - Funding Future Improvements – Based upon discussions and feedback from the stakeholder group, Developer Negotiation is the preferred method of funding future improvements along Williamson Road. Given that off-site improvements along Williamson Road and Hadley Road are minimal, the focus for funding future improvements will be along the undeveloped site frontages along Williamson Road.

INTRODUCTION

Since the 1950s, land development in Pennsylvania has traditionally followed the Transportation and Planning Land Use Cycle shown in the attached graphic. For over 60 years, development has been pushing beyond our small towns and cities into the adjacent rural townships. Development in these open spaces is traditionally cheaper because land values and site preparation costs are lower.

As development begins to expand and attract more people, congestion develops. In response to this congestion, narrow two lane roads are widened to provide center turn lanes and/or multiple lanes in each direction. This cycle seems to be never ending. In the past, adequate transportation funding has been available to construct these growth related improvements. However, in recent years, construction costs have outpaced inflation and funding has decreased.



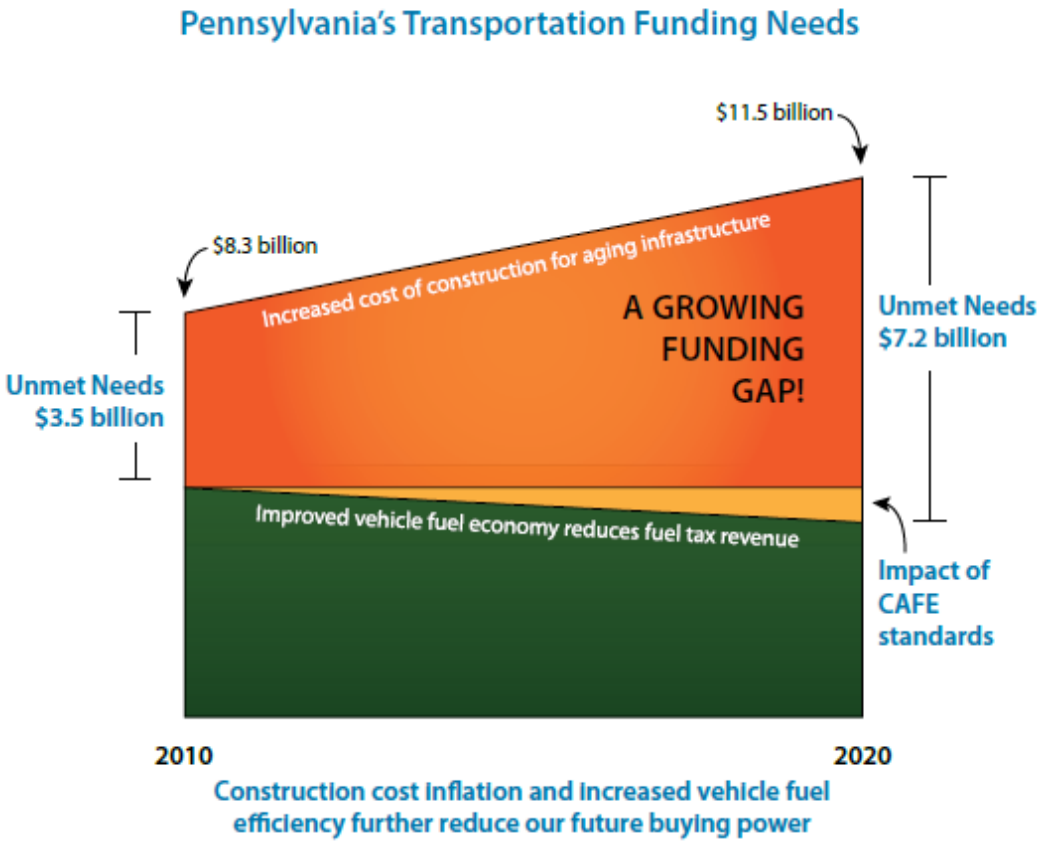
Source: Smart Transportation Guidebook (NJDOT, PennDOT 2008)

The primary source of transportation funding at both the state and federal level is the "gas tax". The Federal Excise Tax on Gasoline has been 18.4 cents per gallon since 1993 and is not indexed to inflation. The cumulative purchasing power of the federal gas tax has been reduced by 33% since 1993. This reduction is the result of construction costs outpacing inflation and more fuel efficient vehicles reducing the amount of taxes paid.

The Pennsylvania 'gas tax' is made up of a flat tax portion, an oil company franchise tax portion, and an underground storage tank indemnification fund fee. The flat tax portion has been at 12 cents per gallon since 1987 and is not indexed to inflation. The oil company franchise tax is a millage based tax that can fluctuate with the price of oil; however, this portion of the tax is subject to a price cap. This price cap was reached in 2006, and has remained at 26.1 cents per gallon since them. The underground storage tank indemnification fund fee is 1.1 cents per gallon.

While the purchasing power of the gas tax is decreasing, the cost to maintain and improve our infrastructure continues to rise. The Governor's recent Transportation Funding Advisory Committee (TFAC) outlined the growing costs of maintaining and improving our infrastructure while facing

declining tax income as a major obstacle to adequately fund transportation. As shown below, this 'funding gap' will continue to grow over the next 10 years from $3.5 billion dollar to $7.2 billion dollars.



Source: Transportation Funding Advisory Committee Report (Aug 2011)

With the funding constraints placed on transportation for the foreseeable future, the old model of the transportation and planning is no longer sustainable. PennDOT has embraced Smart Transportation as a new approach to planning and designing roadways. For this new approach to work, PennDOT and local governments will need to become planning partners to develop objectives/goals to adequately allocate limited resources available for transportation improvements. In the future, adequate resources will not allow us to fix congestion by building our way out of the problem. Instead, Smart Transportation principles will be applied to manage roadway capacity by integrating transportation and land use planning.

Smart Transportation can be summarized in the following principles:

1. Tailor solutions to the context
2. Tailor the approach
3. Plan all projects in collaboration with the community
4. Plan for alternative transportation modes
5. Use sound professional judgment
6. Scale the solution to the size of the problem

To address these principles, PennDOT has developed 10 themes to Smart Transportation:

1. Money counts
2. Understand the context; plan and design with the context
3. Choose projects with high value/price ratio
4. Enhance the local network
5. Look beyond level-of-service
6. Safety first and maybe safety only
7. Accommodate all modes
8. Leverage and preserve existing investments
9. Build towns not sprawl
10. Develop local governments as strong land use partners.

More detailed information about PennDOT's Smart Transportation initiative can be found at http://www.smart-transportation.com/. In addition, the Smart Transportation Guidebook published in March 2008 by both NJDOT and PennDOT, is a valuable resource to understanding Smart Transportation. The Smart Transportation Guidebook can be downloaded at http://www.smart-transportation.com/assets/download/Smart Transportation Guidebook.pdf.

WILLIAMSON ROAD CORRIDOR

Hempfield Township has obtained funding for a Smart Transportation study of the Williamson Road Corridor. The focus of this study will be the area of Williamson Road between Hadley Road (SR 0358) and Donation Road (SR 4025). A PennDOT Type 10 map of the corridor is shown in **Figure 1**. An aerial photo of the same area is shown in **Figure 2**.

Hempfield Township has its own Township Zoning Ordinance; however, subdivision and land development reverts to the Mercer County Subdivision and Land Development Ordinance (SALDO). The area along Hadley Road (SR 0358) is zoned C – Commercial. The area of Williamson Road beginning approximately 1500' south of Hadley Road and south to Donation Road is zoned R-3 Multi-family Residential. A copy of the Hempfield Township Zoning Map is shown in **Figure 3**.

The existing Hadley Road (SR 0358) corridor west of Williamson Road is an example of growth under the old transportation and planning land use cycle. This area is characterized by relatively small commercial lots with individual driveways and in some cases, multiple driveways accessing Hadley Road. The commercial buildings are relatively close to the highway and the driveways are closely spaced.

