M-11 (Wilson Avenue) Access Management Plan

Acknowledgements

M-11 (Wilson Avenue) Corridor Advisory Committee:

- City of Walker
- Michigan Department of Transportation (MDOT)
- Grand Valley Metropolitan Council (GVMC)

Project Consultant Team:

- Progressive AE
- LSL Planning

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

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Executive Summary

The M-11 (Wilson Avenue) Access Management Plan area extends from the Grand River north to Remembrance Road within the City of Walker. During the past 10 to 20 years, growth within the corridor has resulted in increased traffic and additional development pressure along M-11. More recently, areas surrounding Walker have experienced increased development and resulting traffic congestion. Along M-11, the City of Walker is planning for a mix of increased-density residential uses and non-residential uses. The City of Walker and the Michigan Department of Transportation (MDOT) recognize that the preparation and implementation of an access management plan can help alleviate some of the existing traffic congestion, while allowing for the more effective accommodation of traffic generated by future development.

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. This can be accomplished through careful placement of access points to reduce conflicts with traffic using other access points and traffic flowing 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 along the same side of the street
- Alignment with or sufficient spacing from access points on the opposite side of the street
- Placing driveways a sufficient distance from intersections to minimize impact to intersection operations
- Geometric design to restrict 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-11 (Wilson Avenue) corridor. Among the benefits, based on experience and studies for similar corridors, are the following:

- Reduce crashes and crash potential
- Preserve roadway capacity 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 (less driveways to cross)
- Improve air quality
- Maintain travel efficiency and related economic prosperity

Why Access Management?

Successful implementation of the recommendations in the M-11 (Wilson Avenue) Access Management Plan will help the City of Walker and MDOT accommodate planned development along the corridor while reducing it's negative impact on traffic flow and crash potential. Numerous studies nationwide have shown that a proliferation of driveways or an uncontrolled driveway environment increases the number of crashes, can severely reduce 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 resulted in 25-50 percent reductions in access-related crashes.

The Plan includes specific recommendations for individual properties as well as general recommendations that apply to a number of areas along the corridor. 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 City of Walker and MDOT in implementation. This requires the City of Walker's Planning Commission, City Commission, and Zoning Board of Appeals members to be aware of the benefits of access management and their role in its implementation.

The model M-11 (Wilson Avenue) overlay zoning district is expected to be placed over the existing zoning regulations for all parcels within 350 feet of the M-11 right-of-way. Currenty, 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 grant exceptions to 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. The ordinance also requires traffic impact studies to be performed for larger developments 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 needed to offset the impact.

Plan Development

The M-11 (Wilson Avenue) Access Management Plan and overlay zoning district were prepared under the direction of a Corridor Advisory Committee comprised of representatives from the City of Walker, MDOT, and the Grand Valley Metro Council (GVMC). Public involvement included two public workshops/open houses. Comments and recommendations by the public, local officials and the MDOT staff at the workshops were considered and incorporated into the final plan.

While individual land owners may see the regulations as restricting access to their property, 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.

1. INTRODUCTION

Historically, this section of M-11 (Wilson Avenue) in Walker has served as the key transportation corridor for moving significant traffic and goods along the west side of the Grand Rapids metropolitan area. It has served as a key link to other major arterials or freeways such as M-45, M-11 (28th Street), I-196, and indirectly, I-96 to the north. More recently, it has served as an alternative route when construction activities are occurring on other north/south arterials or freeways within the metropolitan area. M-11 (Wilson Avenue) also serves as a vital collector roadway for most of the residential development located to the west of the corridor.

The City of Walker and the Michigan Department of Transportation (MDOT) have recently completed improvements on a major section of the M-11 (Wilson Avenue) corridor in the vicinity of M-45 that incorporated several access management techniques. Additional methods to help improve or maintain the capacity and safety of this section as well as the remainder of M-11 (Wilson Avenue) within the City of Walker boundaries are being explored. To that end, access management is recognized as a key tool to preserve the public investment in this roadway. The study area is illustrated on Figure 1.

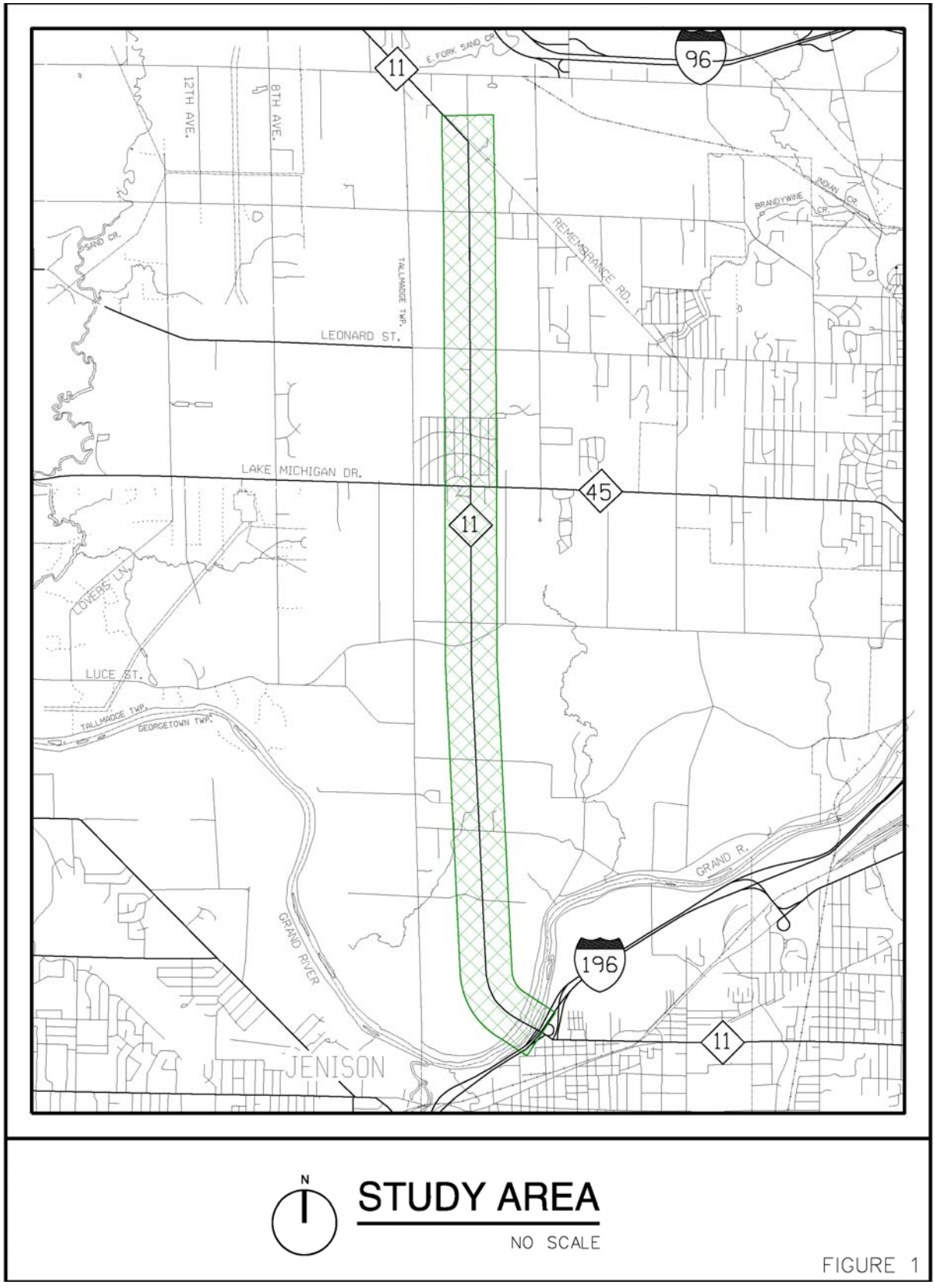
The primary goal for this Access Management Plan is to improve traffic operations and reduce crash potential along M-11 (Wilson Avenue) between Remembrance Road and the Grand River while retaining reasonable access to existing and future developments. Access management will preserve the road's capacity by limiting the number of access points along with careful placement and spacing of new or retrofit access points as the land use changes. Improvements can be significant and at a relatively low cost in comparison to roadway reconstruction.

