After calculating the accident rates at each intersection in the Township, the intersections that are potential problems are labeled in red on Map 11 and may warrant further study to improve their safety. An intersection with a consistently high accident rate is in New Hudson, at Grand River/Milford Rd./Pontiac Trail. Measures are being taken to address the congestion and accident problems at this intersection, through construction of the ring road and planned reconstruction of the intersection.

The Eleven Mile/Martindale intersection experience the highest accident rate in 2008, 8.82 accidents per 1,000 trips. Several intersections along Eight Mile Road experienced high accident rates, including Eight Mile at Napier Road, Currie Road, Griswold Road, and Pontiac Trail.

Road Classifications

The purpose served by each road or highway in the circulation system is best described through classification of the roads. Road classifications identify the type and volume of traffic that are appropriate for each segment of the road network. The classifications establish expectations among residents, Township officials, and transportation engineers concerning the operational characteristics of each road.

Road classifications also establish the eligibility of roads for various funding programs. For example, federal funds may only be used on road improvements in urban areas on roads that are classified as collector or arterial roads on the Functional Classification map.

The Highway Functional Classification Reference Manual, published by the United States Department of Transportation Federal Highway Administration (FHWA) in March 1989, sets forth criteria for classification of all roads that function within the guidelines of the Federal-Aid Highway Act of 1973 and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). The four functional classifications for urbanized areas are urban principal arterials, minor arterial roads, collector roads, and local roads.

The criteria for classifying roads are related to trips serviced, areas served, and characteristics of the roads. The criteria include service to activity centers, system continuity, land use considerations, route spacing, trip length, traffic volume, and control of access. The Southeast Michigan Council of Governments (SEMCOG), as the Metropolitan Planning Organization for the Detroit urbanized area, is responsible for using these criteria to classify roads and to program federally funded transportation improvements.

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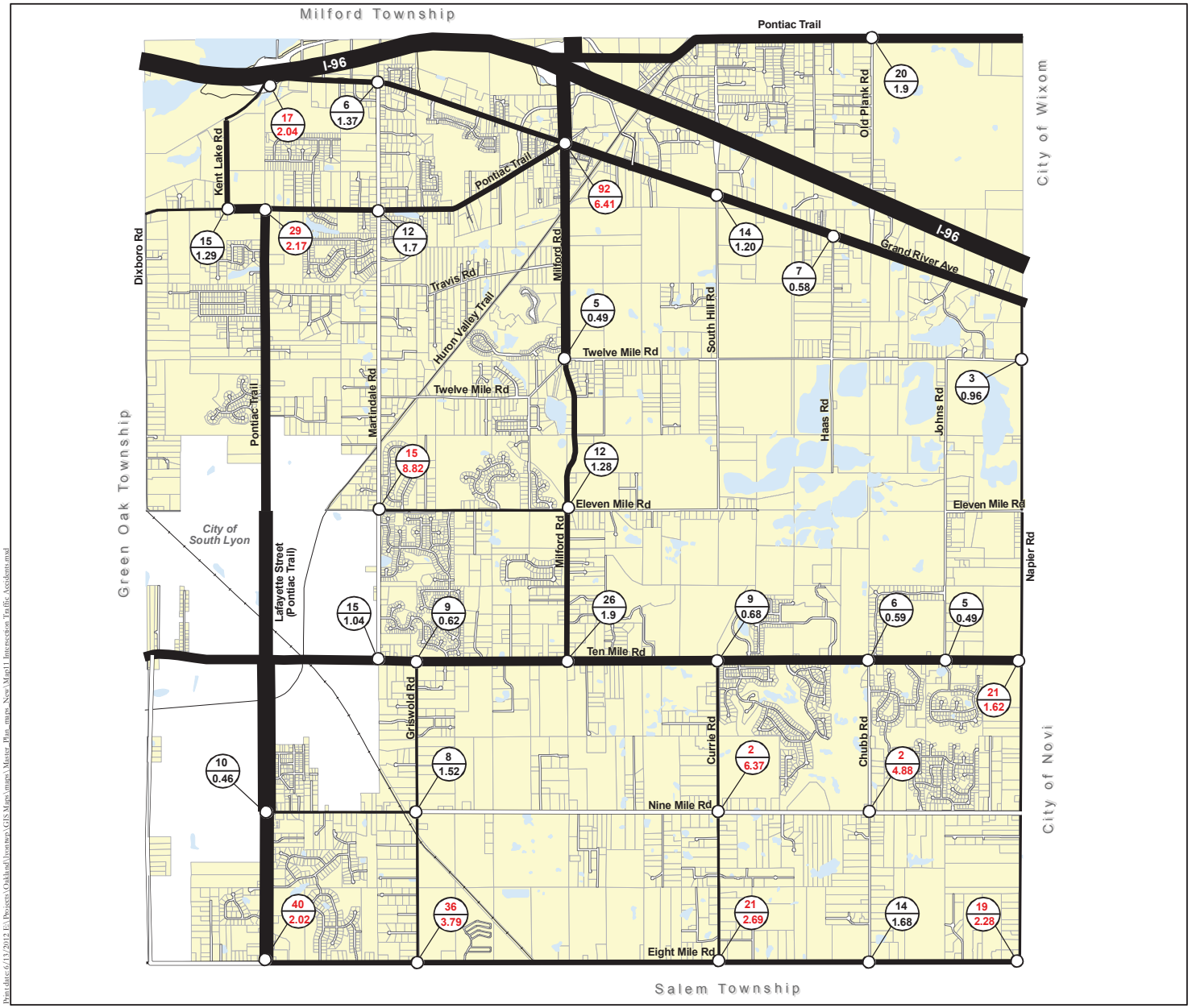

