



# Community Snapshot

## Existing Conditions Report

*Prepared December 2013*

The following report includes data, analysis, and background information on the City of Portage. It is a snapshot in time, intended to provide a baseline for updating the recommendations and actions in the Comprehensive Plan. This report presents various background data separately in order to keep the Plan itself concise, forward-thinking, and focused on recommendations. Some of the key facts and data may be replicated in the Plan itself to provide context for recommendations.

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This report aims to provide an illustration of past, current, and future trends which are used to better understand the City of Portage. The Existing Conditions Report services as the foundation to the comprehensive plan. To know where to go, it's imperative to need to know where you have been and where you are. This report looks at some of the characteristics that make the City of Portage a unique place which can also be used to identify issues and trends that affect future land use.

## Community Identity & History

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Portage is located in southwest Michigan in the County of Kalamazoo, approximately half way between Chicago and Detroit. Though originally known for its fertile farmland and agricultural production, Portage is now known as a community of excellent residential neighborhoods, retail trade center for southwest Michigan and a community with a growing industrial base. The city has also taken a progressive approach to economic development by providing unique opportunities for industries to grow and is the location of the largest manufacturing facility for Pfizer, Inc., a global pharmaceutical company, as well as several Stryker facilities, a leading medical instruments company. The community is known to have a growing population, desirable housing, excellent schools, numerous shopping and recreation areas, proximity to a variety of post-secondary education opportunities, and an educated workforce. These characteristics, coupled with one of the largest employment bases in the region, make Portage a very attractive place in which to live, work and learn.

*Portage enjoys a high quality of life because of its excellent school system, quality neighborhoods, numerous recreation opportunities & a stable employment base.*

*Portage is in a prime location approximately halfway between Chicago & Detroit.*

The year 2013 marked the 50<sup>th</sup> anniversary when the Township of Portage officially incorporated as the City of Portage. During the year-long celebration, the community reflected on the accomplishments of the past but also recommit to the future. This commitment entailed, among others, the desire of the community to promote active, healthy lifestyles through the use of the city's natural resources and development of sustainable, year-round, well maintained recreational amenities. As a result of this refreshed commitment to a quality community environment, the mid-century mark was used as a pivot-point to re-brand the community from "A Place for Opportunities to Grow" to "A Natural Place to Move" in support of active, healthy lifestyles and strong neighborhoods.

The City of Portage contains almost 36 square miles. It is bordered by the City of Kalamazoo to the north, Pavilion Township to the east, Schoolcraft Township to the south, and Texas Township to the west. Regional accessibility to the community is provided by several interchanges along the US-131 and I-94 expressways.

### History of Portage

History shows that the first inhabitants of Portage were the Potowatomi Indians. It is believed that the Potowatomis traveled between the Kalamazoo and St. Joseph river basins, needing to "portage" their canoes for a short distance. Settlers began to occupy the area in the early 1830's. The early settlers arrived and began crop production and related agricultural activities. Early settlements were situated in the northeast portion of the area called Indian Fields (near the Kalamazoo/Battle Creek International

Airport) and in the center of the area near Centre Avenue and South Westnedge (near the railroad tracks). Original settlers included Caleb Sweetland, John Kilgore, Joseph Beckley, Thomas Cooley, Ebenezer Stone, William Milham, David Ingersoll, Moses Austin, William Bishop, among others, whose names are recognizable in various ways throughout the community today. The settlements and the vicinity were renamed Portage Township in the late 1830's, after the Portage Creek, that runs through the area. Portage formally incorporated as a city on December 31, 1963.

Initially Portage was known as a farming community, with corn, wheat and celery being the primary crops. Nearby communities were also expanding in the late 1800's including the Village of Kalamazoo and the Village of Vicksburg. By the turn of the century, Portage began to utilize its lakes. Commercial fishing, ice cutting and resort operations were prominent. The most significant thrust to the growth and development in Portage was the construction of the original 33-acre Upjohn Company facility in the early 1950's, now known as the Pfizer Corporation, the world's largest pharmaceutical company that continues to provide a significant number of jobs in the community.

*For an excellent history of the City of Portage, see [Portage and Its Past \(1976\)](#) by Grace J. Potts and [This Place Called Portage: Its Past and Present \(2006\)](#) by Larry B. Massie. These books contain many historical reference points and photographs of the City of Portage.*

From the 1960's, and with the newly completed east-west Interstate-94 through southern Michigan, the former farming community experienced significant growth forces. Due to the large population growth (population surged between 1960 and 1970) commercial facilities located in Portage to capture the disposable income from the families in these newly located residential "roof-tops." Southland Mall, one of the first enclosed suburban shopping complexes in Kalamazoo County, was developed and expanded in the 1950's and early 1960's. During the early 1990's, Southland Mall was converted to a "power center." Additional retail growth continued to occur and in the late 1970's, the first regional mall was located on former celery growing fields along South Westnedge Avenue. The Crossroads Mall took advantage of the growing residential base in the south and west portions of Kalamazoo County and the market access provided by I-94 and US-131, the major traffic routes serving southwest Michigan. From the initial "Portage" settlements to the early suburban Portage Township, the modern City of Portage is now a community of excellent residential neighborhoods and is the regional retail trade center with more than 4.5 million square feet of commercial and office building space within the South Westnedge Avenue Commercial Corridor. These two sectors are complemented by an expanding industrial base, anchored by the Pfizer Corporation and Stryker Corporation and many other manufacturers, to create a vibrant, progressive community.

## Demographics

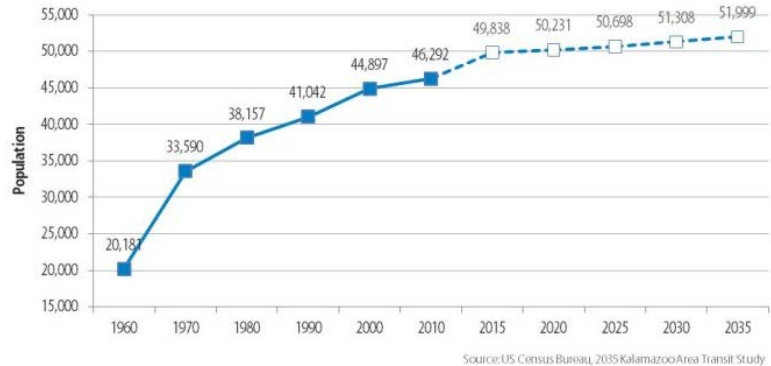
### Population

During the past 50 years, the City of Portage has more than doubled in population from 20,181 in 1960 to 46,292 in 2010 (Figure 1). More than one-half (51%) of this population increase occurred during the 1960's when the population expanded from 20,181 to 33,590 (13,409 persons or 66.4%). As the city approaches build-out (all vacant properties developed), its population is expected to slowly and steadily increase for the next 20 years, according to the recent 2035 Kalamazoo Area Transportation Study. Fewer vacant properties with development potential exist within the boundaries of the city which means future growth is expected to occur in neighboring townships.

Between 1970 and 2010, the population continued to expand but at a much more modest rate. The population increased another 38% (12,702 persons) from 33,590 in 1970 to 46,292 in 2010. The rate of growth during this 40 year period continued to slow for each successive 10 year period with the exception of the 1990's when the growth rate increased to 9.4%. The 2000's evidenced the least amount of population growth (1,395 persons) and the slowest rate of growth (3.1%) for any 10 year period since 1960. Figure 2 compares Portage's prolific growth rate during this time period with the county as a whole. This trend shifted during the most recent decade between 2000 and 2010 as the county edged Portage by a small, 1.8 point greater rate of growth.

Figure 3 compares the population of Portage to several other Kalamazoo County communities. For comparison purposes, the communities included in the survey involve only the larger communities (population greater than 10,000 at the time of the 2010 Census). As shown in Figure 3, all communities recorded a population increase during the 2000's with the exception of the City of Kalamazoo that declined by 2,883 persons. Portage showed the third highest population gain of 1,395 persons, slightly more than Cooper Township that gained 1,357 persons. Oshtemo Township and Texas Township showed the largest population gain of 4,702 and 3,778 persons, respectively.

**Figure 1: City of Portage Past Population and Population Projections, 1960 - 2035**



**Figure 2: Rate of Growth 1960 - 2010**

| Period      | Growth Rate     |                  |
|-------------|-----------------|------------------|
|             | City of Portage | Kalamazoo County |
| 1960 - 1970 | 66.4%           | 18.8%            |
| 1970 - 1980 | 13.6%           | 5.4%             |
| 1980 - 1990 | 7.6%            | 5.2%             |
| 1990 - 2000 | 9.4%            | 6.8%             |
| 2000 - 2010 | 3.1%            | 4.9%             |

Source: US Census Bureau

With regard to rate of growth, Texas Township recorded the highest rate of growth at 34.6% followed by Oshtemo Township at 27.7%. The growth rate of Portage (3.1%) ranked 5th of the seven surveyed communities. Although not shown in Figure 3, several other smaller townships and villages also experienced double digit population growth rates during the 2000's including the villages of Vicksburg and Richland as well as Richland Township.

In terms of the entire Kalamazoo County area, Portage represents 18.5% of the total population, which is slightly less than the 18.8% of the total population recorded in 2000. The population of the two fastest growing communities in the county during the 2000's, Oshtemo Township and Texas Township, increased from 7.1% to 8.7% and from 4.6% to 5.9% of the total Kalamazoo County population, respectively. As the population growth slows, the city will need to ensure it can still provide high-quality services and promote investment and redevelopment in existing neighborhoods.

**Figure 3: Population of Select Kalamazoo County Communities 2000 - 2010**

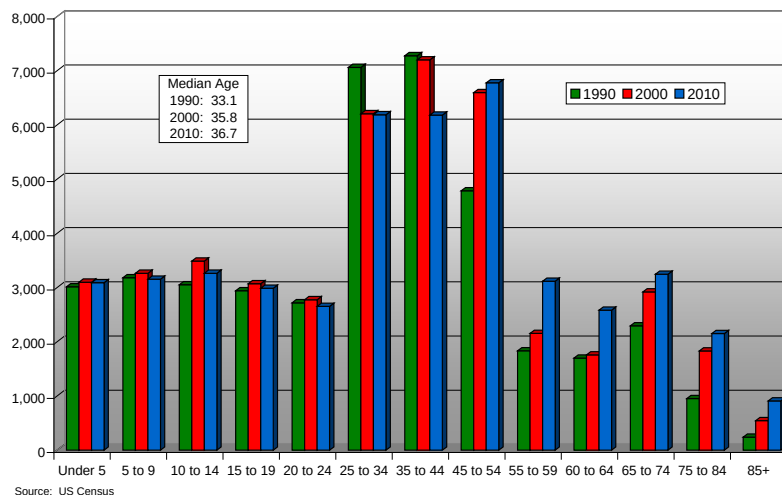
| Community      | 2000    | 2010    | % Change |
|----------------|---------|---------|----------|
| Cooper Twp.    | 8,754   | 10,111  | 15.5%    |
| Texas Twp.     | 10,919  | 14,697  | 34.6%    |
| Comstock Twp.  | 13,849  | 14,854  | 7.3%     |
| Oshtemo Twp.   | 17,003  | 21,705  | 27.7%    |
| Kalamazoo Twp. | 21,677  | 21,918  | 1.1%     |
| Portage City   | 44,897  | 46,292  | 3.1%     |
| Kalamazoo City | 77,145  | 74,262  | -3.7%    |
| Kalamazoo Co.  | 238,603 | 250,331 | 4.9%     |

Source: US Census Bureau

## Age

Figure 4 compares several different age groups (cohorts) between 1990 and 2010. During this 20 year period, the school age (19 years of age and under) through young adult age groups (20-24 years of age) have remained stable, averaging approximately 3,000 persons per cohort. The next three cohorts (25-34, 35-44 and 45-54 years) have consistently contained the highest number of persons in the city during this 20 year period. In 1990 and 2010 the 25-54 age cohorts represented 47% and 41% of the total population, respectively (ranging between 19,122 and 19,145 persons). Amongst the three cohorts, between 1990 and 2010, the largest increase occurred in the 35-44 age group, which increased 1,992 persons (42%) during this 20 year period.

**Figure 4: Population by Age 1990 - 2010**



As expected, the older cohorts (55 through 85+) have continued to increase, consistent with an aging population led by the Baby Boom generation. This has resulted in a higher overall median age during this time period, which increased from 33.1 years in 1990 to 36.7 years in 2010. In conjunction with

observable trends, in the coming years this will place greater demand on services for more elderly residents living in the city. These trends will increase the demand for aging in place considerations such as accessible and affordable housing and transportation options.

## Education

The City of Portage maintains a notably high educational attainment level. The high quality of local public school systems, and the close proximity of major colleges and universities help to explain this fact. As shown in Figure 5, less than 5% of the population of Portage residents have not completed high school or acquired equivalency. Nearly 40% of residents within the city have received a degree of higher education (Bachelor's, Master's, or Doctorate). High quality education is a key quality of life factor that attracts new residents.

**Figure 5: Education Attainment**

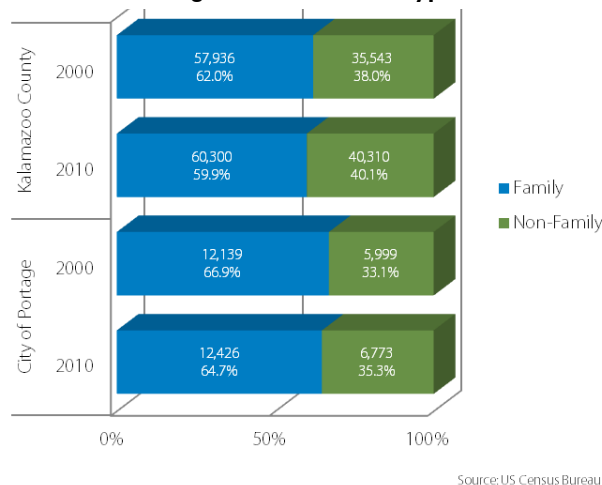
| Population 25 years and over | Percent |
|------------------------------|---------|
| High School or higher        | 95.4%   |
| Bachelor's Degree or higher  | 38.9%   |

Source: 2007-2011 American Community Survey

## Housing

### Housing Type

**Figure 6: Household Type**



Source: US Census Bureau

increases of 5.8% and 2.3%, respectively. Non-family households had the largest percent increase at 12.9%. Figure 7 also compares average household size and average family size for 2000 and 2010. Both average household size and average family size have remained relatively unchanged between 2000 and 2010. While the number of family households increased between 2000 and 2010, its percentage in comparison to non-family households decreased.

The trend of declining family households held true for Kalamazoo County during the decade between 2000 and 2010 (Figure 7). Non-family households increased by a little over 2%, the identical rate experienced in Portage. Household types have influence over what types of housing units are constructed. This trend, experienced in communities nation-wide, is indicative of changing family and social structures. Because of this, demands for various types of housing (i.e., single-family, duplex, apartments) may shift in the coming years.

As shown in Figure 6, the total number of households, family households and non-family households all increased between 2000 and 2010. Total households and family households had modest

**Figure 7: Average Family & Household Size**





## Housing Stock

Coinciding with the city's greatest rate of population change during the 1960's and 1970's, nearly one-half (43%) of the housing units within the City of Portage were constructed during these two decades (Figure 8). Prior to this period of prosperity, Portage was largely a rural community with scattered farmsteads and smaller country homes; a number of these homes built prior to 1950 still exist today. However, while that time period allowed Portage to enjoy a great deal of prosperity, homes built during that era are now 40 to 50+ years old. It is important that these older homes are well-maintained and provide opportunities for future Portage residents in the coming decades.

**Figure 8: Year Housing Built**

| Year                  | Number | Percent |
|-----------------------|--------|---------|
| Built 1939 or earlier | 625    | 3.1%    |
| Built 1940 to 1949    | 686    | 3.4%    |
| Built 1950 to 1959    | 2,684  | 13.3%   |
| Built 1960 to 1969    | 3,867  | 19.1%   |
| Built 1970 to 1979    | 4,858  | 24.0%   |
| Built 1980 to 1989    | 2,870  | 14.2%   |
| Built 1990 to 1999    | 2,774  | 13.7%   |
| Built 2000 to 2005    | 1,407  | 7.0%    |
| Built 2005 to 2011    | 450    | 2.2%    |
| Total Housing Units   | 20,221 | 100.0%  |

Source: 2007-2011 American Community Survey

As population growth rates slowed starting in the 1980's, the concurring housing boom did as well. Only 2% of housing units were constructed in the six year period between 2005 and 2011 as a result of the recent economic recessionary period.

## Occupancy

Compared to neighboring communities, Portage is similar to Comstock and Cooper townships which exhibit high rates of occupancy. As shown in Figure 9, just under 94% of all housing units in the city are occupied—a total of nearly 19,000 housing units. Portage maintains a smaller vacancy rate than many of its neighboring communities and the county as a whole. This may be attributed to the city's high desirability.

**Figure 9: Housing Vacancy Rate**

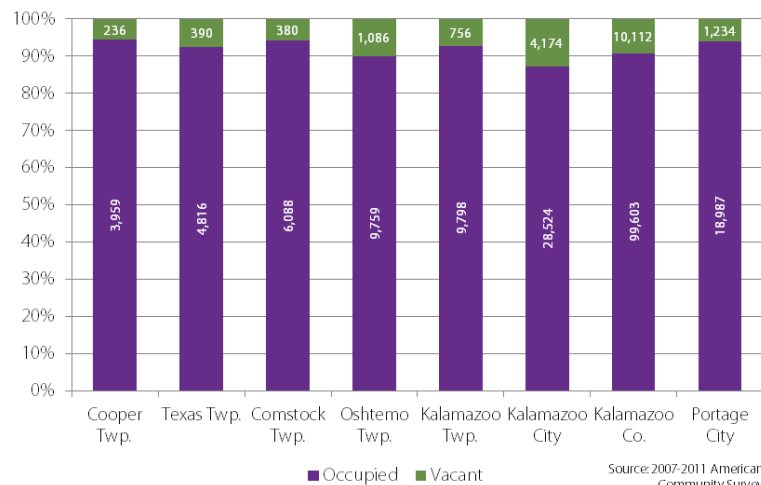


Figure 10 shows the number of owner-occupied and renter-occupied housing units within Portage, neighboring city of Kalamazoo and Kalamazoo County. Of the city's approximate 20,000 housing units, about 70% are owner-occupied, a figure nearly identical to the State of Michigan and similar to Kalamazoo County as a whole. Comparatively, the city of Kalamazoo, home to Western Michigan University and Kalamazoo College, has more rental units than owner-occupied.

**Figure 10: Owner- vs. Renter-Occupied Housing**

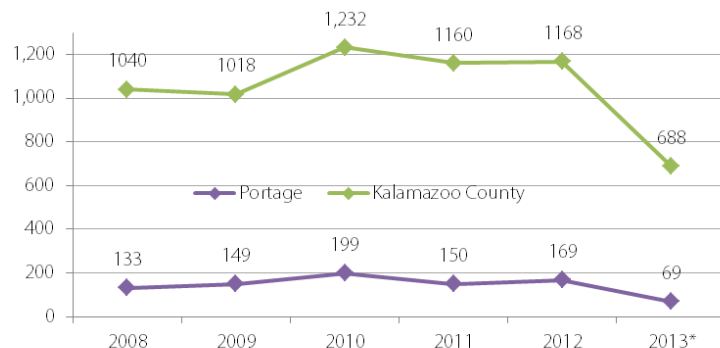
| Community        | Owner-Occupied |         | Renter-Occupied |         |
|------------------|----------------|---------|-----------------|---------|
|                  | Number         | Percent | Number          | Percent |
| Portage City     | 13,268         | 69%     | 6,080           | 31%     |
| Kalamazoo City   | 12,660         | 46%     | 14,908          | 54%     |
| Kalamazoo County | 64,213         | 65%     | 34,872          | 35%     |

Source: 2010-2012 American Community Survey Estimates

### Foreclosures

Figure 11 shows trends with respect to mortgage and tax foreclosures which have been a challenge for most communities since the mid-2000's. Over the past six years, the number of housing foreclosures in Portage has remained fairly steady, with some improvement shown through the fall of 2013. In the past two years, the number of foreclosures in Kalamazoo County overall decreased significantly from a peak in 2010 to the fall of 2013. For comparison purposes, approximately 18.4% of all Kalamazoo County housing units are located in Portage, whereas Portage housing foreclosures, as a percent of the total foreclosures in Kalamazoo County, has averaged approximately 15% of the total. Should recent foreclosure trends continue through the end of 2013, this year will be the fewest number of foreclosures since the Great Recession began, signaling a local upturn in the economy.

**Figure 11: Total Foreclosures**



\*2013 Portage total is through October 1, Kalamazoo County through October 27, expected to trend similarly for the 4th quarter

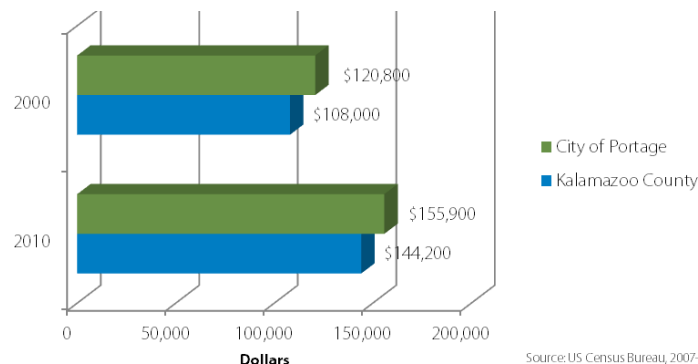
\*\*Kalamazoo Co. foreclosures include commercial properties which are estimated to comprise 10% of the total

Source: City of Portage, Kalamazoo County Assessor

### Housing Value

The median housing value for the city in 2000 was just over \$120,000 (see Figure 12), well above state and county figures. Kalamazoo County's median housing value in the same year was \$108,000. By the 2010 Census, the county, however, had increased at a greater rate than the city. Kalamazoo County experienced a 35% increase through the duration of the decade while Portage experienced a 30% increase. Despite the city's slower increase juxtaposed to the County, Portage continues to exhibit strong housing values throughout the city.

**Figure 12: Median Housing Value**



Source: US Census Bureau, 2007-2011 ACS 5-Year Estimates

## Economics & Employment

### Income

Figure 13 compares median household income

between several nearby communities and the county. In 2009 and 2010, Portage had the third highest median household income, while Texas and Cooper townships median household income was higher. Over the three-year period, Portage experienced modest growth increasing from \$54,760 to \$56,330, an approximate 3% increase.

**Figure 13: Median Household Income**

| Community      | 2009     | 2010     | 2011     | % Change ('09-'11) |
|----------------|----------|----------|----------|--------------------|
| Cooper Twp.    | \$57,221 | \$56,188 | \$55,502 | -3%                |
| Texas Twp.     | \$86,440 | \$88,250 | \$87,565 | 1.3%               |
| Comstock Twp.  | \$49,139 | \$51,301 | \$51,111 | 4.0%               |
| Oshtemo Twp.   | \$35,267 | \$37,080 | \$36,766 | 4.3%               |
| Kalamazoo Twp. | \$40,428 | \$40,904 | \$42,961 | 6.3%               |
| Portage City   | \$54,760 | \$55,936 | \$56,330 | 2.9%               |
| Kalamazoo City | \$29,299 | \$29,919 | \$31,291 | 6.8%               |
| Kalamazoo Co.  | \$44,553 | \$44,794 | \$46,019 | 3.3%               |

Source: 2010 Census, 2005-2009 & 2007-2011 ACS Estimates

According to the US Census Bureau's defined parameters for poverty, approximately 8.6% of Portage residents are below the poverty line, around 4,000 residents. Notably, as shown in Figure 14, the percentage of families with children in poverty nearly doubled between 2000 and 2010. A similar trend occurred in Kalamazoo County during the same time

**Figure 14: Poverty Rates**

| Community        | Type                            | Number | Percent | Number | Percent |
|------------------|---------------------------------|--------|---------|--------|---------|
| City of Portage  | All Families                    | 375    | 6.5%    | 748    | 6.0%    |
|                  | Families with children under 18 | 323    | 5.0%    | 593    | 9.2%    |
|                  | All Individuals                 | 2,149  | 4.8%    | 3,981  | 8.6%    |
| Kalamazoo County | All Families                    | 3,812  | 6.5%    | 6,754  | 11.2%   |
|                  | Families with children under 18 | 3,227  | 10.7%   | 4,896  | 17.9%   |
|                  | All Individuals                 | 27,483 | 12.0%   | 46,061 | 18.4%   |

Source: US Census Bureau

frame. However, nearly one-fifth of Kalamazoo County residents are considered to be living in poverty, far greater than Portage poverty rates.

