

# Chapter III System Condition

In order to begin developing the TIP, staff needed information on the condition of the transportation network. One of the tools staff makes use of to get the most complete and correct information is the use of management systems. The first management system is the Congestion Management system which utilizes current traffic volumes on roadways in relation to the volumes the roads are designed to carry (capacity) and predicts future traffic volumes. Another management system the GVMC utilizes is the Pavement Management System (see the next page). The GVMC Pavement Management System survey's road segments condition for the entire Federal Aid Network over a three year period. Staff analyzes pavement conditions based on cracking, separations and joint lifting using the United States Code of Engineers PAVER program.

## Congestion Deficiencies

Congested facilities are roadways with 24 hour volumes in excess of the designed capacity.

<u>Type</u>	<u>Example</u>	<u>24 Hour Capacity</u>
2 Lanes	10 Mile Road	13,600 AADT
4 Lanes	Market Ave.	24,000 AADT
4 Lane BLVD	44 <sup>th</sup> Street	32,000 AADT
5 Lanes	28 <sup>th</sup> Street	32,000 AADT
4 Lane Freeway	I-196	71,200 AADT
6 Lane Freeway	US-131	106,800 AADT

## Long Range Plan Congested Facilities Summary

Based on findings of the FY2025 Long Range Transportation Plan and the travel demand model the following determinations were made:

- 1,200 Total Network Miles
- 130\* Miles Capacity Deficient
- 90\* Miles Identified for Improvement
- 40\* Miles Deemed Constrained
- 65\* Intersections Capacity Deficient

\* - Numbers are approximate

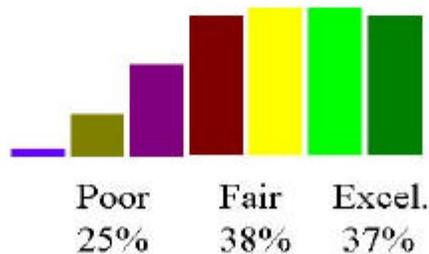
## Condition Deficiencies

Condition deficiencies are defined as roadway facilities with an observed Pavement Condition Index (PCI) less than or equal to 45.

<u>PCI</u>	<u>Condition</u>	<u>Action Necessary</u>
85 - 100	Excellent	Do Nothing
70 - 85	Very Good	Routine
	Maintenance	
55 - 70	Good	Mill & Overlay
45 - 55	Fair	Mill & Overlay
30 - 45	Poor	Reconstruction
15 - 30	Very Poor	Reconstruction
0 - 15	Failing	Reconstruction

Below you will see a graph showing the results of the 1998 pavement condition survey in which one-third of the network was surveyed.

Average Pavement Condition in 1998



## **Transit**

The Interurban Transit Partnership (ITP), also known as *The Rapid*, is a public transportation authority formed under Public Act 196. Established in 2000, its goal is to provide public transportation services to the Grand Rapids Metropolitan Area. The Authority is comprised of the Cities of East Grand Rapids, Grand Rapids, Grandville, Kentwood, Walker, and Wyoming. The ITP also provides contracted transit service in Alpine, Byron, Cascade, and Gaines Townships. The ITP also provides transit service to the Grand Valley State University.

The current ITP line haul fleet size is 93 coaches. ITP currently has seventeen routes. ITP's total service area covers approximately 223 square miles. The service area has an estimated population of 436,336, including the core city of Grand Rapids which has about 185,009 residents.

## **Non-Motorized-Pedestrian**

The density and pattern of land use greatly influences the amount of walking. If residences are located on large lots and separated from commerce, employment and social institutions, the distances of most trips will be too long for walking to be practical. High residential density by itself will not make walking trips practical. Walking from multi story apartment buildings may not be practical if the buildings are separated from the daily destinations of the occupants.

Research has shown that for non-work and casual trips most Americans are willing to walk 500 feet, 20% will walk 1000 feet and 10% will walk a half a mile. For more important trips almost half of middle aged Americans will walk up to one half mile. The interest and pleasantness of the path influences the willingness to walk. For example shoppers will park as close as possible to a mall entrance and then walk long distances inside the mall. Urban Planners have found that it is reasonable to 2000 feet or ten minutes as a planning parameter for walking trips. 2000 feet is about equivalent to 3 long city blocks.

According to the National Personal Transportation Survey 7.2% of all trips are by walking. Of those trips 12% were for going to work, 32.4% were for personal or family business, 34% were for social or recreational purposes, and 20.3% were for school, church or civic reasons. Almost every trip by public transit includes walking to and from a transit stop.

## **Non-Motorized-Bicycle**

According to the 2000 Census 0.3% of workers use a bicycle as their primary means of transportation to work in Ottawa and Kent County, but this information is not very complete. It is likely that many more commuters are using bicycles as an alternative mode for work trips. According to a national survey, of all bicycle trips made 14.2% are to go home, 13.9% are for personal errands, 10.1% are to visit a friend or relative, 5% are for commuting to school/work, 2.3% are for a bicycle ride and other is 4.9%. At this time bicycles are used for 0.7% of all trips in the United States.

Most bicycle trips are five miles or less. Nationally, 80.9% of trips made by persons are five miles or less. Those trips represent 14% of the miles traveled by persons. In Ottawa and Kent Counties 38% of the trips to work take 14 minutes or less. It is reasonable to assume that many of those trips are 5 miles or less.

From 1969 to 1990 the average number of trips a person took each year increased 42%, from 736 to over 1000. The miles traveled by all persons annually, increased 65%. During a shorter period, 1983 to 1992, the number of persons commuting by bicycle increased 287%, from 1.5 million to 4.3 million. During the same period the number of adults riding their bicycle regularly, increased 310%, from 10 million to 31 million.

An increase in the use of bicycles for transportation would have benefits for society. Switching to bicycle use reduces traffic congestion and air pollution more efficiently than any other measure. Bicycle use reduces traffic noise and the space needed for automobile movement and parking. A greater reliance on bicycle use can make our communities more livable in many ways.