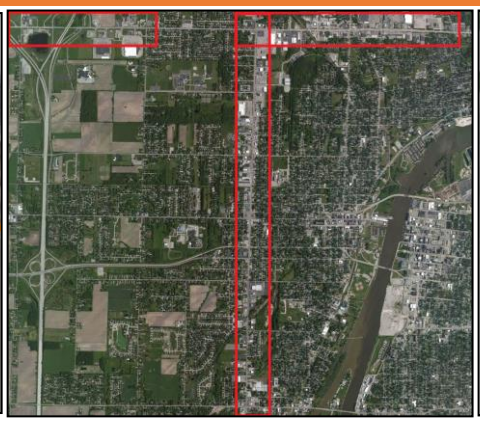
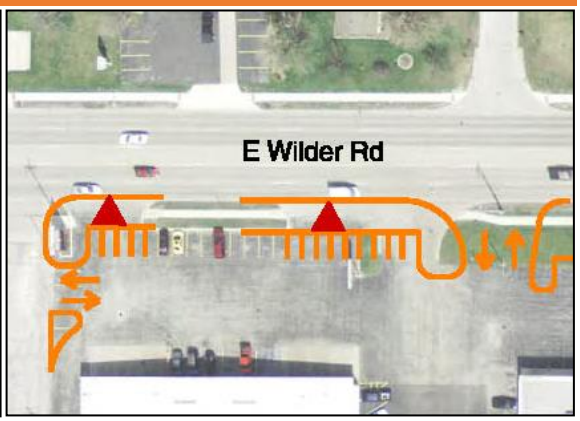
M-13 (EUCLID AVE.)/WILDER ROAD
ACCESS MANAGEMENT PLAN





Prepared for

In conjunction with:

Charter Township of Bangor
City of Bay City
Charter Township of Monitor
Bay County Road Commission

Prepared by:

September 2015

M-13 (Euclid Avenue)/Wilder Road
Access Management Plan

Acknowledgements

M-13/Wilder Road Corridor Advisory Committee:

- Communities of Bangor Township, Bay City, and Monitor Township
- Michigan Department of Transportation (MDOT)
- Bay County Area Transportation Study (BCATS)
- Bay County Road Commission (BCRC)

Project Consultant Team:

- Progressive AE
- LSL Planning, A SAFEbuilt company

The Advisory Committee would like to thank the many interested citizens, landowners, business owners, public officials, and agency staff that provided input at the public open houses and advisory committee meetings.

September 2015

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Executive Summary

The M-13 (Euclid Avenue)/Wilder Road Access Management Plan area encompasses two general corridor sections in the Bay City area. The M-13 Euclid Avenue study area extends from just north of Wilder Road south to Salzburg Avenue (M-84). The Wilder Road study area is split into two sub-sections; I-75 east to 2 Mile Road, and M-13/Euclid east to Bangor Road. (See Study Area Map, page 6)

As predominantly five-lane roadways, both M-13/Euclid and Wilder Road within the study areas have long tried to fully serve two key functions – 1) as regional arterials to move traffic and 2) to provide direct access to the many commercial and industrial sites along their frontages. In particular, the M-13 corridor section is experiencing significant crash issues and intermittent congestion, due in part to commercial development on small parcels, most with two or more driveways. Many of those driveways are spaced close together or near traffic signals, causing access, crash, and congestion issues.

Monitor Township, Bangor Township, and Bay City, along with the Michigan Department of Transportation (MDOT) and Bay County (Bay Area Transportation Study and Road Commission), recognize that the preparation and implementation of an access management plan will help alleviate a portion of the existing crash patterns. In addition, a reduction of the number of driveways can help relieve traffic congestion on these two roadway sections. This restoration of capacity can help accommodate traffic generated by future development or redevelopment.

From a long-term capacity/safety viewpoint, access management is a key element for improving and maintaining efficient traffic flow, preserving the capacity of the two roadways, and reduce the frequency and severity of crashes while maintaining reasonable access to the adjacent land uses. Implementation will require collaboration between MDOT, the community staff and officials, and the County.

Access Management Tools and Benefits

Access management is an effort to maintain efficient traffic flow, preserve the roadway's capacity, and reduce crashes while maintaining reasonable access to land uses. The benefits

can be accomplished through careful management of access points. Proper placement will reduce conflicts between traffic at access points and traffic flowing along the street and through intersections. Access management usually involves tools to space access points or restrict certain turning movements. Some of these tools are:

- Proper spacing of access points (driveways) along the same side of the street
- Alignment with or sufficient spacing from access points on the opposite side of the street along side streets
- Placing driveways a sufficient distance from intersections to minimize impact to intersection operations
- A geometric design of driveway or a median in the street that restricts certain turning movements (usually left turns),
- Location of traffic signals
- Shared access (connections between land uses, shared driveways, frontage roads or rear service drives)

Access management can provide a number of benefits to motorists, communities and land uses along the M-13/Euclid and Wilder Road corridors. Among the benefits, based on experience and studies for similar corridors, are the following:

- Reduced number of crashes and crash potential
- Preserved roadway capacity, traffic operations, and the useful life of roads
- Decreased travel time and congestion
- Improved access to and from properties
- Coordination of decisions on development site plans by the communities and access permits issued by the MDOT
- Improved safety for pedestrians and bicyclists (fewer driveways to cross)
- Improved air quality
- Maintain travel efficiency and economic prosperity

Access Management needs to successfully balance the public's right to safe, smooth flowing streets and the property owner's right to have reasonable access. Reasonable access may mean fewer access points than a particular business desires. It may also mean the access may need to be redesigned when the business changes or redevelops. The MDOT typically works with the property owners to develop effective access improvements in a way that is practical for the situation.

The overriding, long term goal of any access management plan is to create a safer roadway corridor for all users through the application of strategic improvements noted above and further defined and illustrated later in this document.

Why Access Management?

Successful implementation of the recommendations in the M-13 (Euclid Avenue)/Wilder Road Access Management Plan will help MDOT, Bay County and the three communities accommodate planned redevelopment or development along the corridors while reducing the negative impact on traffic flow and crash potential. Ongoing national experience continues to show that a proliferation of driveways or an uncontrolled driveway environment increases the number of crashes, severely reduces capacity of the roadway, and may create a need for costly road improvements in the future. **Areas where access management plans have been adopted and followed by the communities and road agencies have typically resulted in 25-50 percent reductions in access-related crashes.**

This Plan includes specific recommendations for individual properties as well as general recommendations that apply to a number of areas along the corridors. While some of the recommendations can be easily implemented, many are long-term initiatives that will require an on-going partnership and commitment between the three communities, BCATS, BCRC, and MDOT for implementation. This requires the communities' decision makers be aware of the benefits of access management and their role in its implementation. These recommendations are typically implemented through one of the following:

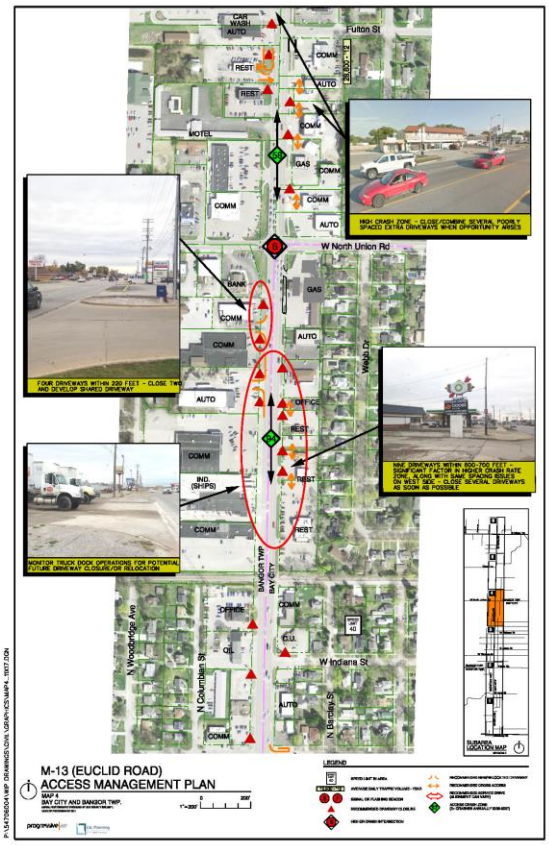
1. A property owner desires to expand or redevelop which involves a review of the site plan and access permit.
2. A new development is proposed.
3. The MDOT or community have a street or utility construction project, in which case MDOT may work with property owners to redesign access problems.
4. A property owner or an agency provide funds to close or redesign a driveway.

This project includes development of an overlay zoning district. This "model" M-13/Wilder Road overlay zoning district can be adopted by the City and Townships to be applied over the existing zoning regulations for all parcels with frontage. Currently, many sites will be able to meet all of the access management standards that exist today. In order to address these "retrofit" situations, the ordinance provides the authority to grant exceptions to the standards on a case-by-case basis. The model ordinance provides the applicable community's planning commission with the authority to modify the standards during site plan review, provided the intent of the standards is being met to the maximum extent practical on the site and that there is agreement by the MDOT. The model ordinance also requires traffic impact studies to be performed for larger developments that have the potential to generate significant volumes of traffic or to justify a modification from the access standards.

Plan Development

The M-13/Wilder Road Access Management Plan and overlay zoning district were prepared under the direction of MDOT, BCATS, BCRC, and a Corridor Advisory Committee comprised of representatives from the communities of Bay City, Bangor Township, and Monitor Township. A public workshop/open house was held to explain the need for access

management and to obtain direct input from land or business owners along the corridors on the preliminary recommendations. Comments and recommendations by the public, local officials and the MDOT staff at the workshops and committee meetings were considered and incorporated into the final plan.



While individual land owners may see the regulations as restricting access to their property, in reality a well managed access system will improve access to properties and maintain travel efficiency, thereby enhancing economic prosperity for local businesses. A strong access management program also has the benefit of closely coordinating land use and transportation decisions to improve the overall quality of life in the community.

The recommended improvements and guidelines outlined in this Plan will be implemented over time, as development and redevelopment occurs along both corridors and/or through MDOT or community/county reconstruction/rehabilitation projects, and will gradually lead to greater safety and traffic flow while preserving capacity.

1. INTRODUCTION

Historically M-13/Euclid Avenue, and more recently Wilder Road, have served as key transportation corridors for moving significant traffic and goods through and around the Bay City area. Euclid Avenue has long served as one of the main commercial spines within the area, in part due to its designation as M-13 through the three communities. With the completion of the I-75 and the "connector" interchanges and general growth on the area, the Wilder Road corridor is becoming increasingly developed in both Bangor and Monitor Townships and outside of the immediate study area.

The City of Bay City, Monitor Township, Bangor Township, Bay Area Transportation Study (BCATS), the Bay County Road Commission, and the Michigan Department of Transportation (MDOT) have recognized that there are significant congestion and safety issues on the highly developed M-13/Euclid corridor, and to a slightly lesser extent on Wilder Road, that can be addressed in part by retrofitting the existing poor commercial access systems. It's also recognized that those similar conditions need to be avoided in the emerging sections near the western end of the Wilder Road study area. To that end, access management is recognized as a key tool to improve operating conditions and preserve the public dollars spent in the past on these roadways.

As illustrated in Figure 1 on the next page, the access management plan study area is split into three sub-sections. One comprises the entire M-13 study area from Wilder Road south to Salzburg Avenue (M-84), and the split Wilder Road study area encompasses two sub-sections; I-75 east to 2 Mile Road, and from M-13/Euclid east to Bangor Road. Per input from BCATS staff during scoping discussions, the section of Wilder Road between 2 Mile and M-13/Euclid (except for the elementary school site) was not included given the current and planned single family land uses.

The primary goal for this combined M-13/Wilder Access Management Plan is to reduce crash potential and improve/maintain operations for all types of travelers (autos, trucks, pedestrians, and cyclists). This goal needs to be balanced with the public's need for convenient access to businesses and the property owner's right to reasonable access for existing and future developments. Improvements, outlined in this Plan, along with careful placement and spacing of new or retrofit access points as the land use changes, will improve traffic operations. Resulting safety and operational improvements can be significant and at a relatively low cost in comparison to a capacity-driven roadway reconstruction.

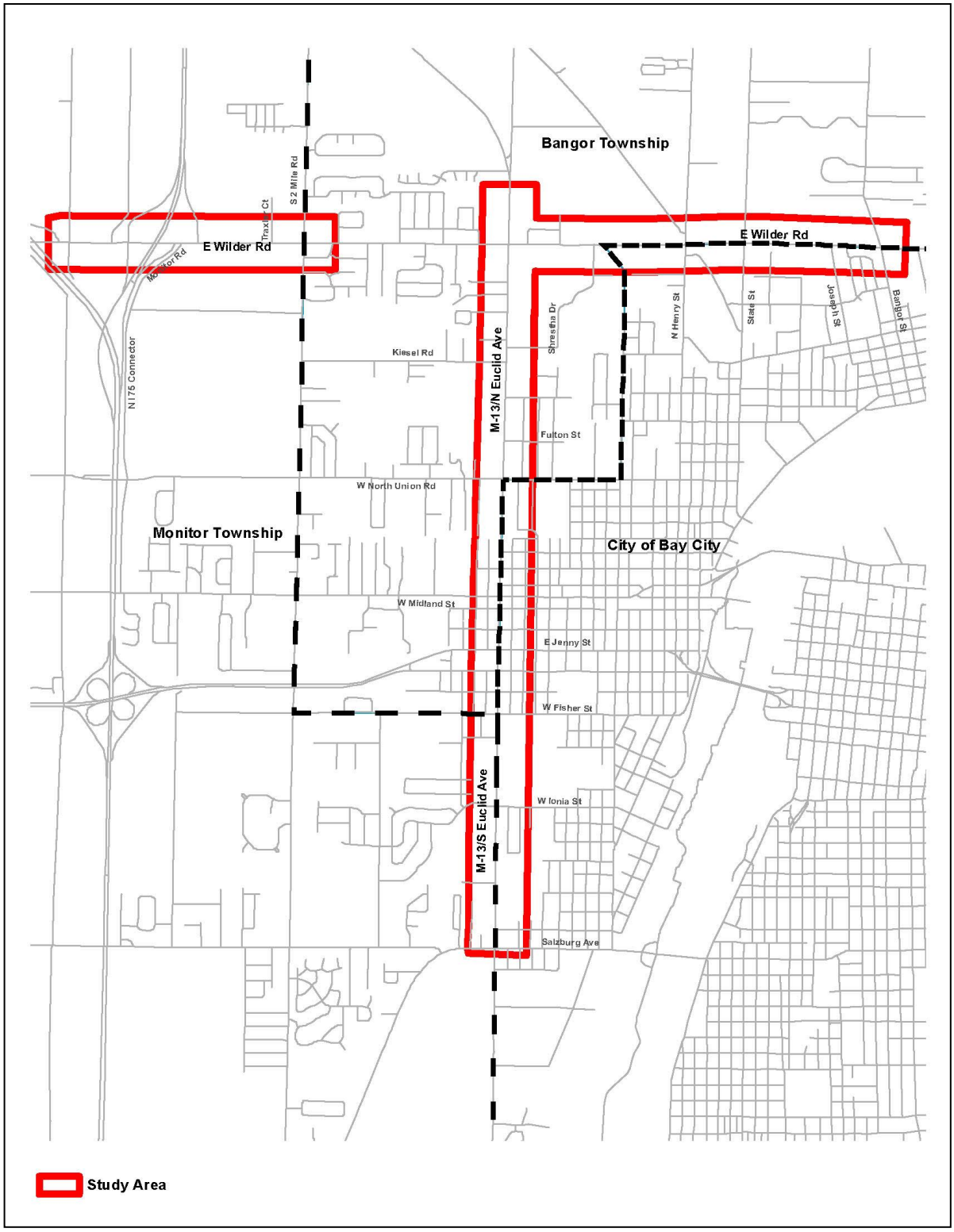

Bangor Township
E Wilder Rd
E Wilder Rd
S 2 Mile Rd
Traxler Ct
Monitor Rd
N 175 Connector
Kiesel Rd
M-13/N Euclid Ave
Stresha Dr
N Henry St
State St
Joseph St
Bangor St
Fulton St
W North Union Rd
Monitor Township
City of Bay City
W Midland St
E Jenny St
W Fisher St
M-13/S Euclid Ave
W Ionia St
Salzburg Ave
Study Area

FIGURE 1

The questions this M-13/Wilder Road Access Management Plan will help address include:

- ***What access-related improvements should be made to existing and future land uses to reduce crash potential and enhance efficiency of the two corridors?***

- ***How can land use/site plan decisions support the recommendations and enhance the effectiveness of this Plan?***

- ***What access guidelines should be adopted to help maintain safety and efficiency, while still providing reasonable access to adjacent land uses?***

Preparation of this Plan

To assist in the development of this plan a Corridor Advisory Committee (CAC) was formed with representatives of Bangor Township, Monitor Township, Bay City, MDOT, BCATS/Bay County, and the Bay County Road Commission. The advisory committee met several times throughout the process to review the issues, provide suggestions on draft recommendations and assist in obtaining comments from the public and local officials.

This plan was developed over 10 months through a series of meetings with the CAC. The process also included a public workshop/open house and an Access Management Training session for local planning officials. Meetings were held in a variety of venues close to the study area corridors. The public open house provided a presentation on the need for, and the resulting benefits of, the application of access management principles in this study area. Large graphics were on display illustrating the preliminary roadway and access management recommendations. Comments and recommendations made by the public, local roadway and community officials, and MDOT staff were considered and incorporated into the final recommendations.

Role of Access Management

Access management, in this situation, involves preservation of the road's capacity by; limiting the number of access points, careful placement and spacing of access points and turn lanes that separate turning movements from through traffic, and revisions/additions to the current median crossover system.

The terms "access" and "access point" are used frequently throughout this document. These terms refer to commercial driveways (ie. retail, office, industrial, etc.) and platted roadways or private roads, but do not refer to driveways for individual single family homes unless otherwise noted.

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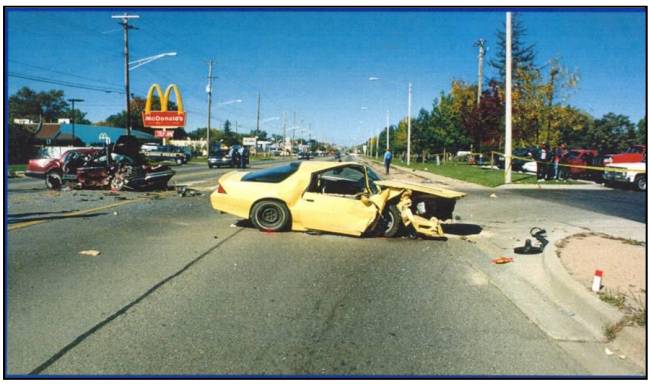
This Plan provides background information to alert community officials, property owners, and design professionals about the relationship between access decisions and safety. Other communities have found this type of plan provides many short and long term benefits such as the following:

- Gives MDOT and the local communities/agencies the latitude to make future improvements with the least disruption on homeowners, businesses and the anticipated development pattern along the roadway.

- Preserves the capacity of the roadway by locating access points and crossovers where they will have the least disruption to through traffic flow.



- Reduces crash potential through careful placement and spacing of access points and crossovers.

- Continues to provide landowners with reasonable access to their property to/from M-13 or Wilder Road although in some cases the number of access points will be fewer than previously existed.

- Describes specific recommendations for certain sites that can be used as a guide in negotiations with property owners and developers during site plan or permit reviews, or if the road is reconstructed.

Realization of the benefits previously listed can be accomplished through a variety of changes, both physical and regulatory. Access management and other improvements along the two corridors requires a partnership between the communities, MDOT and the County. One way to promote this collaborative approach is through improved coordination and communication between the communities and agencies when reviewing development proposals.

Current access spacing along the corridors is much closer than the standards the MDOT applies to new developments today. One of the strategies of the Plan is to gradually bring the access into closer conformance to the current spacing and other standards. However, it is understood the practical goal lies somewhere in between the current spacing and ideal. Key recommendations of this Plan to gradually improve access spacing are listed below, and are explained in more detail in the subsequent chapters and shown in Appendix A.

- Identify future changes to existing access points to improve safety and efficiency of the roadway corridor. Such improvements include closure or consolidation of some existing access points to improve spacing from other drives and/or intersections.

Specific recommendations are illustrated on a series of maps for sections of the corridors.

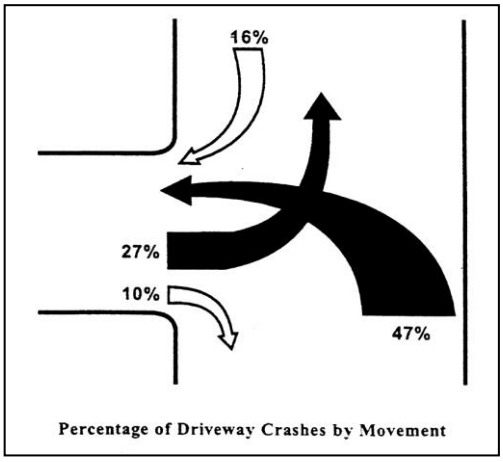
- Gradual replacement of individual access points, especially those spaced closest to other driveways or intersections with access shared with adjacent lots. This indirect or second access could be through frontage roads, rear service drives or shared driveways.

- Possible access for new development through well-spaced driveways and service drives. The plan illustrates options, since the preferred location and alignment will depend upon the intensity of development proposals.

- Apply current MDOT access standards to new proposed developments to the extent practical.

Access Management

Access management is a process that regulates access to land use, in order to help preserve the flow of traffic on the existing road system. Studies nationwide have shown that uncontrolled growth of driveways or an uncontrolled driveway environment increases the number of crashes. It also severely reduces capacity of the roadway and may create a need for costly improvements in the future. Areas where access management plans have been adopted and implemented have seen 25-50 percent reductions in access-related crashes. Further statistical data is available in the MDOT access management publication called "Improving Driveway & Access Management in Michigan" and in the Transportation Research Board's Access Management Manual.



Data from the National Highway Institute indicates that most driveway crashes involve left-turn movements.

Access management can provide several benefits to motorists, communities, and land uses. The benefits, based on experience along other corridors and numerous studies, include the following:

- Reduce crashes and crash potential
- Preserve roadway capacity, traffic operations, and the useful life of roads
- Decrease travel time and congestion
- Improve access to and from properties
- Ensure reasonable access to properties (not necessarily direct access or multiple driveways)

- Coordinate land use and transportation decisions
- Improve environment for pedestrians and bicyclists (fewer driveways to cross)
- Improve air quality
- Maintain travel efficiency and related economic prosperity

In addition to those measurable benefits, the public also benefits from the reduction in future roadway improvement costs (due to capacity preservation and improvement resulting from managing access) and the reduction in environmental impacts. For instance, a potential roadway widening may be able to be delayed (if needed at all) due to improved capacity provided by access management. Land owners and developers benefit from the long term enhancement of property values and knowing up front that there are established access criteria thereby reducing the need for redesign and the likelihood of a lengthy site approval process.