### Commuting

According to the US Census Bureau, mean travel time to work was 20.3 minutes in 2010, which decreased to 19.1 minutes in 2011 (see Figure 15). Travel times throughout communities in the Kalamazoo area are relatively low and have decreased since the 2010 Census.

**Figure 15: Average Commute Times**

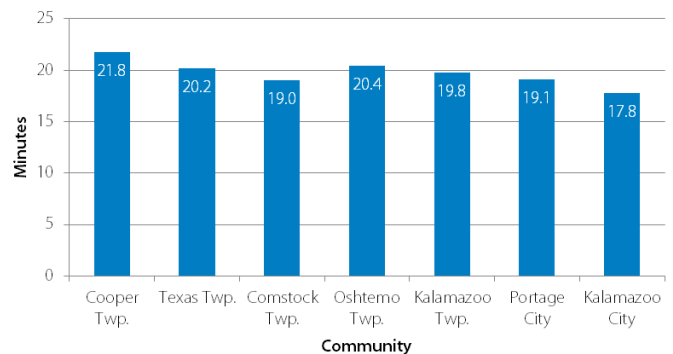


Figure 16 breaks down the primary destinations for employment for Portage workers. The majority of workers living in the city commute to Kalamazoo (32%) while over one-quarter are able to live and work in Portage. Other notable employment locations include Grand Rapids and Battle Creek. Over one-quarter of Portage residents are fortunate enough to live and work within the city. For suburban cities similar in size, this figure is notably higher, signaling a strong local workforce.

### Employment

Figure 17 lists the top six employment sectors for employed Portage residents over 16 in 2011. Nearly one-quarter of Portage workers have found employment in educational services, health care, and social assistance. Major corporations such as Stryker, Pfizer, Portage Public Schools, State Farm Insurance Company, and Meijer

**Figure 17: Top 6 Major Employment Sectors**

| Industry                                                                                   | Number | Percent |
|--------------------------------------------------------------------------------------------|--------|---------|
| Educational services, and health care and social assistance                                | 5,169  | 23.9%   |
| Manufacturing                                                                              | 3,917  | 18.1%   |
| Retail trade                                                                               | 2,919  | 13.5%   |
| Finance and insurance, and real estate and rental and leasing                              | 2,088  | 9.6%    |
| Professional, scientific, and management, and administrative and waste management services | 2,067  | 9.6%    |
| Arts, entertainment, and recreation, and accommodation and food services                   | 1,633  | 7.5%    |

Source: 2007-2011 American Community Survey Estimates

**Figure 16: Places of Employment**

| Location of Employment | Number of Portage Residents* | Percent of Portage Residents |
|------------------------|------------------------------|------------------------------|
| Kalamazoo City         | 5,482                        | 32.4%                        |
| Portage City           | 4,695                        | 27.7%                        |
| Battle Creek           | 500                          | 3.0%                         |
| Grand Rapids           | 247                          | 1.5%                         |
| Mattawan village       | 230                          | 1.4%                         |
| Comstock Twp           | 157                          | 0.9%                         |
| All Other Locations    | 5,490                        | 33.2%                        |

\*Number of works ages 18 and up

Source: US Census Bureau

are located within the city and provide strong employment opportunities for the higher-educated population of Portage.

Manufacturing within the city still remains an important sector as it employs almost 4,000 Portage residents. Portage is home to major retail outlets along Westnedge Avenue, including Crossroads Mall which contribute to a significant portion of the employment base in the city. Nearly 3,000 residents are employed in the retail trade sector. Part of this planning process will be to ensure the city's land uses continue to support these trending industries.

## Natural Resources

The natural environment is a critical element in the physical development and quality of life in the city. The various components of the natural environment function, change, and interact as part of an overall ecosystem. These natural elements need to be considered as a community resource. Development should be directed to areas that can best sustain the physical changes to the landscape while minimizing impacts to the most sensitive natural resources.

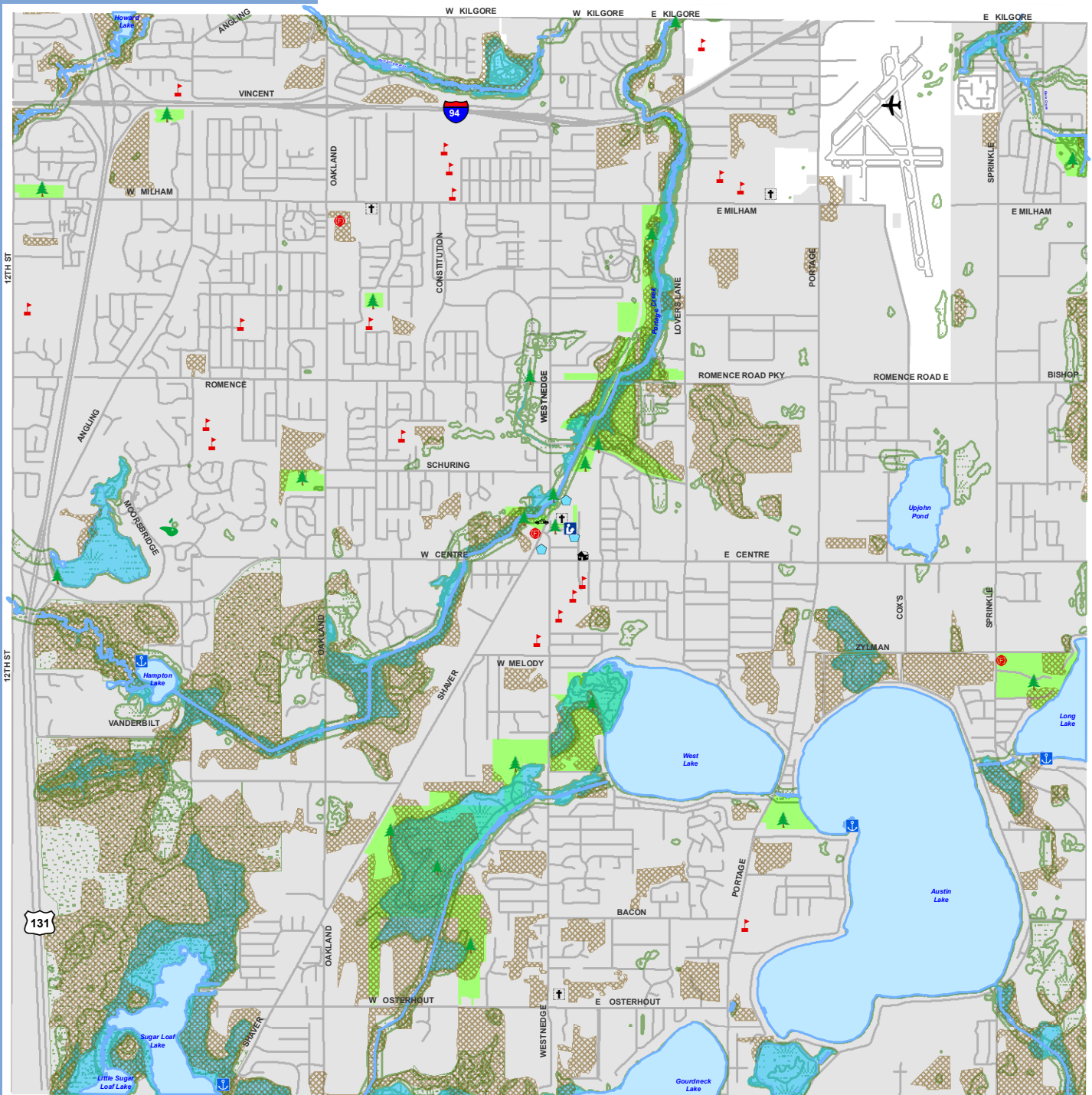
**Soils.** Construction costs and risks to the environment can be minimized by developing areas where the native soils are suitable for the intensity of development. Certain types of native soils have characteristics that make them less suitable for building foundations, or a base for pavement. Where native soils are less

suitable for development, additional engineering or replacement of soils is needed, which adds to development costs and maintenance.

Since most of the city is served by sanitary sewer, soils generally are not a significant constraint to development. However, there are poorly drained soils in low-lying areas, along creeks and around lakes that coincide with the wetland and floodplain areas of the city. Limitations associated with development on these organic soils are due to problems of drainage, load-bearing capacity and frost action. A majority of soils within Portage are well suited for development. In general, loam, sandy loam and loamy sand soils are most common. Loamy soils are found primarily in the northern one-half of the city, sandy loam most commonly in the southeast quadrant, and loamy sand soils in the southwest quadrant. These soils are, for the most part, well-drained. Physical limitations to development, where it occurs, may also exist because of excessive slopes mostly found in proximity to lakes.

**Surface Water.** Portage has seven lakes that account for 1,732 acres or 7.9% of the geographic area of the city. These include Austin, West and Hampton, as well as portions of Long, Gourdneck, Sugarloaf and Little Sugarloaf Lakes. The lakes continue to be a valuable natural resource in the city and protection of lake water quality is essential. A combination of regulations and public education can help limit adverse impacts from storm water runoff. Best management practices are used to protect streams and bodies of water from soil erosion resulting from storm water runoff (Soil Erosion and Sedimentation Control Act), and pre-treatment of storm water prior to infiltration or discharge, when applicable (Storm Water Design Criteria Manual). All dwellings and businesses within 500 feet of a water body, wetland or other sensitive land are required to connect to the municipal sanitary sewer, where available.

**Floodplains.** Flooding of streams and lakes can cause environmental damage and pose a threat to safety and properties. Any construction activity in the 100-year floodplain must comply with the State of Michigan Construction Code and Appendix G of the Michigan Building Code. Flood-prone areas are shown on the **Natural Features Map** and have been identified by utilizing Federal Emergency Management Agency (FEMA) Flood Hazard Boundary Maps.



## Natural Features Map

March 2014

### Legend

- |                                            |               |               |
|--------------------------------------------|---------------|---------------|
| City Parks                                 | Airport       | City Park     |
| Woodlots (> 10 acres)                      | Public Access | Public School |
| 100 Year Floodplain                        | Golf Course   | Police        |
| Wetlands, National Wetland Inventory (NWI) | Cemetery      | Municipal     |
| State Game Area                            | Fire Station  | P.C.O.C.      |
| City Boundary                              | Library       |               |
| Water Feature                              |               |               |



0 0.25 0.5 1 Mile

Sources: City of Portage, MCGI



**Wetlands.** All wetlands larger than five acres or connected with a lake, pond or stream are protected under Part 303 (Wetland Protection) of the Michigan Natural Resources and Environmental Protection Act (NREPA), Act 451 of 1994, as amended. This state law prohibits filling, dredging and draining of such wetlands without a permit. Wetland areas are also shown on the Natural Features Map and identified by utilizing data from FEMA, the National Wetland Inventory and City of Portage elevation and aerial photography data.

**Land Resources.** Portage contains significant land areas that have remained relatively undisturbed. Collectively, these areas are not only significant in size but also demonstrate a wide variety of natural habitats. Several kinds of grassland, forest, and wetland environments are found. Such environmental diversification results in a wide array of wildlife including a number of rare plants and animals, and significant populations of game animals such as deer and turkey. These natural areas provide educational, recreational, aesthetic, and wildlife preservation benefits with minimal maintenance costs.

Natural areas are primarily located in the southern half of the city. Lands in the vicinity of Hampton and Sugarloaf lakes are primarily under State ownership and are used as game areas. Bishop's Bog Preserve and the Eliason Nature Reserve are large wetland areas under public and city ownership. In the southeast quadrant, Mandigo Marsh and the West Lake Nature Preserve also demonstrate significant and unique natural resources. Both of these areas are under city ownership.

Key natural areas include:

- ◆ **West Lake Nature Preserve:** This 110-acre park preserve along West Lake boasts a variety of upland, wetland, marsh, woodland and sensitive woodland area with unique plant species and animal habitats. There is over 1,400 feet of frontage on West Lake which is primarily a wetland bog. The marsh habitat within the interior of the preserve is ideal for waterfowl.
- ◆ **Bishop's Bog Preserve:** A 145-acre site north and northwest of Schrier Park. Bishop's Bog, the largest "relict" bog in southern Michigan, has been registered with the Nature Conservancy. It is uncommon for this type of bog which harbors a number of rare plants to be found in southern Michigan. A linear trail on the east side of Bishop's Bog that connects Schrier Park, South Westnedge Park, and West Lake Nature Preserve allows for passive nature study without disturbing this unique environment. Bishop's Bog Preserve continues to be a site used by local and regional educators for study due to the unique environmental attributes. A second trail system on the west side of the bog to connect with Eliason Nature Reserve is planned.
- ◆ **Mandigo Marsh:** A historically well-known wetland area on the southwest corner of Austin Lake. A large portion of Mandigo Marsh was purchased by the City of Portage to ensure permanent protection. Comprising about 40 acres, the marsh is home to a wide variety of marshland birds and other types of waterfowl, and harbors an unusual assembly of plants that are peculiar to this area. Mandigo Marsh has been classified by the Nature Conservancy as an example of a coastal plain marsh community, which is common to the Atlantic coast. The community and many of its characteristic plant and animal species are far removed -- often thousands of miles -- from the main range along the Atlantic coast, likely nature's happenstance associated with early plant migration and changes in geologic and weather conditions. Many of these species are listed by the State of Michigan and are protected under the Michigan Endangered Species Act.
- ◆ **State Game Area:** The Gourdneck State Game area, which encompasses nearly 1,555 acres in Portage, is located in southwest Portage from Centre Avenue into Schoolcraft Township to the south. The Michigan Department of Natural Resources owns and maintains this land area for limited hunting

and fishing opportunities. The large expanse of land will remain open and undeveloped for the foreseeable future.

The State game area consists of three separate tracts in Portage. The primary tract south of Vanderbilt Avenue is separated from two smaller tracts on Centre Avenue by private property on the north side of Vanderbilt Avenue and around Hampton Lake. The two smaller tracts along Centre Avenue are likewise separated by private property between Centre Avenue and Hampton Lake.

- ◆ **Eliason Nature Reserve:** The newest addition to the Portage Park system, the 123-acre Eliason Nature Reserve property was donated to the city in 2011 by Linda Eliason as a memorial to her late husband. The property is a combination of upland and wetland ecosystems and contains a large segment of Bishop's Bog, bringing a majority of the bog under city ownership. A park master plan for the Eliason Nature Reserve was prepared in the fall of 2012. In 2013 an additional 18-acre parcel was acquired by the city for inclusion into the Eliason Nature Reserve that provides access to Osterhout Road. Subject to grant funding, the city plans for first phase development in 2015. An asphalt trail to the property is currently available from Portage Industrial Drive and a 1.25 natural pathway has been created through the property.

## Public Services

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The availability of public services influences the development and redevelopment of land, protection of natural features, recreational opportunities, public safety and enhances the quality of life in the community. The City of Portage continues to invest in the public infrastructure to meet current and future demands. Public facilities and services offered within the city include:

1. Public Utilities
2. Public Safety Facilities
3. Recreational Facilities
4. General Government
5. Library Facilities (operated separately from municipal services)
6. Educational Facilities (operated separately from municipal services)

### Public Utilities

From a land use planning perspective, the location and type of public sewer and water systems influence the location and type of development within a community. For example, high density or more intense land uses require public water and sanitary sewer service. Certain types of projects have special demands for high capacity utility lines or high pressure water systems or even specialized electrical service. Decisions concerning the expansion of public utilities must be made in order to accommodate service demands, as well as development and redevelopment activities. Importantly, for Portage, connection to the public sanitary sewer system helps protect valuable ground and surface water resources in the city.

Programming for sanitary sewer, water and drainage improvements to meet needs is provided through the Capital Improvement Program (CIP). The CIP is annually updated and includes ten years for planning/budgeting

*Over the next 10 years, Portage plans to spend approximately \$26 million to continue improvements to its water & sanitary sewer systems.*



purposes. The CIP includes several water/sanitary sewer infrastructure projects to improve and expand these systems. Most of the city is served by both public water and sanitary sewer systems). The proposed level of investment to accommodate residential, commercial and industrial development and redevelopment in the next 10 years includes:

- ◆ \$6.4 million in sanitary sewer improvements and expansions.
- ◆ \$20 million in water system improvements and expansions.

**Sanitary Sewer System** The sanitary sewer system consists of 231 miles of sewer main and 55 sewage lift stations. The system has a capacity of 10.8 million gallons per day while the average flow is 5.0 million gallons per day.

In the past, street reconstruction has been delayed in the absence of municipal sanitary sewer service. With the vast majority of the city now served by municipal sewer, remaining areas lacking sanitary sewer have been evaluated in relation to the availability of public water, proximity to established Wellhead Protection Areas, the age of existing septic systems, proximity to water bodies, existing land use/zoning, and average parcel size. These areas have been prioritized in relation to street reconstruction in the CIP.

Public sanitary sewers and new or expansion projects, either city-initiated or by property owner petition, are reviewed annually by the Administration. Funding for planned improvements and expansions is proposed through various financing methods including the Sewer Enterprise Fund.

**Water System** The water system consists of 20 production wells, one 750,000 gallon elevated storage tank, one 1.5 million gallon elevated storage tank, and 247 miles of water main. The water system has a capacity of 26 million gallons per day, and the average production is 5.5 million gallons per day.

Public water system enhancements and expansion projects are also reviewed on an annual basis in the context of the recommendations in the Comprehensive Plan and also public health and public safety standards. Similar to sewer system improvements, various funding mechanisms are employed including resources of the Water Enterprise Fund.

The CIP proposes numerous operational improvements in anticipation of current and future demands placed on the water system. Planned projects are focused more directly on system-related improvements rather than localized water installation projects:

- ◆ Water main replacements
- ◆ Storm water improvements
- ◆ Long-term consideration of arsenic, iron and manganese removal facilities at existing wellfield sites to meet new federal guidelines for public water supply systems.

An important element of the public water supply system is the wellhead protection program. The city updated wellhead protection in 2000 and received approval from the Michigan Department of Environmental Quality (MDEQ) in March 2001. The Wellhead Protection Plan calls for proactive development standards in identified wellhead protection areas, as well as public education for groundwater protection.

**Storm Water Drainage** The general hydrology of Portage is such that surface and subsurface drainage flows between the Kalamazoo River Basin, which runs through the central and northern portion of the city, and the St. Joseph River Basin, in the southeast part of the city. The drainage divide traverses the city in roughly an east-west line. The areas located north of this drainage divide drain into Portage Creek, which in turn flows into the Kalamazoo River. The areas located south of this drainage divide flow into Gourdneck Creek, which in turn flows into the St. Joseph River. The average annual precipitation is 39.7 inches, which generates in excess of 688 million gallons per square mile per year.

Recognizing the importance to accommodate storm water runoff and to prevent pollution of water resources, the City of Portage has acted to protect residents and businesses through the adoption of numerous best management practices as outlined in the following documents/programs:

- ◆ Storm Water Master Plan
- ◆ Storm Water Design Criteria Manual
- ◆ Storm Water Pollution Prevention Initiative
- ◆ Illicit Discharge Elimination Program
- ◆ Participation in Portage Creek and Kalamazoo River Watershed Management Plan
- ◆ Wellhead Protection Plan
- ◆ Public education plan

The City of Portage addresses storm water issues with an environmental focus and has been implementing water quality measures in accordance with federally mandated NPDES rules. Water quality improvement measures include treatment before infiltration, installation of sediment cells, elimination/reduction of direct storm water discharges to surface water bodies, use of deicing alternatives to traditional road salt, ongoing water quality monitoring and considering innovative storm drainage techniques, where applicable. Several million dollars have been invested over the last decade to improve and sustain the City's storm water system.

### Public Safety Facilities

In 2011, the City created a new Department of Public Safety with two divisions: Fire and Police.

**Fire Division** There are presently three fire stations that provide fire protection service within Portage:

**Station #1 (Central), 7830 Shaver Road,** is located in the City Centre Area at Shaver Road and South Westnedge Avenue across from City Hall. Station #1 houses administrative offices and training facilities as well as providing fire protection services for the central portion of the city.

**Station #2, 6101 Oakland Drive,** is located in the northwest quadrant of the city on Oakland Drive south of West Milham Avenue. Station #2 generally provides fire protection services to the northwest area of the city.

**Station #3, 8503 Sprinkle Road,** is located on Sprinkle Road south of Zylman Avenue adjacent to Ramona Park. Station #3 generally provides fire protection services to the east portion of the city.



A fire training facility is located on South Westnedge Avenue adjoining South Westnedge Park and a fourth fire station is proposed in the long-term future within the south Portage area.

**Police Division** The Police Department, established in 1964, was originally housed in a small section of City Hall. In 1965, the Police Department moved to a two-story house, while the existing building was constructed in 1970, with a major renovation completed in 2005. This building also used to house the State of Michigan 8<sup>th</sup> District Court – South. In 2013, the 8<sup>th</sup> District Court – South was closed and operations were relocated and consolidated with the 8<sup>th</sup> District located in the city of Kalamazoo.



### Recreational Facilities

Numerous and diverse recreational opportunities in high quality recreational facilities are provided throughout the community. There are several different types of recreational areas/facilities including neighborhood, community and regional parks, nature preserves and cultural event facilities. Such amenities are a valuable resource and contribute to the quality of life in Portage.

Community parks and open space account for the majority of land dedicated to recreational uses in Portage. Passive recreational areas not formally dedicated as parklands are classified as open space areas.

The following information summarizes the community recreational facilities detailed in the City of Portage Recreation and Open Space Plan. The complete Recreation and Open Space Plan is an element to the Comprehensive Plan and is updated, as needed, to 1) fulfill the Michigan Department of Natural Resources (MDNR) requirements for grant funding and 2) to ensure project priority as part of the annual Capital Improvement Program process. A copy of the Recreation and Open Space Plan can be obtained from the Department of Parks, Recreation and Property Management or the Department of Community Development.

**Large Urban Parks** Large Urban parks are a highlight of the Portage Park system, offering numerous recreational opportunities on large expanses of land. These parks are rich in history, well-maintained and easily accessible. Portage maintains two large urban parks:

- ◆ **Portage Creek Bicentennial Park (PCBP)** (205 acres) – Located in central Portage along Portage Creek, linear park, over three miles in length, protects the sensitive environment of the Portage Creek basin and offers residents and visitors many opportunities to enjoy the creek – from overlook decks to canoeing. PCBP was started in 1976 in honor of the 1776-1976 U.S. Bicentennial celebration. Featured attractions include over eight miles of hiking and biking trails, North PCBD Trailhead, the Milham Avenue activity area, and the Celery Flats Interpretive Center and Historical Area.

The Celery Flats Interpretive Center is a facility that allows visitors to relive the time period (from the 1890's through the 1930's) when Kalamazoo County was known as the Celery Capital of the World. The Celery Flats Historical Area is a unique park facility dedicated to the preservation of community structures of historical significance. Included in the area is an



Ramona Park

1856 one-room schoolhouse, a 1931 grain elevator, Stuart Manor and the Hayloft Theatre.

- ◆ **Ramona Park** (67 acres) – Located on the north side of Long Lake and provides a number of recreational opportunities. Ramona is a heavily used park in the Portage Park System due to a swimming area with a sandy beach, and fishing facilities. The park also provides numerous court sports (volleyball, basketball, and tennis), field sport areas (softball, football, and soccer) and picnic areas.

