



ST. CLAIR COUNTY

2040 LONG RANGE TRANSPORTATION



**ST. CLAIR COUNTY
METROPOLITAN
PLANNING
COMMISSION**

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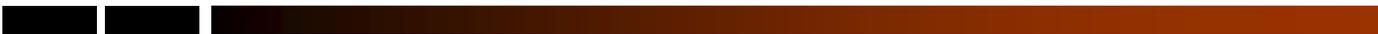
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CHAPTER 1

INTRODUCTION



IN THIS CHAPTER:

- ⇒ *BACKGROUND*
- ⇒ *STUDY AREA*
- ⇒ *MAP-21 LEGISLATION*
- ⇒ *SCCOTS ORGANIZATIONAL STRUCTURE*
- ⇒ *PLANNING PROCESS*
- ⇒ *PUBLIC INVOLVEMENT*

INTRODUCTION

Background

The St. Clair County Transportation Study (SCCOTS) is a state designated transportation study area within southeast Michigan. SCCOTS functions similar to a Metropolitan Planning Organization (MPO) by setting transportation policy and developing plans. Through the Michigan Department of Transportation (MDOT) and Southeast Michigan Council of Governments (SEMCOG), the designated MPO for the region, over five million dollars in federal funds are allocated to SCCOTS annually.

SCCOTS provides several services within St. Clair County, including identifying the county’s long range transportation needs as part of the Long Range Transportation Plan (LRTP). The SCCOTS 2035 LRTP was adopted in 2009, and included planning requirements established in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Legislation. Federal law requires SCCOTS to review the LRTP every five years and this document represents this process.

There was new legislation passed in June 2012 called Moving Ahead for Progress in the 21st Century Act (MAP-21). The SCCOTS 2040 LRTP defines the goals and objectives, outlines the transportation decision making process, and identifies fiscally constrained multi-modal transportation improvements for St. Clair County to the year 2040. The projects identified as part of this LRTP are ultimately incorporated into SEMCOG’s Regional Transportation Plan (RTP).

Study Area

St. Clair County, Michigan is one of seven counties surrounding the Detroit metropolitan area. The County encompasses a land area of 724 square miles. The Port Huron-Marysville urban area stretches from the Village of Lexington south along the shores of Lake Huron and the St. Clair

Common Acronyms

***FHWA** (Federal Highway Administration)*

***FTA** (Federal Transit Administration)*

***LRTP** (Long Range Transportation Plan)*

***MAP-21** (Moving Ahead for Progress in the 21st Century Act)*

***MDOT** (Michigan Department of Transportation)*

***MPO** (Metropolitan Planning Organization)*

***RTP** (Regional Transportation Plan)*

***SAFETEA-LU** (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users)*

***SEMCOG** (Southeast Michigan Council of Governments)*

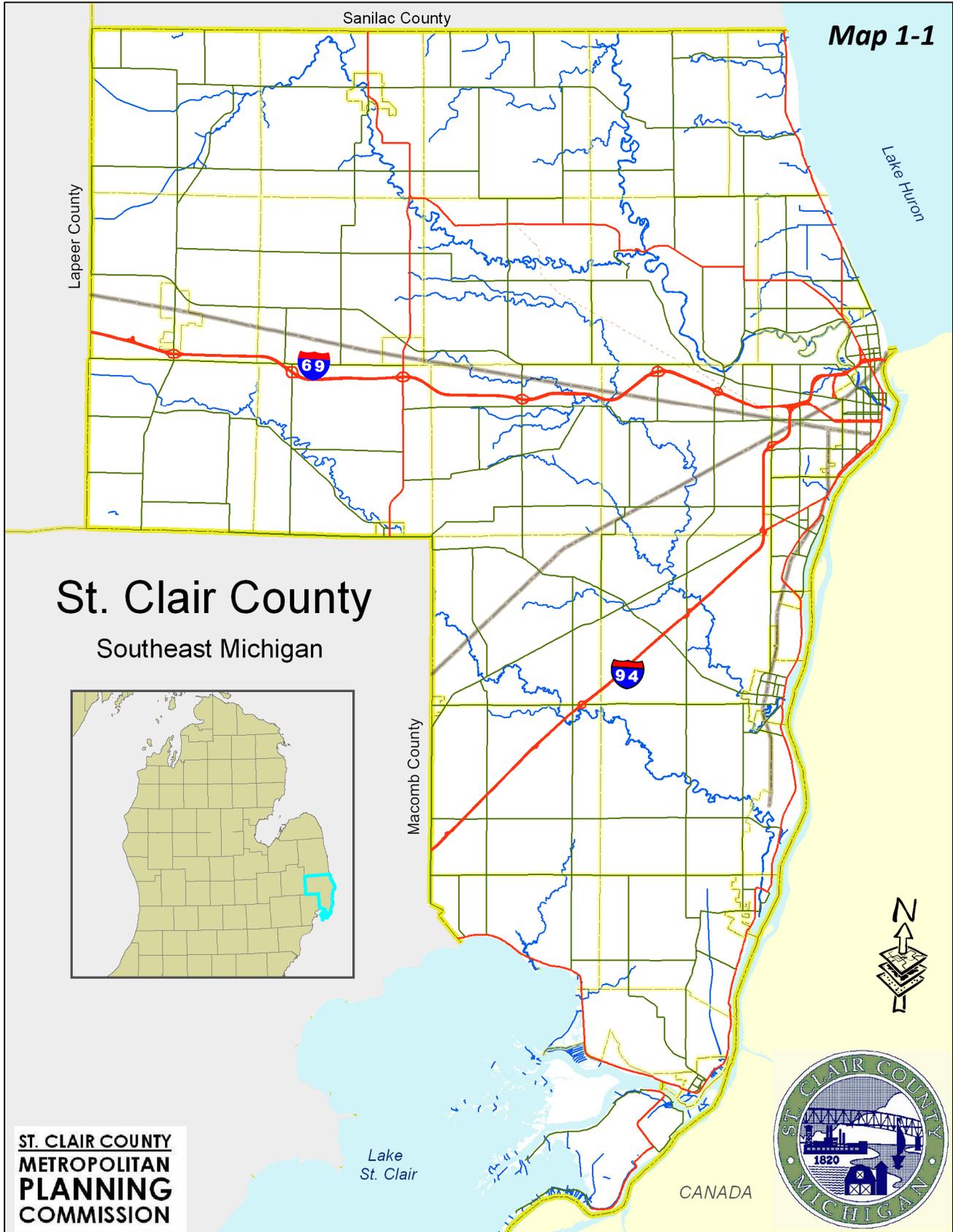
***SCCOTS** (St. Clair County Transportation Study)*



River, ending just north of the City of Algonac. The Detroit urban area extends into the southern portion of the County, wrapping around Lake St. Clair. The immediate interior of the urban areas contain sections of the County most suitable for development, which conforms to the St. Clair County Master Plan. An agricultural/village pattern of land use exists in the western portion of the County, supporting a rural lifestyle that residents would like to preserve. Map 1-1 provides an overview of the major roadways within St. Clair County.

St. Clair County is a major international trade gateway between the United States and Canada for the movement of people and goods via the Blue Water Bridge and the Canadian National International Rail Tunnel. The County is comprised of 23 townships, six cities, and two villages. According to the 2010 United States Census, just over 163,000 people resided in St. Clair County and nearly 67,000 people were employed in the County. As of July 2008, the estimated population of St. Clair County was approximately 171,000 a four percent increase from 2000, with a working population of over 62,000. In 2000, a large portion of St. Clair County working residents commuted to the Detroit metropolitan area and nearby Flint. Recent regional forecasts indicate the largest job growth potential will be around Metro Airport and Brownstown and Canton Townships in Wayne County suggesting that many St. Clair County residents will continue to commute to employment opportunities within the Detroit metropolitan area.

As St. Clair County continues to grow, it is faced with the challenges of accommodating new development, while preserving the character and lifestyle of the community. In order to better understand these challenges and opportunities, existing transportation assets were inventoried, the performance of the existing transportation network was evaluated, and a forecast of future transportation demand and operating conditions was developed. A technical analysis, along with a public participation component, helped identify potential short-term and long-term projects, strategies, and improvements for application within St. Clair County. This plan contains financially constrained transportation projects and complementary policies designed to generate a high return on investment and encourage cooperative transportation and land use decisions between communities in St. Clair County as well as communities in the surrounding counties.



Legislation

Federal legislation provides the guiding framework that governs the transportation planning process for all metropolitan planning organizations (MPOs) including the St. Clair County Metropolitan Planning Commission.

On July 6, 2012, a new federal transportation bill was signed into law, Moving Ahead for Progress in the 21st Century (MAP-21), replacing the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005. With funding for highways, highway safety, and public transportation totaling over \$105 billion for Fiscal Years 2013 and 2014, MAP-21 is the first long term bill since SAFETEA-LU in 2005.

MAP-21 is a milestone for the U.S. economy and the nation's surface transportation program. By transforming the policy and programmatic framework for investments to guide the system's growth and development, MAP-21 creates a streamlined and performance-based surface transportation program and builds on many of the highway, transit, bike, and pedestrian programs and policies established in 1991. While the implementing regulations of MAP-21 are not yet in place, MAP-21 maintains the eight planning factors of SAFETEA-LU and provides greater emphasis in the use of performance measures and performance targets and infrastructure condition as means of creating an outcome based decision-making process.

MAP-21 is setting the course for transportation investment in highways in the following ways:

- ⇒ **Strengthening America's highways** - by expanding the National Highway System (NHS) to incorporate principal arterials not previously included. Devoting funds to preserve and improve the most important highways.
- ⇒ **Establishing a performance-based program** - by providing a means to more efficient investment of federal transportation funds by focusing on national transportation goals, increasing the accountability and transparency of the Federal highway programs, and improving transportation investment decision-making through performance-based planning and programming.
- ⇒ **Creating jobs and supporting economic growth** - by authorizing \$82 billion in federal funds for FY 2013 and 2014 for road, bridge, bicycling, and walking improvements.
- ⇒ **Supporting the Department of Transportation's (DOT) aggressive safety agenda** - by continuing the successful Highway Safety Improvement Program and doubling funding, strengthening safety programs, and making it a priority to reduce highway fatalities.

- ⇒ **Streamlining federal highway transportation programs** - the complex array of existing programs is simplified, substantially consolidating the program structure into a smaller number of broader core programs. Many smaller programs are eliminated, including most discretionary programs, with the eligibilities generally continuing under core programs.
- ⇒ **Accelerating project delivery and promoting innovation** - changes will improve innovation and efficiency in the development of projects, through the planning and environmental review process, to project delivery.

Prior to MAP-21, SAFETEA-LU set the direction for regional transportation planning. MAP-21 has restructured the core highway formula program. Activities carried out under some existing formula programs are incorporated into the following new core formula program structure:

- ⇒ National Highway Performance Program (NHPP)
- ⇒ Surface Transportation Program (STP)
- ⇒ Congestion Mitigation and Air Quality Improvement Program (CMAQ)
- ⇒ Highway Safety Improvement Program (HSIP)
- ⇒ Railway-Highway Crossings (set-aside from HSIP)
- ⇒ Metropolitan Planning

They also created two new formula programs:

- ⇒ Construction of Ferry Boats and Ferry Terminal Facilities - replaces a similarly purposed discretionary program.
- ⇒ Transportation Alternatives (TA) - a new program, with funding derived from the NHPP, STP, HSIP, CMAQ and Metropolitan Planning programs, encompassing most activities funded under the Transportation Enhancements, Recreational Trails, and Safe Routes to School programs under SAFETEA-LU.

