BEAR CREEK TOWNSHIP, EMMET COUNTY ACCESS MANAGEMENT PLAN

Prepared by:
Bear Creek Township
Emmet County
Emmet County Road Commission
Michigan Department of Transportation
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Introduction</td>
<td>3</td>
</tr>
<tr>
<td>II. Goals and Objectives</td>
<td>9</td>
</tr>
<tr>
<td>III. Existing Highway and Major Road Characteristics</td>
<td>10</td>
</tr>
<tr>
<td>IV. Access Management Standards</td>
<td>55</td>
</tr>
<tr>
<td>V. Action Plan</td>
<td>60</td>
</tr>
<tr>
<td>VI. Adoption, Monitoring and Enforcement</td>
<td>74</td>
</tr>
<tr>
<td>Appendix</td>
<td></td>
</tr>
<tr>
<td>1. Sample Access Management Regulations</td>
<td>78</td>
</tr>
<tr>
<td>2. References</td>
<td>95</td>
</tr>
</tbody>
</table>
I. Introduction

Access management is the process that provides or manages access to land development while reducing traffic congestion, preserving the flow of traffic, improving traffic safety, preventing crashes, preserving existing road capacity and preserving investment in roads by managing the location, design and type of access to property. Successful access management requires cooperation between property owners, local land use authorities, and local, county and state transportation agencies in order to provide safe access to private property and protect the public’s investment in roads.

An Access Management Plan includes specific recommendations for individual properties as well as general recommendations that apply to a number of areas along the corridor. Traffic impact studies need to be performed for larger developments that have the potential to generate significant volumes of traffic. These studies can be funded by the developer or the Township, and would evaluate the impact that a proposed development will have on the road system and to identify mitigation to offset the impact.

A planning process that links access management principles with land use and corridor planning is the best way to look at the big picture and ensure appropriate relationships between present and future needs. Access management is implemented through review of the development proposals under local zoning, as well as during the driveway permit process administered by local, county or state road authorities. It is also implemented through improvements to roadway design and specific capital improvement projects on corridors with adopted access management plans. The access management plan should be directly linked to the Township master plan.

As with all infrastructure improvements, each potential solution to a deficiency has significant implications for existing and future land use. There is a direct relationship between transportation and land use values; both historical and future patterns have and will continue to influence decisions. A key issue is to balance solutions with the land use patterns desired for the future.

Identification and Overview of Roadways

In December of 2007, a Petoskey Area Transportation Study was completed and the purpose of the study was to identify potential changes to the existing roads that will enhance transportation patterns while having the least impact on land use and historical development patterns. The objectives of that study included:

- Identify potential local road improvements and other ways to relieve congestion and increase mobility in the area
- Consider the impacts that proposed transportation improvements and changes in the local economy will have on the area
- Find ways to protect this area’s rural, residential and commercial areas through land use and community development policies that complement the transportation system.
The Petoskey Area Transportation Study was a means for organizing public opinion and identifying applicable solutions to area transportation issues. The study process was guided by and comprised of local elected and appointed officials and members of the Michigan Department of Transportation (MDOT). An analysis of the Petoskey area congestion issues provided with several alternatives to be examined for their potential to relieve congestion, including identifying the need for an access management study along US-31, US-131, and M-119. In 2009, Emmet County, Bear Creek Township, City of Petoskey, the Emmet County Road Commission, and MDOT partnered together to develop an Access Management Plan. This Access Management Plan update is for the major highways and roads in Bear Creek Township.

The public transportation system in Bear Creek Township is comprised of interstate highways, state highways, county roads, and local roads.

Interstate and state highways are designed to conveniently transport large volumes of traffic. The state highways which pass through Bear Creek Township are US 31, US 131, and M-119. These highways are important to the county, region and for interstate connectivity.

US 31 is the primary road in Emmet County which serves to move local and through traffic north and south for the majority length of the County. The focus area for this plan begins at the southwest Township limits where US 31 runs through Bear Creek Township to the Township boundary at Graham Road. North of Petoskey, US 31 meets M-119 which runs to the northern Township line at Powell Road. US 131 is also a primary road that moves traffic north to Petoskey starting at Bear River Road to the Petoskey city limits. US 131 ends at the intersection of US 31.

New commercial development and redevelopment in these areas over the last 40 years has resulted in a steady increase in commercial and passenger traffic. Many properties within the plan area are commercial or mixed use and some have transitioned from residential to commercial use. Bear Creek Township, Emmet County Planning Department, and the Michigan Department of Transportation (MDOT) have recognized that the preparation and implementation of an access management plan to guide redevelopment can help alleviate some of the existing traffic congestion and provide safe travelling for all modes of transportation.

County primary roads are paved roads that collect and distribute traffic between residential, employment, and shopping destinations. The majority of county primary roads are heavily traveled. The major north-south county road is River Road, which extends from the South Township line to the City of Petoskey. Other north-south corridors are McDougall Road between Click and Atkins Road, and Division Road between US 31 and Atkins Road, and Bellmer Road between Pickerel Lake and Graham Roads. The east-west county primary corridors are Atkins Road between McDougall and Division Roads and Mitchell Road between the eastern Township border and the City of Petoskey eastern boundary. Pickerel Lake Road acts as an east-west connector from US 31 to the Township’s east boundary with Springvale Township. The highlighted county roads in this plan include Mitchell, Division, Atkins, McDougal, River, Howard, and Pickerel Lake.
The Township also consists of local roads that are typically residential or business. Examples of local residential roads are residential subdivision roads and rural segments of section line roads. An example of a local business road is a business or industrial park road.

Non-motorized facilities include the Little Traverse Wheelway, a designated non-motorize trail that traverses through portions of the Township through Bay View along the north side of US 31 to Division Road. The trail then turns towards Little Traverse Bay and continues along M-119 to Little Traverse Township. The North Western State Trail starts at M-119 then heads along Hiawatha Trail and Round Lake and is located within the former railroad corridor. This Trail starts in Petoskey and ends in Mackinaw City and allows snowmobile access in the winter.
Bear Creek Township Major State Highways and County Roads

State Highways: US 131, US 31, M-119
County: Mitchell, Division, Atkins, McDougal, River, Howard, and Pickerel Lake
II. Goals and Objectives

To address the community’s concerns for access management, Bear Creek Township developed these goals and objectives.

Goals:
- Seek to promote an understanding of access management
- Improve state and local coordination
- Improve coordination of land uses
- Improve highway/road intersections, major entrances and exits, and driveways
- Consider the aesthetics

Objectives:
- Access management education could enlighten local government officials about traffic impacts that result from local land use decisions.
- Road agencies need to be notified of local rezoning or changes in land use along the corridors
- Local site plan review and approval processes should include all responsible road agencies
- Applications for driveway permits should be reviewed by the appropriate road agencies prior to the site plan approval; roadway reconstruction and resurfacing projects need to adequately address access issues
- Properties fronting on the corridor that also have access to connecting roadways – use the connecting roadway as their primary means of access
- Lots subdivided from an existing parcel use the entrance of the parent parcel for access to the corridor

Access management is difficult to accomplish through permitting and highway improvements alone – it should always be considered when land use and development decisions are made. It is important for the Township, road agencies and land developers to coordinate driveway decisions.

Successful implementation of the access management recommendations for US 131, US 31, M-119 and noted County Road corridors will allow for the impacts of development and redevelopment in the Township to be addressed. 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 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 2015 Emmet County Master Plan includes a chapter on transportation which states, “A transportation network is shaped by the fundamental need to access businesses, services, recreation, schools, and local markets. Transportation comes in many forms, including air, water, and land-based systems such as rail, bus, auto, and pedestrian. Vehicular travel is the predominant method of movement for residents, businesses, and visitors within Emmet County.

As the population of the County continues to increase, so too will traffic levels, travel times, and traffic hazards. It is important to acknowledge that Emmet County will continue to facilitate solutions to the challenges of the transportation system, while maintaining the rural character of the County.”

Numerous curb cuts currently exist along portions of the highways and major roads which were created when driveways for residential, and commercial uses were allowed access in an uncontrolled fashion. This created a dangerous situation that allows vehicles to pull out or stop in too many locations, leaving drivers guessing what other drivers are doing.

The 2012 Bear Creek Township Master Plan states that safety issues may be either existing or potential problems in the current road system. There are three main safety concerns: excessive curb cuts, poor road geometrics/vision obstruction, and poor railroad crossing warnings.

**Excessive Curb Cuts**
Excessive curb cuts result when driveways created by residential, commercial, or industrial uses are allowed access to a local, collector, or minor arterial road in an uncontrolled fashion. This type of access is dangerous because it allows vehicles to pull out or stop in too many locations that leave drivers guessing what other drivers are maneuvering to do. There are numerous curb cuts that exist most frequently along US 31 north of the City of Petoskey.

**Geometrics/Vision Obstruction**
Obstructed views occur where there is not enough clear vision area to provide an adequate view of the roadway or of other roadway users at an intersection, along a curve, or in a sloped area. Some obstructed views in this Plan include:

- Howard Road at both Greg and Intertown Roads
- US 131 and Greg Road
- US-131 and Intertown Road
- Mitchell Road west of the Township line
- Shaw Road and US 31
- Pickerel Lake Road and US 31
**Railroad Crossing Warning Deficiencies**

Three railroad warning locations were identified which include locations with little or no advance warning of the crossing. The train makes an average of three trips per week, so the potential for crashes does exist, especially for those unfamiliar with the trip pattern. Those locations are all along River Road at or near the following intersections: Bear River Road, Ecker Road, and Click Road.
**US 131 from Bear River Road to La Chaumiere**

**Existing Highway Characteristics**
This five (5) mile section begins at the southern Emmet County line north to La Chaumiere Road at the City of Petoskey southern boundary. The highway cross section ranges from two to five lanes with a traffic signal at Lears Road. The right-of-way width is 120 feet in the southern section and 100 feet in the northern section. The general development characteristics include agriculture, residential, and commercial. The speed limit is 55 mph from Bear River Road to Lears Road and 45 mph from Lears Road to the Petoskey city limits. The Annual Average Daily Traffic (AADT) counts from 2015 starting at Bear River Road to Lears Road is 10,932 and from Lears Road to Sheridan Road is 8,616. There is an unofficial, undeveloped MDOT pull out on the southwest side of US 131 and Greg Road.

**Existing Access Conditions and Deficiencies**
This section is auto-oriented with commuter traffic, commercial traffic, tourist traffic and development areas that has experienced new development and redevelopment. There are 86 driveways between Bear River Road and La Chaumiere Road with 11 roads/streets intersections. A shared driveway exists on the east side of US 131 in the northern section that three businesses utilize. Based upon traffic crash data from 2014-2016, there were eleven angle crashes in this section of US 131.