"Studies nationwide have shown that uncontrolled growth of driveways or an uncontrolled driveway environment increases the number of crashes. It also severely reduces capacity of the roadway and may create a need for costly improvements in the future."

Successful implementation of the Plan's recommendations will require continued coordination between the communities, BCATS, BCRC, and MDOT. This document also includes a draft new or revised corridor overlay zoning district that each of the communities can refine further and adopt.

One important component to implement access management is adoption of zoning ordinance language. Along with recommended tweaks to the existing Bangor Township access management regulations, a model ordinance was created for Bay City and Monitor Township that will help insure MDOT and the communities will use the same standards. This plan and ordinances will encourage the communities, county, and road agencies to work together towards improving and controlling access in the future. Timely communication is needed between the communities' site plan review and the MDOT access permitting.

The following chapters discuss in detail the benefits and background of access management and the specific recommendations for the combined M-13/Wilder Road study corridors.

2. EXISTING ACCESS and LAND USE CONDITIONS

Defining the current access and traffic conditions and land use plans along the length of the corridor study areas is one of the initial tasks when developing an overall access management plan. This section of the report outlines the current access conditions and land use issues along the M-13/Euclid Avenue and Wilder Road corridors. A brief description of the roadway's design and traffic characteristics within the study area follows.

Current Roadway and Access Characteristics

In general both M-13/Euclid Avenue and Wilder Road have a fairly consistent cross section along the two separate +/- three-mile study areas with four through lanes and a center lane for left turns (not including right-turn deceleration lanes at/near intersections). The only significant departure from this cross section is the western portion of Wilder Road between the I-75 and M-13 "Connector" interchanges where there is predominantly a two-lane cross section.

There are typically two or three general development characteristics that need to be taken into account for most access management corridors. In general, there are areas that are currently undeveloped (and may stay that way for some time), areas that are relatively undeveloped but experiencing growth pressures and areas that are already mostly or fully developed and may be subject to redevelopment. For the most part both of these corridors fit into the latter category, particularly the M-13/Euclid corridor.

The following chapters will outline proposed improvements and standards that the communities and road agencies can use to improve or retain efficient access. In order to define those proposed improvements, field surveys were completed to identify existing access locations and areas that have poor or substandard access conditions. These are outlined below, along with current roadway characteristics.

Problems Created When Access is Not Managed:

1. **Driveways spaced too close together** – closely spaced driveways, and lack of connections between adjacent businesses, lead to more conflicts between vehicles traveling along the street and those slowing down to enter a driveway or exit it. A series of closely spaced driveways can also be more confusing for motorists.

2. **Driveways too close to a signalized intersection** – vehicles attempting to enter or exit driveways near traffic signals create conflicts with vehicles traveling through the intersection, which increases to potential for congestion and crashes.

3. **Driveways with a poor offset from driveways across the street** – the location of driveways and intersections across the street impacts safety and traffic operations. Driveways placed too close to access points on the other side of the street can result vehicles making opposing left turns both attempting to use the same part of the center turn lane. This can cause congestion or crashes.

4. **Driveways that are not designed for today's conditions** - some of the driveways along the corridors were designed many years ago, when traffic volumes were lower. Those driveways may be too wide, too narrow or have radii that are too small – all of which can increase conflicts between through traffic and those using access points.

M-13/Euclid Avenue

Roadway/Access Characteristics

As noted above, M-13/Euclid Avenue within the three-mile study area has a five-lane cross section with intermittent right-turn deceleration lanes where appropriate. It has a consistent 40 miles per hour speed limit. Traffic count data indicates that 24-hour traffic volumes along M-13 vary from about 16,000 vehicles per day to almost 30,000 vehicles per day. Most of the many public street intersections are stop sign controlled, whereas the M-13 intersections with the streets noted below are controlled by traffic signals:

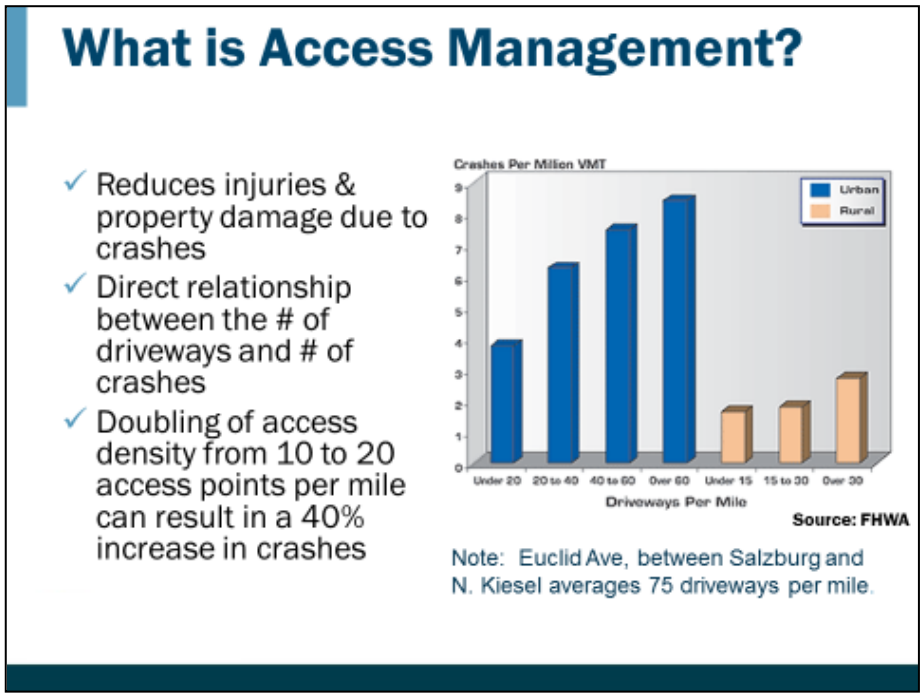
- Salzburg Avenue (M-84)
- Thomas Street (M-25 eastbound)
- Midland Street
- Kiesel Drive
- Ionia Street
- Jenny Street (M-25 westbound)
- North Union Road
- Wilder Road

The crash history on this section of M-13/Euclid is significant, and appears to be closely tied to the excessive number of commercial driveways. Crash summary data provided by MDOT shows that this three-mile section of M-13 has experienced over 720 crashes during a recent five year period. Even for a heavily developed commercial corridor that is a significant number of crashes.

"Crash summary data provided by MDOT shows that this three-mile section of M-13 has experienced over 720 crashes during the recent five year period."

Existing Access Conditions

The study area section of M-13/Euclid Avenue is considered a "retrofit" corridor in terms of access management. This means it is highly developed, with few undeveloped parcels within the subarea. However, there continues to be changes in uses, expansions or redevelopment. This situation is similar to many other mature high volume commercial corridors around the state where access was constructed years before there was awareness of the detrimental effects of poor access management.



To put things in perspective as noted in the adjacent graphic, there currently are approximately 75 driveways per mile along most of the M-13 study area, as compared to 50-60 driveways per mile that is often deemed to be excessive (and where approximately 30 driveways per mile would be closer to current driveway spacing standards). Although there are examples of good recent site plan/access decisions (eg. CVS pharmacy at Midland Street), there are many examples of substandard (by today's standards) access/ driveway spacing, design, and numbers.

Current access management deficiencies on M-13/Euclid Ave. include:

Δ ***Poor driveway spacing and/or unnecessary second drive***; locations too numerous to mention individually – many instances of driveways spaced too close together or sites that have more than one driveway that do not warrant a second (or more) access.

Δ ***Poor intersection-to-driveway spacing***; there are examples of poor spacing between

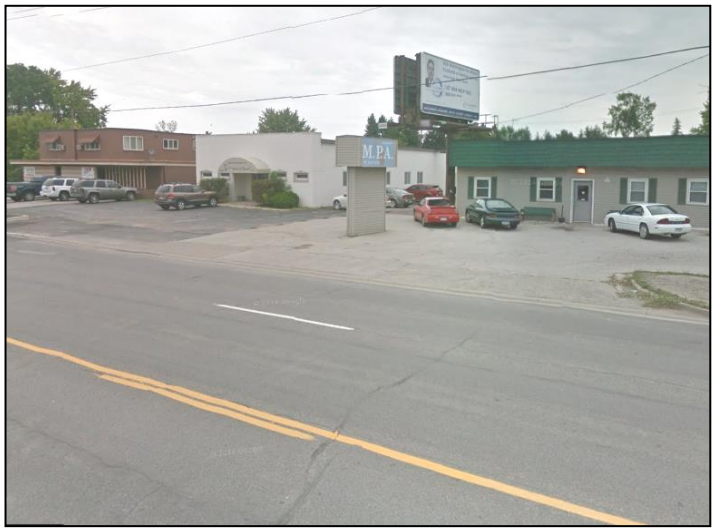
an intersection and an adjacent commercial driveway at almost every intersection along the corridor. Several of these are gas stations but other sites/uses also have this issue. This close spacing affects both the operations and safety at the intersection, especially those with traffic signals.

Need sufficient stacking and maneuvering area that will vary based on type of uses(s)

Δ ***Substandard driveway design/storage****;* small driveway radii, too little driveway storage (distance from roadway to first internal parking/ circulation) at numerous locations - typically older small commercial sites.

Δ ***Few internal cross access/service drive connections***; the efficiency of this section of M-13 can be significantly affected by the lack of internal connections between adjacent uses (either large or small businesses) – appears to have been a conscious decision to block cross access in some cases.

Δ ***Substandard driveway offset***; poor offsets currently exist at many locations (typical of older developed corridors), although it would have been difficult in the past to align or offset driveways properly given that there are so many.



Δ ***Substandard driveway width***. Several locations have older, very wide driveway openings that can lead to driver confusion, multiple access movements.

It should be noted that MDOT, working with the applicable community and business/land owners, pursued and completed several access management improvements on the section of M-13 from Fisher Street north to Wilder Road several years ago. Before/after analyses of that driveway closure/combination effort showed significant reductions in crashes on several subsections. However, there are still an excessive number of poorly spaced driveways that should be addressed as part of this ongoing safety effort.

Wilder Road – I-75 to 2 Mile Road

Roadway Characteristics

This portion of the Wilder Road study area is completely within Monitor Township except for two specific sites east of 2 Mile Road. Its cross section varies from two lanes at the west end to five lanes on the portion east of the M-13 connector interchange. The speed limit is 45 mph, and average daily traffic varies from approximately 7,000 vehicles at the west end to 21,000 just east of the M-13 Connector interchange. Traffic signals control the Wilder Road intersections with the northbound M-13 Connector off-ramp, South Monitor Road, and 2 Mile Road.

Existing Access Conditions

As expected with a relatively newer growth, this section of Wilder Road has significantly less access deficiencies than M-13, although there are still quite a few items to address in the future. Current access management deficiencies on Wilder Road between I-75 and 2 Mile Road include:

Δ ***Substandard driveway offset***; poor driveway offsets currently exist at several locations, including those in the area of the Meijer store frontage and MDOT Transportation Service Center frontage.

Δ ***Poor driveway spacing and/or unnecessary second drive***; several locations where driveways spaced too close together or sites that have more than one driveway that do not warrant a second (or more) access.

Δ ***Few north side internal cross access/service drive connections***; although the south side of Wilder Road generally has good internal connectivity (especially between the I-75/M-13 Connector and 2 Mile Road), that same characteristic is not true on the north side.

Δ ***Lack of center turn lane;*** the western section between I-75 and the M-13 Connector does not have a center lane for left turns that typically provides a more efficient and safer cross section in a commercial/office area.

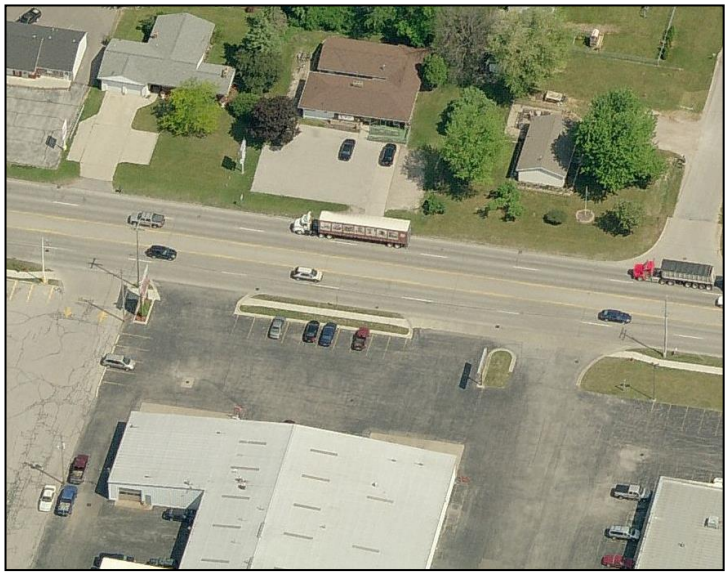
Wilder Road – M-13 (Euclid Ave) to Bangor Road

Roadway Characteristics

Most of this portion of the Wilder Road study area serves as the border between Bangor Township and Bay City. Its cross section is a consistent five lanes except where there are separate right-turn deceleration lanes. The speed limit is 40 mph, and average daily traffic volumes generally are in the 20,000 to 28,000 vehicle range. Traffic signals control five Wilder Road intersections in this subarea; at M-13, at Henry Street/State Park Drive, at State Street, at "mall" drive, and at Bangor Street.

Existing Access Conditions

Although a more recently developed corridor than M-13/Euclid, this section of Wilder Road still has numerous access deficiencies, particularly on the older west "half" of this subarea. It is apparent that more recent developments on the east half have been constructed, in general, with a few access management provisions in mind. Current access management deficiencies on Wilder Road between M-13 and Bangor Road include:



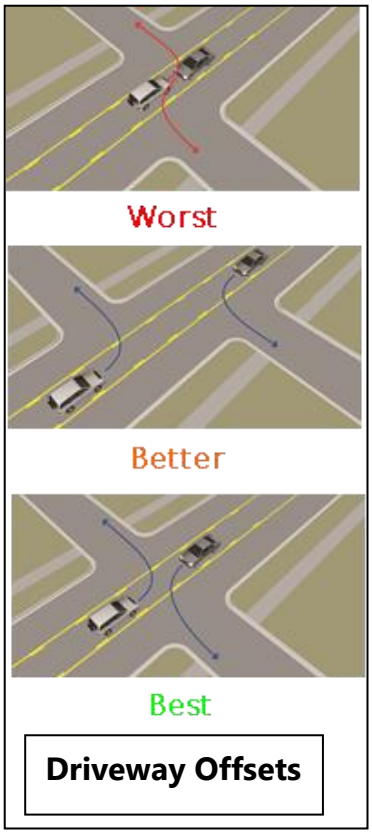
Δ ***Poor driveway spacing and/or unnecessary second drive****;* numerous locations on both sides of Wilder Road, including instances of driveways spaced too close together or sites that have more than one driveway that do not warrant a second access.

Δ ***Substandard driveway design/storage****;* small driveway radii, too little driveway storage (distance from roadway to first internal parking/circulation) at numerous locations - typically at the older small commercial sites.

Δ ***Substandard driveway width***. Several locations have older, very wide driveway openings that can lead to driver confusion, multiple access movements.

Δ ***Internal cross access/service drive connections***; although most of the corridor has good internal connectivity, there remain a few pockets that should be connected, in part to help reduce overall access points

and/or to provide a connection to a signalized intersection.



Δ ***Substandard driveway spacing from railroad crossings.*** There are a couple of sites on the east side of the RR crossing near Shrestha Drive with older driveways too close to the crossing

Δ ***Substandard driveway offset***; poor driveway offsets currently exist at several locations throughout this section of Wilder Road, either from opposing commercial driveways or public streets.

Existing Land Use Conditions

Land use considerations are important when looking at access management. While spacing and other driveway dimensions are important; the amount of traffic that uses an access is also a key factor. Well-designed access is thus especially critical for the higher traffic volume uses like gas stations, restaurants, grocery stores and shopping plazas. Making access decisions that are not only functional for current uses, but also planned future uses, will benefit the corridor and patrons. Looking at scenarios of what might occur should the parcel redevelop will better prepare decision makers and property owners for transition to better access. There is a direct relationship between the number of driveways and the number of vehicular crashes; as the number driveways increases on a particular stretch of right-of-way, the number of crashes also increases.

The land development characteristics of the M-13 corridor are mostly built out, majority commercial use and dated building stock. There are spots of redevelopment, tear downs and new builds, which may represent the business community commitment to reinvesting in the corridor.

Euclid Avenue: Wilder Rd to Salzburg Rd

Similar to many mature commercial corridors around Michigan, this segment includes a mix of suburban strip commercial with small, narrow, parcels of varying sizes and use. Mostly developed prior to modern site design standards, parking and access are uncoordinated and usually include multiple driveways per lot or business.

This section of M-13 has a continuous five-lane cross section. While most of the segment has sidewalks on both sides of the road, crossing the road is difficult with heavy volumes, and long stretches between signalized pedestrian crossings.

This segment will need to be redesigned in terms of access management in order to come into better compliance with MDOT policies. It is highly developed, with few undeveloped parcels. The existing access is similar to many other older high volume/high development corridors around the state where sites were approved and constructed before MDOT had driveway spacing standards. Although there are examples of good, recent site plan/access decisions (eg. Walgreens), there are many examples of substandard access/driveway spacing, design, and numbers.

Wilder Road: Euclid Avenue to Bangor Road

The north and south sides of Wilder Road are majority built out. The primary land use category is for this section of the study corridor is commercial, though there are residential and educational land uses near the west end of Wilder. Development patterns in this area are more modern than along Euclid Avenue and tend to be larger and more "big-box" in character.

This segment of the corridor, though developed later than Euclid Avenue, experiences many of the same access struggles. It is also considered a retrofit segment in terms of access management. It is highly developed, with little or no undeveloped parcels. The existing access is better spaced on the western edge where larger commercial developments exist. There are many instances where strip malls and or large parcel developments have more access points than necessary to provide reasonable access; the additional driveways contribute to congestion and crash potential. Many of these developments could be served by one access point and reconfigured internal circulation.

Wilder Road: I-75 to 2 Mile

Development through this section is more dispersed, but still maintains the "big-box" site characteristics with building set to the rear of the lot and large parking lots provided roadside. Some vacant parcels and development opportunities still exist here.
With the I-75 Connector interchange bifurcating this portion of the corridor, future developments will need to make traffic considerations for vehicles entering and exiting the freeway. Just to the east of 2 Mile Road begins a moderately dense residential neighborhood with a school on Wilder Road. This neighborhood should also be considered when looking at new development and traffic/ travel modifications.

Existing and Future Land Use

When evaluating the impacts that individual land uses have on a corridor, the intensity of the land use generally in combination with access influence traffic impact. Intensive uses, such as high-volume commercial businesses like grocery stores and gas stations, generally produce greater levels of traffic and turning movements. For example, a typical single-family home generates about ten vehicle trips per day (5 in, 5 out), where a commercial use located on a similarly sized lot may generate as many as fifty or more trips in an hour. These impacts should be considered by communities when determining not only the future

land use along the corridor, but also the degree of access management needed to promote safety and traffic flow.

Existing Land Use

Similar to many mature commercial corridors around Michigan, this two-corridor study area includes a mix of suburban strip commercial with small, narrow, parcels of varying sizes and use as shown in Figure 2 on the next page. Existing land uses along the corridors can be categorized as majority commercial and light industrial. The corridors are primarily comprised of narrow and shallow parcels and larger deep "big box" layouts. Most parcels in the study area are developed. Uses include drive-through restaurants, many auto dealerships, offices, gas stations, small food markets, sit down restaurants, motels, and a wide range of other auto-oriented businesses. Single family homes exist along the corridor; some have been converted to commercial office and others will likely (per the future land use designation) be converted in the future.

Future Land Use

Planned future land uses are driven by market conditions, demographics, infrastructure and the desired community character. A map of the study area's future land use per the City and Township Master Plans is illustrated in Figure 3 found at the end of this chapter. The land uses along the study corridor are predominantly planned to remain similar to existing; mostly commercial, with some multi-family residential.

Through this study process local ordinances will be created to help with phasing towards better access practices. This gradual implementation can be accomplished through site plan review/ redevelopment, roadway construction and utility projects, and through partnerships with business groups and tax capture. As opportunities present themselves using the ordinance and MDOT standards the study area will begin to transform to a safer roadway.