MAP-21 creates a new discretionary program – Tribal High Priority Projects (THPP) – and continues the following current discretionary programs:

- ⇒ Projects of National and Regional Significance (PNRS)
- ⇒ On-the-Job Training Supportive Services
- ⇒ Disadvantaged Business Enterprise (DBE) Supportive Services
- ⇒ Highway Use Tax Evasion (Intergovernmental enforcement projects)
- ⇒ Work Zone Safety Grants

Other requirements of the MPO planning process include compliance with a number of existing laws, regulations, and policy directives, which are described below.

The **Americans with Disabilities Act (ADA) of 1990** mandates equal opportunity for, and prohibits discrimination against, individuals with disabilities. In particular, Title II of the ADA



and Section 504 of the Rehabilitation Act of 1973 requires state, local, and regional agencies to provide transportation programs, services, and activities that are accessible to all individuals.

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin. Section 162a of the Federal-Aid Highway Act of 1973 to 1976 (section 324, Title 23 U.S.C.), the enabling legislation of the Federal Highway Administration (FHWA), prohibits discrimination based on sex.

The **Uniform Relocation Assistance and Real Property Acquisition Act of 1970** prohibits unfair and inequitable treatment of persons as a result of projects that are undertaken with federal financial assistance. The Civil Rights Restoration Act of 1987 clarified the intent of Title VI to include all programs and activities of federal aid recipients and contractors whether those programs and activities are federally funded or not. Environmental Justice is a concept founded in the intent of the nondiscrimination prohibitions of the federal legislation.

The incorporation of **Environmental Justice** and **non-discrimination principles** into transportation planning and decision-making processes as well as project-specific environmental reviews as founded in Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* and reaffirmed in both the United States Department of Transportation (US DOT) Order 5610.2 (a), *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* and FTA Circular 4703.1 *Environmental Justice Policy Guidance for Federal Transit Administration Recipients*. These policy directives require federal agencies and grant recipients of federal funds to identify and address disproportionately high and/or adverse environmental or human health effects that any of its programs, policies, and/or activities may have on minority and low-income populations. Further, each agency and grant recipient must work to prevent the denial, reduction, or delay of benefits received by minority and low-income populations and must develop policies and strategies to ensure full and fair participation by affected populations in transportation decisions.

Climate change has become an increasingly important policy issue. While a much debated topic, there is general scientific consensus that the earth is experiencing a warming trend and that human-induced increases in atmospheric greenhouse gases (GHGs) are a significant cause. Because transportation-related GHG emissions are a large contributor to atmospheric GHGs, MPOs, through their transportation planning and investment decisions, are called to increase their considerations and strategies to mitigate the effects of global climate change by reducing GHG emissions from transportation. US DOT also encourages MPOs to consider transportation vulnerability due to climate change and extreme weather events and options for improving resiliency of transportation facilities or systems to climate changes and/or extreme weather events.



SCCOTS Organization Structure

The St. Clair County Board of Commissioners appoints eleven citizens to serve as the Metropolitan Planning Commission (MPC). Members of the MPC represent various sectors, or interests, within the County, including local government, education, agriculture, real estate, public utilities, and industry. Representation is county-wide consisting of an appointee from each St. Clair County Board of Commissioner District and three members at large. A staff of professional planners, analysts, technicians, and administrative support staff assist the commission. In order to fulfill its federal and state mandates, SCCOTS staff, in conjunction with SEMCOG, is engaged in the following ongoing transportation planning activities.

Plan Monitoring

Staff regularly collects, maintains and analyzes transportation, land use, socioeconomic, and environmental data as they impact the county-wide long range transportation planning process.

Plan Development

SCCOTS, often in cooperation with SEMCOG, develops, monitors, and periodically refines a number of short and long-term plans that guide decisions and make federal and state funding available for particular projects. These plans include the Long Range Transportation Plan (LRTP), SEMCOG's Regional Transportation Plan (RTP), and the St. Clair County Master Plan. Transportation plans are the comprehensive documentation of the transportation planning process. Continuous public involvement and participation is essential at process inception.

Planning Services

SCCOTS services are aimed at assisting local governmental units in conducting transportation studies and securing federal and state transportation funds to improve the St. Clair County transportation network. Services include cooperation with other governmental and private institutions, procurement and distribution of transportation planning related materials and data such as traffic counts, and representation on local and regional communities.

Plan Implementation

SCCOTS staff develops the four year prioritized project list for inclusion into the regional Transportation Improvement Program (TIP). Work also includes any necessary amendments to the adopted TIP throughout the year. The TIP document ensures compliance with federal, state, and regional requirements regarding financial feasibility, and the planning process. Projects in the TIP are prioritized and derived from the RTP project list. SCCOTS also works with SEMCOG, MDOT, FHWA, and other local agencies in implementing the 'Continuing, Comprehensive, and Cooperative' (3C) planning process.

Program Administration

SCCOTS is responsible for the administrative tasks necessary to manage the federal grants and document the unified planning work program activities and expenditures.

Planning Process

This plan was developed with the assistance of local, regional, and state transportation agencies, who met to provide guidance, discuss objectives, and review draft products.

Agencies participating in the Steering Committee include:

- ⇒ St. Clair County Metropolitan Planning Commission
- ⇒ Blue Water Area Transit Commission
- ⇒ St. Clair County Road Commission
- ⇒ Southeast Michigan Council of Governments
- ⇒ City of Marysville
- ⇒ St. Clair County Transportation Study
- ⇒ City of Port Huron
- ⇒ Michigan Department of Transportation
- ⇒ Federal Highway Administration (FHWA)

Public Involvement

St. Clair County is committed to a proactive public outreach effort throughout the development and maintenance of the 2040 LRTP. The public outreach focuses on maximizing awareness of the study process, obtaining input from residents and employers, and ultimately building support for the plan. Many of the public involvement outreach efforts are completed in conjunction with SEMCOG and the development of the RTP.

As the Long Range Transportation Plan was developed, the public had a number of opportunities to provide input into the document, including a public open house at the Port Huron Township Department of Public Works building and a public open house at Columbus County Park. A digital copy of the LRTP was e-mailed to each municipality in the County. The County also used online social media such as IdeaScale, Facebook, Twitter, and the Metropolitan Planning Commission website to provide the public with additional opportunities to provide input. Lastly, a public hearing on the LRTP was held on Wednesday, February 12th at the St. Clair County Transportation Study Advisory Committee Meeting.

We received comments from a variety of stakeholders; the Economic Development Alliance of St. Clair County, the St. Clair County Road Commission, the St. Clair County Parks and Recreation Commission, and a couple of citizens of St. Clair County. Below is a summarized list of comments:

- 
- ⇒ Update largest employers to include, the Chrysler facilities in Marysville, each have 300+ employees and Magna Interior Trim in China Township
 - ⇒ 2013 data indicates that the labor force is rising again.
 - ⇒ Add language to indicate the potential for new Amtrak station in a different location that will create more opportunities for economic growth and development, as well as meet federal ADA requirements.
 - ⇒ Some concerns with construction on various roads.
 - ⇒ Increasing the number of Bus Routes and better time coordination.

The principles of the Public Involvement Plan (PIP) were to:

- ⇒ Establish and maintain a partnership between the residents, business community and the core area stakeholders;
- ⇒ Involve area communities and elected officials early and at key junctures throughout the project;
- ⇒ Conduct a fair and equitable process; and,
- ⇒ Ensure that the plan reflected the values of St. Clair County residents.

The PIP details the techniques that were used in the SCCOTS 2040 LRTP to identify, notify and obtain input from individuals and organizations potentially impacted by the study. The techniques outlined in the plan ensure that the principles of the public involvement plan were met while remaining consistent with SEMCOG's public involvement process.

Outreach to minority, ethnic and low-income groups is a critical element of the public involvement plan. For a variety of reasons, these groups have historically experienced barriers to participation in the public decision-making process. Since some LRTP projects will almost certainly affect these populations, special arrangements were made to include them in the planning process.

Participation by the disability community was also an essential part of this plan, especially with respect to the goals of the study and alternatives to be evaluated. Special outreach strategies were employed to ensure this group was involved in the planning process. All project events open to the general public were made accessible to individuals with physical disabilities to comply with the American with Disabilities Act (ADA).

CHAPTER 2

DEMOGRAPHIC & ECONOMIC TRENDS



IN THIS CHAPTER:

- ⇒ *POPULATION TRENDS*
- ⇒ *HOUSING TRENDS*
- ⇒ *ECONOMIC TRENDS*
- ⇒ *INCOME & POVERTY TRENDS*
- ⇒ *COMMERCIAL & INDUSTRIAL DEVELOPMENT TRENDS*
- ⇒ *I-69 INTERNATIONAL TRADE CORRIDOR (NMDC) IMPLICATIONS*

DEMOGRAPHIC & ECONOMIC TRENDS

Population Trends

According to SEMCOG data, Southeast Michigan will grow to nearly 4.7 million by 2040. Since 2006 the region has experienced a decline in population, primarily as a result of a weak economy and loss of jobs. This decline is estimated to extend to 2015. The pattern of population change by county/community within the Southeast Michigan region is one of growth outside Detroit and adjacent suburbs. This growth will be modest with the fastest growing areas including southern and western Wayne County, western and northern Oakland County, and central Macomb County. St. Clair County currently has a 2011 population of 161,642, representing an approximate population decrease of 1,398 from 2010 United States Census figures and 960 from 2000 Census figures. The 2030 LRTP projected that St. Clair County would approach approximately 203,000 residents in year 2030. Revised projections (see Table 2.1) estimate the population will be closer to 168,000 in year 2040.

In the identified area, the current year population is 162,302. In 2010, the Census count in the area was 163,040. The rate of change since 2010 was -0.20% annually. The five-year projection for the population in the area is 158,701 representing a change of -0.45% annually from 2012 to 2017. Currently, the population is 49.6% male and 50.4% female.

In 2010, over 14.5 percent St. Clair County's population was age 65 or older, compared to 12.9 percent in Southeast Michigan. This parallel trend between Southeast Michigan and St. Clair County is anticipated to continue well into the future. By 2035 nearly 25 percent of the population in both St. Clair County and Southeast Michigan will be age 65 or older. This is a significant issue from a transportation perspective as it will be critical to adequately accommodate the mobility needs of older adults. In 2040, it is projected that the approximately 25% of the county's population will be age 65 or older, a 77.5 percent increase from 2010.