**Community Parks** Community parks provide for the recreational needs of the larger community and include field sports (e.g., baseball, softball, football, soccer) facilities in addition to the facilities found at neighborhood parks. Portage has six dedicated community parks including:

- ◆ **South Westnedge Park** (27 acres) – Located in south-central Portage and provides six softball fields serving the greater Kalamazoo County area. A skate park, in-line hockey, and soccer field are also available.
- ◆ **Central Park** (12 acres) – The Park is nestled in a bend of Portage Creek and provides picnic shelters, play equipment and restroom facilities. Central Park is also home to the Overlander Bandshell facility, at which various performing arts are held throughout the summer season.
- ◆ **Lakeview Park** (24 acres) – Located along the shore of Austin Lake and provides areas for fishing and picnics, as well as playground equipment, ball field, tennis/basketball courts and walking trails.
- ◆ **Oakland Drive Park** (19 acres) – Located north of Center Avenue, Oakland Drive Park provides softball and soccer fields, tennis, volleyball and basketball courts, play equipment and a restroom/picnic shelter. Oakland Drive Park also has a sledding hill for winter activities.
- ◆ **Schrier Park** (20 acres park and 36 acres open space) – Located in south-central Portage off Osterhout Road and includes an orchard, shelter, playground and trails as well as 36 acres of passive recreational open space.
- ◆ **Westfield Park** (12 acres) – Located in northwest Portage, this park facility provides basketball and tennis courts, ball fields and a soccer field, as well as a picnic shelter, play equipment and restrooms.



Lakeview Park

**Special Use Parks** These are public parks spaces created primarily for a single-purpose and include:

- ◆ **Millennium Park** (18 acres) – Located along Romence Road near South Westnedge Avenue, Millennium Park includes Kalamazoo County's only outdoor-refrigerated ice skating rink. In addition to the rink, an outdoor stage/amphitheater is utilized during the spring/summer and an asphalt trail connects Millennium Park to Bicentennial Park and Crossroads Mall.
- ◆ **Liberty Park** (2 acres) – Located along South Westnedge Avenue just north of the Shaver Road-South Westnedge Avenue intersection, Liberty Park was created as a result of an environmental and economic development initiative called STEP (Stormwater Treatment Enhancement Project). In addition to treating storm water runoff from the adjacent South Westnedge Avenue drainage area and preventing pollutants from entering Portage Creek, Liberty Park enhances the visual and landscape elements in the City Centre Area through a series of landscaped storm water retention ponds,

limestone transfer channels, waterfalls, sidewalks, a boardwalk along Portage Creek and stunning floral displays.

- ◆ **Veterans Memorial Park** (1 acre) – Located near the Portage District Library, adjacent to Portage Central Cemetery, Veterans Memorial Park was dedicated in 2005 as a memorial to honor area residents who have served in the United States military. The memorial is approximately 40 feet long and consists of five large engraved stones, four flagpoles, lighting, brick walkway and landscaping features for quiet and festive enjoyment.

**Neighborhood Parks** Neighborhood parks provide playground facilities for young children and court sports (e.g. basketball, tennis, volleyball) facilities for all ages. Although available to the entire community, neighborhood parks also serve surrounding neighborhood areas and are situated throughout the city. The dedicated public neighborhood parks that are under city jurisdiction include:

- ◆ **Haverhill Park** (4 acres) - Located in the Haverhill neighborhood near Oakland Drive between Romence Road and West Milham Avenue, Haverhill Park provides basketball and tennis courts, open play areas with picnic areas and playground facilities.
- ◆ **Lexington Green Park** (23 acres) – Located in the Lexington Green neighborhood of northeast Portage, this park provides a ball field, basketball and tennis courts, and play equipment, as well as trails, picnic shelters, and restroom facilities.
- ◆ **Harbors West Park** (6 acres) – Also located in northwest Portage, Harbors West Park provides an open play area, court games, walking trails, playground and picnic/restroom facilities.



*Lexington Green Park*

**Greenways** Greenways tie park systems together and form a continuous park environment. Portage has two greenways of significance.

- ◆ **Portage Creek Bicentennial Park** – Portage Creek Bicentennial Park provides a green corridor from the City Centre to the city limits at Kilgore Road for a distance of over three miles. The park highlights Portage Creek and protects a variety of wetland habitats while providing planned patron access for community use.
- ◆ **Portage South Central Greenway** – A large segment of south central Portage has been set aside through the South Central Greenway. With the recent addition of the Eliason Nature Reserve, in additions to the West Lake Nature Preserve, South Westnedge Parks, Bishop's Bog Preserve and Schrier Park, over 450 acres of open space has been connected for this green corridor. Over five miles of trails and a variety of park facilities are located in the Portage South Central Greenway.

**Connector Trails & Bikeway System** Connector trails are multipurpose trails that emphasize safe travel for pedestrians and bicyclists for recreational and commuter use. Portage has taken a proactive approach through a combination of paved shoulder bikeways and non-motorized multi-use trails. Portage has over 17 miles of non-motorized trails. In addition to the four-mile Portage Creek Bicentennial Park trail, the following major connector trails are managed by the City of Portage:

- ◆ **Northwest Bikeway Trail** – 3.5 miles in length from McGillicuddy to Romence Road.



- ◆ **Millennium Trail** – 1 mile in length from Romence Road to South Westnedge Avenue.
- ◆ **Garden Lane Trail** – 1 mile in length connecting to the Bicentennial Park trail from the east and west.
- ◆ **Romence Road Trail** – 1.75 miles in length between South Westnedge Avenue and Sprinkle Road.
- ◆ **Shaver Road Bikeway Trail** – 2 miles in length from Centre Avenue south to South Westnedge Park and Eliason Nature Reserve.
- ◆ **Lovers Lane Bikeway Trail** – 2 miles in length from Milham Avenue south to Centre Avenue.
- ◆ **East Centre/Sprinkle Road Bikeway Trail** – 1.5 miles in length from Portage Road east to Sprinkle Road and Sprinkle Road south to Zylman Road.
- ◆ **East Milham Bikeway Trail** – 0.75 mile in length from Lovers Lane east to Portage Road.

### General Government

**Portage City Hall** The City of Portage is committed to providing efficient, quality municipal facilities within the city. The primary government facility is in the geographic heart of the community where Centre Avenue and South Westnedge Avenue intersect: Portage City Hall was completed in 1988 and is located in the “triangle” between Westnedge, Shaver and West Centre Avenue. Development/redevelopment within this area has been ongoing although government facilities together with public educational activities



City Hall

form the nucleus for the “City Centre Area” of Portage. City Hall presently houses the offices of City Manager, City Clerk, Community Development, Financial Services, Employee Development, Benefit Services, City Assessor, and Information/Technology Services. City Council, Planning Commission and a variety of city advisory board and commission meetings are also held in the facility.

**Public Services Facility** The Public Services facility is located immediately northeast of City Hall, across South Westnedge Avenue and is also within the City Centre Area. This facility was constructed in 1964 and has undergone several building modifications in order to better serve Portage residents and businesses. The most recent building modification/expansion was completed in 2001. The facility houses the offices and operations activities of the Departments of Transportation and Utilities and Parks, Recreation, and Public Services and municipal utilities.

**Senior Center** The Senior Center was established in 1979 and is located on Currier Drive, east of City Hall, within the City Centre Area. The Senior Center was the first center in Michigan to be fully accredited by the National Council on the Aging/National Institute of Senior Centers. The Senior Center offers a wide variety of programs and activities for people aged 55 and older which promote personal growth, health, friendship and independence. Participation in Senior Center programs and activities is expected to increase during the coming years as a result of the aging “baby boomer” population.

### Library Facilities

The Portage District Library is also located within the City Centre Area. The library has been a dependable community resource and center for intellectual freedom since its conception more than 50 years ago. It began in 1962 as the Portage Township Library and since 1976, has been located at 300 Library Lane. The District Library facility underwent a major renovation in 1995.



*District Library*

### Educational Facilities

The Portage Public School District encompasses 45 square miles, the predominant portion of which is within the City of Portage. Portions of Texas Township, Pavilion Township and the City of Kalamazoo are also contained within the district. Although the Portage, Vicksburg and Schoolcraft Public School systems provide primary and secondary educational services within the City of Portage, only a limited portion of the City is served by the Vicksburg and Schoolcraft Districts. Accordingly, this section covers only the Portage Public School system.

A quality public school system is an important component to the continued strength of the local community. Portage voters overwhelmingly approved \$119 million bond proposal in November 2007 to construct two new elementary schools, a new Central High School and renovate Portage Northern High School. Also included in the bond project were new facilities for Transportation and Maintenance as well as Technology and Training. Construction of the new or renovated facilities is complete: the Transportation and Maintenance facility and 12<sup>th</sup> Street Elementary School opened in 2009, Lake Center Elementary School in 2010, and the new Portage Central and renovated Portage Northern high schools opened in the fall of 2011.

**Elementary Schools** There are eight elementary schools in the Portage Public School District:

- ◆ **Amberly Elementary** (18.8 acres)
- ◆ **Angling Road Elementary** (11.4 acres)
- ◆ **Portage Central Elementary** (shares campus with Central Middle and High Schools)
- ◆ **Haverhill Elementary** (10.9 acres)
- ◆ **Lake Center Elementary** (8.7 acres)
- ◆ **Moorsbridge Elementary** (shares site with West Middle School)
- ◆ **12th Street Elementary** (30 acres)
- ◆ **Woodland Elementary** (9.4 acres)

Since 1981, Lexington Green, Pershing and Ramona Avenue Elementary Schools have been closed and Milham Elementary School was converted to the Portage Community Education Center. The newest elementary schools, 12<sup>th</sup> Street Elementary and Lake Center Elementary, opened in 2009 and 2010.



Elementary schools have been located within residential areas with the intent to minimize walking distances and long-range transportation needs. These elementary school sites also provide recreational opportunities after normal school hours.



**Middle and High Schools** There are presently three middle schools and two senior high schools in the Portage Public School District:

- ◆ **Portage North Middle and High School** (78.9 acres)
- ◆ **Central Middle and High School** (93.4 acres)
- ◆ **West Middle** (64.5 acres)

The middle and high schools all contain gymnasiums, library media centers, auditoriums and extensive outdoor recreation areas. The middle school facilities also contain indoor swimming pools. Middle and high school facilities play a major role in providing a wide range of recreational opportunities for the Portage community.



*Central High School*

**Other Educational Facilities and Higher Education** In addition to public schools, there are a number of other charter schools, and private and parochial schools at all levels servicing the area. There are also a number of other educational and secondary educational programs/facilities within Portage and the surrounding region including Special Education, Post-Secondary Education and Vocational Education

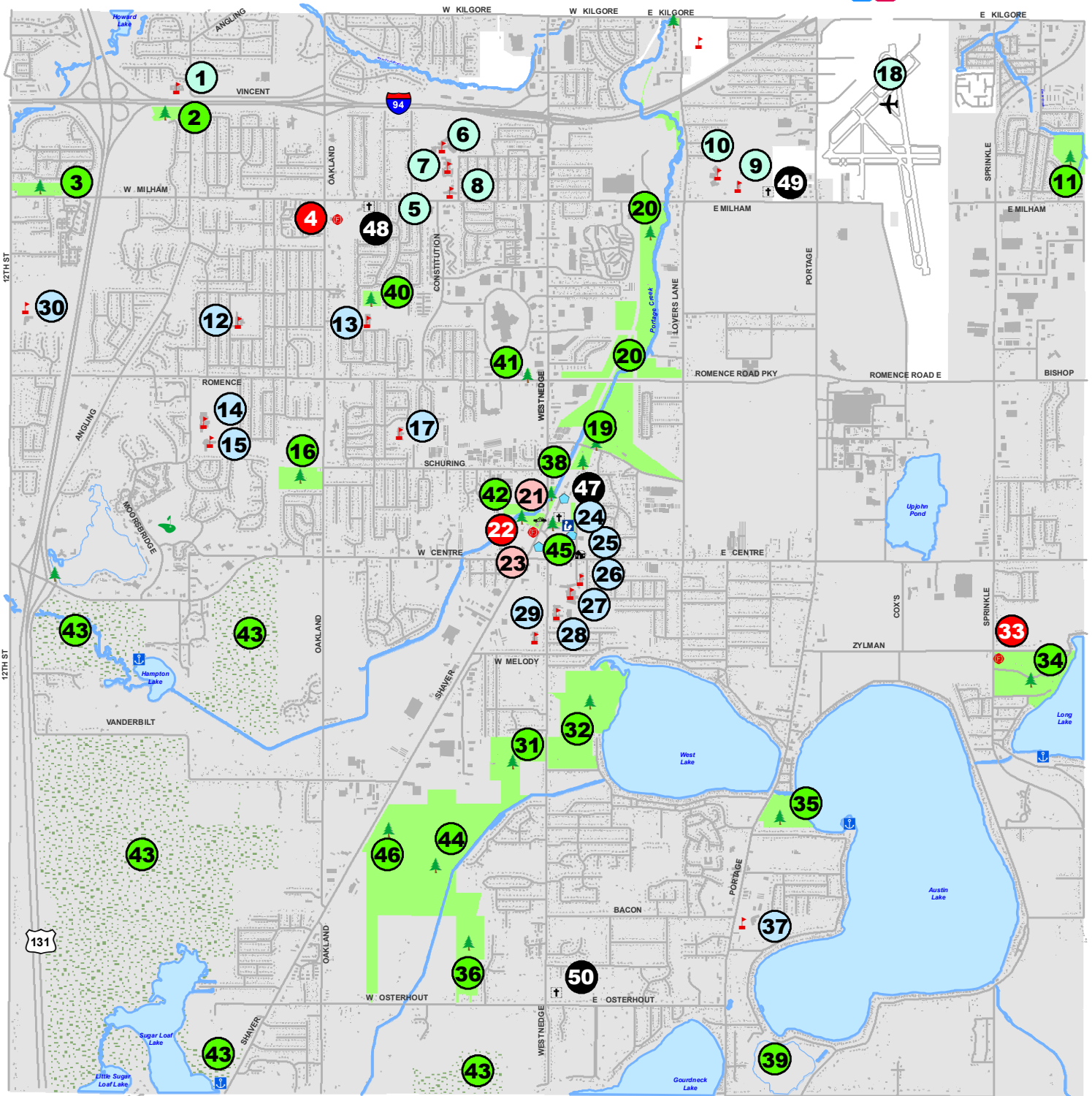
opportunities. Some of the key facilities are listed below:

- ◆ Portage Community Education Center
- ◆ Kalamazoo Regional Educational Service Agency
- ◆ Kalamazoo Valley Community College
- ◆ Davenport College
- ◆ Kalamazoo College
- ◆ Cornerstone University
- ◆ University of Phoenix
- ◆ Western Michigan University
- ◆ Extensions of several colleges, universities, training and continuing education programs



*Western Michigan University*

The **Community Facilities Map** illustrates the location of land resources, public park lands, school facilities and municipal facilities noted in the sections above.



## Community Facilities Map

March 2014

- 1 Cemeteries
- 1 Fire Stations
- 1 Municipal Buildings
- 1 Public/Institutional
- 1 Recreation/State Game Area
- 1 State Game Area Boundaries
- 1 City Recreation Boundaries

0 0.25 0.5 1 Mile  
Sources: City of Portage, MCGI

- 1 Angling Road Elementary School
- 2 Harbors West Park
- 3 Westfield Park
- 4 Fire Station #2
- 5 Post Office
- 6 Portage Northern High School
- 7 Portage North Middle School
- 8 Portage Community Education Center
- 9 Kalamazoo Regional Education Service Agency (KRESA)
- 10 WoodsEdge Learning Center (KRESA)
- 11 Lexington Green Park
- 12 Amberly Elementary School
- 13 Haverhill Elementary School
- 14 Portage West Middle School
- 15 Moorsbridge Elementary School
- 16 Oakland Drive Park
- 17 Woodland Elementary School
- 18 Kalamazoo/Battle Creek International Airport
- 19 Celery Flats Interpretive Center
- 20 Portage Creek Bicentennial Park
- 21 Police Station
- 22 Fire Station #1
- 23 City Hall
- 24 Library
- 25 Senior Center
- 26 Portage School Administration
- 27 Portage Central High School
- 28 Portage Central Middle School
- 29 Portage Central Elementary School
- 30 12th Street Elementary School
- 31 South Westnedge Park
- 32 West Lake Nature Preserve
- 33 Fire Station #3
- 34 Ramona Park
- 35 Lakeview Park
- 36 Schrier Park
- 37 Lake Central Elementary School
- 38 Liberty Park
- 39 Mandigo Marsh
- 40 Haverhill Park
- 41 Millennium Park
- 42 Central Park/Bandshell
- 43 State Game Area
- 44 Bishops Bog
- 45 Veterans Memorial Park
- 46 Eliason Nature Reserve
- 47 Portage Central Cemetery
- 48 Day Prairie Cemetery
- 49 Indian Fields Cemetery
- 50 South Cemetery

## Social/Cultural/Historic Resources

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**AirZoo.** AirZoo is a non-profit aviation museum and indoor amusement park, located near the Kalamazoo-Battle Creek Airport. It recently expanded its main campus in 2011.

**Celery Flats Interpretive and Historical Center.** A quaint, picturesque slice of the past is hidden in the heart of the city. The center features an 1856, one-room schoolhouse, a 1931 grain elevator, playground facilities, a picnic area, hiking trails and the Hayloft Barn Theatre.

**Historical Sites.** The City of Portage is a distinctive city with a rich history. The **Historical Sites** map shows 40 historic district homes/sites. The homes and sites not only serve as monuments to the past, but enrich the aesthetic quality of the city today and offer unique contributions to the architectural quality and diversity of the community. The non-renewable nature of these cultural resources, however, reflects the need to ensure their preservation. The sites should be carefully taken into consideration when future planning decisions are made within these areas.

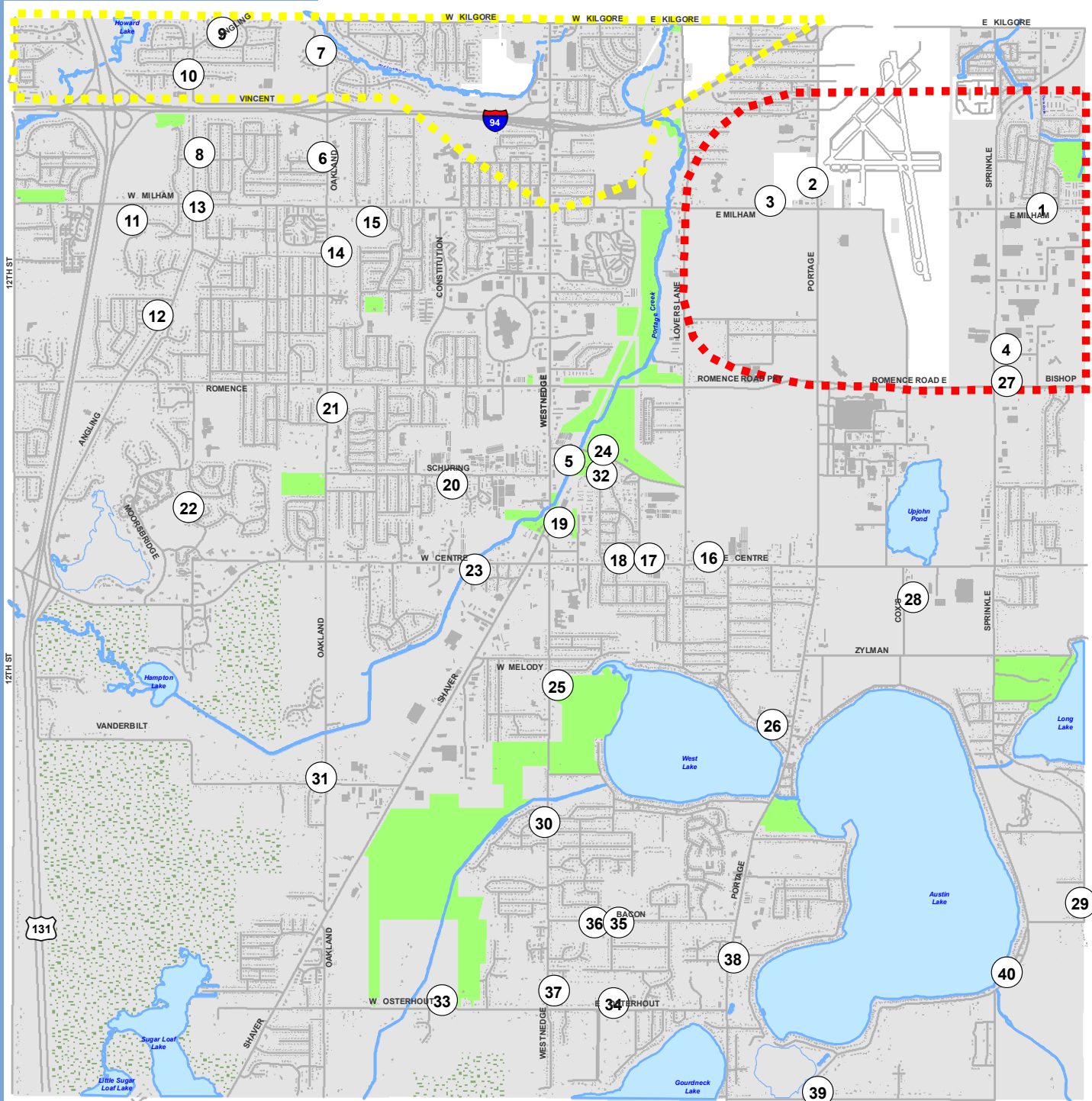
## Historical Sites

March 2014

- 1 Historical Structure
- Potential Archaeological Sites
- Sensitive Zone for Archaeological Sites
- Recreation/ State Game Area
- City Recreation Boundaries



Sources: City of Portage, MCGI



- |    |                                                  |    |                                                 |
|----|--------------------------------------------------|----|-------------------------------------------------|
| 1  | 4415 E. Milham (1895)                            | 21 | 7119 Oakland (c.1850)                           |
| 2  | 5830 Portage (1850)                              | 22 | 7706 Innisbrook (1870)                          |
| 3  | 2027 E. Milham - Indian Fields Cemetery (1832)   | 23 | 8021 Oak (c.1926)                               |
| 4  | 6851 S. Sprinkle (1850)                          | 24 | 7336 Garden - Portage Grain Elevator (1930)     |
| 5  | 7334 Garden Ln. (1846)                           | 25 | 8643 Westnedge (1920)                           |
| 6  | 5720 Oakland (1873)                              | 26 | 2106 Forest (c. 1900)                           |
| 7  | 5134 Oakland (c. 1890)                           | 27 | 6869 S. Sprinkle (1892)                         |
| 8  | 5719 Angling (1852)                              | 28 | 8007 Cox's - District #6 School (1927)          |
| 9  | 5029 Angling (c. 1890)                           | 29 | 9844 S. Sprinkle (c. 1850)                      |
| 10 | 5260 Angling (1868)                              | 30 | 9426 Westnedge (1870)                           |
| 11 | 3821 W. Milham (1859)                            | 31 | 2112 Vanderbilt (1878)                          |
| 12 | 6638 Angling (1870)                              | 32 | 7336 Garden - District#8 Schoolhouse (1856)     |
| 13 | 3321 W. Milham (1850)                            | 33 | 922 W. Osterhout (1853)                         |
| 14 | 6235 Oakland - District #2 School (1864)         | 34 | 703 E. Osterhout (1920)                         |
| 15 | 1705 W. Milham - Dry Prairie Cemetery (1835)     | 35 | 704 Bacon (1870)                                |
| 16 | 1521 E. Centre (c. 1915)                         | 36 | 506 Bacon - District #7 School (c. 1860)        |
| 17 | 903 E. Centre (1915)                             | 37 | 10327 Westnedge - Portage South Cemetery (1858) |
| 18 | 515 E. Centre (1853)                             | 38 | 10209 Portage (1870)                            |
| 19 | 7737 Westnedge - Portage Central Cemetery (1894) | 39 | 2663 Mandigo (1865)                             |
| 20 | 904 Schuring (c. 1910)                           | 40 | 10234 East Shore (c. 1918) barns (c. 1880)      |



## Existing Land Use

The following table and descriptions accompany the **Existing Land Use Map** completed in December 2012.

| 2007 – 2012 LAND USE COMPARISON                           |               |                    |                         |                    |
|-----------------------------------------------------------|---------------|--------------------|-------------------------|--------------------|
| Land Use                                                  | 2007 Acres    | 2007<br>% of Total | 2012 Acres <sup>1</sup> | 2012<br>% of Total |
| <b>Single-Family Residential</b>                          | 7,321         | 32.5%              | 7,057                   | 31.3%              |
| <b>Multi-Family Residential</b>                           | 865           | 3.8%               | 891                     | 4.0%               |
| <b>Commercial</b>                                         | 936           | 4.2%               | 889                     | 3.9%               |
| <b>Office</b>                                             | 586           | 2.6%               | 459                     | 2.0%               |
| <b>Industrial</b>                                         | 1,622         | 7.2%               | 1,399                   | 6.2%               |
| <b>Public/Quasi-Public Recreation &amp; Institutional</b> | 3,401         | 15.1%              | 3,629                   | 16.1%              |
| <b>Intensive Agriculture</b>                              | 154           | 0.7%               | 155                     | 0.7%               |
| <b>Vacant (including agriculture)</b>                     | 3,101         | 13.8%              | 3,505                   | 15.6%              |
| <b>Other (water/utility/ROW)</b>                          | 4,551         | 20.2%              | 4,553                   | 20.2%              |
| <b>Total</b>                                              | <b>22,537</b> | <b>100.0%</b>      | <b>22,537</b>           | <b>100.0%</b>      |

<sup>1</sup> The 2012 land use classification methodology was modified in order to improve the accuracy of the data. Modifications and the effect on the data are explained in the following land use descriptions.