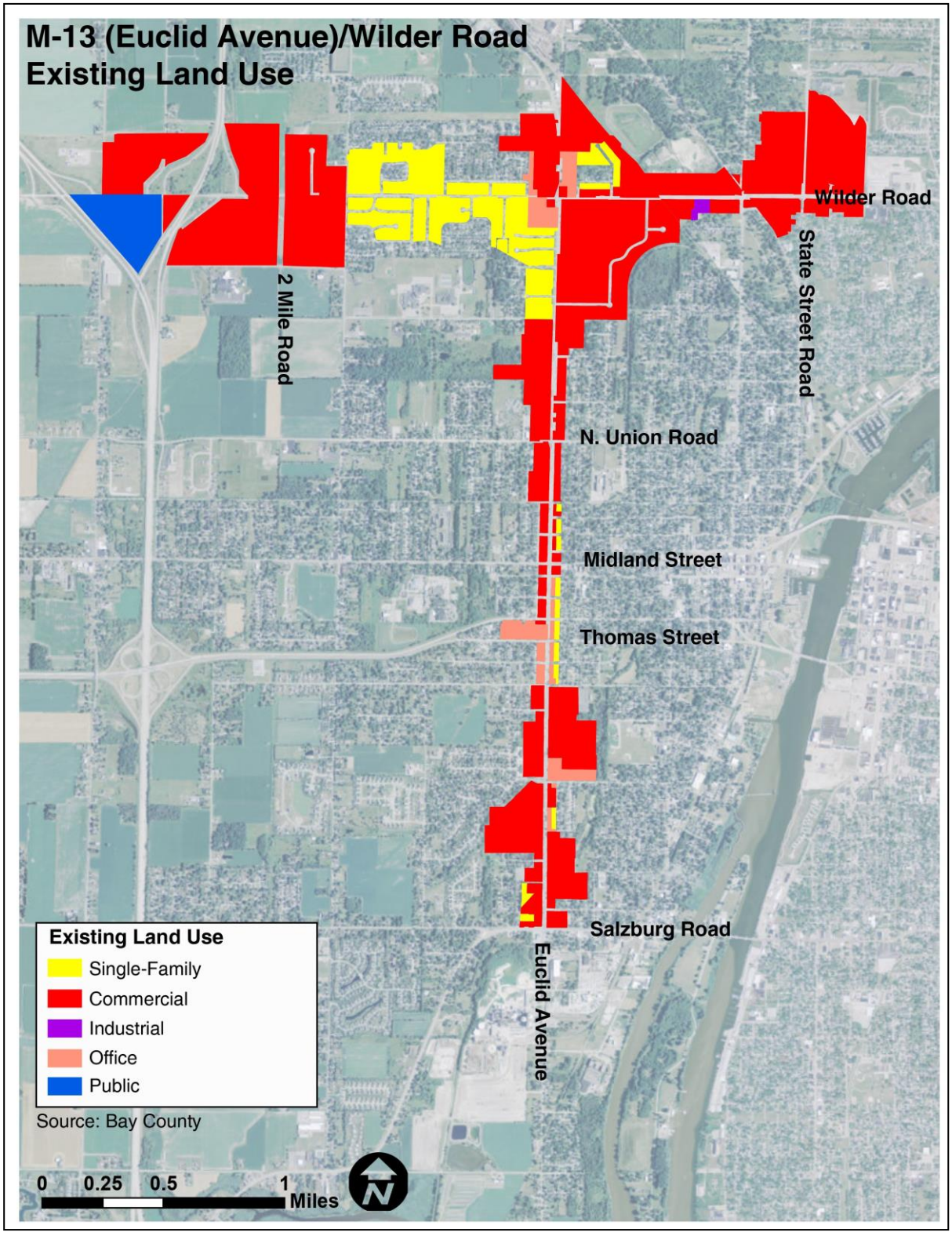

M-13 (Euclid Avenue)/Wilder Road
Existing Land Use
Wilder Road
State Street Road
2 Mile Road
N. Union Road
Midland Street
Thomas Street
Salzburg Road
Euclid Avenue
Existing Land Use
Single-Family
Commercial
Industrial
Office
Public
Source: Bay County
0 0.25 0.5 1
Miles
N

FIGURE 2

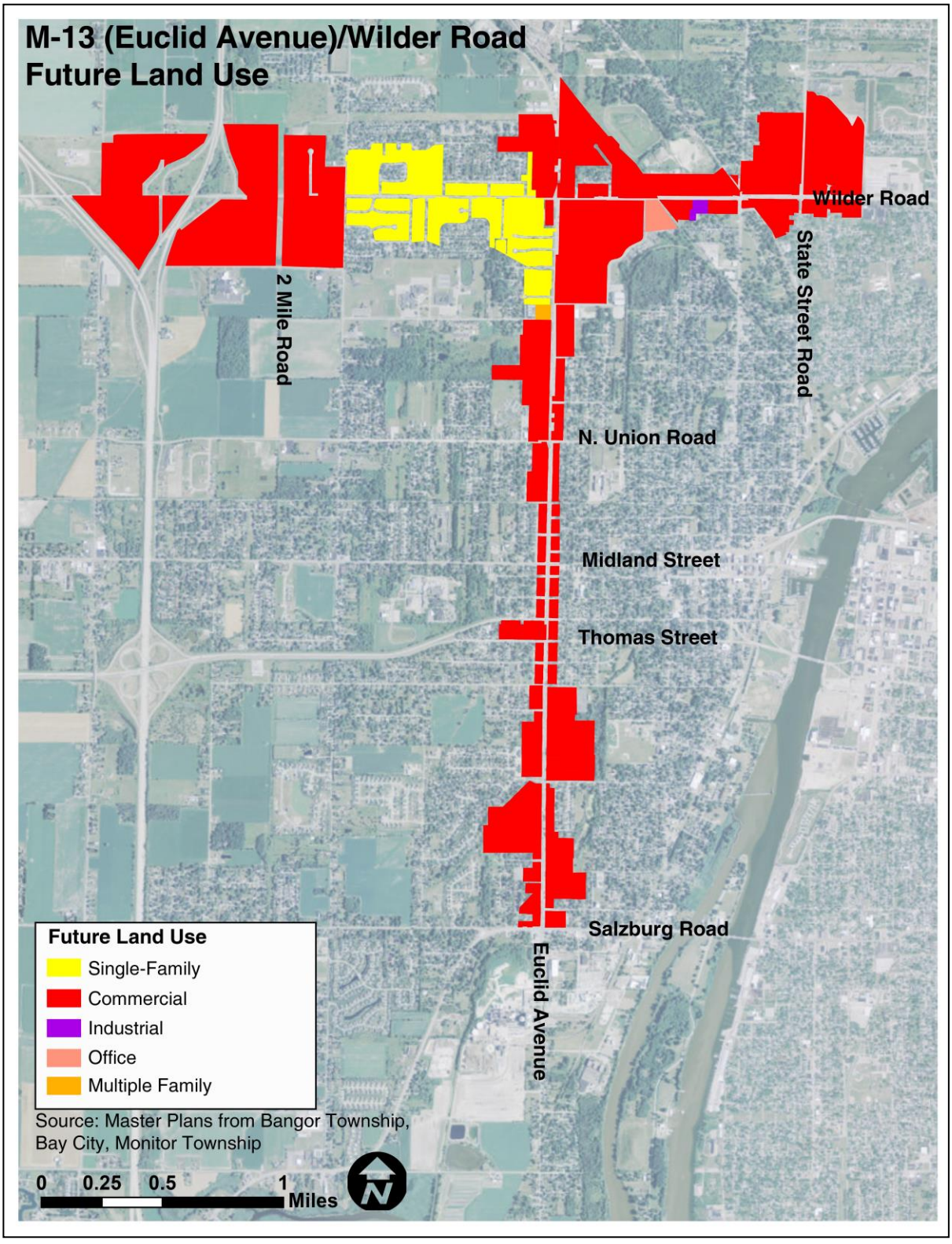

M-13 (Euclid Avenue)/Wilder Road
Future Land Use
Wilder Road
State Street Road
2 Mile Road
N. Union Road
Midland Street
Thomas Street
Salzburg Road
Euclid Avenue
Future Land Use
Single-Family
Commercial
Industrial
Office
Multiple Family
Source: Master Plans from Bangor Township, Bay City, Monitor Township
0 0.25 0.5 1 Miles
N

FIGURE 3

3. ACCESS MANAGEMENT STANDARDS

Based upon the analysis of existing conditions and constraints, and review of the published MDOT and national access guidelines and the consultant team's experience, the Access Management Plan for the M-13 (Euclid Avenue) and Wilder Road study area was developed. This chapter summarizes the basic design standards that should be used by the three communities for future access considerations along these two corridors. The communities could apply these standards to other commercial corridors as well.

Access Management Standards

Since there is a significant difference in the current and future development along the M-13 and Wilder Road corridors, it is impractical to impose driveway standards uniformly throughout the overall study area. These standards were developed to provide sufficient flexibility to be effective and equitable, while also consistent with requirements set by MDOT for M-13 and those set by the Bay County Road Commission and the three communities on Wilder Road.

The introduction of this report mentioned several benefits that typically result from consistent use of an access management plan. To achieve those benefits, access standards must adhere to the following principles:

- ***Design for efficient and safe access***. Identify driveway design criteria that promote safe and efficient ingress and egress at driveways.

- ***Separate the conflict areas***. Reduce the number of driveways, increase the spacing between driveways and between driveways and intersections, and reduce the number of poorly aligned driveways.

- ***Remove turning vehicles or queues from the through lanes***. Reduce both the frequency and severity of conflicts by providing separate lanes and storage areas for turning vehicles and queues.

- ***Limit the types of conflicts***. Reduce the frequency of conflicts or reduce the area of

conflict at driveways by limiting or preventing certain kinds of maneuvers.

- ***Preserve public investment and the integrity of the roadway***. Recognize that substantial public funds have been, and will be, invested to develop the corridors to move traffic safely and efficiently.

- ***Provide reasonable access***. Recognize that the public desires convenient access and property owners have the inherent right to reasonable access to public roadways. In some cases that reasonable access may be fewer access points than a property owner desires or it may be indirect or shared in some instances.

Improved driveway spacing simplifies driving by reducing the amount of information that a driver must process and react to. Locating a driveway away from the operational area of a signalized intersection decreases the potential for congestion and crashes, for both through traffic and vehicles using the driveway. Proper spacing between driveways and unsignalized roadways (or other driveways) can reduce confusion that require drivers to watch for ingress and egress traffic at several points at the same time, while also controlling their vehicle and monitoring other traffic ahead and behind them. As noted earlier, the primary, overriding theme of any access management plan is to increase the safety of the study area corridor(s).

"Improved driveway spacing simplifies driving by reducing the amount of information to which a driver must process and react."

The following sections discuss a few of the basic access design criteria that were used during the analysis of the M-13/Wilder Road study area. The specific ways in which these criteria or standards are applied to the corridor is outlined in the following chapter.

Access Design Parameters

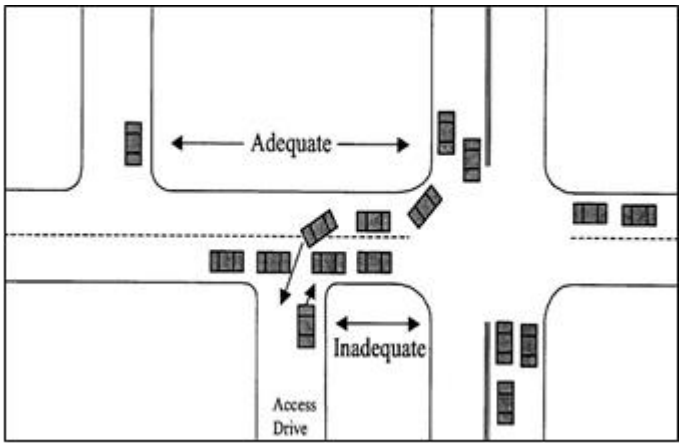
Access management involves a series of tools to limit and separate traffic conflict points, separate turning vehicles from through movements, locate traffic signals to facilitate traffic flow, and limit direct access on higher speed roads to preserve capacity and improve safety. The following is a summary of what access management standards typically include.

- **Number of Access Points:** The number of access points to a development should be limited to one where possible. The number of driveways allowed along M-13 or Wilder Road will affect traffic flow, ease of driving and crash potential. Every effort should be made to limit the number of driveways and encourage access off side streets, service drives, frontage roads, and shared driveways. Driveways should be properly spaced from one another and from intersections with other major streets.

  Access to a parcel should generally consist of a single driveway, and be shared with adjacent parcels wherever possible. Certain developments generate enough traffic to consider allowing more than one driveway. Larger parcels with frontages of at least 660

feet may also warrant an additional driveway. An additional driveway should only be considered following a traffic impact study that demonstrates the need for additional access. Where possible, the second access point should be located on a side street or be shared with adjacent land uses.

- **Driveway Spacing from Intersections:** Driveways need to be placed such that there is proper spacing from an intersecting street, to ensure that traffic entering or exiting a driveway does not conflict with intersection traffic. Spacing between a proposed driveway and an existing public street intersection is an important design element that must be identified. Typical standards take into account the type of roadways involved (trunkline, arterial, etc.), type of intersection control and type of access requested. In most cases, a driveway should not be developed within the functional boundary of a given intersection, unless the size of the parcel and other constraints do not provide a good alternative.



Generally, for roadways such as M-13/Euclid and Wilder Road that have 40-45 mph posted speed limits, full movement driveways should be a minimum of 460 feet away from any signalized intersection and 230 feet away from an unsignalized intersection. Such distances are typically not attainable in lower speed zones (25 – 35 mph) but a minimum of 150-200 feet should still be pursued. This speed zone is not currently applicable to M-13 or Wilder Road, but it is to side roads.

In this case it is recognized that attaining such driveway spacing on corridors that are highly developed isn't practical. In retrofit or older developed areas where existing parcel constraints prohibit proper spacing, driveways should be placed as far as possible away from the intersection. In most areas of the corridors, spacing of driveways on the side roads should be at least 150 feet from the nearest edge of the M-13 or Wilder Road pavement. In any case, driveways to side roads that are under the jurisdiction of either the BCRC or Bay City must meet their current standards.

- **Driveway Spacing from Other Driveways:** Driveways also need to provide proper spacing from other driveways, to ensure that turning movement conflicts are minimized. Generally, the greater the speed along the roadway the greater the driveway spacing should be.

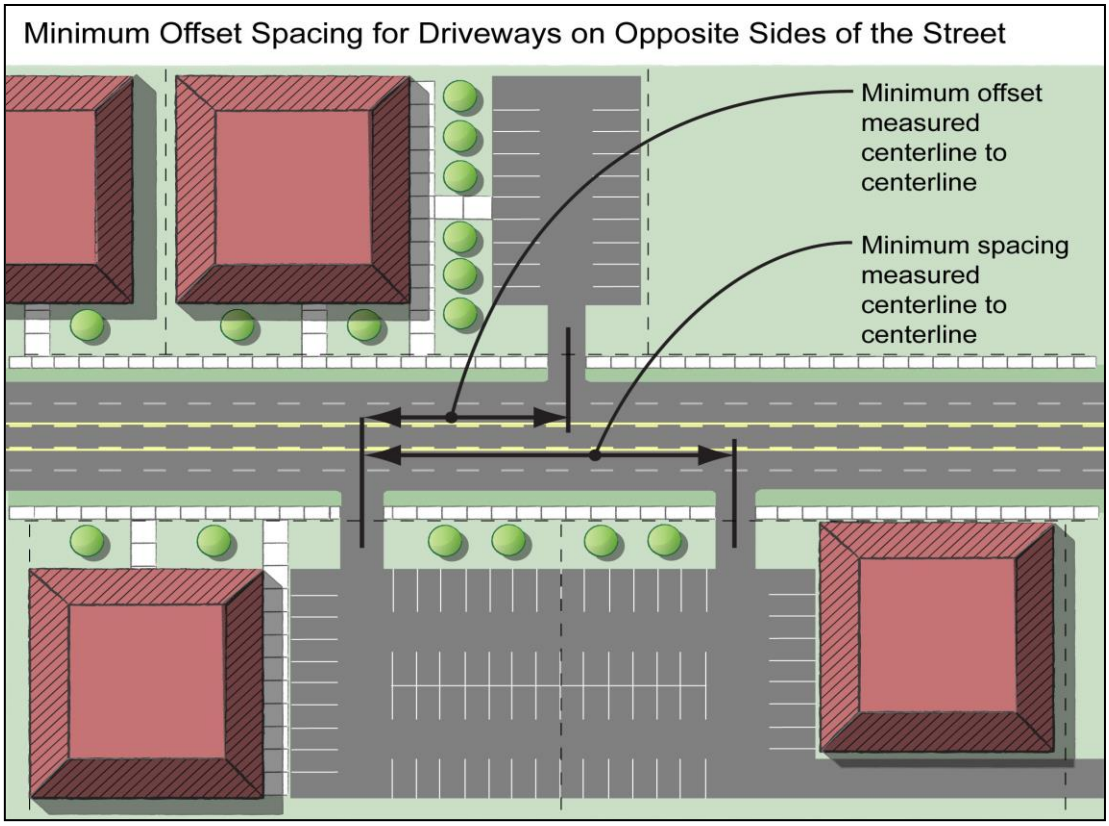
Spacing standards recommended for this study area corridor are based upon MDOT guidelines adopted several years ago (supported by numerous national references). Guidelines require the following <u>minimum</u> distances between driveways (centerline to centerline) based on a measured average speed. Table 1 outlines those guidelines.

Table 1. Minimum Driveway Spacing

Posted Speed (MPH)	Minimum Driveway Spacing
25	130 feet
30	185 feet
35	245 feet
40	300 feet
45	350 feet
50+	455 feet

As with the driveway-to-intersection criteria, it will be difficult to attain this level of spacing in the retrofit areas of the two corridors, particularly along M-13/Euclid. So the primary goal is to close/combine driveways that maximize driveway spacing to the extent practical whenever opportunities arise.

- **Driveway Alignment or Offset:** In order to prevent left turn conflicts, driveways on adjacent side streets should be aligned with those across the street or offset a sufficient distance to prevent turning movement conflicts. Proper offsets of 250 – 325 feet are



difficult to achieve in retrofit corridors, so the goal again is to realign driveways as much as possible or close those that create very poor offset situations. As shown on a prior graphic in Chapter 1, addressing left-turn offset issues are important as the majority of crashes at access points are related to left turns.

- **Shared Driveways:** Sharing or joint use of a driveway by two or more property owners should be encouraged. This will require a written easement from all affected property

owners (during the site plan approval process). Where a future shared access is desired, the developer or landowner should deed an easement that will be provided to future adjacent land uses.

- **Alternative Access:** Alternative access should be encouraged, such as shared driveways, rear service drives or frontage roads. Where parcels have frontage on M-13 or Wilder Road and a side street, access should be provided off of the side street. Certain turning movements should be limited, especially left turns, where safety hazards may be created or traffic flow may be affected.

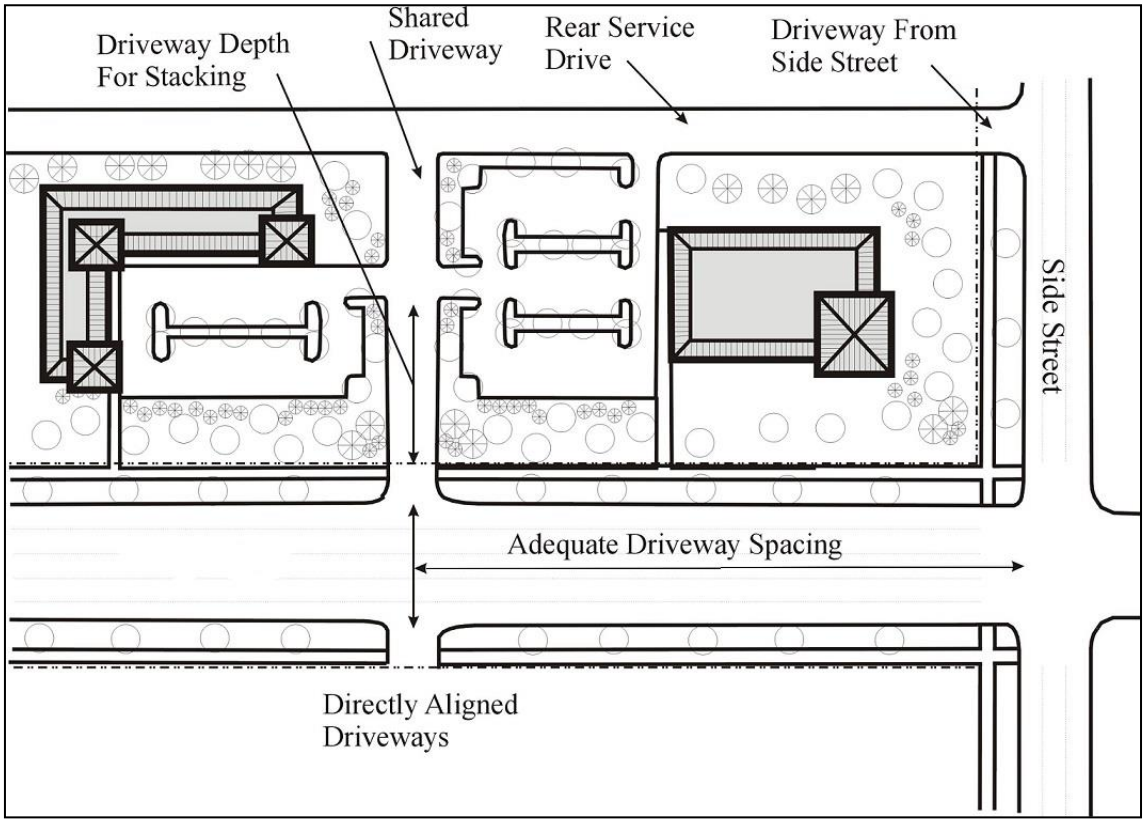
- **Service Drives:** Frontage drives, rear service drives, shared driveways, and connected parking lots should be used to minimize the number of driveways, while preserving the property owner's right to reasonable access. Such facilities provide customers with access to multiple shopping/commercial sites without re-entering the main roadway and experiencing conflicts and higher speeds. There are several examples of this type of facility along Wilder Road already (one illustrated below). In areas within one-quarter mile of existing or potential future signal locations, access to individual properties should be provided by these alternative access methods, rather than by direct connection to a major roadway.

In areas where service drives or additional internal connections are proposed or recommended, but adjacent properties have not yet developed, the site should be designed to accommodate a future service drive, with access easements provided. MDOT or BCRC/Bay City (if applicable) may temporarily grant individual properties a direct connection to a major road until the frontage road or service drive is constructed. This access point should be closed by the property owner when the frontage road or service drive is constructed by the property owner.

The safety and efficiency of these types of facilities (and shared driveways) is only as good as their design allows. An important, but often overlooked, aspect of that design is the "storage" (or depth for stacking) provided at driveways. This is the distance between the main road and the service drive or the first internal cross access. This storage needs to be long enough to accommodate the expected vehicle queues and to reduce the chance of blocking internal circulation on the service drive. The correct length is also needed to reduce the possibility of entering vehicles backing up into M-13 or Wilder Road due to internal congestion. Correct location and maintenance of traffic control signs and pavement markings are essential to a smooth operation of these shared driveways.

"Shared access drives, service drives or frontage roads all serve to minimize the number of conflict points along a corridor while still providing reasonable access to the adjacent land uses."

There are several factors that affect the determination of the best alignment and depth of a service drive. Those factors include the existing right-of-way at that location on M-13 or Wilder Road, the depth of the adjacent parcels and the location of existing buildings in partially developed sections of the corridor. The storage should be at least 40 feet for drives providing access to two small commercial uses. The storage should be at least 60 to 100 feet and potentially much more than that (150 - 300 feet) for drives providing access to more than two small commercial uses. The storage length depends upon the trip generation characteristics of the existing and proposed long term land use to be served.



Rear service drives are often preferred because they do not create issues with driveway depth. They also facilitate placing parking to the rear of buildings and moving the buildings closer to the road. Rear service drives also have the added benefit of facilitating integrated access and circulation with development further to the rear. On larger sites, these rear service drives can be designed to function similar to roads by interconnecting multiple sites.

Service drives are usually constructed and maintained by the property owner or an association of adjacent owners. The service drive itself should be constructed to public roadway standards, in regard to cross section (ie. 22-30 feet wide), materials, design and alignment, as well as turning lanes where needed. The design is often based upon the type and size of vehicles it will need to accommodate, including large delivery trucks. However, an easement that defines a service drive does not need to be nearly as wide as a public street right-of-way. Since, by definition, these internal roadways will be serving several uses, with numerous driveways, additional uses such as on-street parking (temporary or otherwise) should be allowed only under special circumstances.