Table 2-1: Population Projections

Source	SCC Number
2010 U.S. Census Bureau	163,040
July 2013 SEMCOG Estimate	159,719
2040 SEMCOG Projection	167,621
Projected Change 2010-2013	-3,321 (-2%)
Projected Change 2010-2040	4,581 (+3%)

Source: SEMCOG Community Profiles, 2013

Table 2-2: St. Clair County Residential Permits (2006-2013)

Year	Single Family	Two Family	Attached Condo	Multiple Family	Total Units	Total Demos	Net Total
Totals for 2006	439	4	4	0	447	99	348
Totals for 2007	183	2	0	0	185	59	126
Totals for 2008	92	0	0	55	147	42	105
Totals for 2009	52	0	0	0	52	92	-40
Totals for 2010	48	0	0	0	48	163	-115
Totals for 2011	48	0	0	0	48	68	-20
Totals for 2012	60	0	0	0	60	68	-8
Totals for 2013	42	0	0	0	42	59	-17
Total	964	6	4	55	1,029	650	379

Source: SEMCOG Community Profiles, 2013

Housing Trends

Between 2000 and 2010, Southeast Michigan’s households shrunk from 4.8 million to 4.7 million, a 2.7 percent decrease. Long term housing trends suggest between the present and 2040, households will grow at a slower pace, increasing by six percent to approximately 1.9 million. Recent data, specifically for 2007, shows the Southeast Michigan region permitted 5,596 new residential units, a 48 percent drop from 2006 and approximately an 80 percent drop from 2004. With the national and regional economy contracting, coupled with a high employment rate and rising cost for builders and consumers alike, recovery in the Southeast Michigan region will be slow a process. Table 2-2 shows that between 2006 and 2013, 1,029 new units were constructed within St. Clair County while 650 units were demolished (a net total of 379 new units).

The St. Clair County Master Plan, projects that residential development patterns of growth will continue along the coast and inland. A majority of those who live in St. Clair County own their primary residence, approximately 70 percent according to the 2010 United States Census. In 2012, 67.1 percent of the homes within the County were owner occupied, 20.9 percent renter occupied and 12.0 percent vacant with a median housing value of over \$113,000.

Economic Trends

The recent economic recession has impacted many St. Clair County businesses and residents. In the short term, this will continue to impact St. Clair County and the Southeast Michigan region. As a long term impact, it is anticipated that there will be a shift in employment from manufacturing and retail trade to knowledge-based service and private education and

healthcare sectors. SEMCOG forecasts that nearly 14 percent of the St. Clair County residents will be working in the knowledge-based service industry by 2040 and over 20 percent of the residents will be working in the private education and healthcare industry. SEMCOG also projects the retail and manufacturing sectors to trail behind in 2040 with each representing only 9.3 percent and 10.6 percent of the workforce, respectively. According to SEMCOG’s 2040 Forecast, the change in retail and manufacturing sectors is expected to be a negative 5.9 percent and a negative 7.5 percent for the retail trade sector from 2010 to 2040. However, the knowledge based service and private education and healthcare sectors are expected to increase jobs by 20.7 percent and 49 percent during that same timeframe, respectively.

According to the 2000 United States Census, over 48,000 St. Clair County residents work within the County, or 63.2 percent and a significant number of residents commute to work outside of the County. Further, the 2000 United States Census indicates that approximately 84 percent of county residents commute to work by driving alone. Given the low densities and the commuting patterns of county residents, this trend is expected to continue and will have a significant impact on the roadway network within and adjacent to the County. Major industries within St. Clair County are summarized in Table 2-3 and the largest employers in the County are summarized in Table 2-4.

Table 2-3: St. Clair County Average Quarterly Employment by Industry Top 10 Industries (2011 Q3, 2011 Q4, 2012 Q1, 2012 Q2)

	NAICS Subsector	Number Employed
	All NAICS subsectors	4,323
1	722 Food Services and Drinking Places	4,323
2	621 Ambulatory Health Care Services	2,497
3	623 Nursing and Residential Care Facilities	2,389
4	622 Hospitals	2,218
5	452 General Merchandise Stores	1,936
6	336 Transportation Equipment Manufacturing	1,677
7	561 Administrative and Support Services	1,222
8	541 Professional, Scientific, and Technical Services	1,105
9	448 Clothing and Clothing Accessories Stores	1,067
10	332 Fabricated Metal Product Manufacturing	994

Source: U.S. Census Bureau, Local Employment Dynamics, 2013

Table 2-4: Top Employers in St. Clair County 2011

Company Name	Service	Employee Count
Port Huron Hospital	hospital	1,750
Port Huron Area School District	education	1,111
St. Clair County	government	988
DTE	electric/gas utilities	915
Mercy Hospital	hospital	770
Meijer	grocery/retail	650
East China School District	education	600
AT&T	call center	500
St. John River District Hospital	hospital	450
SMR (previously Visiocrp USA)	manufacturer	425
SEMCO Energy	natural gas utilities	400
Wal-Mart	grocery/retail	349
Mueller Brass	manufacturer	350
Chrysler, LLC.	Automotive	340
IAC (Port Huron & St. Clair)	manufacturer	335
City of Port Huron	government	297
Talmer Bank	banking	252
Marysville Public School District	education	250
Domtar	manufacturer	243
Cargill Salt	manufacturer	230
St. Clair County RESA	career education	279
JCIM, Inc.	manufacturer	247
HP Pelzer	manufacturer	166
St. Clair County Community College	education	223
Intertape Polymer	manufacturer	204
Revised January, 2011 * = Not all companies have responded to 2011 employee count updates, some information listed may be from 2010.		



According to The Michigan Department of Technology, Management and Budget's Unemployment Statistics, St. Clair County's unemployment rate has been steadily declining over the past four years while the labor force and employment within the County have been shrinking. The average annual unemployment in 2009 was 14,434 persons (17.6 percent) and it dropped to 9,155 persons (12.2 percent) in 2012. Unfortunately, the labor force has also shrunk from 81,978 in 2009 to 75,028 in 2012. Along with the shrinking of the labor force is the dwindling number of persons employed within the labor force. The employment was at 67,544 people in 2009 and fell to 65,873 in 2012.

Income and Poverty Trends

The labor market is the foundation of income for the vast majority of families. Family incomes are affected by weak labor markets, both through job loss and through hours and wage cuts for those who have work. St. Clair County's residents are bringing home less money in their paychecks and more are living in poverty than in 2000, according to the U.S. Census' American Community Survey. The 2012 estimated median household income is \$44,750. This is down \$4,370 from the 2010 5-year American Community Survey. There was a 19 percent decrease in St. Clair County's median household income from 2000 to 2010. The current average household income is \$56,066 in the County. It is expected to grow at an annual rate of 1.94 percent over the next five years. The 2012 estimated per capita income is \$22,177. This is down \$1,651 from the 2010 5-year American Community Survey.

The U.S. Census' 2010 American Community Survey reported that 20,356 persons lived in poverty, which is 12.4 percent. This is a 4.6 percent increase from the 2000 Census that reported only 12,674 persons were living in poverty. The U.S. Census' 2010 American Community Survey also reported that 7,330 households were at or below the poverty level. This equates to 11.3 percent. This is a 3.2 percent increase from the 5,078 households (8.2 percent) reported to be in poverty in 2000.

Commercial and Industrial Development Trends

St. Clair County added nearly 278,600 square feet of commercial development in 2012, which was fourth out of the seven-county SEMCOG region. Additionally, St. Clair County added just over 9,500 square feet of industrial development in 2012, which was the lowest amount in that category in the SEMCOG region. See Table 2-5 for more information.

In 2013, the county saw some growth in large retailing operations, with national retailers opening locations in Port Huron and Fort Gratiot townships, including a national "big box" retailer that built a store in excess of 250,000 square feet in Port Huron Township. Additionally, many of the county's traditional downtowns are focusing on placemaking efforts within their central business districts and enhancing support and resources for entrepreneurs to establish and/or grow businesses.

Table 2-5: Non-Residential Development by Type in Southeast Michigan, 2012 (in sq. ft.)

County	Commercial (sq. ft.)	Industrial (sq. ft.)	Institutional (sq. ft.)	Medical (sq. ft.)	Total Square Feet	Total Number of Projects
Livingston	28,884	312,307	50,687	0	391,878	22
Macomb	100,197	553,013	102,732	67,812	823,754	36
Monroe	81,683	30,850	61,798	0	174,331	11
Oakland	682,102	423,114	247,538	467,515	1,820,269	67
St. Clair	278,604	9,534	13,400	0	301,538	12
Washtenaw	530,176	165,899	197,997	50,000	944,072	39
Wayne	943,121	984,176	1,100,555	373,064	3,400,916	73
Detroit	426,800	48,600	1,030,000	319,300	1,824,700	18
Out-Wayne	516,321	935,576	70,555	53,764	1,576,216	55
SEMCOG Region	2,644,767	2,478,893	1,774,707	958,391	7,856,758	260

Source: SEMCOG, 2013

The Economic Development Alliance (EDA) of St. Clair County continues to work with the Michigan Economic Development Corporation (MEDC), local units of government, and regional partners to bring new companies into St. Clair County and also to retain established companies and employees.

I-69 International Trade Corridor Next Michigan Development Corporation

St. Clair County is part of the I-69 International Trade Corridor Next Michigan Development Corporation (NMDC), which is an independently established corporation representing a partnership that works to grow a logistics hub around intermodal access points within a region. NMDCs were set up under the Next Michigan Development Act (PA 275 of 2010). Under this act, the State of Michigan could designate up to five NMDCs, but not more than two per year.

The largest in the state of Michigan, the I-69 International Trade Corridor NMDC represents a significant regional partnership and offers economic incentives to existing and new businesses that utilize two or more forms of transportation to move their products and are located within the territory of the NMDC. Qualifying businesses can benefit from state and local incentives, including real and personal property tax abatements. In certain locations, businesses may receive approval for tax-free Renaissance Zones. The I-69 International Trade Corridor NMDC is comprised of 31 local municipalities within St. Clair, Lapeer, Genesee, and Shiawassee counties. Participating communities within St. Clair County include the cities of Marysville, Port Huron and St. Clair, as well as Kimball and St. Clair townships. In addition, the St. Clair County Board of Commissioners is an active partner. The NMDC is governed by a board consisting of members

from the participating governments; one member from each governmental unit.

The primary benefit from the NMDC is the creation of a required platform for municipal collaboration, focused on jobs and investment. Other benefits include regional marketing and access to incentives to support growing businesses. The NMDC is also working collaboratively on a comprehensive economic development strategy (CEDS) for the region and will also work together on endeavors such as development criteria, design standards, master planning and zoning, infrastructure planning, site selection, regulatory assistance, and local government assistance.

Participation in the NMDC provides St. Clair County's member communities with added potential for growth in the logistics and transportation sectors, particularly due to the county's strong rail and freighter-shipping assets, two interstate highways (I-69 and I-94) and the international border crossing.

Figure 2-1: I-69 International Trade Corridor Map



The I-69 International Trade Corridor NMDC is comprised of 31 local municipalities within St. Clair, Lapeer, Genesee, and Shiawassee counties.