- Inadequate driveway spacing: several businesses have driveways that are close together which creates a higher number of conflict points and are confusing to motorists
- Some businesses have multiple driveways that create additional conflict points
- Substandard driveway design
- Substandard driveway alignment/offsets
- No non-motorized facilities available or designated pedestrian crossings at intersections
- Obstructed views also occur where there is not enough of a clear vision area to provide an adequate site view of the highway or of other highway users at the intersections, in curve areas, or sloped areas.
- Commercial developments at US 131 and Lears Road should utilize Anderson Road as the access point to minimize curb cuts.

**Recent Improvements**
- A traffic alert sign with a flashing yellow beacon was installed for the intersection of US 131 and Intertown Road to warn motorists of traffic entering US 131.
**US-31 from Boulder Lane to M-119**

**Existing Highway Characteristics**
This is a one and a half (1.5) mile section from Boulder Street in Bay View to M-119. The highway expands from two lanes to three lanes (two travel lanes and a center left-turn lane), then four lanes for 1,700 feet. At Rice Street, the highway is expanded to five lanes (four travel lanes and one center turn lane) to M-119. The right-of-way range is 66 feet to 150 feet.

The general development characteristics in this area range from high density residential and commercial in Bay View to medium density commercial. There are full traffic signals at the D&W Shopping Center and at the M-119 intersection. There is also a full pedestrian signal at Reed Avenue where Stafford’s Bay View Inn is located. The speed limit is 35 mph. The 2015 Annual Average Daily traffic (AADT) count is approximately 24,680. During the peak of the summer season the traffic volumes may more than double.

**Existing Access Conditions and Deficiencies**
This section is an auto-oriented development area that has experienced some new development and redevelopment. There are no access points on the south side of US 31 from Division north for a distance of 0.40 miles where the Petoskey Bay View Country Club is located. Based upon traffic crash data from 2016, there were 17 angle/left turn crashes between Boulder Street and M-119 and is one of the major areas of concern. The Little Traverse Wheelway is located along the highway in Bay View and then behind the development area.

The increased number of lanes heading north does help to relieve the bottleneck through Bay View for traffic movement. The traffic increases between Rice Street north to M-119 particularly during the mid-day peek because of the large number of drive thru restaurants and a grocery store plaza that includes additional retail facilities. There are no residences in this commercial area and most of the businesses do not have shared driveways or service drives. Traffic moving south has to merge from two through lanes to one at Division which becomes a designated left turn lane. This area continues to create conflict points.

- Residential driveways that access directly onto the highway
- Inadequate driveway spacing: several businesses have driveways that are close together which creates a higher number of conflict points and are confusing to motorists
- Some businesses have multiple driveways that create additional conflict points
- Substandard driveway design; too little driveway storage/stacking lengths
- Substandard driveway alignment/offsets north of the traffic signal at the D&W Shopping Center causing left turn conflicts and usage of the center left turn lane
Recent Improvements
Modification of the US 31 and Division intersection was completed in 2011 that only allows traffic from Division to turn right onto US 31 without stopping. This improvement eliminated left turns on to US 31. The lane configuration keeps northbound US 31 traffic from Division in the right thru lane which has improved traffic operations and congestion and eliminated a major conflict point.
US 31 from M-119 to Graham Road

Existing Highway Characteristics
Beginning at M-119, this 2.84 mile section has five lanes and then tapers to three lanes at Manvel Road. The three lanes (two travel lanes and a center left-turn lane) continue until the last 700 feet just south of Graham Road where it reduces to two lanes. The right-of-way is 150 feet.

There is a traffic signal at the US 31 and M-119 intersection and one cautionary blinking light at the US 31 (blinking yellow) and Pickerel Lake Road (blinking red) intersection. The speed limit past the M-119 intersection is 45 mph heading north to Pickerel Lake Road where it increases to 55 mph. Traffic does decrease from M-119 and the Annual Average Daily Traffic counts from M-119 to Pickerel Lake Road are 13,967 and from Pickerel Lake Road to Graham Road (West Conway Road) are 12,114. The North Western State Trail that runs between Petoskey and Mackinaw City is a non-motorized trail located northwest of US 31 behind the development that does allow snowmobiles in the winter.

Existing Access Conditions and Deficiencies
The county roads accessing US 31 in this segment are “T” intersections and do not cross the highway except for Pickerel Lake Road. Two roads enter from the south and two from the north. US 31 in this segment is auto-oriented and is a mixed use of commercial and residential that has experienced some redevelopment from residential to commercial. The majority of the parcels have at least one driveway access onto US 31.
- Inadequate driveway spacing.
- Multiple driveways that create additional conflict points
- The US 31 and Pickerel Lake Road intersection has poor geometrics/alignment making southbound left hand turns and crossings difficult
- Future development and redevelopment will likely occur
- Obstructed views intersections, along curves, in sloped areas: US 31 and Shaw Road
- Very few options exist for designated pedestrian crossings

Recent Improvements
- Addition of a center left turn lane at Manvel Road to 700 feet south of Graham Road.
- A right-turn lane was added at Manvel Road to minimize confusion for motorists both entering the highway and continuing through on US 31 to the north.
- Two access drives were eliminated and a connector drive was constructed between the two properties.
- The Oleson’s Plaza redevelopment resulted in the reduction of one access point onto US 31.
US 31 East of M-119 to Manvel Road

US 31 and Pickerel Lake Road Intersection
US 31 from KOA Campground entrance to Oleson Food Market

US 31 from Oleson Food Market to Fochtman Industrial Drive

US 31 from Fochtman Industrial Drive to Fieldstone Boulevard
M-119 from US 31 to Powell Road

Existing Highway Characteristics
This segment encompasses 1.863 miles of M-119 from the US 31 intersection to Powell Road, the Bear Creek Township boundary. The speed limit on M-119 is 45 mph. At US 31, M-119 has three lanes for approximately 443 feet for a left turn lane and a right turn lane onto US 31. There is a right turn lane at the Spring Lake Park entrance on the east side. A pedestrian island is located just south of Konle Road for the North Western State Trail. At Konle Road, the highway widens to three lanes to Lakeside Drive North, then reduces back to two lanes to Powell Road with a passing flare at the Petoskey State Park entrance, and one at the L'Arbre Croche residential development. The Annual Average Daily traffic counts from 2015 are estimated at 14,146. There is one signalized intersection at US 31 and M-119.
**Existing Access Conditions and Deficiencies**
This segment is an auto-oriented development area that has experienced new development and redevelopment. Several access points provide ingress/egress to more than one business or residence. There are four public roads accessing M-119 from the east that do not cross the highway: Pickerel Lake, Konle, Hiawatha Trail and Powell. Several housing developments are accessed from M-119 with many being multiple family developments. The Little Traverse Wheelway, a non-motorized trail parallels M-119 on the west side of the highway. In a specific section, the trail is part of the highway shoulder where there is not enough room in the right-of-way due to private property being a barrier.

- Inadequate driveway spacing and/or unnecessary second or third driveway access.
- Several properties in this segment have driveways that are close together, creating a high number of conflict areas and confusion for drivers such as the Toski Sands Market near Lakeside Drive South and along the curve north of Hiawatha Trail.
- Many driveways/entrances cross over the non-motorized trail.
- Substandard driveway alignment with too many driveways in this segment have led to poor driveway alignment.

This is an area of concern due to its redevelopment potential and the increased traffic volumes as a result. The Planning Commission has encouraged and required connecting access between parcels as redevelopment has occurred, reducing the need for service vehicles to re-enter the highway prior to servicing the adjacent parcel.

**Key Traffic Locations/Deficiencies**
There is a major manufacturing business that does create high traffic volumes at shift changes. There are few connectors between businesses and this segment is in a transition phase with some residential uses remaining. There are concerns with pedestrian and bicycle crossings from the Little Traverse Wheelway on the west side of M-119 to get to the businesses on the east side.

**Recent/Planned Improvements**
- Pedestrian/bicycle island crossing just south of Konle Road from the Little Traverse Wheelway to the Petoskey Mackinaw Trail.
**Mitchell Road from Lincoln Place to East of Skyline Drive**

**Existing Highway Characteristics**
This is an approximately 4.4 mile section from Lincoln Place to just east of Skyline Road. The road is two lanes with left turn lanes at Division Road. The right-of-way is 66 feet.

**Existing Access Conditions and Deficiencies**

**Key Traffic Locations/Deficiencies**
The Division Road intersection is the location of many crashes.

**Recent/Planned Improvements**
- Division Road signal was upgraded in 2015.
- Intersection signs at Mitchell Road and Skyline Drive were installed with a continuous flashing yellow beacons.
**Division Road from US 31 to Atkins Road**

**Existing Highway Characteristics**
This is a 1.6 mile section from US 31 to Atkins Road. The road is two lanes with left turn lanes at Mitchell Road. The right-of-way is 66 feet.

**Existing Access Conditions and Deficiencies**
The traffic counts on Atkins Road have dramatically increased in recent years with the extension into North Central Michigan College and the McDougal Road extension into Petoskey Schools.
Key Traffic Locations/Deficiencies
The Mitchell Road intersection is the location of many crashes. The Atkins Road intersection is becoming a bottleneck of traffic turning left or right to Division Road.

Recent/Planned Improvements
Mitchell Road signal was upgraded in 2015.
**Atkins Road from the Petoskey City Limit to Greenwood Road**

**Existing Highway Characteristics**
This is an 8.5 mile section from the City limit to Greenwood Road. The road is two lanes. The right-of-way is 66 feet.

**Existing Access Conditions and Deficiencies**
- A stop sign at Atkins and McDougal

**Key Traffic Locations/Deficiencies**
With the McDougal Road extension completed, this intersection is now very busy. Also, the Division Road intersection is a very busy intersection as this has become the alternate route around the Mitchell Road corridor into Petoskey and North Central Michigan College.

**Recent/Planned Improvements**
Segment from Division Road to Cedar Valley Road was reconstructed in 2016 to all-season standards. Segment from Cedar Valley Road then east for 0.65 miles was reconstructed in 2017 to all-season standards. Segment from the end of 2017 project to Maplewood Road will be reconstructed to all-season standards in 2018. Segment from Division Road to McDougal Road is slated for reconstruction in 2019 through a Category F grant if successful.

Township plans on reconstructing the segment from Greenwood Road then north for 1.5 miles in the near future.

A sidewalk/boardwalk along Atkins may be planned and constructed in the future.
**McDougal Road from Northmen Drive to Click Road**

**Existing Highway Characteristics**
This is a 2 mile section from Northmen Drive to Click Road. The road is two lanes. The right-of-way is 66 feet.

**Existing Access Conditions and Deficiencies**
South of Greenwood Road, the terrain has several humpback hills that would make it difficult to access a lot of the property that is not developed.

**Key Traffic Locations/Deficiencies**

**Recent/Planned Improvements**
Northmen Road to Click Road
**River Road from Howard Road to Bear River Road**

**Existing Highway Characteristics**
This is an approximately 5 mile section from Howard Road to Bear River Road. The road is two lanes with a railroad line running parallel. The right-of-way is 66 feet.