**Single-Family Residential.** Single-family residential land use is by far the most predominant land use within Portage. Single-family residential growth slowed considerably since the start of the Great Recession. In 2012, this type of low-density development occupied approximately 31% (7,057 acres) of the total land area. The acreage devoted to single-family development decreased by between 2007 and 2012 due, in part, to a reclassification of two-family units as multi-family residential and undeveloped platted lots classified as vacant.

Numerous single-family residential neighborhoods are located throughout the city, with the largest concentrations located in the northwest and southeast quadrants of the city. The vast majority of these subdivisions are served by public sewer and water. These neighborhoods exhibit such features as curvilinear streets, cul-de-sacs, and various lot sizes. The older neighborhoods constructed shortly after World War II, were designed and constructed with smaller lots and setbacks with a more traditional grid-type street pattern. Several of these residential areas can be observed in the north portion of the city near I-94 and South Westnedge Avenue and in the central part of the community near Centre Avenue and South Westnedge Avenue, for example.

**Multi-Family Residential.** Multi-family residential land uses are found throughout Portage, generally on larger tracts of land. In 2012, approximately 891 acres, or 4% of the city accounts for these types of uses.

*Two-family residential* buildings, or duplexes, are buildings with two, separate units under single or sometimes dual ownership. The demand for this type of housing stock has been growing in recent years.

*Multi-family medium density* residential developments tend to generate higher volumes of traffic and, as a result, are often located along major thoroughfares such as Centre Avenue, Milham Avenue and Constitution Boulevard. There are a number of multi-family developments in Portage including Marsh Point

Apartments located on West Centre, the Courtyards located on Constitution Boulevard and Pheasant Run located on South Westnedge. Newer medium density multi-family developments which target the “empty nester” housing market (typically 55 years old and up) include the Village at Brighton Lane located on Oakland Drive, Woodlands at Austin Lake located on Sprinkle Road, Sterling Oaks located between Bacon Road and South Shore Drive and Oakland Hills located on Oakland Drive. These projects typically include 2 and/or 4 unit attached condominium buildings.

There are a number of larger, *high-density multi-family* developments in the city including Walnut Trails located near the intersection of East Milham and Newport, Prinwood Place and the Crossings located on Shaver Road near Oakland Drive and Greenspire Apartments located on West Centre Avenue. The Foxwood Planned Development, located in the northwest portion of Portage, also has a number of high-density multi-family units, as well as single-family units.

There are currently two *manufactured home parks* in the City of Portage: Colonial Acres and Oakbrook Estates. Colonial Acres is the largest park in the city and is located near Sprinkle Road and East Kilgore Road. Oakbrook Estates is located near the southwest corner of Romence Road and Lovers Lane.

**Office.** Office development within Portage is an important asset. With Portage located in an attractive regional market, approximately 459 acres (2% of the total land area) are developed with various office operations, including Trade Center I and II and Creekside Commons Office Park. The city currently has two major office corridors: Centre Avenue between South 12th Street and Portage Road and Milham Avenue between Oakland Drive and Portage Road. Other significant office development areas include Lovers Lane near East Kilgore Road (Trestlebridge/Trestlewood Office Park), Moorsbridge Road north of West Centre Avenue and Romence Road Parkway between Lovers Lane and Portage Road.

Office development generally offers stable employment and sound tax base (with a limited demand on public services). Office development is also often considered more visually appealing than other types of higher intensity land uses. Consequently, office uses have successfully served as an important “transitional” use between higher intensity uses and major streets and interior residential neighborhoods. With the exception of the Trade Center office buildings located along the north side of I-94, west of South Westnedge Avenue, the trend in office development over the past five years has been in smaller, owner-occupied office buildings.

Between 2007 and 2012, the amount of land used for office purposes decreased slightly as a result of land divisions that separated office buildings from surrounding vacant land, a reclassification of undeveloped Pfizer land holdings to vacant and/or building demolition.

**Commercial.** Commercial land uses account for 889 acres (3.9% of the total land area) in Portage.

The *local business* classification includes commercial uses that cater primarily to neighborhood residents. These uses include small grocery and convenience stores, dry-cleaners, pharmacy, banks, laundromats, and smaller dining establishments, among others. These uses are typically located near single-family neighborhoods and can be often accessed by means other than a motorized vehicle. Local businesses are important to the economic health of a community by providing employment opportunities. Local businesses also provide convenience needs to local residents.

*Regional business* uses include both local and regional shopping centers that draw patrons from the Kalamazoo County area and beyond, with access to this larger market via US-131 and I-94. Crossroads



Mall and Southland Mall, located along South Westnedge Avenue between Milham Avenue and Romence Road, are the largest regional business uses in the city.

The core or heart of the central business area, which is characterized primarily by regional business land use, is identified as the Portage Commerce Square, bounded by Milham Avenue, Constitution Boulevard, Romence Road and Lovers Lane. The vitality and importance of the Portage Commerce Square area is further reflected in the high building occupancy rate. According to the 2011 South Westnedge Avenue Commercial Corridor Study, more than 94% of the 4,246,248 square feet of commercial building space was occupied. Over the past ten years, an occupancy rate of 95% has been consistently maintained within the Portage Commerce Square area. This high occupancy rate confirms a healthy and vibrant commercial shopping center. In spite of the recent recessionary period, construction and reconstruction projects have continued including redevelopment of the former K-Mart Shopping Plaza.

Unlike local businesses, which cater primarily to nearby residents and can often be accessed by non-motorized transportation, *general business* operations tend to cater more to automobile traffic from a broader market area, including surrounding communities. General business uses include retail stores, hotels and motels, fast food restaurants, and highway service establishments.

Because general business uses depend heavily on automobile traffic, these businesses are usually located along major thoroughfares. Major thoroughfares of general business development include Westnedge Avenue from the Kilgore Road south to Centre Avenue, Portage Road from I-94 to Milham and from East Centre Avenue to South Shore Drive and the west side of Shaver Road from West Centre Avenue to Vanderbilt Avenue.

The South Westnedge Avenue Commercial Corridor (which includes the Portage Commerce Square area) and expanding Shaver Road Business Corridor have experienced the most general business and regional business growth (new and redevelopment activity) in the last five-year period. For example, between 2008 and 2013, approximately 266,000 square feet of business space was (re)constructed in the South Westnedge Avenue Commercial Corridor. An additional approximate 198,000 square feet of business space has also been constructed within the Shaver Road Business Corridor during this five-year period.

**Industrial.** Portage has two separate classifications for industrial uses: Light industrial and Heavy industrial, which total 1,399 acres or 6.2% of the total land area. As shown in the Existing Land Use table, the decrease in land used for industrial purposes is primarily attributed to reclassification of unimproved Pfizer land holdings to vacant.

Unlike residential classifications, which are distinguished by variations in densities, industrial operations are characterized by the intensity of operations. Light industrial operations typically involve the manufacture of a product from previously prepared materials. Heavy industrial operations manufacture a product from raw materials that are brought to or excavated on-site.

The largest concentrations of *light industrial* uses are found primarily along two corridors: Shaver Road and Sprinkle Road. Light industrial development activity during the past five years included expansion projects to Stryker Medical Instruments, Bowers Manufacturing, Midwest Fasteners, Summit Polymers (both Portage locations), FEMA, among others.

Pfizer, Inc. located along Portage Road, occupies or owns a significant amount of the city's *heavy industrial* land. Other heavy industrial operations are located along Shaver Road and along Sprinkle Road, the two

primary industrial corridors in the city. During the period between 2008 and 2013, growth in heavy industrial uses has been modest with focus primarily on upgrades and expansions involving existing facilities such as Pfizer, Charles River Laboratories, among others.

**Agriculture.** The amount of agricultural activity in Portage has steadily decreased over time as the city has continued to develop. In 1974, there were 2,336 acres of active agricultural land in Portage. Today, that amount has decreased by roughly 69%, and only 716 acres (3.2% of the total land area) of agricultural land remains active. The remaining parcels of active farmland are primarily located along portions of Portage Road and Sprinkle Road. Since agricultural land is generally undeveloped (no or minimal buildings, structures and associated site improvements), the acreage is included in the vacant category.

In addition to 716 acres of agricultural activity, there are an additional 155 acres of intensive agricultural uses. Intensive agricultural uses primarily include greenhouse operations as well as a cricket and worm farm.

**Public/Quasi-Public Recreation and Institutional.** Portage currently has 3,629 acres of land used as public/institutional, which is approximately 16.1% of the total land area. The increase in acreage from 2007 to 2012 can be primarily attributed to the Eliason Nature Reserve donation to the city.

*Public and institutional* uses account for a great variety of public and quasi-public operations throughout the city. Public uses are generally identified as government owned and operated buildings or facilities such as City Hall, fire and police stations, and libraries. Institutional uses are similar in function to public uses, but are not necessarily under local government control. Examples of these uses include schools, churches, hospitals, nonprofit organizations, among others.

*Public recreational* include public parks, nature preserves, state game areas and multi-use trails, are found throughout the city. Such uses provide numerous outdoor recreational opportunities to residents, and add significantly to the quality of life within the community. The Eliason Nature Reserve accounts for the 6.7% additional public recreational uses since 2007.

*Private recreation.* These recreational uses are similar to public uses since they provide recreational opportunities; however they are usually privately owned and operated. Private recreational uses should be considered separately from public recreational uses since they have the potential to be redeveloped for a different type of land use. For example, the former Oakland Hills Golf Course was sold and redeveloped as a medium density condominium community in 2005. Private recreational uses include the Moors Golf Course, South Portage Little League, West Portage Little League, Portage Soccer Club, Soccerzone, Courthouse and Kingdom Indoor Center, among others.

**Utility.** Land classified as utility include uses such as the Consumers Energy facilities, which meander through the city, as well as other public and private utility sites, such as sanitary sewer lift stations, water towers, electrical transformers, and telephone service facilities.

**Vacant.** There are 3,505 acres of vacant/undeveloped property in Portage, which represents approximately 15.6% of the total land area. These vacant land areas are primarily located in the following four areas:

1. In the southeast quadrant in the area around Austin Lake, specifically along the lake's east and south side.

2. Large areas owned by Pfizer along Portage Road and Zylman Avenue.
3. Along West Milham Avenue near the I-94/US-131 interchange. This area is identified for future residential development.

Vacant and undeveloped property is an important element to consider in the comprehensive planning process because it is most likely to be developed in the future.

The increase in vacant land area between 2007 and 2012 can be attributed to reclassification of vacant lots within platted residential areas, land divisions which separated building improved area from surrounding vacant land areas, and/or building demolition.

## Commercial/Industrial Land Use Character

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There are several important commercial and industrial areas throughout the city that are viewed as vital in an effort to maintain a strong economic base and hence the ability of the city to meet future growth and development challenges. These commercial and industrial areas provide the community with significant tax base that helps fund municipal services and job opportunities for Portage residents. These areas are summarized below.

### South Westnedge/Portage Commerce Square

The prime regional shopping center of Portage resides along South Westnedge and is known as Portage Commerce Square, which includes Crossroads Mall, southwest Michigan's only regional mall. Many newer commercial developments exist in the area with substantial green buffers, attractive facades, and good access management. Some of the older commercial areas can be targeted for redevelopment to match the newer high quality development rather than continued expansion into adjacent residential neighborhoods. Pockets of residential neighborhoods remain where the commercial has grown around them. Some of these areas have been impacted by continued commercial growth.

Character:

- ◆ Regional Commercial Center which includes shopping malls, national and regional retailers, and locally-owned and operated stores.
- ◆ Traffic management: needs continued attention to maintain flow, improve traffic signal technology, reduce potential for crashes through access management.

### City Centre (2008 Subarea Plan)

The Portage City Centre Area is the geographic area that best serves as the “identifying” center and “heart” of the City of Portage. In the case of the City of Portage and as proposed in this City Centre Area Plan, the elements that can serve as “building blocks” to establish and strengthen the city centre as a “place” include the existing quality community facilities and distinctive public features, environmental elements including Portage Creek, municipal recreational amenities, the Portage Public School/Administrative complex and the diverse businesses, business centers and neighborhoods within and adjacent to the geographic center of the community. The City Centre Area Plan also presents “placemaking” elements for the public sector and for the private sector that can be considered to strengthen, or to help create, an identifiable city centre. The City Centre Study Area is defined as the area bounded by Garden Lane to the north and east, Melody Avenue to the south and Perry

Street/Timbercreek Court to the west. This geographically central area encompasses existing city facilities and Portage Public Schools education and administrative facilities as well as immediately adjacent residential neighborhoods and business areas.

The City Centre Area is the location for many of the city's businesses. Several of these businesses have been located in the City Centre Area for many years while other businesses are new to the area. During the late 1990's, a revitalization/redevelopment effort began to emerge due to several factors including development of the Shaver Road Business Corridor, public street, storm sewer infrastructure improvements, municipal expansion projects, most recently including the Police Department facilities, and private sector reinvestment.

Since that time, business development in the City Centre Area included the Portage Centre Plaza and the Portage Creek Landings – City Centre located at the intersection of Shaver Road and West Centre Avenue. These two projects include multiple commercial buildings totaling more than 150,000 square feet. Recent development and redevelopment projects in the City Centre Area include Walgreens Drug Store, Gordon Food Service, Main Street Pub, Dunkin Donuts, Jimmy Johns, Wings Etc., Los Amigos and Huntington Bank.

Most municipal facilities are located in the City Centre Area including City Hall, Police facilities, Senior Center, Fire Station No. 1, Central Cemetery and a large Public Services facility. In addition to the municipal facilities, the Portage District Library is an anchor of the area. Several important recreational facilities are also located in the City Centre Area including Liberty Park, Central Park, Veterans Memorial Park and Celery Flats Historical Area.

A comprehensive pedestrian network of sidewalks and pedestrian trails interconnect activities within the overall Study Area. The popular Portage Creek Bicentennial Park Trail, portions of Millennium Trail and the Shaver Road Bikeway Trail pass through the City Centre Area from northeast to southwest. Pedestrian facilities also connect park facilities, civic activities including Portage District Library and business centers and the surrounding residential neighborhoods in the area.

While the City Centre Area is predominantly urban, there are several important natural resources: These natural resources include Portage Creek, a State of Michigan certified cold water trout stream, floodplains, sensitive wetland areas and wooded areas.

#### Character:

- ◆ A strong mixture of uses; residential, commercial (retail), and institutional all provide contributing uses to this area.
- ◆ Sidewalks are widely present.
- ◆ Civic uses are widely present in the area as well namely local schools.
- ◆ An abundance of off-street surface parking contributes to the area's auto-oriented development style.
- ◆ 5-lane roadways are typical for this area.

In 2011, the city adopted a City Centre Area zoning district that provides incentives for mixed uses, reduced building setbacks, and pedestrian amenities through redevelopment and new development. The goal of the City Centre Area zoning district is to further implement the goals and objectives of the Plan in an effort to create a sense of place or "heart" of Portage.

### Shaver Road Business Corridor

The Shaver Road Business Corridor is a developing corridor and, as a result, consists of a mixture of land uses. Uses located on the east side of the corridor, east of the Grand Elk railroad line, are primarily growing or stable industrial uses with some vacant land available for further development. The land uses located along the west side of the corridor consist of a mixture of light industrial uses, commercial uses and some nonconforming single-family dwellings. The west side of the corridor has experienced significant (re)development activity during the past several years involving both light industrial and commercial uses. Vacant land also exists for further commercial development. This (re)development activity is expected to continue which will further strengthen this important community corridor and provide additional job opportunities.

#### Character:

- ◆ Large retail cluster on west side, remainder primarily light industrial
- ◆ Small commercial node at Oakland Drive and Shaver Road
- ◆ Limited access boulevard from Centre Avenue to Vanderbilt Avenue: Opportunities exist to extend the median to the south to enhance traffic flow, safety and appearance.

### Portage Road Lake Center Area (2014 Subarea Plan)

Portage Road will be undergoing repaving in the next year. As part of the subarea planning effort during this Comprehensive Plan update, some preliminary analysis has been done with respect to roadway configuration and non-motorized facilities. The Lake Center Area assessment below will continue to be refined as the draft plan is developed and contains some preliminary roadway and land use assessments.

#### Character:

- ◆ A number of long-time locally-owned businesses provide commercial services in the area.
- ◆ Architecture is primarily of a 1950's theme. Additionally, there is some lake-themed styling as well. Overall, there is a lack of consistent architecture.
- ◆ Parking areas lack a consistent definition with side and front parking prominent in the area.
- ◆ Sidewalks have inconsistent widths and are not continuous, primarily on the west side.
- ◆ There is a significant opportunity for creating a core node utilizing the hardware and grocery stores as anchors and capitalizing on the adjacent lakes and park area.
- ◆ Roadways are typically 4- and 5-lanes. Some of these areas seem ideal for conversion to three lanes with the conversion to wider sidewalks or bike lanes.
- ◆ There are a number of opportunities for non-motorized connections throughout the corridor.

### Office Corridor Development

*Centre Avenue (US-131 to Portage Road).* This corridor serves as a linking road between several of the city's main commercial and industrial corridors and connection to US-131. As such, many of the remaining residences are subject to conversion into office uses. Since neighborhoods line the corridor, maintaining an office mix along the corridor is a good strategy to buffer the neighborhoods from traffic and nearby commercial businesses. Existing retail nodes at Angling Road and West Centre Avenue, West Center Avenue and Oakland Drive, and Lovers Lane and East Centre Avenue should be maintained as neighborhood commercial.

**Corridor Character:**

- ◆ Mix of offices, banks, churches, scattered residential and retail at major street intersections.
- ◆ A continuous sidewalk exists on the north side of Centre Avenue but inconsistent on south side.
- ◆ Off-street parking is located in front, side, or rear yard areas
- ◆ West Centre Avenue between South 12<sup>th</sup> Street and Oakland Drive is a four lane, limited access boulevard. Between Oakland Drive and Portage Road, West/East Centre Avenue is a 5-lane roadway.
- ◆ Continued focus of access management techniques

*Milham Avenue (Oakland Drive to Lovers Lane).* The Milham Avenue Office Corridor extends between Oakland Drive to just east of Lovers Lane. Similar to the Centre Avenue Office Corridor, this corridor is periodically broken by small enclaves of residential, retail uses and industrial uses. Maintaining an office mix along the corridor is an effective strategy to buffer adjacent neighborhoods from traffic and nearby commercial businesses.

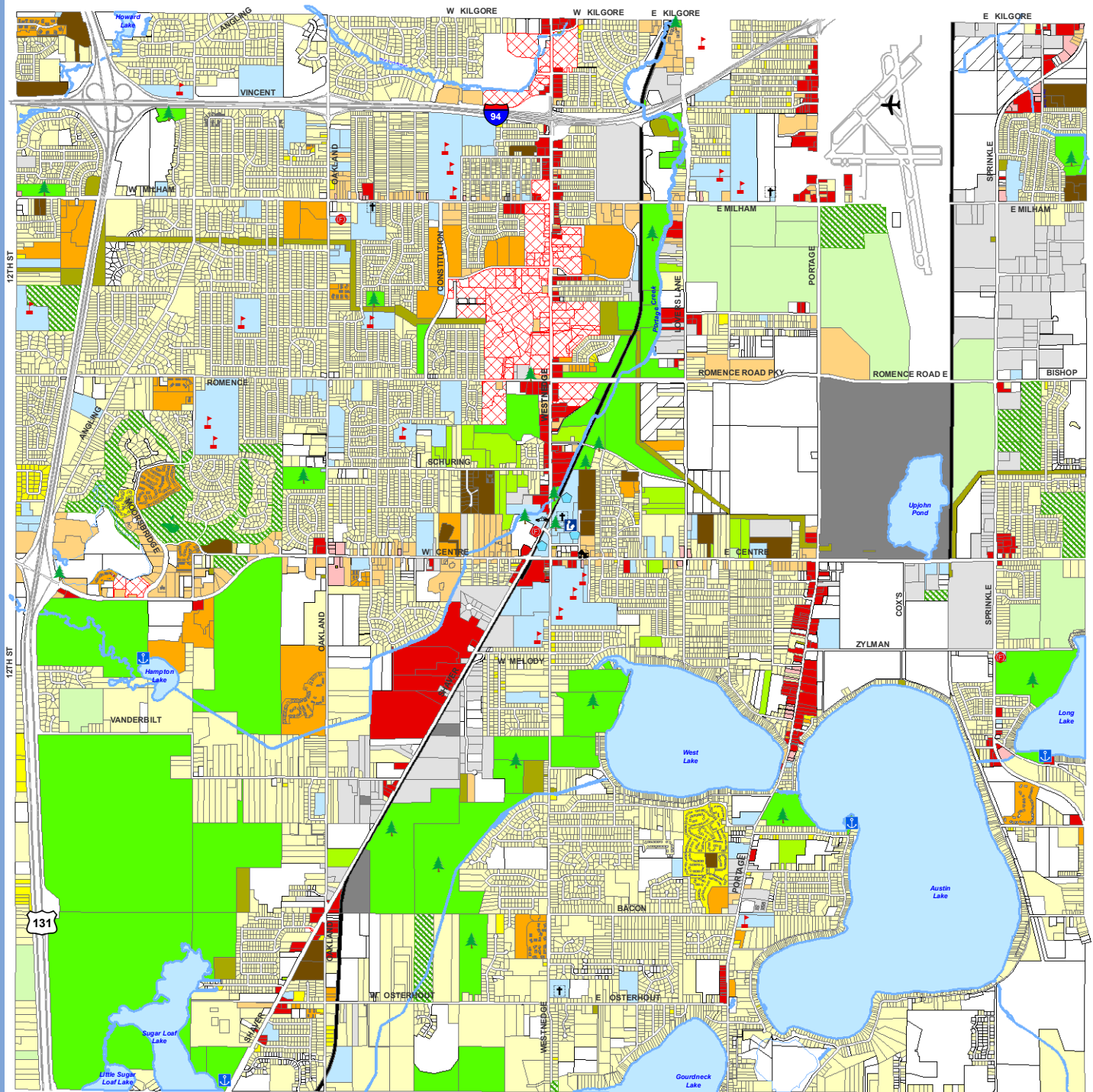
**Corridor Character:**

- ◆ Close proximity to I-94 and US-131.
- ◆ Located adjacent to the South Westnedge Avenue Commercial Corridor and Portage Commerce Square.
- ◆ A continuous sidewalk exists on both sides of Milham Avenue.
- ◆ Linkages to planned and/or available industrial sites and existing recreational facilities.
- ◆ Ability to accommodate a range of office site demands.