CHAPTER 3

GOALS & OBJECTIVES



IN THIS CHAPTER:

- ⇒ *MISSION STATEMENT*
- ⇒ *PLANNING GOALS AND OBJECTIVES*
- ⇒ *MAP-21 OBJECTIVES*

GOALS AND OBJECTIVES

Overview

The 2040 St. Clair County LRTP goals and objectives were updated to reflect recent changes in MAP-21. The goals and objectives build upon the original LRTP goals and objectives which were developed through an integral public involvement process, existing conditions analysis, and review of the regional goals and objectives. The plan's goals and objectives were developed in accordance with a Mission Statement or “Prevailing Theme” established by the Steering Committee that supports:

“...the provision of a transportation system that is practical and efficient in satisfying the mobility and accessibility needs of our community...this includes balancing the needs of nonmotorized and transit users while minimizing the impacts to built and natural environments.”

Goals and objectives describe in general what the 2040 St. Clair County LRTP is striving to accomplish. Goals depict the general programmatic outcomes, while objectives specify more specific outcomes. It is often common to have several objectives for each goal. The SCCOTS Advisory Committee members adopted the 2040 LRTP goals and objectives and paired them with the MAP-21 Planning Factors as displayed in Table 3-1. The LRTP addresses the following broad goals.

- ⇒ **Economic Vitality**
- ⇒ **Local, County, and Regional Plans**
- ⇒ **Accessibility**
- ⇒ **Funding and Fiscal Constraint**
- ⇒ **Natural Environment**
- ⇒ **Environmental Justice**
- ⇒ **Public Involvement**
- ⇒ **System Management**
- ⇒ **Security**

Mission Statement

“...the provision of a transportation system that is practical and efficient in satisfying the mobility and accessibility needs of our community... this includes balancing the needs of nonmotorized and transit users while minimizing the impacts to built and natural environments.”

Table 3-1: LRTP Goals and Objectives

MAP-21 Planning Factors (FHWA)	2040 LRTP Goals (St. Clair County)	2040 Planning Objectives (St. Clair County)
Supports the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.	Ensure St. Clair County's economic growth and competitiveness by providing a safe, reliable and efficient transportation system.	<ul style="list-style-type: none"> ⇒ Improve the operating efficiency of the existing infrastructure. ⇒ Prioritize improvements that prevent accidents and minimize losses. ⇒ Minimize travel time, delays and traffic hazards. ⇒ Encourage lighting and clear signs on the roadways. ⇒ Reduce the amount of vehicle miles traveled on congested roads. ⇒ Foster strategies that reduce the growth of peak period travel.
Increases the safety of the transportation system for all motorized and non-motorized users.	Promote alternative transportation options for area residents and employees that are reliable and accessible to all users.	<ul style="list-style-type: none"> ⇒ Incorporate bicycle and pedestrian facilities within major new residential and commercial developments. ⇒ Promote transit service to major activity and employment centers. ⇒ Enhance existing transit services by providing more reliable service, improved passenger information and additional routes to communities outside of the current service area. ⇒ Encourage "Complete Streets" in planning and constructing major transportation improvements. ⇒ Establish regional transit services by providing intra-regional service to metropolitan area communities and interregional service to areas outside of the metropolitan area. ⇒ Place a high priority on serving the needs of transportation disadvantaged including the elderly, persons with disabilities, and low income residents. ⇒ Maximize bicycle and pedestrian access to roadways and transit facilities.
Increases the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and non-motorized users.	Enhance the security of the St. Clair County transportation system for all users.	<ul style="list-style-type: none"> ⇒ Ensure LRTP policies and improvements are consistent with local, state, and federal emergency management plans. ⇒ Improve the transportation security for all modes including transit operations and U.S. Customs at the Blue Water Plaza.
Protect and enhance the environment, promote energy conservation, improve the quality of life and promote consistency between transportation improvements and state and local planned growth and economic development patterns.	Protect the natural environment, promote energy conservation, and improve the quality of life within St. Clair County.	<ul style="list-style-type: none"> ⇒ Encourage transportation choices that benefit the environment including transit, carpooling, bike and pedestrian movement. ⇒ Support alternative transportation modes to improve air quality. ⇒ Pursue transportation projects that have the least impact on the natural environment. ⇒ Support policies that encourage use of alternative fuels and technologies in motor vehicle, fleet and transit applications.
	Ensure transportation opportunities do not disproportionately affect minority and low-income communities.	<ul style="list-style-type: none"> ⇒ Preserve and enhance scenic views of and access to historic, cultural and other attractive features. ⇒ Encourage the implementation of transportation services and policies that expand employment opportunities for disadvantaged populations.

Table 3-1: LRTP Goals and Objectives (continued)

MAP-21 Planning Factors (FHWA)	2040 LRTP Goals (St. Clair County)	2040 Planning Objectives (St. Clair County)
Increase accessibility and mobility of people and freight.		
Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.		
Promote efficient system management and operation.	Identify transportation opportunities and improvements that are fiscally constrained and offer the most cost-effective solution to addressing countywide transportation issues.	<ul style="list-style-type: none"> ⇒ Develop transportation investment decisions that maximize the full benefits of the system while considering the full costs. ⇒ Develop innovative funding sources and strategies for transportation improvements. ⇒ Ensure adequate funding to preserve and maintain the integrity of the existing transportation infrastructure. ⇒ Consider the funding implications of federal and state actions on the regional transportation system and services. ⇒ Promote public / private partnerships in addressing transportation needs. ⇒ Give priority to funding those transportation needs identified in state, regional and local transportation system plans.
Emphasize the preservation of the existing transportation system.	Support local and regional transportation needs and promote consistency with local, countywide, and regional plans.	<ul style="list-style-type: none"> ⇒ Promote the efficient movement of people and goods by linking the various modes of transportation. ⇒ Promote connections between transportation modes that support the effective shipment of freight. ⇒ Ensure compatibility with the transportation facilities of adjacent municipalities and counties. ⇒ Preserve corridors for future transportation system development. ⇒ Encourage transportation decisions that are consistent with countywide and regional land use goals and objectives.
	Preserve and maintain the existing transportation system.	<ul style="list-style-type: none"> ⇒ Encourage programs, including asset management, that are designed to better preserve and maintain the regional infrastructure. ⇒ Adhere to strict access management guidelines to preserve roadway capacity. ⇒ Evaluate lower cost Transportation System Management (TSM) improvements prior to constructing more costly capacity improvements.
	Support community involvement in the transportation planning process.	<ul style="list-style-type: none"> ⇒ Inform the public about transportation issues in a clear and concise manner. ⇒ Complete the LRTP in an inclusive manner, consistent with activities outlined in the Public Involvement Plan, to ensure the process is fair and open to all individuals. ⇒ Involve the public in a number of ways— early and often— to encourage their participation in the planning process. ⇒ Ensure that plans respond to the diversity of community needs.

CHAPTER 4

TRANSPORTATION ISSUES & CHALLENGES



IN THIS CHAPTER:

- ⇒ *SMART GROWTH & SUSTAINABILITY*
- ⇒ *COMPLETE STREETS*
- ⇒ *CLIMATE ADAPTATION & AIR QUALITY*
- ⇒ *TRANSPORTATION FUNDING & FINANCIAL CONSTRAINTS*

TRANSPORTATION ISSUES & CHALLENGES

Smart Growth & Sustainability

Smart Growth and Sustainability issues are becoming increasingly important in local and regional planning. Recognition of a deteriorating infrastructure and the spike in gas prices over the last few years has forced the nation to reconsider local, regional, and national transportation needs and priorities.

Preserving the existing transportation infrastructure is an important element within St. Clair County. Large capacity projects may no longer be the easy solution to address mobility concerns. Simply adding lanes will increasingly require more evaluation and justification. Future transportation planning decisions will emphasize other issues including environmental concerns. Maintaining and persevering the natural environment and social character of St. Clair County has always been of the outmost importance to St. Clair County residents and local officials. Avoiding, minimizing, or mitigating environmental impacts remains a priority throughout St. Clair County.

Communities across the country are using creative strategies to develop ways that preserve natural lands and critical environmental areas, protect water and air quality, and reuse already-developed land. They conserve resources by reinvesting in existing infrastructure and reclaiming historic buildings. By designing neighborhoods that have shops, offices, schools, churches, parks, and other amenities near homes, communities are giving their residents and visitors the option of walking, bicycling, taking public transportation, or driving as they go about their business. A range of different types of homes makes it possible for senior citizens to stay in their homes as they age, young people to afford their first home, and families at all stages in between to find a safe, attractive home they can afford. Through smart growth approaches that enhance neighborhoods and involve local residents in development decisions, these communities are creating vibrant places to live, work, and play. The high quality of life in these communities makes them economically competitive, creates business opportunities, and improves the local tax base.

Based on the experience of communities around the nation that have used smart growth approaches to create and maintain great neighborhoods, the Smart Growth Network developed a set of ten basic principles:

1. Mix land uses
2. Take advantage of compact building design
3. Create a range of housing opportunities and choices
4. Create walkable neighborhoods
5. Foster distinctive, attractive communities with a strong sense of place
6. Preserve open space, farmland, natural beauty, and critical environmental areas
7. Strengthen and direct development towards existing communities

8. Provide a variety of transportation choices
9. Make development decisions predictable, fair, and cost effective
10. Encourage community and stakeholder collaboration in development decisions

Complete Streets

Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from train stations.

Creating Complete Streets means transportation agencies must change their approach to community roads. By adopting a Complete Streets policy, communities direct their transportation planners and engineers to routinely design and operate the entire right of way to enable safe access for all users, regardless of age, ability, or mode of transportation. This means that every transportation project will make the street network better and safer for drivers, transit users, pedestrians, and bicyclists—which helps improve the quality of life.

Now, more than ever, multi-modal solutions are critical in addressing the long-term mobility needs of St. Clair County residents and businesses, Complete Streets would be one of these solutions. Many states and cities have adopted bike plans or pedestrian plans that designate some streets as corridors for improvements for bicycling and walking. More and more, communities are going beyond this to ensure that every street project takes all road users into account.

Making these travel choices more convenient, attractive, and safe means people do not need to rely solely on automobiles. They can replace trips along congestion corridors such as Pine Grove Ave. with quick bus rides or heart-healthy bicycle trips. Complete Streets improves the efficiency and capacity of existing roads by moving people in the same amount of space – just think of all the people who can fit on a bus versus the same amount of people each driving their own car . Getting more productivity out of the existing road and public transportation systems is vital to reducing congestion.

Several communities in St. Clair County have taken an initial step in developing their own Complete Street Policies and Plans. We will be looking at developing a county-wide Plan. In 2013, a group of Michigan State University planning students conducted a Bikeshare Feasibility Study. Staff will work on next steps on how a program such as this can be implemented.

Climate Adaptation & Air Quality

Climate adaptation and air quality continue to be major issues and must be considered as we plan for the future because the impacts affect everyone in one way or another. Below are some statistics taken from a study developed by the Great Lakes Integrated Sciences and Assessments



Center:

Temperature

- ⇒ Average temperatures increased by 2.3°F (1.3°C) from 1968 to 2002 in the Great Lakes region.

Extreme Weather Events

- ⇒ The frequency and intensity of severe storms has increased, and current models suggest that this trend will continue as the effects of climate change become more pronounced.

Water Quality and Stormwater Management

- ⇒ Increased risk of droughts, severe storms, and flooding events may increase the risk of erosion, sewage overflow, lead to more interference with transportation, and more flood damage.