**Existing Access Conditions and Deficiencies**
The railroad tracks limit the amount of new development on the east side of the road.

**Key Traffic Locations/Deficiencies**
Click Road intersection is the busiest intersection.

**Recent/Planned Improvements**
Howard Road from River Road to Bear River Road

Existing Highway Characteristics
This is an approximately 4.4 mile section from River Road to Bear River Road. The road is two lanes. The right-of-way is 66 feet.

Existing Access Conditions and Deficiencies
Very steep grades on much of the road on the north ¼ of the segment. Sharp curves in the middle 1/3 of the road and residential in the south 1/3 of the segment.

Key Traffic Locations/Deficiencies
The US 131 intersection is the location of many crashes and there are many hidden driveways.

Recent/Planned Improvements
US 131 to Bear River Road
**Pickerel Lake Road from M-119 to Amacher Road**

**Existing Highway Characteristics**
This is an approximately 2.8 mile section from M-119 to Amacher Road. The road is two lanes. There is an offset intersection with US 31 with a right turn lane on the south side. There is also a blinking traffic signal. The right-of-way is 66 feet.

**Existing Access Conditions and Deficiencies**
The road at the intersection of US 31 is not aligned.

**Key Traffic Locations/Deficiencies**
The Pickerel Lake Road and US 31 intersection has poor visibility for vehicles trying to turn left or crossing the highway.

**Recent/Planned Improvements**

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M-119 to Amacher Road

M-119 to US 31
## Highways and County Roads Data

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<td>US 131</td>
<td>Bear River Road to Petoskey SCL</td>
<td>10,932</td>
<td>86</td>
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<td>1,737</td>
<td>93</td>
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* MDOT Average Daily Traffic Counts (2015)
* Emmet County Road Commission Traffic Counts (2016)
The Access Management Plan provides a series of tools to utilize and 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. Both the Michigan Department of Transportation (MDOT) and the Emmet County Road Commission’s driveway design standards can be supplemented by requirements adopted by the Township. Design standards define geometric requirements regarding driveway locations, widths, corner radii, and taper lengths. The ease of access and availability of transportation facilities and modes have a significant impact on future growth and development in the Township.

Some individual landowners may see the regulations as restricting access to their property but, over the long term a well-managed access management plan and practices will improve access to properties and maintain travel efficiency, thereby enhancing economic prosperity of local businesses.

There are several benefits that typically result from consistent use of an access management plan. Typical standards take into account the type of highway or road that is involved such as trunkline, arterial, etc., the type of intersection control, and the type of access being requested. The number of driveways allowed will affect traffic flow, ease of driving, and crash potential. Every effort should be made to limit the number of access points to one, and encourage access from side roads, service drives, frontage roads, and the use of shared driveways.

The following access standards and practices should be recognized and utilized:

**Provide Reasonable Access**
Recognize that property owners have an inherent right to access public highways and roads with reasonable, indirect access encouraged.

**Design for Efficient Access**
Identify driveway design criteria that promotes safe and efficient ingress and egress.

**Separate and Limit the Types of Conflict**
Reduce the frequency of conflicts or reduce the area of conflict at some or all driveways by limiting or preventing certain kinds of maneuvers.

- **Reduce the Number of Driveways**
  For new developments or redevelopments that will generate major traffic, a traffic impact study may have to be done by the property owner which would demonstrate the type of access that best suits the corridor and traffic flow. Landowners will be encouraged to locate or relocate driveways on a side road or shared with adjacent uses. The number of existing driveways can also be reduced during road improvements by working with the landowners.
• **Driveway Spacing from Other Driveways**
  Adequate driveway spacing simplifies driving by reducing the amount of information to which a driver must process and react.

  Generally, the greater the speed along the roadway the greater the driveway spacing should be. The spacing standards recommended are based on MDOT guidelines given a measured average speed for unsignalized areas.

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<th>Posted Speed (MPH)</th>
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  It is understood that in the intensely developed areas, the spacing will be difficult to achieve even as sites redevelop. The primary goal in those areas is to aggressively pursue the removal of unnecessary driveways whenever possible for improvement. In most of the undeveloped areas, spacing of driveways should be at least 250 feet apart. In all cases driveways should be relocated to a minor side road that meets current road standards.

• **Driveway Spacing from Intersections**
  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 that driveway. Adequate spacing between driveways and unsignalized intersections can reduce confusion that otherwise requires drivers to watch for ingress and egress traffic at several points simultaneously while controlling their vehicle and monitoring other traffic ahead and behind them. Options include:
  
  a. Placing driveways a sufficient distance from intersections to minimize impact to intersection operations.
  
  b. Driveways need to be placed so that there is adequate spacing from an intersecting highway or road to ensure that traffic entering or exiting a driveway does not conflict with the intersection traffic.
  
  c. In most cases, driveways should not be developed within the functional boundary of a given intersection.
  
  d. For the highways, full movement driveways should be a minimum of 400 feet from the intersection in a 55 miles per hour zone. Such distances are typically not attainable in lower speed zones, but there should be a minimum of 150-200 feet where feasible.

• **Driveway Alignment**
  To prevent left turn conflicts, driveways should be aligned with those across the road or offset at a sufficient distance to prevent turning movement conflicts.
• **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 properly owners during the site plan approval process. Where a future shared access is desired, the developer should indicate an easement that will be provided to future adjacent uses.

• **Alternative Access Points - Service Drives and Frontage Roads**  
Frontage drives and rear service drives reduce conflict points while preserving the property owner’s right to reasonable access.

Alternative access points such as service drives or frontage roads should be encouraged. And, where parcels have frontage on the highway or road and also have frontage on a side road, the access should be provided from the side road. Also, certain turning movements can be limited, especially left turns.

In areas within one-quarter mile of existing or future traffic signal locations, access to individual properties should be provided via these methods rather than by direct connection to a major arterial.

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. One effective strategy for phasing improved driveways in an already developed area or in a newly developing area is to issue temporary driveway permits for a period of time and then when the circumstances are right (as defined in the temporary permit) require removal of the temporary driveways and installation of the permanent driveway. This would take place when all the buildings were connected by connecting the parking lots. This approach requires very careful planning and coordination between the Township, County and MDOT and/or Emmet County Road Commission. It also requires a clear understanding of who pays what share of the new driveways before the temporary permits are issued.

The safety and efficiency of these types of service drives and shared driveways is only as good as their design allows. An important design aspect is the “vehicle storage” or stacking space areas for vehicles provided at the access points. This is the distance between the main highway or road and the service drive or the first internal cross access. This storage needs to be deep enough to accommodate expected vehicle
queues, thereby reducing the chance of blocking internal circulation on the service drive. The correct storage is also needed in order to reduce the possibility of entering vehicles backing up in to the main road due to internal congestion. Correct location and maintenance of traffic control signs and pavement markings are essential for a smooth operation of the driveways.

There are several factors that affect the determination of the best alignment and depth of a service drive. Those factors include the existing highway or road right-of-way, the depth of the adjacent parcels, and the location of existing buildings in partially developed corridors. For drives providing access to two small commercial uses, the storage should be at least 40 feet. For drives providing access to more than two small commercial uses, the storage should be at least 60-100 feet and potentially much more such as 100-300 feet depending upon the trip generation characteristics of the existing/proposed long term land uses 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 by allowing the buildings to be placed closer to the highway or road. Rear service drives also have the added benefit of facilitating integrated access and circulation with development. On larger sites, these rear service drives can be designed to function similar to roads that would interconnect other uses.

Service drives are usually constructed and maintained by the property owner or an association of adjacent owners. The service drive should be constructed to public road standards for cross section, materials, design, and alignment. The design is often predicated upon the type and size of vehicles it will need to accommodate, including delivery trucks. Since by definition, these internal roads will be serving several uses with numerous driveways, additional uses such as parking (temporary or otherwise) should be allowed only under special circumstances.

- **Remove turning vehicles from the through lanes**
  By providing separate lanes and vehicle storage areas for the turning vehicles, there is a reduction in both the frequency and severity of conflicts. Design considerations:
  a. Additional lanes
  b. Geometric design to restrict certain turning movements (usually left turns)
  c. Location of traffic controls
  d. Medians

- **Sight Distance**
  Because of sight distance limitations on some of the highways and roads, there are limited locations for optimum driveway placement. The minimum sight distances required for a vehicle to enter or exit the traffic stream is determined by MDOT and the Emmet County Road Commission at the time of an application for a driveway permit. The Township should coordinate with MDOT and the County Road Commission at the time of site plan review to ensure that the driveway is sited in the best possible location as related to sight distance if no other access can be attained. This may involve shared driveways or side street access. It may also involve limited turning movements in or out of the driveway if a driveway must be located in a place where sight distance is less
than adequate.

- **Preserve public investment and the integrity of the roadway**
  Acknowledge that substantial public funds have been invested to develop the corridor to move traffic safely and efficiently.
The need to accommodate future development along the corridor – the location, spacing, and design of driveways and entrances, highway and road intersections, curb cuts, traffic signals, transit amenities, and non-motorized facilities should be addressed in the master plan and the following should be taken into account:

- Existing surface transportation, transit and non-motorized plans
- Future growth patterns, land use and zoning policies, and the designation of development areas
- Access location and design configurations that service future development
- Planning access points for the future land uses along the corridor

Improved coordination of land uses, specific highway or roads and intersection improvements, and aesthetics is highly recommended. Given the current situations and the inability to increase roadway capacity, access management has a set of proven techniques that can help with the following:

1. Maintain efficient traffic flow and help reduce traffic congestion, decrease travel time, and economic prosperity.
2. Improve Traffic Safety: reduce crashes and crash potential - the frequency and severity of crashes, and property damage while maintaining reasonable access to land uses.
3. Preserve investment in highways by managing the location, design, and type of access to property.
4. Ensure reasonable access to properties.
5. Improve environment for pedestrians and bicyclists.
6. Preserve the existing highway capacity and the useful life.
7. Improved communications and coordination between local governments/agencies – land use, the Michigan Department of Transportation (MDOT), and Emmet County Road Commission.
8. Improve air quality.

The access management recommendations are based upon state and nationally recognized standards. The recommendations look at standards for future access considerations as well as identification of improvements to existing access points for improved safety and efficiency within the corridors.

Because of the developed nature in the major portions of the corridors, it may be all but impossible to retrofit the segments to meet spacing guidelines for driveways. In such cases, the goal remains to minimize the number of driveways as much as possible. It should be recognized that many of the retrofit improvements recommended in this plan will only be able to be implemented when an owner or developer approaches the Township, Emmet County Road Commission and MDOT for any proposed development such as a change of use, site plan, permits, or a road improvement project.