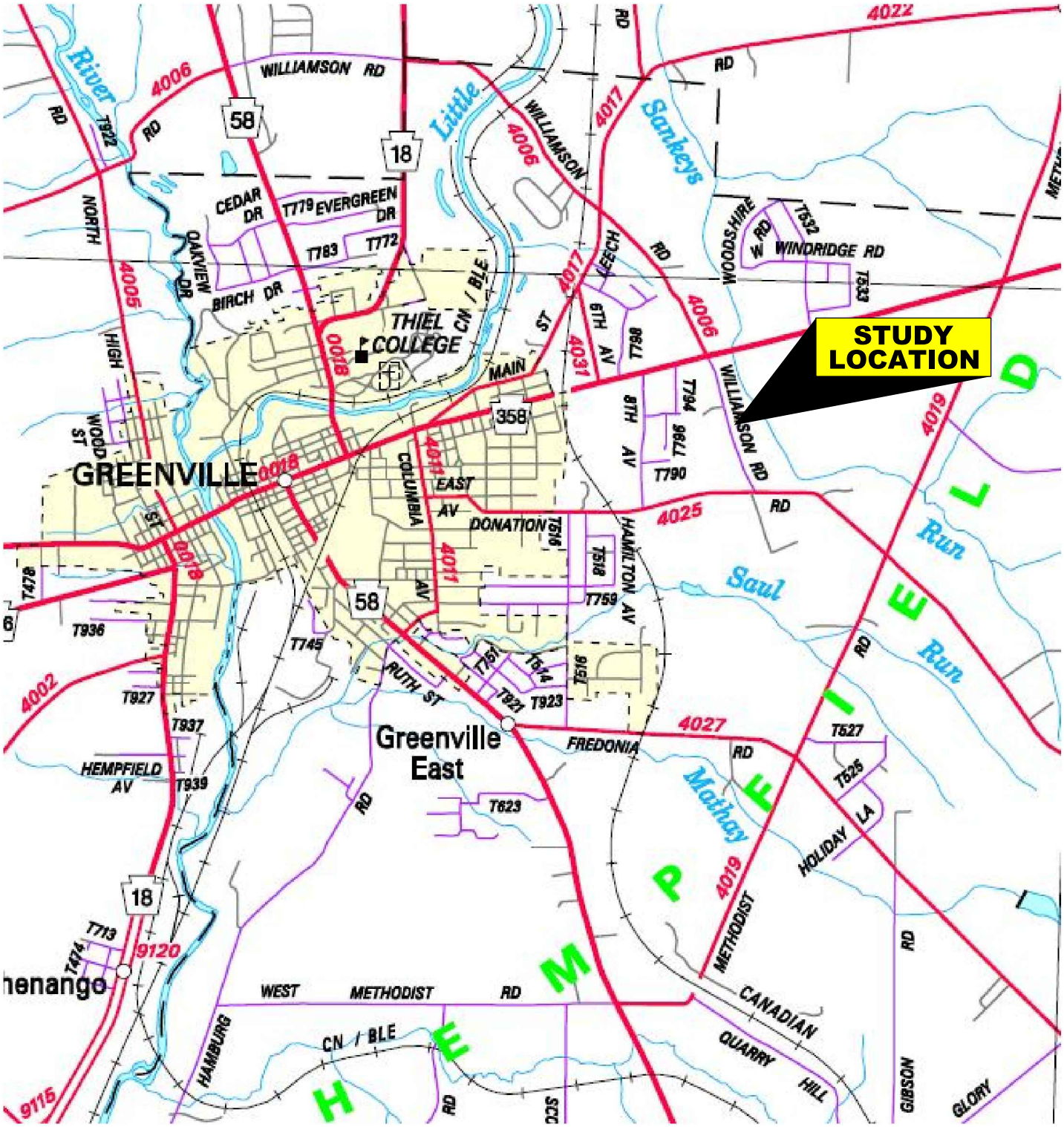


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Figure 1 Location Map

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FIGURE 1

LOCTION MAP

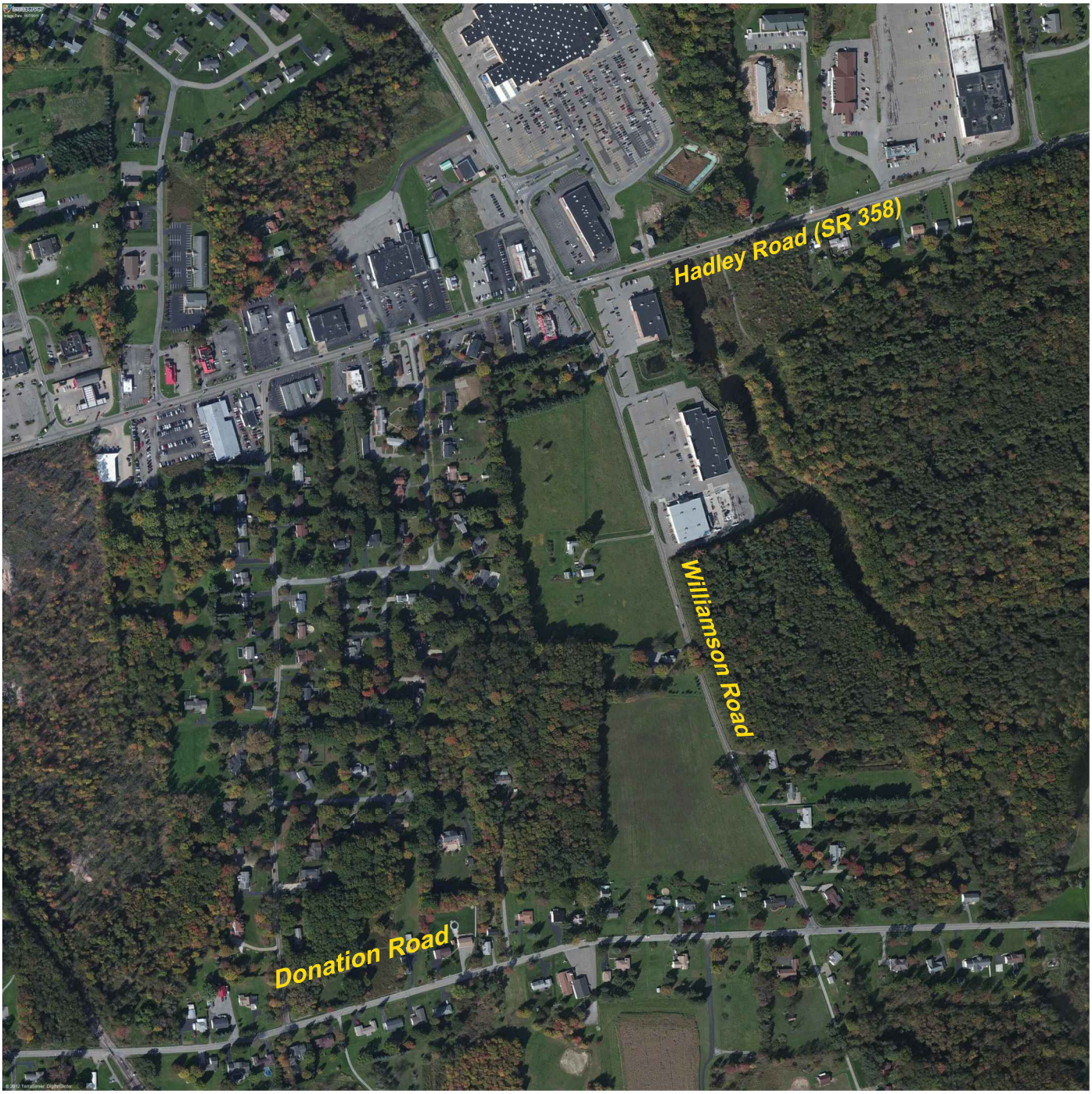

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FIGURE 2

AERIAL MAP LOCTION

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Figure 2 Aerial Map

Hempfield Township Zoning Map

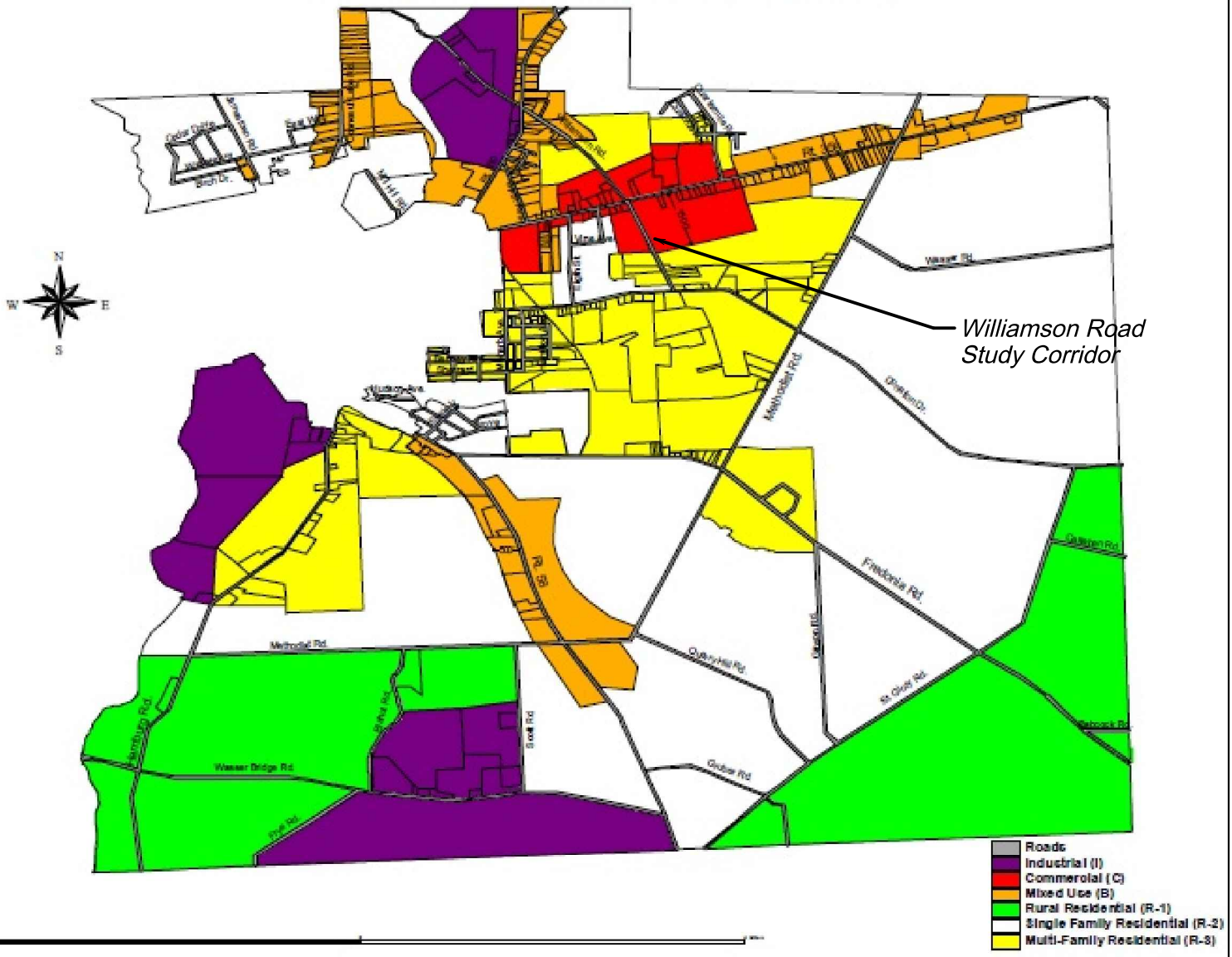

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Figure 3 Zoning Map

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FIGURE 3

HEMPFIELD TOWNSHIP
ZONING MAP

Aerial Photo of Hadley Road
(SR 0358) west of Williamson Road

Over the past few decades, Hadley Road has grown from a local commercial corridor to the retail center for northern Mercer County. More recent development in this area has been big-box type development such as Wal-Mart, Aldi's, Tractor Supply Store, Peebles, and other big-box/strip center type development.

As shown on the adjacent aerial photo, the most recent land developments in this area have been larger big box and strip center retail centers along Williamson Road both north and south of Hadley Road. The development of Williamson Road began in the later 1990s with the Wal-Mart Super Center and continued south on Williamson Road through 2005. It appears that the recent downturn in the economy is one of the primary reasons that this growth has not continued. As the region slowly recovers from the ongoing recession, development pressures will again begin to build along Williamson Road.

Aerial Photo of Hadley Road
(SR 0358) and Williamson Road

A stakeholder team, which included Hempfield Township, the Mercer County Regional Planning Commission, PennDOT, and local residents/businesses, was assembled to review existing traffic issues and future development concerns. As identified by the project stakeholders, the following existing issues were identified:

- Missing northbound left turn arrow at Williamson Road & Hadley Road
- Driveways too close to existing traffic signal at Williamson Road & Hadley Road
- Too many driveways along Hadley Road

Future development concerns identified by the project stakeholders were as followed:

- Congestion at Hadley Road & Williamson Road
- Development along Williamson Road looking like Hadley Road
- Future development traffic demand along Williamson Road
- Future roadway needs to accommodate growth
- Infrastructure costs associated with development growth
- How to plan, fund, and implement future improvements

STUDY PURPOSE

The purpose of this study is to take a proactive planning approach to the Williamson Road corridor by applying Smart Transportation Principles to plan for commercial growth and potential rezoning along Williamson Road for the next ten years. Not only will this study analyze future traffic conditions based upon forecasted growth, but the study will provide recommendations for funding and implementing the recommendations.

EXISTING ROADWAY NETWORK

An extensive field view of the study area roadways was performed. The following table summarizes the roadway characteristics within the study area.

Roadway Characteristics within Study Area

Roadway	Ownership	PennDOT Functional Classification/ Roadway Type	Predominant Directional Orientation	Posted Speed Limit
Williamson Road North of Hadley	State (S.R. 4006)	Urban Collector	North-South	40 mph
Williamson Road South of Hadley	Township	Urban Collector	North-South	40 mph
Hadley Road	State (S.R. 0358)	Urban Minor Arterial	East-West	40 mph
Donation Road	State (S.R. 4025)	Urban Collector	East-West	45 mph-east of Williamson 35 mph-west of Williamson

Land Use Context

In Chapter 4 of the Smart Transportation Guidebook, dated March 2008, there is guidance pertaining to defining the land use context(s) for a given area. Based upon review of this information, the land uses surrounding the main intersection of Hadley Road & Williamson Road best fits the Suburban Corridor designation, as described below:

> ***Suburban Corridor,*** *"…characterized by big box stores, commercial strip centers, restaurants, auto dealerships, office parks, and gas stations. These uses are sometimes interspersed with natural areas and occasional clusters of homes. Buildings are usually set back from the roadway behind surface parking."*

Roadway Typology

In Chapter 5 of the Smart Transportation Guidebook, there is guidance pertaining to defining the transportation context(s) for a given area. Comparing the existing condition roadway characteristics to the various options presented in Table 5.1 of the Smart Transportation Guidebook, the study area roadways best fit the following categories, as described below:

> ***Community Arterial***, traffic volumes of 5,000 to 25,000 vehicles per day, intersection spacing of 300 to 1,320 feet, a desired operating speed of 25-55 mph, and a description as follows: "*often classified as Minor Arterial in traditional classification but may include road segments classified as Principal Arterial."*
>
> - Hadley Road (SR 0358)
>
> ***Community Collector***, traffic volumes of 5,000 to 15,000 vehicles per day, intersection spacing of 300 to 660 feet, a desired operating speed of 25-55 mph, and a description as follows: "*often similar in appearance to a community arterial. Typically classified as Major Collector."*
>
> - Williamson Road (SR 4006) and (Twp Road)
> - Donation Road (SR 4025)

Crash Data Investigation

Crash data were obtained from PennDOT for the study area roadways. PennDOT defines a reportable crash as follows, "A reportable (crash) is one in which an injury or fatality occurs or if at least one of the vehicles involved requires towing from the scene." Reportable crashes were tabulated for the five-year time period beginning 2007 and ending 2011. For a given intersection, PennDOT considers a crash occurrence of 5 reportable, correctable crashes over a continuous twelve-month period during the past five years to be a threshold value, above which the intersection design should be reviewed to examine if corrective measures can be taken to enhance safety. The number of reportable crashes at the study area intersections is shown on the following page.

