

5. TRANSPORTATION ANALYSIS

A. Background

The organization of a community's transportation network will have some effect on future land use development. Proximity and accessibility to major highway systems increase a community's economic competitive edge. It also provides an efficient means in which to move commuters to and from centers of employment. Road system mechanics (direction of traffic flow, road conditions, etc.) may dictate the frequency in which a specific road is utilized, as well as the number of accidents that may occur on a particular stretch of road.

B. Network Hierarchy

Kimball Township's transportation system is comprised primarily of a three-tier system of roadways: federal highways, county roads and local roads.

Interstate highways are the highest order of roadway found in Kimball Township. These roads are designed to move the largest amount of traffic the longest distances at the quickest speeds. Kimball Township is served by two different interstate routes, Interstate 69, running east-west and Interstate 94, running north-south. These roadways provide important links to larger urban areas and associated centers of employment, industry, commerce and recreation both inside and outside the State, as well as Canada.

The next highest order of roadway found in Kimball Township is county roads. These roadways are the result of early land subdivision methods. Roads were set in a grid pattern at ninety-degree angles, spaced at one-mile intervals and followed designated Township section lines in both north-south and east-west directions. They can be either paved or unpaved as shown in Figures K and L.

County-level road systems provide day-to-day transportation access throughout the Township, as well as to larger urban centers like Port Huron, the tri-cities of Flint, Saginaw and Bay City and northern portions of Detroit. They also connect the Township to the interstate highway systems.

The lowest order of roadway found in Kimball Township is local roads. These roads allow for efficient transportation access between neighborhoods, as well as between local commercial nodes within the Township. Generally, they are used for quick trips (less than one mile) and are designed to handle the fewest number of vehicles.

Map 5 graphically depicts the aforementioned roadway hierarchy.

C. Aesthetic Character

Generally speaking, lands in Kimball Township located along section line roads in areas designated by current zoning as "agricultural" (primarily in the western half of the Township) possess deep building setbacks, accentuating the "county-like" setting of the area. Many residences in outlying areas are well-buffered from these roads by strips of cropland, woodlots or fences which front these "country" roads, providing an aesthetically pleasing character to the Township's road network (Figure M).

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Older residential areas that are closer to commercial nodes, such as Sparlingville and Smiths Creek tend to be situated on parcels with shallow road setbacks, which in turn lends a “small-town” character to the area as well.

D. Traffic Controls

Traffic controls are provided at virtually all intersections of Township section line roads. Traffic control devices include the standard traffic signals with green, amber and red lights and flashing signals with red and amber lights. Traffic controls are also provided at most railroad crossings. The majority of the crossings consist of a red crossing signal and crossing gates. Others consist only of stop signs. All railroad crossings in the Township appear to be in good working order.

E. Safety Issues

As part of the 2007 Master Plan process, a windshield survey of current road conditions in the Township was conducted. This survey was not repeated as part of the 2013 update.

From the results of this survey, it appears as though Kimball Township’s transportation network is functioning at an adequate level. However, there are instances where lack of road maintenance is a concern. Of the problem areas identified in 2007, Smiths Creek Road (railroad tracks to Mayar Road) and Ashley Road (Allen Road to Range Road) have been repaired and updated. Flinchburg Road remains a concern along its entire length.

In 2013, The Planning Commission also identified Ravenswood Road between Wadhams and Richmond Roads as a stretch in need of repair and maintenance.

Kimball Township will work with the St. Clair County Road Commission to improve and fix deteriorating roads in the Township, especially in the areas discussed above.

The following two areas of concern regarding safe travel within the Township were also identified as a result of the survey: 1) obstructed clear vision zones and 2) excessive curb cuts. The following text identifies the specific geographic locations within the Township for these trouble spots and a general description of each safety concern. These areas are also identified graphically on Map 5.