- **Sight Distance:** There are very few existing sight distance limitations in the study area and those are primarily related to parked vehicles, buildings, signs, or other structures located too close to the roadway. The minimum sight distance required for a vehicle to safely enter the main roadway traffic stream is determined by MDOT and/or the BCRC/Bay City at the time of an application for a driveway permit. The communities should coordinate with MDOT on M-13 or the BCRC on Wilder Road at the time of site plan review to ensure that sight distance requirements can be met. If this distance cannot be met on the site, indirect access through another property should be sought.

Implementation of the above access recommendations will help to preserve the capacity, safety and useful life of the M-13/Euclid and Wilder Road corridors. Travel time and congestion will be decreased and the potential for crashes will be reduced. While initially individual land owners may see the regulations as restricting access to their property, over the long term a well managed access system will improve access to properties, maintain travel efficiency, and enhance the economic prosperity of local businesses. A strong access management program also has the benefit of closely coordinating land use and transportation decisions to improve the overall quality of life in the community. The design of the access points can be as important to the overall operation of a corridor as their location. MDOT's driveway design standards can be supplemented by other requirements adopted by the three communities and/or the BCRC. Design standards usually define geometric requirements regarding driveway widths, corner radii and taper lengths, to name a few.

4. ACCESS MANAGEMENT PLAN

The Access Management Plan developed for the M-13 (Euclid Avenue) and Wilder Road study area was based upon the analysis of existing access conditions and constraints, input from the Advisory Committee, local officials and property owners, and, as noted in Chapter 3, review of MDOT, national, local, and other states access guidelines. However, developing standards to be used for future access considerations are only part of the picture. The other key element for any access management plan is to identify improvements to existing access systems that will reduce crash potential and provide better efficiency within the corridor. These corrections are typically referred to as retrofit access improvements.

As noted during the meetings with the committee and public, in most areas of the two corridors (particularly on M-13) it may be difficult to retrofit a corridor segment to meet current spacing guidelines for new driveways. In those cases, however, the goal is still to minimize the number of driveways and comply with MDOT standards to the extent practical (as determined by MDOT). It should be recognized that many of the retrofit improvements recommended in the plan will only be implemented when an owner or developer approaches the community or MDOT/BCRC during the next approval process. Or, if not by a change or expansion of a land use, implementation may occur with the landowner's consent during a future street improvement or underground utility project.

It should be recognized that many of the retrofit improvements recommended in the plan will only be implemented when an owner or developer approaches the community or MDOT/BCRC during the next approval process.

This plan is a flexible document that is subject to adjustments and improvements as the study area develops/redevelops. Although the basic design concepts should remain in place, exact locations and configurations of driveways, service roads and frontage roads may shift as development plans come into focus.

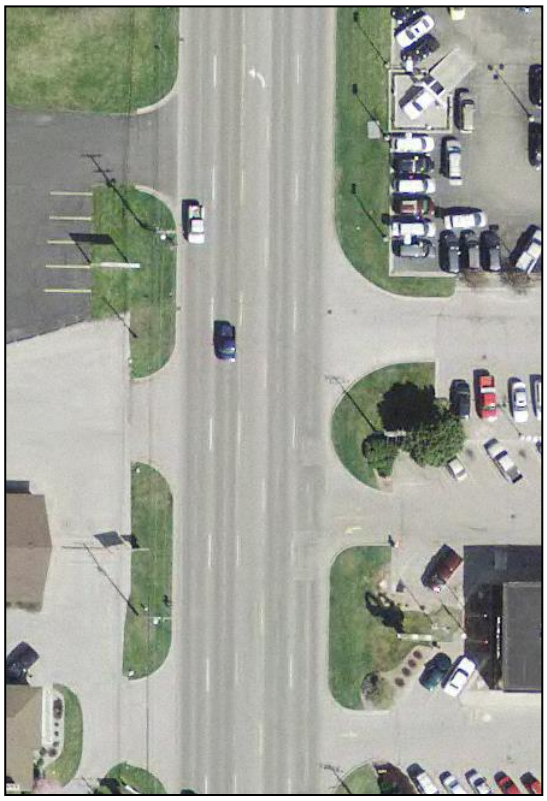
The recommendations of the Access Management Plan are largely based on parcel configurations and future land use plans in place at the time this plan was prepared. Property combinations and unified development of small parcels is strongly encouraged. In addition, existing parcels should only be divided if a coordinated access system is retained through signed agreements and illustrated on a plan.

The following sections and the applicable maps outline how the recommended access management standards are applied within the M-13 (Euclid Ave) and Wilder Road corridors. These show the final recommendations that resulted from numerous discussions with the Advisory Committee members and input from other interested/affected persons obtained at the public open house meetings (where preliminary presentation-size versions of the maps were used). The following discussions regarding the access management plan recommendations are general in nature and do not discuss each site on an individual basis, although some sites are noted of special significance. The discussion and graphics start with M-13/Euclid Avenue (Maps 1 through 6) at the southern end and conclude on the east end of the Wilder Road study area (Maps A through E) at Bangor Road.

M-13 (Euclid Avenue) – Monitor Township/Bay City
Salzburg Road to Fisher Road - Maps 1 and 2

Maps 1 and 2 illustrate the access management recommendations developed for this southern subarea of the M-13/Euclid corridor. As noted in the existing conditions chapter, this subarea of M-13, like the rest of the section, is highly developed/redeveloped so the efforts here will be exclusively of the retrofit nature. Therefore, most of the recommendations are related to adjusting existing driveways/access points.

Driveway closures are easily the most consistent recommendation for this subarea. As noted earlier in this report, this segment (and M-13 as a whole) has many small sites with multiple driveways. The sites were largely developed/ approved many years ago within small parcels and prior to current knowledge of the negative safety impacts of poor spacing. There are subsections such as just north of Salzburg Road and on either side of Pressler Drive where excessive and/or poorly spaced commercial drives are especially prevalent.



The plan calls for the closure or relocation of approximately 25 of the +/-70 commercial driveways on M-13 in this one mile long subarea. If strict adherence to current access spacing standards was pursued, the plan would call for closure of approximately 35-40 of the existing driveways.

Map 1

Map 2

One of the other consistent deficiencies along this subarea is the lack of internal connectivity. Given the lack of depth/size of most parcels in this subarea, the plan recommendations do not call for extensive service drive systems but more for individual site-to-site internal connections. These simple connections can provide a better operating corridor, especially in combination with closure of relocation/combing of one or more driveways.

Other recommended improvements include narrowing of a very wide driveway to a small use just north of Salzburg Road, and converting some commercial driveways from two-way to a one-way operation where there are better/safer alternative means of egress or ingress.

M-13 (Euclid Avenue) – Bangor Township/Bay City
Fisher Road to Wilder Road - Maps 3 through 6 (and short section of Map 2)

Maps 3 through 6 (and upper part of Map 2) illustrate the recommendations for this Bangor Township/Bay City section of the M-13 corridor. This subarea is dominated by relatively older commercial uses, so most of the recommendations are directly related to addressing existing access deficiencies. This subarea has some of the highest crash rate zones in the BCATS area, particularly on the sections on either side of the North Union Road intersection.

Recommendations for this section of the corridor include many of the standard access management techniques that were discussed at the open house/meetings, and are predominantly focused on retrofit improvements. They include recommendations for closure, combination, or relocation of existing driveways on M-13/Euclid at numerous locations.

Along this two mile long section of M-13 the plan calls for eventual closure or relocation of 47 of the approximately 130 existing commercial driveways. The majority of those are in the roughly mile long section between Thomas Street and Fulton Street where 34 driveways are recommended for closure/relocation/combining.

Recommended closures include several driveways that are very close to a key intersection and well within its operational area. Those include driveways located too close to the signalized Jenny and Midland Street intersections – locations where safe operations are key to the safety of the corridor as a whole. Of note though the recent redevelopment of the northwest corner of M-13/Midland has resulted in better intersection-to-driveway spacing on that side. Closure and/or relocation of many of these

Map 3

Map 4

Map 5

Map 6

and other mid-block drives also provides a solution to the numerous existing poor offsets between commercial drives on opposite sides of M-13.

Also of note is the need for better internal connectivity as shown by the plan's recommendations for short internal/adjacent site connections between small and large commercial businesses at many locations along the corridor.

Typical Driveway Closure Costs

Closure Type	Estimated Cost*
Close/Remove Existing Commercial Driveway	$8,000 - $12,000
Close/Remove Two Driveways and Construct Shared Driveway	$20,000 - $30,000

** Costs typically borne by site owner if/when site redevelops/improves, unless planned roadway improvement project provides funds and/or local incentives are provided*.

Sitting on the southeast quadrant of the M-13/Wilder intersection is a large commercial shopping center that was a subject of much discussion and some good feedback by one or more business/property owners. Its five driveways are deemed excessive in the more current access viewpoint, along with a sixth poorly spaced driveway to the site just to the south. The plan has been adjusted slightly to take into account concerns raised regarding truck circulation, but still calls for two site driveways closures. Such access improvements will still provide four points of access/egress to the site on M-13 alone. A turning movement restriction is recommended for the northernmost driveway where eliminating inbound/southbound left turns reduces conflicts with northbound drivers queuing to turn left onto Wilder Road.

Wilder Road – Monitor Township
I-75 to 2 Mile Road - Maps A and B

Access management recommendations for this western segment of the Wilder Road corridor are illustrated on Maps A and B on the following pages. The recommendations encompass a wide variety of improvements given the combination of older developed sites, more recently developed, and those that are undeveloped.

Between I-75 and the connector interchanges the plan calls for the eventual closure of a few driveways to address poor spacing and to provide better alignment with opposing drives or future drives. One example is the "combined" MDOT TSC and park-and-ride lot along the south side. Even though that frontage is fairly long, the amount of traffic generated does not warrant two separate driveways, at least not poorly spaced ones. A future combined single driveway should be either located opposite an opposing driveway or aligned with North Monitor Road.

Map A

Map B

This section of Wilder Road also needs a center lane for left turns to provide better, safer turning movements for all users.

The focus of the recommendations for the connector interchange to 2 Mile Road section is on the north side since the south side already has very good driveway spacing and internal connectivity. Recommendations include closing/relocating drives to provide shared use access points and eliminate a couple of poor offset situations. Also included are recommendations regarding future access locations and cross access opportunities for the remaining large undeveloped parcel.

The study area also included the separate elementary school site located east of 2 Mile Road. As noted in the inset on Map B, it is recommended that the school and BCRC consider access modifications that will result in better driveway spacing and alignment, and can also result in improved internal circulation for the separate bus and parent pick-up/drop-off activities.

Wilder Road – Bangor Township/Bay City
M-13/Euclid Ave. to Bangor Road - Maps C through E

Maps C, D and E illustrate the access management recommendations for this eastern section of the Wilder Road study area. As noted previously, this section of Wilder Road encompasses the whole gamut of old and newer development and the varied access systems that go hand and hand with varied development periods. Therefore, the recommendations outlined in the maps are quite varied.

Approximately 12 commercial driveways are recommended to gradually be eliminated when opportunities arise, either as closures or as part of combining with another driveway. Most of these are within the western third of this segment where the commercial uses are somewhat older. Driveway closure/relocation recommendations include those related to combining one-way driveways into a single two-way driveway, shifting driveways further away from the railroad crossing just east of Shrestha, and combining driveways for better spacing and offsets on the south side of Wilder opposite the mall.

Map C

Map D

Map E

Other recommendations address narrowing of very wide driveways to more standard design, additional internal connections between sites, and in one case a short rear service drive to provide more access to a signalized intersection (Wilder at Henry St).

Discussions with advisory committee members also resulted in a recommendation to consider eliminating or revising the existing continuous right turn lane on Wilder Road just east of State Street. There have been ongoing outbound driver confusion issues with this type of facility as to whether or not an oncoming vehicle in that lane is turning right before them or into a downstream driveway. Alternatives include breaking such lanes into a series of short right turn lanes (where applicable) or simply eliminating the lane except for one major driveway. The BCRC and City/Township should make that final determination.

General Land Use Recommendations

Although access management is primarily intended to improve motor vehicle traffic flow, it supports transportation demand management by integrating transportation planning and land use planning. By maintaining the traffic capacity of a corridor, improving traffic flow, improving safety, and supporting improved aesthetics and business vitality, successful access management can encourage higher density redevelopment and development along the M13 study corridor. In addition, combining access management with proper land use planning lays a solid foundation for a safe, sustainable, and successful commercial corridor in areas along Euclid Avenue and Wilder Road. As the vast majority of the corridor is planned for business uses in the future (retail commercial, office, service, resort, etc), the plan does not recommend any specific changes to the planned land use along the corridor.

Land use planning tools that can be used to accomplish access management strategies along the study corridor include:

- **Require easements and agreements early in the planning process:** Where appropriate, land division requests that would prevent compliance with the plan recommendations (because of the proposed lot width or arrangement) should be addressed during review of the land division, not left for a later time. Shared access is more likely to be realized if access easements and use agreements are obtained before the site is engineered for construction. Shared access needs to be discussed, and any legal documents needed to implement it should be secured at the land division stage where possible.

- **Adjust building placement and setbacks along Euclid and Wilder:** Over several decades of site plan reviews and developments, it may be possible to bring new and/or redeveloped buildings closer to the roadway with parking in rear and side yards. Especially in the case of drive-through operations this would allow for staking to occur away from the roadway to avoid interfering with traffic flow. This action would also promote walkability along the corridor and increase the "park once" trips for people who can choose to park in a single location and walk to other establishments, keeping vehicle trips to a minimum.

- **Adjust front yard setbacks to accommodate potential service drive needs:** As indicated herein, rear service drives are preferred over frontage roads/service drives because they create fewer issues with driveway depth and conflicts with highway traffic. Based on the comprehensive service drive plan discussed above, local community zoning regulations should be modified to provide larger front yard setbacks and service drive easements to provide for future driveway connections and service drive construction. Temporary driveways may be allowed while the larger system develops, but planning for the service drive in advance will prevent the need for costly building acquisition or driveway reconstruction in the future. While MDOT would still have to purchase the additional right-of-way from each property owner if future highway improvements are needed, the negative impacts of having to close and demolish an existing building/business would be negated.

- **Plan for a coordinated service drive:** The first stage to planning a long-term service drive is assessing the physical environment and prescribing land needs. General access plan and standards for service drives should be developed to identify the preferred location of driveways, ideal service drive alignment, required service drive width, and other construction details. Once established, local access management regulations should require new development or redevelopment projects to provide the necessary legal documents (such as easements, maintenance and removal agreements for temporary driveways, or shared access agreements) consistent with the service drive plan.

- **Require sidewalk/ pathway connections from new developments/redevelopments:** Ensuring there is a continuous sidewalk along the study corridor with more restricted access interruptions is a goal of the plan; taking it a step further to ensure there are sidewalk and pathway connections from the buildings to the sidewalk will also further encourage non-motorized use of the corridor and lead to fewer vehicle trips. All new land uses along the corridor should have entry points along the road frontage and have sidewalk connections to the existing roadside sidewalks.

- **Increase minimum lot frontage along the corridors:** Undeveloped land areas on the west end of Wilder Road provide the opportunity to 'lock-in' current access patterns and encourage shared cross-connections with adjacent properties. The overlay district zoning ordinance amendments for the corridor include minimum lot widths to ensure that any parcels split after the amendments are adopted will be able to meet the MDOT spacing requirement between access points. The local zoning ordinance amendments also stipulate that this minimum lot frontage can be varied if legally binding provisions are made to share properly spaced access point(s) between adjacent parcels.

5. ADOPTION and USE of the PLAN

A coordinated and comprehensive access management approach is essential if future growth and/or redevelopment in the study area is to be accommodated and its economic benefits are to be realized. Development decisions along M-13 (Euclid Avenue) and Wilder Road are under the control of several agencies. Each of the three corridor communities have jurisdiction over land use planning, zoning, site plan and subdivision review outside the M-13 and Wilder Road rights-of-way and, for Bay City, full jurisdiction on side streets. MDOT has control over improvements within the M-13 right-of-way, with the BCRC controlling improvements on cross roads within the two townships on either corridor.

Successful implementation of the recommendations in the M-13/Wilder Road Access Management Plan requires close partnership between the three communities, MDOT, and the BCRC. This requires that that each community's Planning Commission, Council/Commission/Board, and Zoning Board of Appeals members be aware of the benefits of access management and their role in its implementation.

One technique to help implement the Plan is to amend the local zoning ordinances to acknowledge the special standards and review procedures for the M-13 corridor. The most common method is development of a model Overlay Zoning Ordinance.

The Overlay Zoning Ordinance district would be placed over the existing zoning regulations for all parcels with frontage along M-13 and Wilder Road and along intersecting roads within 300 feet of the two corridors' rights-of-way. For example, if the current zoning is residential, the use permitted in that zoning district, the dimensional standards (setbacks, height, etc.) and other regulations would still apply, but the access spacing and circulation design standards of the Overlay District would also apply. One significant change is that in addition to meeting Overlay District minimum lot area and width requirements, any proposed land divisions must also demonstrate the ability to meet the access spacing standards in order to satisfy the "accessibility" requirements of the Land Division Act.

The focus of the Overlay Zone is a set of access management standards. As noted in previous sections, access management is a set of proven techniques that can help reduce traffic congestion, preserve the flow of traffic, improve traffic safety, minimize crash frequencies, preserve existing roadway capacity and preserve investment in roads by managing the location, design and type of access to property. More than one technique is usually required to effectively address existing or anticipated traffic problems.

Not all sites will be able to meet all of the access management standards, particularly older sites. In order to address these situations the ordinance provides the authority to modify the standards on a case-by-case basis. The model ordinance provides the planning commission with the authority to modify the standards during site plan review, provided the intent of the standards is being met to the maximum extent practical on the site, and provided input is obtained from MDOT and/or BCRC.

The ordinance also requires larger developments to have traffic impact studies completed, by qualified professionals, for sites that have the potential to generate significant volumes of traffic. These studies would evaluate the impact that a proposed development will have on the road system and identify mitigation techniques to offset the impact. The ordinance makes reference to the handbook "Evaluating Traffic Impact Studies, a Recommended Practice for Michigan," developed by MDOT, Tri-County Regional Planning Commission, and Southeast Michigan Council of Governments as the required methodology for completing the study.

A flow chart is illustrated on Figure 4 that outlines the process to be followed in review of any development/ redevelopment proposal along the M-13 and Wilder Road corridors. It provides for a coordinated review by the local units of government, MDOT and the BCRC where applicable. The intent of the process is to ensure that the local unit's of government review of the site plan design, and the road agency's access permit process is coordinated to implement the recommendations of this plan. The process provides for feedback loops between the local planning commission and the road agency as modifications are made to access and circulation.

To continue the implementation of the Access Management Plan, adjacent communities should continue to meet on a regular basis. This will provide a forum to discuss and coordinate major development proposals, traffic impact

Implementation Examples

Original Site Configuration:

Changes in Use:

- Require cross-access easement
- Close unsafe driveways

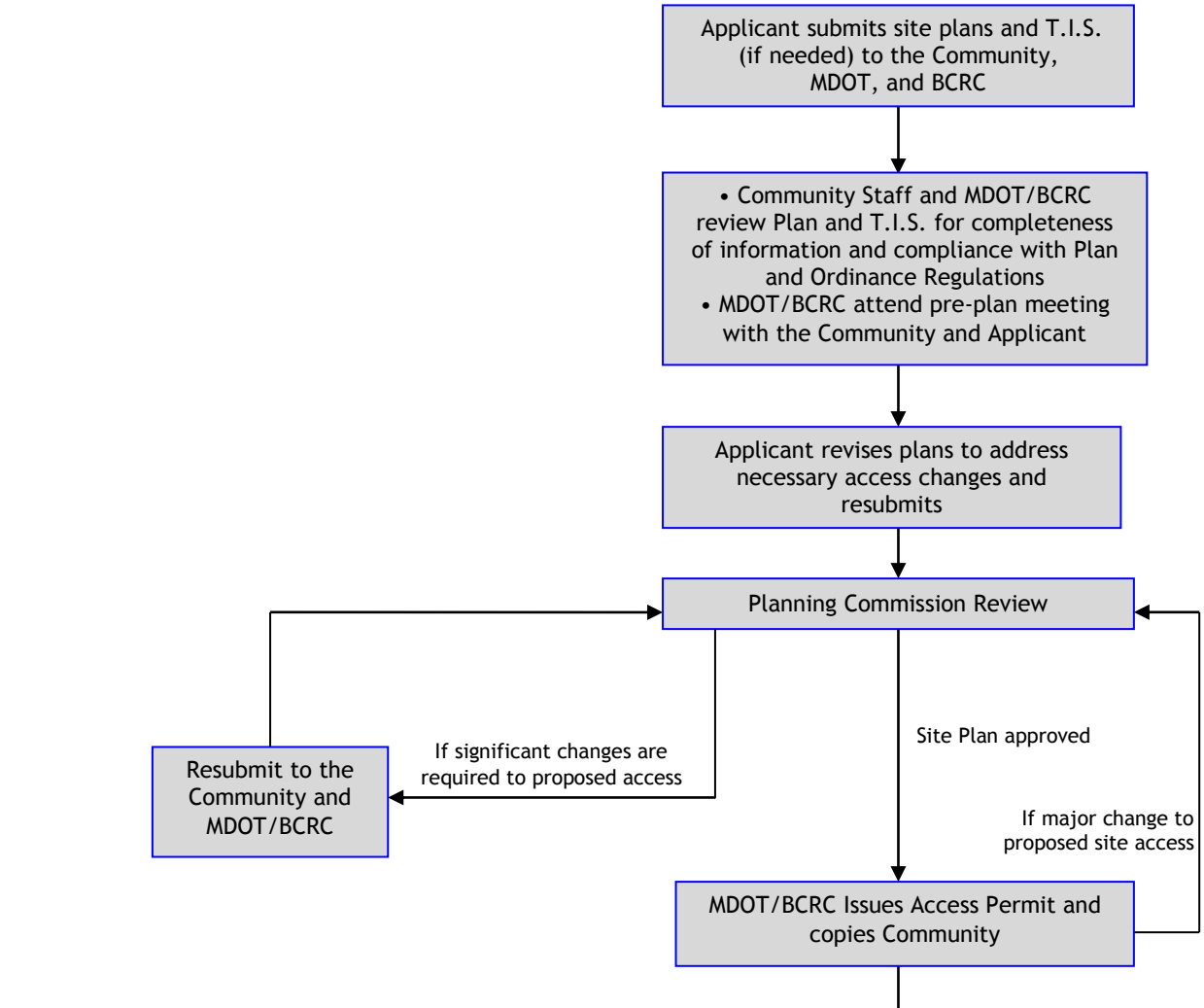
Building Expansions:

- Require cross-access easement
- Close unsafe driveways
- Close unnecessary driveways

Full Site Redevelopment:

- Close all unnecessary driveways
- Full cross-access connections
- Allow temporary access, if needed

M-13 (Euclid Avenue)/Wilder Road AMP
Recommended Access Approval Procedure
for Site Plans, Special Land Uses,
Subdivisions and Site Condominiums



LEGEND

T.I.S. = **Traffic Impact Study**

MDOT = **Michigan Department of Transportation**
Bay City TSC
2590 Wilder Road
Bay City, MI 48706
989.671.1555

BCRC = **Bay County Road Commission**
2600 E. Beaver Road
Kawkawlin, MI 48631
989.686.4610

Note: This chart illustrates the preferred process to insure coordinated agency reviews on access-related issues. The site plan review process also involves other standards and agencies that will influence the approval process.