**Portage Road and Sprinkle Road Industrial Corridors**

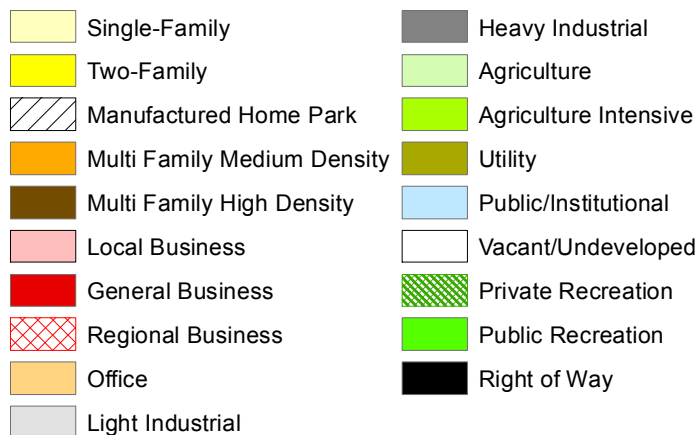
The industrial corridors near the airport and Pfizer holdings have a distinct industrial/R&D feel that can be strengthened. Small commercial nodes can be better defined at Milham/Portage, Centre/Portage, Sprinkle/Milham, and Centre/Sprinkle. Large industrial buildings are often set far back from the road with considerable green space buffering from the street. Parking is usually well landscaped in the side or rear yards. Much of the Pfizer land near Portage Road is vacant.





## Existing Land Use

December 2012



0 0.25 0.5 1 Mile

Sources: City of Portage, MCGI

## Transportation

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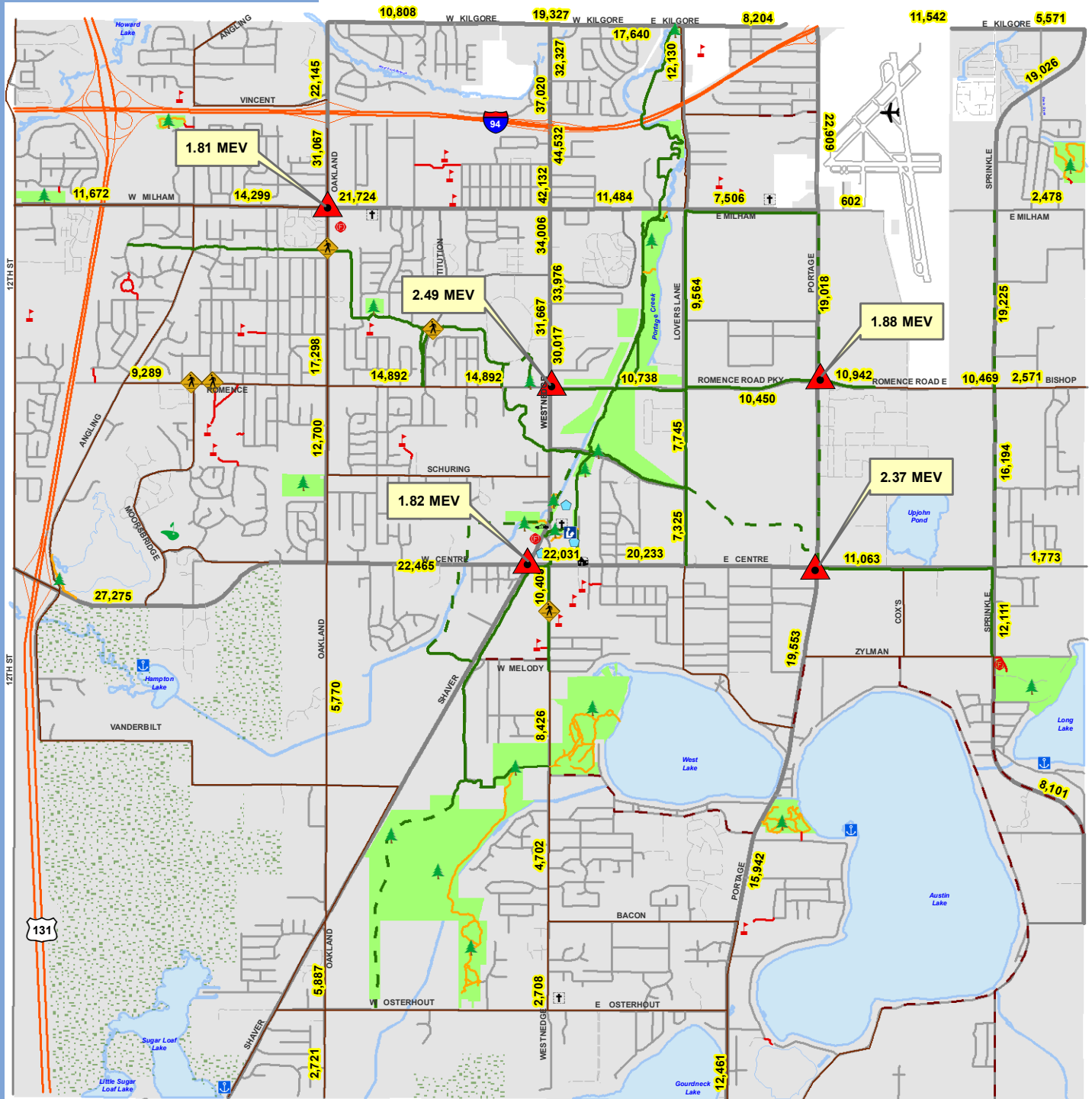
### Functional Street Classification

Streets can be defined based on a functional classification, using factors such as capacity, traffic volumes, length, spacing from other streets and the types of traffic served (shorter versus longer distance and the percentage of trucks, for example). In theory, major streets designed to move traffic are classified as arterial or collector streets, while streets designed to provide access to adjacent land uses with little or no through traffic are classified as local streets. In reality, many roadways may serve both functions in varying degrees.

The City of Portage functional street classification is consistent with the requirements of Michigan Public Act 51 which is the state law that annually distributes transportation funding to units of government for maintenance and construction of roads and support of transit systems. The functional classification illustrated on the **Transportation Existing Conditions Map** takes into account the annual state funding criteria as well as local land use patterns and land development regulations. The functional street classification is also generally consistent with the National Functional Classification (NFC) developed by the Federal Highway Administration and is included on the **Transportation Existing Conditions Map**. The NFC is used to determine local eligibility for federal funds regarding roadway construction projects.

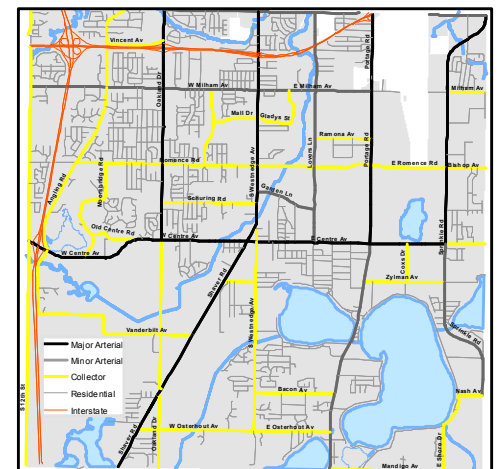
The local functional classification categories are summarized below. All city streets are considered “urban” within the Kalamazoo Metropolitan area by the state and federal road agencies for purposes of planning and funding.

- ◆ **Interstates/Expressways.** Interstates/expressways serve most of the longer distance travel to and through the Kalamazoo County urban area and thus are designed to carry the highest traffic volumes. The designated interstates/expressways in the city are I-94 and US-131 both of which are under the jurisdiction of the Michigan Department of Transportation.
- ◆ **Major Arterials.** Major arterials serve trips of greater length and often have links to the expressways through interchanges and thus move large volumes of traffic through the city or to and from major destinations within the city.
- ◆ **Minor Arterials.** This functional class serves trips of moderate length and moderate volumes, usually with a lower design speed than the major arterials. Minor arterials are intended to provide links to and between the major arterials, but have more emphasis on access to adjacent land uses. Ideally, these streets should not penetrate identifiable neighborhoods.
- ◆ **Collector Streets.** These streets serve as a link between local streets and arterial streets. Collector streets provide both access and traffic circulation within residential, commercial, and industrial areas. Moderate to low traffic volumes are typical, but they may have slightly wider pavement or design speeds than the local streets.
- ◆ **Local Streets.** Local streets make up the highest percentage of streets in the city. The primary purpose is to move traffic from adjacent land uses to the arterials, sometimes via a collector street. Design speed is typically low, as are volumes. Through-traffic on these streets is discouraged. Because these streets are developed in association with specific development proposals, this functional class of street is not part of the Major Thoroughfare network.



### Legend

- Pedestrian Refuge Island
- Paved Shoulder Bikeway
- Paved Shoulder Bikeway Proposed
- Multi-Use Trail
- Multi-Use Trail Proposed
- Other Pedestrian Trails
- Sidewalk/Trail Connectors
- City Parks
- State Game Area
- 21,724 Daily Traffic Count
- Top 5 Crash Rate Intersection: Average Crash Rate per Million Estimated Vehicles (MEV)



## Transportation Map Existing Conditions

March 2014



0 0.25 0.5 1 Mile

Sources: City of Portage, MCGI

## Volumes

Traffic operations and safety are influenced by a number of factors: the number of lanes, speed, roadway design, signalization, and most obviously, the number of vehicles on the road. The Existing Thoroughfare Street Segment Characteristics table includes traffic volumes, vehicle-to-capacity (V/C) ratios, among other roadway characteristics for several major thoroughfare segments within the city. Average daily traffic counts for major streets are also shown on the **Transportation Existing Conditions Map**. A roadway's capacity is primarily a function of the number of lanes. In general, the more lanes provided, the more capacity the roadway has to accommodate traffic demands.

As shown in the Existing Thoroughfare Street Segment Characteristics table located in the Appendix, no roadway segment is above a V/C ratio of 1.0. The highest V/C ratios were identified on South Westnedge, I-94 to Idaho (.86) and South Westnedge, Kilgore to Andy (.84). Four South Westnedge roadway segments are projected to be slightly above a V/C ratio of 1.0 by the year 2030 and include the segments between Idaho and Milham (1.15), Milham to Mall (1.14), Mall to Ruth (1.12), and Ruth to J.L. Hudson (1.12). These roadway segments will continue to be monitored by the city.

## Crashes

Traffic accidents, simply termed "crashes" by traffic engineering professionals, are one factor used to identify problems in the street system that may require correction. The number of crashes is compared to the number of vehicles traveling along a segment or through an intersection to determine the crash rate. High crash rates compared to similar locations may indicate the need for improvements, especially where there is a trend for a particular type of correctable crash.

The 2010-2012 Traffic Crashes by Intersection table located in the Appendix lists 34 major street intersections for which crash data is available for the three year period. Based on national studies, guidelines indicate an intersection with a crash rate of more than 2.5 crashes per million entering vehicles (MEV) requires further study to determine potential corrective measures. For the 2010-2012 reporting period, no intersections exceeded 2.5 crashes per MEV. However, two intersections were approaching 2.5 crashes per MEV and include South Westnedge/Romence (2.49 per MEV) and Portage/East Centre (2.37 per MEV). The top five crash intersections are shown on the **Transportation Existing Conditions Map**. These intersections will continue to be monitored by the city.

Crash rate guidelines for roadway segments are also based on national studies. Crash rates below 10 million vehicle miles (MVM) are not a major concern; crash rates between 10 and 20 per MVM should be monitored; and crash rates above 20 per MVM require attention. The 2010-2012 Traffic Crashes by Segments table lists 105 roadway segments for which crash data is available during this three year period. A review of the data indicates no roadway segment exceeded 20 crashes per MVM and only seven street segments had a rate between 10 and 20 crashes per MVM and will be monitored.

The severity of crashes is also important. A location with a history of more severe crashes, such as personal injuries instead of just "fender benders" may need special attention even if the rate is below the thresholds. In addition, the city monitors crash data to identify locations where crash reduction may help justify expenditure of improvement funds. Through the Kalamazoo Area Transportation Study (KATS), Federal safety funds are distributed in the metropolitan area for high crash street segments.



### Capital Improvement Program

Investments in the street network including sidewalks and bikeways are recommended in the amount of \$38.18 million (or approximately 31% of the total available resources) over the 10-year period.

Highlights of these recommended 10-year program projects include:

1. Ongoing Local Street/Major Street projects illustrate the commitment to maintain the network that connects community residential, business and industrial centers- \$34 million;
2. Continued bikeway and sidewalk improvement throughout the community-\$845,000;
3. Upgrades to the traffic signal systems along the Romence Road, and South Westnedge Avenue corridors-\$590,000;
4. Additional I-94 widening and related improvements-\$695,000

### Non-motorized

Portage has made a substantial investment toward a comprehensive non-motorized system of sidewalks, paths, bicycle lanes and multi-use trails to serve the entire city. The program has made Portage a leader in the state in developing non-motorized facilities, well in advance of the 2010 legislation requiring planning for "complete streets." Complete Streets is a concept to plan not only for automobiles, but for alternatives for travel between neighborhoods, schools, library, businesses, adjacent communities and other activity centers. Types of non-motorized facilities include sidewalks, bicycle lanes and where appropriate, paths and multi-use trails, and parallel streets where the right-of-way is sufficient. Other non-motorized facilities and multi-use trails pass through parks, along a stream or elsewhere outside of the street system to provide variety and encourage use. The overall non-motorized system offers recreational benefits and the opportunity for social interaction that contributes to the overall quality of life in the city.

As evidence of the commitment to non-motorized facilities, the city has completed and has planned several major trail additions which include:

- ◆ Portage Creek Bicentennial Trail, Phase II (2000). This approximate one mile extension of the Portage Creek Bicentennial from East Milham Avenue to Kilgore Road included construction of the Milham Avenue Pedestrian Overpass. This overpass is a key connector for the Bicentennial Trail and is a national award-winning overpass that facilitates pedestrian and bicycle travel over a major thoroughfare.
- ◆ Millennium Trail (2001). This approximate one mile trail extends from the Portage Creek Bicentennial Trail west to Millennium Park through the consolidated drain storm water treatment facility.
- ◆ Northwest Portage Bikeway, Phase I (2005). The first phase of the Northwest Portage Bikeway (NWPB) consists of a two-mile, 12-foot wide asphalt trail along a Consumers Energy transmission line that bisects the city from east to west. Located in the most populated area of the community, NWPB represents another critical leg in the multi-use trailway system serving the community.
- ◆ Northwest Portage Bikeway, Phase II (2008). The second phase of the NWPB extends the trail from Angling Road to McGillicuddy Lane on the west end and from Constitution Boulevard to Romence Road around the perimeter of Crossroads Mall.
- ◆ Eliason Nature Reserve (2011). An asphalt trail to the property is currently available from Portage Industrial Drive and a 1.25 natural pathway has been created through the property. A future trail extension south the West Osterhout Avenue is also planned for completion in 2015.
- ◆ Pedestrian Safety Features. Several pedestrian refuge islands have been installed throughout the city. Additional refuge islands, crosswalk improvements, and accessible pedestrian signal improvements are planned for installation in conjunction with major and local street improvements.

### Metropolitan Public Transportation

Portage is provided with fixed-route bus service by Kalamazoo Metro Transit. Five bus routes provide service to the primary residential, commercial and industrial areas of the city which are funded by a county-wide millage. Sidewalks and on-site pedestrian facilities can help make transit use more convenient and encourage its use. In addition, Kalamazoo County Transit Authority provides a demand-response service. This carrier provides curb-to-curb service for elderly and disabled persons residing in Portage to destinations within Portage or the Kalamazoo County area. The City of Kalamazoo and Kalamazoo County are in the process of merging both systems under the Kalamazoo Transit Authority which is scheduled to be completed in 2015.

### Regional Rail Transportation

Two rail lines are operational in the city, one runs north-south through the city, and the other serves the industrial area between Portage Road and Sprinkle Road. These rail lines provide freight service in the area. Amtrak provides passenger service through a station in the city of Kalamazoo. The lines run east through Battle Creek, Ann Arbor and other cities of metropolitan Detroit. A separate line runs to Port Huron, generally along the I-69 corridor. All the lines run to Chicago where connections can be made to Amtrak service across the nation. The speed of rail service is limited by the speeds allowed along the current tracks and the frequent conflicts with freight trains which have priority. Recent upgrades to the Kalamazoo-Chicago tracks are allowing trains to increase their travel speeds. A more exclusive passenger line, with higher speed capability is currently under study.

### Regional Air Transportation

Kalamazoo/Battle Creek International Airport provides the area with air-carrier and charter passenger services as well as air cargo services. The airport has completed several runway/taxi-way improvements and the new airport terminal opened in April 2011.

The land use implications for adjacent properties are discussed below in an excerpt from the 2013 Airport Master Plan:

A mix of industrial, residential, and agricultural land use surrounding the Airport restricts land acquisition opportunities to control incompatible land use. Easements offer an alternative method for the Airport to control obstructions from penetrating runway approach surfaces without the need to purchase land from existing property owners. It is recommended that the Airport continue to enter into agreements with surrounding property owners to prevent obstructions from impacting aircraft operations. An additional easement may be necessary for the extension of Runway 17/35 to control land use inside the relocated Runway 35 Runway Protection Zone (RPZ) that would be located south of Romence Road. Early coordination with Pfizer indicates that no future development is planned that would impact land use inside the future RPZ.

Review of the preferred alternatives indicates that surrounding land uses are anticipated to be compatible with the developments proposed in this Master Plan. The closure of Runway 9/27 reduces restrictions for land uses and obstructions to the east and west of the Airport. It is encouraged that these areas continue to be protected from development that may be incompatible with operation of the Airport. The acquisition of land for future general aviation (GA) development also helps the Airport limit surrounding incompatible land uses as it prevents opportunities for growth and development that may be incompatible to Airport operations. No additional land use concerns are anticipated for the remaining preferred alternatives. Land use compatibility should be continually reviewed in the future to confirm compatible land uses have been maintained in proximity to the Airport.



# APPENDIX

## Existing Thoroughfare Street Segment Characteristics

| Street    | From             | To               | Street Class | Jurisdiction | Lanes | Pavement Width | ROW Width  | Posted Speed | Curb & Gutter | Daily Capacity | Daily Traffic | Year | Present V/C Ratio | 2030 ADT (a) | 2030 V/C Ratio |
|-----------|------------------|------------------|--------------|--------------|-------|----------------|------------|--------------|---------------|----------------|---------------|------|-------------------|--------------|----------------|
| Westnedge | Kilgore          | Andy             | Major Art.   | Portage      | 5-6   | 60-72          | 66 to 93   | 35           | Yes           | 38,700         | 32,327        | 2012 | 0.84              | 30,251       | 0.78           |
| Westnedge | Andy             | I-94             | Major Art.   | Portage      | 6     | 72-110         | 66 to 119  | 35           | Yes           | 51,600         | 37,020        | 2013 | 0.72              | 42,255       | 0.82           |
| Westnedge | I-94             | Idaho            | Major Art.   | Portage      | 6     | 72-110         | 66 to 119  | 35           | Yes           | 51,600         | 44,532        | 2013 | 0.86              | 42,255       | 0.82           |
| Westnedge | Idaho            | Milham           | Major Art.   | Portage      | 6-7   | 72-84          | 110        | 35           | Yes           | 51,600         | 42,132        | 2013 | 0.82              | 59,586       | 1.15           |
| Westnedge | Milham           | Mall             | Major Art.   | Portage      | 6     | 72             | 83 to 125  | 35           | Yes           | 51,600         | 34,006        | 2013 | 0.66              | 58,769       | 1.14           |
| Westnedge | Mall             | Ruth             | Major Art.   | Portage      | 6     | 72             | 93 to 110  | 35           | Yes           | 51,600         | 33,976        | 2010 | 0.66              | 57,881       | 1.12           |
| Westnedge | Ruth             | Hudson           | Major Art.   | Portage      | 6     | 72             | 93 to 110  | 35           | Yes           | 51,600         | 31,667        | 2013 | 0.61              | 57,881       | 1.12           |
| Westnedge | Hudson           | Romence          | Major Art.   | Portage      | 6     | 72             | 90 to 110  | 35           | Yes           | 51,600         | 30,017        | 2013 | 0.58              | 35,054       | 0.68           |
| Westnedge | Romence          | Garden           | Major Art.   | Portage      | 5     | 57             | 66 to 93   | 35           | Yes           | 37,100         | 26,051        | 2013 | 0.70              | 31,717       | 0.85           |
| Westnedge | Garden           | Schuring         | Major Art.   | Portage      | 5     | 57             | 66 to 93   | 35           | Yes           | 37,100         | 24,976        | 2012 | 0.67              | 29,578       | 0.80           |
| Westnedge | Schuring         | Shaver           | Major Art.   | Portage      | 5     | 60             | 66 to 93   | 35           | Yes           | 38,700         | 25,439        | 2011 | 0.66              | 25,141       | 0.65           |
| Westnedge | Shaver           | Centre           | Minor Art.   | Portage      | 4     | 44             | 99         | 30           | Yes           | 33,000         | 8,727         | 2011 | 0.26              | 6,224        | 0.19           |
| Westnedge | Centre           | Melody           | Minor Art.   | Portage      | 3     | 38             | 66 to 86   | 30           | 50%           | 21,500         | 10,405        | 2013 | 0.48              | 11,326       | 0.53           |
| Westnedge | Melody           | S. Shore         | Minor Art.   | Portage      | 2     | 24             | 66         | 40           | No            | 17,200         | 8,426         | 2013 | 0.49              | 5,668        | 0.33           |
| Westnedge | S. Shore         | Bacon            | Minor Art.   | Portage      | 2     | 24             | 66         | 40           | No            | 17,200         | 4,702         | 2013 | 0.27              | 5,668        | 0.33           |
| Westnedge | Bacon            | Osterhout        | Minor Art.   | Portage      | 2     | 24             | 66         | 40           | No            | 17,200         | 2,708         | 2013 | 0.16              | 5,668        | 0.33           |
| Milham    | 12th             | Angling          | Minor Art.   | Portage      | 3     | 44             | 66         | 35           | Pvd Slidr     | 21,500         | 11,672        | 2012 | 0.54              | 10,624       | 0.49           |
| Milham    | Angling          | Oakland          | Minor Art.   | Portage      | 3     | 44             | 66         | 35           | Pvd Slidr     | 21,500         | 14,299        | 2013 | 0.67              | 13,536       | 0.63           |
| Milham    | Oakland          | Constitution     | Major Art.   | Portage      | 5     | 60             | 83         | 35           | Yes           | 38,700         | 21,724        | 2012 | 0.56              | 20,700       | 0.53           |
| Milham    | Constitution     | Ohio             | Major Art.   | Portage      | 5     | 58             | 83         | 35           | Yes           | 38,700         | 16,298        | 2013 | 0.42              | 19,936       | 0.52           |
| Milham    | Ohio             | Westnedge        | Major Art.   | Portage      | 5     | 58             | 83         | 35           | Yes           | 38,700         | 16,264        | 2013 | 0.42              | 19,936       | 0.52           |
| Milham    | Westnedge        | Norfolk Southern | Major Art.   | Portage      | 5     | 55             | 66 to 83   | 35           | Yes           | 37,100         | 11,484        | 2012 | 0.31              | 14,131       | 0.38           |
| Milham    | Norfolk Southern | Lovers Lane      | Major Art.   | Portage      | 4-5   | 55             | 66 to 83   | 35           | Yes           | 33,000         | 15,226        | 2011 | 0.46              | 14,351       | 0.43           |
| Milham    | Lovers Lane      | Portage          | Major Art.   | Portage      | 4     | 48             | 131 to 148 | 40           | Yes           | 34,400         | 7,506         | 2012 | 0.22              | 4,904        | 0.14           |
| Milham    | Portage          | Airport          | Major Art.   | Portage      | 4     | 48             | 131 to 148 | 40           | Yes           | 34,400         | 602           | 2013 | 0.02              | 4,904        | 0.14           |
| Milham    | Sprinkle         | E. City Limits   | Collector    | Portage      | 2     | 24             | 66         | 25           | Pvd Slidr     | 17,200         | 2,478         | 2011 | 0.14              | 2,105        | 0.12           |
| Oakland   | Kilgore          | I-94             | Major Art.   | Portage      | 4     | 40             | 66 to 135  | 35           | Yes           | 34,400         | 22,145        | 2009 | 0.64              | 23,095       | 0.67           |
| Oakland   | I-94             | Milham           | Major Art.   | Portage      | 5     | 60             | 99         | 35           | Yes           | 38,700         | 31,067        | 2011 | 0.80              | 35,440       | 0.92           |
| Oakland   | Milham           | Romence          | Minor Art.   | Portage      | 3     | 44             | 66         | 35           | Yes           | 21,500         | 17,298        | 2012 | 0.80              | 19,589       | 0.91           |
| Oakland   | Romence          | Centre           | Minor Art.   | Portage      | 3     | 44             | 66         | 35           | Yes           | 21,500         | 12,700        | 2013 | 0.59              | 14,745       | 0.69           |
| Oakland   | Centre           | Vanderbilt       | Minor Art.   | Portage      | 2     | 22             | 66         | 40           | Pvd Slidr     | 16,500         | 5,770         | 2013 | 0.35              | 4,079        | 0.25           |
| Oakland   | Vanderbilt       | Shaver           | Minor Art.   | Portage      | 2     | 22             | 66         | 40           | Pvd Slidr     | 16,500         | 4,571         | 2013 | 0.28              | 4,079        | 0.25           |
| Oakland   | Shaver           | Osterhout        | Collector    | Portage      | 2     | 22             | 66         | 40           | Pvd Slidr     | 16,500         | 5,887         | 2013 | 0.36              | 4,181        | 0.25           |
| Oakland   | Osterhout        | S. City Limits   | Collector    | Portage      | 2     | 22             | 66         | 40           | Pvd Slidr     | 16,500         | 2,721         | 2011 | 0.16              | 3,792        | 0.23           |
| Portage   | I-94             | Milham           | Major Art.   | Portage      | 4-5   | 44             | 66 to 100  | 45           | Yes           | 34,400         | 22,909        | 2013 | 0.67              | 21,419       | 0.62           |
| Portage   | Milham           | Centre           | Major Art.   | Portage      | 4-5   | 44             | 66 to 100  | 45           | Yes           | 34,400         | 19,018        | 2012 | 0.55              | 21,419       | 0.62           |
| Portage   | Kilgore          | Milham           | Major Art.   | Portage      | 5     | 59             | 100        | 45           | Yes           | 38,700         | 24,069        | 2008 | 0.62              | 23,435       | 0.61           |
| Portage   | Romence          | Centre           | Minor Art.   | Portage      | 4-5   | 44             | 66 to 100  | 40-45        | Yes           | 34,400         | 17,271        | 2013 | 0.50              | 17,305       | 0.50           |
| Portage   | Centre           | Lakeview         | Minor Art.   | Portage      | 4-5   | 44             | 66 to 100  | 40-45        | Yes           | 34,400         | 19,553        | 2013 | 0.57              | 17,305       | 0.50           |
| Portage   | Lakeview         | Osterhout        | Minor Art.   | Portage      | 4     | 44             | 66         | 45           | No            | 34,400         | 15,942        | 2010 | 0.46              | 16,102       | 0.47           |
| Portage   | Osterhout        | Mandigo          | Minor Art.   | Portage      | 2     | 22             | 33         | 45           | No            | 21,500         | 12,461        | 2012 | 0.58              | 16,102       | 0.75           |