The questions this Access Management Plan will help address include:

- ***What access-related improvements should be made to existing, modified or new uses to reduce crash potential and enhance efficiency of the M-11 (Wilson Avenue) corridor?***

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

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


11
E. FORK SAND CR.
96
12TH AVE.
8TH AVE.
SAND CR.
TALLMADGE TWP.
REMEMBRANCE RD.
BRANDYWINE CR.
ROAN CR.
LEONARD ST.
LAKE MICHIGAN DR.
45
11
LOVERS' LN.
LUCE ST.
TALLMADGE TWP.
GEORGETOWN TWP.
GRAND R.
GRAND RIVER
196
11
JENISON
N
STUDY AREA
NO SCALE
FIGURE 1

Preparation of this Plan

To assist in the development of this plan a Corridor Advisory Committee (CAC) was formed with representatives of the City of Walker, MDOT and GVMC. The CAC met regularly 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 five months through a series of meetings with the CAC. The process also included two public workshops/open houses at Walker City Hall - one held on July 11, 2005 and one held on September 21, 2005. These open houses 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 access management recommendations. Comments and recommendations made by the public, local officials, and MDOT staff were considered and incorporated into the final recommendations. A listing of the public comments and responses can be found in the appendix.

Role of Access Management

The primary goal of this Access Management Plan is to improve traffic operations and safety along the existing M-11 (Wilson Avenue) corridor while retaining reasonable access to existing and future development along the roadway. 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.

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.

There are many short and long term benefits to this program, some of which are listed below:

- Gives MDOT and the City of Walker 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 where they will have the least disruption on through traffic flow.

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

- Continues to provide landowners with reasonable access to their property from M-11 (Wilson Avenue) although in some cases, the number of access points will be fewer than previously allowed.

- Improves traffic operations and safety that will benefit everyone. Access management and other improvements along the M-11 (Wilson Avenue) corridor require a partnership between the City of Walker, MDOT and the Kent County Road Commission (KCRC, as the permitting agency). One way to promote this

collaborative approach is through improved coordination and communication between MDOT, KCRC and the City of Walker when reviewing development proposals.

- Provides general background and information on the benefits of access management to assist City of Walker officials.

Realization of the benefits previously listed can be accomplished through a variety of changes, both physical and regulatory. Key recommendations of this Access Management Plan are listed below, and are explained in more detail in the subsequent chapters.

- 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. Specific recommendations are illustrated on a series of drawings for sections of the corridor.

- Gradual replacement of individual direct access points with access through rear service drives or shared driveways (by owners as land use changes or redevelopment occurs).

- Possible access for new development through service drives. The plan illustrates options, since the preferred location and alignment will depend upon the intensity of development proposals. Generally, the greatest separation from M-11 (Wilson Avenue) is desired, but a frontage road outside of the MDOT right of way may be the most practical design in some cases.

- Establish access standards to help maintain safety and efficiency while still providing reasonable access to adjacent land uses. These standards should be applied to both retrofit existing sites and to new proposed developments. Application of the standards can be achieved through consideration of access issues as the City of Walker reviews development proposals, through improved coordination with MDOT and KCRC, and through adoption of access management standards into the City of Walker's zoning ordinance.

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. Numerous 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 a 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."

Access management can provide several benefits to motorists, communities, and land uses along the M-11 (Wilson Avenue) corridor. The benefits, based on experience along other corridors and numerous studies, include the following:

- Preserved roadway capacity and the useful life of roads

- Reduced crashes and crash potential
- Coordinated land use and transportation decisions
- Improved access to properties
- Decreased travel time and congestion
- Improved air quality
- Maintained travel efficiency and related economic prosperity

"Numerous 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."

In addition to those measurable benefits, the public also benefits due to the reduction in roadway improvement costs (due to capacity preservation and increases resulting from managing access) and reduced environmental impacts. 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.

Successful implementation of the plan's recommendations will require continued coordination between the City of Walker, KCRC and MDOT. This document also includes a draft corridor overlay zoning district that the City of Walker can refine further and adopt.

Perhaps the most important result of this process will not be the Access Management Plan itself. It may be the further recognition that good, timely communication between the City of Walker, KCRC and MDOT is the key to a successful plan that will be implemented.

The following chapters discuss in detail the benefits and background of access management and the specific recommendations for this seven mile M-11 (Wilson Avenue) study corridor.

2. EXISTING ACCESS and LAND USE CONDITIONS

One of the initial tasks when developing an access management plan is to define the current access conditions and land use plans along the length of the corridor study area. This section of the report outlines the current traffic, access conditions and land use issues. A brief description of the roadway's design and traffic characteristics within the study area follows.

Current Roadway and Access Characteristics

There are a wide variety of geometric, traffic and access conditions along M-11 (Wilson Avenue) within the seven mile length of this study area. The M-11 (Wilson Avenue) cross-section ranges from two to seven lanes, and has a fairly wide range in the daily traffic volumes.

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.

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 locations or areas that have poor or substandard access conditions. These are outlined below, along with current roadway characteristics, in three general corridor sections: the Grand River north to O'Brien Street, O'Brien Street north to Leonard Street, and Leonard Street north to Remembrance Road. The northern and southern sections are relatively undeveloped while the middle section is developed and/or emerging.

1: The Grand River north to O'Brien Street

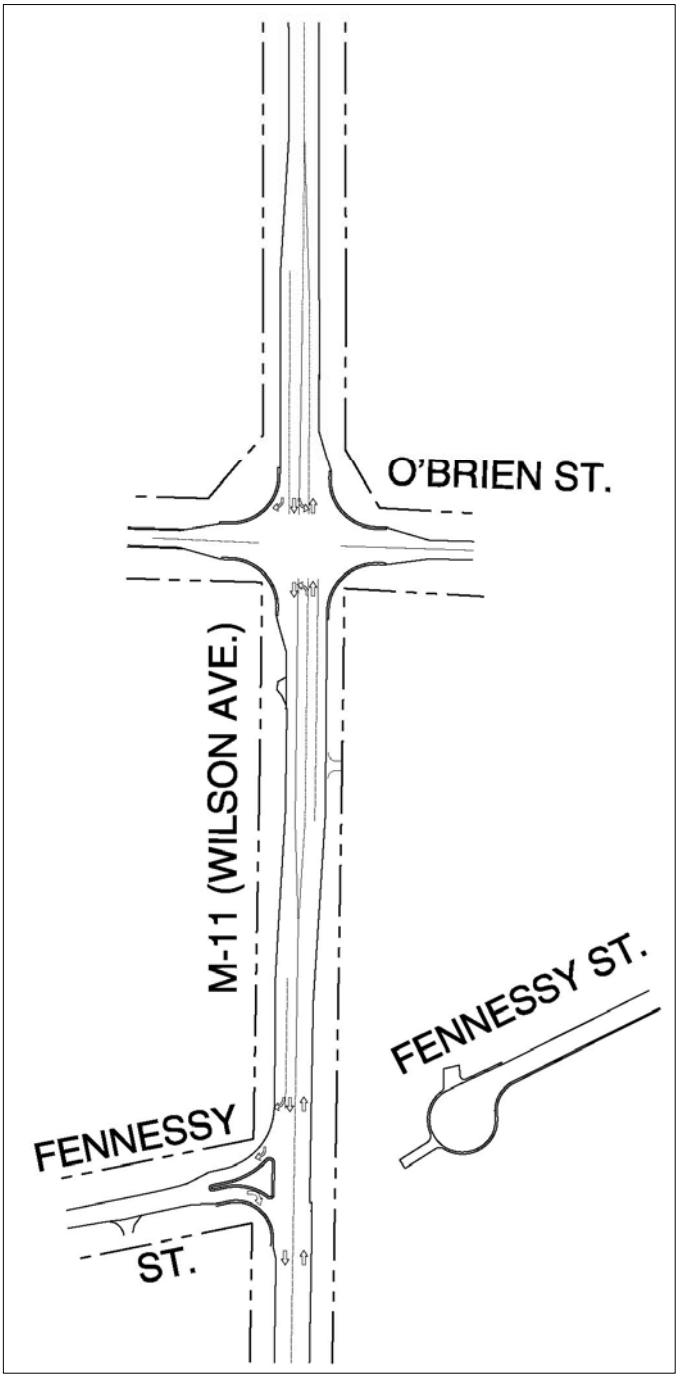
Roadway Characteristics

The portion of M-11 (Wilson Avenue) south of O'Brien Street has a two-lane cross-section with center left turn lanes at the intersections of M-11 and both Riverbend Drive and Burton Street. It also has a three-lane cross section (one lane southbound, two lanes northbound) from the southern study area limits to Burton. The 2004 traffic counts indicate that this section of the corridor carries between 24,000 and 25,000 vehicles per

weekday. Projections for Year 2030 weekday traffic indicate that traffic volumes may increase to 39,000 to 41,500 vehicles.