PennDOT Reportable Crash Data

Study Area Roadway	Number of Reportable Crashes				
	2007	2008	2009	2010	2011
Hadley Road (from the RR overpass to Quartermile Rd)	5	4	3	7	7
Williamson Road (entire length)	6	6	2	4	4
Donation Road at Williamson Road	0	2	0	0	0

There were no specific intersections where 5 or more reportable crashes occurred within a 12 month period. Hadley Road experienced the highest number of crashes, which is expected since the traffic volumes on this roadway and the number of commercial driveways along this stretch of roadway are greater than on Williamson Road. Angle crashes are the most prevalent type of crash along Williamson Road; however, the angle crashes are spread out over the length of the corridor.

EXISTING TRAFFIC CONDITIONS

Manual Turning Movement Counts

Manual traffic counts were conducted on 15-minute intervals during the weekday morning (7:00 to 9:00 A.M.), weekday evening (4:00 to 6:00 P.M.) and Saturday midday (11:00 A.M. to 1:00 P.M.) peak periods. Data pertaining to heavy vehicles and pedestrians were observed during the manual counts. Peak hours and count dates for the study area intersections are identified in the table below.

Manual Traffic Count Information

Intersection	Date of Traffic Counts	Time Period	Intersection Peak Hour[1]
Williamson Road & Wal-Mart Driveway	Thursday, February 2, 2012	Weekday A.M.	8:00 to 9:00 A.M.
	Thursday, February 2, 2012	Weekday P.M.	4:30 to 5:30 P.M.
	Saturday, February 4, 2012	Saturday Midday	11:45 A.M. to 12:45 P.M.
Williamson Road & Hadley Road	Thursday, February 2, 2012	Weekday A.M.	8:00 to 9:00 A.M.
	Thursday, February 2, 2012	Weekday P.M.	4:30 to 5:30 P.M.
	Saturday, February 4, 2012	Saturday Midday	11:45 A.M. to 12:45 P.M.
Williamson Road & Donation Road	Tuesday, January 31, 2012	Weekday A.M.	7:15 to 8:15 A.M.
	Wednesday, February 1, 2012	Weekday P.M.	4:30 to 5:30 P.M.
	Saturday, February 4, 2012	Saturday Midday	11:45 A.M. to 12:45 P.M.

1. Peak Hour consists of the four consecutive 15-minute intervals where the highest traffic volumes occur.

Existing condition traffic volumes for the weekday A.M., weekday P.M., and Saturday peak hours are illustrated in **Figure 4**, respectively. Manual traffic count data sheets are provided in **Appendix A**.

Automatic Traffic Recorder Counts

Automatic Traffic Recorder (ATR) counts were conducted along the following roadways in the vicinity of the proposed site in order to determine the existing traffic volumes/patterns on a 24-hour weekday basis:

- Hadley Road east of Williamson Road
- Hadley Road west of Williamson Road
- Williamson Road north of Donation Road
- Williamson Road south of Hadley Road
- Williamson Road north of Hadley Road
- Williamson Road north of Wal-Mart

The ATR counts were conducted from Tuesday, February 1, 2012 until Tuesday, February 9, 2012. Some of the ATR's appeared to be affected by either hose failure or weather. As such, some of the data were trimmed to provide an acceptable level of confidence. The existing ATR's for the study area are summarized in **Figure 5**. ATR count data sheets are provided in **Appendix A**.

Annual Background Growth

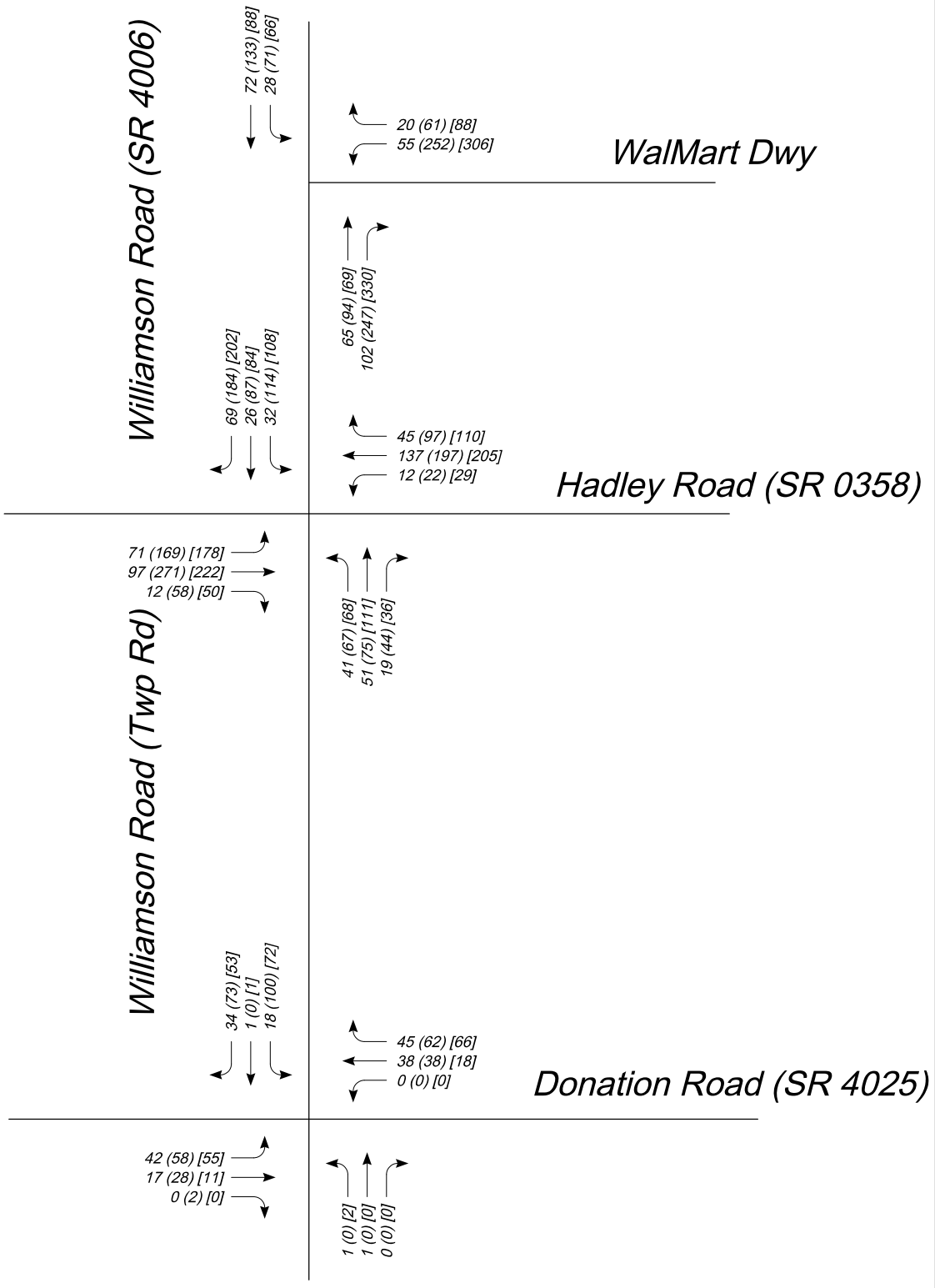
A background growth factor for the roadways in the study area was developed based on growth factors for July 2011 to July 2012 obtained from the PennDOT Bureau of Planning and Research (BPR). The PennDOT BPR suggests using a background growth trend factor of 0.42% per year in Mercer County for rural non-interstate roadways and 0.24% per year in Mercer County for urban non-interstate roadways. Both of these growth rates are relatively low compared to rates over the past 10-years. For example, traffic growth in 2003 for Mercer County was over 1% per year. As such, the rural background growth factor of 0.42% was applied annually to yield overall growth percentages of 4.3% (0.42% per year, compounded over 10 years) for the 2022 study horizon year.

FUTURE LAND USE SCENARIOS

The various open spaces within the study area were reviewed for future development potential. The attached aerial **(Figure 6)** delineates the study area open space into six primary land use areas. For this study, three land use assumptions scenarios were made for the six primary land use areas. The following summarizes the three land use assumption scenarios.

Scenario 1 – Existing Zoning

This scenario assumes that existing zoning remains in place. Assumptions for residential include 20% reduction in acreage for infrastructure and an additional reduction for Map ID 6 due to the stream channel. R-3 zoning would permit about 3.6 units per acre. Commercial parcels 1 and 4 are large enough to be retail centers, which would likely include one anchor tenant plus numerous smaller retail spaces joined together in one or two common buildings. Outparcel type developments (banks, pharmacy, and fast food) would be concentrated along Route 358 (Map ID 3). Outparcel type developments typically thrive on heavily traveled through streets such as Route 358 and not along side streets such as Williamson Road.



NOTES
AM (PM) [SAT] VOLUMES

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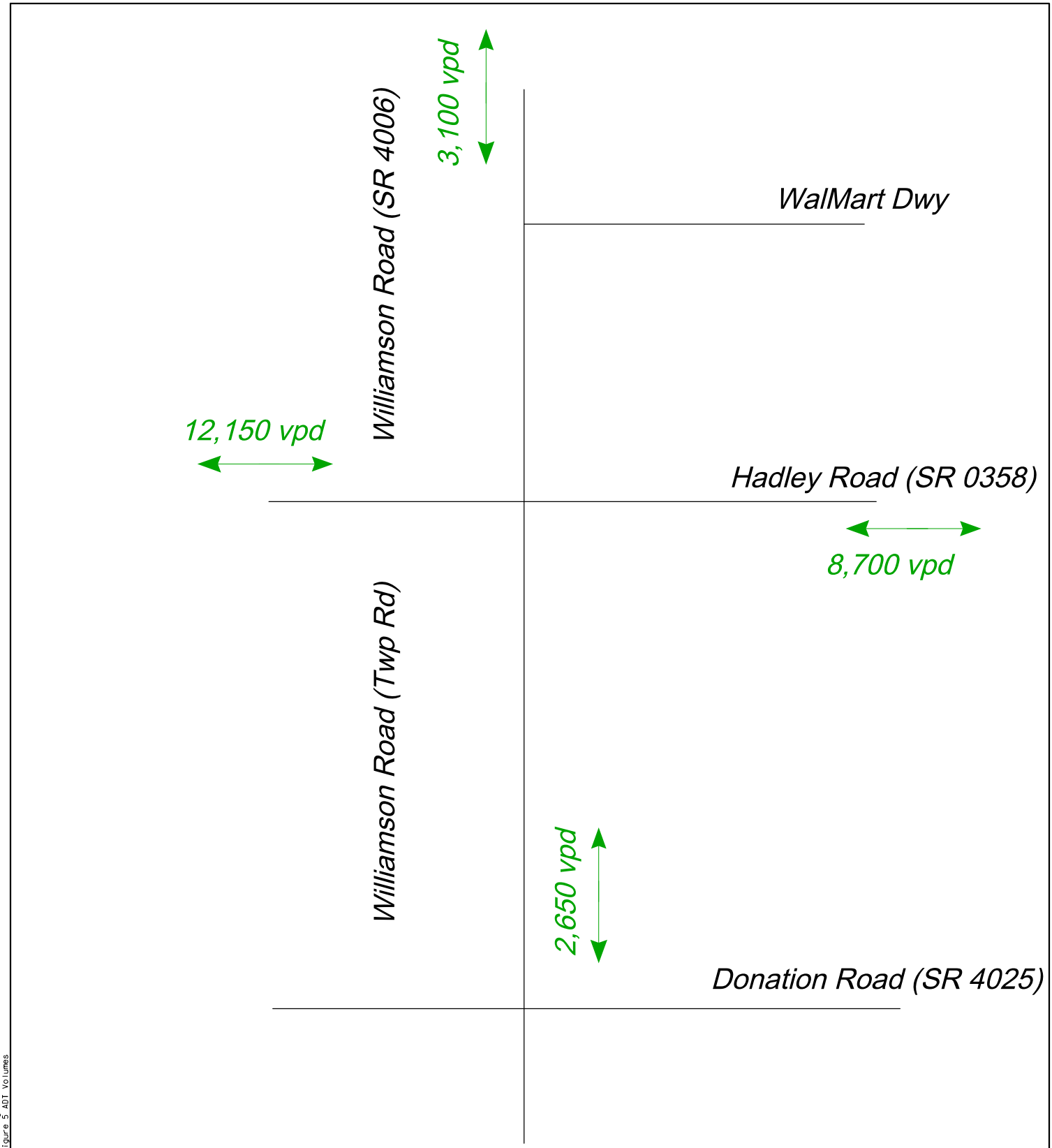
FIGURE 4