## Existing Thoroughfare Street Segment Characteristics

| Street      | From             | To               | Street Class | Jurisdiction | Lanes | Pavement Width | ROW Width  | Posted Speed | Curb & Gutter | Daily Capacity | Daily Traffic | Year | Present V/C Ratio | 2030 ADT (a) | 2030 V/C Ratio |
|-------------|------------------|------------------|--------------|--------------|-------|----------------|------------|--------------|---------------|----------------|---------------|------|-------------------|--------------|----------------|
| Sprinkle    | Kilgore          | Meredith         | Major Art.   | KCRC         | 5     | 60             | 100        | 50           | No            | 38,700         | 19,026        | 2013 | 0.49              | 19,794       | 0.51           |
| Sprinkle    | Meredith         | Milham           | Major Art.   | KCRC         | 5     | 60             | 100        | 50           | 40%           | 38,700         | 19,026        | 2013 | 0.49              | 20,631       | 0.53           |
| Sprinkle    | Milham           | Romence          | Major Art.   | KCRC         | 5     | 60             | 100        | 50           | No            | 38,700         | 19,225        | 2004 | 0.50              | 20,487       | 0.53           |
| Sprinkle    | Romence          | Centre           | Major Art.   | KCRC         | 5     | 60             | 100        | 50           | No            | 38,700         | 16,194        | 2004 | 0.42              | 24,876       | 0.64           |
| Sprinkle    | Centre           | Zylman           | Major Art.   | KCRC         | 5     | 60             | 66 to 100  | 50           | Yes           | 38,700         | 12,111        | 2013 | 0.31              | 18,304       | 0.47           |
| Sprinkle    | Zylman           | S. City Limits   | Major Art.   | KCRC         | 5     | 60             | 66 to 100  | 50           | Yes           | 38,700         | 8,101         | 2013 | 0.21              | 9,594        | 0.25           |
| Centre      | 12th             | Oakland          | Major Art.   | Portage      | 4-5   | 48-60          | 83 to 120  | 45           | Yes           | 34,400         | 27,275        | 2012 | 0.79              | 26,084       | 0.76           |
| Centre      | Oakland          | Westnedge        | Major Art.   | Portage      | 5     | 55             | 76 to 86   | 45           | Yes           | 37,100         | 22,465        | 2012 | 0.61              | 21,292       | 0.57           |
| Centre      | Westnedge        | Shaver           | Major Art.   | Portage      | 5     | 55             | 76 to 86   | 45           | Yes           | 37,100         | 17,630        | 2013 | 0.48              | 21,292       | 0.57           |
| Centre      | Shaver           | Waylee           | Major Art.   | Portage      | 5     | 55             | 66 to 86   | 35           | Yes           | 37,100         | 22,031        | 2011 | 0.59              | 22,916       | 0.62           |
| Centre      | Waylee           | Portage          | Major Art.   | Portage      | 5     | 55             | 66 to 86   | 35-45        | Yes           | 37,100         | 20,233        | 2011 | 0.55              | 20,859       | 0.56           |
| Centre      | Portage          | Sprinkle         | Major Art.   | Portage      | 4     | 48             | 100 to 122 | 45           | Yes           | 38,700         | 11,063        | 2013 | 0.29              | 17,984       | 0.46           |
| Centre      | Sprinkle         | E. City Limits   | Collector    | Portage      | 2     | 22             | 66         | 40           | Pvd Sldr      | 17,200         | 1,773         | 2011 | 0.10              | 1,930        | 0.11           |
| Romence     | Angling          | Oakland          | Collector    | Portage      | 2     | 24             | 66         | 35           | Pvd Sldr      | 17,200         | 9,289         | 2013 | 0.54              | 8,141        | 0.47           |
| Romence     | Oakland          | Sears            | Minor Art.   | Portage      | 3     | 35             | 66         | 35           | Yes           | 21,500         | 14,892        | 2010 | 0.69              | 13,118       | 0.61           |
| Romence     | Sears            | Westnedge        | Minor Art.   | Portage      | 5     | 55             | 66         | 35           | Yes           | 37,100         | 15,628        | 2012 | 0.48              | 12,546       | 0.39           |
| Romence     | Westnedge        | Lovers Lane      | Minor Art.   | Portage      | 4     | 44             | 132 to 186 | 35           | Yes           | 33,000         | 10,738        | 2012 | 0.33              | 13,604       | 0.42           |
| Romence     | Lovers Lane      | Portage          | Minor Art.   | Portage      | 4     | 44             | 100 to 273 | 35           | Yes           | 33,000         | 10,450        | 2012 | 0.32              | 10,068       | 0.31           |
| Romence     | Portage          | Mastenbrook      | Minor Art.   | Portage      | 3-4   | 36-44          | 66         | 45           | 40%           | 21,500         | 10,942        | 2008 | 0.51              | 12,543       | 0.58           |
| Romence     | Mastenbrook      | Sprinkle         | Minor Art.   | Portage      | 2     | 22             | 66         | 45           | Pvd Sldr      | 16,500         | 10,469        | 2013 | 0.63              | 13,486       | 0.82           |
| Bishop      | Sprinkle         | E. City Limits   | Minor Art.   | Portage      | 2     | 22             | 66         | 40           | Pvd Sldr      | 17,200         | 2,571         | 2012 | 0.15              | 3,163        | 0.18           |
| Lovers Lane | Kilgore          | I-94             | Minor Art.   | Portage      | 4     | 44             | 66 to 83   | 35           | Yes           | 33,000         | 12,130        | 2009 | 0.37              | 13,203       | 0.40           |
| Lovers Lane | I-94             | Milham           | Minor Art.   | Portage      | 4     | 44             | 66 to 83   | 35           | Yes           | 33,000         | 12,744        | 2011 | 0.39              | 19,455       | 0.59           |
| Lovers Lane | Milham           | Romence          | Minor Art.   | Portage      | 4     | 44             | 66 to 99   | 40           | Yes           | 33,000         | 9,564         | 2012 | 0.29              | 11,750       | 0.36           |
| Lovers Lane | Romence          | Garden           | Minor Art.   | Portage      | 4     | 44             | 66 to 99   | 40           | Yes           | 33,000         | 7,745         | 2011 | 0.23              | 10,010       | 0.30           |
| Lovers Lane | Garden           | Centre           | Minor Art.   | Portage      | 4     | 44             | 66 to 99   | 40           | Yes           | 33,000         | 7,325         | 2011 | 0.22              | 7,839        | 0.24           |
| Lovers Lane | Centre           | Forest           | Subcollector | Portage      | 2     | 24             | 66 to 99   | 25           | Pvd Sldr      | 17,200         | 2,987         | 2012 | 0.17              | 1,954        | 0.11           |
| Kilgore     | Oakland          | Westnedge        | Minor Art.   | Kalamazoo    | 2-3   | 24-36          | 66 to 83   | 35           | Yes           | 17,200         | 10,808        | 2007 | 0.63              | 10,015       | 0.58           |
| Kilgore     | Westnedge        | Old Kilgore      | Minor Art.   | Portage      | 5     | 55             | 66 to 83   | 35           | Yes           | 38,700         | 19,327        | 2011 | 0.50              | 25,614       | 0.66           |
| Kilgore     | Old Kilgore      | Lovers Lane      | Minor Art.   | Portage      | 4     | 55             | 66 to 83   | 35           | Yes           | 33,000         | 17,640        | 2011 | 0.53              | 25,688       | 0.78           |
| Kilgore     | Lovers Lane      | Portage          | Minor Art.   | Portage      | 3     | 44             | 66 to 120  | 35           | Yes           | 21,500         | 8,204         | 2012 | 0.38              | 8,930        | 0.42           |
| Kilgore     | Norfolk Southern | Sprinkle         | Minor Art.   | Kalamazoo    | 4     | 44             | 66         | 45           | Yes           | 34,400         | 5,571         | 2007 | 0.16              | 6,064        | 0.18           |
| Kilgore     | Portage          | Norfolk Southern | Minor Art.   | Kalamazoo    | 4     | 44             | 66 to 120  | 45           | Yes           | 34,400         | 11,542        | 2007 | 0.34              | 15,767       | 0.46           |
| Angling     | Brookhaven       | Oakland          | Collector    | Portage      | 2     | 24             | 66 to 83   | 25           | Pvd Sldr      | 17,200         | 1,293         | 2013 | 0.08              | 1,651        | 0.10           |
| Angling     | Brookhaven       | Vincent          | Collector    | Portage      | 2     | 24             | 66 to 83   | 25           | Pvd Sldr      | 17,200         | 1,432         | 2013 | 0.08              | 1,651        | 0.10           |
| Vincent     | Church           | Oakland          | Collector    | Portage      | 2     | 24             | 66         | 25-35        | Pvd Sldr      | 17,200         | 2,517         | 2013 | 0.15              | 2,428        | 0.14           |
| Vincent     | Angling          | Church           | Collector    | Portage      | 2     | 24             | 66         | 25-35        | Pvd Sldr      | 17,200         | 1,689         | 2013 | 0.10              | 2,428        | 0.14           |
| Angling     | Milham           | Fir Tree         | Collector    | Portage      | 2     | 22             | 66 to 83   | 35           | Pvd Sldr      | 16,500         | 372           | 2013 | 0.02              | 2,171        | 0.13           |
| Angling     | Milham           | Romence          | Collector    | Portage      | 2     | 22             | 66 to 83   | 35           | Pvd Sldr      | 16,500         | 3,025         | 2013 | 0.18              | 2,171        | 0.13           |
| Angling     | Romence          | Centre           | Collector    | Portage      | 2     | 24             | 66 to 105  | 35           | Pvd Sldr      | 17,200         | 5,479         | 2012 | 0.32              | 3,797        | 0.22           |
| Angling     | Centre           | Vanderbilt       | Collector    | Portage      | 2     | 24             | 66 to 90   | 35           | Pvd Sldr      | 17,200         | 1,817         | 2012 | 0.11              | 1,034        | 0.06           |
| Vanderbilt  | Angling          | Shaver           | Collector    | Portage      | 2     | 22             | 66         | 35           | Pvd Sldr      | 16,500         | 1,340         | 2013 | 0.08              | 1,985        | 0.12           |

### Existing Thoroughfare Street Segment Characteristics

| Street       | From           | To             | Street Class | Jurisdiction | Lanes | Pavement Width | ROW Width  | Posted Speed | Curb & Gutter | Daily Capacity | Daily Traffic | Year | Present V/C Ratio | 2030 ADT (a) | 2030 V/C Ratio |
|--------------|----------------|----------------|--------------|--------------|-------|----------------|------------|--------------|---------------|----------------|---------------|------|-------------------|--------------|----------------|
| Osterhout    | Shaver         | Westnedge      | Minor Art.   | Portage      | 2     | 21             | 66         | 40           | Pvd Slidr     | 16,500         | 4,436         | 2012 | 0.27              | 4,470        | 0.27           |
| Osterhout    | Westnedge      | Portage        | Minor Art.   | Portage      | 2     | 24             | 66         | 40           | Pvd Slidr     | 17,200         | 4,321         | 2013 | 0.25              | 5,421        | 0.32           |
| Shaver       | Westnedge      | Centre         | Major Art.   | Portage      | 5     | 55             | 66 to 73   | 35           | Yes           | 37,100         | 14,388        | 2012 | 0.39              | 18,917       | 0.51           |
| Shaver       | Centre         | Vanderbilt     | Major Art.   | Portage      | 4-5   | 44-55          | 78 to 100  | 45           | Yes           | 33,000         | 19,108        | 2011 | 0.58              | 19,605       | 0.59           |
| Shaver       | Vanderbilt     | Oakland        | Major Art.   | Portage      | 2-3   | 22-33          | 22 to 200  | 45-50        | Pvd Slidr     | 17,200         | 9,613         | 2012 | 0.56              | 15,247       | 0.89           |
| Shaver       | Oakland        | S. City Limits | Major Art.   | Portage      | 2-3   | 22-33          | 22 to 200  | 45-50        | Pvd Slidr     | 17,200         | 8,810         | 2013 | 0.51              | 15,247       | 0.89           |
| Moorsbridge  | Centre         | N. Old Centre  | Collector    | Portage      | 2     | 24             | 66 to 100  | 30           | Yes           | 17,200         | 2,628         | 2013 | 0.15              | 3,494        | 0.20           |
| Moorsbridge  | N. Old Centre  | Muirfield      | Collector    | Portage      | 2     | 34             | 66         | 30           | Yes           | 17,200         | 2,853         | 2013 | 0.17              | 5,210        | 0.30           |
| Moorsbridge  | Muirfield      | Romence        | Collector    | Portage      | 2     | 28             | 66         | 30           | Pvd Slidr     | 17,200         | 5,287         | 2012 | 0.31              | 5,210        | 0.30           |
| Schuring     | Oakland        | Westnedge      | Collector    | Portage      | 2     | 22             | 66         | 30           | 20%           | 16,500         | 3,702         | 2009 | 0.22              | 5,511        | 0.33           |
| Garden       | Westnedge      | Kingston       | Collector    | Portage      | 2     | 21             | 33 to 66   | 35           | Pvd Slidr     | 16,500         | 2,581         | 2013 | 0.16              | 3,044        | 0.18           |
| Garden       | Kingston       | Garden Ln      | Collector    | Portage      | 2     | 21             | 33 to 66   | 35           | Pvd Slidr     | 16,500         | 2,062         | 2013 | 0.12              | 3,044        | 0.18           |
| Garden       | Garden Ln      | Lovers Ln      | Collector    | Portage      | 2     | 21             | 33 to 66   | 35           | Pvd Slidr     | 16,500         | 2,015         | 2013 | 0.12              | 3,044        | 0.18           |
| Mall         | Constitution   | JC Penney      | Minor Art.   | Portage      | 3     | 35             | 66         | 35           | Yes           | 21,500         | 5,341         | 2013 | 0.25              | 5,814        | 0.27           |
| Mall         | JC Penney      | Westnedge      | Minor Art.   | Portage      | 5     | 58             | 80         | 25           | Yes           | 38,700         | 13,729        | 2012 | 0.35              | 14,944       | 0.39           |
| Constitution | Milham         | Mall           | Minor Art.   | Portage      | 4     | 48             | 100        | 35           | Yes           | 34,400         | 12,696        | 2010 | 0.37              | 14,763       | 0.43           |
| Constitution | Mall           | Romence        | Minor Art.   | Portage      | 4     | 48             | 100        | 35           | Yes           | 34,400         | 7,573         | 2011 | 0.22              | 8,243        | 0.24           |
| Forest       | Lovers Lane    | Portage        | Subcollector | Portage      | 2     | 24             | 66         | 25           | Pvd Slidr     | 17,200         | 1,095         | 2013 | 0.06              | 2,036        | 0.12           |
| Zylman       | Portage        | Sprinkle       | Collector    | Portage      | 2     | 24             | 66         | 45           | Pvd Slidr     | 17,200         | 4,812         | 2012 | 0.28              | 4,147        | 0.24           |
| S. 12th St.  | N. City Limits | Chasemoor      | Minor Art.   | KCRC         | 2     | 22             | 66         | 45           | No            | 16,500         | 10,262        | 2008 | 0.62              | 8,961        | 0.54           |
| S 12th St.   | Chasemoor      | Milham         | Minor Art.   | KCRC         | 3     | 44             | 66         | 45           | Yes           | 21,500         | 9,727         | 2013 | 0.45              | 7,331        | 0.34           |
| S 12th St.   | Milham         | Golden Ridge   | Minor Art.   | KCRC         | 2     | 24             | 66         | 45-55        | No            | 17,200         | 5,571         | 2013 | 0.32              | 6,956        | 0.40           |
| S 12th St.   | Norfolk Circle | Centre         | Minor Art.   | KCRC         | 2     | 24             | 66         | 45-55        | No            | 17,200         | 7,035         | 2006 | 0.41              | 9,646        | 0.56           |
| S 12th St.   | Centre         | Whipporwill    | Minor Art.   | KCRC         | 2     | 21             | 66         | 55           | No            | 16,500         | 4,712         | 2006 | 0.29              | 7,607        | 0.46           |
| S 12th St.   | R Ave          | S Ave          | Minor Art.   | KCRC         | 2     | 21             | 66         | 55           | No            | 16,500         | 1,506         | 2006 | 0.09              | 1,274        | 0.08           |
| S 12th St.   | S Ave          | S. City Limits | Minor Art.   | KCRC         | 2     | 21             | 66         | 55           | No            | 16,500         | 910           | 2006 | 0.06              | 1,105        | 0.07           |
| Nash         | E Shore        | Sprinkle       | Subcollector | Portage      | 2     | 22             | 66         | 25           | No            | 16,500         | 678           | 2012 | 0.04              | 227          | 0.01           |
| East Shore   | Mandigo        | Woodhams       | Subcollector | Portage      | 2     | 22             | 30 to 66   | 25-35        | No            | 16,500         | 546           | 2013 | 0.03              | 695          | 0.04           |
| East Shore   | Woodhams       | Nash           | Subcollector | Portage      | 2     | 22             | 30 to 66   | 25-35        | No            | 16,500         | 788           | 2013 | 0.05              | 695          | 0.04           |
| East Shore   | Nash           | Branch         | Subcollector | Portage      | 2     | 22             | 30 to 66   | 25-35        | No            | 16,500         | 432           | 2013 | 0.03              | 695          | 0.04           |
| East Shore   | Branch         | Cox's Drive    | Subcollector | Portage      | 2     | 22             | 30         | 25           | No            | 16,500         | 609           | 2013 | 0.04              | 1,521        | 0.09           |
| East Shore   | Cox's Dr.      | Highland       | Subcollector | Portage      | 2     | 22             | 30         | 25           | No            | 16,500         | 223           | 2013 | 0.01              | 1,521        | 0.09           |
| Mandigo      | Portage        | E. Shore       | Subcollector | Portage      | 2     | 22             | 66         | 35           | Pvd Slidr     | 16,500         | 3,066         | 2011 | 0.19              | 1,582        | 0.10           |
| Newport      | Milham         | Alfa           | Collector    | Portage      | 2     | 28             | 66 to 99   | 25           | Yes           | 17,200         | 4,819         | 2008 | 0.28              | 6,347        | 0.37           |
| Newport      | Alfa           | Gladys         | Collector    | Portage      | 2     | 34             | 66         | 25           | Yes           | 16,500         | 2,901         | 2012 | 0.18              | 6,309        | 0.38           |
| Gladys       | Newport        | Gladys Ser Dr  | Collector    | Portage      | 2     | 22             | 66         | 25           | No            | 16,500         | 4,819         | 2008 | 0.29              | 5,140        | 0.31           |
| Gladys       | Gladys Ser Dr  | Westnedge      | Collector    | Portage      | 3     | 36             | 66 to 100+ | 25           | Yes           | 21,500         | 3,608         | 2013 | 0.17              | 8,739        | 0.41           |
| Bacon        | Westnedge      | Portage        | Collector    | Portage      | 2     | 24             | 66         | 35           | Pvd Slidr     | 17,200         | 2,332         | 2009 | 0.14              | 1,947        | 0.11           |
| Meredith     | Kilgore        | Sprinkle       | Subcollector | Portage      | 3     | 33             | 51 to 66   | 30           | Pvd Slidr     | 21,500         | 3,607         | 2011 | 0.17              | 3,740        | 0.17           |
| Meredith     | Sprinkle       | Milham         | Subcollector | Portage      | 3     | 33             | 51 to 66   | 30           | Pvd Slidr     | 21,500         | 3,132         | 2013 | 0.15              | 3,740        | 0.17           |