This segment currently has two intersections controlled with signals; at Burton Street and at Butterworth Drive. Currently, all other side roads are stop sign controlled. The average speed limit is 55 miles per hour, although the portion north of Butterworth is 45 miles per hour. There is also a school speed limit of 40 miles per hour in the Riverbend Drive area.

It should be noted that MDOT has completed reconstruction of both the O'Brien Street and Fennessy Street intersections, to add center left and dedicated right turn lanes. These improvements were completed in 2006. The improvements are illustrated in the graphic to the right.



Improvements completed by MDOT in 2006 at the intersection of M-11 (Wilson Avenue) and Fennessy Street.

Existing Access Conditions

The majority of the M-11 (Wilson Avenue) frontage within the Grand River to O'Brien Street segment is relatively undeveloped. There are small commercial and public entities with access to the corridor, such as two schools near Riverbend Drive, the American Legion hall and small industrial sites. The southern portion of this segment has several areas of access limitated by a combination of land use (Johnson Park) and steep grades adjacent to the roadway. There are a few intermittent locations throughout this segment that access would not be allowed, likely due to sight distance constraints.

A current example of deficient access design and conditions in the Grand River to O'Brien Street segment is outlined below.

- *Poor driveway spacing and/or unnecessary second drive;* the American Legion site is an example of both substandard access spacing and an unnecessary second driveway.

2: O'Brien Street north to Leonard Street

Roadway Characteristics

M-11 (Wilson Avenue) has a widely varying cross-section within this segment. From Leonard Street south to just south of Chesterfield, and in the half-mile section just north of O'Brien Street, M-11 is currently a two-lane cross section. Between those points, the cross section varies from three to seven lanes, with the widest cross-section located on the approaches to M-45 (consisting of turn lanes and an additional thru lane in each direction).

Traffic counts taken in 2004 indicate that approximately 23,000 vehicles use the segment north of M-45 during weekdays. The volume increases slightly south of M-45, where counts indicate that 24-hour volumes are in the 24,000 vehicle range. The 2030 traffic projections predict these two segments may need to carry approximately 25,500 vehicles and 40,000 vehicles per day, respectively.

Speed limits in this area currently range from 45 to 55 miles per hour. The intersections with Leonard, M-45 (Lake Michigan Drive) and the main Meijer PUD site driveway are all controlled with traffic signals.

Existing Access Conditions

The existing access conditions vary significantly in this section of the corridor, since past and current development patterns vary. This segment of the M-11 (Wilson Avenue) study area is fairly developed with numerous driveways serving a mixture of commercial, office and residential uses.

The City of Walker and MDOT have applied access management to newer developments along M-11 and other major roads, similar to M-45. This is most apparent when looking at newer commercial development along the west side of M-11, just south of M-45, where driveways have better spacing and a front service drive is used. The City of Walker has also acquired properties along the M-11 (Wilson Avenue) frontage, between Chesterfield and Waybury Streets, to help limit access.

Current examples of deficient access design and conditions in this O'Brien Street to Leonard Street segment are outlined below.

- *Substandard driveway to intersection spacing*; several examples including access points on the east side of M-11 (Wilson Avenue) just south of Leonard Street and M-45.

- *Poor driveway spacing and/or unnecessary second drives;* same locations as those noted above and several other locations.

- *Substandard driveway design and/or storage;* wide driveways to small commercial center (just north of Warrington is one example), too little driveway storage (distance from roadway to first internal parking or circulation) at numerous locations, typically older small commercial sites.

- *No internal cross access or service drive connections*; lack of internal connections between uses such as the Meijer site and Walgreens, the adjacent small office sites just south of Chesterfield (west side).
- *Substandard driveway offset*; this currently exists at a couple of locations such as the driveway to the church north of Waybury Street and the driveways from the shopping center on the northeast quadrant of the M-11 and M-45 intersection.

3: Leonard Street north to Remembrance Road

Roadway Characteristics

The M-11 (Wilson Avenue) study area begins at Remembrance Road and includes the intersection's four approaches. The typical cross section is two lanes, not including short separate center left-turn lanes at the Remembrance and Leonard intersections.

Recent traffic counts indicate that daily traffic volumes along this section of the study area are in the 18,000 to 19,000 ADT range. Preliminary traffic projections developed by the Grand Valley Metro Council indicate that this section of M-11 (Wilson Avenue) may experience weekday traffic volumes in the year 2030 of approximately 26,000 vehicles per day.

Both the Remembrance Road and Leonard Street intersections have traffic signal control, while the intersection at Richmond Street is currently stop sign controlled. The posted speed limit is 55 miles per hour throughout this section of M-11 (Wilson Avenue).

Existing Access Conditions

The majority of the M-11 (Wilson Avenue) frontage within this section of the study area is relatively undeveloped, with the predominant single family home use not creating any significant access issues. Existing substandard access issues are largely focused on the M-11 (Wilson Avenue) and Remembrance Road intersection, especially on the western leg of this intersection.

Current examples of deficient access design and conditions in this Leonard Street to Remembrance Road segment are outlined below.

- *Substandard driveway design and storage;* several of the commercial driveways along the south side of Remembrance Road (west side of the M-11 intersection) have little or no storage.

- *Poor intersection-to-driveway spacing*; the existing commercial site on the southwest quadrant of the M-11 and Remembrance Road intersection has two driveways that are well within the functional area of this signalized intersection.

- *Poor driveway spacing and/or unnecessary second drives;* four commercial driveways within 400 feet on the west approach of the M-11 and Remembrance Road intersection is excessive as internal connection (pavement) is available. A small motel just east of the intersections has three access points.

Related to access issues, there is a concern regarding increasing traffic volumes on Richmond Street that are due to residential developments just west of the M-11 and Remembrance Road intersection. MDOT is currently reviewing data to see when improvements will be needed at this intersection.

Existing Land Use Characteristics

Introduction

The M-11 (Wilson Avenue) corridor between Butterworth Drive and Remembrance Road provides access to a variety of land uses and has a number of associated access management issues. The impacts that individual land uses have on a corridor are directly related to the use's level of intensity. The intensity of a land use is a function of the traffic that the land use generates. For example, a single-family home may generate an average of ten car trips during a weekday, and a day care center located on the same street may generate 31 trips in an hour. Intensive land uses, such as commercial and industrial uses, generally produce greater levels of off-site effects and problems. In order to control the level of land use intensity, the City of Walker should ensure that future land use along major corridors such as M-11 (Wilson Avenue) adequately considers the function of the roadway.

Land use also has a significant effect on the overall character of a corridor. Traveling along any roadway can give either a sense of calm, such as open agricultural fields or quiet residential areas; or it can provide a source of tension, such as noisy industrial areas with heavy truck traffic. The M-11 (Wilson Avenue) corridor has each of these elements, from the large agricultural parcels between Richmond Street to Leonard Street and O'Brien Street to Hall Street, to the heavy commercial area around the M-11 (Wilson Avenue) intersection with M-45. Even though we depend on our roadways to provide safe and efficient travel, their visual quality can significantly shape our impressions of the entire area.