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Map 5

Transportation Analysis

Kimball Township
St. Clair County, Michigan
January 24, 2013

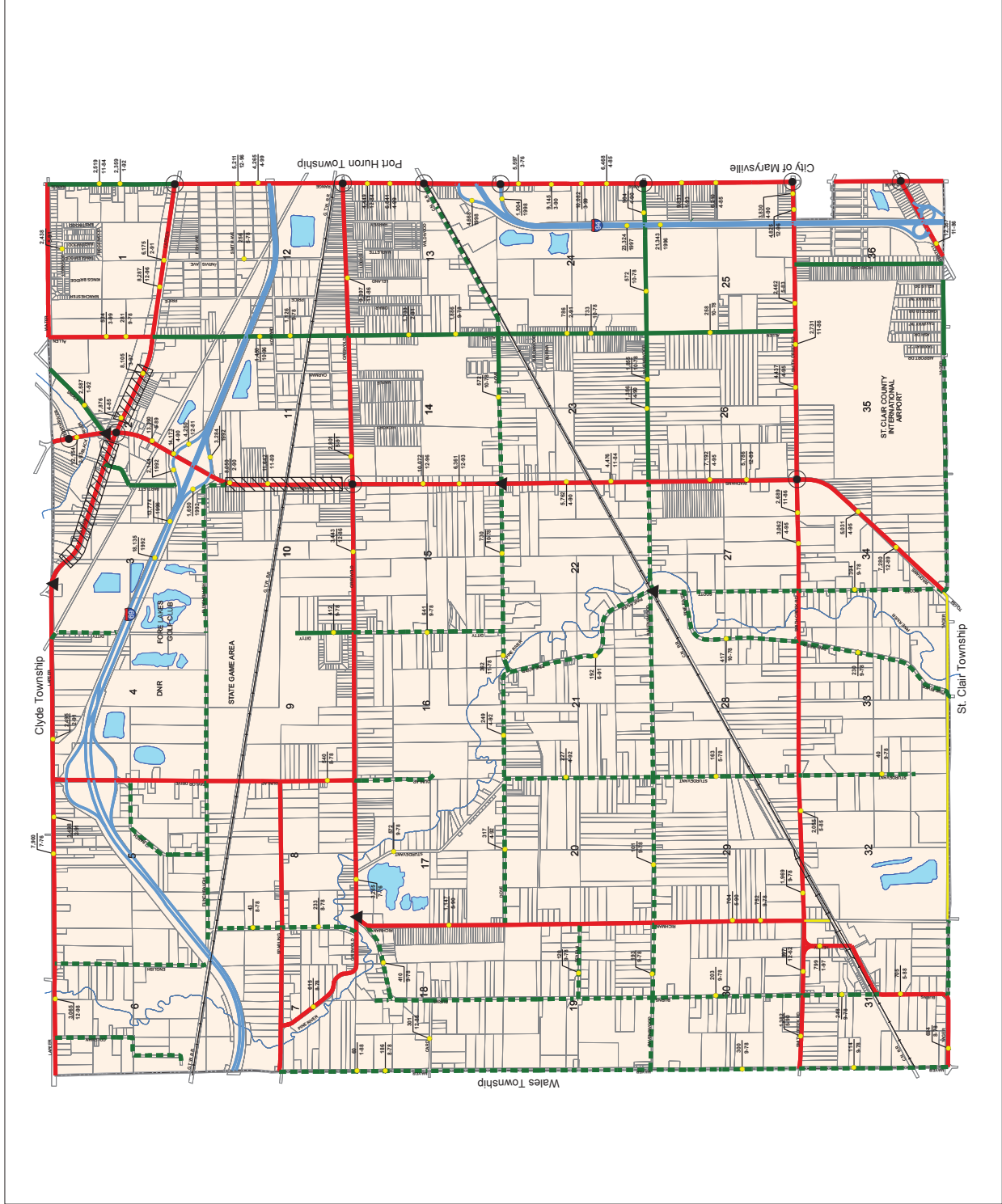
LEGEND

- Interstate Highway
- County Primary, Paved
- County Highway, Paved
- County Highway, Unpaved
- Local Improved Road
- Local Unimproved Road
- Accident Location
- Traffic Safety Concern
- Excessive Curb Cuts
- Traffic Counts/Date of Observation
- Railroads
- Bodies of Water
- Rivers and Streams
- Property Lines
- Township Limits



Mckenna
ASSOCIATES

Sources :
Safety Concern and Curb Cuts: Wade-Tirm windshield survey, Traffic Counts: St. Clair
County Road Department, Michigan Department of Transportation, Michigan State Police
and the Southeast Michigan Council of Governments (SEMCOG), 1994-1999.



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OBSTRUCTED CLEAR VISION ZONES

Obstructed views occur when there is not enough of a clear vision zone to provide an adequate view of the roadway, or of other vehicular traffic at an intersection, along a curve, or in a sloped area. Map 5 identifies the locations of obstructed clear vision zones within Kimball Township.

Previously, the intersection of Atkins and Wadhams Roads was identified as a problem spot. However, a reconstruction of the intersection in 2012 eliminated the problem.