FIGURE 4

studies, access issues, right-of-way preservation, roadway cross-section designs, rezoning proposals, ordinance text amendments, local master plan updates, roadway improvements, non-motorized transportation, streetscape enhancement and other common issues along the corridor.

Appendix

M-13/Wilder Road Access Management Plan

- Draft model ordinance
- Sample cross access agreement
- Meeting/presentation materials
- Other background information

Euclid Avenue Corridor
Adoption and Use of the Plan and Overlay Zoning District

Access management is a set of proven techniques that are proposed to help reduce traffic congestion, preserve the flow of traffic, improve safety, prevent crashes, preserve existing roadway capacity and preserve investment in roads. This is accomplished by managing the location, design and type of access to property.

Euclid Avenue and Wilder Road were selected by MDOT for an access management project to preserve (in developing segments) or restore (in developed segments) capacity that can be reduced by conflicts created by vehicle turning movements. Access management is implemented through regulations that apply to new development or redevelopment and changes to the street when there are construction projects. A coordinated and comprehensive access management approach is important to ensure a safe and economically viable Euclid Avenue corridor in the future.

Development decisions along Euclid Avenue are under the purview of both the City/Township, MDOT and in some cases also the Road Commission (for side streets). The City/Township has jurisdiction over land use planning, zoning, site plan and subdivision review along the street right-of-way. The Michigan Department of Transportation has jurisdiction within the Euclid Avenue right-of-way whereas the Bay County Road Commission has jurisdiction over the right-of-way of streets that intersect Euclid Avenue. The shared authority means that successful implementation of the recommendations in the Euclid Avenue Corridor Access Management Plan requires consistent standards and coordination between the officials and staff from the community, MDOT and the Bay County Road Commission.

The Euclid Avenue Access Management Program consists of two documents prepared to help guide access management decisions. The first is the Euclid Avenue Access Management Plan intended to be part of the community Master Plan. This plan provides specific access recommendations along the corridor based on a review of existing conditions, comparison to MDOT access management guidelines, and recommendations specific to conditions along the Euclid Avenue corridor.

The second is an overlay zoning district to implement the Access Management Plan's recommendations. The Euclid Avenue overlay zoning district would be placed over the existing zoning regulations for parcels with frontage along Euclid Avenue. For example, if the current zoning is commercial, the uses permitted in that zoning district, the dimensional standards (setbacks, height, etc.) and other regulations would still apply, but the access spacing and circulation design standards of the overlay district would also apply.

This ordinance, based on MDOT standards with specific access management plan recommendations, is set up in the following sections:

100. Intent and Purpose- An explanation of the need for the regulations
200. Applicability- When and where the regulations can be applied
300. Additional Submittal Information- Provides applicants with what materials shall be submitted with the site plan
400. Access Management Standards- The regulations and standards to be applied to projects
500. Modification of Access Standards- The process for modifying the standards

In order to adopt this ordinance many communities implement as a zoning ordinance text amendment, but it can be applied as an overlay zone on the zoning map. It should be refered to in the Site Plan Review chapter making applicants aware of the standards.

Sample/Draft Euclid Avenue Corridor Overlay Zone

Section 100. Intent and Purpose

A primary function of a state highway such as Euclid Avenue is to move traffic through the _____ and to points beyond. Euclid Avenue also has a secondary, but important, function to provide access to adjacent and nearby land uses.

The need for this district is based on safety and traffic operation issues currently being experienced along Euclid Avenue. Continued development along the corridor will increase traffic volumes and without management of access points introduce additional conflict points which will further erode traffic operations and increase potential for crashes. Numerous published studies and reports document the relationship between systems and traffic operations and safety. Those reports and experiences of other communities demonstrate standards on the number and placement of access points (driveways and side street intersections) that can preserve the capacity of the roadway and reduce the potential for and/or severity of crashes. The standards herein are based on recommendations published by various national and Michigan agencies that were refined during preparation of the Euclid Avenue Corridor Access Management Plan.

Among the specific purposes of this Corridor Overlay Zoning District are to:

1. Preserve the capacity of Euclid Avenue by regulating the number, location and design of access points, and requiring alternate means of access through shared driveways, service drives, and access off cross streets in certain locations.

2. Encourage efficient flow of traffic by minimizing the disruption and conflicts between through traffic and turning movements.

3. Improve safety and reduce the potential for crashes.

4. Implement the recommendations of the Euclid Avenue Corridor Access Management Plan.

5. Address situations where existing development within the corridor area does not conform with the standards of this overlay district.

6. Avoid the need for unnecessary and costly reconstruction which disrupts business operations and traffic flow.

7. Improve safety for pedestrians and other non-motorized travelers through reducing the number of conflict points at access crossings.

8. Establish a uniform process to ensure fair and rational or reasonable application.

9. Provide landowners with reasonable access.

10. Promote a more coordinated development review process for the _____ with the Michigan Department of Transportation and the Bay County Road Commission.

Section 200 Applicability

The standards of this Section shall apply to all lands with frontage along Euclid Avenue and illustrated as the Euclid Avenue Corridor Overlay Zone on the Zoning Map. The regulations herein apply in addition to, and simultaneously with, the other applicable regulations of the zoning ordinance. Permitted and special land uses within the Euclid Avenue Corridor Overlay Zone shall be as regulated in the underlying zoning district (as designated on the zoning map), and shall meet all the applicable requirements for that district, with the following additional provisions:

1. The standards of this ordinance do not apply to essential service facilities (fire, police, EMS).

2. Access spacing from intersections and other driveways shall meet the standards within the Euclid Avenue overlay zone district and the guidelines of the applicable road agency (MDOT and/or Bay County Road Commission).

3. Any building or parking lot that is erected, modified or enlarged shall meet the standards in the Overlay Zone Regulations and shall be maintained consistent with the standards herein.

4. Any land division or subdivision or site condominium project shall comply with the access spacing standards herein.

5. Any proposal to change a use on a site that does not meet the access standards of this overlay district, shall require a site plan to be submitted for approval by the Planning Commission.

6. The standards herein were developed collaboratively between the _____ and the MDOT. These standards apply in addition to the access design standards of the MDOT and the Bay County Road Commission. . Where conflict occurs, the more restrictive regulations shall apply.

Section 300 Additional Submittal Information

In addition to the submittal information required for site plan review in Section _____, the following shall be provided with any application for site plan or special land use review. The information listed in items 1-4 below shall be required with any request for a land division.

1. Existing access points. Existing access points within 500 feet on either side of the Euclid Avenue frontage, and along both sides of any adjoining roads, shall be shown on the site plan, aerial photographs or on a plan sheet.

2. The applicant shall submit evidence indicating that the sight distance requirements of the road agency are met.

3. Dimensions shall be provided between proposed and existing access points (and median cross-overs if applicable in the future).

4. Where shared access is proposed or required, a shared access and maintenance agreement shall be submitted for approval. Once approved, this agreement shall be recorded with the Bay County Register of Deeds.

5. Dimensions shall be provided for driveways (width, radii, throat length, length of any deceleration lanes or tapers, pavement markings and signs) and all curb radii within the site.

6. The site plan shall illustrate the route and dimensioned turning movements of any expected truck traffic, tankers, delivery vehicles, waste receptacle vehicles and similar vehicles. The plan should confirm that routing the vehicles will not disrupt operations at the access points nor impede maneuvering or parking within the site.

7. Traffic impact study. Submittal of a traffic impact study may be required for any special land use that would be expected to generate 100 or more vehicle trips during any peak hour, or 1000 or more vehicle trips daily, or where modifications from the generally applicable access spacing standards are requested. The traffic impact study shall be prepared by a firm or individual that is a member of the Institute of Transportation Engineers with demonstrated experience in production of such studies. The methodology and analysis of the study shall be in accordance with accepted principles as described in the handbook "Evaluating Traffic Impact Studies, a Recommended Practice for Michigan," developed by the MDOT and other Michigan transportation agencies. The MDOT may require calculations or micro-scale modeling to illustrate future operations at the access points and nearby intersections and/or to evaluate various access alternatives.

8. Review coordination. The applicant shall provide evidence that a proposed site plan or land division has been submitted to and received by the MDOT or Bay County Road Commission (BCRC), as applicable, for review and comment. Any correspondence from the MDOT and BCRC shall be considered during the site plan review process. The MDOT or BCRC shall approve the number and location of access points prior to final approval of the proposed site plan or land division. Approval of a land division or site plan does not negate the responsibility of an applicant to subsequently secure access permits from the applicable road agency.

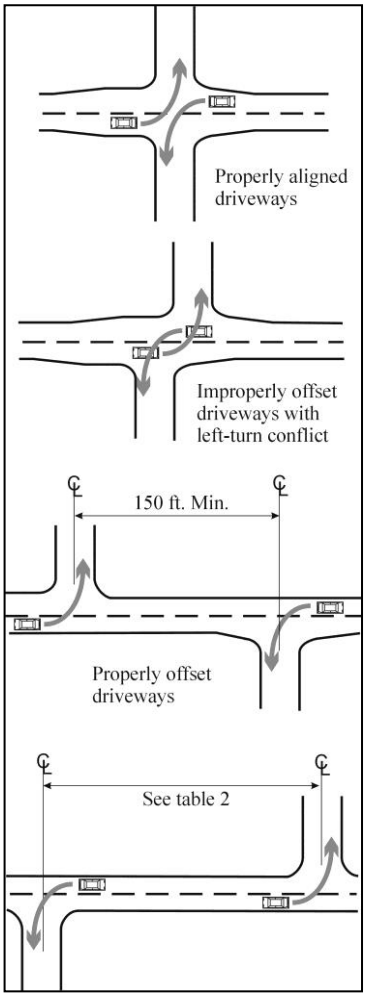
Section 400 Access Management Standards

1. **Access Management Standards.** Access points shall meet the following standards. The spacing standards specified below shall be required to be measured from all other roads and driveways. If there is a change in use from residential to a non-residential use, the Planning Commission shall require access to be brought into conformance with the requirements of this section.
   a) Each lot shall be permitted reasonable access. Reasonable access may consist of a shared access with an adjacent use or access via a service drive, frontage road or side street.

   b) The access point location shall be in accordance with the standards of this section and shall provide the opportunity for shared access with adjoining lots where applicable and practical as determined by the City/Township. Each lot developed under this ordinance may be required to grant shared access easements to adjoining lots to allow for future shared access. Where a proposed parking lot is located adjacent to the parking lot of a

similar use, there shall be a vehicular connection where feasible, as determined by the MDOT and the Planning Commission.

c) For building or parking lot expansions, or changes in use, the Planning Commission shall determine the extent of upgrades to bring the site into greater compliance with the access standards of this district. In making its decision, the Planning Commission shall consider the existing and projected traffic conditions, any sight distance limitations, site topography or natural features, impacts on internal site circulation, and any recommendations from the MDOT and the BCRC. Required improvements may include removal, rearrangement or redesign of site access points.

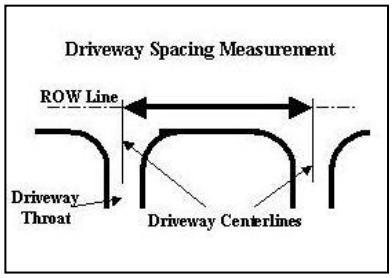


d) In cases where an individual driveway is permitted, an additional driveway may be permitted by the Planning Commission upon finding that one (1) of the conditions below exists. The additional driveway may be required to be along a side street or a shared access with an adjacent site.

   i) The site has adequate frontage to meet the spacing standards between access points listed below, and the additional access will not prevent adjacent lands from complying with the access spacing standards when such lands develop or redevelop in the future; or,

   ii) An individual driveway or driveways may be permitted where the standards of this ordinance are met, provided such driveway(s) may be required to be placed to facilitate shared access by adjacent lots.

   iii) A traffic impact study, prepared in accordance with accepted practices as described in this ordinance, demonstrates the site will generate over 300 trips in a peak hour or 3000 trips daily, or 400 and 4000 respectively if the site has access to a traffic signal, and the traffic study demonstrates the additional driveway will provide improved conditions for the motoring public and will not create negative impacts on through traffic flow.



   iv) MDOT or BCRC staff has reviewed the request and concur.

e) In order to comply with the accessibility requirements of the Land Division Act (PA 288 of 1967, as amended), land divisions shall not be permitted that may prevent compliance with the access location standards of this ordinance.

f) Access points shall provide the following spacing from other access points along the same side of the public street (measured from centerline to centerline as shown on the figure), based on the posted speed limit along the public street segment.

Table 1
Minimum Driveway Spacing Same Side of Road

Posted Speed (mph)	Driveway Spacing (in feet)	
	Arterial Road	Other Roads
25	130	90
30	185	120
35	245	150
40	300	185
45	350	230
50 +	455	275

Unless greater spacing is required by MDOT, BCRC or required to meet other standards herein.

g) Where the subject site adjoins land that may be developed or redeveloped in the future, including adjacent lands or potential outlots, the access shall be located to ensure the adjacent site(s) can also meet the access location standards in the future.

h) Access points shall be aligned with driveways on the opposite side of the street or offset the distance indicated in the following table, measured centerline to centerline. The Planning Commission may reduce this to not less than 150 feet where the offsets are aligned to not create left-turn conflicts.

Table 2
Minimum Opposing Driveway Offset

Posted Speed (mph)	Driveway Spacing (in feet)
25	255
30	325
35	425
40	525
45	630
50 +	750

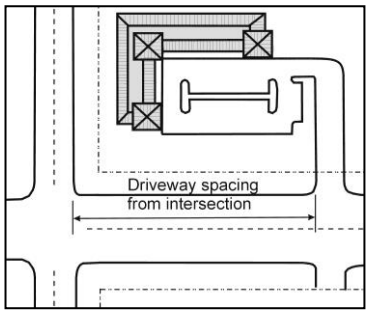
i) Minimum spacing of access points from intersections shall be in accordance with the table below (measured from pavement edge to pavement edge as shown on the figure):

Table 3
Minimum Driveway Spacing from Intersection *

Location of Access Point	Type of Intersecting Road	Minimum Spacing for a Full Movement Driveway**	Minimum Spacing for a Driveway Restricting Left-turns
Access along a minor or principal arterial road			
	Minor or principal arterial road	300	125
	Collector or local road	200	125
Access along a collector road	Minor or arterial road	200	100
	Collector road	150	100
	Local road	125	100
Access along a local street	Minor or principal arterial road	125	75
	Collector	100	75
	Local	75	75

* Unless greater spacing is required by MDOT, BCRC or required to meet other standards herein.
** Greater spacing may be required based upon the posted speed of the road and the spacing distances required by table 1.

j) Where direct access consistent with the various standards above cannot be achieved, access shall be via a shared driveway or service drive or side street. In cases where access is from the side street, the access point must be located as far from an intersection as feasible.



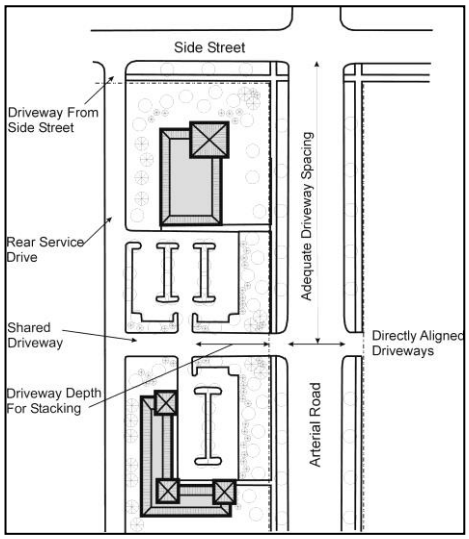
2. **Sight Distance.** Driveways shall be located to provide safe sight distance, or determined by the applicable road agency.

3. **Public Facilities in Right-of-Way.** No driveway shall interfere with municipal facilities such as street light or traffic signal poles, signs, fire hydrants, cross walks, bus loading zones, utility poles, fire alarm supports, drainage structures, or other necessary street structures.

4. **Shared commercial driveways, frontage roads and service drives.** Shared commercial driveways, frontage roads or rear service drives connecting two or more lots or uses shall be required in instances where the Planning Commission and MDOT determines that reducing the number of access points will have a beneficial impact on traffic operations and safety. In particular, service drives shall be required where recommended in a sub-area master plan; near existing traffic signals or near locations having potential for future signalization; where

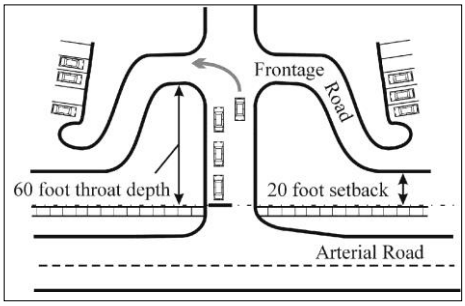
service drives may minimize the number of driveways; and along segments with a relatively high number of crashes or limited sight distance. Frontage roads or service drives shall be constructed in accordance with the following standards:

a) Service roads shall generally be parallel or perpendicular to the front property line and may be located either in front of, adjacent to, or behind, principal buildings. In considering the most appropriate alignment for a service road, the Planning Commission and MDOT shall consider the setbacks of existing buildings and anticipated traffic flow for the site.



b) The service road shall be within an access easement permitting traffic circulation between properties. This easement shall be approved by the _____ and MDOT and recorded with the Bay County Register of Deeds. The required width shall remain free and clear of obstructions, unless otherwise approved by the Planning Commission. Each property owner shall be responsible for maintenance of the easement and service drive.

c) Service drives and frontage roads shall be set back as far as reasonably possible from the intersection of the access driveway with the public street. A minimum of twenty (20) feet shall be maintained between the public street right-of-way and the pavement of the frontage road, with a minimum sixty (60) feet of throat depth provided at the access point, measured between the public street right-of-way and the pavement of the parallel section of the frontage road.



d) Service roads shall have a minimum pavement width of twenty-four (24) feet and be constructed of a base, pavement and curb with gutter that is in accordance with public street standards. The Planning Commission may modify these standards based upon site conditions, anticipated traffic volumes and types of truck traffic.

e) The service road is intended to be used exclusively for circulation. The Planning Commission may require the posting of "no parking" signs along the service road. One-way roads or two way roads constructed with additional width for parallel parking may be allowed on the side of the road closest to the building if it can be demonstrated through site plan review that parking along the service road will not significantly affect the capacity, safety or operation of the service road.

f) The site plan shall indicate the proposed elevation of the service road at the property line so that the _____ can maintain a record of all service road elevations and their grades can be coordinated with future developments.

g) The alignment of the service drive can be refined to meet the needs of the site and anticipated traffic conditions, provided the resulting terminus allows the drive to be extended through the adjacent site(s). This may require use of aerial photographs, property line maps, topographic information and other supporting documentation.

h) In cases where a shared access facility is recommended, but is not yet available, temporary direct access may be permitted, provided the plan is designed to accommodate the future service drive, and a written agreement is submitted that the temporary access will be removed by the applicant, when the alternative access system becomes available. This may require posting of a financial performance guarantee.

i) With the redevelopment of existing sites where it is not possible to develop separate service drives, the Planning Commission and MDOT may instead require a drive connecting parking lots.

SECTION 500 Modification of Access Standards

Modifications by Planning Commission. Given the variation in existing physical conditions along the corridors, modifications to the spacing and other standards above may be permitted by the Planning Commission as part of the site plan review process. The Planning Commission shall consider all of the following conditions and shall prepare a finding of fact for each:

1. Full compliance with the standards is not practical due to physical features on the property or adjacent parcels.

2. MDOT staff support the proposed access design.

3. The proposed modification is consistent with the intent of the Euclid Avenue Corridor Plan's recommendations and complies to a reasonable extent with the standards of this overlay district.

4. The applicant shall demonstrate with dimensioned drawings that such modification shall not create non-compliant access to adjacent lands that may develop or redevelop in the future.

5. Any necessary improvements at the access point, in the right-of-way, will be made to improve overall traffic operations prior to the project completion or occupancy of the first building.

6. Such modification shall be demonstrated to be the minimum necessary to provide reasonable access, will not impair public safety and is not simply for convenience of the development.

The decision of the Planning Commission may be appealed to the Zoning Board of Appeals. In consideration of this variance, the Board shall apply the standards above.

Euclid Avenue Corridor Plan Review Checklist

The following checklist can be used by staff, zoning administrator or whoever receives applications and discusses procedures with potential applicants.

- ☐ Is the subject site located within the Euclid Avenue Corridor Access Management Plan study area?

- ☐ Has the most recent plan been submitted to the MDOT contact person for their review and comments?

- ☐ Has the applicant been made aware of the special requirements and standards?

- ☐ Is the site within an area where specific access recommendations were provided in the Euclid Avenue Corridor Access Management Plan? If so, provide the applicant with a copy.

- ☐ Does the site plan or submittal illustrate all of the additional information on other existing access points and adjacent lot configurations so compliance with the standards can be determined?

- ☐ Can the site meet the spacing standards between access points?

- ☐ Is the number of access points the minimum needed to provide reasonable access to the site?

- ☐ Is there a potential to provide an alternative, shared access, system?

- ☐ Is the access point properly aligned with, or spaced from, existing driveways or the location where driveways can be expected in the future?

- ☐ Has information on sight distance been provided?

- ☐ Is there a need for a traffic impact study to evaluate the impacts and determine if changes to the site design or road system are needed?

- ☐ Should other communities along the Euclid Avenue corridor be informed of the proposal (i.e. is the project large enough that it will have a major impact)?

- ☐ Is there a reason to request a meeting with MDOT to discuss and address access issues prior to review by the Planning Commission?

SAMPLE CROSS ACCESS AGREEMENT

Background: The following is an example of a cross access agreement from the City of Orlando. It is provided as an example only. Local governments should consult their attorney for advice in preparing these agreements.

THIS AGREEMENT is made and entered into on this *(date) by (owner's name),* a corporation authorized to transact business in the State of Florida ("OWNER") and the City of Orlando, a municipal corporation organized under the laws of the State of Florida "CITY".