The M-11 (Wilson Avenue) study area is located in an area that has experienced rapid residential, industrial, and commercial growth during the past 30 years. The table below lists the population growth in this area between 1970 and 2000, and notes the estimated population in 2010.

Table I. City of Walker Population, 1970-2000.

	1970	1980	1990	2000	2010
Population	11,492	15,088	17,279	21,842	est. 26,320
% change	N/A	31.3	14.5	26.4	est. 20.5

Source: City of Walker

This growth has contributed to traffic congestion along portions of the M-11 (Wilson Avenue) corridor. Areas to the west are now also experiencing increased development and the resulting traffic congestion.

Existing land use along the corridor vary significantly from agricultural and residential areas to industrial and regional commercial centers. The size of use and lots also varies along the corridor. Some of the larger sites include agricultural tracts, large industrial use within the south portion of the corridor, and a regional commercial center at the M-11 (Wilson Avenue) intersection with M-45. These larger uses are contrasted by residential lots that are scattered along most segments of the corridor.

A land use and access inventory of M-11 (Wilson Avenue) was conducted early in the process to gain a complete understanding of the corridor's development characteristics. The following is a discussion about the corridor's land use characteristics that affect access management.

- **The Grand River north to O'Brien Street:** Large agricultural tracts of land, with varying lot widths, exist between O'Brien Street and Hall Street with rural residential homes and vacant land.

  The west side of M-11 (Wilson Avenue) near the Grand River is zoned industrial park and contains an existing mineral mining extraction facility. This segment is otherwise dominated by agricultural-zoned land that is mostly vacant and low density rural residential.

  The Grand River is the border between the City of Walker and City of Grandville. I-196 also serves as a physical divider between the two cities. The east side of M-11 (Wilson Avenue), north of the Grand River, is in the City of Walker and includes an existing park and agricultural-zoned property. Much of the land is heavily wooded and vacant. A pocket of single-family residential units are located north of the intersection of Riverbend and M-11 (Wilson Avenue).

Wooded areas along M-11 (Wilson Avenue) north of the Grand River.

- **O'Brien Street north to M-45 (Lake Michigan Drive):** Commercial land use becomes more common in this section of the corridor. The center of the City of Walker is identified as the Standale area, which is located just east of the M-45 intersection with M-11 (Wilson Avenue). Larger commercial developments (regional centers) are built or under construction on the west side. There is a large Meijer retail center on the west side of M-11 (Wilson Avenue), south of M-45. A large commercial tract exists on the west side of M-11 (Wilson Avenue) north of O'Brien Street. The intersection of M-11 (Wilson Avenue) and O'Brien Street is developed in all quadrants as residential, although the northwest quadrant is master planned commercial.

Commercial use at the intersection of M-11 (Wilson Avenue) and M-45 (Lake Michigan Drive).

Some of the homes along M-11 (Wilson Avenue), on the east side of the corridor, have been converted to commercial or office use. In other instances, residences have been removed and replaced with commercial buildings. The small, narrow lots create a large number of closely spaced driveways with little opportunity for service roads. Consolidation of driveways and sharing of access should be the higher priority in this area. Smaller commercial use located on the east side of M-11 (Wilson Avenue). Much of the land north of the O'Brien and M-11 (Wilson Avenue) intersection, on the east side, is zoned agricultural.

- **M-45 (Lake Michigan Drive) north to Leonard Street:** This segment of the corridor contains the greatest concentration of single-family homes. The northern half of this section of the corridor contains a number multiple family residential complexes. Lot widths along M-11 (Wilson Avenue) within this section average 100 feet.

  The southern half of this segment contains mainly suburban residential single family units along both sides of the roadway. Lot widths within this area average between 70 to 90 feet.

Typical unsignalized intersection between Leonard Street and M-45.

- **Leonard Street north to Remembrance Road:** Near the M-11 (Wilson Avenue) intersection with Remembrance Road, a largely undeveloped commercial tract exists on the west side. Current land use include a used car sales lot. The east side remains vacant, with a restaurant located further east beyond the corridor. Minimum lot widths range from 90 to 100 feet within this section of M-11.

  The northeast corner of Leonard Street and M-11 (Wilson Avenue) is zoned mixed-use planned unit development (PUD). Beyond this area, land use returns to agricultural/woodlands/rural residential uses along the west side and larger lot, single family residential and woodland areas past the Richmond Street intersection.

Northwest corner of M-11 (Wilson Avenue) and Remembrance Road.

Future Land Use and Influence on Transportation

Overall, a comparison between the existing land use map and future land use map indicates that a large portion of agricultural parcels are planned to develop as low density residential. Commercial land uses are planned to continue, or develop, at existing locations and in an area on the west side of M-11 (Wilson Avenue) between O'Brien Street and M-45. Major future land use patterns along the corridor according to the City of Walker Master Plan (**see Figure 2**: Current Zoning and Future Land Use Maps) are summarized below:

- **The Grand River north to O'Brien Street:** The area along M-11 (Wilson Avenue) from the Grand River north to O'Brien Street is planned to contain a mixture of rural residential, public (Johnson Park) and industrial use. The future land use plan designates the area on the west side of M-11 (Wilson Avenue), south of Hall Street, as a higher density residential area than the current agricultural zoning.

- **O'Brien Street north to M-45 (Lake Michigan Drive):** Commercial use is the focus of the area, extending one mile from the intersection with M-45 south along M-11 (Wilson Avenue). The commercial designation extends only to the parcels that immediately front M-11 (Wilson Avenue) on both sides of the road and surrounding the intersection. The M-45 and M-11 (Wilson Avenue) intersection is planned to contain regional and local commercial land use. While commercial zoning exists north of the M-11 (Wilson Avenue) and O'Brien Street intersection, the future land use map has designated the area as low density residential, on both sides of the roadway.