Factors that come into play include the roadway design types, sight distance concerns, physical constraints such as existing buildings, average speed of traffic, right-of-way widths, and the type and size of potential traffic generators.
Given the variability of speeds, travel lanes, and development character within the study area, it is impractical to impose driveway standards uniformly. The standards should provide sufficient flexibility to be effective and equitable, while coming as close as possible to meeting requirements set by MDOT and the Emmet County Road Commission.

The recommendations of the access management plan are largely based on parcel configurations and future land use plans. 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 agreements and illustrated on a site plan.

This plan is a flexible document that is subject to adjustments and improvements as corridors may be developed or redeveloped. Although the basic design parameters should remain in place, exact locations and configurations of suggested driveways and service/frontage roads may shift as development plans come into focus, especially for undeveloped areas.
Recommendations

Land uses that generate relatively high amounts of traffic should be located in areas of the Township offering appropriate infrastructure including highways and roads in terms of carrying capacity and distribution. The analysis provided suggests such uses should be located in the northern areas of the Township.

Access management provisions should be implemented on all highways and major county roads. Although not all of these roads receive a comparatively large amount of traffic, there will be increases in the development and the number of vehicles traveled during the next two decades. It is easier to implement access management prior to and during development than it is to retrofit.

Recommendations to be considered during any redevelopment, new development, or highway or road improvement projects include:

- Close driveways at businesses with multiple access points
- Combining driveways where possible if parcels redevelop
- Connector drives between business uses
- Work with developers and large business establishments to interconnect roads to reduce congestion from nearby properties
- Alternate routes should not be encouraged through the residential neighborhoods.
- If alternate access points are developed utilizing other roads, then the portions of the side road for commercial access should be upgraded to an all-season road and also implement access management standards
- A service road on the south side of US 31 for businesses from Manvel Road
- The US 31 and Pickerel Lake Road intersection: suggestions include modifying the grade of the intersection for site distance and maybe a traffic signal; right turn only from Pickerel Lake Road onto US 31 and then providing a “Michigan Left” to travel south on US 31; a roundabout.
- Non-motorized facilities maintained with safety features at driveways, entrances and at a highway or road.
- The Township should promote non-motorized trails between neighboring developments.

Zoning Requirements

Emmet County currently administers the zoning for Bear Creek Township. The Planning Commission should work with the County Planners to ensure that the recommendations in this plan are implemented. Many access management issues can be eliminated when state and local governments form teams to properly manage how access to primary roads are granted and controlled.

When reviewing zoning ordinance standards, it should be recognized that state acts can affect placement of signs and driveways within or near the public right-of-way including: Public Act 200 of 1969 “Driveways, Banners, Events, and Parades” and Public Act 106 of 1972 “Highway Advertising Act.”

The following points should be addressed in the zoning ordinance and during development reviews and rezoning:
1. Limit the number of driveways to each lot.
2. Restrict the number of lots fronting on highways and on busy roads.
3. Regulate the location, spacing, and design of driveways.
4. Encourage shared access to parcels and consolidate driveways where possible.
5. Locate driveways away from other driveways.
6. Restrict turning movements into and out of driveways.
7. Encourage passing lanes over road widening.
8. Restrict turns onto the roadway.
9. Encourage front or rear access drives (frontage roads).
10. Connect streets, roads, and access easements.
11. Promote internal connections and alternative accesses.

Zoning regulations in the past have created the existing conditions of site layouts and access. Assessing current standards and how they can be modified to improve access management is a critical step. Understanding what can occur under current regulations can allow Bear Creek Township and Emmet County to make appropriate modifications to the ordinances, policies, and site plan reviews to achieve the goals of corridor improvement.
Zoning Districts

- RESIDENTIAL DISTRICTS
  a. R1 One-Family and Two-Family Residential District
  b. R-2 General Residential District

- RECREATIONAL RESIDENTIAL DISTRICT (RR)

- SCENIC RESOURCE DISTRICT (SR)

- FARM AND FOREST DISTRICT (FF)
  - FF-1
  - FF-2

- FOREST RECREATION DISTRICTS (FR)

- BUSINESS DISTRICTS
  a. B-1 Local Tourist Business
  b. B-2 General Business
  c. B-3 Commercial/Industrial

- INDUSTRIAL DISTRICTS
  a. I-1 Light Industrial
  b. I-2 General Industrial

- PUD PLANNED UNIT DEVELOPMENT DISTRICT

Parking and Parking Lot Access
Parking shall be reviewed during site plan review by the Planning Commission except for residential or farm use. There shall be provided in all districts at the time of erection or enlargement of any main building or structure, automobile off-street parking space with adequate access to all spaces. The parking provisions should have specific standards relating to access, parking maneuvering lane width, and loading and unloading. Additional requirements may include providing access between uses. (Zoning Ordinance Article 22, Section 22.02)

The following Schedule of Regulations table provides a summary of the specific standards for each district.
## Section 19.00 Limiting Height, Bulk, Density and Area by Land Use

<table>
<thead>
<tr>
<th>DISTRICTS</th>
<th>Minimum Lot Size per Unit or Use</th>
<th>Maximum Height of Structure in Feet</th>
<th>Minimum Yard Setback in Feet</th>
<th>Maximum Percent of Lot Coverage by the Area of all Buildings</th>
<th>Minimum Floor Area in Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1 Single Family Residential</td>
<td>½ acre (a)</td>
<td>100</td>
<td>30 (f, h)</td>
<td>30 (e, g, i)</td>
<td>30%</td>
</tr>
<tr>
<td>R-2 General Residential</td>
<td>- (c)</td>
<td>100</td>
<td>30 (f, h)</td>
<td>30 (b, e, g, i)</td>
<td>20 (b, d, g, i) 35 (b, g, i) 35%</td>
</tr>
<tr>
<td>RR Recreation Residential</td>
<td>½ acre (a)</td>
<td>100</td>
<td>40 (e, g, i)</td>
<td>10 (d, g, i)</td>
<td>35 (i)</td>
</tr>
<tr>
<td>SR Scenic Resource</td>
<td>30,000 sq. ft. (a)</td>
<td>150</td>
<td>40 (e, g, i)</td>
<td>15 (d, g, i)</td>
<td>40 (i)</td>
</tr>
<tr>
<td>B-1 Local Tourist Business</td>
<td>none</td>
<td>100</td>
<td>30 (f, h)</td>
<td>25 (e)</td>
<td>10 (d, i)</td>
</tr>
<tr>
<td>B-2 &amp; B-3 General Business</td>
<td>none</td>
<td>100</td>
<td>30 (f, h)</td>
<td>25 (e)</td>
<td>10 (d)</td>
</tr>
<tr>
<td>P-T Parking Transition</td>
<td>- (d)</td>
<td>-</td>
<td>30 (f, h)</td>
<td>See (4)</td>
<td>10 (d, i)</td>
</tr>
<tr>
<td>I-1 &amp; I-2 Light &amp; General Industrial</td>
<td>none</td>
<td>100</td>
<td>30 (f)</td>
<td>30 (e)</td>
<td>10 (d)</td>
</tr>
<tr>
<td>FF-1 Farm Forest</td>
<td>1 acre</td>
<td>150</td>
<td>30 (f, h)</td>
<td>40 (e, g, i)</td>
<td>20 (d, g, i) 35 (i)</td>
</tr>
<tr>
<td>FF-2 Farm Forest</td>
<td>2 acres</td>
<td>200</td>
<td>30 (f, h)</td>
<td>40 (e, g, i)</td>
<td>20 (d, g, i) 35 (i)</td>
</tr>
<tr>
<td>FR Forest Recreation</td>
<td>40 acres</td>
<td>300</td>
<td>30 (f, h)</td>
<td>40 (e, g)</td>
<td>20 (d, g)</td>
</tr>
</tbody>
</table>

### Notes

- For permanent dwelling units and not cottages, cabins, motels or similar uses.
- These provisions shall not apply to structures four (4) feet in height or less.
- Refer to Section 22.11 for Minimum Waterfront Setback.
- FOR RESIDENCES ONLY: Setback sixty (60) feet from the 1986 High Water Mark. (JGLD 582.35', 10/86)
- Refer to Article 13, Section 13.03 for setback standards in P-T Districts.
- Outside stairways, fire escapes, vestibules, balconies, bay windows, and similar projections from the face of a building extending more than four (4) feet above the established grade shall be considered part of the building and shall not extend into any required yard or open space.
- See notes to Section 19.00 on the pages following.
**Signs**
Sign plans shall be reviewed for approval, conditional approval or rejection by the Zoning Administrator, in consultation with any Advisory Sign Review Committee appointed by the County Planning Commission. Non-illuminated signs or replacement signs which meet the standards of this Section may be reviewed and approved by the Zoning Administrator. Signs may be permitted in the highway or road right-of-way if permission is granted by the road agency. (Zoning Ordinance Article 22, Section 22.07)

**Site Plan and Special Condition Use Standards**
All driveways intersecting public roads shall intersect at an angle between 70 and 110 degrees with the public highway or road. (Zoning Ordinance Article 22, Section 22.10). Site Plan Review standards should contain general language regarding specific site access and any reviews conducted by the Planning Commission should have road agency review be required.

**Use of Access Easements**
Examples of how access management can be implemented during site plan review are illustrated below.

The first illustration is an existing condition where both buildings A and B have access to the highways or roads:

![Diagram of site plan with buildings and parking areas]
In the case where Building B expands or changes use, approval would be conditioned upon existing drive being removed and replaced with one at the property line, as well as an access easement recorded to allow access by buildings A and C.

If Building A expands or changes use, the drive on the highway is moved to the property line and a cross-access easement to buildings B and C recorded and the side street drive is moved farther away from the intersection.
Pedestrian and Bicycle Access
The Bear Creek Township Master Plan includes the following regarding non-motorized transportation options:

- Developments should be linked together with an interconnecting trail system. These trails should also link developments to the neighborhood facilities.
- The Plan addresses road connections and trails planning to help reduce existing transportation problem areas.
- Existing trails serve as linkage between land uses and developments as well as create an alternative transportation linkage system.
- During a road improvement project, these trails could be built as part of the road improvement. Trails should be a minimum of eight feet wide and physically separated from the road. In addition, when land adjacent to these trail areas is being proposed; the Township should work with the developer to have the trail built on their property.

Modifications to Ordinance Standards
Sample Ordinance language is provided as Appendix C of this document. The sample ordinance is intended to serve as a model to be used for discussion purposes for possible adoption.
Future Land Use
Understanding the master plan future land use recommendations for Bear Creek Township, provides useful insight into the future appearance and function of the highway and county road corridors. Reviewing these plans can allow the communities to make appropriate amendments to reflect the goals of access management discussed throughout this report.

Bay View
Bay View is known as the largest Victorian community in Michigan. This area provides community character and a source of taxing revenue. This has been fully developed and there are no plans for any new development. This area should be recognized more as a resource and attraction, such as a park, than a development area. No changes are expected or desired in the Bay View area. Bay View was designated in 1987 by the National Park Service as a National Historic Landmark.