Snow and Ice Cover

- ⇒ From 1973 to 2010, annual average ice coverage on the Great Lakes declined by 71%.

Lake Levels

- ⇒ Other factors, such as land use and lake regulations also affect lake levels; however, it is still unclear how much of the recent trend in lake levels may be attributed to climate change.

Water Availability

- ⇒ Overall, the Great Lakes region is expected to become drier due to increasing temperatures and evaporation rates.

Agriculture

- ⇒ The growing season will likely lengthen and positively impact some crop yields.
- ⇒ An increased frequency and intensity of severe weather, increased flooding, and drought risks, as well as more pests and pathogens will likely negatively impact crop yields.

Energy and Industry

- ⇒ Warmer temperatures and more frequent heat waves will likely increase electricity demands, particularly in urban areas and during the summer months.

Transportation

- ⇒ With increasing temperatures, damage to paved surfaces due to expanding and softening pavement is more likely.
- ⇒ The most significant impact on roadways will likely be the increased risk of flood damage.
- ⇒ Shipping lanes will likely be open earlier and longer due to reduced ice cover on the Great Lakes.

⇒ Lower lake levels may lead to decreased depth of navigation channels and a reduction in the maximum loads carried by vessels.

Public Health

⇒ Increased risk of heat waves and increased humidity may increase the number of heat-related deaths and illnesses.

Transportation Funding & Financial Constraints

Previous St. Clair County LRTP's have identified the need to "do more with less." While there is a recognition that transportation funding needs to increase, the motto will likely continue to hold true as local agencies and county government need to be responsible in identifying and constructing future transportation projects.

When the Intermodal Surface Transportation Efficiency Act (ISTEA) was enacted by Congress in 1991, one of the primary provisions of that original legislation was that the long range transportation plan (LRTP) for an urbanized area must be financially constrained. This meant that a financial plan had to be developed as a part of the LRTP. As subsequent transportation legislation (TEA-21), (SAFETEA-LU) and current MAP-21 became enacted, the financial plan provisions in the legislation have remained fairly consistent.

Federal and state lawmakers are continuing to face a serious challenge in finding sufficient funding to meet our growing transportation needs. Population growth, greater amounts of individual travel, and increases in economic activity and freight shipments are deteriorating the transportation infrastructure, causing congestion and increasing the overall burden on the surface transportation network.

Below is a description of some of the important characteristics of transportation funding. The various funding sources for transportation, a summary of federal and state funds in the Fiscal Year 2012-2018 State Transportation Improvement Program (STIP), and the Urban Area's projected transportation revenues through the 2040 horizon year are presented.

Street and Highway Funding Revenue Sources

The Michigan Department of Transportation (MDOT) is responsible for the funding and implementation of thousands of street and highway projects every year in Michigan. A variety of federal, state, and, local funds are used to plan, design, construct and maintain these projects. Funding for a number of the street and highway projects in the St. Clair County Transportation Study (SCCOTS) come from the federal government or the State of Michigan. However, there is a growing shift of the financial burden being placed at the local level as federal and state resources continue to face funding shortfalls. Below is a brief description of each of the major funding categories:

Federal Funds



Each year, highway users pay billions of dollars in highway excise taxes which end up in the Federal Highway Trust Fund. Federal legislation generally requires that funds paid into the Highway Trust Fund to be returned to the States for various highway programs. There are four (4) primary categories of federal funds which are usually provided for street and highway purposes in the St. Clair County Transportation Study Area. The categories include: Surface Transportation Program (STP), National Highway System (NHS), Interstate Maintenance (IM) and Congestion Mitigation and Air Quality (CMAQ).

State Funds

The State of Michigan has been funding street and highway projects since 1905. At that time, their main function was to distribute rewards payments to local units of government for road construction and maintenance. In 1913, the state legislature authorized the creation of the state trunkline highway system, and the state paid double rewards for those roads. The primary purpose of MDOT is to maintain the Michigan State Trunkline Highway System which includes all Interstate, U.S. and state highways in Michigan with the exception of the Mackinac Bridge. Transportation Funding for state-maintained roads and bridges are funded by federal funds, state motor fuel taxes, and state registration fees.

Local Funding

Municipalities often use local taxes or bonds to build and maintain their streets and highways. Occasionally, street and highway facilities in the St. Clair County Transportation Study Area are constructed by the private sector, usually as a condition of development. In some locations, portions of planned streets and highways are on the transportation plan, or small area plans are built. Other minor road widening, turn lanes, sidewalks, greenways and greenway easements are built to serve the development site as well as the overall needs of the general public.

Table 4-1: Transportation Funding in St. Clair County, 2014-2040

	STP– Urban from the Port Huron UA	STP– Urban from the Detroit Urbanized Area	Total STP- Urban	STP-Rural	TEDF Category D (Fed)	TEDF Category D (State)	TOTAL TEDF Category D	Estimated total MTF Distribution to all of St. Clair County
<i>Fiscal Year</i>	<i>STUL</i>	<i>STU</i>		<i>STL</i>	<i>MEDDF</i>	<i>EDD</i>		<i>OLF</i>
2014	\$1,224,532	\$193,526	\$1,418,059	\$657,510	\$252,886	\$194,240	\$447,126	\$14,211,879
2015	\$1,249,023	\$197,397	\$1,446,420	\$670,661	\$257,943	\$194,240	\$452,183	\$14,268,727
2016	\$1,274,004	\$201,345	\$1,475,348	\$684,074	\$263,102	\$194,240	\$457,342	\$14,325,802
2017	\$1,299,484	\$205,371	\$1,504,855	\$697,755	\$268,364	\$194,240	\$462,604	\$14,383,105
2018	\$1,333,530	\$210,752	\$1,544,282	\$716,036	\$275,395	\$194,240	\$469,635	\$14,713,916
2019	\$1,368,469	\$216,274	\$1,584,742	\$734,797	\$282,611	\$194,240	\$476,851	\$15,052,336
2020	\$1,404,322	\$221,940	\$1,626,263	\$754,048	\$290,015	\$194,240	\$484,255	\$15,398,540
2021-2025	\$7,593,174	\$1,200,031	\$8793,205	\$4,077,140	\$1,568,112	\$971,200	\$2,539,312	\$82,470,950
2026-2030	\$8,641,385	\$1,365,692	\$10,007,077	\$4,639,975	\$1,784,584	\$971,200	\$2,755,784	\$92,401,530
2031-2035	\$9,834,299	\$1,554,221	\$11,388,520	\$5,280,508	\$2,030,940	\$971,200	\$3,002,140	\$103,527,883
2036-2040	\$11,191,891	\$1,768,776	\$12,960,667	\$6,009,465	\$2,311,305	\$971,200	\$3,282,505	\$115,993,994

Source: St. Clair County Transportation Study (SCCOTS), 2014

Source: SEMCOG Community Profiles, 2013



CHAPTER 5

EXISTING TRANSPORTATION SYSTEMS



IN THIS CHAPTER:

- ⇒ OVERVIEW
- ⇒ MASTER PLANS/LAND USE
- ⇒ ROADWAY SYSTEM
- ⇒ TRANSIT
- ⇒ NON-MOTORIZED FACILITIES
- ⇒ RAIL TRANSPORT
- ⇒ FREIGHT TRAFFIC
- ⇒ PORT FACILITIES
- ⇒ AVIATION
- ⇒ INTELLIGENT
TRANSPORTATION SYSTEMS

EXISTING TRANSPORTATION SYSTEMS

Overview

This chapter summarizes the existing transportation system conditions within St. Clair County. It includes a comprehensive review of the multi-modal transportation system which includes roadways, transit operations, non-motorized facilities, rail operations, and aviation. The county's major transportation components include:

- ⇒ Federal and State highways and local roadway system
- ⇒ A network of on-street and off-street multi-use trails
- ⇒ Blue Water Area Transit Commission
- ⇒ Blue Water International Bridge Crossing
- ⇒ Canadian National Railway International Tunnel
- ⇒ International Ferry Crossings
- ⇒ St. Clair County International Airport
- ⇒ Marine City Airport

Master Plans

The connection between transportation and land use is critical to understanding how the existing transportation system functions. Understanding this relationship helps identify policies and improvements that can help shape long-term development and infrastructure decisions throughout the County. Concepts such as promoting smart growth have a direct impact on the local and regional transportation system and can help preserve and maintain the quality of life throughout St. Clair County. Every local unit of government within St. Clair County has a master plan that guide future growth and development.

The County has a total of approximately 464,105 acres of which over half (52.2%) is designated as active agriculture. Approximately another 18% are defined as woodland and wetland. In total, these two land uses account for 70% of the St. Clair County land uses.

Transportation infrastructure accounts for a relatively low percentage (1.5%) of the total county land area. However, the transportation network throughout St. Clair County, and the surrounding region, provides the lifeline for economic development, freight movement, and international trade. Maintaining the transportation system is critical to the continued health of local communities and St. Clair County. Table 5-1 summarizes the St. Clair County land uses as of 2008.

The St. Clair County Master Plan, shown in Map 5-1, identified four principal themes related to land use and development throughout St. Clair County - essentially, a Vision-Based Policy. These themes focus on:

- ⇒ **Managing growth** – Overall strategies necessary to allow development in a systematic and phased manner, preserve viable farmland and important open space, strengthen

Table 5-1: St. Clair County Land Uses (2008)

Land Use	Land Cover	
	Acres	Percentage
Active Agriculture	242,034	52.2%
Woodland and Wetland	82,714	17.8%
Single-Family	61,868	13.3%
Grassland and Shrub	50,882	11.0%
Transportation, Communication, and Utility	7,102	1.5%
Cultural, Outdoor Recreation, and Cemetery	4,458	1.0%
Industrial	4,276	0.9%
Commercial and Office	3,072	0.7%
Institutional	2,026	0.4%
Water	1,835	0.4%
Extractive and Barren	1,793	0.4%
Under Development	1,386	0.3%
Multiple-Family	659	0.1%
Total	464,105	100%

Source: SEMCOG, 2014.