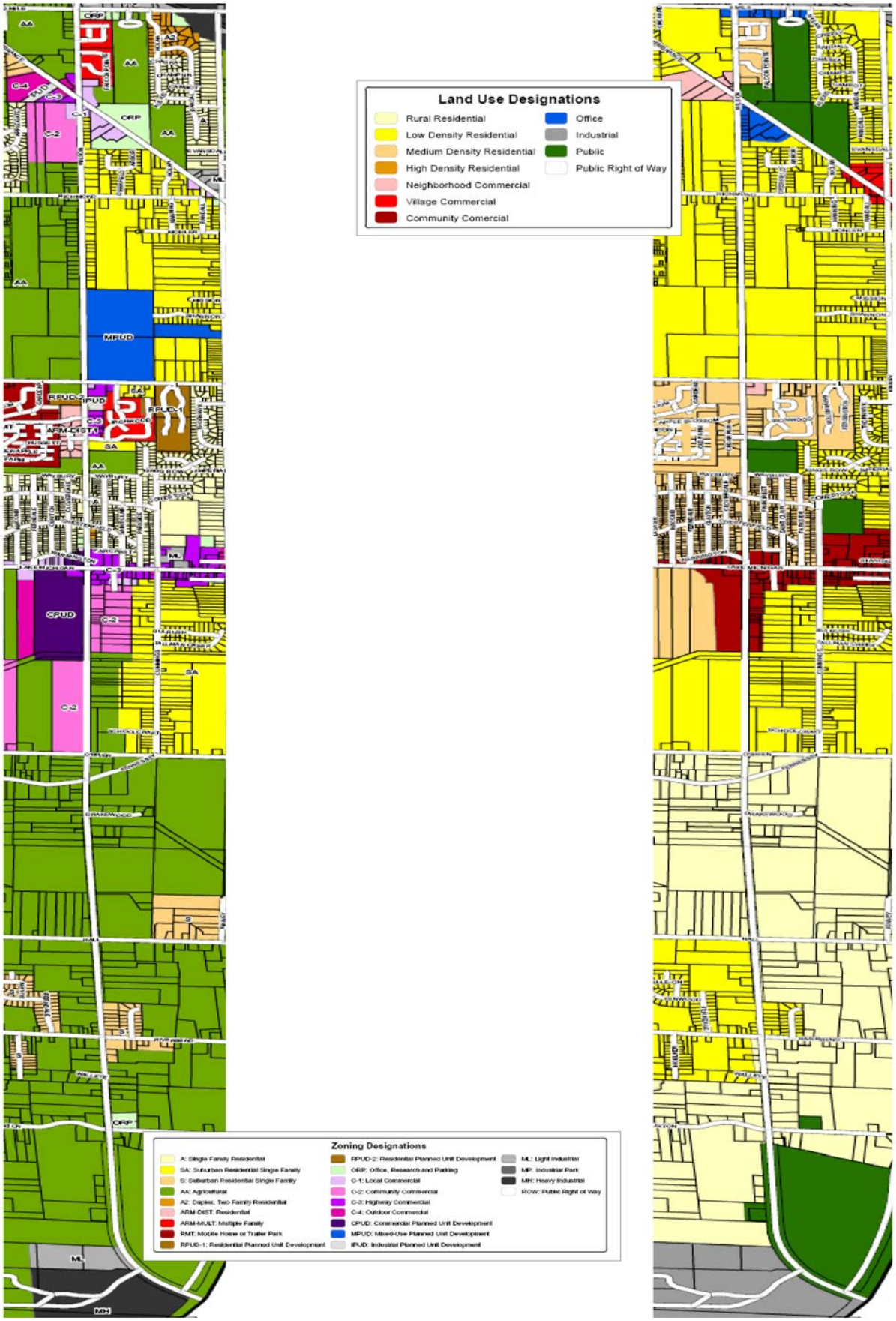
- **M-45 (Lake Michigan Drive) north to Leonard Street:** The majority of this area is planned as medium density residential, with a public area designated at the northeast corner of M-11 (Wilson Avenue) and Waybury Street. The greatest intensity of residential development exists within this portion of the corridor and is planned to be maintained with a reclassification of the area south and east of the Leonard and M-11

(Wilson Avenue) intersection, from PUD and highway commercial to mostly medium density residential.

- **Leonard Street north to Remembrance Road:** Both sides of this portion of the corridor are primarily planned as low density residential, which is a slight variation to the existing agricultural designation (west side) and mixed-use planned unit development (west side) land use designations. A node of commercial development is planned at the southwest and northwest corner of the M-11 (Wilson Avenue) and Remembrance Road intersection. Office use is planned at the southeast corner of this intersection. Public uses are located on the north side of Remembrance Road extending east of the M-11 (Wilson Avenue) intersection.

The review and approval of land development applications included, as part of this plan, require information on major planning and zoning changes along the corridor to be shared between MDOT, the Kent County Road Commission and the City of Walker (**see Figure 17**: Recommended Access Approval Procedure). This process will allow review for completeness and compliance with this plan and the overlay ordinance regulations, prior to the review of the application by the City of Walker's Planning Commission. One approach to assist with continuing coordination between these agencies is to retain the M-11 (Wilson Avenue) Corridor Advisory Committee (CAC, described in Chapter One), formed for this study. The Committee could continue to promote access management and coordinated reviews.

Figure 2: Current Zoning and Future Land Use Maps



3. ACCESS MANAGEMENT STANDARDS

Based upon the analysis of existing conditions and constraints, and review of MDOT, national, local, and other states access guidelines, the Access Management Plan for the M-11 (Wilson Avenue) study area was developed. This chapter summarizes the basic design standards that should be used by the City of Walker for future access considerations along this corridor and other corridors where appropriate.

Access Management Standards

Since there is a large difference in the current and future development along the M-11 (Wilson Avenue) corridor, it is impractical to require driveway standards uniformly throughout the study area. Design or spacing criteria applied to the developed central portions of study area would be less than ideal for an undeveloped section of the corridor. Standards should provide sufficient flexibility to be effective and equitable as well as meet requirements set by MDOT and administered by the Kent County Road Commission.

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 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 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 paths 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 invested to develop the corridor to move traffic safely and efficiently.

- ***Provide reasonable access***. Recognize that property owners have the right to reasonable access to public roadways, although that reasonable access may be indirect in some instances.

Improve 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 accidents, for both through traffic and vehicles using that 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.

The following sections discuss a few of the basic access design criteria that were used during the analysis of the M-11 (Wilson Avenue) study area. The specific way in which these criteria or standards applied to the corridor is outlined in the following chapter.

Access Design Parameters

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

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 movement, and limit direct access on higher speed roads, preserve capacity and improve safety. The following is a summary of what access management standards would 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-11 (Wilson Avenue) 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. Along M-11 (Wilson Avenue), 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, which should be shared with adjacent parcels wherever possible. Certain developments generate enough traffic to consider allowing more than one driveway and 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 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.

  For a state roadway such as M-11 (Wilson Avenue), full movement driveways should be a minimum of 400 feet away from intersections in the 45 to 55 mile per hour zones. Such distances are typically not attainable in lower speed zones (25 – 35 mph) but a minimum of 150-200 feet should still be pursued (not currently applicable to M-11 (Wilson Avenue).

In locations where existing parcel constraints prohibit proper spacing (retrofit areas such as those at Remembrance Road, Leonard Street and M-45), driveways on to M-11 (Wilson Avenue) should be placed as far as possible away from the intersection. In most areas of the corridor, spacing of driveways on the side roads should be at least 250 feet from the nearest edge of the M-11 pavement. In any case, driveways to side roads that are under the jurisdiction of the City of Walker must meet current City 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 (based upon numerous national references) and require the following minimum distances between driveways (centerline to centerline) based on a measured average speed:

Table 2. Minimum Driveway Spacing on M-11 (Wilson Avenue).

Posted Speed (MPH)	Minimum Driveway Spacing on M-11
25	130 feet
30	185 feet
35	245 feet
40	300 feet
45	350 feet
50+	455 feet

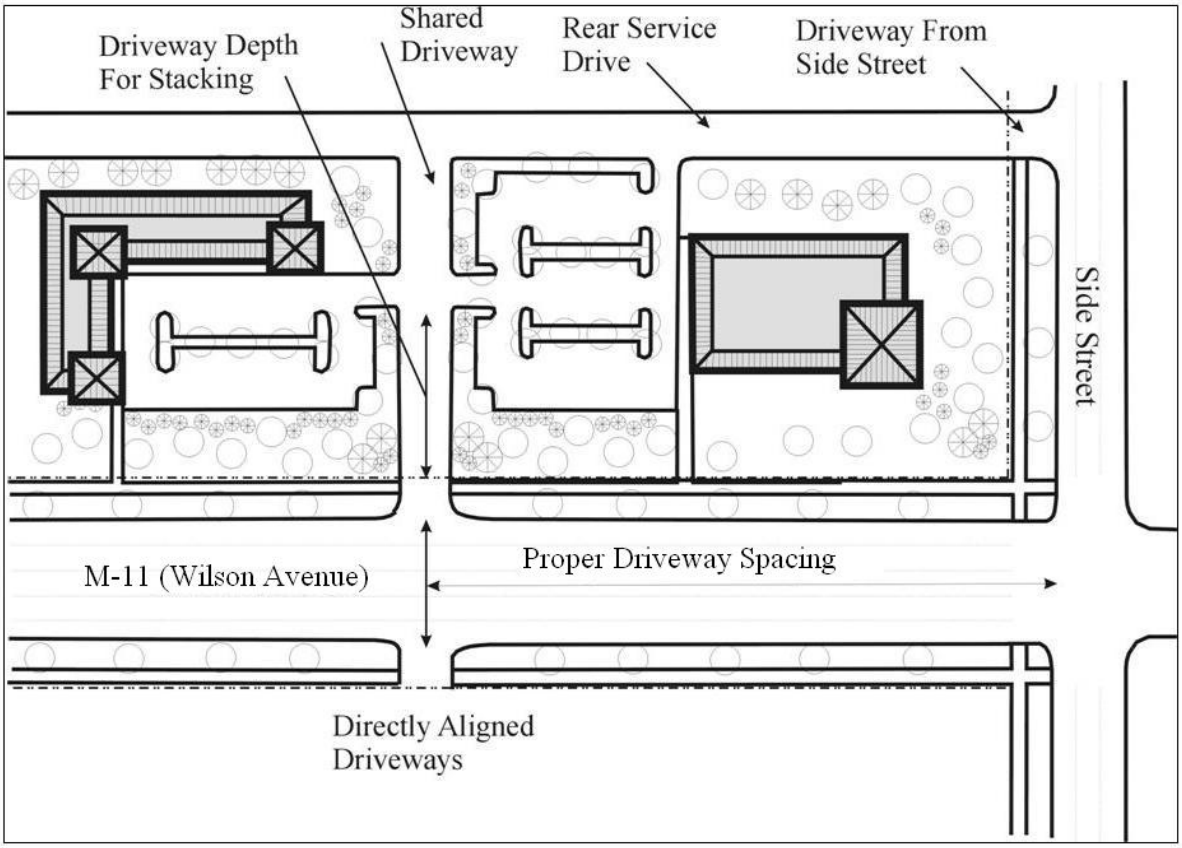
- **Driveway Alignment:** In order to prevent left turn conflicts, driveways should be aligned with those across the street or offset a sufficient distance to prevent turning movement conflicts. Minimum offsets on M-11 (Wilson Avenue) should be determined by posted speeds and range from 255 feet for a 25-mile per hour zone to 750 feet in a 55-mile per hour zone (as defined in table 2 of the MDOT Traffic and Safety Note 608A).