EXISTING VOLUMES



NOTES
VPD = VEHICLES PER DAY
(BOTH DIRECTIONS)

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FIGURE 5

EXISTING WEEKDAY AVERAGE
DAILY TRAFFIC VOLUMES

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Figure 5 ADT Volumes

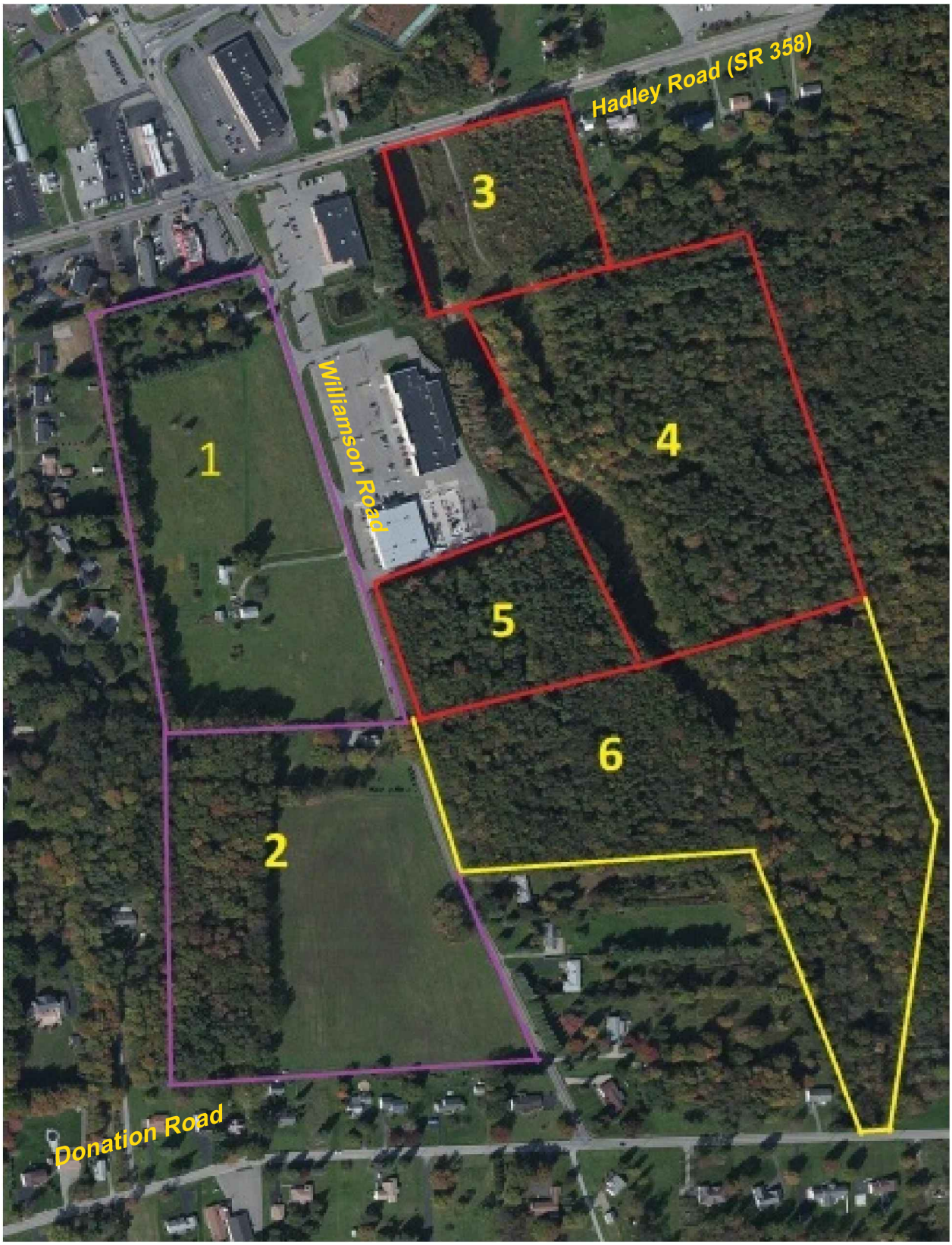

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FIGURE 6

LAND USE MAP

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Figure 6 Land Use Map

Scenario 1 – Existing Zoning

Map ID	Size (Acres)	Use	Development Size
1	14	Commercial (C)	60,000 s.f. retail center
2	20	Multi-Family Residential (R-3)	56 townhomes
3	5	Commercial (C)	2 outparcel retail or fast food
4	16	Commercial (C)	75,000 s.f. retail center
5	4	Commercial (C)	15,000 s.f. strip retail
6	25	Multi-Family Residential (R-3)	52 townhomes

Scenario 2 – Rezone Map ID 2 to Commercial

This scenario assumes that Map ID 2 would be rezoned commercial. Assumptions for residential include 20% reduction in acreage for infrastructure and an additional reduction for Map ID 6 due to the stream channel. R-3 zoning would permit about 3.6 units per acre. Commercial parcels 1, 2, and 4 are large enough to be retail centers, which would likely include one anchor tenant plus numerous smaller retail spaces joined together in one or two common buildings. It is unlikely that parcels 1 and 2 would be one large development due to lack of depth and length of frontage along Williamson Road. Outparcel type developments (banks, pharmacy, and fast food) would be concentrated along Route 358 (Map ID 3). Outparcel type developments typically thrive on heavily traveled through streets such as Route 358 and not along side streets such as Williamson Road.

Scenario 2 – Rezone for Commercial

Map ID	Size (Acres)	Use	Development Size
1	14	Commercial (C)	60,000 s.f. retail center
2	20	Commercial (C)	80,000 s.f. retail center
3	5	Commercial (C)	2 outparcel retail or fast food
4	16	Commercial (C)	75,000 s.f. retail center
5	4	Commercial (C)	15,000 s.f. strip retail
6	25	Multi-Family Residential (R-3)	52 townhomes

Scenario 3 – Rezone Map ID 2 to Commercial and Map ID 4 to R-3

This scenario assumes that Map ID 2 would be rezoned commercial and Map ID 4 would be rezoned R-3. Given the size of the local market, it appears difficult for this corridor to absorb upwards of 250,000 s.f. of retail. Given that most retail in this area is visible from the main roadway, in this case Route 358 and in the future Williamson Road, Map ID 4 would be the least viable retail site given the setback of the main lot and limited frontage along the main roadways.

Assumptions for residential include 20% reduction in acreage for infrastructure and an additional reduction for Map ID 6 due to the stream channel. R-3 zoning would permit about 3.6 units per acre. Commercial parcels 1 and 2 are large enough to be retail centers, which would likely include one anchor tenant plus numerous smaller retail spaces joined together in one or two common buildings. It is unlikely that parcels 1 and 2 would be one large development due to lack of depth and length of frontage along Williamson Road. Outparcel type developments (banks, pharmacy, and fast food) would be concentrated along Route 358 (Map ID 3). Outparcel type developments typically thrive on heavily traveled through streets such as Route 358 and not along side streets such as Williamson Road.

Scenario 3 – Rezone for Commercial and Multi-Family

Map ID	Size (Acres)	Use	Development Size
1	14	Commercial (C)	60,000 s.f. retail center
2	20	Commercial (C)	80,000 s.f. retail center
3	5	Commercial (C)	2 outparcel retail or fast food
4	16	Multi-Family Residential (R-3)	46 townhomes
5	4	Commercial (C)	15,000 s.f. strip retail
6	25	Multi-Family Residential (R-3)	52 townhomes

Current Development Trends

Current development trends vary greatly from trends as recent as 5 years ago. Retail is currently trending towards strip type development. Big box retail development is declining. Given the size of the Greenville market area, it is unlikely that a big box retail development would be attracted to this corridor. The big box developments are concentrated nearby in more populated areas such as Hermitage and Boardman. Grocery stores are very popular, but again, given the presence of Giant Eagle, Wal-Mart, and Aldi's in this corridor, an additional chain grocery store would be very unlikely. However, relocation of an existing grocery store, such as Giant Eagle, into a newer, larger retail space is possible.

Outparcel type development, such as banks, drug stores, convenience stores, and fast food restaurants remain popular. These types of developments require very specific site selection criteria. One of the most important is proximity to the main highway. In this case, outparcel development would likely concentrate on the Route 358 corridor and not the Williamson Road corridor. Of the major drug stores, CVS is not located in this area. Of the major fast food chains, Taco Bell/KFC/Pizza Hut is not present in the corridor. Banking appears to be well covered in this area. Convenience stores/gas stations appear to be well covered in this area.

Trip Generation

The trip generation rates for the various land use scenarios were obtained from the manual Trip Generation, Eighth Edition, 2008, an Institute of Transportation Engineers (ITE) Informational Report. The statistics in Trip Generation are empirical data based on more than 4,800 trip generation studies. The data are categorized by Land Use Codes with total vehicular trips for a given land use estimated using an independent variable and statistically generated rates or equations.

For the proposed Williamson Road Corridor, the following Land Use Codes were used: 820 (Shopping Center), 934 (Fast Food Restaurant with Drive-Thru), and 230 (Residential Townhome). For each land use, the average rates were use as opposed to the equations. The average rates for each land use yielded a low trip generation forecast for each land use, but seemed to be more in line with existing trip generation for site within the corridor. For example, the trip generation for the Wal-Mart driveway was more in line with the average rate for Land Use 813 (Free Standing Discount Superstore)

Trip Generation was used to calculate the number of vehicular trips the development will generate during the following time periods: (1) weekday A.M. peak hour; (2) weekday P.M. peak hour; and (3) Saturday midday peak hour.

Pass-By Trips and Diverted Linked Trips

According to the *Trip Generation Handbook*, not all of the trips generated by the proposed development will be new to the surrounding area. A distinction was made between "new" trips, which are trips made to/from the study area for the express purpose of visiting the site, "pass-by" trips, which are trips made to the site by traffic passing the retail center on the adjacent roadways en route to another destination, and "diverted-linked" trips, which are trips made to the site by traffic diverting from a nearby roadway or freeway. For the purposes of this study, the diverted linked trips were treated as new trips at the study area intersections since it is difficult to quantify the specific origin/destination of the diverted linked trips. The pass-by trips do not add any additional traffic to the study area intersections but will result in shifts in turning movement at the site driveway intersections.

ITE Trip Generation Data

Trip Generation Summary

Land Use	ITE #	Time Period	Rates	Entering %	Exiting %	Pass-By %
Residential Townhomes	230	Weekday A.M. Peak Hour	0.44 / dwelling unit	17%	83%	n/a
		Weekday P.M. Peak Hour	0.52 / dwelling unit	67%	33%	n/a
		Saturday Midday Peak Hour	0.47 / dwelling unit	54%	46%	n/a
Shopping Center	820	Weekday A.M. Peak Hour	1.00 / 1,000 s.f.	61%	39%	24%
		Weekday P.M. Peak Hour	3.73 / 1,000 s.f.	49%	51%	34%
		Saturday Midday Peak Hour	4.89 / 1,000 s.f.	52%	48%	26%
Fast Food with Drive-Thru	934	Weekday A.M. Peak Hour	49.35 / 1,000 s.f.	51%	49%	49%
		Weekday P.M. Peak Hour	33.84 / 1,000 s.f.	52%	48%	50%
		Saturday Midday Peak Hour	59.39 / 1,000 s.f.	51%	49%	50%

The calculated trip generation forecasts for each scenario are summarized in **Appendix B**.

The following table summarizes the total number of forecasted new trips for each land use scenario.

Trip Generation Comparison by Land Use Scenario

	Weekday	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
Scenario 1	6,400	282	501	713
Scenario 2	8,480	317	668	976
Scenario 3	6,494	280	508	727

As shown above, scenarios 1 and 3 are relatively similar in terms of overall new trip generation. Scenario 2 is forecasted to generate over 30% more new trips compared to scenarios 1 and 3.