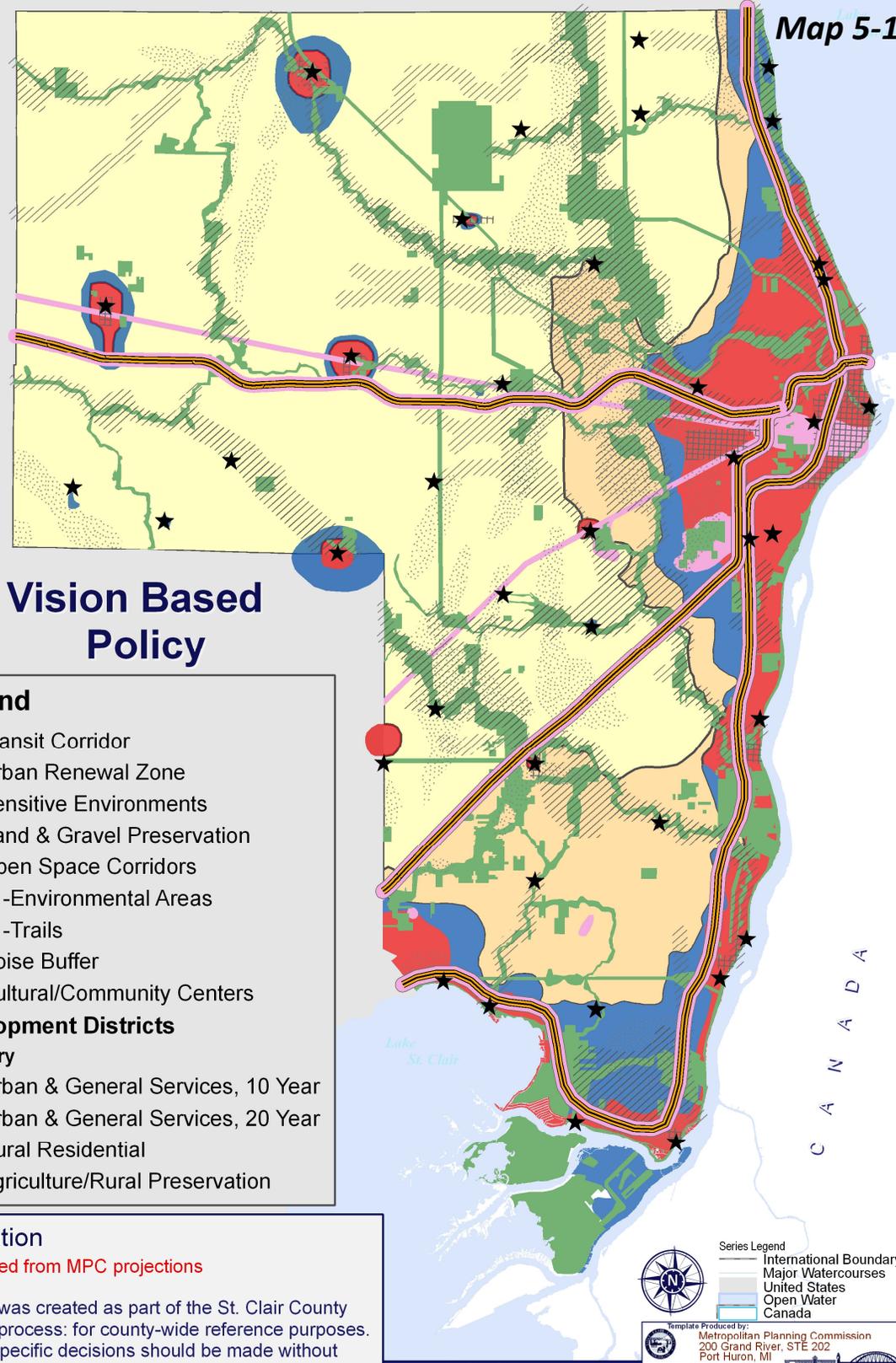
existing business and cultural centers, and offer a range of affordable public services and facilities.

- ⇒ **Protecting and preserving water quality** – Maintaining a clean and healthy water supply for consumption and recreation.
- ⇒ **Improving quality of life** – Refers to the subjective pleasure and convenience that citizens receive from recreational facilities, public services, private and non-profit organizations, cultural opportunities, environmental resources, historic features, good jobs, and affordable housing.
- ⇒ **Creating a sustainable countywide community** – Refers to long-term growth as a result of a diverse and stable environment, economy, public services and facilities, and land use patterns.

Roadway System

The St. Clair County roadway system is defined by functional classification. Functional classification is a hierarchical structure that defines the various roadway operations of the overall roadway network. When working properly, all elements of this hierarchy facilitate the efficient and safe movement of traffic between origins and destinations.

Map 5-1



Vision Based Policy

Legend

- Transit Corridor
- Urban Renewal Zone
- Sensitive Environments
- Sand & Gravel Preservation
- Open Space Corridors
 - Environmental Areas
 - Trails
- Noise Buffer
- Cultural/Community Centers

Development Districts

Category

- Urban & General Services, 10 Year
- Urban & General Services, 20 Year
- Rural Residential
- Agriculture/Rural Preservation

Map Citation

Data obtained from MPC projections

This map was created as part of the St. Clair County Master Plan process: for county-wide reference purposes. No site-specific decisions should be made without independent field verification of the information presented.

Series Legend

- International Boundary
- Major Watercourses
- United States
- Open Water
- Canada

Template Produced by:
 Metropolitan Planning Commission
 200 Grand River, STE 202
 Port Huron, MI
 COUNTY OF ST. CLAIR

www.stclaircounty.org/Offices/metro/

AA-05

The hierarchy of street types in ascending order includes: local roads, minor collectors, major collectors, minor arterials, principal arterials, freeways, and interstates. The difference between street classifications is generally based on through-traffic movement and access to adjacent land. Lower functional classes, such as local and collector roads, provide greater access to adjacent land or individual properties as opposed to higher functional classifications, such as arterials or freeways. Functional classifications for St. Clair County are established by MDOT and are based on criteria developed by the FHWA. Map 5-2 displays the functional classification of primary roadways within the County.

Average Daily Traffic

St. Clair County includes two interstates, I-69 and I-94, which traverse the County from the west and south merging in Port Huron before joining Canada's Highway 402. The interstates carry the largest volume of traffic on the network with Average Daily Traffic (ADT) counts reaching as high as 46,600 vehicles per day (vpd). The interstate highways, state highways M-19, M-29, M-136, a portion of old M-21, and two highway rest stops are under the jurisdiction of MDOT. The St. Clair County Road Commission (SCCRC) has a maintenance contract with MDOT to maintain state facilities within the County.

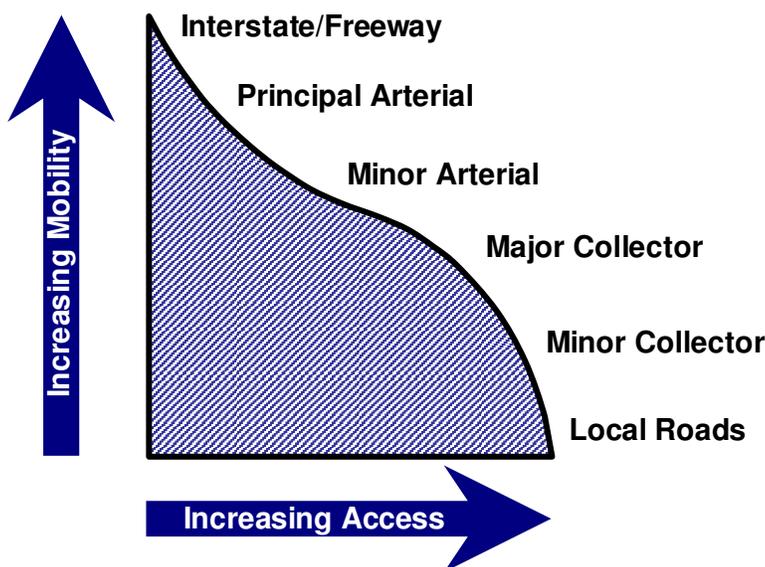
The traffic counts are generally collected by MDOT; by consultants specializing in traffic data collection; or by local communities. These counts are provided to SEMCOG and are made available to the public via a comprehensive database. The counts represent a continuous 24-hour period and are unadjusted, meaning that no growth factors or seasonal, day-of-week, or axle correction factors have been applied.

Congestion Analysis

SEMCOG utilizes a congestion deficiency index to identify congestion levels and prioritize improvements throughout the Southeast Michigan region. The index is based on a three-tiered

process that considers travel speed, volume-to-capacity (v/c) ratios, and perceived congestion. These three components are briefly summarized in Table 5-2.

Based on the criterion listed above, each roadway segment, or link, in St. Clair County is classified as congested or not congested. The overall congestion deficiency index, or level of congestion, is calculated by summing the length of all links that are



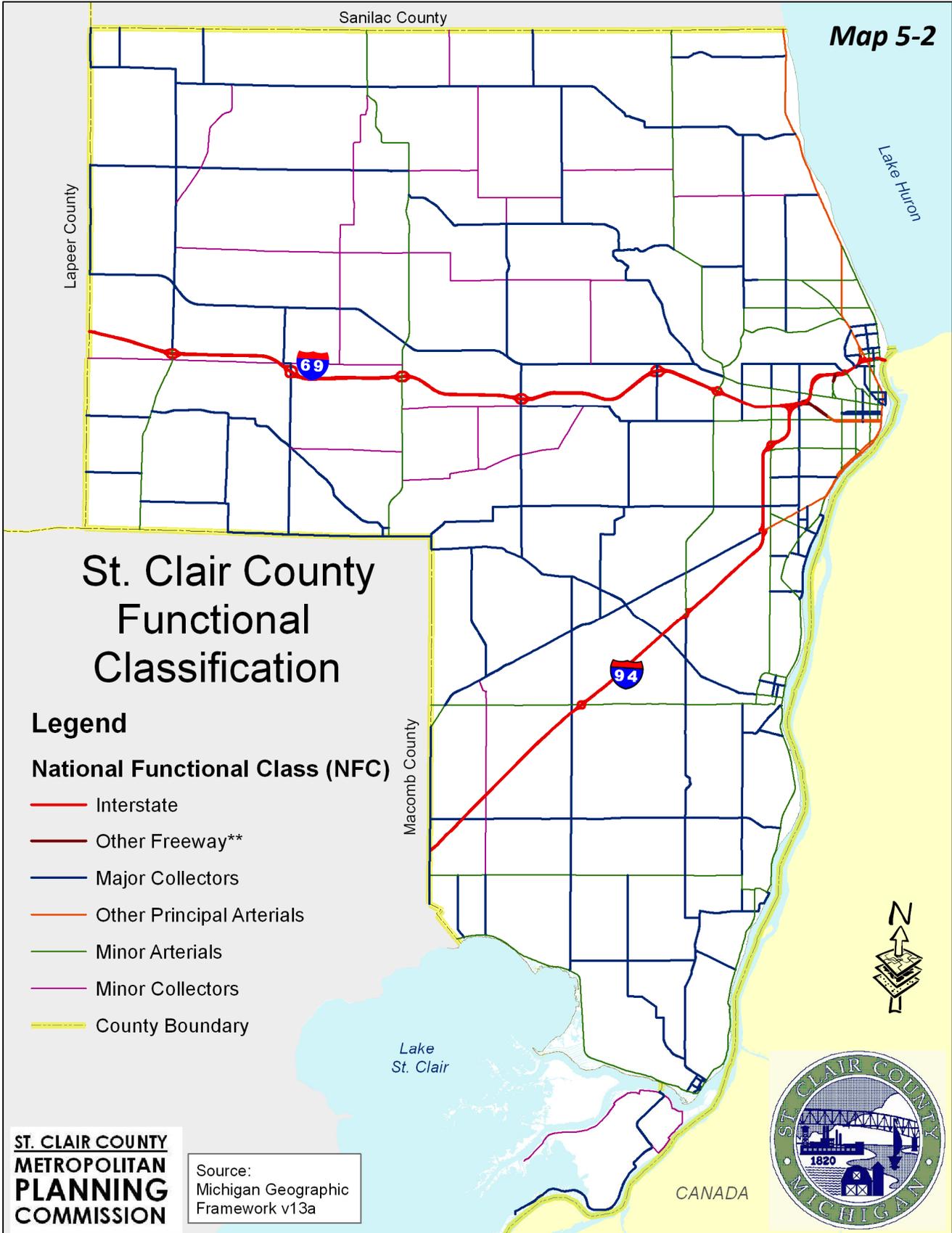


Table 5-2: Congestion Deficiency Components

Speed	V/C Ratio	Perceived Congestion
<p>A highway link is considered congested if its observed or modeled speed is lower than its target speed, defined by functional class. Target speeds are:</p> <p>Freeway – 55 MPH</p> <p>Principal Arterial – 30 MPH</p> <p>Minor Arterial & Collector – 20 MPH</p>	<p>A highway link can also be considered congested if its v/c ratio is greater than 0.80.</p> <p>Volume data were obtained from two different sources:</p> <ul style="list-style-type: none"> • SEMCOG’s travel demand model; and • SEMCOG’s traffic count database for 2011-2012. 	<p>Stakeholders may provide additional information on perceived areas or corridors of congestion. Suggestions for additions to the list of identified congestion were accepted if justified by either of the two previous criteria or by supporting documentation.</p>