- **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 indicate an easement that will be provided to future adjacent uses.

- **Alternative Access:** Alternative access should be encouraged, such as shared driveways, rear service drives or frontage roads. Where parcels have frontage on M-11 (Wilson Avenue) 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. In areas within one-quarter mile of existing

or 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 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. The City of Walker/MDOT/KCRC 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.

"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."

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, design aspect of that design is the "storage" (or driveway 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 the main road due to internal congestion. Correct location and maintenance of traffic control signs and pavement markings are essential to a smooth operation of these driveways.

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-11 (Wilson Avenue), the depth of the adjacent parcels and the location of existing buildings in partially developed corridors. The storage should be at least 40 feet for drives providing access to two small commercial uses. The storage should be at least 60-100 feet and potentially much more than that (100 - 300 feet) for drives providing access to more than two small commercial uses, depending upon the trip generation characteristics of the existing and proposed long term land use to be served.

Rear service drives are 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 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. The design is often based on the type and size of vehicles it will need to accommodate, including 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:** Because of sight distance limitations on portions of M-11 (Wilson Avenue) there are limited locations for optimum driveway placement. The minimum sight distance required for a vehicle to enter or exit the traffic stream, on an arterial from a side street or driveway, is determined by MDOT and/or the KCRC at the time of an application for a driveway permit. The City of Walker should coordinate with MDOT and/or KCRC at the time of site plan review to ensure that this sight distance requirement 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-11 (Wilson Avenue) corridor. Travel time and congestion will be decreased and the potential for crashes will be reduced. While 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 and maintain travel efficiency, and enhancing 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 City of Walker along the M-11 (Wilson Avenue) study corridor. 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-11 (Wilson Avenue) study area was based upon both state and nationally recognized standards. 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.

In several areas of the corridor 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 as much as possible. 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 City of Walker or MDOT/KCRC during the next approval process.

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 City of Walker or MDOT/KCRC during the next approval process.

This plan is a flexible document that is subject to adjustments and improvements as the study area develops. 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 plan 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 figures outline how the recommended access management standards are applied within the M-11 (Wilson Avenue) corridor. As discussed in the previous section, the average speed of traffic along a given corridor is one of several design parameters used to develop driveway spacing standards (as defined in the MDOT Traffic and Safety Note 608A). Other factors that are considered include the roadway design types, sight distance, physical constraints, the type of development and size of potential traffic generators.

Service drives may play an integral part of the future access management system along the study area frontage. The likely locations for these will typically be where there are significant sections of commercial areas, that have not yet been developed. The plan illustrates a few locations for these facilities and the potential in alignments that service drives can take.

The following figures and accompanying text illustrate and discuss the recommended access modifications and guidelines for the length of the corridor. The graphics are divided into five groups, starting at the Grand River on the south end of the corridor and progressing north to Remembrance Road. These recommended improvements and guidelines will be implemented over time, as development and redevelopment occurs along M-11, and will gradually lead to greater safety and traffic flow while preserving capacity.

Figures 3-5 – The Grand River north to Walleye Drive (south of Riverbend Drive)

Figures 3-5 illustrates the access management recommendations developed for this section of the study corridor. Like the section to the north, there are relatively few existing or future access issues to address given the current and future land uses and topography.

Recommendations include limiting access at or near Burton Street, as sight distance is limited. In addition to spacing potential future residential access points properly (and connecting to Burton Street if possible), there is a recommendation to remove one of the two driveways to the Legion Hall site (**see Figure 4**). Care should be taken to maintain the driveway that best serves the site's patrons and delivery vehicles. Given the speeds of some of the southbound (downhill) traffic, a more defined right-turn deceleration lane may also be needed at this site.

The Fenske industrial site, located on the west side of M-11 (Wilson Avenue) just northwest of Butterworth Drive, should be modified in the future. A large 195-acre condominum project has been preliminarily proposed for that site and has frontage to Kenowa Avenue on its west side. Based upon the results of an impact study and additional field analysis, it's likely that a majority of the site traffic would use M-11 (Wilson Avenue) to approach and depart from the development. Given wetlands constraints, a single well-designed access point to M-11 (Wilson Avenue) should be developed that still meets current spacing standards. Such a development will also need to improve the existing roadway by adding a northbound left-turn lane and additional southbound through lane.

Figures 6-8 – Walleye Drive (south of Riverbend Drive) north to O'Brien Street

Based upon the relatively undeveloped nature of this section of the corridor, and lesser pressure for development than other sections, the Plan does not have an extensive number of access management recommendations for this subarea (illustrated on Figures 6-8).

Most of the discussions with the area residents focused on the intersection with Riverbend Drive and request of a traffic signal. MDOT will be closely monitoring this intersection for installation of a signal if it becomes warranted. Hall Street is another intersection that MDOT will continue to monitor.

Figures 9-10 – O'Brien Street north to M-45 (Lake Michigan Drive)

This section of the corridor has experienced the greatest development pressures in recent years; this trend is expected to continue. With the exception of retrofit recommendations near the intersection of M-11 and M-45, most recommendations for this subarea are related to standards for future development.

Several of the five closely spaced commercial driveways located on the east side of M-11 (Wilson Avenue) just south of M-45 should be closed/combined into two access points that can easily serve the three sites. In addition, this combining process will also result in more on-site parking and aesthetic improvement opportunities. Combining of these drives may be a slow, stepped process as the City of Walker and MDOT will likely need to wait until the property owners approach them for some other type of approval, as is the case with most retrofit changes.

The recent approval process and development of the Meijer PUD site has set a good standard for developing access to other existing and potential commercial parcels in the immediate area. As noted in Figure 10, the well spaced access points and use of a service drive should be continued for the commercially-zoned site to the south and for the potentially commercial site(s) on the east side of M-11 (Wilson Avenue). Improvements tied to this future development should also include extending the center left-turn lane and providing dedicated right-turn lanes to help maintain an efficient roadway section. On the west side, a connection to O'Brien will be a key element of the overall access system, in part as it will allow patrons from the west to access the site without affecting M-11 (Wilson Avenue).

As noted in Chapter 3, MDOT has constructed improvements at the M-11 (Wilson Avenue) intersections with the O'Brien and Fennessy Streets in 2006. These improvements will address many of the concerns and issues that were brought up by area residents during the study's public open houses.