### Existing Thoroughfare Street Segment Characteristics

| Street      | From        | To          | Street Class | Jurisdiction | Lanes | Pavement Width | ROW Width | Posted Speed | Curb & Gutter | Daily Capacity | Daily Traffic | Year | Present V/C Ratio | 2030 ADT (a) | 2030 V/C Ratio |
|-------------|-------------|-------------|--------------|--------------|-------|----------------|-----------|--------------|---------------|----------------|---------------|------|-------------------|--------------|----------------|
| Melody      | Shaver      | Dolphin     | Collector    | Portage      | 2     | 22             | 66        | 25           | No            | 16,500         | 3,976         | 2012 | 0.24              | 3,029        | 0.18           |
| Melody      | Dolphin     | Westnedge   | Collector    | Portage      | 2     | 34             | 66        | 25           | Yes           | 16,500         | 3,165         | 2012 | 0.19              | 3,540        | 0.21           |
| Ramona      | Lovers Lane | Portage     | Collector    | Portage      | 2     | 22             | 66        | 25           | No            | 16,500         | 591           | 2011 | 0.04              | 3,470        | 0.21           |
| Cox's Drive | E Shore     | Zylman      | Collector    | Portage      | 2     | 22             | 66        | 25           | No            | 16,500         | 966           | 2012 | 0.06              | 3,468        | 0.21           |
| Cox's Drive | Zylman      | Centre      | Collector    | Portage      | 2     | 22             | 66        | 25           | No            | 16,500         | 544           | 2012 | 0.03              | 3,500        | 0.21           |
| Winters     | Lovers Lane | Portage     | Collector    | Portage      | 2     | 24             | 66        | 25           | Pvd Sldr      | 17,200         | 1,064         | 2013 | 0.06              | 3,044        | 0.18           |
| Old Centre  | Centre      | Cooley      | Collector    | Portage      | 2     | 34             | 66        | 30           | No            | 16,500         | 2,189         | 2011 | 0.13              | 1,483        | 0.09           |
| Old Centre  | Cooley      | Moorsbridge | Collector    | Portage      | 2     | 34             | 66        | 30           | Yes           | 16,500         | 2,079         | 2011 | 0.13              | 1,481        | 0.09           |

| 2010-2012 Traffic Crashes by Intersection |                                   |                         |        |       |       |        |       |       |        |       |              |        |       |          |                                                           |                                                            |        |       |          |
|-------------------------------------------|-----------------------------------|-------------------------|--------|-------|-------|--------|-------|-------|--------|-------|--------------|--------|-------|----------|-----------------------------------------------------------|------------------------------------------------------------|--------|-------|----------|
| No.                                       | Intersection                      | Crash Frequency by Year |        |       |       |        |       |       |        |       |              |        |       |          | Estimated Vehicles<br>Per Day (EVPD)<br>(Average 2010-12) | Average Crash Rate per Million<br>Estimated Vehicles (MEV) |        |       |          |
|                                           |                                   | 2010                    |        |       | 2011  |        |       | 2012  |        |       | Average/Year |        |       |          |                                                           | Estimated Vehicles (MEV)                                   |        |       |          |
|                                           |                                   | Total                   | Injury | Fatal | Total | Injury | Fatal | Total | Injury | Fatal | Total        | Injury | Fatal | Severity |                                                           | Total                                                      | Injury | Fatal | Severity |
| 1                                         | Westnedge and Kilgore             | 4                       | 1      | 0     | 8     | 1      | 0     | 2     | 0      | 0     | 4.67         | 0.67   | 0     | 6.67     | 38,853                                                    | 0.33                                                       | 0.05   | 0.00  | 0.47     |
| 2                                         | Westnedge and Andy                | 19                      | 5      | 0     | 10    | 0      | 0     | 7     | 0      | 0     | 12.00        | 1.67   | 0     | 17.00    | 38,760                                                    | 0.85                                                       | 0.12   | 0.00  | 1.20     |
| 3                                         | Westnedge and Dawnlee             | 7                       | 1      | 0     | 6     | 2      | 0     | 9     | 1      | 0     | 7.33         | 1.33   | 0     | 11.33    | 36,163                                                    | 0.56                                                       | 0.10   | 0.00  | 0.86     |
| 4                                         | Westnedge and Idaho               | 7                       | 0      | 0     | 9     | 5      | 0     | 13    | 3      | 0     | 9.67         | 2.67   | 0     | 17.67    | 39,102                                                    | 0.68                                                       | 0.19   | 0.00  | 1.24     |
| 5                                         | Westnedge and Milham              | 15                      | 5      | 0     | 30    | 6      | 0     | 27    | 6      | 0     | 24.00        | 5.67   | 0     | 41.00    | 52,943                                                    | 1.24                                                       | 0.29   | 0.00  | 2.12     |
| 6                                         | Westnedge and Mall/Gladys         | 17                      | 2      | 0     | 25    | 3      | 0     | 28    | 10     | 0     | 23.33        | 5.00   | 0     | 38.33    | 38,408                                                    | 1.66                                                       | 0.36   | 0.00  | 2.73     |
| 7                                         | Westnedge and Crossroads/Ruth     | 13                      | 2      | 0     | 14    | 3      | 0     | 10    | 3      | 0     | 12.33        | 2.67   | 0     | 20.33    | 34,073                                                    | 0.99                                                       | 0.21   | 0.00  | 1.63     |
| 8                                         | Westnedge and J.L. Hudson         | 7                       | 3      | 0     | 10    | 2      | 0     | 8     | 2      | 0     | 8.33         | 2.33   | 0     | 15.33    | 30,900                                                    | 0.74                                                       | 0.21   | 0.00  | 1.36     |
| 9                                         | Westnedge and Romence             | 37                      | 4      | 0     | 34    | 3      | 0     | 34    | 8      | 0     | 35.00        | 5.00   | 0     | 50.00    | 38,526                                                    | 2.49                                                       | 0.36   | 0.00  | 3.56     |
| 10                                        | Westnedge and Garden Lane         | 7                       | 1      | 0     | 6     | 1      | 0     | 6     | 1      | 0     | 6.33         | 1.00   | 0     | 9.33     | 24,406                                                    | 0.71                                                       | 0.11   | 0.00  | 1.05     |
| 11                                        | Westnedge and Schuring            | 4                       | 1      | 0     | 6     | 2      | 0     | 6     | 1      | 0     | 5.33         | 1.33   | 0     | 9.33     | 24,616                                                    | 0.59                                                       | 0.15   | 0.00  | 1.04     |
| 12                                        | Westnedge and Shaver              | 1                       | 0      | 0     | 7     | 2      | 0     | 5     | 1      | 0     | 4.33         | 1.00   | 0     | 7.33     | 24,616                                                    | 0.48                                                       | 0.11   | 0.00  | 0.82     |
| 13                                        | Westnedge and Centre              | 10                      | 2      | 0     | 12    | 0      | 0     | 13    | 0      | 0     | 11.67        | 0.67   | 0     | 13.67    | 25,539                                                    | 1.25                                                       | 0.07   | 0.00  | 1.47     |
| 14                                        | Shaver and Centre                 | 31                      | 8      | 0     | 29    | 7      | 0     | 9     | 3      | 0     | 23.00        | 6.00   | 0     | 41.00    | 34,605                                                    | 1.82                                                       | 0.48   | 0.00  | 3.25     |
| 15                                        | Shaver and Melody                 | 2                       | 0      | 0     | 9     | 1      | 0     | 5     | 2      | 0     | 5.33         | 1.00   | 0     | 8.33     | 15,966                                                    | 0.92                                                       | 0.17   | 0.00  | 1.43     |
| 16                                        | Shaver and Oakland                | 12                      | 6      | 0     | 4     | 2      | 0     | 7     | 2      | 0     | 7.67         | 3.33   | 0     | 17.67    | 15,758                                                    | 1.33                                                       | 0.58   | 0.00  | 3.07     |
| 17                                        | Oakland and Milham                | 23                      | 2      | 0     | 19    | 3      | 0     | 19    | 3      | 0     | 20.33        | 2.67   | 0     | 28.33    | 30,818                                                    | 1.81                                                       | 0.24   | 0.00  | 2.52     |
| 18                                        | Oakland and Romence               | 10                      | 2      | 0     | 13    | 4      | 0     | 8     | 2      | 0     | 10.33        | 2.67   | 0     | 18.33    | 22,430                                                    | 1.26                                                       | 0.33   | 0.00  | 2.24     |
| 19                                        | Oakland and Centre                | 17                      | 7      | 0     | 13    | 1      | 0     | 17    | 3      | 0     | 15.67        | 3.67   | 0     | 26.67    | 31,999                                                    | 1.34                                                       | 0.31   | 0.00  | 2.28     |
| 20                                        | Centre and Lovers Lane            | 6                       | 0      | 0     | 11    | 2      | 0     | 6     | 0      | 0     | 7.67         | 0.67   | 0     | 9.67     | 27,300                                                    | 0.77                                                       | 0.07   | 0.00  | 0.97     |
| 21                                        | Milham and Devon/Monticello       | 10                      | 1      | 0     | 5     | 0      | 0     | 3     | 0      | 0     | 6.00         | 0.33   | 0     | 7.00     | 21,878                                                    | 0.75                                                       | 0.04   | 0.00  | 0.88     |
| 22                                        | Milham and Constitution           | 14                      | 0      | 0     | 11    | 4      | 0     | 19    | 3      | 0     | 14.67        | 2.33   | 0     | 21.67    | 27,100                                                    | 1.48                                                       | 0.24   | 0.00  | 2.19     |
| 23                                        | Milham and Oregon                 | 7                       | 0      | 0     | 4     | 1      | 0     | 7     | 1      | 0     | 6.00         | 0.67   | 0     | 8.00     | 16,160                                                    | 1.02                                                       | 0.11   | 0.00  | 1.36     |
| 24                                        | Lovers Lane and Kilgore           | 0                       | 0      | 0     | 0     | 0      | 0     | 0     | 0      | 0     | 0.00         | 0.00   | 0     | 0.00     | 22,681                                                    | 0.00                                                       | 0.00   | 0.00  | 0.00     |
| 25                                        | Lovers Lane and Milham            | 4                       | 1      | 0     | 9     | 3      | 0     | 7     | 0      | 0     | 6.67         | 1.33   | 0     | 10.67    | 20,000                                                    | 0.91                                                       | 0.18   | 0.00  | 1.46     |
| 26                                        | Lovers Lane and Romence Rd. Pkwy  | 11                      | 3      | 0     | 7     | 0      | 0     | 5     | 2      | 0     | 7.67         | 1.67   | 0     | 12.67    | 21,250                                                    | 0.99                                                       | 0.21   | 0.00  | 1.63     |
| 27                                        | Constitution and Mall             | 0                       | 0      | 0     | 0     | 0      | 0     | 4     | 1      | 0     | 1.33         | 0.33   | 0     | 2.33     | 17,494                                                    | 0.21                                                       | 0.05   | 0.00  | 0.37     |
| 28                                        | Romence Rd. Pkwy. and Sears Drive | 8                       | 1      | 0     | 0     | 0      | 0     | 6     | 2      | 0     | 4.67         | 1.00   | 0     | 7.67     | 21,799                                                    | 0.59                                                       | 0.13   | 0.00  | 0.96     |
| 29                                        | Mall and J.C. Penney Dr.          | 3                       | 1      | 0     | 1     | 0      | 0     | 2     | 0      | 0     | 2.00         | 0.33   | 0     | 3.00     | 17,515                                                    | 0.31                                                       | 0.05   | 0.00  | 0.47     |
| 30                                        | Constitution and Romence          | 13                      | 5      | 0     | 8     | 1      | 0     | 12    | 3      | 0     | 11.00        | 3.00   | 0     | 20.00    | 21,573                                                    | 1.40                                                       | 0.38   | 0.00  | 2.54     |
| 31                                        | Portage and Winters               | 0                       | 0      | 0     | 0     | 0      | 0     | 0     | 0      | 0     | 0.00         | 0.00   | 0     | 0.00     | 20,386                                                    | 0.00                                                       | 0.00   | 0.00  | 0.00     |
| 32                                        | Portage and Milham                | 11                      | 1      | 0     | 8     | 0      | 0     | 9     | 2      | 0     | 9.33         | 1.00   | 0     | 12.33    | 19,995                                                    | 1.28                                                       | 0.14   | 0.00  | 1.69     |
| 33                                        | Portage and Romence Rd. Pkwy.     | 15                      | 2      | 0     | 14    | 6      | 0     | 5     | 2      | 0     | 11.33        | 3.33   | 0     | 21.33    | 16,534                                                    | 1.88                                                       | 0.55   | 0.00  | 3.53     |
| 34                                        | Portage and Centre                | 15                      | 2      | 0     | 13    | 4      | 0     | 18    | 4      | 0     | 15.33        | 3.33   | 0     | 25.33    | 17,760                                                    | 2.37                                                       | 0.51   | 0.00  | 3.91     |



## 2010-2012 Traffic Crashes by Segments

| 2010-2012 Traffic Crashes by Segments |           |              |                |                         |        |       |       |        |       |       |        |       |              |        |       |          |                                       |               |                                |        |       |          |  |
|---------------------------------------|-----------|--------------|----------------|-------------------------|--------|-------|-------|--------|-------|-------|--------|-------|--------------|--------|-------|----------|---------------------------------------|---------------|--------------------------------|--------|-------|----------|--|
| No.                                   |           |              |                | Crash Frequency by Year |        |       |       |        |       |       |        |       |              |        |       |          | Average Daily Traffic (ADT) (2010-12) | Length (mile) | Average Crash Rate per Million |        |       |          |  |
|                                       | Street    | From         | To             | 2010                    |        |       | 2011  |        |       | 2012  |        |       | Average/Year |        |       |          |                                       |               | Vehicle Miles (MVM)            |        |       |          |  |
|                                       |           |              |                | Total                   | Injury | Fatal | Total | Injury | Fatal | Total | Injury | Fatal | Total        | Injury | Fatal | Severity |                                       |               | Total                          | Injury | Fatal | Severity |  |
| 1                                     | Westnedge | Kilgore      | Andy           | 24                      | 6      | 0     | 25    | 1      | 0     | 12    | 0      | 0     | 20.33        | 2.33   | 0.00  | 27.33    | 22,202                                | 0.317         | 7.92                           | 0.91   | 0.00  | 10.64    |  |
| 2                                     | Westnedge | Andy         | Idaho          | 32                      | 3      | 1     | 35    | 7      | 0     | 37    | 6      | 0     | 34.67        | 5.33   | 0.33  | 54.67    | 32,869                                | 0.471         | 6.13                           | 0.94   | 0.06  | 9.67     |  |
| 3                                     | Westnedge | Idaho        | Milham         | 13                      | 0      | 0     | 20    | 4      | 0     | 20    | 4      | 0     | 17.67        | 2.67   | 0.00  | 25.67    | 35,798                                | 0.25          | 5.41                           | 0.82   | 0.00  | 7.86     |  |
| 4                                     | Westnedge | Milham       | Mall           | 42                      | 9      | 0     | 55    | 10     | 0     | 68    | 16     | 0     | 55.00        | 11.67  | 0.00  | 90.00    | 31,783                                | 0.373         | 12.71                          | 2.70   | 0.00  | 20.80    |  |
| 5                                     | Westnedge | Mall         | Ruth           | 20                      | 4      | 0     | 26    | 5      | 0     | 30    | 12     | 0     | 25.33        | 7.00   | 0.00  | 46.33    | 35,525                                | 0.162         | 12.06                          | 3.33   | 0.00  | 22.06    |  |
| 6                                     | Westnedge | Ruth         | Hudson         | 14                      | 3      | 0     | 20    | 4      | 0     | 13    | 5      | 0     | 15.67        | 4.00   | 0.00  | 27.67    | 35,171                                | 0.201         | 6.07                           | 1.55   | 0.00  | 10.72    |  |
| 7                                     | Westnedge | Hudson       | Romence        | 54                      | 10     | 0     | 34    | 6      | 0     | 35    | 8      | 0     | 41.00        | 8.00   | 0.00  | 65.00    | 31,342                                | 0.271         | 13.22                          | 2.58   | 0.00  | 20.97    |  |
| 8                                     | Westnedge | Romence      | Garden Lane    | 20                      | 3      | 0     | 35    | 9      | 0     | 18    | 1      | 0     | 24.33        | 4.33   | 0.00  | 37.33    | 29,327                                | 0.348         | 6.53                           | 1.16   | 0.00  | 10.02    |  |
| 9                                     | Westnedge | Garden Ln.   | Schuring       | 9                       | 0      | 0     | 9     | 3      | 0     | 9     | 2      | 0     | 9.00         | 1.67   | 0.00  | 14.00    | 25,078                                | 0.155         | 6.34                           | 1.17   | 0.00  | 9.87     |  |
| 10                                    | Westnedge | Schuring     | Shaver         | 6                       | 1      | 0     | 1     | 0      | 0     | 10    | 2      | 0     | 5.67         | 1.00   | 0.00  | 8.67     | 25,121                                | 0.342         | 1.81                           | 0.32   | 0.00  | 2.76     |  |
| 11                                    | Westnedge | Shaver       | Centre         | 5                       | 0      | 0     | 3     | 1      | 0     | 2     | 0      | 0     | 3.33         | 0.33   | 0.00  | 4.33     | 8,178                                 | 0.184         | 6.07                           | 0.61   | 0.00  | 7.89     |  |
| 12                                    | Westnedge | Centre       | Melody         | 6                       | 0      | 0     | 8     | 2      | 0     | 5     | 1      | 0     | 6.33         | 1.00   | 0.00  | 9.33     | 9,671                                 | 0.533         | 3.37                           | 0.53   | 0.00  | 4.96     |  |
| 13                                    | Westnedge | Melody       | Osterhout      | 19                      | 2      | 0     | 16    | 1      | 0     | 12    | 2      | 0     | 15.67        | 1.67   | 0.00  | 20.67    | 8,501                                 | 1.974         | 2.56                           | 0.27   | 0.00  | 3.37     |  |
| 14                                    | Milham    | 12th         | Angling        | 5                       | 1      | 0     | 8     | 1      | 0     | 6     | 1      | 0     | 6.33         | 1.00   | 0.00  | 9.33     | 11,739                                | 1.386         | 1.07                           | 0.17   | 0.00  | 1.57     |  |
| 15                                    | Milham    | Angling      | Oakland        | 5                       | 1      | 0     | 7     | 2      | 0     | 8     | 2      | 0     | 6.67         | 1.67   | 0.00  | 11.67    | 12,743                                | 0.377         | 3.80                           | 0.95   | 0.00  | 6.65     |  |
| 16                                    | Milham    | Oakland      | Constitution   | 27                      | 5      | 0     | 26    | 3      | 0     | 17    | 2      | 0     | 23.33        | 3.33   | 0.00  | 33.33    | 23,036                                | 0.629         | 4.41                           | 0.63   | 0.00  | 6.30     |  |
| 17                                    | Milham    | Constitution | Westnedge      | 29                      | 4      | 0     | 41    | 8      | 0     | 32    | 5      | 0     | 34.00        | 5.67   | 0.00  | 51.00    | 18,283                                | 0.626         | 8.14                           | 1.36   | 0.00  | 12.21    |  |
| 18                                    | Milham    | Westnedge    | Conrail RR     | 12                      | 1      | 0     | 12    | 2      | 0     | 7     | 1      | 0     | 10.33        | 1.33   | 0.00  | 14.33    | 12,918                                | 0.506         | 4.33                           | 0.56   | 0.00  | 6.01     |  |
| 19                                    | Milham    | Conrail RR   | Lovers Lane    | 4                       | 0      | 0     | 5     | 1      | 0     | 4     | 0      | 0     | 4.33         | 0.33   | 0.00  | 5.33     | 14,771                                | 0.256         | 3.14                           | 0.24   | 0.00  | 3.86     |  |
| 20                                    | Milham    | Lovers Lane  | Portage        | 11                      | 0      | 0     | 11    | 1      | 0     | 9     | 0      | 0     | 10.33        | 0.33   | 0.00  | 11.33    | 7,845                                 | 0.746         | 4.84                           | 0.16   | 0.00  | 5.31     |  |
| 21                                    | Milham    | Sprinkle     | E City Limits  | 0                       | 0      | 0     | 2     | 0      | 0     | 0     | 0      | 0     | 0.67         | 0.00   | 0.00  | 0.67     | 2,414                                 | 0.516         | 1.47                           | 0.00   | 0.00  | 1.47     |  |
| 22                                    | Oakland   | Kilgore      | I-94           | 10                      | 2      | 0     | 17    | 0      | 0     | 19    | 5      | 1     | 15.33        | 2.33   | 0.33  | 26.33    | 24,359                                | 0.498         | 3.46                           | 0.53   | 0.08  | 5.95     |  |
| 23                                    | Oakland   | I-94         | Milham         | 37                      | 5      | 0     | 60    | 8      | 0     | 33    | 4      | 0     | 43.33        | 5.67   | 0.00  | 60.33    | 30,837                                | 0.543         | 7.09                           | 0.93   | 0.00  | 9.87     |  |
| 24                                    | Oakland   | Milham       | Romence        | 19                      | 2      | 0     | 17    | 5      | 0     | 16    | 3      | 0     | 17.33        | 3.33   | 0.00  | 27.33    | 16,097                                | 1.005         | 2.94                           | 0.56   | 0.00  | 4.63     |  |
| 25                                    | Oakland   | Romence      | Centre         | 8                       | 1      | 0     | 10    | 4      | 0     | 11    | 1      | 0     | 9.67         | 2.00   | 0.00  | 15.67    | 12,322                                | 1.001         | 2.15                           | 0.44   | 0.00  | 3.48     |  |
| 26                                    | Oakland   | Centre       | Shaver         | 17                      | 3      | 0     | 18    | 2      | 0     | 6     | 1      | 0     | 13.67        | 2.00   | 0.00  | 19.67    | 5,995                                 | 1.981         | 3.15                           | 0.46   | 0.00  | 4.54     |  |
| 27                                    | Oakland   | Shaver       | Osterhout      | 2                       | 1      | 0     | 4     | 1      | 0     | 4     | 1      | 0     | 3.33         | 1.00   | 0.00  | 6.33     | 9,274                                 | 0.473         | 2.08                           | 0.62   | 0.00  | 3.96     |  |
| 28                                    | Oakland   | Osterhout    | S. City Limits | 2                       | 1      | 0     | 1     | 0      | 0     | 1     | 0      | 0     | 1.33         | 0.33   | 0.00  | 2.33     | 2,707                                 | 0.501         | 2.69                           | 0.67   | 0.00  | 4.71     |  |
| 29                                    | Portage   | Bender       | Milham         | 17                      | 2      | 0     | 12    | 1      | 0     | 15    | 4      | 0     | 14.67        | 2.33   | 0.00  | 21.67    | 22,469                                | 1.145         | 1.56                           | 0.25   | 0.00  | 2.31     |  |
| 30                                    | Portage   | Milham       | Centre         | 37                      | 4      | 0     | 30    | 9      | 0     | 29    | 6      | 0     | 32.00        | 6.33   | 0.00  | 51.00    | 17,751                                | 2.014         | 2.45                           | 0.49   | 0.00  | 3.91     |  |
| 31                                    | Portage   | Centre       | Lakeview       | 24                      | 7      | 0     | 21    | 2      | 0     | 33    | 7      | 0     | 26.00        | 5.33   | 0.00  | 42.00    | 22,307                                | 1.364         | 2.34                           | 0.48   | 0.00  | 3.78     |  |
| 32                                    | Portage   | Lakeview     | Mandigo        | 21                      | 4      | 0     | 23    | 4      | 0     | 29    | 5      | 0     | 24.33        | 4.33   | 0.00  | 37.33    | 14,242                                | 1.707         | 2.74                           | 0.49   | 0.00  | 4.21     |  |
| 33                                    | Sprinkle  | Kilgore      | Meredith       | 5                       | 3      | 0     | 8     | 1      | 0     | 10    | 1      | 0     | 7.67         | 1.67   | 0.00  | 12.67    | 20,800                                | 0.422         | 2.39                           | 0.52   | 0.00  | 3.95     |  |
| 34                                    | Sprinkle  | Meredith     | Milham         | 9                       | 4      | 2     | 7     | 1      | 0     | 14    | 7      | 0     | 10.00        | 4.00   | 0.67  | 30.00    | 20,385                                | 0.812         | 1.66                           | 0.66   | 0.11  | 4.97     |  |
| 35                                    | Sprinkle  | Milham       | Romence        | 15                      | 3      | 0     | 10    | 1      | 0     | 15    | 2      | 0     | 13.33        | 2.00   | 0.00  | 19.33    | 22,902                                | 1.006         | 1.59                           | 0.24   | 0.00  | 2.30     |  |
| 36                                    | Sprinkle  | Romence      | Centre         | 12                      | 3      | 0     | 7     | 2      | 0     | 14    | 2      | 0     | 11.00        | 2.33   | 0.00  | 18.00    | 19,290                                | 1.009         | 1.55                           | 0.33   | 0.00  | 2.53     |  |
| 37                                    | Sprinkle  | Centre       | Zylman         | 13                      | 2      | 0     | 6     | 1      | 0     | 6     | 2      | 0     | 8.33         | 1.67   | 0.00  | 13.33    | 13,695                                | 0.505         | 3.30                           | 0.66   | 0.00  | 5.28     |  |
| 38                                    | Centre    | 12th         | Oakland        | 42                      | 12     | 1     | 35    | 5      | 0     | 29    | 4      | 0     | 35.33        | 7.00   | 0.33  | 60.33    | 26,133                                | 1.887         | 1.96                           | 0.39   | 0.02  | 3.35     |  |
| 39                                    | Centre    | Oakland      | Westnedge      | 55                      | 10     | 0     | 54    | 9      | 0     | 37    | 2      | 0     | 48.67        | 7.00   | 0.00  | 69.67    | 22,612                                | 1.258         | 4.69                           | 0.67   | 0.00  | 6.71     |  |
| 40                                    | Centre    | Westnedge    | Waylee         | 9                       | 1      | 0     | 9     | 1      | 0     | 12    | 0      | 0     | 10.00        | 0.67   | 0.00  | 12.00    | 22,312                                | 0.222         | 5.53                           | 0.37   | 0.00  | 6.64     |  |
| 41                                    | Centre    | Waylee       | Portage        | 34                      | 2      | 1     | 28    | 3      | 0     | 20    | 4      | 0     | 27.33        | 3.00   | 0.33  | 40.33    | 19,924                                | 1.283         | 2.93                           | 0.32   | 0.04  | 4.32     |  |