RECITALS

1. OWNER owns certain real property ("Parcel A") located *(legal description of property).*
2. As a part of its land use approvals from the CITY, the OWNER has been requested by CITY to provide cross access to adjacent properties to *(location of abutting properties),* subject to the terms and conditions set forth below.
3. The CITY has a health, safety and welfare interest in providing for the cross access easement.
4. The OWNER acknowledges the CITY's health, safety and welfare interest and agrees to provide said cross access subject to the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the obligations contained herein, and in good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the OWNER and the CITY hereby agree as follows:

Section 1. Recitals. The recitals are acknowledged by both parties and incorporated herein and have been relied upon by both parties in the execution of this Agreement.

Section 2. Grant of Easement in Escrow. Subject to the terms set forth in this agreement, the OWNER hereby grants a cross access easement to the CITY to be held in escrow for the benefit of the owner of that parcel located *(location of abutting property #1).* The cross access easement is described in *(Exhibit #)* attached to and incorporated in this Agreement. Said cross access easement shall be freely assignable to said Owner; provided, however, that the CITY shall not assign said easement until the Owner of *(abutting property #1)* applies for or is issued any of the following land development approvals as defined in the City Code.

(1) conditional use permit;
(2) rezoning;
(3) master plan approval;
(4) plat approval;
(5) variance;
(6) building permit for a substantial enlargement or substantial improvement;

(7) building permit which generates automobile traffic trips in excess of current improvements;
(8) driveway permit; or
(9) paving and/or drainage permit.

Likewise, the OWNER hereby grants a cross access easement to the CITY to be held in escrow for the benefit of the owner of that parcel located *(location of abutting property #2).* This cross access easement area shall be of a size similar to that of the one granted for use by the Owner of *(adjacent property #1)* and said location shall be later determined by the CITY and OWNER. Said cross access easement shall be freely assignable to said Owner. Notwithstanding anything to the contrary contained herein, however, the CITY shall not assign a cross access easement to either Owner unless the land use proposed for that Owner's parcel is consistent and compatible with the land use on the OWNER's property.

Section 3. Conditions of the Use of the Cross Easement Agreement. The use of two cross access easements to be granted to the CITY and held in escrow pursuant to Section 2 hereof is subject to the following terms and conditions:

(1) The Owner of *(adjacent property #1)* shall equally share with OWNER in the maintenance and repair of the cross access easement area as designated in the attached *(Exhibit #);*
(2) The Owner of *(adjacent property #2)* shall equally share with OWNER in the maintenance and repair of the cross access easement area to be designated by CITY and OWNER;
(3) The Owners of *(both adjacent properties)* to receive such cross access agree to pay the cost of two (2) signs placed on their respective parcels at each side of the pavement of the easement area and the common boundary line of their respective parcel with Parcel A (facing those parcels) which signs shall state that the parking in Parcel A is limited to the guests of the OWNER and the vehicles of unauthorized persons (guests, licensees, invitees, patrons, etc. of the other parcel) shall be towed away at the vehicle owner's expense;
(4) The owners of *(both adjacent properties)* agree to install and maintain on the common boundary line with Parcel A, or other location agreed to by the parties (a) a speed bump and stop sign within the cross access easement leading into *(adjacent property #1),* (b) a speed bump and stop sign within the cross access easement leading into *(adjacent property #2),* and (c) one speed bump each on *(both adjacent properties);*
(5) The use of the cross access easements shall also be subject to (a) a weight limit on the vehicles which utilize the cross access easement (to be established or modified by the CITY's transportation engineer from time to time), (b) a limit on the number of daily trips of no more than 1,000 trips, and (c) a limit on the time of access;
(6) The Owners of *(both adjacent properties)* shall pay the cost of installation of said gates and any other improvements to the cross access easement beyond what has been previously constructed by the OWNER;
(7) Tractor trailer vehicles shall not use the cross access easement for access to or from *(both adjacent properties)*;

(8) Buses seating 30 passengers or more may use the cross access easements so long as the buses stack or queue on *(both adjacent properties)* and not in the cross access easement areas;

(9) The Owners of *(both adjacent properties)* shall not use the cross access easement in any manner such as to result in congestion within the cross access easements or the blocking of the cross access easement or driving aisles of Parcel A; and

(10) The cross access easements shall be subject to the joinder and consent of the lender(s) of the OWNER and the Owners of *(both adjacent properties).*

Section 4. Delegation to CITY Transportation Engineer, The parties agree that the CITY transportation engineer has the power and authority to adjust the conditions set forth in Subsection 3(5) hereof in order to preserve the integrity, character, safety of the *(type of land use on OWNER's property).*

Section 5. Covenant Running with the Land. All rights and obligations arising or described hereunder are intended to be appurtenances and covenants running with the title of the OWNER's property and shall be binding upon and inure to the benefit of the parties and their respective successors in title.

Section 6. Dedication. Nothing contained herein shall constitute any rights in the general public.

Section 7. Captions, Number and Gender. The captions and headings are for convenience only and are not intended to be used in construing any provision of this easement. The singular and plural shall each include the other were appropriate, or if any genders shall include other genders when the contract so permits.

Section 8. Governing Law and Venue. The laws of the State of Florida shall govern this agreement. Any legal action instituted herein shall be brought in Orange County, Florida.

Section 9. Modification or Termination. The terms and provisions of this Agreement may be modified, supplemented or terminated only by a written instrument executed by the OWNER and CITY, their successors or assigns.

Section 10. Recording. This Agreement shall be recorded by the OWNER at its sole expense in the public records of Orange County, Florida.

Section 11. Joinder and Consent. The OWNER hereby agrees to obtain the Joinder and Consent to this Agreement from any superior interest, right, title, lien, encumbrance to Parcel A. The Joinder and Consent shall Subordinate the particular interest to this Agreement.

Section 12. Obligation of the CITY . The CITY agrees that it will condition the issuance of any of the permits listed in Section 2, above, to the Owner of parcel adjacent to

Parcel A upon the condition that said owner enter into the Cross Access Easement Agreement.

Section 13. No Easement Rights or Other Rights. Notwithstanding anything to the contrary herein, *(both adjacent properties)* shall have no rights to, on, in or over the Easement Area until the Cross Access Easement Agreement is agreed upon between the parties, executed by the appropriate entities and recorded in the public records of Orange County, Florida.

Section 14. Severability . If any term, provision, clause, sentence or other portion of this Agreement shall become or be determined to be illegal, null or void for any reason, or shall be held by any court of competent jurisdiction to be so, the remaining portions thereof shall remain in full force and effect.

Section 15. Entire Agreement. This Agreement constitutes the entire agreement between the parties and supersedes any previous discussions, understandings, and agreements.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the date first stated above.

Reprinted from: Model Land Development & Subdivision Regulations That Support Access Management for Florida Cities and Counties, Center for Urban Transportation Research, Tampa, Florida, January 1994.

Mutual Access Easement Agreement

By and Between:

_____ Development Company, Inc.,
Delta Charter Township,
&
_____

This agreement is made and entered into this _____ day of _____ 200__ by and between _____ Development Company, lnc., henceforth referred to as DEVELOPER ; _____, henceforth referred to as 2ND PARTY; and Delta Charter Township, henceforth referred to as Delta.

WHEREAS, DEVELOPER is the current owner and interest holder of the property legally described as *(insert legal description),* henceforth referred to as "Parcel A"; and Delta is the current holder and interest holder of the property legally described as *(insert legal description),* henceforth referred to as "Parcel B"; and 2ND PARTY is the owner and interest holder of the property legally described as *(insert legal description),* henceforth referred to as Parcel C , and

WHEREAS, Chapter 21 of the 1990 Delta Township Zoning Ordinance, as amended, entitled "Arterial Access Management Regulations" mandates, where possible, the establishment of shared driveways, parking lot connections, and other cross access arrangements for properties along regional arterial roadways such as West Saginaw Highway (M-43), and

WHEREAS, it is has been stipulated by the Delta Township Planning Commission, in approving the preliminary site plan for the _____ (*name of development)* at Delta Township shopping that it is necessary to establish a means of cross access between Parcel A, Parcel B, and Parcel C, in order to facilitate efficient traffic operations and improve public safety along regional arterial roadways, now

THEREFORE, in consideration of the foregoing and the terms and conditions contained herein, the above named parties agree as follows:

1. Access Easement

    a. An easement shall be created which shall allow the above named parties and the general public vehicular and pedestrian access

across Parcel A, Parcel B, and Parcel C. Said easement being illustrated on the attached Exhibit A, and legally described as follows:

(insert legal description)

b No physical barrier including, but not limited to, curbs, structures, buildings, signs, parking spaces, and product displays shall be placed across the easement in such a manner as to block access across and/or between Parcel A, Parcel B, and/or Parcel C.

c. Details pertaining to the placement of the access drive within the easement shall be illustrated on the final site plans for any future developments on Parcel A, Parcel B, and/or Parcel C, or any portions thereof. Said plans shall be submitted to the Delta Charter Township for review and approval.

d. Properties located adjacent to the easement shall be permitted to connect their parking areas, aisleways, driveways, etc. to the access drive within the easement. The easement and corresponding access drive shall be open for use by the general public.

e. The easement shall be permanently recorded with the Eaton County Register of Deeds.

2. The owners of Parcel A, Parcel B, and Parcel C hereby covenant and agree that this agreement shall be binding and shall inure to the benefit of the parties hereto, their successors, assigns, tenants, and subtenants, and that the covenants herein contained shall be deemed to be covenants running with the land.

3. DEVELOPER shall be responsible for the payment of any and all costs and expenses incurred and arising out of any use of the easement for any of the purposes described and set forth in this agreement including, but not limited to, any cost and expenses incurred in the construction, maintenance and repair of the pavement within that portion of the easement area located on Parcel A. 2ND PARTY shall be responsible for the payment of any and all costs and expenses incurred and arising out of any use of the easement for any of the purposes described and set forth in this agreement including, but not limited to, any cost and expenses incurred in the construction, maintenance and repair of the pavement within that portion of the easement area located on Parcel C.

4. DEVELOPER and 2ND PARTY shall be responsible for the payment of any and all costs and expenses incurred and arising out of the initial

construction of the access drive within that portion of the easement area located on Parcel B. DEVELOPER and 2ND PARTY shall each pay one-half (1/2) of the costs and expenses of construction of said access drive. DEVELOPER shall construct said access drive within the easement area on Parcel B up to the western property line of said parcel concurrent with the construction of the _____ (*name of development)* at Delta shopping center. 2ND PARTY shall reimburse DEVELOPER for its portion of the costs of construction upon completion of said access drive on Parcel B.

5. Each party shall separately operate the easement area located on their respective parcels and shall maintain the same in good condition and repair at their own cost and expense so long as such easement area shall exist.

This document drafted on _____ by:

_____
_____
_____
_____
_____

Sample provided by Delta Charter Township, Eaton County, Michigan.

IN WITNESS WHEREOF, _____and _____ the _____ and _____, respectively, of _____ Development Company, Inc. have hereunto set their hands on the date affixed hereto.

Witnessed by: _____ Development Company, Inc.

_____
Date Date

Its:

_____
Date Date

Its:

STATE OF)ss
)ss
COUNTY OF)ss

On this _____ day of_____, 200__ before me personally appeared_____ and _____ the _____, and_____, respectively, of _____ Development Company, Inc. to me known as the persons who executed the foregoing instrument and acknowledged the same to be their own free act and deed.

Notary Public, _____County,
Acting in _____ County,
My Commission Expires:

IN WITNESS WHEREOF, _____and _____ the _____ and _____, respectively, of 2ND PARTY have hereunto set their hands on the date affixed hereto.

Witnessed by: 2ND PARTY

_____
Date Date

Its:

_____
Date Date

Its:

STATE OF)ss
)ss
COUNTY OF)ss

On this _____ day of_____, 200__ before me personally appeared_____ and _____ the _____, and_____, respectively, of 2ND PARTY to me known as the persons who executed the foregoing instrument and acknowledged the same to be their own free act and deed.

Notary Public, _____County,
Acting in _____ County,
My Commission Expires:

IN WITNESS WHEREOF, Representatives of the Charter Township of Delta have hereunto set their hands on the dates affixed hereto.

Witnessed by: DELTA CHARTER TOWNSHIP

_____
Date Date

Its: Supervisor

_____
Date Date

Its: Supervisor

STATE OF MICHIGAN)ss
)ss

COUNTY OF EATON)ss

On this _____ day of_____, 200__ before me personally appeared_____ to me known to be respectively the Supervisor and Clerk of Delta Charter Township, who acknowledged that they executed the foregoing instrument of their own free act and deed in behalf of the Charter Township of Delta.

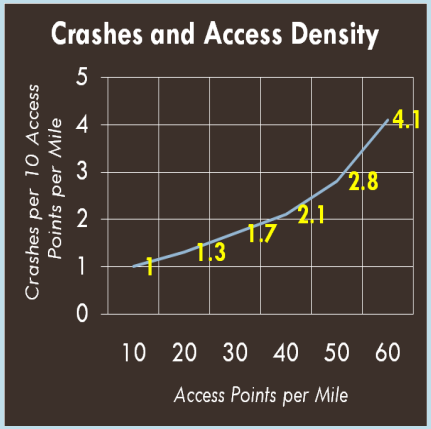
Notary Public, _____County,
Acting in _____ County,
My Commission Expires:

What Is An Access Management Plan?

An Access Management Plan limits the number of access points (i.e. driveways), carefully places and spaces them (side streets, commercial driveways and median crossovers), ensures driveway design standards, properly places traffic signals, crossings and other enhancements.

Why is it Important?

SAFETY: Direct relationship between the number of driveways along a corridor and the number of traffic incidents.



CAPACITY: Maintains capacity and improves traffic flow without costly widening or reconstruction.

COMMUNITY: Sustains vibrant business districts and makes roads more walkable, bikeable and livable.

Want more information?

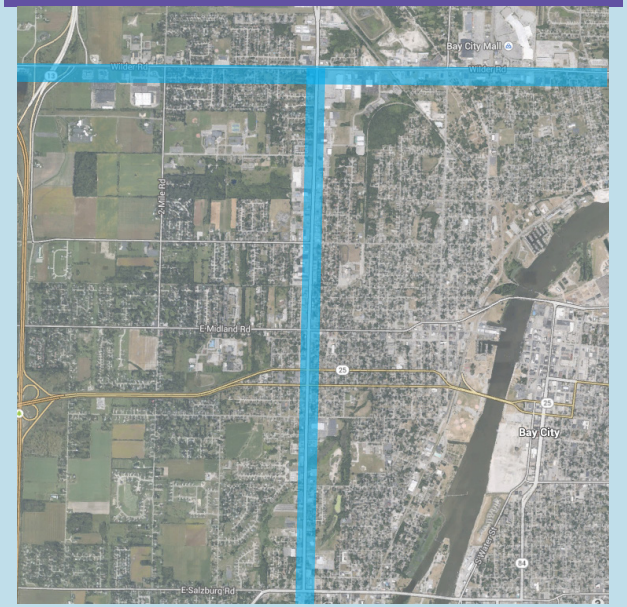
Key Contacts:

Jay Reithel, Regional Planner
MDOT
989-621-1474

Jay Anderson, Planner
Bay County
andersonj@baycounty.net
989-895-4245

Consulting Team:
Progressive AE
LSL Planning, A SAFEbuilt Company

Improving Traffic in the Bay City Area Through Access Management Planning



Euclid Ave. and Wilder Rd.

Who Applies Access Management?

- **MDOT and Bay County** will create a plan to regulate access along M13 (Euclide Ave) and Wilder Road.
- **Local Communities** can incorporate these standards into local zoning and/or site development ordinances.

When are Concepts and Standards Applied?

- **With New Development or Redevelopment** (during site plan/permit review process)
- **During road reconstruction projects**, the county (or MDOT) and local communites may work with property owners to close or redesign access points as part of a road improvement project.

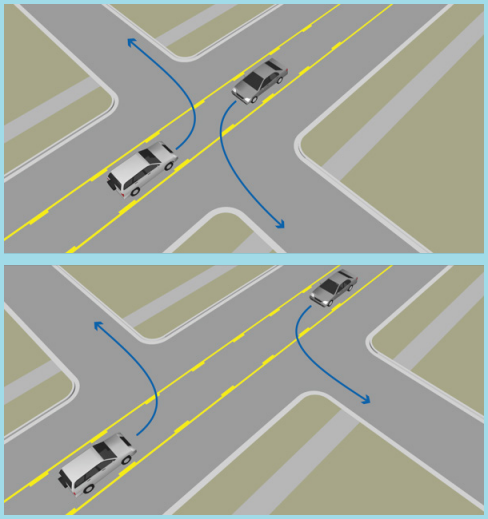
What will the Plan Contain?

- Access placement standards
- Driveway geometric standards
- Turn lane cirteria
- Cross access standards
- Wayfinding and signage policies
- Functional road classifications
- Right-of-way preservation and connections
- Traffic impact study guidelines
- Administrative procedures

How is Access Management Implemented

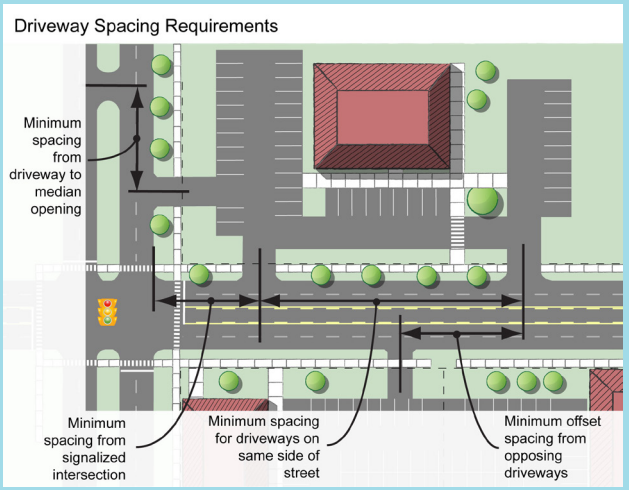
Access Placement:

- Separate driveways from intersections
- Spacing between access points
- Offset driveways from access points accross the street and/or median crossovers



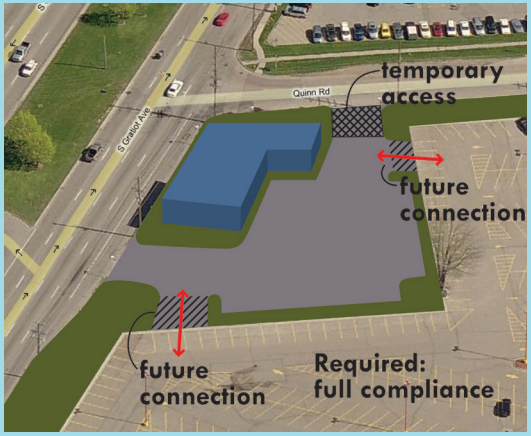
Access Design:

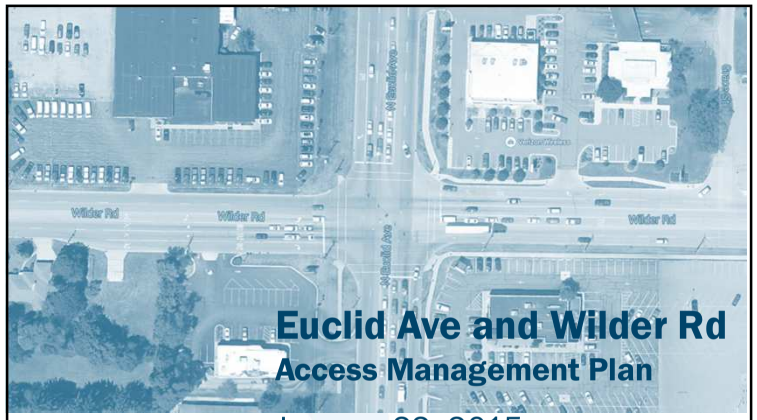
- Promote service drives or shared/cross-access between parking lots
- Restrict turning movements (i.e. right-in/right-out only)
- Require proper driveway radius and ample throat depth



Roadway Design:

- Turn lanes to improve traffic flow
- Proper traffic signal spacing and coordination
- Medians to improve flow and reduce crash potential
- Include service/frontage roads and rear access roads





Euclid Ave and Wilder Rd
Access Management Plan

January 22, 2015

Management Team

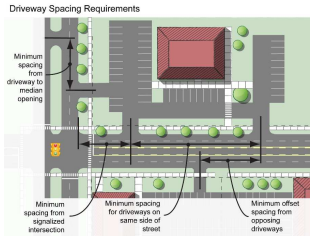
MDOT Contact
- ✓ Jay Reithel
  - Regional Planner

Bay County Contact
- ✓ Jay Anderson
  - Planner

Consultant Team
- ✓ Pete LaMourie
- ✓ Brad Strader

What is Access Management?

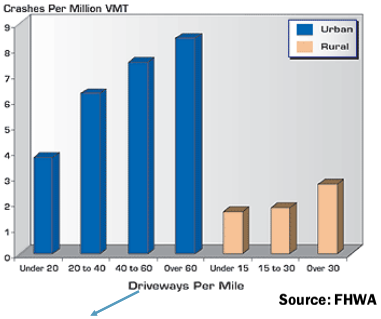
- ✓ A series of techniques limiting the number, location, spacing and design of access points and traffic signals to:
  - Maximize existing street capacity
  - Reduce potential for crashes
  - Improve overall corridor conditions



Proper driveway design, spacing and offsets maximizes benefits of access management.

What is Access Management?

- ✓ Reduces injuries & property damage due to crashes
- ✓ Direct relationship between the # of driveways and # of crashes
- ✓ Doubling of access density from 10 to 20 access points per mile can result in a 40% increase in crashes



Source: FHWA

Euclid Ave, between Salzburg and N Kiesel averages 75 driveways per mile.