Table 5-3: Congestion Classification

Percent of Congested Miles	Weight	Priority
0 - 14.9	0	No congestion priority
15.0 - 40.9	1	Low congestion priority
41.0 - 70.9	2	Medium congestion priority
71.0 - 100	3	High congestion priority

Table 5-4: Priority Congestion Corridors

Road	From	To	Priority
Capac Rd	Armada Center (Macomb County)	Interstate 69	High
Interstate 94	Metro Area	St. Clair County Line	High
M-25		Burtch Road	Low
Interstate 94	Macomb County Line	Rattle Run Road	Low
Gratiot (M-19)	Main St.	St. Clair County Line	Low
Green Road/Main St.	West along M-59	St. Clair County Line	Low

Map 5-3

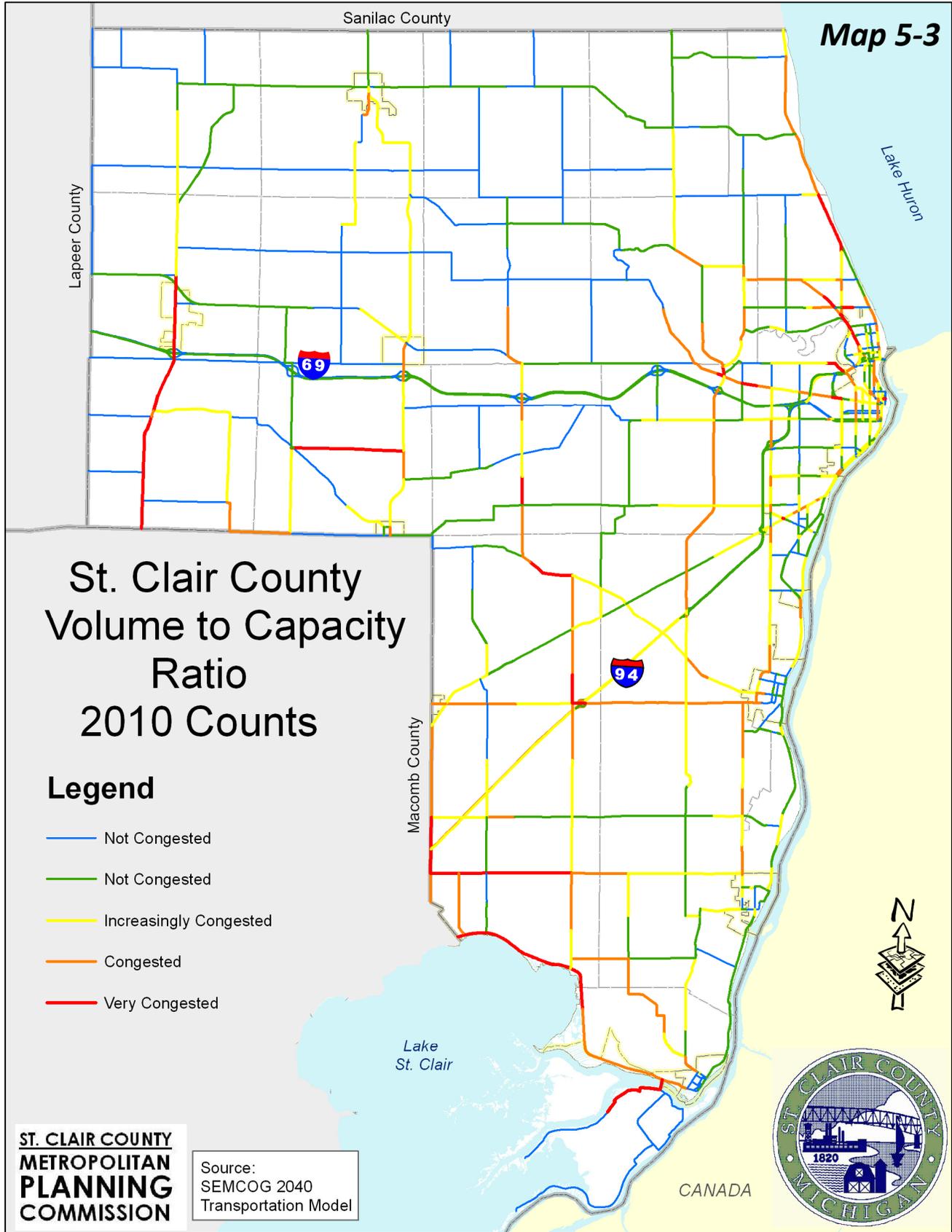
St. Clair County Volume to Capacity Ratio 2010 Counts

Legend

- Not Congested
- Not Congested
- Increasingly Congested
- Congested
- Very Congested

**ST. CLAIR COUNTY
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COMMISSION**

Source:
SEMCOG 2040
Transportation Model



CANADA



congested and assigning a congestion classification weight to a corridor as outlined in Table 5-3.

The congestion deficiency results for St. Clair County are displayed in Map 5-3. Table 5-4 summarizes the priority corridors identified within St. Clair County. In some cases, corridors may extend beyond the county boundaries but are included as they could impact St. Clair County traffic.

Crash Rate

The crash rate, defined as number of traffic crashes per 1,000 vehicle miles traveled (VMT), provides an alternative method of examining traffic crash trends. In 2012, St. Clair County had a crash rate of 9.73 per 1,000 VMT. Table 5-5 provides an overview of traffic crash rates for St. Clair County between 2010 and 2012.

In 2012, approximately 21 percent of crashes in St. Clair County resulted in some degree of injury. Thirty-nine fatalities were recorded in 2011 and 2012. Table 5-7 summarizes the intersection high accident locations within St. Clair County (between 2008-2012).

Safety Analysis

In 2012, 3,798 traffic crashes were reported in St. Clair County. This represents nearly a five percent decrease from 2011 reported crashes and just over a four percent decrease from 2010. By comparison, the Southeast Michigan region reported 122,832 crashes in 2012, a decrease of 1.4 percent from 2011. Table 5-6 compares the crash history for St. Clair County and Southeast Michigan between 2010 and 2012.

Crash Severity Classes

Reported crashes are categorized into the following and used to calculate the crash rate within St. Clair County:

- ⇒ Fatal (F)
- ⇒ Incapacitating Personal Injuries (A-level)
- ⇒ Non-incapacitating Personal Injury (B-level)
- ⇒ Possible Personal Injury (C-level)
- ⇒ Property Damage Only (PDO)

Table 5-5: Crash Rate

YEAR	ST.CLAIR COUNTY
2010	2.59
2011	10.38
2012	9.73

Source: SEMCOG, 2014

Table 5-6: Crash History (2010-2012)

	YEAR	TOTAL	Alcohol Related	Deer-Vehicle	Young Driver	Elderly Driver	Bike/Ped Related	Truck/Bus Related
St. Clair County	2010	3,958	173 4.4%	809 20.4%	1,383 34.9%	768 19.4%	67 1.7%	160 4.0%
	2011	3,975	207 5.2%	739 18.6%	1,312 33.0%	830 20.9%	49 1.2%	141 3.5%
	2012	3,798	171 4.5%	702 18.5%	1,245 32.8%	895 23.6%	59 1.6%	135 3.6%
	3-Year TOTAL	11,731	551 4.7%	2,250 19.2%	3,940 33.6%	2,493 21.3%	175 1.5%	436 3.7%
Southeast Michigan	YEAR	TOTAL	Alcohol Related	Deer-Vehicle	Young Driver	Elderly Driver	Bike/Ped Related	Truck/Bus Related
	2010	122,309	4,001 3.3%	6,062 5.0%	43,149 35.3%	26,178 21.4%	2,157 1.8%	5,301 4.3%
	2011	124,527	4,129 3.3%	5,443 4.4%	43,519 34.9%	27,222 21.9%	2,208 1.8%	5,373 4.3%
	2012	122,832	4,187 3.4%	5,206 4.2%	43,342 35.3%	27,543 22.4%	2,180 1.8%	4,740 3.9%
	3-Year TOTAL	369,668	12,317 3.3%	16,711 4.5%	130,010 35.2%	80,943 21.9%	6,545 1.8%	15,414 4.2%

Source: SEMCOG, 2014

Bridges

Michigan classifies roads as state trunkline, county primary, county local, city major, or city local. This classification forms a hierarchy, with the state trunkline roads at the highest level and city local roads at the lowest. Bridges are also classified according to the highest legal class of road associated with its use. St. Clair County has the lowest proportion of state trunkline bridges (32.7 percent) and the highest proportion of county primary and local bridges (26.0 and 38.2 percent respectively). In total, St. Clair County has a total of 343 bridges — the majority, 219 or approximately 63%, are owned and maintained by the County. Figure 5-2 displays the breakdown of primary bridge ownership.