Figures 11-12 – M-45 (Lake Michigan Drive) north to Leonard Street

This section of the corridor is fairly developed except for the portion just north of Leonard Street. Therefore, most comments and recommendations are related to addressing existing substandard access issues.

There are several other recommendations related to retrofitting access and/or internal connections to provide for better spacing of driveways (as shown in Figure 12). In addition, several discussions with CAC members and the public resulted in a recommendation to reconfigure the intersection with Warrington Street (**see Figure 11**), specifically to change it into a right-in/right-out facility. This is largely due to its close proximity to the busiest intersection on the corridor (at M-45) and the crash history related to this side street.

On the south side of the Leonard intersection, the plan calls for closing or combining several of the closely-spaced commercial driveways (noted in Chapter 3) when the opportunity arises. On the opposite side of M-11 (Wilson Avenue), future access to a currently vacant parcel should be provided to and from Leonard only (as shown in Figure 12), unless a combined access can be developed to relocate the existing poorly spaced driveway to the senior citizen facility.

There are preliminary plans for development of a large mixed-use planned unit development (PUD) on the northeast quadrant of the M-11 (Wilson Avenue) intersection with Leonard Street (**see Figure 12**). The plan confirms the position the City of Walker had previously taken in discussions with the developer; that is, only one access point will be allowed onto M-11 (Wilson Avenue). The specific location of that access point may vary but will still need to meet all spacing and offset criteria.

Figures 13-15 - Leonard Street north to Remembrance Road

The access management improvements recommended for this section of M-11 (Wilson Avenue) are illustrated on Figures 13-15 on the following pages. The plan includes numerous recommendations for addressing existing driveway or access issues and also outlines recommendations for defining access for potential future development.

Recommended retrofit improvements include several proposed closures of older commercial driveways and related development of shared drives, especially at the intersection with Remembrance Road. Two of the recommended closures are for driveways that are very close to the intersection and well within its functional area. The skewed geometry of the intersection makes this type of improvement even more necessary. The two driveways that would remain could easily be utilized as shared access points by the small commercial or light industrial uses along that southwestern side of Remembrance Road, with the existing capability to travel between these sites.

Just south of the intersection on the west side is a large parcel that is zoned and planned for commercial use. The plan calls for development of a service drive system and up to two well-spaced driveways to M-11 (Wilson Avenue) to provide access to this site. An internal connection to the site(s) to the north should also be an element to the site's overall access to M-11 (Wilson Avenue).

Further south in this subarea there are fewer recommendations as the existing frontage is single family residential and parcels behind them are zoned residential or agricultural. In any case, the plans call for a minimum of well-spaced access points to M-11 (Wilson Avenue) for any potential residential plat developments and recommends that access to Richmond Street be pursued as part of such development, where possible.

As noted in the Chapter 3, the M-11 (Wilson Avenue) and Richmond Street intersection is under review by MDOT for potential improvements, in part due to increasing residential development to the west of the intersection.

Figures 3-15 (next 13 pages)

Land Use Recommendations

Introduction

Although Access Management is primarily intended to improve motor vehicle traffic flow, it can support transportation demand management by combining transportation and land use planning, and by improving transportation options. Improved transportation options results in a more diverse and flexible transportation system that can accommodate variable and unpredictable conditions. A goal is to develop plans that will allow development while maintaining or improving safety and mobility along an existing roadway. This can be a powerful tool to direct development along a corridor. Access management can increase the capacity of a corridor to accommodate development and can minimize development pressure in areas where development is not planned.

Recommendations

Specific land use strategies that can be used to accomplish access management strategies include:

- **Establish future Right-of-Way needs for the corridor:** Although the Right-of-Way width appears to be sufficient at this time to accommodate recommendations of this plan, it should be determined whether additional Right-of-Way may be needed in the future to provide for roadway and access improvements. Future cross-sections for the roadway should gain agreement between MDOT, KCRC and the City of Walker. Specific issues that should be considered in establishing future Right-of-Way needs (widths) include:

  - Allowing for variations in road location, based on existing development and natural elements which the City of Walker may wish to preserve
  - Accommodating drainage needs and topographical changes
  - Accommodating operational features such as turn lanes at intersections and transit facilities
  - Flexibility in road design by MDOT and the City of Walker to allow for bike lanes, sidewalks, buffer strips between the curb and sidewalk, etc.

- **Increase minimum lot frontage along M-11:** There are multiple areas along the corridor that are undeveloped. The majority of the undeveloped parcels are required to have minimum lot frontage widths of ninety (90) feet. Revised minimum lot width requirements should be considered to ensure future lot splits are not too narrow to meet frontage requirements based on access spacing standards. In particular, minimum lot widths within the overlay district should be between 400-500 feet in order to meet the 455 foot spacing requirement between access points. This minimum lot frontage can be varied if one or more of the following is provided:

  - Provisions are made to share access between parcels
  - A determination has been made that topographic conditions preclude the ability to meet the driveway spacing standards

- **Adjust front yard setback requirements:** Front yard building setbacks within the overlay district should account for future Right-of-Way needs and access options. Much of the undeveloped land along the corridor requires a front yard setback of thirty-five (35) feet, although the commercial designated parcels required a minimum front yard

setback of 200 feet. One option is to establish setbacks measured from the centerline of the road. In cases where a service drive and/or frontage road is being provided, a minimum of eighty (80) feet is needed between the M-11 (Wilson Avenue) centerline and the pavement of the service drive or frontage road. In order to minimize disruption and preserve areas for future Right-of-Way, setback requirements could be increased with no detention or improvements between the existing Right-of-Way and parking and buildings.

While there is no set time for implementing access management standards, the pace of development within the corridor often determines the schedule for implementation. Access management standards within the M-11 (Wilson Avenue) Overlay District should be implemented by evaluating proposed access for each new or redeveloping property independently to determine its relationship to corridor plans and policies.

5. ADOPTION and USE of the PLAN

Successful implementation of the recommendations in the M-11 (Wilson Avenue) Access Management Plan requires a partnership between the City of Walker, KCRC and MDOT. This requires that the City of Walker's Planning Commission, City Commission, and Zoning Board of Appeals members be aware of the benefits of access management and their role in its implementation.

A coordinated and comprehensive access management approach is essential if future growth in the study area is to be accommodated and its economic benefits are to be realized. Development decisions along M-11 (Wilson Avenue) are under the control of several agencies. The City of Walker has jurisdiction over land use planning, zoning, site plan and subdivision review outside the M-11 (Wilson Avenue) Right-of-Way and full jurisdiction on side streets. MDOT, with the assistance of the KCRC, has control over improvements within the M-11 (Wilson Avenue) Right-of-Way.