Elements of the Program

- ✓ Access Management Plan
  - Access standards/code
  - Administrative process
- ✓ Public Review
  - Advisory Committee
  - Municipal Officials

Access Management Plan

Street Design Standards

Township Model Code

Input So Far

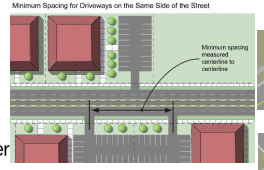
- ✓ Advisory Committee
  - Streamline process
  - Consider exceptions for unique conditions
  - Balance safety with economic growth
- ✓ Bay City and Townships
  - Make regulations easy to understand
  - Provide clear triggers for when standards apply

Access Basics

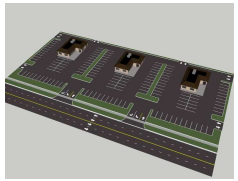
Spacing
- ✓ Away from intersections
- ✓ Aligned with or away from other driveways

Shared Access
- ✓ Cross-access easements
- ✓ Service roads

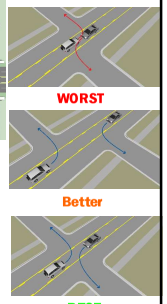
Offsets
- ✓ From opposing driveways
- ✓ From median crossovers



SPACING
to minimize traffic conflicts



SHARED ACCESS
to provide more convenient access



OFFSETS
to allow safer left-turn movements

Signals and Turn Lanes

- ✓ Evaluate need for new signals and/or signal phasing
- ✓ Consider best possible signal location in designing access drives/ service roads
- ✓ Standards for adding turn lanes at driveways/streets
- ✓ Signal cost sharing policy

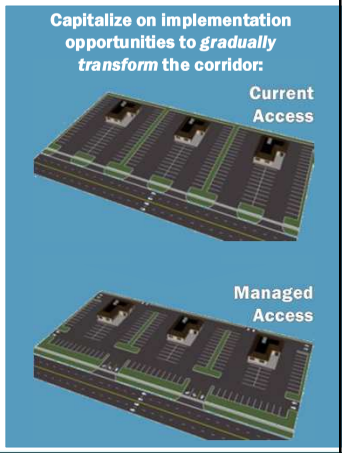
MDOT Traffic and Safety

- ✓ Driveway spacing recommendations from MDOT
- ✓ If guidelines were applied today: Euclid Ave, Salzburg to North Kiesel, would need to be reduced from ~207 access points to ~100.

Posted Speed MPH	Center-to-Center Access Feet
25	130
30	185
35	245
40	300
45	350
50	455

Implementation Opportunities

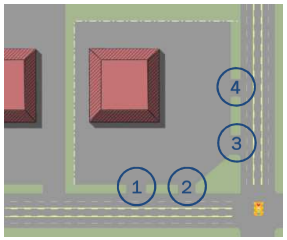
- ✓ Site Plan Review:
  - Gradual implementation
  - Access improvements through site plan review as businesses change/expand
- ✓ Future Roadway/ Utility Projects:
  - MDOT/County/ Community projects
  - Safety-related projects
- ✓ Future Efforts:
  - Partnerships with business groups with tax capture



Site Plan Review: *New Development Example*

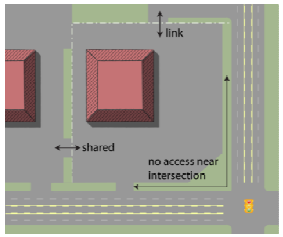
Proposed without Access Management:

- ✓ 4 driveways



With Access Management:

- ✓ 1 or 2 new driveways
- ✓ Shared access



Site Plan Review: *Redevelopment Examples*

Change of Use:

- ✓ No major increase in traffic
- ✓ Require cross-access easement
- ✓ Close unsafe driveways

Building Expansion:

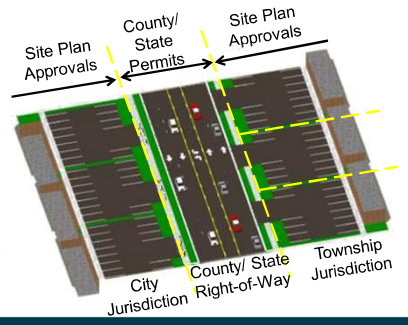
- ✓ Additional traffic generated
- ✓ Require cross-access
- ✓ Close most problematic driveways

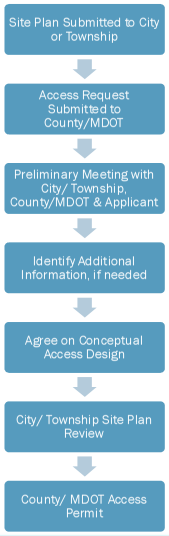
Full Redevelopment:

- ✓ Full compliance required
- ✓ Cross-access provided
- ✓ Allow temporary access if needed

Working Together

- ✓ Cities and Townships are often first contact
- ✓ County can help coordinate amongst communities
- ✓ Early communication is best – *encourage pre-application meetings*





Current/Future Steps

Public Input Phase:

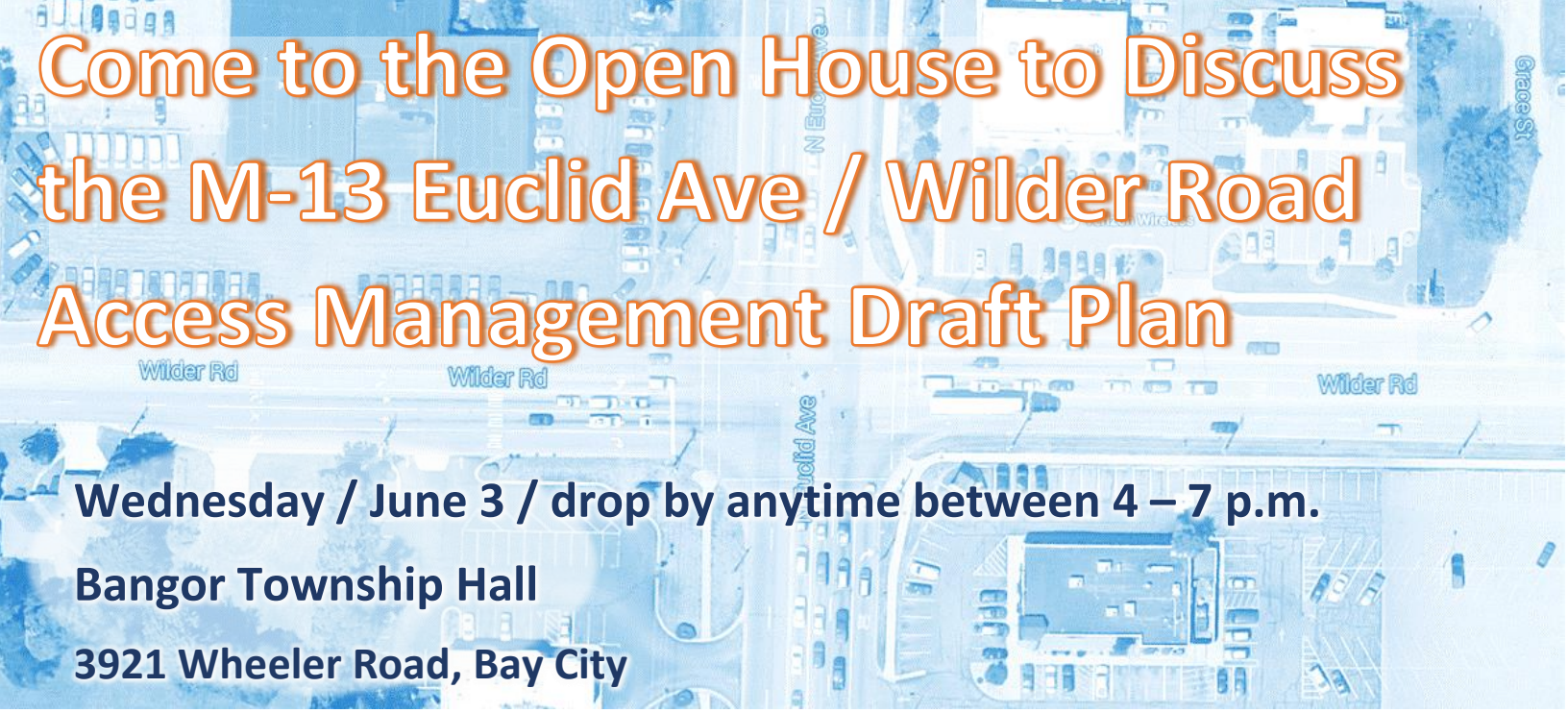
- ✓ **Local Community Meetings** are currently being held
- ✓ **Advisory Committee Meetings** are being held throughout the project

Manual Finalization:

- ✓ **Refinements** to document will be made based on input
- ✓ A **Public Workshop** held to present the draft findings and receive feedback

Adoption per Michigan State Code

Come to the Open House to Discuss the M-13 Euclid Ave / Wilder Road Access Management Draft Plan



Wednesday / June 3 / drop by anytime between 4 – 7 p.m.

Bangor Township Hall

3921 Wheeler Road, Bay City

Issue: Due to current and future safety and capacity concerns along M-13 (Euclid Avenue) and Wilder Road, the Michigan Department of Transportation (MDOT) is teaming up with Bay County, Bay City, Bangor Township, Monitor Township, and a consultant team of Progressive AE and LSL Planning, to prepare an Access Management Plan and associated Ordinance Amendments for portions of M-13 Euclid Avenue and Wilder Road.

Access Management includes tools used to improve traffic operations and safety. Studies have found that reducing the number and/or improving the location and design of driveways can significantly improve a road's capacity and safety. Access Management works to improve spacing between driveways, improve traffic flow, reduce the likelihood of crashes, and improve aesthetics while providing reasonable access to properties.

The Access Management Plan will include guidelines and site-specific recommendations for access spacing, driveway design, use of shared drives or service drives, and the identification of driveways to close or redesign. The recommendations will be based on research, review of existing conditions, and public input. Zoning ordinance amendments will be prepared for each community to implement the plan.

This is the second of two Public Workshops. This informal open house will include informational presentations on Access Management, opportunities to ask questions of the project team, and review and discuss the draft plan recommendations prepared by the project team. A short presentation on Access Management will be provided at approximately 4:30 pm and again at 6:00pm.

For more information about the Access Management Plan contact the following project representatives:

Jay Reithel
Regional Planner – Michigan DOT
(989) 621-1474

Jay Anderson
Planner – Bay County
(989) 895-4064

BAY COUNTY MICHIGAN 1857

progressive ae

MDOT Michigan Department of Transportation

LSL Planning
A SAFEbuilt. Company

Michigan Department
Of Transportation
5401 (03/12)

MDOT PUBLIC PARTICIPATION SIGN-IN SHEET

By providing the following contact information you acknowledge your participation in this public meeting and assist MDOT in notifying you of future meetings on this project/topic. It will be kept separate from demographic information collected on Form 5400 -Title VI Public Involvement Survey.

Meeting Purpose:	Location of Meeting:	Date:
Euclid and Wilder Rd. Corridors Access Management Plan	Bangor Township Hall	June 3, 2015

Please Print * Please Print * Please Print * Please Print

NAME: Janice Knop	NAME: Jason Garza
ADDRESS: 450 N Linwood Beh Rd	ADDRESS: 2590 E. Wilder Rd
CITY: Linwood STATE: MI ZIP: 48634	CITY: Bay City STATE: MI ZIP:
EMAIL ADDRESS: jknop@att.net	EMAIL ADDRESS: garzaj3@mi.gov
REPRESENTING: Wandermeere Enterprises LLC	REPRESENTING: MDOT - Bay City TSC
NAME: Frank Starkweather	NAME: GARY A. BRANDT
ADDRESS: 814 Center Ave Apt A	ADDRESS: 2483 Midland Rd
CITY: BC STATE: MI ZIP: 48708	CITY: Bay City STATE: MI ZIP: 48706
EMAIL ADDRESS:	EMAIL ADDRESS: SUPERVISOR@MONITORTWP.ORG
REPRESENTING: Bay City Planning Commission	REPRESENTING: MONITOR CHARTER TOWNSHIP
NAME: BRENT BISMACK	NAME: Jerry KACZYNSKI
ADDRESS: 5516 WILDER RD	ADDRESS: 209 S. Woodbridge
CITY: BAY CITY STATE: MI ZIP: 48706	CITY: BAY STATE: MI ZIP: 48706
EMAIL ADDRESS: BRENTBISMACK@ROWLEYSTIRES.COM	EMAIL ADDRESS: NONE
REPRESENTING: ROWLEYS TIRES & AUTOMOTIVE SERVICES	REPRESENTING: Wilder Rd Landowner

Please Print * Please Print * Please Print * Please Print

Michigan Department
Of Transportation
5401 (03/12)

MDOT PUBLIC PARTICIPATION SIGN-IN SHEET

By providing the following contact information you acknowledge your participation in this public meeting and assist MDOT in notifying you of future meetings on this project/topic. It will be kept separate from demographic information collected on Form 5400 -Title VI Public Involvement Survey.

Meeting Purpose: Euclid and Wilder Rd. Corridors Access Management Plan	**Location of Meeting:** Bangor Township Hall	**Date:** June 3, 2015

Please Print * Please Print * Please Print * Please Print

NAME Henry Johnson			NAME		
ADDRESS 4412 alvarado dr			ADDRESS		
CITY Bay.	STATE Mi	ZIP 48706	CITY	STATE	ZIP
EMAIL ADDRESS CAESAR11@SBCGlobal.Net			EMAIL ADDRESS		
REPRESENTING HJ RE & LCo			REPRESENTING		
NAME Sally Walzak			NAME		
ADDRESS 3100 Gaslight ct			ADDRESS		
CITY Bay City	STATE M.	ZIP 48706	CITY	STATE	ZIP
EMAIL ADDRESS TopProSally@HotMail.Com			EMAIL ADDRESS		
REPRESENTING Top Producers Real Estate			REPRESENTING		
NAME Kevin + Janet Dessink			NAME		
ADDRESS 3371 ~~W~~. Dobson Dr.			ADDRESS		
CITY Bay City	STATE MI	ZIP 48706	CITY	STATE	ZIP
EMAIL ADDRESS bayautocare@att.net			EMAIL ADDRESS		
REPRESENTING Bay Auto Care			REPRESENTING		

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Michigan Department
Of Transportation
5401 (03/12)

MDOT PUBLIC PARTICIPATION SIGN-IN SHEET

By providing the following contact information you acknowledge your participation in this public meeting and assist MDOT in notifying you of future meetings on this project/topic. It will be kept separate from demographic information collected on Form 5400 -Title VI Public Involvement Survey.

Meeting Purpose:	**Location of Meeting:**	**Date:**
Euclid and Wilder Rd. Corridors Access Management Plan	Bangor Township Hall	June 3, 2015

Please Print * Please Print * Please Print * Please Print

NAME Terry Moultane			NAME Michael McBain		
ADDRESS 301 Washington			ADDRESS 214 S. Sheridan St		
CITY B.C	STATE MI	ZIP 48708	CITY Bay City	STATE MI	ZIP 48708
EMAIL ADDRESS tmoultane@baycitymi.org			EMAIL ADDRESS Mcbainm@baycounty.net		
REPRESENTING City of Bay City Planning			REPRESENTING Bay County Transportation (BCATS)		
NAME JOHN KELLEY			NAME Jay Anderson		
ADDRESS 3718 Blossom Cir.			ADDRESS 5217 Cortland St		
CITY MIDLAND	STATE MI	ZIP 48642	CITY Midland	STATE MI	ZIP 48642
EMAIL ADDRESS Jkelley@wadetrim.com			EMAIL ADDRESS andersonj@baycounty.net		
REPRESENTING			REPRESENTING BCATS		
NAME DAVE ENGELHARDT			NAME		
ADDRESS 3144 DAVENPORT AVE			ADDRESS		
CITY SAGINAW	STATE MI	ZIP	CITY	STATE	ZIP
EMAIL ADDRESS dengelhardt@emcog.org			EMAIL ADDRESS		
REPRESENTING East Michigan Council of Governments			REPRESENTING		

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Michigan Department
Of Transportation
5401 (03/12)

MDOT PUBLIC PARTICIPATION SIGN-IN SHEET

By providing the following contact information you acknowledge your participation in this public meeting and assist MDOT in notifying you of future meetings on this project/topic. It will be kept separate from demographic information collected on Form 5400 -Title VI Public Involvement Survey.

Meeting Purpose:	**Location of Meeting:**	**Date:**
Euclid and Wilder Rd. Corridors Access Management Plan	Bangor Township Hall	June 3, 2015

Please Print * Please Print * Please Print * Please Print

NAME Mitzi Dimitroff			NAME GARY ANDERSON		
ADDRESS 5865-7 Wilder			ADDRESS 612 S. EUCLID		
CITY Bay City	STATE MI	ZIP 48706	CITY BAY CITY	STATE MI	ZIP 48706
EMAIL ADDRESS mitzi@rdsmanagement			EMAIL ADDRESS		
REPRESENTING RDS Management			REPRESENTING		
NAME LYNN D. STAMIRIS			NAME Dan Longoria		
ADDRESS 2203 CARROLL RD.			ADDRESS 740 N. Euclid		
CITY BAY CITY	STATE MI	ZIP 48708	CITY Bay City	STATE MI	ZIP 48708
EMAIL ADDRESS lstamiris@BAYCITYMI.ORG			EMAIL ADDRESS SSaumid128@Speedway.com		
REPRESENTING BAY CITY COMMISSION			REPRESENTING Speedway		
NAME TOM JOHNSON			NAME		
ADDRESS 4071 N. EUCLID AVE (P.O. Box 800)			ADDRESS		
CITY BAY CITY	STATE MI	ZIP 48706	CITY	STATE	ZIP
EMAIL ADDRESS tjohnson@serenusjohnson.com			EMAIL ADDRESS		
REPRESENTING NORTH POINTE PLAZA			REPRESENTING		

Please Print * Please Print * Please Print * Please Print

Summary Crash Statistics

Dates: 1/1/2009 to 12/31/2013

TOTAL NUMBER OF CRASHES: 724

CRASHES BY DAY OF WEEK

Sunday	=	31	4.3%
Monday	=	111	15.3%
Tuesday	=	116	16.0%
Wednesday	=	124	17.1%
Thursday	=	132	18.2%
Friday	=	147	20.3%
Saturday	=	63	8.7%

CRASHES BY SURFACE CONDITION

Dry	=	547	75.6%
Wet	=	140	19.3%
Icy	=	13	1.8%
Snowy	=	19	2.6%
Muddy	=	0	0.0%
Slushy	=	4	0.6%
Debris	=	0	0.0%
Other	=	0	0.0%
Uncoded	=	1	0.1%

CRASHES BY TIME OF DAY

MDNT-01AM	=	9	1.2%
01AM-02AM	=	2	0.3%
02AM-03AM	=	2	0.3%
03AM-04AM	=	1	0.1%
04AM-05AM	=	0	0.0%
05AM-06AM	=	0	0.0%
06AM-07AM	=	5	0.7%
07AM-08AM	=	17	2.3%
08AM-09AM	=	20	2.8%
09AM-10AM	=	24	3.3%
10AM-11AM	=	28	3.9%
11AM-NOON	=	60	8.3%
NOON-01PM	=	84	11.6%
01PM-02PM	=	78	10.8%
02PM-03PM	=	65	9.0%
03PM-04PM	=	91	12.6%
04PM-05PM	=	68	9.4%
05PM-06PM	=	60	8.3%
06PM-07PM	=	40	5.5%
07PM-08PM	=	16	2.2%
08PM-09PM	=	18	2.5%
09PM-10PM	=	15	2.1%
10PM-11PM	=	13	1.8%
11PM-MDNT	=	8	1.1%
MDNT	=	0	0.0%
Uncoded	=	0	0.0%
Unknown	=	0	0.0%

CRASHES BY LIGHT CONDITION

Daylight	=	604	83.4%
Dawn	=	7	1.0%
Dusk	=	12	1.7%
Dark, Lighted	=	73	10.1%
Dark	=	27	3.7%
Other	=	1	0.1%
Uncoded	=	0	0.0%

CRASHES BY SEVERITY

Fatal	=	0	0.0%
A-Type	=	9	1.2%
B-Type	=	27	3.7%
C-Type	=	134	18.5%
PDO	=	554	76.5%

CRASHES BY INVOLVEMENT

Drinking	=	11	1.5%
Truck/Bus	=	12	1.7%
Snowmobile	=	0	0.0%
Emergency Vehicle	=	2	0.3%
Off Road Vehicle	=	0	0.0%
Pedestrian	=	2	0.3%
Bicyclist	=	4	0.6%
Farm Equipment	=	0	0.0%
Deer	=	1	0.1%
School Bus	=	0	0.0%
Motorcycle	=	6	0.8%
Train	=	0	0.0%
Hit and Run	=	36	5.0%
Fleeing Situation	=	0	0.0%

CRASHES BY DRIVER VIOLATION

Careless or Negligent	=	20	2.8%
Fatal + A-Type	=	0	0.0%
Disobeyed TCD	=	28	3.9%
Fatal + A-Type	=	1	3.6%
Drove Left of Center	=	2	0.3%
Fatal + A-Type	=	1	50.0%
Drove Wrong Way	=	0	0.0%
Fatal + A-Type	=	0	0.0%
Fail to Stop ACD	=	259	35.8%
Fatal + A-Type	=	1	0.4%
Failed to Yield	=	245	33.8%
Fatal + A-Type	=	4	1.6%
Improper Backing	=	4	0.6%
Fatal + A-Type	=	0	0.0%
Improper Lane Use	=	43	5.9%
Fatal + A-Type	=	0	0.0%
Improper Pass	=	2	0.3%
Fatal + A-Type	=	0	0.0%
Improper Signal	=	2	0.3%
Fatal + A-Type	=	0	0.0%
Improper Turn	=	8	1.1%
Fatal + A-Type	=	0	0.0%
Other	=	30	4.1%
Fatal + A-Type	=	2	6.7%
Reckless Driving	=	1	0.1%
Fatal + A-Type	=	0	0.0%
Speed Too Fast	=	35	4.8%
Fatal + A-Type	=	0	0.0%
Speed Too Slow	=	2	0.3%
Fatal + A-Type	=	0	0.0%
Ran Red Light	=	148	20.4%
Fatal + A-Type	=	1	0.0%

CRASHES BY TYPE

Angle Drive	=	31	4.3%
Angle Straight	=	91	12.6%
Angle Turn	=	58	8.0%
Animal	=	2	0.3%
Backing	=	1	0.1%
Bicycle	=	4	0.6%
Dual Left-Turn	=	2	0.3%
Dual Right-Turn	=	1	0.1%
Fixed Object	=	20	2.8%
Head-on	=	9	1.2%
Head-on Left-Turn	=	24	3.3%
Hit Parked Vehicle	=	0	0.0%
Hit Train	=	0	0.0%
Misc. Multiple Vehicle	=	17	2.3%
Misc. Single Vehicle	=	4	0.6%
Miscellaneous	=	0	0.0%
Other Drive	=	10	1.4%
Other Object	=	4	0.6%
Overturn	=	1	0.1%
Parking	=	15	2.1%
Pedestrian	=	2	0.3%
Rear End Left Turn	=	9	1.2%
Rear End Right Turn	=	3	0.4%
Rear End Drive	=	16	2.2%
Rear End Straight	=	302	41.7%
Side Swipe Opposite	=	4	0.6%
Side Swipe Same	=	94	13.0%