Trip Distribution

The distribution of trips generated by the proposed development was based on the local road network, the existing traffic patterns, the proposed land uses within the corridor, and the potential site driveway locations. The new trips for the proposed development were distributed to the local roadway network based on the percentages shown in the table below. The pass-by trips for the proposed development were distributed to the local road network based on the existing traffic volumes passing the proposed site driveways.

Trip Distribution Percentages – New Trips

Trip Distribution Percentages

Direction - To/From	Assignment (To/From)	Distribution Percentage
North	Williamson Road	14%
West	Hadley Road	39%
East	Hadley Road	31%
West	Donation Road	8%
East	Donation Road	8%

The assignment of site-generated trips for the proposed development during the weekday A.M., P.M., and Saturday midday peak hours are shown in on the various figures within the Appendix.

Forecasted 2022 Traffic Volumes

The site-generated trips for each scenario were added to the existing traffic volumes which also accounted for 10-years of compounded background growth within the study area to develop 2022 design horizon year traffic volumes.

Projected traffic volumes for each scenario are shown in the various figures within the **Appendix C**.

TRAFFIC ANALYSIS

Level of Service Concept

For analysis of intersections, level of service is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. LOS criteria are stated in terms of control delay per vehicle for a one-hour analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The criteria are shown in the table below. Delay, as it relates to level of service, is a complex measure and is dependent upon a number of variables. For signalized intersections, these variables include the quality of vehicle progression, the cycle length, the green time ratio, and the volume/capacity ratio for the lane group in question. For unsignalized intersections, delay is related to the availability of gaps in the flow of traffic on the major street and the driver's discretion in selecting an appropriate gap for a particular movement from the minor street (straight across, left or right turn).

Level of Service Criteria
Unsignalized and Signalized Intersections [1]

Level of Service	Control Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	$\leq$ 10	$\leq$ 10
B	> 10 and $\leq$ 20	> 10 and $\leq$ 15
C	> 20 and $\leq$ 35	> 15 and $\leq$ 25
D	> 35 and $\leq$ 55	> 25 and $\leq$ 35
E	> 55 and $\leq$ 80	> 35 and $\leq$ 50
F	> 80	> 50

[1] Obtained from Exhibits 16-2 and 17-2 of the Transportation Research Board's *Highway Capacity Manual*, 2000 Edition

Capacity Analysis Methodology

Capacity analyses were conducted for the weekday A.M., P.M., and Saturday midday peak hours at the study area intersections. These analyses were conducted according to the methodologies contained in the 2000 *Highway Capacity Manual* (HCM) using *Synchro 7* software, a Trafficware product. The following conditions were analyzed, as applicable:

- Existing Conditions;
- 2022 Horizon Planning Year

Levels of Service within Study Area

Levels of service (LOS) at the study area intersections for the weekday A.M., P.M., and Saturday midday peak hours are summarized below. For the unsignalized intersections, the overall intersection LOS is reported using the PennDOT Traffic Impact Study (TIS) methodology for reporting unsignalized overall intersection LOS.

Overall Intersection LOS

Intersection	2012 Existing	2022 Scenario 1	2022 Scenario 2	2022 Scenario 3
Williamson Road & Wal-Mart Dwy	A (B) [B]	B (B) [B]	B (B) [B]	B (B) [B]
Williamson Road & Hadley Road	B (B) [B]	B (C) [C]	B (C) [D]	B (C) [C]
Williamson Road & Donation Road	A (A) [A]	A (A) [A]	A (A) [A]	A (A) [A]
Williamson Road & Parcel 1/TSC Dwy	n/a	A (A) [A]	A (A) [A]	A (A) [A]
Williamson Road & Parcel 1/5 Dwy	n/a	A (A) [A]	A (A) [A]	A (A) [A]
Williamson Road & Parcel 2/6 Dwy	n/a	A (A) [A]	A (A) [A]	A (A) [A]
Hadley Road & Parcel 3/4 Dwy	n/a	B (A) [B]	B (A) [B]	B (A) [B]

LOS A (B) [C] = LOS AM (PM) [SAT] peak hours

Queue Analysis

Queue analyses were conducted at the study area intersections using *Synchro 7* software. For this analysis, the 95th percentile queue is defined as the queue length that is exceeded in 5% of the signal cycles. As an example, for a signal with a 90-second cycle, this means that the 95th percentile queue length will be exceeded during 2 of the 40 signal cycles that occur during the peak hour. The queue analysis results are summarized below for the critical intersections. The queues at signalized intersections are reported from the SYNCHRO printouts while the queues at unsignalized intersections are reported from the HCM reports.

Intersection Queuing
95th Percentile Longest Queue Length (in feet)

Intersection	Direction	2012 Existing	2022 Scenario 1	2022 Scenario 2	2022 Scenario 3
Williamson Road & Hadley Road	EB	46 (146) [110]	120 (362) [342]	128 (394) [398]	118 (361) [338]
	WB	110 (183) [194]	99 (274) [321]	102 (273) [327]	115 (230) [244]
	NB	56 (81) [114]	98 (148) [206]	98 (182) [265]	97 (182) [265]
	SB	16 (40) [21]	29 (211) [303]	30 (222) [131]	27 (222) [122]
Williamson Road & Wal-Mart Dwy	NB	21 (35) [33]	5 (39) [37]	5 (40) [38]	5 (34) [31]
	SB	19 (50) [34]	24 (73) [76]	25 (77) [85]	24 (73) [76]
	WB	54 (157) [207]	76 (230) [269]	76 (230) [269]	76 (230) [269]

25' (25') [25'] = Queue length for AM (PM) [SAT] peak hours

Figures 7 through 9 graphically show the critical queue lengths at the intersection of Williamson Road & Hadley Road for each land use scenario. This intersection is the critical intersection in terms of queuing. As shown, Scenario 2 results in longer queues at this intersection, further exacerbating the existing issue on northbound Williamson Road and the adjacent commercial driveways along this portion of Williamson Road. The SYNCHRO reports for levels of service and queuing are provided in **Appendix D**.

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
1-O	MERCER			FIGURE 7
HEMPFIELD TOWNSHIP				

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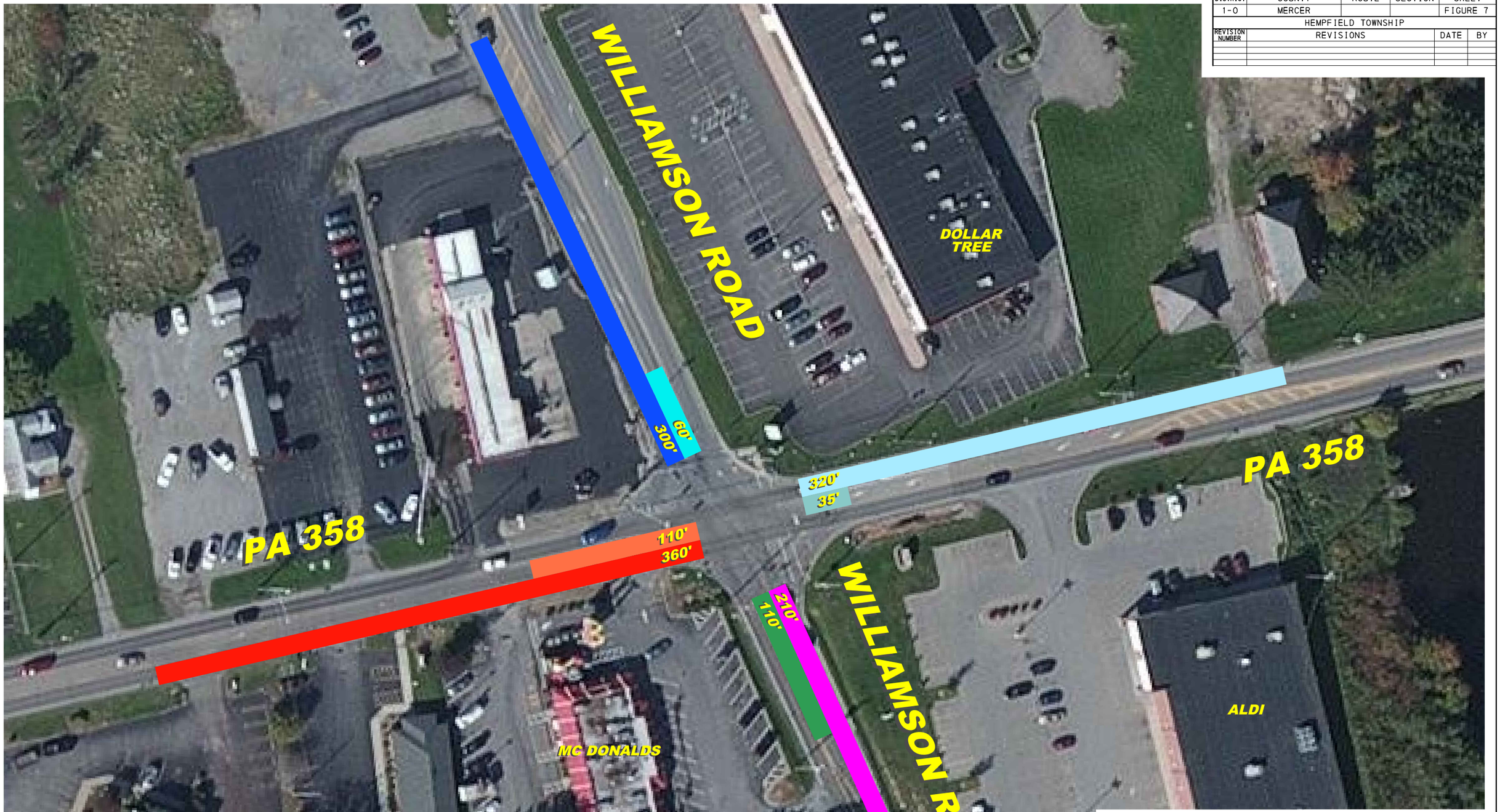

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SCENARIO 1

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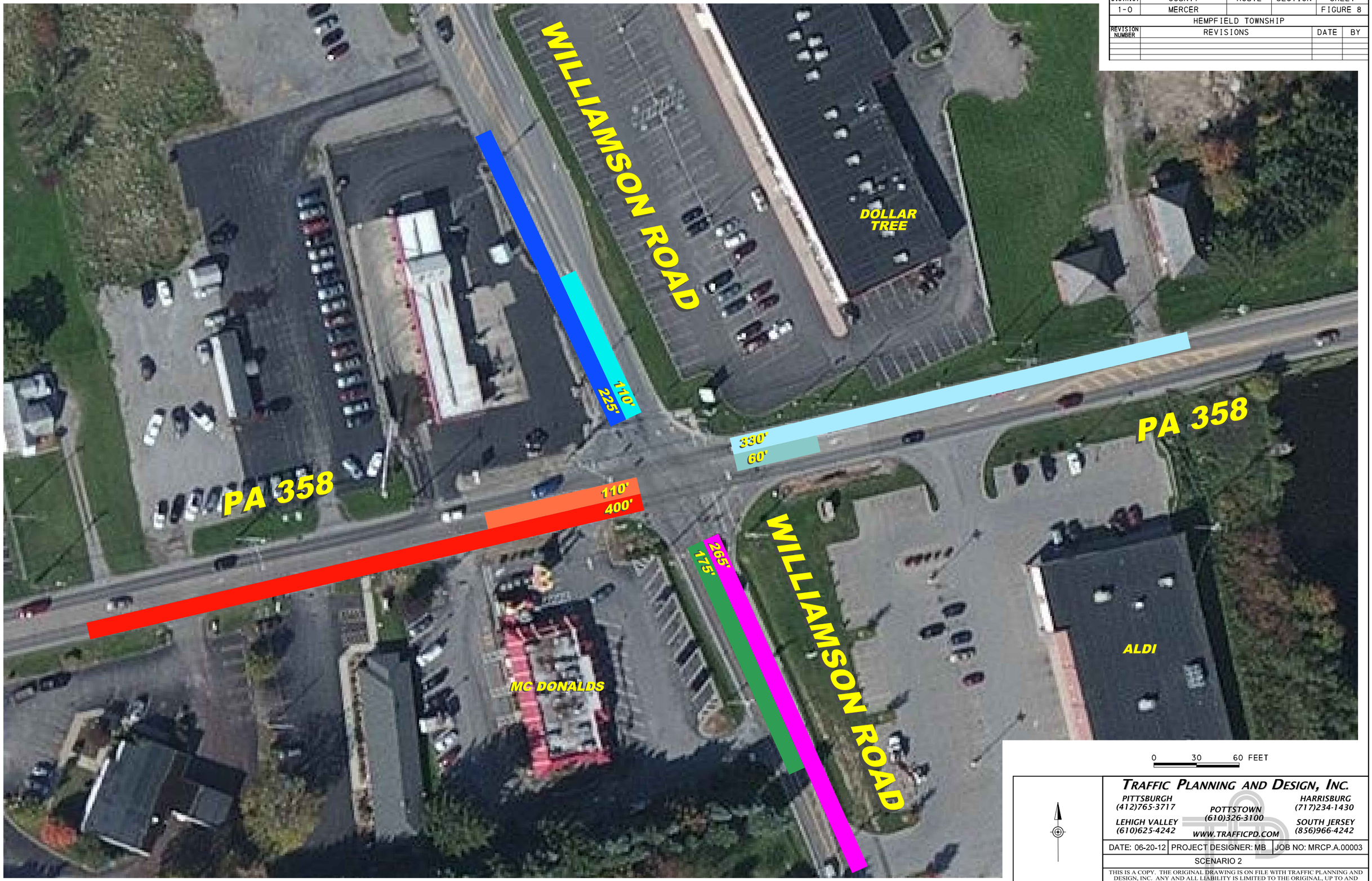
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
1-O	MERCER			FIGURE 8
HEMPFIELD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