Map 11
Intersection Traffic Accidents

Charter Township of Lyon
Oakland County, Michigan

10 — Total Accidents, 2004-2008

1.6 — Accident Rate (Per 1,000 Vehicles)

10 / 5.0 — Accident Rate Greater Than 2.0 Per 1,000 Vehicles

Parcel Data Source: Oakland County GIS, December 2006.
Road Data Source: Oakland County GIS,
Data Source: SEMCOG, MDOT

0 — 3,500 — 7,000 Feet

4/9/12

N

McKenna ASSOCIATES

Plan date: 6/13/2012 E:\Projects\Oakland\lyon\p\GIS Maps\maps\Master_Plan_maps_New\Map11 Intersection Traffic Accidents.mxd

Descriptions of the four road classifications that apply to Lyon Township follow (see Map 12). The classifications are based on recommendations of the Road Commission for Oakland County and SEMCOG.

- **Principal Arterial** roads are intended to serve the major centers of activity in a metropolitan area, the highest traffic volume corridors, and the longest trips. Principal arterials serve major traffic movements within the Township. There are three categories of principal arterials: interstate highways, other freeways and expressways, and non-freeway principal arterials. The only principal arterial serving Lyon Township is I-96.

- **Minor Arterial** roads interconnect with the principal arterial system and provide trips of moderate length with a lower level of traffic mobility. Minor arterial roads place more emphasis on land access than principal arterials. Minor arterial roads are generally no more than a mile apart in fully developed areas, but may be two to three miles apart in suburban fringe areas.

  Pontiac Trail, Grand River Avenue, Napier Road, Eight Mile Road (between Pontiac Trail and Napier Road), and Milford Road north of Grand River Avenue are designated minor arterial roads in Lyon Township.

- **Collector** roads provide access to abutting properties and traffic circulation within residential, commercial, industrial, and agricultural areas. The purpose of a collector road is to collect traffic throughout the Township and channel it to the arterial system. Generally, in the design of new road systems, efforts are made to discourage direct residential access onto collector or arterial roads, since the added curb cuts increase traffic conflicts and congestion. However, in communities like Lyon Township, direct residential access is not uncommon because many roads serve a dual purpose.

  Rural Major/Urban Collector roads in Lyon Township include Milford Road, between Grand River Avenue and Ten Mile Road; Currie Road, between Eight and Ten Mile Roads; Kent Lake Road; Silver Lake Road; Ten Mile Road; and Nine Mile Road, between Dixboro and Griswold Roads.

  Rural Minor Collector roads in Lyon Township include Griswold Road, between Nine and Ten Mile Roads, and Eight Mile Road, between Dixboro and Pontiac Trail.

- **Local** roads primarily provide direct access to abutting land and to collector and arterial streets. Movement of through traffic is usually discouraged on local roads. Examples of local roads in Lyon Township include local subdivision streets and county roads that carry low levels of traffic.

Another road classification system is used by the Road Commission to establish funding priorities in accordance with Michigan Public Act 51 of 1951. The Act requires county road commissions to classify roads as either Primary or Local roads. Improvements to County Primary roads are financed chiefly through fuel and weight taxes that have been deposited in the state transportation fund and through various federal funding programs.

In comparing the two classification systems, principal and minor arterials are generally classified as County Primary roads, and collector and local roads are generally classified as County Local roads. The following roads are classified as County Primary roads:

- Pontiac Trail
- Grand River Avenue
- Milford Road
- Ten Mile Road
- Napier Road between Eight and Twelve Mile Roads
- Eight Mile Road between Currie and Napier Roads
- Eight Mile Road between Dixboro and Pontiac Trail
- Kent Lake Road
- Silver Lake Road
- Currie Road

Other Modes of Transportation

Railroads

Railroads are an important mode of transportation serving industries in the region, even though there are no scheduled railroad stops in Lyon Township. One CSX rail line cuts through the southwest corner of the Township. This line carries freight between Detroit, Saginaw, Toledo, and Grand Rapids.

Intermodal conflict is a continuing problem which is aggravated by the increased vehicular traffic on City and Township roads. Intermodal conflict is greatest at the at-grade rail crossings on Pontiac Trail and Ten Mile Road, causing increased traffic congestion on the most heavily traveled roads in the Township.

Pedestrian/Bicycle Pathways

At one time streets were designed for one purpose - to efficiently and effectively move automobiles from one destination to the next as fast and efficient as possible. Today, we realize that a street should not be designed for only one mode of transportation. The most effective transportation networks provide more options and are multi-modal. They are often referred to as complete streets.