High Density Residential
Land with this designation is intended to provide areas for single-family developments on smaller lots and multifamily units. Parcels designated High Density Residential should be located near other higher intensity developments such as mixed use areas for compatibility and to share services such as sewer, water, trails, utilities, roads, refuse disposal, and other infrastructure. Since the density will be higher in these locations, it will be important that all developments have a trail component allowing residents to walk to nearby facilities such as churches, schools, parks, stores, job centers, and restaurants. This pedestrian movement will help reduce the reliance on the automobile, thereby decreasing the amount of traffic generated in these areas.

Medium Density Residential
Land uses in this category are intended to provide areas for single-family development of a more suburban nature and provide appropriate neighborhood facilities such as a church, school, day care, and recreational facility. Developments should be linked together with an interconnecting trail system. These trails should also link developments to the neighborhood facilities.

Low Density Residential
These areas are intended for single-family development and are near open space areas or agricultural lands. These areas are not anticipated to have high growth and the majority of them are not expected to have public services.

Agricultural
The intent of this designation is to maintain, promote, and encourage existing farming operations to continue by protecting them from encroachment of incompatible uses and should primarily be for agricultural operations.

Commercial
The commercial classification is designed to accommodate retail and office uses that exist along the major travel corridors, and to encourage additional in-fill along these routes to take advantage of the existing traffic.
Loading operations should be restricted to the rear or side yards (if the adjoining property is commercial). Overhead doors should not front the public rights-of-way. Landscaping should be used to give the commercial area an identity and improve community aesthetics. Building and parking areas should be set back from the road. Parking areas should be shared and minimized to the greatest extent possible.

Excessive curb cuts currently exist along portions of US 31 and US 131 and therefore, the use of shared access drives and frontage roads is encouraged to improve traffic patterns and to assist in the maneuverability of vehicles between sites by limiting the number of cars turning from the main roads. All commercial developments along US-31, M-119, and US-131 should use the Access Management Plan to promote the number of shared drives and minimize the number of curb cuts. All commercial developments on US-131 south of Lears Road should use Anderson Road as the access point to minimize curb cuts, future traffic lights and road safety.

**Industrial**
The industrial location is designed to incorporate existing industrial operations and provide for expansions near existing industrial uses, such as the Fochtman Industrial Park. The plan envisions the expansion of light industrial uses for the purposes of minimizing nuisance impacts such as smoke, noise, increases in traffic volumes, dust, etc. Light industrial uses are defined as wholesale operations, warehouse facilities, and manufacturing processes that involve pre-fabricated materials and generally do not create a significant nuisance to adjoining properties.

The main elements of well-designed industrial uses include controlled site access, service areas located at the sides and rear of buildings, convenient access, visitor parking and onsite circulation, screening of outdoor storage, work areas, and equipment, emphasis on the main building entry and landscaping. Buildings and parking areas should be set back from the road and heavily landscaped between the parking area and the road right-of-way.

**Mixed-Use**
Mixed-use development is typically more urban in character than most land uses within Bear Creek Township at this time. However, some mixed-uses exist along the major highways or adjacent to existing commercial areas. In the future, developers may request mixed-use developments in these same areas.

Mixed-use designated areas are higher intensity uses with a mixture of commercial and high density residential units, internally connected with roadways and walking paths that also connect with surrounding properties.

**Road Connections**
An important factor to consider in land use planning is transportation. This Future Land Use plan addresses road connections and trails planning to help reduce existing transportation problem areas. Although this is not a comprehensive study, these improvements will allow for connections that will improve transportation and enhance public safety. When a development is proposed near one of the designated road connection locations, the Township should work with the developer and the Road Commission to build road connections.
A coordinated and comprehensive access management approach is essential if future growth is going to be accommodated and the economic benefits realized. Development decisions are under the purview of several agencies. Bear Creek Township and Emmet County have jurisdiction over land use planning, zoning, and site plan review outside the highway and road right-of-way. The Michigan Department of Transportation (MDOT) has jurisdiction over US 131, US 31 and M-119 highway improvements within the right-of-way and the Emmet County Road Commission has jurisdiction over the county road improvements within the right-of-way. Successful implementation of the recommendations in this plan requires a partnership between Bear Creek Township, Emmet County, MDOT and the Emmet County Road Commission.

In Bear Creek Township, all sites may not be able to meet all of the access management standards and practices, particularly at the existing developed sites. But, to address these situations, the Access Management Plan and possibly an ordinance can provide the authority to modify the standards on a case-by-case basis.

The Township can require traffic impact studies be performed for developments that have the potential to generate significant volumes of traffic for safety and function. These studies would evaluate the impact that a proposed development will have on the highway or road system and identify mitigation to offset the impact.

The flow chart below, illustrates the implementation of the Access Management Plan for a development review process. This process provides a coordinated review by Bear Creek Township, Emmet County, MDOT and the Emmet County Road Commission. The intent of the process is to ensure that the local review of the site plan design and the highway and/or road agency’s access permit process is coordinated. This provides feedback loops between the planning commission and the highway and/or road agency as modifications are made to access and circulation.

VI. Adoption, Monitoring and Enforcement
No community that has a consensus for improved access management should let funding issues hinder the implementing of access management standards and practices. Many driveways can be voluntarily closed or consolidated through timely one-on-one discussions with land owners and many of the access management regulatory techniques can be quickly added to a local zoning ordinance and/or site plan review.
Temporary driveway permits granted

Permanent drives

Temporary driveways removed and permanent drives installed
Monitoring and Enforcement
A monitoring and enforcement program can help to evaluate the effectiveness of strategies that are implemented. This program is an instrumental part of the Township’s ongoing access management process and include an impartial assessment system for implemented strategies and an appropriate timetable for their execution. There should be a mechanism developed for determining effectiveness based on the following suggested list of variables:

- Safety Improvements (crash reduction)
- Reduced congestion
- Improved travel time
- Number of closed or consolidated driveways
- Number of improved driveways as a result of changes associated with business or parking expansion
- Number and length of new service drives
- Business impact
- Improved non-motorized access
- Enforcement action taken against creation of unauthorized driveways
APPENDIX

SAMPLE BEAR CREEK TOWNSHIP ACCESS MANAGEMENT REGULATIONS

Section 2.0 Purpose, Intent and Application

A. The purpose of this Article is to establish minimum regulations for access to property. Standards are established for new roads, driveways, shared access, parking lot cross access, and service roads. The standards of this Article are intended to promote safe and efficient travel within Bear Creek Township of Emmet County; minimize disruptive and potentially hazardous traffic conflicts; ensure safe access by emergency vehicles; protect the substantial public investment in the street system by preserving capacity and avoiding the need for unnecessary and costly reconstruction which disrupts business and traffic flow; separate traffic conflict areas by reducing the number of driveways; provide safe spacing standards between driveways, and between driveways and intersections; provide for shared access between abutting properties; implement the Emmet County Master Plan and the US-31 & M-119 Access Management Plan recommendations; ensure reasonable access to properties, though not always by the most direct access; and to coordinate access decisions with the Michigan Department of Transportation and/or the Emmet County Road Commission, as applicable.

B. The standards in this Article are based on extensive traffic analysis of these corridors by the Emmet County Road Commission, Bear Creek Township, Emmet County Planning Commission, and Michigan Department of Transportation (MDOT). This analysis demonstrates that the combination of roadway design, traffic speeds, traffic volumes, traffic crashes and other characteristics necessitate special access standards. The standards in this Article apply to private and public land along road rights-of-way which are under the jurisdiction of Emmet County Road Commission or MDOT. The requirements and standards of this Article shall be applied in addition to, and where permissible shall be used with the requirements of MDOT, the Emmet County Road Commission, or other Articles of this Zoning Ordinance.

C. The standards of this Article shall be applied by the Zoning Administrator during plot plan review or by the Planning Commission during site plan review, as is appropriate to the application. The Planning Commission shall make written findings of nonconformance, conformance, or conformance if certain conditions are met with the standards of this Article prior to disapproving or approving a site plan per the requirements of Section 20.05. The Emmet County Planning Commission shall coordinate its review of the access elements of a plot plan or site plan with the appropriate road authority prior to making a decision on an application (see D. below). The approval of a plot plan or site plan does not negate the responsibility of an applicant to subsequently secure driveway permits from the appropriate road authority, either Emmet County Road Commission, or MDOT. Any driveway permit obtained by an applicant prior to review and approval of a plot plan or site plan that is required under this Ordinance will be ignored.

D. Neither the Zoning Administrator nor the Planning Commission shall take action on a request for a new road, driveway, shared access, or a service drive that connects to a public road without first consulting Emmet County Road Commission or MDOT. To ensure coordination, applicants are required to submit a plot plan, site plan or a tentative preliminary plat concurrently to both Emmet County Road Commission and MDOT as applicable. Complete applications shall be received at least 24 days before the Planning Commission meeting at which action is to be taken. If the initial review of the application by the Zoning Administrator reveals noncompliance with the standards of this Article then the Zoning Administrator shall require submittal of a traffic impact study as described below prior to consideration of the application by either the Zoning Administrator or the Planning Commission.

1. At a minimum the traffic study shall contain the following:
   a. Analysis of existing traffic conditions and/or site restrictions using current data.
b. Projected trip generation at the subject site or along the subject service drive based on the most recent edition of the Institute of Transportation Engineers Trip Generation manual. The Emmet County Planning Commission may approve use of other trip generation data if based on recent studies of at least three (3) similar uses within similar locations in Michigan.

c. Illustrations of current and projected turning movements at access points. Include identification of the impact of the development and its proposed access on the operation of the abutting streets. Capacity analysis shall be completed based on the most recent version of the Highway Capacity Manual published by Transportation Research Board, and shall be provided in an appendix to the traffic impact study.

d. Description of the internal vehicular circulation and parking system for passenger vehicles and delivery trucks, as well as the circulation system for pedestrians, bicycles and transit users.

e. Justification of need, including statements describing how the additional access will meet the intent of this Section, will be consistent with the US-31 & M-119 Access Management Plan and the Emmet County Master Plan, will not compromise public safety, and will not reduce capacity or traffic operations along the roadway.

f. Qualifications and documented experience of the author, describing experience in preparing traffic impact studies in Michigan. The preparer shall be either a registered traffic engineer (P.E.) or transportation planner with at least three (3) years of experience preparing traffic impact studies in Michigan. If the traffic impact study involves geometric design, the study shall be prepared or supervised by a registered engineer with a strong background in traffic engineering.

2. The Emmet County Planning Commission may utilize its own traffic consultant to review the applicant's traffic impact study, with the cost of the review being borne by the applicant.

E. Failure by the applicant to begin construction of an approved road, driveway, shared access, service drive or other access arrangement within twenty-four (24) months from the date of approval, shall void the approval and a new application is required.