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SCENARIO 2

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
1-O	MERCER			FIGURE 9
HEMPFIELD TOWNSHIP				

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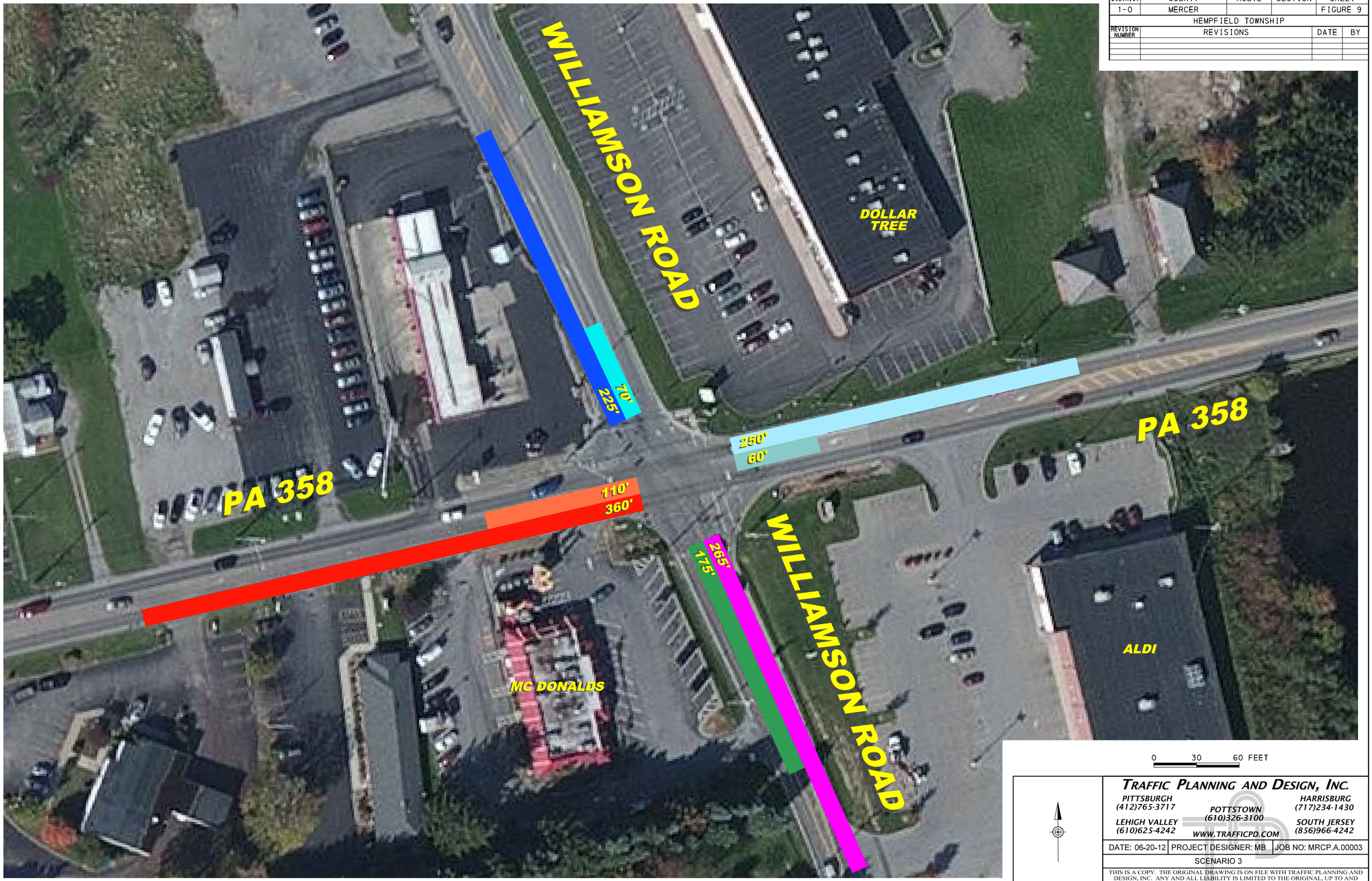

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SCENARIO 3

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TRAFFIC ANALYSIS CONCLUSIONS

In summary, the traffic analysis made the following assumptions:

- Traffic growth rate = 0.48% per year (compounded)
- A 10-year planning horizon was used (2022)
- For each land use scenario, it was assumed that ALL parcels would fully develop over the 10-year planning horizon. This is an overestimate for what the market would likely absorb.
- Traffic signal timings would be optimized for the 2022 planning horizon

The results of the traffic analysis were as follows:

- Overall intersection level of service was D or better for all land use scenarios
- Future traffic forecasts for all land use scenarios can be fully absorbed by the existing roadway network
- Rezoning could occur on a case by case basis as opposed to a complete overhaul of the zoning ordinance/map to limit future development related traffic
- Queuing was only an issue at the intersection of Hadley Road & Williamson Road. In particular, the northbound approach queue will continue to grow through 2022.
- Signal retiming periodically (every 3 years or after each major land development) will allow the existing roadway system to operate at an acceptable Level of Service through 2022
- The addition of a left turn arrow for northbound Williamson Road at Hadley Road would reduce these queues.
- As development continues along the southern leg of Williamson Road, an additional westbound left turn arrow may also be needed based upon development traffic demands along Williamson Road.
- Although Hadley Road (west of Williamson Road) was not identified as a crash cluster, crashes do occur more frequently on this roadway segment compared to Williamson Road. Implementation of access management design features as opposed to a continuous center left turn lane with numerous driveways (similar to Hadley Road) is recommended to balance access to larger development parcels with acceptable mobility through the corridor.

PLANNING TOOLS TO MANAGE FUTURE GROWTH

As recommended above, future infrastructure improvement along the Williamson Road Corridor should focus on planning tools to manage growth and future development. The basic roadway network is capable of accommodating future traffic projections; however, balancing access and mobility in the corridor should be the focus of future improvements. The main tool to balance these demands is Access Management.

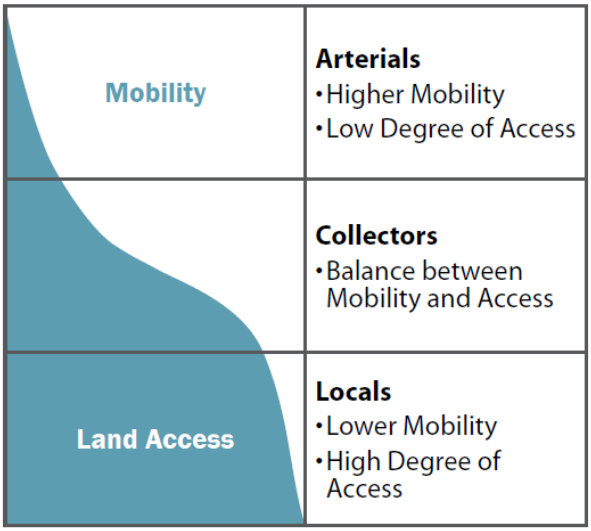
Access Management Introduction

Transportation Research Board's (TRB) Access Management Manual defines access management as follows:

> *':.. the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway. It also involves roadway design applications, such as median treatments and auxiliary lanes, and the appropriate spacing of traffic signals. The purpose of access management is to provide vehicular access to land development in a manner that preserves the safety and efficiency of the transportation system.'*

According to PennDOT's Access Management Model Ordinance for Pennsylvania Municipalities Handbook, 'access management hinges on balancing two concepts—mobility and accessibility. Mobility refers to the movement of traffic while accessibility refers to the ability of traffic to enter and exit a roadway from adjacent properties. Roadway systems are developed in a hierarchical structure aimed at best serving both of these functions. As the graphic to the right demonstrates, higher order facilities (e.g., Interstates, arterials) are intended to play a greater role in providing mobility, while lower order roadways (e.g., collectors, local roads) are intended to serve a greater role in providing access to property.'

Access and Mobility by Roadway Type



Source: Safety Effectiveness of Highway Design Features: Volume I, Access Control, FHWA, 1992.

Research shows that corridors that implement access management techniques share the following features:

- Increased roadway capacity (statistics range from 23% to 45%)
- Decrease in the number of vehicle crashes (studies have shown upwards of 50% reduction in the number of crashes)
- Improved environment for bicycles and pedestrians
- Discourage small scale strip type development
- Reduced need to widen roadways for additional capacity

The Transportation Research Board's Access Management Manual identified 10 principles for access management:

1. **Provide a specialized roadway system –** It is important to design and manage roadways according to the primary function they are expected to serve
2. **Limit direct access to major roadways –** roadways that serve higher volumes of regional through traffic need more access control to preserve traffic flow
3. **Promote intersection hierarchy –** an efficient transportation network provides appropriate transitions between different roadway classifications
4. **Locate signals to favor through movements –** longer, uniform spacing of signals on major roadways enhance the ability to coordinate adjacent signals and maintain the desired speed
5. **Preserve the functional area of intersections –** remove/restrict driveways within the functional area of the intersection where vehicles stop, decelerate, and queue
6. **Limit the number of conflict points –** reducing the number of conflicting movements and the complexity of the driving task can reduce collisions
7. **Separate conflict areas –** drivers need sufficient time to address one potential set of conflicts before facing another
8. **Remove turning vehicles from through traffic lanes -** turn lanes allow drivers to decelerate gradually out of the through lane and wait in a protected area to complete the turn

9. **Use non-traversable medians to manage turn movements –** medians can minimize left turns and reduce conflicts, which in turn improve safety
10. **Provide a supporting street and circulation system –** a supporting network of local and collector streets to accommodate development puts less stress on the arterial roadway network

Model Access Management Ordinance

PennDOT has developed a three tier approach to access management. Each successive tier is relatively more complex and more involved from a planning and implementation process. The following summarizes the basics of each tier.

- Tier 1 – these design practices relate to the number and location of site driveways and basic design elements that should be evaluated for every access. These practices would be evaluated during the land development process; therefore, coordination with County and PennDOT officials is essential to implement these practices. The access management practices associated with this tier include:
    - Number of driveways per site
    - Driveway corner clearance
    - Driveway sight distance
    - Joint and cross access to adjacent parcels
    - Access to outparcels
    - Driveway throat length
    - Driveway throat width
    - Driveway radius
    - Driveway profile
- Tier 2 – these design practices involve more complex design elements for individual driveways. These practices are also evaluated during the land development process but require an even higher level of coordination with County and PennDOT officials. The access management practices associated with this tier include:
    - Auxiliary turn lanes
    - Left turn lanes
    - Acceleration lanes
    - Driveway spacing
    - Signalized intersection spacing
    - Driveway clearance from interchanges
- Tier 3 – these design practices involve the highest level design elements and planning practices implemented over a much larger area such as a corridor. These practices require the highest level of coordination with County and PennDOT officials. In addition, these practices can also require cooperation with adjacent land owners. The access management practices associated with this tier include:
    - Implementation of an access management overlay zoning district
    - Implementation of an official map
    - Two-way left turn lanes
    - Frontage/service roads
    - Non-traversable medians
    - Development setbacks
    - Development bonuses and incentives
    - Pre-existing access

A more detailed discussion of this topic can be found in PennDOT's Access Management Model Ordinance for Pennsylvania Municipalities Handbook which is available at the following website ftp://ftp.dot.state.pa.us/public/PubsForms/Publications/PUB 574.pdf

A preliminary access management ordinance has been prepared for Hempfield Township and is included with the Appendix. Implementation of the access management ordinance would be accomplished by an amendment to the existing Township Zoning Ordinance.