## 2010-2012 Traffic Crashes by Segments

| 2010-2012 Traffic Crashes by Segments |              |              |               |                         |        |       |       |        |       |       |        |       |              |        |       |          |                                             |                  |                                |        |       |          |  |
|---------------------------------------|--------------|--------------|---------------|-------------------------|--------|-------|-------|--------|-------|-------|--------|-------|--------------|--------|-------|----------|---------------------------------------------|------------------|--------------------------------|--------|-------|----------|--|
| No.                                   |              |              |               | Crash Frequency by Year |        |       |       |        |       |       |        |       |              |        |       |          | Average Daily<br>Traffic (ADT)<br>(2010-12) | Length<br>(mile) | Average Crash Rate per Million |        |       |          |  |
|                                       | Street       | From         | To            | 2010                    |        |       | 2011  |        |       | 2012  |        |       | Average/Year |        |       |          |                                             |                  | Vehicle Miles (MVM)            |        |       |          |  |
|                                       |              |              |               | Total                   | Injury | Fatal | Total | Injury | Fatal | Total | Injury | Fatal | Total        | Injury | Fatal | Severity |                                             |                  | Total                          | Injury | Fatal | Severity |  |
| 42                                    | Centre       | Portage      | Sprinkle      | 4                       | 1      | 0     | 4     | 0      | 0     | 6     | 1      | 0     | 4.67         | 0.67   | 0.00  | 6.67     | 10,700                                      | 1.001            | 1.19                           | 0.17   | 0.00  | 1.71     |  |
| 43                                    | Centre       | Sprinkle     | E City Limits | 2                       | 0      | 0     | 0     | 0      | 0     | 3     | 1      | 0     | 1.67         | 0.33   | 0.00  | 2.67     | 5,207                                       | 0.527            | 1.66                           | 0.33   | 0.00  | 2.66     |  |
| 44                                    | Romence      | Angling      | Oakland       | 8                       | 2      | 0     | 7     | 3      | 0     | 13    | 0      | 0     | 9.33         | 1.67   | 0.00  | 14.33    | 9,655                                       | 1.145            | 2.31                           | 0.41   | 0.00  | 3.55     |  |
| 45                                    | Romence      | Oakland      | Sears         | 23                      | 6      | 0     | 18    | 1      | 0     | 21    | 5      | 0     | 20.67        | 4.00   | 0.00  | 32.67    | 16,754                                      | 0.988            | 3.42                           | 0.66   | 0.00  | 5.41     |  |
| 46                                    | Romence      | Sears        | Westnedge     | 22                      | 4      | 0     | 16    | 3      | 0     | 22    | 8      | 0     | 20.00        | 5.00   | 0.00  | 35.00    | 17,327                                      | 0.268            | 11.80                          | 2.95   | 0.00  | 20.65    |  |
| 47                                    | Romence      | Westnedge    | Lovers Lane   | 16                      | 2      | 0     | 15    | 2      | 0     | 17    | 2      | 0     | 16.00        | 2.00   | 0.00  | 22.00    | 12,178                                      | 0.758            | 4.75                           | 0.59   | 0.00  | 6.53     |  |
| 48                                    | Romence      | Lovers Lane  | Portage       | 6                       | 0      | 0     | 10    | 2      | 0     | 5     | 0      | 0     | 7.00         | 0.67   | 0.00  | 9.00     | 10,463                                      | 0.756            | 2.42                           | 0.23   | 0.00  | 3.12     |  |
| 49                                    | Romence      | Portage      | Mastenbrook   | 3                       | 0      | 0     | 3     | 1      | 0     | 5     | 0      | 0     | 3.67         | 0.33   | 0.00  | 4.67     | 10,871                                      | 0.503            | 1.84                           | 0.17   | 0.00  | 2.34     |  |
| 50                                    | Romence      | Mastenbrook  | Sprinkle      | 3                       | 0      | 0     | 4     | 2      | 0     | 3     | 0      | 0     | 3.33         | 0.67   | 0.00  | 5.33     | 10,335                                      | 0.493            | 1.79                           | 0.36   | 0.00  | 2.87     |  |
| 51                                    | Bishop       | Sprinkle     | E City Limits | 5                       | 0      | 0     | 2     | 0      | 0     | 0     | 0      | 0     | 2.33         | 0.00   | 0.00  | 2.33     | 2,598                                       | 0.536            | 4.59                           | 0.00   | 0.00  | 4.59     |  |
| 52                                    | Lovers Lane  | Kilgore      | I-94          | 1                       | 1      | 0     | 0     | 0      | 0     | 0     | 0      | 0     | 0.33         | 0.33   | 0.00  | 1.33     | 13,446                                      | 0.426            | 0.16                           | 0.16   | 0.00  | 0.64     |  |
| 53                                    | Lovers Lane  | I-94         | Milham        | 5                       | 0      | 0     | 3     | 0      | 0     | 5     | 0      | 0     | 4.33         | 0.00   | 0.00  | 4.33     | 12,444                                      | 0.608            | 1.57                           | 0.00   | 0.00  | 1.57     |  |
| 54                                    | Lovers Lane  | Milham       | Romence       | 5                       | 0      | 0     | 6     | 0      | 0     | 8     | 2      | 0     | 6.33         | 0.67   | 0.00  | 8.33     | 9,516                                       | 0.645            | 2.83                           | 0.30   | 0.00  | 3.72     |  |
| 55                                    | Lovers Lane  | Romence      | Centre        | 16                      | 4      | 0     | 15    | 3      | 1     | 10    | 2      | 0     | 13.67        | 3.00   | 0.33  | 26.67    | 8,010                                       | 1.398            | 3.34                           | 0.73   | 0.08  | 6.52     |  |
| 56                                    | Lovers Lane  | Centre       | Forest        | 0                       | 0      | 0     | 4     | 0      | 0     | 4     | 0      | 0     | 2.67         | 0.00   | 0.00  | 2.67     | 2,321                                       | 0.581            | 5.42                           | 0.00   | 0.00  | 5.42     |  |
| 57                                    | Kilgore      | Westnedge    | Burdick       | 20                      | 1      | 0     | 20    | 4      | 0     | 15    | 4      | 0     | 18.33        | 3.00   | 0.00  | 27.33    | 19,463                                      | 0.501            | 5.15                           | 0.84   | 0.00  | 7.68     |  |
| 58                                    | Kilgore      | Burdick      | Lovers Lane   | 21                      | 3      | 0     | 10    | 3      | 0     | 9     | 3      | 0     | 13.33        | 3.00   | 0.00  | 22.33    | 16,481                                      | 0.259            | 8.56                           | 1.93   | 0.00  | 14.33    |  |
| 59                                    | Kilgore      | Lovers Lane  | City Limit    | 9                       | 3      | 0     | 10    | 1      | 0     | 9     | 2      | 0     | 9.33         | 2.00   | 0.00  | 15.33    | 9,785                                       | 0.966            | 2.71                           | 0.58   | 0.00  | 4.44     |  |
| 60                                    | Angling      | Merryview    | Vincent       | 0                       | 0      | 0     | 0     | 0      | 0     | 3     | 0      | 0     | 1.00         | 0.00   | 0.00  | 1.00     | 1,272                                       | 0.597            | 3.61                           | 0.00   | 0.00  | 3.61     |  |
| 61                                    | Vincent      | Angling      | Oakland       | 0                       | 0      | 0     | 0     | 0      | 0     | 0     | 0      | 0     | 0.00         | 0.00   | 0.00  | 0.00     | 2,557                                       | 0.747            | 0.00                           | 0.00   | 0.00  | 0.00     |  |
| 62                                    | Angling      | Milham       | Romence       | 3                       | 1      | 0     | 0     | 0      | 0     | 4     | 1      | 0     | 2.33         | 0.67   | 0.00  | 4.33     | 3,829                                       | 1.104            | 1.51                           | 0.43   | 0.00  | 2.81     |  |
| 63                                    | Angling      | Romence      | Centre        | 4                       | 1      | 0     | 3     | 2      | 0     | 2     | 0      | 0     | 3.00         | 1.00   | 0.00  | 6.00     | 5,733                                       | 1.286            | 1.11                           | 0.37   | 0.00  | 2.23     |  |
| 64                                    | Angling      | Centre       | Vanderbilt    | 3                       | 0      | 0     | 1     | 0      | 0     | 1     | 0      | 0     | 1.67         | 0.00   | 0.00  | 1.67     | 1,806                                       | 0.875            | 2.89                           | 0.00   | 0.00  | 2.89     |  |
| 65                                    | Vanderbilt   | Angling      | Shaver        | 1                       | 0      | 0     | 3     | 1      | 0     | 3     | 0      | 0     | 2.33         | 0.33   | 0.00  | 3.33     | 1,673                                       | 2.265            | 1.69                           | 0.24   | 0.00  | 2.41     |  |
| 66                                    | Osterhout    | Shaver       | Westnedge     | 8                       | 0      | 0     | 8     | 1      | 0     | 3     | 1      | 0     | 6.33         | 0.67   | 0.00  | 8.33     | 3,686                                       | 1.528            | 3.08                           | 0.32   | 0.00  | 4.05     |  |
| 67                                    | Osterhout    | Westnedge    | Portage       | 7                       | 0      | 0     | 6     | 0      | 0     | 6     | 1      | 0     | 6.33         | 0.33   | 0.00  | 7.33     | 4,373                                       | 1.011            | 3.92                           | 0.21   | 0.00  | 4.54     |  |
| 68                                    | Shaver       | Westnedge    | Centre        | 11                      | 1      | 0     | 14    | 2      | 0     | 9     | 2      | 0     | 11.33        | 1.67   | 0.00  | 16.33    | 15,387                                      | 0.181            | 11.15                          | 1.64   | 0.00  | 16.07    |  |
| 69                                    | Shaver       | Centre       | Vanderbilt    | 12                      | 3      | 0     | 18    | 4      | 0     | 8     | 5      | 0     | 12.67        | 4.00   | 0.00  | 24.67    | 16,119                                      | 1.441            | 1.49                           | 0.47   | 0.00  | 2.91     |  |
| 70                                    | Shaver       | Vanderbilt   | S City Limits | 24                      | 9      | 0     | 12    | 1      | 0     | 15    | 2      | 0     | 17.00        | 4.00   | 0.00  | 29.00    | 9,346                                       | 2.004            | 2.49                           | 0.59   | 0.00  | 4.24     |  |
| 71                                    | Moorsbridge  | Centre       | Old Centre    | 1                       | 1      | 0     | 2     | 1      | 0     | 3     | 1      | 0     | 2.00         | 1.00   | 0.00  | 5.00     | 3,581                                       | 0.347            | 4.41                           | 2.20   | 0.00  | 11.02    |  |
| 72                                    | Moorsbridge  | Old Centre   | Muirfield     | 6                       | 2      | 0     | 5     | 1      | 0     | 5     | 0      | 0     | 5.33         | 1.00   | 0.00  | 8.33     | 3,024                                       | 0.757            | 6.38                           | 1.20   | 0.00  | 9.97     |  |
| 73                                    | Moorsbridge  | Muirfield    | Romence       | 5                       | 2      | 0     | 0     | 0      | 0     | 2     | 0      | 0     | 2.33         | 0.67   | 0.00  | 4.33     | 4,440                                       | 0.489            | 2.94                           | 0.84   | 0.00  | 5.47     |  |
| 74                                    | Schuring     | Oakland      | Westnedge     | 4                       | 0      | 0     | 6     | 2      | 0     | 1     | 0      | 0     | 3.67         | 0.67   | 0.00  | 5.67     | 3,349                                       | 1.258            | 2.38                           | 0.43   | 0.00  | 3.69     |  |
| 75                                    | Garden Ln.   | Westnedge    | Lovers Lane   | 1                       | 0      | 0     | 3     | 0      | 0     | 1     | 0      | 0     | 1.67         | 0.00   | 0.00  | 1.67     | 2,453                                       | 0.809            | 2.30                           | 0.00   | 0.00  | 2.30     |  |
| 76                                    | Mall         | Constitution | JC Penney     | 5                       | 1      | 0     | 0     | 0      | 0     | 3     | 0      | 0     | 2.67         | 0.33   | 0.00  | 3.67     | 5,360                                       | 0.401            | 3.40                           | 0.42   | 0.00  | 4.67     |  |
| 77                                    | Mall         | JC Penney    | Westnedge     | 8                       | 1      | 0     | 10    | 0      | 0     | 8     | 0      | 0     | 8.67         | 0.33   | 0.00  | 9.67     | 12,617                                      | 0.202            | 9.32                           | 0.36   | 0.00  | 10.39    |  |
| 78                                    | Constitution | Milham       | Mall          | 6                       | 0      | 0     | 5     | 0      | 0     | 5     | 1      | 0     | 5.33         | 0.33   | 0.00  | 6.33     | 12,286                                      | 0.87             | 1.37                           | 0.09   | 0.00  | 1.62     |  |
| 79                                    | Constitution | Mall         | Romence       | 1                       | 1      | 0     | 3     | 1      | 0     | 6     | 2      | 0     | 3.33         | 1.33   | 0.00  | 7.33     | 7,634                                       | 1.193            | 1.00                           | 0.40   | 0.00  | 2.21     |  |
| 80                                    | Forest       | Lovers Lane  | Portage       | 1                       | 0      | 0     | 1     | 0      | 0     | 2     | 0      | 0     | 1.33         | 0.00   | 0.00  | 1.33     | 1,368                                       | 0.772            | 3.46                           | 0.00   | 0.00  | 3.46     |  |
| 81                                    | Zylman       | Portage      | Sprinkle      | 6                       | 0      | 0     | 5     | 0      | 0     | 2     | 0      | 0     | 4.33         | 0.00   | 0.00  | 4.33     | 5,184                                       | 1.067            | 2.15                           | 0.00   | 0.00  | 2.15     |  |

## 2010-2012 Traffic Crashes by Segments

| 2010-2012 Traffic Crashes by Segments |            |               |               |                         |        |       |       |        |       |       |        |       |              |        |       |          |                                       |               |                                |        |       |          |  |
|---------------------------------------|------------|---------------|---------------|-------------------------|--------|-------|-------|--------|-------|-------|--------|-------|--------------|--------|-------|----------|---------------------------------------|---------------|--------------------------------|--------|-------|----------|--|
| No.                                   |            |               |               | Crash Frequency by Year |        |       |       |        |       |       |        |       |              |        |       |          | Average Daily Traffic (ADT) (2010-12) | Length (mile) | Average Crash Rate per Million |        |       |          |  |
|                                       | Street     | From          | To            | 2010                    |        |       | 2011  |        |       | 2012  |        |       | Average/Year |        |       |          |                                       |               | Vehicle Miles (MVM)            |        |       |          |  |
|                                       |            |               |               | Total                   | Injury | Fatal | Total | Injury | Fatal | Total | Injury | Fatal | Total        | Injury | Fatal | Severity |                                       |               | Total                          | Injury | Fatal | Severity |  |
| 82                                    | S 12th St. | N City Limits | Briarhill     | 7                       | 1      | 0     | 5     | 1      | 0     | 3     | 1      | 0     | 5.00         | 1.00   | 0.00  | 8.00     | 7,764                                 | 0.808         | 2.18                           | 0.44   | 0.00  | 3.49     |  |
| 83                                    | S 12th St. | Briarhill     | Milham        | 1                       | 0      | 0     | 6     | 1      | 0     | 1     | 0      | 0     | 2.67         | 0.33   | 0.00  | 3.67     | 7,886                                 | 0.276         | 3.36                           | 0.42   | 0.00  | 4.62     |  |
| 84                                    | S 12th St. | Milham        | Golden Ridge  | 0                       | 0      | 0     | 7     | 0      | 0     | 1     | 0      | 0     | 2.67         | 0.00   | 0.00  | 2.67     | 5,391                                 | 1.537         | 0.88                           | 0.00   | 0.00  | 0.88     |  |
| 85                                    | S 12th St. | Golden Ridge  | Centre        | 7                       | 1      | 0     | 13    | 3      | 0     | 4     | 1      | 0     | 8.00         | 1.67   | 0.00  | 13.00    | 7,394                                 | 1.915         | 1.55                           | 0.32   | 0.00  | 2.52     |  |
| 86                                    | S 12th St. | Centre        | Whipporwill   | 1                       | 1      | 0     | 2     | 0      | 0     | 1     | 1      | 0     | 1.33         | 0.67   | 0.00  | 3.33     | 4,688                                 | 0.967         | 0.81                           | 0.40   | 0.00  | 2.01     |  |
| 87                                    | S 12th St. | Whipporwill   | S Ave.        | 1                       | 0      | 0     | 1     | 0      | 0     | 2     | 1      | 0     | 1.33         | 0.33   | 0.00  | 2.33     | 2,068                                 | 1.005         | 1.76                           | 0.44   | 0.00  | 3.08     |  |
| 88                                    | S 12th St. | S Ave.        | S city limits | 0                       | 0      | 0     | 1     | 0      | 0     | 2     | 1      | 0     | 1.00         | 0.33   | 0.00  | 2.00     | 856                                   | 1.002         | 3.19                           | 1.06   | 0.00  | 6.39     |  |
| 89                                    | Nash       | E Shore       | Sprinkle      | 0                       | 0      | 0     | 0     | 0      | 0     | 1     | 0      | 0     | 0.33         | 0.00   | 0.00  | 0.33     | 473                                   | 0.319         | 6.05                           | 0.00   | 0.00  | 6.05     |  |
| 90                                    | East Shore | Mandigo       | Nash          | 1                       | 1      | 0     | 0     | 0      | 0     | 0     | 0      | 0     | 0.33         | 0.33   | 0.00  | 1.33     | 768                                   | 1.072         | 1.11                           | 1.11   | 0.00  | 4.44     |  |
| 91                                    | East Shore | Nash          | Cox's Dr      | 0                       | 0      | 0     | 0     | 0      | 0     | 0     | 0      | 0     | 0.00         | 0.00   | 0.00  | 0.00     | 693                                   | 1.602         | 0.00                           | 0.00   | 0.00  | 0.00     |  |
| 92                                    | Mandigo    | Portage       | E Shore       | 1                       | 1      | 0     | 10    | 4      | 0     | 2     | 1      | 0     | 4.33         | 2.00   | 0.00  | 10.33    | 2,394                                 | 1.51          | 3.28                           | 1.52   | 0.00  | 7.83     |  |
| 93                                    | Newport    | Milham        | Charlie       | 0                       | 0      | 0     | 1     | 0      | 0     | 0     | 0      | 0     | 0.33         | 0.00   | 0.00  | 0.33     | 4,787                                 | 0.538         | 0.35                           | 0.00   | 0.00  | 0.35     |  |
| 94                                    | Gladys     | Charlie       | Westnedge     | 2                       | 1      | 0     | 0     | 0      | 0     | 8     | 1      | 0     | 3.33         | 0.67   | 0.00  | 5.33     | 3,153                                 | 0.37          | 7.83                           | 1.57   | 0.00  | 12.53    |  |
| 95                                    | Bacon      | Westnedge     | Portage       | 3                       | 0      | 0     | 3     | 0      | 0     | 3     | 1      | 0     | 3.00         | 0.33   | 0.00  | 4.00     | 2,218                                 | 1.061         | 3.49                           | 0.39   | 0.00  | 4.66     |  |
| 96                                    | Meredith   | Kilgore       | Sprinkle      | 4                       | 0      | 0     | 2     | 0      | 0     | 1     | 1      | 0     | 2.33         | 0.33   | 0.00  | 3.33     | 4,291                                 | 0.316         | 4.71                           | 0.67   | 0.00  | 6.74     |  |
| 97                                    | Melody     | Shaver        | Dolphin       | 0                       | 0      | 0     | 1     | 0      | 0     | 2     | 0      | 0     | 1.00         | 0.00   | 0.00  | 1.00     | 2,523                                 | 0.077         | 14.10                          | 0.00   | 0.00  | 14.10    |  |
| 98                                    | Melody     | Dolphin       | Westnedge     | 2                       | 0      | 0     | 1     | 0      | 0     | 3     | 0      | 0     | 2.00         | 0.00   | 0.00  | 2.00     | 2,423                                 | 0.346         | 6.54                           | 0.00   | 0.00  | 6.54     |  |
| 99                                    | Ramona     | Lovers Lane   | Portage       | 0                       | 0      | 0     | 0     | 0      | 0     | 1     | 0      | 0     | 0.33         | 0.00   | 0.00  | 0.33     | 1,075                                 | 0.75          | 1.13                           | 0.00   | 0.00  | 1.13     |  |
| 100                                   | Cox's Dr   | East Shore    | Zylman        | 0                       | 0      | 0     | 0     | 0      | 0     | 0     | 0      | 0     | 0.00         | 0.00   | 0.00  | 0.00     | 931                                   | 0.165         | 0.00                           | 0.00   | 0.00  | 0.00     |  |
| 101                                   | Cox's Dr   | Zylman        | E Centre      | 1                       | 0      | 0     | 2     | 1      | 0     | 1     | 1      | 0     | 1.33         | 0.67   | 0.00  | 3.33     | 719                                   | 0.498         | 10.20                          | 5.10   | 0.00  | 25.51    |  |
| 102                                   | Winters    | Lovers Lane   | Portage       | 1                       | 0      | 0     | 0     | 0      | 0     | 1     | 0      | 0     | 0.67         | 0.00   | 0.00  | 0.67     | 1,560                                 | 0.758         | 1.54                           | 0.00   | 0.00  | 1.54     |  |
| 103                                   | Old Centre | Centre        | Cooley        | 0                       | 0      | 0     | 0     | 0      | 0     | 4     | 0      | 0     | 1.33         | 0.00   | 0.00  | 1.33     | 2,147                                 | 0.33          | 5.16                           | 0.00   | 0.00  | 5.16     |  |
| 104                                   | Old Centre | Cooley        | Moorsbridge   | 1                       | 1      | 0     | 0     | 0      | 0     | 0     | 0      | 0     | 0.33         | 0.33   | 0.00  | 1.33     | 2,025                                 | 0.258         | 1.75                           | 1.75   | 0.00  | 6.99     |  |
| 105                                   | Sprinkle   | Zylman        | Nash          | 8                       | 4      | 0     | 10    | 0      | 0     | 5     | 1      | 0     | 7.67         | 1.67   | 0.00  | 12.67    | 12,330                                | 1.767         | 0.96                           | 0.21   | 0.00  | 1.59     |  |