F. The Zoning Administrator shall inspect the driveway as constructed for conformance with the standards of this Ordinance and any approval granted under it, prior to an occupancy permit being issued.

Section 2.1 Identification of Corridor Overlay Zone

The US-31 corridor is defined as those properties that abut the highway right-of-way either side of US-31 in Bear Creek Township of Emmet County between Division Road and Graham Road to a depth of 350 feet. The M-119 corridor is defined as those properties that abut the highway right-of-way either side of M-119 in Bear Creek Township of Emmet County between US-31 and Powell Road to a depth of 350 feet. The following regulations supersede otherwise applicable regulations of the specific districts beneath the overlay zone.

Section 2.2 Driveway and Related Access Standards

All lots hereafter created and all structures hereafter created, altered or moved on property with frontage on or access to a public road or street that is subject to regulation per Section 2.1, shall conform to the following requirements:

A. Access Location Standards

1. Access Point Approval Required - No road, driveway, shared access, parking lot cross access, service road, or other access arrangement shall be established, reconstructed or removed without first meeting the requirements of this Section. No access point shall connect to a public street or road, without first receiving approval of the location and cross-section specifications from Emmet County Road Commission or MDOT. No access point shall connect to a private road unless approved by the Planning Commission and by the parties with an ownership
interest in the private road. Any private road or access easement must be recorded with the Emmet County Register of Deeds that meets the requirements of this Article. Contiguous properties under one ownership or consolidated for unified development will be considered one parcel for purposes of this Article.

2. Minimum Lot Width - Except for existing lots of record, all lots fronting on a major arterial, arterial or collector subject to this Article, shall not be less than 300 feet in width, unless served by shared access or a service drive that meets the requirements of Section 2.3, in which case minimum lot width may be reduced per the requirements of Section 2.6.

3. Clear Vision – All access points shall maintain clear vision as illustrated in Figure 2.1.

![Figure 2.1](image)

Driveways shall be located so as not to interfere with safe intersection sight distance as determined by the appropriate road authority.

4. Street Structures - 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.

5. Factors on Location of Driveway Access - At a minimum, the following factors shall be considered prior to making a decision on the location of a driveway or other access point:
   a. The characteristics of the proposed land use;
   b. The existing traffic flow conditions and the future traffic demand anticipated by the proposed development on the adjacent street system;
   c. The location of the property;
   d. The size of the property;
   e. The orientation of structures on the site;
   f. The minimum number of driveways or other access points needed to accommodate anticipated traffic based on a traffic analysis, as determined by the community and road agency. Such finding shall demonstrate traffic operations and safety along the public street would be improved (or at least not negatively affected), and not merely that another access point is desired for convenience;
   g. The number and location of driveways on existing adjacent and opposite properties;
   h. The location and functional classification of abutting streets or roads and the carrying capacity of nearby intersections;
   i. The proper geometric design of driveways;
   j. The spacing between opposite and adjacent driveways and from any nearby intersection;
k. The internal circulation between driveways and through parking areas;

l. The size, location and configuration of parking areas relative to the driveways; and

m. The speed of the adjacent roadway.

6. Access Point Location - Each access point location shall be consistent with the US-31 & M-119 Access Management Plan that has been adopted by the County of Emmet, the Emmet County Road Commission, and/or the Michigan Department of Transportation.

7. Access Points within Right-of-Way - Driveways including the radii but not including right-turn lanes, passing lanes and tapers, shall be located entirely within the right-of-way frontage, unless otherwise approved by the road agency and upon written certification from the adjacent land owner agreeing to such encroachment.

8. Relationship to Lot Line - No part of a driveway shall be located closer than 15 feet from a lot line unless it is a common or shared driveway as provided in Article 20. This separation is intended to help control stormwater runoff, permit snow storage on site, and provide adequate area for any necessary on-site landscaping.

9. Existing Driveways – Except for shared driveways, existing driveways that do not comply with the requirements of this Article shall be closed when an application for a change of use requiring a zoning permit or a site plan requiring approval under Section 2405 is submitted and once approval of a new means of access under this Article is granted. A closed driveway shall be graded and landscaped to conform to adjacent land and any curb cut shall be filled in with curb and gutter per the standards of the applicable road authority. See also Section 2.5.

B. Number of Driveways Permitted

1. Access for an individual parcel, lot, or building site or for contiguous parcels, lots or building sites under the same ownership shall consist of either a single two-way driveway or a paired system wherein one driveway is designed, and appropriately marked, to accommodate ingress traffic and the other egress traffic.

2. One driveway shall be permitted for each single and two-family residential lot or parcel.

3. A temporary access permit may be issued for field entrances per Section 2.4, for cultivated land, timber land, or undeveloped land. Uses at which no one resides or works such as cellular towers, water wells, pumping stations, utility transformers, billboards, and similar uses may be provided an access; however, shared access must be considered, such driveways will be reviewed on a case-by-case basis. The review shall take into account the proximity of the adjacent driveways and intersecting streets, as well as traffic volumes along the roadway.

4. For a parcel, lot, or building site with frontage exceeding 600 feet, or where a parcel, lot, or building site has frontage on at least two streets, an additional driveway may be allowed, provided that a traffic impact study is submitted by the applicant showing that conditions warrant an additional driveway and that all driveways meet the spacing requirements.

5. Certain developments generate enough traffic to warrant consideration of an additional driveway to reduce delays for exiting motorists. Where possible, these second access points should be located on a side street or service drive, or shared with adjacent uses, or designed for right-turn-in, right-turn-out only movements and shall meet the spacing requirements of this ordinance. In order to be considered for a second driveway on US-31, M-119, or a collector street combined approach volumes (entering and exiting) of a proposed development shall exceed 100 directional trips during the peak hour of traffic and a traffic impact study shall be performed. Uses where a second driveway could be considered are influenced by the trip generation, characteristics of the uses, and the volumes of the adjacent roadway.

6. When alternatives to a single, two-way driveway are necessary to provide reasonable driveway access to property fronting on US-31 or M-119, and shared access or a service drive are not a viable option, the following progression of alternatives should be used:

   a. One (1) standard, two-way driveway;

   b. Additional ingress/egress lanes on one (1) standard, two-way driveway;

   c. Two (2), one-way driveways;

   d. Additional ingress/egress lanes on two (2), one-way driveways;
e. Additional driveway(s) on an abutting street with a lower functional classification;

C. Access Point Spacing Standards

1. Separation from Other Driveways -
   a. The minimum spacing between non-signalized driveways and other access points shall be determined based upon posted speed limits along the parcel frontage unless the appropriate road authority approves less based on the land use and restricted turns in the driveway design. The minimum spacings indicated below are measured from the centerline of one driveway to the centerline of another driveway. For sites with insufficient road frontage to meet the table below, the Planning Commission shall require one of the following: construction of the driveway along a side street, a shared driveway with an adjacent property, construction of a driveway along the property line farthest from the intersection, or a service drive as described in Section 2.3. The Planning Commission may grant temporary access approval (see Section 2.4) until such time that the minimum spacing requirements can be met or alternative access meeting the requirements of this ordinance is approved.

<table>
<thead>
<tr>
<th>Posted Speed Limit (MPH)</th>
<th>Min. Access Spacing (in feet) between Adjacent Access Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>245</td>
</tr>
<tr>
<td>40</td>
<td>300</td>
</tr>
<tr>
<td>45</td>
<td>350</td>
</tr>
<tr>
<td>50+</td>
<td>455</td>
</tr>
</tbody>
</table>

Note: The values in the table above are considered minimums based on the distances required to avoid conflicts between vehicles turning right or left from adjacent driveways.

   b. In the case of expansion, alteration or redesign of an existing development where it can be demonstrated that pre-existing conditions prohibit adherence to the minimum driveway spacing standards, the Planning Commission shall have the authority to modify the driveway spacing requirements or grant temporary access approval until such time that minimum spacing requirements can be met, or alternative access meeting the requirements of this ordinance is approved. Such modifications shall be of the minimum amount necessary, but in no case shall driveway spacing of less than 50 feet be permitted by the Planning Commission.

2. Access Point Separation from Intersections - All one and two-family driveways shall be separated from the nearest right-of-way of an intersecting street by at least 50 feet. Driveways for all other land uses shall be separated from the nearest right-of-way of an intersecting street. Please see table on Page 82.
   a. Access point spacing from intersections shall be measured from the centerline of the driveway to the extended edge of the travel lane on the intersecting street unless otherwise noted.
   b. The minimum distance between an access point and an intersecting street shall be based on the information provided in the table above.
Minimum Access Point Spacing from Street and Other Intersections*

<table>
<thead>
<tr>
<th>Location of Access Point</th>
<th>Min. Spacing for a Full Movement Driveway or other Access Point</th>
<th>Min. Spacing for a Driveway Restricting Left-turns (channelized for right-turn-in and right-turn-out only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Along Arterial or from another Intersecting Arterial</td>
<td>300 feet</td>
<td>125 feet</td>
</tr>
<tr>
<td>Along Arterial Intersecting a Collector or Local Street</td>
<td>200 feet</td>
<td>125 feet</td>
</tr>
<tr>
<td>Along a Collector</td>
<td>125 feet</td>
<td>75 feet</td>
</tr>
<tr>
<td>Along a Local Street or Private Road</td>
<td>75 feet</td>
<td>50 feet</td>
</tr>
</tbody>
</table>

c. If the amount of lot frontage is not sufficient to meet the above criterion, the driveway shall be constructed along the property line farthest from the intersection to encourage future shared use, and/or a frontage road or rear service drive shall be developed as described in Section 2.3.

d. For parcels on which an alternative means of access (shared driveway, frontage road, service drive or connected parking lots) is not feasible due to parcel size or existing adjacent development, the Planning Commission may allow a non-channelized, full movement driveway provided that:
   1. the driveway is spaced no closer to the intersection than the minimum spacing allowed for a right-turn-in, right-turn-out driveway; and
   2. a traffic study conducted by a registered traffic engineer shows a right-turn-in, right-turn-out driveway does not provide reasonable access or desired safety; and
   3. a traffic study, conducted by a registered traffic engineer, provides substantial justification that the driveway operation will not create safety problems at the adjacent intersection.