Another roadway intersection that presents obstructed clear vision zones was identified at the corner of Richman and Griswold Roads. Topography is again an issue at this location. Traffic moving westbound on Griswold Road is partially obscured to motorists entering the intersection from Richman Road by a hilltop on the eastern side of the road. Motorists must take extra precaution when entering Griswold Road from Richman Road.

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 very dangerous. It allows vehicles to pull out or stop in too many locations, leaving drivers to guess what type of maneuver other drivers may attempt within their path of travel. Map 5 identifies the locations of excessive curb cuts within Kimball Township.

Excessive curb cuts exist most frequently near the nodal region of Wadhams, along Lapeer Road and along Wadhams Road, both north and south of the I-69 freeway interchange. The high numbers of curb cuts are somewhat due to the high-density commercial character of the area. A potential solution to this problem may be the implementation of shared driveways in order to access these properties.

F. Traffic Counts

Traffic count data for county roads was obtained from the St. Clair County Road Commission for the years 1994 through 1999. In all cases, counts reflect average daily traffic (ADT). ADT refers to the average traffic volume over a 24 hour period, generally calculated anytime between noon on Monday and noon on Friday. Weekend trips frequently contain a different mix and frequency than do those during the week. Traffic counts for selected locations around the Township are shown on Map 5.

The largest traffic count on a county road was recorded on Wadhams Road, just north of the I-69 highway interchange, with a 24-hour count of 17,553 vehicles. Other significantly traveled county roads are Range and Lapeer Roads.

It is unknown if the Township's current transportation system will be able to handle an increase in future traffic volumes. Much of the transportation infrastructure in the Township was designed at a time when the area was sparsely populated. As the population of Kimball Township continues to grow, it is expected that development will take place in areas that already experience high traffic volumes such as Range, Lapeer and Wadhams Roads. Further, development in these areas will increase traffic volume and may promote congestion along these roads. Likewise, development in the more rural portions of the Township may impose a strain on the local road system.

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As much of the Township is currently occupied by large-lot, residential development, it is expected that a large amount of infill development will soon begin to occur, dispersing the anticipated increase in population into pastoral areas, slowly converting these large lots into smaller lots over time. As this process takes place, county roads designed for the less intensive traffic volumes of the past will see increased ADT levels. Many of these roads will need to be modified in such a way to handle the increase in traffic. The future increase in ADT levels will require additional expenditures to make these modifications and maintain the roads that carry this traffic.

G. Accident Locations

Most accidents in Kimball Township are associated with the more densely populated residential areas and they typically consist of “fender benders.” Data acquired from the St. Clair County Road Commission and the Southeast Michigan Regional Council of Governments (SEMCOG) for the years 1994-1999 was used when analyzing accidents on both county and local roads. The analysis determined that the most dangerous intersections in the Township are:

1. Lapeer Road and Wadhams Road.
2. Gratiot Avenue and Range Road
3. Lapeer Road and Range Road
4. Dove Road and Range Road
5. Eastbound I-94 Off Ramp and Range Road
6. Ravenswood Road and Range Road
7. Smiths Creek Road and Wadhams Road
8. Griswold Road and Range Road
9. Griswold Road and Wadhams Road
10. North River Road and Wadhams Road.

The ten intersections are displayed on Map 5.

As a result of the analysis, accidents within the Township occur most frequently along Township section line roads, such as Range Road, and primary county roads, like Wadhams Road. In fact, all ten identified high-crash intersections involved either Wadhams Road or Range Road in some fashion. The intersection having the highest crash occurrence was at Lapeer and Wadhams Road with 89 total crashes during the period 1994-1998, which amounts to an average of 17.8 crashes annually.

The highest number of crashes involving Township roadways during the period 1994-1998 were categorized as Personal Damage Only (PDO) crashes, where there were no fatalities or injuries reported, rather, only damage to personal property was involved. With regard to the top ten roadways identified by the SEMCOG survey, the PDO category accounted for approximately 69 percent of all crashes, while crashes which resulted in some form of personal injury accounted for approximately 30 percent of all crashes. Fatal accidents accounted for less than one percent of all total crashes involving the top ten identified roadways.

H. 2012 Pilot/Flying J Traffic Study

In 2012, a study was conducted of the traffic impacts for the new Pilot/Flying J truck stop and gas station near the Wadhams Road/I-69 interchange. The study forecast 204 additional trips through the area during the morning rush hour and 268 total trips during the evening rush hour. The study recommended adding a left turn lane to Wadhams Road through the stretch just south of I-69.

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