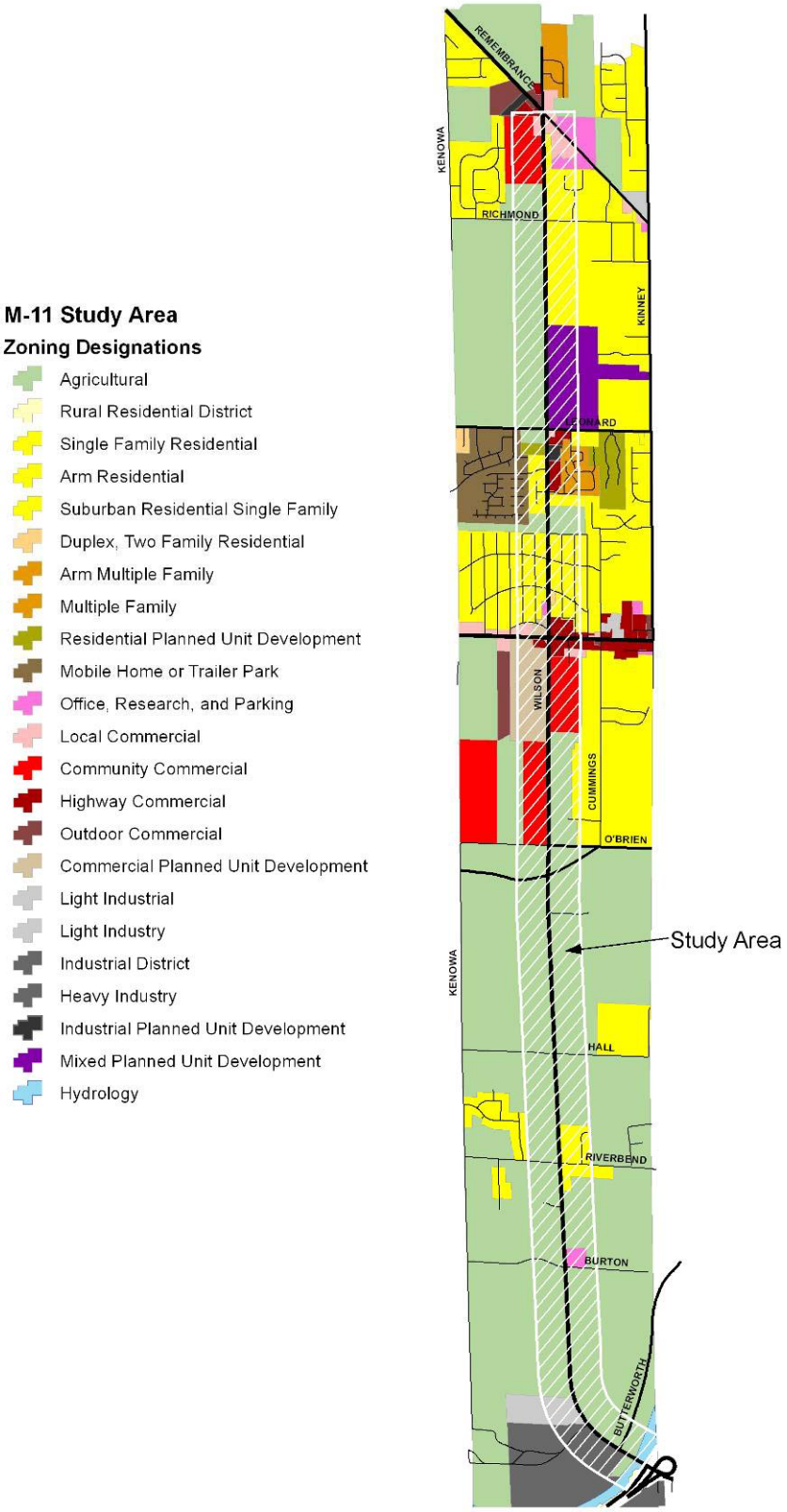
One technique to help implement the Plan, is to amend the local zoning ordinance to acknowledge the special standards and review procedures for the M-11 (Wilson Avenue) corridor. Two example documents are provided at the end of this chapter. The first is a model review process the City of Walker should consider for adoption. The second is a model M-11 (Wilson Avenue) Overlay Zoning Ordinance.

The M-11 (Wilson Avenue) Overlay Zoning District would be placed over the existing zoning regulations for all parcels with frontage along M-11 (Wilson Avenue) and along intersecting roads within three hundred fifty (350) feet of the M-11 (Wilson Avenue) Right-of-Way [**see Figure 16**: M-11 (Wilson Avenue) Overlay Zoning District Map]. 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

Figure 16: M-11 (Wilson Avenue) Overlay Zoning District Map



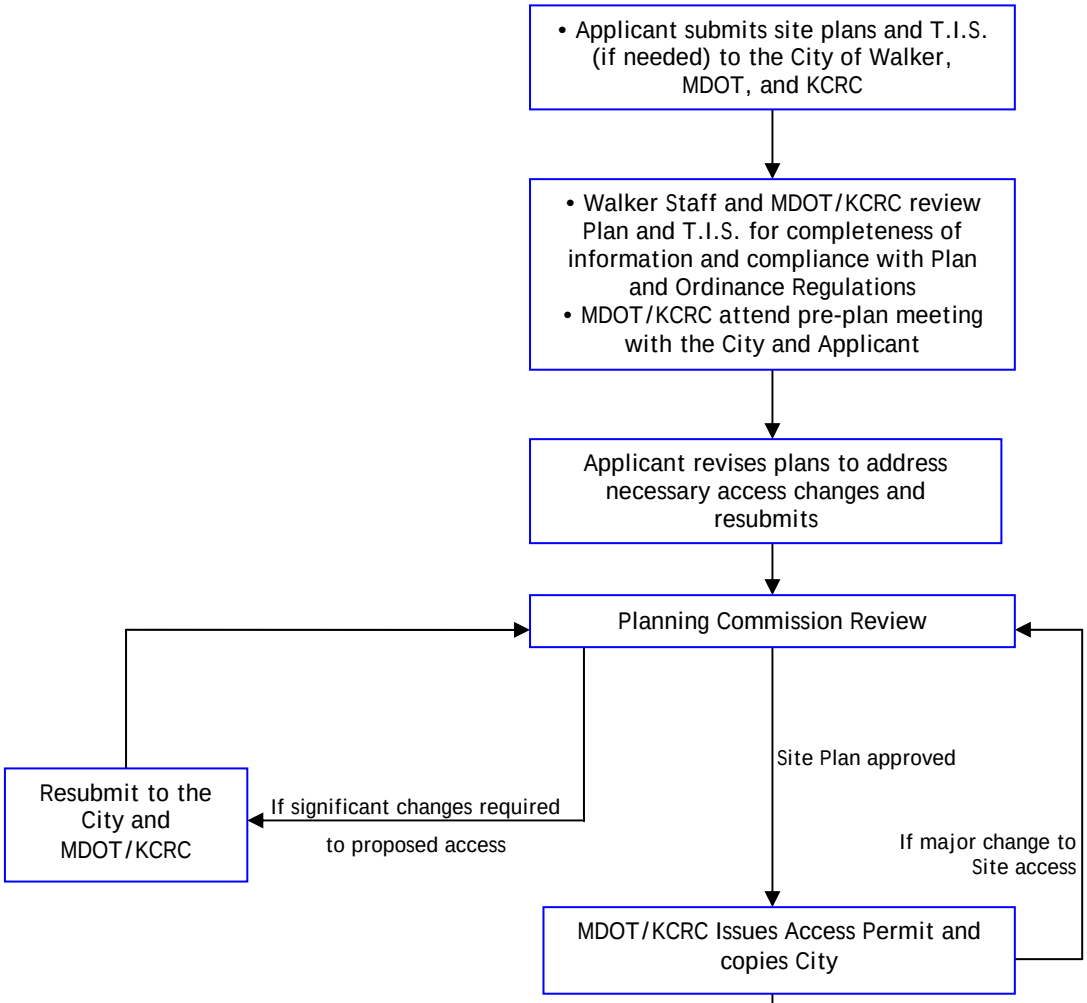
intent of the standards is being met to the maximum extent practical on the site, and provided input is obtained from the MDOT or Kent County Road Commission.

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 to offset the impact. The ordinance makes reference to the handbook "Evaluating Traffic Impact Studies, a Recommended Practice for Michigan," developed by MDOT and Tri-County Regional Planning Commission as the required methodology for completing the study.

A flow chart is illustrated on Figure 17 that outlines the process to be followed in review of any development proposal along the M-11 (Wilson Avenue) corridor. It provides for a coordinated review by the local unit of government, MDOT and the Kent County Road Commission. 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 M-11 (Wilson Avenue) Access Management Plan, the Corridor Advisory Committee should continue to meet on a regular basis. This will provide a forum to discuss and coordinate major development proposals, traffic impact studies, access issues, Right-of-Way preservation and 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.

Figure 17: M-11 (Wilson Avenue)
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**
Grand Rapids TSC
2660 Leonard Street NE
Grand Rapids, MI 49504
616.464.1800

KCRC = **Kent County Road Commission**
1500 Scribner NW
Grand Rapids, MI 49504
616.242.6900

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

APPENDIX