D. Driveway Design and Construction Standards

1. Driveway or Throat Width –
   a. No single or two-family driveway shall have a width less than nine (9) feet or more than sixteen (16) feet at the public road right-of-way. The driveway opening, including flares, shall not be more than 1.5 times the width of the driveway at the right-of-way line.
   b. The typical commercial driveway design shall include one ingress lane and one egress lane with a combined maximum throat width of thirty (30) feet, measured from face to face of curb.
   c. Where exit traffic volumes are expected to exceed 100 directional trips per peak hour, or in areas where congestion along the arterial may create significant delays, as determined by the Planning Commission, two exit lanes shall be required. The total width of such a driveway shall be between 37 and 39 feet, with one 15 foot wide ingress lane and two 11-12 foot wide egress lanes.
   d. For access systems which include a pair of one-way driveways, each driveway shall be a minimum of sixteen (16) feet wide, measured perpendicularly.
e. As an alternative to (d) above, the driveway may be designed with a fully curbed median dividing the ingress and egress driveways, with a maximum median width of ten feet. The radii forming the edges on the median shall be designed to accommodate the largest vehicle that will normally use the driveway. Where median or boulevard driveways are located across the street from each other, the left-turn egress lanes shall be aligned directly across from one another to minimize left-turn conflicts (see Figure 2-2d). Boulevard driveways should not be constructed at existing or future traffic signal locations unless there is a left-turn lane where the boulevard meets the road right-of-way. Ground or monument signs shall not be permitted in boulevards if they would block motorist vision or otherwise create an unsafe condition. The Planning Commission may require landscaping on the portion of the boulevard outside the public right-of-way. Such landscaping shall use salt tolerant species.

2. Restricted Access Driveways -
Left and right-turn movements on and off roadways typically have the greatest impact on traffic flow and crash frequency. Therefore, where driveways are to be located in a segment defined in adopted corridor studies as having a high crash rate or significant traffic congestion/delays, or where left-turn access is available through alternative means of access, the Planning Commission may require driveway design and signing which discourages certain turning movements. Where driveways are intended to control specific left and/or right-turn ingress and egress, the recommended designs shall apply. Similar designs shall be accepted, provided that they are approved by MDOT and/or Emmet County Road Commission, if applicable.

3. Throat Length or Vehicle Stacking/Storage Space- There shall be a minimum of twenty (20) feet of throat length for entering and exiting vehicles at the intersection of a driveway and pavement of the public road or service drive as measured from the pavement edge. For driveways serving between one-hundred (100) and four-hundred (400) vehicles in the peak hour (two-way traffic volumes) the driveways shall provide at least sixty (60) feet of throat length. For driveways serving over four-hundred (400) vehicles per peak hour (two-way traffic volume) and for all driveways controlled by a traffic signal, adequate throat length shall be determined by a traffic impact study. In areas where significant pedestrian/bicycle travel is expected, the ingress and egress lanes should be separated by a 4-10 feet wide median with pedestrian refuge area. In the absence of adequate traffic volume data, application of the commonly used values are appropriate.

4. Construction Standards -
a. Curb radii:
   1. Driveways shall be designed with minimum 25 foot radii where primarily passenger vehicle traffic is expected.
   2. For sites where truck traffic is expected, the driveways shall be designed with a minimum 30 foot radius unless a traffic analysis by a qualified traffic engineer reveals another radius is more appropriate for the vehicles expected to use the driveway.
FIGURE 2 -1  [EXAMPLE FROM DELTA TOWNSHIP, MICHIGAN]

TYPICAL DRIVEWAY SPACINGS

Note: The spacing on this example is tailored to fit local conditions and is different from the spacing in Table 2.2-3 or MDOT's guidelines on Figure 3-16. Local driveway spacing standards need to be established to fit local conditions.
b. Deceleration lanes and tapers:
1. Where it can be demonstrated that driveway volumes are expected to exceed 100 peak hour directional trips per hour, a right-turn taper, deceleration lane and/or left-turn bypass lane may be required.
2. Where site frontage allows and a right-turn lane is warranted, a taper between 50 and 225 feet may be required.
3. Where the amount of frontage precludes the construction of a deceleration lane and taper combination entirely within the property lines of a parcel, a request shall be made to the owner of the parcel to allow the installation of a right-turn bay and taper which extends beyond the property line. If permission cannot be obtained from the adjacent property owner for an extension onto that parcel, a taper of at least 75 feet shall be constructed.
4. A continuous right-turn lane, as shown in Figure 2-4c may be required where driveway spacing requirements restrict the use of consecutive turn bays and tapers, and a traffic engineer concludes it can be constructed without being used as a through lane.
5. For driveways located along streets without an exclusive left-turn lane, a bypass lane may be required. Such a lane shall be designed to the standards in the Michigan Department of Transportation and Traffic and Safety Notes # 7.7

c. Acceleration lanes
1. Generally, acceleration lanes are not permitted. However, where site frontage allows and large semi-trucks and other slow moving vehicles routinely access an arterial, an acceleration lane may be required in consultation with the applicable road authority.
2. The acceleration lane shall be designed by a traffic engineer to meet the needs of vehicles using it, topography, sight distance and other relevant factors.
3. Driveways shall not be permitted within an acceleration lane.

d. Grades and drainage
1. Driveways shall be constructed such that the grade for the 25 feet nearest the pavement edge or shoulder does not exceed 1.5% (one and one-half foot vertical rise in one-hundred feet of horizontal distance) wherever feasible. Where not feasible, grades shall conform to Figure 2-5:

![Figure 2-5](image)

2. Low Volume Commercial or Residential Driveway SLOPES

- When the distance between the sidewalk and edge of pavement is 3' or less, tilt sidewalk to 3/24% slope or match driveway approach grade.
FIGURE 2-2  [EXAMPLE FROM DELTA TOWNSHIP, MICHIGAN]

TYPICAL CONFIGURATIONS FOR DRIVEWAYS
CURBED ROADWAYS

a. TYPICAL 2-WAY DRIVEWAY

b. HIGH-USE DRIVEWAY

c. ONE-WAY DRIVEWAYS

ARTERIAL STREET

MEDIAN WIDTH
4' TO 10'

4' NOSE OFFSET

25' R (MIN)

20' x 10'

40' TAPER

10'

(d. BOULEVARD DRIVEWAYS

Note: The left-turn lanes in d. Boulevard Driveways will work better if the left-turn lanes are directly across from one another. This requires cutting off a portion of the nose of the boulevard. Also, turning radii and throat width need to be designed to accommodate vehicles using the driveway. See also MDOT Design Guide for Commercial Driveways, VII-600A
2. Vertical curves, with a minimum length of 15 feet shall be provided on driveway approaches at a change in grade of 4% or more.

3. Driveways shall be constructed such that drainage from impervious areas located outside of the public right-of-way, which are determined to be in excess of existing drainage from these areas shall not be discharged into the roadway drainage system absent the approval of the responsible agency. Storm drains, or culverts, if required shall be of a size adequate to carry the anticipated storm flow and be constructed and installed pursuant to the specifications of the responsible road authority.

e. Surface and Curb Construction - Commercial and all other nonresidential driveways shall be constructed of permanent asphalt or concrete material sufficient to provide the bearing capacity needed to carry the anticipated traffic loads as determined by the appropriate road authority unless the road authority approves use of another material. Where a driveway connects with a curbed road, it shall be paved and curbed from the edge of pavement to either the right-of-way line or point of curvature of the radius returns. All soil erosion and sedimentation requirements shall be met.
f. Directional Signs and Pavement Markings -
In order to ensure smooth traffic circulation on the site, direction signs and pavement markings shall be installed at the driveway(s) in a clearly visible location as required by the Emmet County Planning Commission as part of the site plan review process and approved by the Michigan Department of Transportation and Emmet County Road Commission (as appropriate), and shall be maintained on a permanent basis by the property owner. Directional signs and pavement markings shall conform to the standards in the Michigan Manual of Uniform Traffic Control Devices.

E. Shared Access
Shared access is strongly encouraged and in some cases may be required. When required, one or more of the following options and the standards of Section 2.3 apply.

1. Shared Driveways: In cases where access is restricted by the spacing requirements of Section 2.2.D, “Access Point Spacing Standards”, a shared driveway may be the only access design allowed. The shared driveway shall be constructed along the midpoint between the two properties unless a written easement is provided which allows traffic to travel across one parcel to access another, and/or access the public street.

2. Frontage Roads: In cases where a frontage road exists, it is recommended either in Emmet County’s Master Plan or in the US-31 & M-119 Access Management Plan, and/or is proposed in an approved site plan for an adjoining lot or parcel, access shall be provided via such frontage road, rather than by direct connection to the abutting arterial street. (See Section 2.3)

3. Rear Service Drives: Rear service drives shall be encouraged, especially for locations where connection to a side street is available. In addition to access along the rear service drive, direct connection(s) to US-31 or M-119 may be allowed, provided that the driveways meet the requirements of Section 2.2.B, "Number of Driveways", and 2.2.C, "Access Point Spacing Standards."

F. Parking Lot Connections
Where a proposed parking lot is adjacent to an existing parking lot of a similar use, there shall be a vehicular connection between the two parking lots where physically feasible, as determined by the Planning Commission. For developments adjacent to vacant properties, the site shall be designed to provide for a future connection. A written access easement signed by both landowners shall be presented as evidence of the parking lot connection prior to the issuance of any final zoning approval.

G. Access Easements
Shared driveways, cross access driveways, connected parking lots, and service drives shall be recorded as an access easement and shall constitute a covenant running with the land. Operating and maintenance agreements for these facilities should be recorded with the deed.

H. Medians and Median Openings
1. The type, location and length of medians on public roads shall be determined by the entity having jurisdiction over such roads. This determination will be made in consultation with the Planning Commission and will be based on existing and projected traffic conditions; the type, size, and extent of existing and projected development and traffic generated by development; traffic control needs; and other factors.

2. The minimum spacing between median openings shall be 660 feet in urban locations and 1,320 feet in rural locations.

3. Median openings intended to serve development must meet or exceed the minimum median opening spacing standards and must also be justified by a traffic impact analysis approved by the entity having jurisdiction over such roads, in consultation with the Planning Commission. The cost for preparation of the traffic impact analysis and construction of the median opening or openings, including installation and operation of signals and other improvements where warranted, shall be borne by the applicant.
Section 2.3 Service Drives and Other Shared Access Standards

A. The use of shared access, parking lot connections and service drives, in conjunction with driveway spacing, is intended to preserve traffic flow along major thoroughfares and minimize traffic conflicts, while retaining reasonable access to the property. Where noted above, or where the Planning Commission determines that restricting new access points or reducing the number of existing access points may have a beneficial impact on traffic operations and safety while preserving the property owner's right to reasonable access, then access from a side street, a shared driveway, a parking lot connection, or service drive connecting two or more properties or uses may be required instead of more direct connection to the arterial or collector street. However, where traffic safety would be improved, and the driveway spacing requirements of this ordinance can be met, then direct connection to the arterial or collector street may be allowed in addition to a required service drive.

1. In particular, shared access, service drives or at least a connection between abutting land uses may be required in the following cases:
   a. Where the driveway spacing standards of this section cannot be met.
   c. When the driveway could potentially interfere with traffic operations at an existing or planned traffic signal location.
   d. The site is along a collector or arterial with high traffic volumes, or along segments experiencing congestion or a relatively high number of crashes.
   e. The property frontage has limited sight distance.
   f. The fire (or emergency services) department recommends a second means of emergency access.