CRASHES BY MONTH

January	=	58	8.0%
February	=	54	7.5%
March	=	42	5.8%
April	=	47	6.5%
May	=	73	10.1%
June	=	65	9.0%
July	=	50	6.9%
August	=	63	8.7%
September	=	68	9.4%
October	=	78	10.8%
November	=	52	7.2%
December	=	74	10.2%
Unknown	=	0	0.0%

CRASHES BY WEATHER CONDITION

Clear	=	365	50.4%
Cloudy	=	257	35.5%
Fog	=	0	0.0%
Rain	=	70	9.7%
Sleet/Hail	=	0	0.0%
Snow	=	30	4.1%
Wind	=	0	0.0%
Other	=	0	0.0%
Uncoded	=	2	0.3%

Intersection Ranking Report

MDOTRegion 4

Report Module: Safety Management Analysis
Today's Date: Tuesday, October 28, 2014
Dates: 1/1/2009 to 12/31/2013
Radius: 0.030 miles
Sort Order: Total Crashes
Limited to Top: 100 Percent

TCPDO: Typical cost of a Property Damage Only accident. TCPDO
TCIA: Typical cost of an Injury Accident. TCIA
TCFA: Typical cost of a Fatal Accident. TCFA

PDO: Number of crashes involving Property Damage Only
Injury: Number of crashes involving injuries, not the number of injuries.
Fatal: Number of crashes involving fatalities, not the number of fatalities.
EPDO: Number of Equivalent Property Damage Only crashes. EPDO = PDO + (Injury x (TCIA / TCPDO)) + (Fatal x (TCFA / TCPDO))
Modified EPDO: Number of Modified EPDO crashes. Modified EPDO = PDO + [(Injury + Fatal) x ((TCIA + TCFA) / TCPDO)]
MEV: Million Entering Vehicles, million vehicles entering intersection annually. MEV = (AADT x Days in Report Period / 1,000,000)
Crash Rate: Number of Crashes / MEV
Injury Rate: Injury / MEV
Fatality Rate: Fatal / MEV
EPDO Rate: EPDO / MEV
Modified EPDO Rate: Modified EPDO / MEV

Report Filter

Field Name	Operator	Value(s)
ROAD: PR/Milepoint Range	=	767610 : N Huron Rd from 2.861 to 5.863
Year of Crash	=	2013 or 2012 or 2011 or 2010 or 2009

*** - A check preceding the Intersection Name means ADT information for that Intersection is incomplete.**

Intersection Ranking Report

Intersection Name	Total Crashes	PDO	Injury	TypeA	Fatal	EPDO	Modified EPDO	AADT	MEV	Rate per MEV: Crash	Rate per MEV: Injury	Rate per MEV: Fatality	Rate per MEV: EPDO	Rate per MEV: Modified EPDO	City or Township	County
ý S Euclid Ave & W Midland St & N Euclid Ave & E Midland Rd	64	56	8	0	0	576	83,776								Bangor Twp	Bay
ý W North Union St & W North Union Rd & N Euclid Ave	63	47	16	0	0	567	82,467								Bangor Twp	Bay
ý E Jenny St & S Euclid Ave	49	45	4	0	0	441	64,141								Bangor Twp	Bay
ý S Euclid Ave & W Thomas St	44	33	11	1	0	396	57,596								Bangor Twp	Bay
ý Kiesel Rd & N Euclid Ave	43	33	10	0	0	387	56,287								Bangor Twp	Bay
ý E Wilder Rd & N Euclid Ave	42	35	7	0	0	378	54,978								Bangor Twp	Bay
ý S Euclid Ave & W Jane St	25	14	11	1	0	225	32,725								Bangor Twp	Bay
ý S Euclid Ave & Salzburg Rd & Salzburg Ave	25	19	6	0	0	225	32,725								Monitor Twp	Bay
ý Mosher St & N Euclid Ave	24	17	7	1	0	216	31,416								Bangor Twp	Bay
ý E Fisher Rd & S Euclid Ave & W Fisher St	19	13	6	1	0	171	24,871								Bangor Twp	Bay
ý W Vermont St & N Euclid Ave	19	14	5	0	0	171	24,871								Bangor Twp	Bay
ý W Ivy St & S Euclid Ave	16	13	3	1	0	144	20,944								Monitor Twp	Bay
ý Fulton St & N Euclid Ave	15	13	2	0	0	135	19,635								Bangor Twp	Bay
ý S Euclid Ave & W John St	14	12	2	0	0	126	18,326								Bangor Twp	Bay
ý Fairway Dr & S Euclid Ave & W Ionia St	14	8	6	0	0	126	18,326								Monitor Twp	Bay
ý N Euclid Ave & Win Kae Pl	12	11	1	0	0	108	15,708								Bangor Twp	Bay
ý N Euclid Ave & Highland Dr	11	5	6	0	0	99	14,399								Bangor Twp	Bay
ý W Ohio St & N Euclid Ave	10	8	2	1	0	90	13,090								Bangor Twp	Bay
ý W White St & S Euclid Ave	9	7	2	0	0	81	11,781								Bangor Twp	Bay
ý N Euclid Ave & Golfview Dr	7	6	1	0	0	63	9,163								Bangor Twp	Bay
ý N Euclid Ave & W Indiana St	6	4	2	0	0	54	7,854								Bangor Twp	Bay
ý Huron & Eastern Railway & N Euclid Ave	6	3	3	0	0	54	7,854								Bangor Twp	Bay
ý Shrestha Dr & N Euclid Ave	6	1	5	0	0	54	7,854								Bangor Twp	Bay
ý Euclid Ct & N Euclid Ave	5	4	1	0	0	45	6,545								Bangor Twp	Bay
ý S Euclid Ave & Clover Ln	4	3	1	0	0	36	5,236								Monitor Twp	Bay
ý W Pressler Dr & S Euclid Ave	2	2	0	0	0	18	2,618								Monitor Twp	Bay

*** - A check preceding the Intersection Name means ADT information for that Intersection is incomplete.**

Segment Ranking Report

MDOTRegion 4

Report Module: Safety Management Analysis
Today's Date: Tuesday, October 28, 2014
Dates: 1/1/2009 to 12/31/2013
Sort Order: Total Crashes
Limited to Top: 100 Percent

TCPDO: Typical cost of a Property Damage Only accident.	$2,000.00
TCIA: Typical Cost of an Injury Accident.	$18,000.00
TCFA: Typical Cost of a Fatal Accident.	$2,600,000.00

PDO: Number of crashes involving Property Damage Only
Injury: Number of crashes involving injuries, not the number of injuries.
Fatal: Number of crashes involving fatalities, not the number of fatalities.
EPDO: Number of Equivalent Property Damage Only crashes. EPDO = PDO + (Injury x (TCIA / TCPDO)) + (Fatal x (TCFA / TCPDO))
Modified EPDO: Number of Modified EPDO crashes. Modified EPDO = PDO + [(Injury + Fatal) x ((TCIA + TCFA) / TCPDO)]
MVM: Million Vehicle-Miles, million vehicle miles of travel. MVM = (AADT x Days in Report Period x Length of Segment) / 1,000,000
Crash Rate: Number of Crashes / MVM
Injury Rate: Injury / MVM
Fatality Rate: Fatal / MVM
EPDO Rate: EPDO / MVM
Modified EPDO Rate: Modified EPDO / MVM

Report Filter

Field Name	Operator	Value(s)
ROAD: PR/Milepoint Range	=	767610 : N Huron Rd from 2.861 to 5.863
Year of Crash	=	2013 or 2012 or 2011 or 2010 or 2009

Segment Ranking Report

PR No.	Segment Name	From Description	To Description	P.O.B.	Length	Total Crashes	PDO	Injury	Fatal	EPDO	Modified EPDO	AADT	AADT Year	Rate per MVM MVM	Crash	Injury	Fatality	EPDO	Modified EPDO
767610	N Euclid Ave	Huron & Eastern Railway	W North Union St & W North Union Rd	4.611	0.251	94	74	20	0	254	26,254			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	W North Union St & W North Union Rd	Fulton St	4.862	0.161	58	41	17	0	194	22,294			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	Golfview Dr	E Wilder Rd	5.700	0.163	57	49	8	0	121	10,521			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	W Thomas St	E Jenny St	4.043	0.091	50	37	13	0	154	17,054			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	Mosher St	Kiesel Rd	5.210	0.151	49	33	16	0	177	20,977			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	E Jenny St	W Jane St	4.134	0.087	41	34	7	0	97	9,197			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	Fulton St	Mosher St	5.023	0.187	38	31	7	0	94	9,194			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	W John St	W Midland St & N Euclid Ave & E Midland Rd	4.310	0.052	37	32	5	0	77	6,577			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	W White St	W Thomas St	3.954	0.089	32	25	7	0	88	9,188			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	Salzburg Rd & Salzburg Ave	W Ivy St	2.861	0.081	32	24	8	0	96	10,496			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	W Jane St	W John St	4.221	0.089	31	22	9	0	103	11,803			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	S Euclid Ave & W Midland St & E Midland Rd	W Vermont St	4.362	0.049	31	28	3	0	55	3,955			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	Kiesel Rd	Shrestha Dr	5.361	0.062	26	19	7	0	82	9,182			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	Fairway Dr & W Ionia St	W Pressler Dr	3.466	0.294	21	14	7	0	77	9,177			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	W Pressler Dr	E Fisher Rd & W Fisher St	3.760	0.100	20	13	7	0	76	9,176			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	W Vermont St	W Ohio St	4.411	0.069	18	13	5	0	58	6,558			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	Euclid Ct	Highland Dr	5.455	0.120	16	9	7	0	72	9,172			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	W Ivy St	Clover Ln	2.942	0.199	15	13	2	0	31	2,631			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	Clover Ln	Fairway Dr & W Ionia St	3.141	0.325	12	8	4	0	44	5,244			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	Win Kae Pl	Golfview Dr	5.650	0.050	11	9	2	0	27	2,627			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	Highland Dr	Win Kae Pl	5.575	0.075	9	7	2	0	25	2,625			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	E Fisher Rd & W Fisher St	W White St	3.860	0.094	8	7	1	0	16	1,316			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	W Indiana St	Huron & Eastern Railway	4.551	0.060	8	4	4	0	40	5,240			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	W Ohio St	W Indiana St	4.480	0.071	7	6	1	0	15	1,315			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	S Euclid Ave	Woodland St	Salzburg Rd & Salzburg Ave	2.772	0.089	2	2	0	0	2	2			0.000	0.000	0.000	0.000	0.0000	0.0000
767610	N Euclid Ave	Shrestha Dr	Euclid Ct	5.423	0.032	1	0	1	0	9	1,309			0.000	0.000	0.000	0.000	0.0000	0.0000

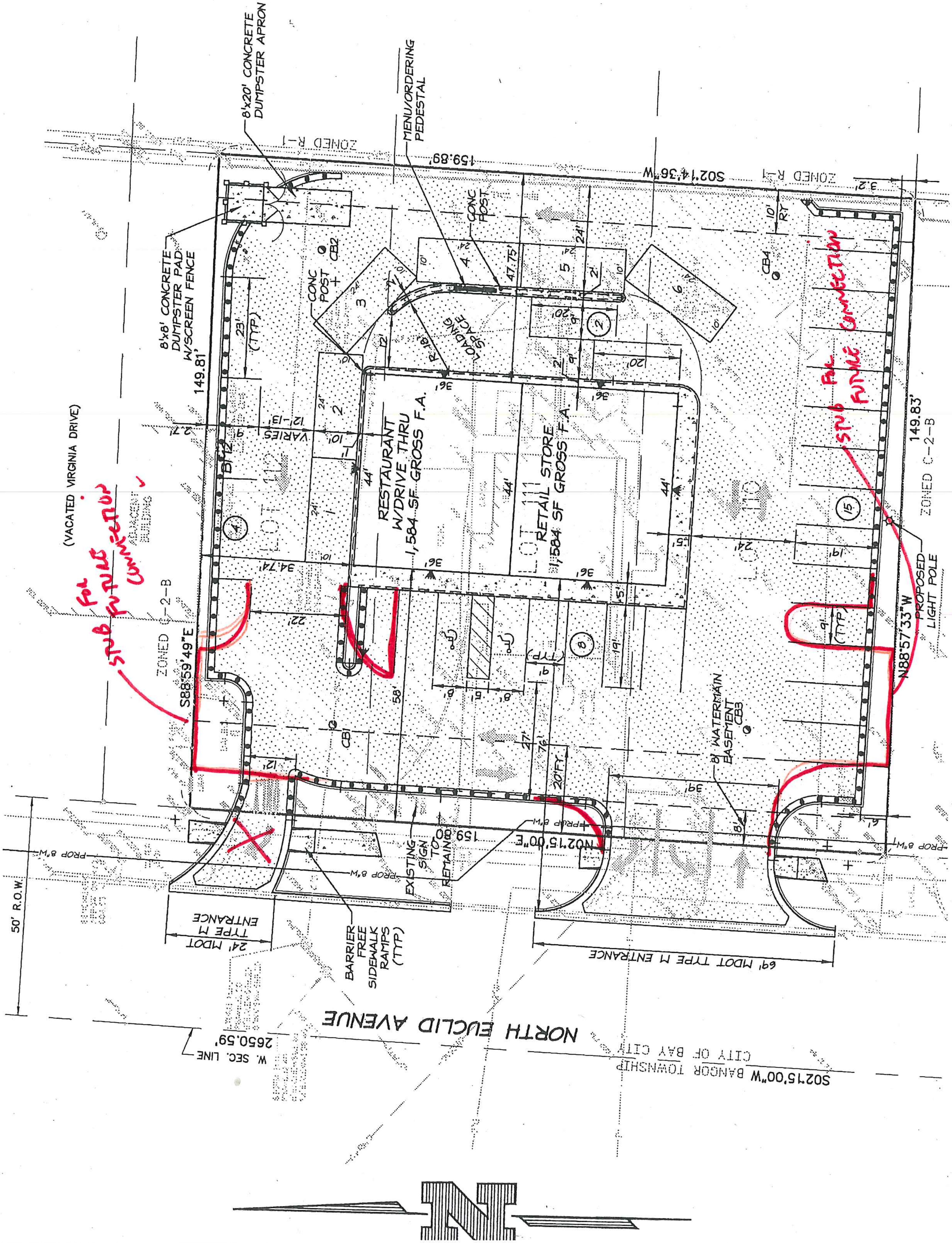
	Crashes	PDO	Injury	Fatal
Totals:	724	554	170	

Standard Crash Report - By Network

MilePoint	UD10 #	UD10 City/Township	UD-10 Crash Location	UD-10 Crossroad Reference	Crash Type	Crash Severity	Date	Hour of Occurence	Number of: Veh.	Occup.	Inj.	Weekday	Environmental Condition: Weather	Lighting	Surface	Relationship On Road
5.844	8015840	Bangor Twp	100' S	WILDER	Rear End Left Turn	PDO	4/21/2011	02PM-03PM	2	3	0	Thursday	Clear	Daylight	Dry	On Road
5.844	8119184	Bangor Twp	100' S	WILDER	Rear-End Straight	Injury	9/22/2011	01PM-02PM	2	2	1	Thursday	Cloudy	Daylight	Dry	On Road
5.844	8308729	Bangor Twp	100' S	WILDER	Dual Left-Turn	PDO	3/28/2012	09AM-10AM	2	3	0	Wednesday	Clear	Daylight	Dry	On Road
5.844	8419643	Bangor Twp	100' S	WILDER	Angle Straight	PDO	9/4/2012	11AM-NOON	2	2	0	Tuesday	Cloudy	Daylight	Dry	On Road
5.844	8620248	Bangor Twp	100' S	WILDER	Side-Swipe Same	PDO	4/27/2013	09AM-10AM	2	3	0	Saturday	Clear	Daylight	Dry	On Road
5.849	8583082	Bangor Twp	75' S	WILDER	Rear-End Straight	PDO	3/4/2013	11AM-NOON	2	2	0	Monday	Clear	Daylight	Dry	On Road
5.849	8668509	Bangor Twp	75' S	WILDER	Rear-End Straight	Injury	6/28/2013	11PM-MDNT	2	5	2	Friday	Cloudy	Dark,Lighted	Wet	On Road
5.852	7480389	Bangor Twp	60' S	WILOER	Side-Swipe Same	PDO	12/2/2009	10AM-11AM	2	4	0	Wednesday	Clear	Daylight	Dry	On Road
5.852	7825556	Bangor Twp	60' S	WILDER	Rear-End Straight	PDO	12/10/2010	04PM-05PM	2	5	0	Friday	Cloudy	Daylight	Dry	On Road
5.853	7659108	Bangor Twp	55' S	WILDER	Angle Straight	Injury	7/21/2010	04PM-05PM	2	2	2	Wednesday	Clear	Daylight	Dry	On Road
5.854	7614913	Bangor Twp	45' S	WILDER	Rear-End Straight	PDO	5/18/2010	11AM-NOON	2	2	0	Tuesday	Clear	Daylight	Dry	On Road
5.854	8056668	Bangor Twp	50' S	WILDER	Bicycle	PDO	6/29/2011	01PM-02PM	2	2	0	Wednesday	Clear	Daylight	Dry	On Road
5.854	8266171	Bangor Twp	50' S	WILDER	Rear-End Straight	PDO	2/1/2012	03PM-04PM	2	4	0	Wednesday	Clear	Daylight	Dry	On Road
5.854	8791685	Bangor Twp	50' S	WILDER	Rear-End Straight	PDO	11/29/2013	05PM-06PM	2	3	0	Friday	Clear	Dark,Lighted	Wet	On Road
5.854	8813059	Bangor Twp	50' S	WILDER	Rear-End Straight	Injury	12/19/2013	02PM-03PM	2	2	1	Thursday	Cloudy	Daylight	Dry	On Road
5.855	7773929	Bangor Twp	40' S	WILDER	Rear-End Drive	Injury	10/13/2010	10AM-11AM	2	3	2	Wednesday	Cloudy	Daylight	Wet	On Road
5.856	8536424	Bangor Twp	35' S	WILDER	Side-Swipe Same	PDO	1/2/2013	01PM-02PM	2	3	0	Wednesday	Cloudy	Daylight	Dry	On Road
5.857	7592023	Bangor Twp	30' S	WILDER	Rear-End Straight	PDO	4/5/2010	02PM-03PM	2	4	0	Monday	Clear	Daylight	Dry	On Road
5.857	7609717	Bangor Twp	30' S	WILDER	Rear-End Straight	PDO	5/6/2010	01PM-02PM	2	2	0	Thursday	Clear	Daylight	Dry	On Road
5.857	7799486	Bangor Twp	30' S	WILDER	Rear-End Straight	PDO	11/9/2010	11AM-NOON	2	2	0	Tuesday	Clear	Daylight	Dry	On Road
5.857	8303701	Bangor Twp	30' S	WILDER	Rear End Left Turn	PDO	3/21/2012	04PM-05PM	3	3	0	Wednesday	Clear	Daylight	Dry	On Road
5.858	7685400	Bangor Twp	25' S	WILDER	Rear-End Drive	PDO	8/16/2010	05PM-06PM	3	3	0	Monday	Clear	Daylight	Dry	On Road
5.858	7682695	Bangor Twp	25' S	WILDER	Rear-End Straight	PDO	8/23/2010	01PM-02PM	3	5	0	Monday	Cloudy	Daylight	Dry	On Road
5.858	7783836	Bangor Twp	25' SE	WILDER	Rear-End Straight	PDO	10/22/2010	01PM-02PM	2	3	0	Friday	Cloudy	Daylight	Dry	On Road
5.858	8601757	Bangor Twp	25' S	WILDER	Rear-End Straight	PDO	3/28/2013	10AM-11AM	2	2	0	Thursday	Clear	Daylight	Dry	On Road
5.859	7941135	Bangor Twp	20' S	WILDER	Angle Straight	PDO	2/15/2011	08AM-09AM	2	3	0	Tuesday	Clear	Daylight	Dry	On Road
5.859	8107231	Bangor Twp	20' S	WILDER	Side-Swipe Same	PDO	9/8/2011	05PM-06PM	2	7	0	Thursday	Clear	Daylight	Dry	On Road
5.861	8639170	Bangor Twp	10' S	WILDER	Rear-End Straight	PDO	4/25/2013	08PM-09PM	2	2	0	Thursday	Clear	Dusk	Dry	On Road
5.863	7661856	Bangor Twp	0' X	WILDER	Angle Straight	PDO	6/29/2010	09PM-10PM	2	5	0	Tuesday	Clear	Dark,Lighted	Dry	On Road
5.863	7955363	Bangor Twp	5' W	WILDER	Angle Turn	PDO	3/2/2011	11AM-NOON	2	3	0	Wednesday	Clear	Daylight	Dry	On Road
5.863	8223872	Bangor Twp	0' X	WILDER	Side-Swipe Same	PDO	12/16/2011	11AM-NOON	2	4	0	Friday	Cloudy	Daylight	Dry	On Road
5.863	8787390	Bangor Twp	0' X	WILDER	Angle Turn	PDO	11/21/2013	03PM-04PM	2	2	0	Thursday	Cloudy	Daylight	Dry	On Road

Total crashes for PR 767610: 724 **Total Fatal Crashes: 0 Total Injury Crashes: 170 Total PDO Crashes: 554**


Map
Satellite
Color Key
show/hide
Accident Year
2013
2012
2011
2010
2009
2008
2007
2006
2005
2004
Crash Cluster
Unmappable Points
show
11 points could not be plotted.
Wilder Rd
Wilder Rd
State St
Buffalo Wild Wings
Google
Search Help


8'x20' CONCRETE DUMPSTER APRON
MENU/ORDERING PEDESTAL
ZONED R-1
159.89'
S02°14'36"W
3.2'
8'x8' CONCRETE DUMPSTER PAD W/SCREEN FENCE
149.81'
CONC POST
CB2
CB4
LOADING SPACE
RESTAURANT W/DRIVE THRU 1,584 SF GROSS F.A.
RETAIL STORE 1,584 SF GROSS F.A.
LOT 111
LOT 112
LOT 110
149.83'
ZONED C-2-B
(VACATED VIRGINIA DRIVE)
ZONED C-2-B
S88°59'49"E
N88°57'33"W
PROPOSED LIGHT POLE
8' WATERMAIN EASEMENT
CB3
CB1
20'FY
N02°15'00"E
159.80'
EXISTING SIGN TO REMAIN
PROP 8"W
50' R.O.W.
24' MDOT TYPE M ENTRANCE
BARRIER FREE SIDEWALK RAMPS (TYP)
69' MDOT TYPE M ENTRANCE
NORTH EUCLID AVENUE
W. SEC. LINE 2650.59'
S02°15'00"W BANGOR TOWNSHIP CITY OF BAY CITY
STUB FOR FUTURE CONNECTION
STUB FOR FUTURE CONNECTION