Overlay District

Since zoning is controlled by Hempfield Township and the SALDO is controlled by the County, implementation of the access management ordinance would be best achieved using a Zoning Overlay District. At a minimum, the overlay district should include the undeveloped parcels directly fronting Williamson Road between Hadley Road and Donation Road. However, there is an opportunity to extend the overlay district to the existing built up areas along Hadley Road and Williamson Road.

An overlay district establishes additional requirements over an existing zoning district. The underlying regulations are retained. In addition, an access management overlay district would not affect existing driveways unless the owner requests to modify the driveway, change the use, or expand the existing use. The benefits of extending the overlay district along Hadley Road and Williamson Road would be that over time, these existing developed areas would gradually change from the unlimited access today to a more controlled, efficient access in the future.

Official Map

Another tool that can be used to manage future access is an official map. An official map is permitted under the Pennsylvania Municipalities Planning Code (MPC). The purpose of the official map is to reserve right of way for future road alignments. The map is required to show all existing/proposed public streets. The map can also show pedestrian facilities and easements. The map itself does not constitute a taking of property; however, a property owner is restricted from on-site construction with the lines shown on the official map. If a land owner proposes to construct within the area of future improvements identified on the official map, then the municipality is required to condemn the portion of the property affected by the official map within one year. If the municipality does not condemn the portion of the property within one year, that segment of the official map is void and the property owner can continue with the proposed land development.

At the stakeholder's meeting, feedback from the group was mostly negative regarding the implementation of an official map due to the potential controversial nature of the map and the complexity of implementing/managing the process.

Conceptual Access Management Plans

Figures 10 through 13 provide a visual comparison of potential development along the Williamson Road corridor without access management and with access management. Figures 10 and 11 show what access management could look like not only along the undeveloped portions of Williamson Road but also along the developed portions of Hadley Road and Williamson Road. Figures 12 and 13 show how extending the proposed access management overlay district beyond the undeveloped portions of Williamson Road could affect the commercial district over time.

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
1-0	MERCER			FIGURE 10
HEMPFIELD TOWNSHIP				

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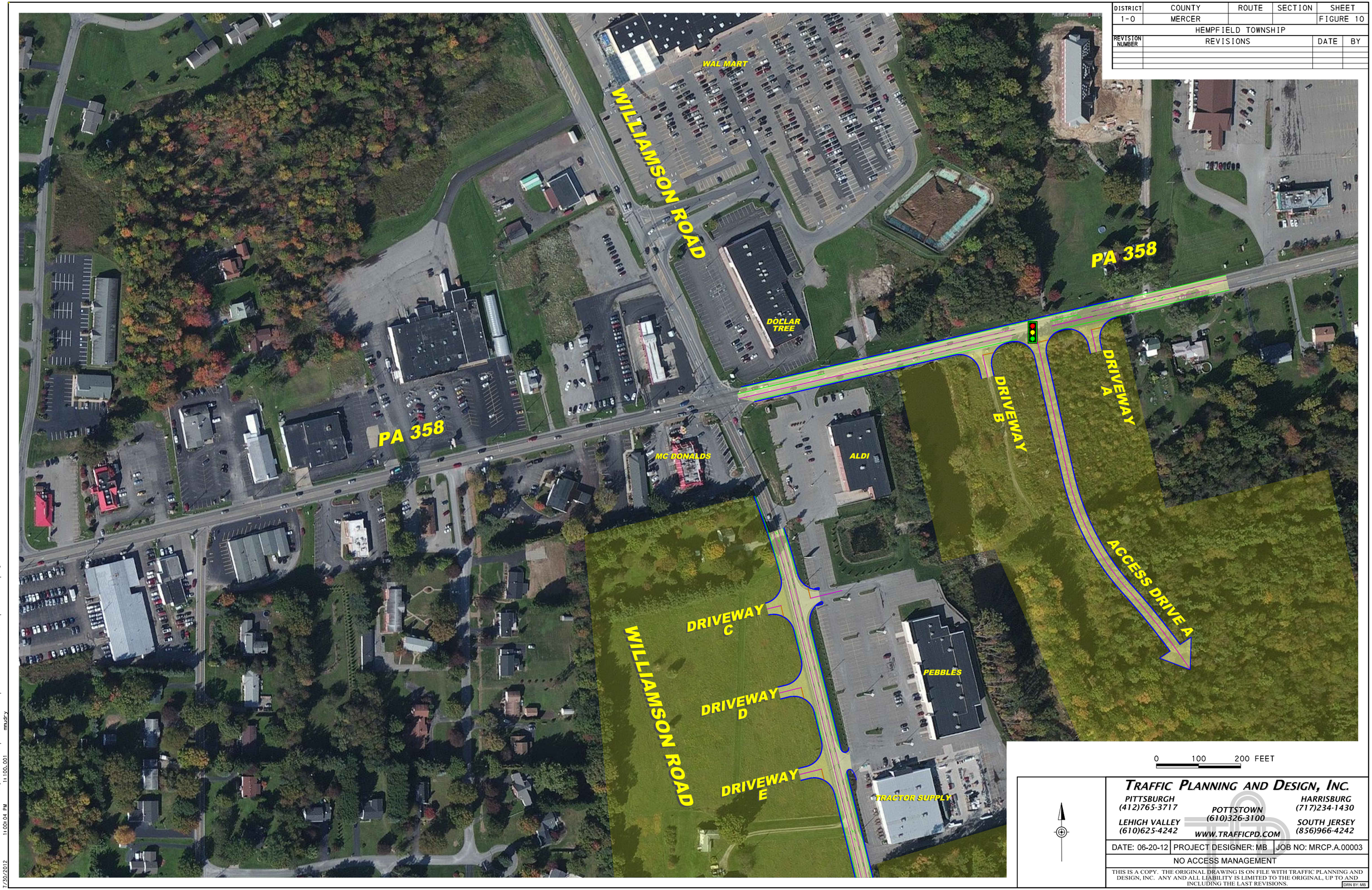

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
1-O	MERCER			FIGURE 11
HEMPFIELD TOWNSHIP				
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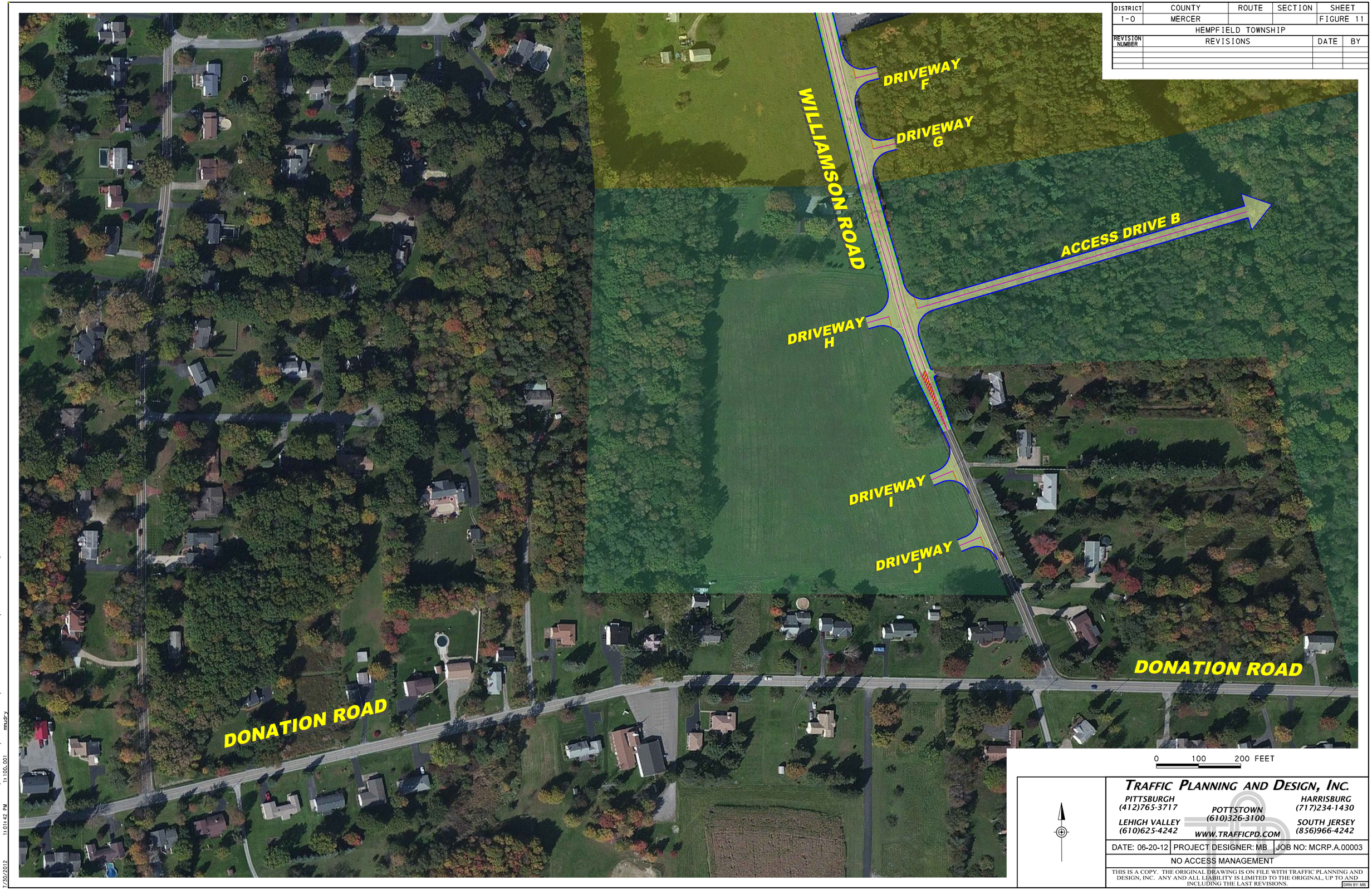

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
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	HEMPFIELD TOWNSHIP			