2. In areas where frontage roads or rear service drives are recommended, but adjacent properties have not yet developed, the site shall be designed to accommodate a future road/facility designed according to the standards of this Section. The Planning Commission may approve temporary access points where a continuous service drive is not yet available and a performance bond or escrow is accepted to assure elimination of temporary access when the service road is constructed. (See Section 2.4 Temporary Access Permits).

B. Notwithstanding the requirements of the Bear Creek Township Land Division Ordinance and Emmet County Zoning Ordinance (Land Development Standards), the standards for all service drives shall be as follows:

1. Site Plan Review - The Planning Commission shall review and approve all service drives to ensure safe and adequate continuity of the service drive between contiguous parcels as part of the site plan review process in Article 20.

2. Front and Rear Service Drives - A front or rear service drive may be established on property which abuts only one public road. The design of a service road shall conform with national design guidelines such as those identified in the National Access Management Manual by TRB, the AASHTO “Green Book”, and National Cooperative Highway Research Program (NCHRP), “Access Management Guidelines to Activity Centers” Report 348 and “Impacts of Access Management Techniques” Report 420.

3. Location - Service roads shall generally be parallel to the front property line and may be located either in front of, or behind, principal buildings and may be placed in required yards. In considering the most appropriate alignment for a service road, the Planning Commission shall consider the setbacks of existing and/or proposed buildings and anticipated traffic flow for the site.

4. Width and Construction Materials - A service drive shall be within an access easement permitting traffic circulation between properties. The easement shall be recorded with the County Register of Deeds. This easement shall be at least forty (40) feet wide. A service drive shall have a minimum pavement width of 24 feet, measured face to face of curb with an approach width of 36 feet at intersections. The service drive shall be constructed of a paved surface material that is resistant to erosion and shall meet Emmet County Road Commission or
MDOT standards for base and thickness of asphalt or concrete, unless the community has more restrictive standards.

5. Snow Storage and Landscaping Area - A minimum of fifteen (15) feet of snow storage/landscaping area shall be reserved along both sides of the service drive. Frontage roads shall have a minimum setback of 30 feet from the right-of-way, with a minimum of 60 feet of storage at the intersection for entering and exiting vehicles as measured from the pavement edge.

6. Distance from Intersection on Service Drives - Frontage road and service drive intersections at the collector or arterial street shall be designed according to the same minimum standards as described for driveways in Section 2.2.D.2.

7. Driveway Entrance - The Planning Commission shall approve the location of all accesses to the service drive, based on the driveway spacing standards of this Article. Access to the service drive shall be located so that there is no undue interference with the free movement of service drive and emergency vehicle traffic, where there is safe sight distance, and where there is a safe driveway grade as established by the applicable road authority.

8. Driveway Radii - All driveway radii shall be concrete curbs and conform to the requirements of Section 2.2.E.4.

9. Acceleration Lanes and Tapers - The design of the driveway, acceleration, deceleration or taper shall conform to the requirements of Section 2.2.E.4.

10. Elevation - The elevation of a service drive shall be uniform or gently sloping between adjacent properties.

11. Service Drive Maintenance - No service drive shall be established on existing public right-of-way. The service drive shall be a public street (if dedicated to and accepted by the public), or a private road maintained by the adjoining property owners it serves who shall enter into a formal agreement for the joint maintenance of the service drive. The agreement shall also specify who is responsible for enforcing speed limits, parking and related vehicular activity on the service drive. This agreement shall be approved by the Emmet County attorney and recorded with the deed for each property it serves by the County Register of Deeds. If the service drive is a private road, the local government shall reserve the right to make repairs or improvements to the service drive and charge back the costs directly or by special assessment to the benefiting landowners if they fail to properly maintain a service drive.

12. Landscaping - Landscaping along the service drive shall conform to the requirements of Section 22.04. Installation and maintenance of landscaping shall be the responsibility of the developer or a property owners association.

13. Parking Areas - All separate parking areas (i.e. those that do not use joint parking cross access) shall have no more than one (1) access point or driveway to the service drive.

14. Parking - The service road is intended to be used exclusively for circulation, not as a parking, loading or unloading aisle. Parking shall be prohibited along two-way frontage roads and service drives that are constructed at the minimum width (see B.4. above). One-way roads or two-way roads designed with additional width for parallel parking may be allowed if it can be demonstrated through traffic studies that on-street parking will not significantly affect the capacity, safety or operation of the frontage road or service drive. Perpendicular or angle parking along either side of a designated frontage road or service drive is prohibited. The Planning Commission may require the posting of "no parking" signs along the service road. As a condition to site plan approval, the Planning Commission may permit temporary parking in the easement area where a continuous service road is not yet available, provided that the layout allows removal of the parking in the future to allow extension of the service road. Temporary parking spaces permitted within the service drive shall be in excess of the minimum required under Section 22.02, Parking Requirements.

15. Directional Signs and Pavement Markings - Pavement markings may be required to help promote safety and efficient circulation. The property owner shall be required to maintain all pavement markings. All directional signs and pavement markings along the service drive shall conform to the current Michigan Manual of Uniform Traffic Control Devices.
16. Assumed Width of Pre-existing Service Drives - Where a service drive in existence prior to the effective date of this provision has no recorded width, the width will be considered to be 40 feet for the purposes of establishing setbacks and measured an equal distance from the midpoint of the road surface.

17. Pedestrian and Bicycle Access - Separate, safe access for pedestrians and bicycles shall be provided on a sidewalk or paved path that generally parallels the service drive unless alternate and comparable facilities are approved by the Planning Commission.

18. Number of Lots or Dwellings Served - No more than twenty-five (25) lots or dwelling units may gain access from a service drive to a single public street.

20. Service Drive Signs - All new public and private service drives shall have a designated name on a sign meeting the standards of the Emmet County Street Numbering Ordinance.

21. In the case of expansion, alteration or redesign of existing development where it can be demonstrated that pre-existing conditions prohibit installation of a frontage road or service drive in accordance with the aforementioned standards, the Planning Commission shall have the authority to allow and/or require alternative cross access between adjacent parking areas through the interconnection of main circulation aisles. Under these conditions, the aisles serving the parking stalls shall be aligned perpendicularly to the access aisle with islands, curbing and/or signage to further delineate the edges of the route to be used by through traffic.

Section 2.4 Nonconforming Driveways

A. Driveways that do not conform to the regulations in this Article, and were constructed before the effective date of this Article, shall be considered legal nonconforming driveways.

B. Loss of legal nonconforming status results when a nonconforming driveway ceases to be used for its intended purpose, as shown on the approved site plan, or a plot plan, for a period of twelve (12) months or more. Any reuse of the driveway may only take place after the driveway conforms to all aspects of this Article.

C. When the owner of a property with an existing, nonconforming driveway or driveways, applies for a permit to upgrade or change the use of the property, the Planning Commission will determine whether it is necessary and appropriate to retrofit the existing driveway or driveways.

1. The property owner may be required to establish a retrofit plan. The objectives of the retrofit plan will be to minimize the traffic and safety impacts of development by bringing the number, spacing, location, and design of driveways into conformance with the standards and requirements of this Article, to the extent possible without imposing unnecessary hardship on the property owner. The retrofit plan may include:
   a. elimination of driveways,
   b. realignment or relocation of driveways,
   c. provision of shared driveways and/or cross parking lot connection,
   d. access by means of a service drive,
   e. restriction of vehicle movements (e.g. elimination of left-turns in and out),
   f. relocation of parking,
   g. traffic demand management (e.g. a reduction in peak hour trips),
   h. signalization, or
   i. such other changes as may enhance traffic safety.

2. The requirements of the retrofit plan shall be incorporated as conditions to the permit for the change or upgrade of use and the property owner shall be responsible for the retrofit.
FIGURE 2-6

a. FRONTAGE ROAD

b. REAR SERVICE DRIVE

This distance usually established as a result of analysis of a traffic impact study.

c. PARKING LOT CROSS ACCESS

This distance usually established as a result of analysis of a traffic impact study.

[EXAMPLE FROM DELTA TOWNSHIP, MICHIGAN]
D. Driveways that do not conform to the regulations in this Ordinance and have been constructed after adoption of this Ordinance shall be considered illegal driveways.

E. Illegal driveways are a violation of this Ordinance. The property owner shall be issued a violation notice which may include closing off the driveway until any illegal aspects of the driveway are corrected. Driveways constructed in illegal locations shall be immediately closed upon detection and all evidence of the driveway removed from the right-of-way and site on which it is located. The costs of such removal shall be borne by the property owner.

F. Nothing in this Ordinance shall prohibit the repair, improvement, or modernization of lawful nonconforming driveways, provided it is done consistent with the requirements of this Article.

Section 2.6 Incentives
The Planning Commission, after a Public Hearing, may waive the required bulk, area and coverage requirements including height or parking otherwise required in the zoning district by up to ten (10) percent when such property owner elects to provide and maintain shared driveways, service roads, or interconnected parking lots.

Section 2.7 Exceptions
Any applicant for access approval under the provisions of this Article may apply for an exception of standards in Section 2.3 if the applicant cannot meet one or more of the standards according to the procedures provided below:

1. For exceptions on properties involving land uses with less than 500 vehicle trips per day based on rates published in the Trip Generation Manual of the Institute of Transportation Engineers: Where the standards in this Article cannot be met, suitable alternatives, documented by a registered traffic engineer and substantially achieving the intent of the Article may be accepted by the Zoning Administrator, provided that all of the following apply:
   a. The use has insufficient size to meet the dimensional standards.
   b. Adjacent development renders adherence to these standards economically unfeasible.
   c. There is no other reasonable access due to topographic or other considerations.
   d. The standards in this Article shall be applied to the maximum extent feasible.

2. For exceptions on properties involving land uses with more than 500 vehicle trips per day based on rates published in the Trip Generation Manual of the Institute of Transportation Engineers: During site plan review the Planning Commission shall have the authority to waive or otherwise modify the standards of Section 2.3 following an analysis of suitable alternatives documented by a registered traffic engineer and substantially achieving the intent of this Article, provided all of the following apply:
   a. Access via a shared driveway or front or rear service drive is not possible due to the presence of existing buildings or topographic conditions.
   b. Roadway improvements (such as the addition of a traffic signal, a center turn lane or bypass lane) will be made to improve overall traffic operations prior to project completion, or occupancy of the building.
   c. The use involves the redesign of an existing development or a new use which will generate less traffic than the previous use.
   d. The proposed location and design is supported by the Emmet County Road Commission and/or the Michigan Department of Transportation, as applicable, as an acceptable design under the circumstances.
References

A. Emmet County Master Plan 2015
B. Bear Creek Township Master Plan; Updated 2012
C. Emmet County Zoning Ordinance, 15-1 as amended; October 27, 2015
D. Michigan Department of Transportation Access Management Guide
E. Michigan Crash Facts
F. Michigan Department of Transportation Traffic Monitoring Data