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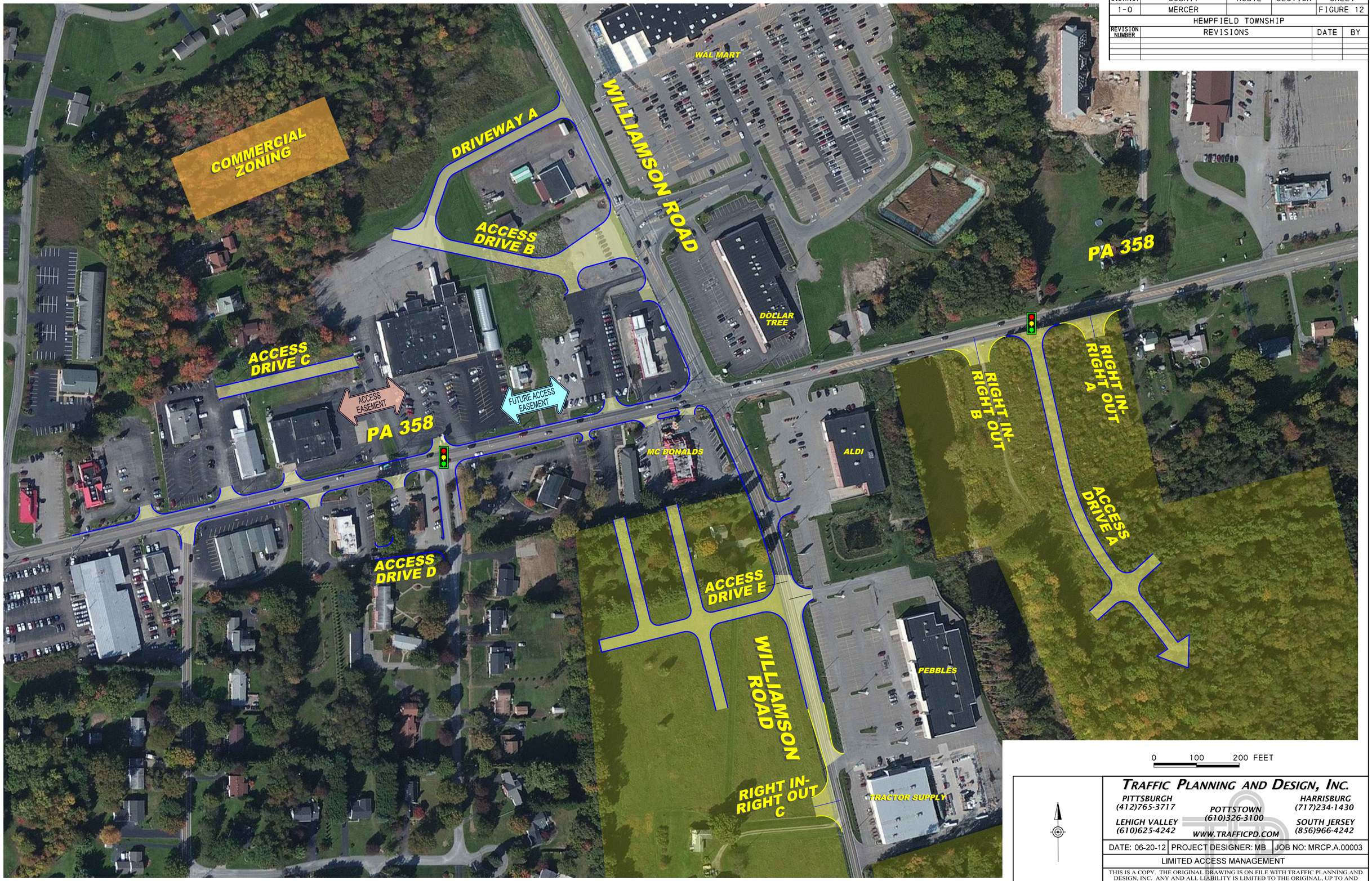

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LIMITED ACCESS MANAGEMENT

DRN BY: MB

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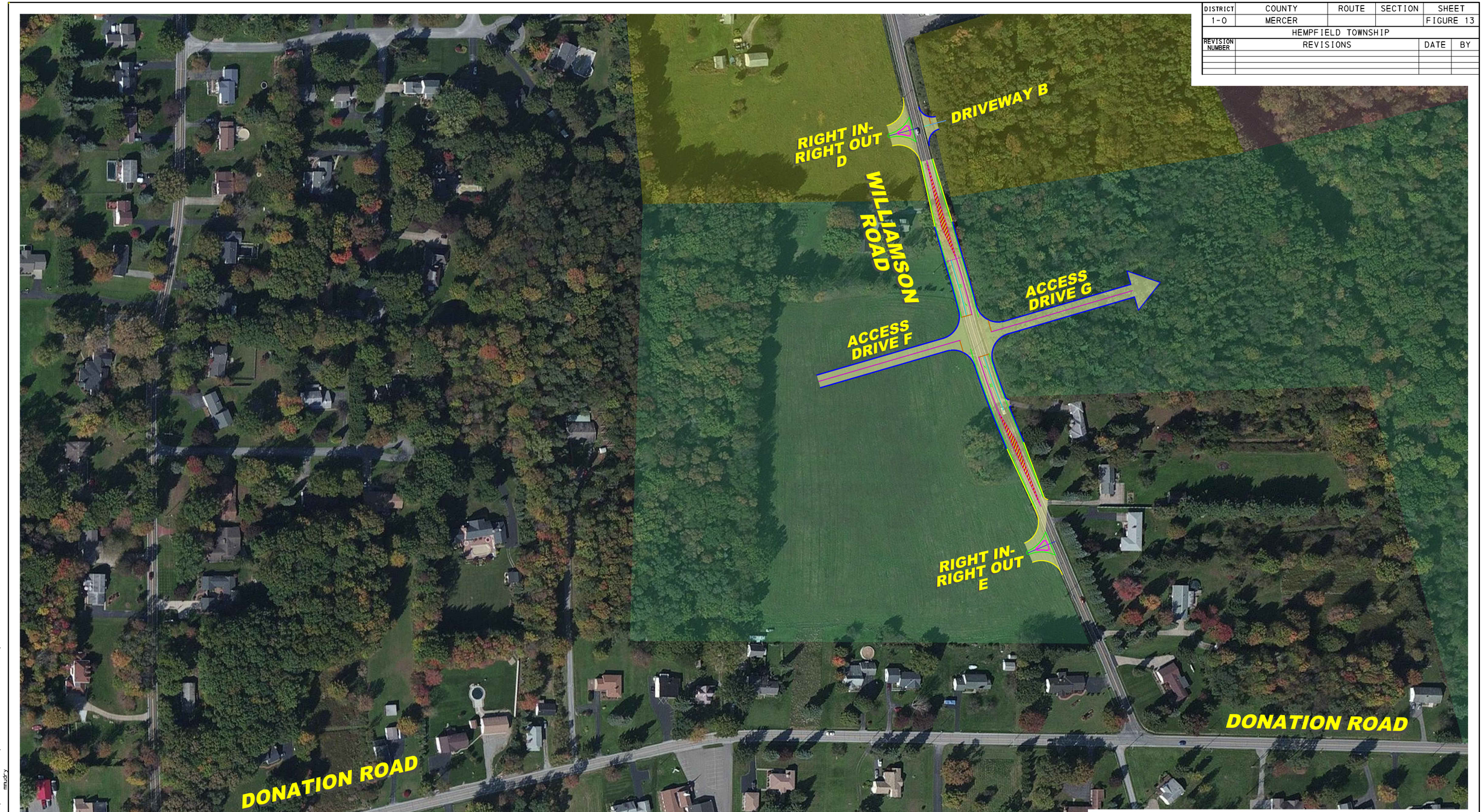
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
1-O	MERCER			FIGURE 13
HEMPFIELD TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY



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LIMITED ACCESS MANAGEMENT

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One of the key differences between no access management and access management is the level of improvements required on Williamson Road. Without access management, Williamson Road would eventually become Hadley Road: center left turn lanes with a potentially unlimited number of driveways. With access management, widening for left/right turn lanes could be limited to specific access points along Williamson Road.

A construction cost estimate for the improvements to Williamson Road between Hadley Road and Donation Road are as follows:

- **No access management** – approximately $950,000 for 2000' of continuous widening as shown in Figures 10 and 11
- **With access management** – approximately $750,000 for construction of two major driveways and numerous right-in/right-out driveways as shown in Figures 12 and 13

FUNDING OPTIONS FOR FUTURE ROADWAY IMPROVEMENTS

With future construction costs ranging between $750,000 and $950,000 to improve access along Williamson Road, identifying funding sources are a necessity to implementing these improvements along Williamson Road. A number of funding options are available for infrastructure improvements. The following is not a complete list of funding options, but the most commonly available funding methods to facilitate roadway improvements.

Developer Negotiation

A common method of implementing roadway improvement is through developer negotiation. The MPC is very clear that municipalities cannot require a developer to construct 'off-site' roadway improvements but can require that a developer construct adequate roadway improvements to obtain access to public streets. With the implementation of an access management overlay district, the Township will be able to work with developers to provide safe and efficient access to the developments along Williamson Road.

Impact Fees

The MPC provides a mechanism for municipalities to recoup costs for off-site transportation improvements from developers through a transportation impact fee. The implementation of impact fees requires the adoption of a transportation impact fee ordinance and a series of planning studies (land use assumptions report, roadway sufficiency analysis, and a capital improvement plan). Impact fees are typically only feasible in municipalities with significant amounts of vacant land and a potential for rapid growth. The upfront costs associated with implementing impact fees are between $60,000 and $100,000, a portion of which can be reimbursed over time with impact fees collected.

The stakeholders indicated that this was not a preferred method of funding future improvements due to the upfront costs and complexities associated with implementing the fees.

Partnerships

Transportation partnership districts are another tool, although seldom used, to fund off-site transportation improvements. Partnership districts are akin to a special assessment district whereby all property within the district is assessed a fee based upon the proportion of traffic generated. The costs of the roadway improvements are then dispersed on the properties within the district based upon the proportional number of trips generated by each property.

The stakeholders indicated that this was not a preferred method of funding future improvements due to the upfront costs and complexities associated with implementing the district and the potential assessments on existing developed properties within the study area.

PIB Loans

The Pennsylvania Infrastructure Bank (PIB) is a PennDOT-operated program that provides low-interest loans to help fund transportation projects within the Commonwealth. The goal of the PIB is to leverage state and federal funds, accelerate priority transportation projects, spur economic development, and assist local governments with their transportation needs. The current rate as of 7/26/2012 for a PIB loan is 1.625%

Tax Incremental Financing (TIF)

Municipalities in Pennsylvania are able to publicly finance development related infrastructure improvements by issuing bonds as part of a tax incremental financing district. The bonds are guaranteed by the incremental increase in tax revenue generated by a property that is being developed/redeveloped. Such districts typically require the County, Municipality, and School District to participate in the redirection of increased tax revenues from a property for a certain number of years to pay off bonds issued for infrastructure improvements. Due to the methods on how taxes are assessed in Pennsylvania, it is typically critical for the School District to participate in such a district since their millage is usually much higher than the County and Municipal millage.

The stakeholders indicated that this was not a preferred method of funding future improvements due to the upfront costs and uncertainties surrounding participation by all three levels of government in the TIF. Furthermore, development interest along the Williamson Road corridor appears to be strong enough to occur without issuing bonds to facilitate development.

Transportation Improvement Program (TIP) Process

One option that is available to fund transportation related improvements is the Transportation Improvement Program (TIP) administered through the Shenango Valley Area Transportation Study (SVATS) Metropolitan Planning Organization (MPO) and implemented by PennDOT. The SVATS MPO is the transportation planning/programming body for Mercer County and is staff through the Mercer County Regional Planning Commission (MCRPC). Projects obtaining funding via the TIP are evaluated on a regional basis against other roadway capacity and maintenance projects throughout Mercer County. As previously noted, with limited state and federal funding available to PennDOT, the TIP has focused primarily on roadway, bridge, and interstate maintenance projects. Very little funding is available for local lead projects related to land development or capacity enhancing projects at the local level.

Of further note, Williamson Road south of Hadley Road is a Local Federal Aid Route, meaning that it is not eligible for state funding, only federal funding.

STUDY RECOMMENDATIONS

Zoning Map – No changes recommended. The forecasted traffic volumes based upon the existing zoning can be readily accommodated by the existing roadway network. Potential zoning changes based upon market trends can be accommodated on a case by case basis in the future.

Zoning Ordinance – Recommend adopting an Access Management Overlay District. A preliminary access management ordinance is attached in the Appendix. The Township can further discuss if this overlay district will be limited to the undeveloped portion of Williamson Road or extended to the entire C

(commercial) district along Hadley Road and Williamson Road. A sample access management ordinance is provided as **Appendix E**.

Official Map – Based upon discussions and feedback from the stakeholder group, an official map is NOT recommended at this time.

Funding Future Improvements – Based upon discussions and feedback from the stakeholder group, Developer Negotiation is the preferred method of funding future improvements along Williamson Road. Given that off-site improvements along Williamson Road and Hadley Road are minimal, the focus for funding future improvements will be along the undeveloped site frontages along Williamson Road.

Technical Expertise – The Township should retain a qualified engineer licensed in the state of Pennsylvania with expertise in traffic engineering to review future land development applications. Most qualified, licensed engineers that specialize in traffic engineering also hold a Professional Traffic Operations Engineer (PTOE) certificate from the Transportation Professional Certification Board Inc.

Coordination with PennDOT – Early coordination with PennDOT is critical to the successful implementation of land development or redevelopment along state highways. The Township should reach out to the PennDOT Highway Occupancy Permit (HOP) Manager as early as possible in the land development process to ensure adequate coordination between the Township and PennDOT. The Township will also need to inform PennDOT if an access management ordinance has been adopted along a state highway.