Types of facilities or water features under bridges are identified in the Michigan Structure Inventory & Appraisal (MSIA) database. As of October 2013, within the Southeast Michigan region, St. Clair County has approximately 83% of their bridges crossing over water. Roughly 300 bridges cross lakes, rivers and streams with one-to-two lanes. Table 5-8 summarizes the

Table 5-7: High Crash Intersections in St. Clair County

County Rank	Region Rank	Intersection	2008 Total	2009 Total	2010 Total	2011 Total	2012 Total	5 Year Total
1	94	M 25 @ Krafft Rd	32	23	38	35	26	154
2	245	M 25 @ Keewahdin Rd	21	18	21	25	23	108
3	311	Pine Grove Ave @ Holland Ave	21	14	25	20	20	100
4	430	Pine Grove Ave @ Sanborn St	14	19	35	9	11	88
5	467	Hancock St @ Pine Grove Ave	15	14	13	22	20	84
	467	10th St @ Lapeer Ave	15	14	17	18	20	84
7	529	Gratiot Blvd @ Range Rd	19	13	17	16	15	80
8	824	Pine Grove Ave @ 10th Ave	8	9	16	15	15	63
9	845	Lapeer Rd @ Lapeer Rd	17	8	14	12	11	62
	845	26 Mile Rd @ Marine City Hwy	25	10	7	11	9	62
11	917	Pine Grove Ave @ River Rd N	14	19	11	9	6	59
12	950	I 69 BL @ 24th St	10	13	10	11	14	58
13	1003	I 69 BL @ 24th St	13	10	9	11	13	56
14	1071	Pine Grove Ave @ Riverside Dr	9	8	16	12	9	54
15	1209	Gratiot Blvd @ Michigan Rd	11	10	10	11	8	50
16	1408	Lapeer Rd @ 32nd St	11	6	10	9	9	45
17	1450	Pine Grove Ave @ Harker St	2	9	7	10	16	44
	1450	16th St @ Lapeer Ave	12	6	8	7	11	44
19	1500	24th St @ Lapeer Ave	6	4	8	13	12	43
	1500	10th Ave @ Glenwood Ave	13	12	5	8	5	43
21	1597	M 25 @ Pine Grove Ave	7	10	6	8	10	41
22	1638	Lapeer Ave @ 13th St	10	6	5	10	9	40
23	1768	10th Ave @ Water St	8	7	7	8	8	38
	1768	Gratiot Blvd @ Huron Blvd	8	11	6	4	9	38
25	1834	Pine Grove Ave @ Garfield St	10	6	8	2	11	37
26	1911	Division Rd @ Gratiot Ave	7	11	7	5	6	36
	1911	I 69 BL @ 10th St	8	9	7	7	5	36
28	2080	Lapeer Rd @ Range Rd	2	10	4	12	6	34
	2080	10th Ave @ Lyon St	4	6	4	12	8	34
30	2175	Clinton Ave @ Riverside Ave S	12	4	6	2	9	33
31	2247	24th St @ Dove St	6	2	6	11	7	32
	2247	Pine Grove Ave @ 24th Ave	7	4	7	6	8	32
33	2330	Busha Hwy @ Ravenswood Rd	3	1	10	11	6	31
	2330	Pine Grove Ave @ Scott Ave	5	2	2	7	15	31
	2330	Military St @ Water St	11	5	5	5	5	31
36	2414	I 69 BL @ 10th St	2	7	6	5	10	30
	2414	Carney Dr S @ Fred W Moore Hwy	6	3	7	10	4	30
	2414	M 25 @ Cherryhill Dr	11	6	5	3	5	30
39	2530	Lapeer Ave @ Rural St	0	6	1	12	10	29
	2530	Pine Grove Ave @ Elmwood St	3	4	6	7	9	29
	2530	I 69 BL @ 32nd St	5	8	6	9	1	29
	2530	Pine Grove Ave @ Parker Rd	6	2	9	7	5	29
	2530	I 69 BL @ 32nd St	7	3	3	10	6	29
44	2757	24th St @ Howard St	4	5	7	6	5	27
	2757	I 94/Pine Grove Connector @ Hancock St	7	10	4	5	1	27
46	2885	Huron Ave @ Quay St	6	6	3	4	7	26
	2885	Wadhams Rd @ Gratiot Ave	8	7	4	3	4	26
48	3018	Lapeer Ave @ 11th St	4	1	3	11	6	25
	3018	Lapeer Rd @ Lapeer/W I 94 Connector	4	1	6	8	6	25
	3018	Krafft Rd @ Pine Grove Ave	5	5	9	2	4	25
	3018	Military St @ Pine St	6	3	5	5	6	25
	3018	Griswold Rd @ Michigan Rd	6	4	8	7	0	25

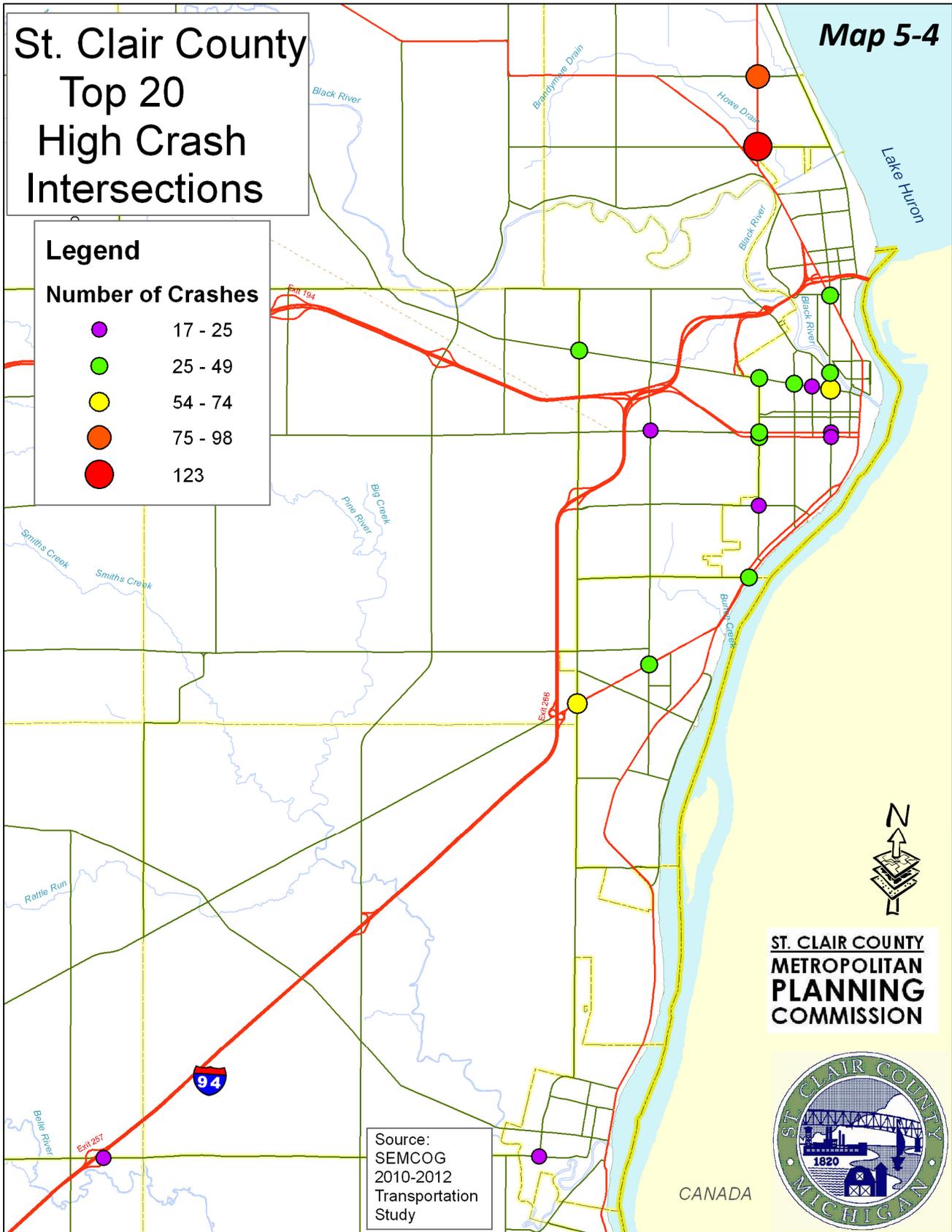
St. Clair County Top 20 High Crash Intersections

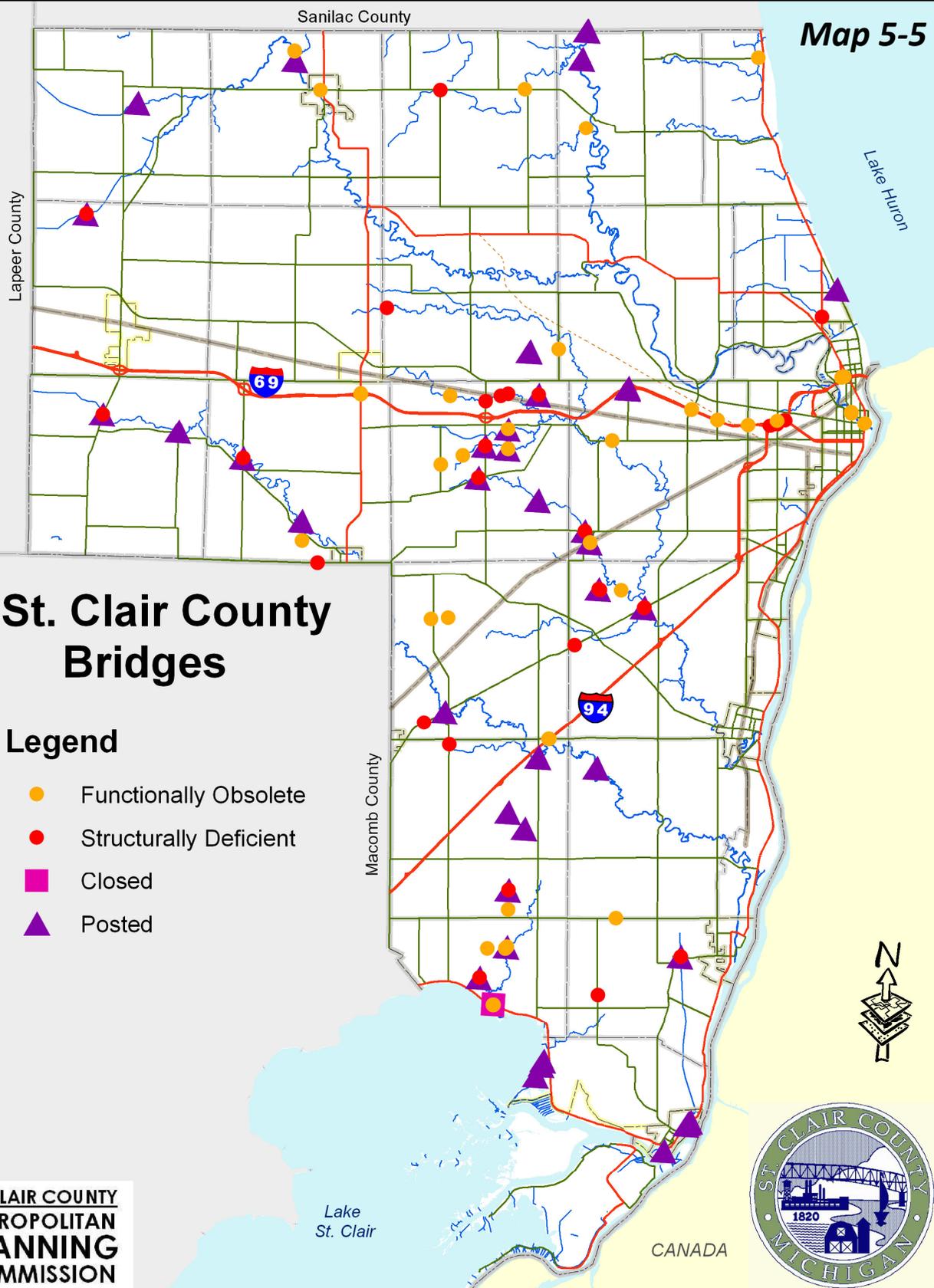
Map 5-4

Legend

Number of Crashes

- 17 - 25
- 25 - 49
- 54 - 74
- 75 - 98
- 123





St. Clair County Bridges

Legend

- Functionally Obsolete
- Structurally Deficient
- Closed
- ▲ Posted

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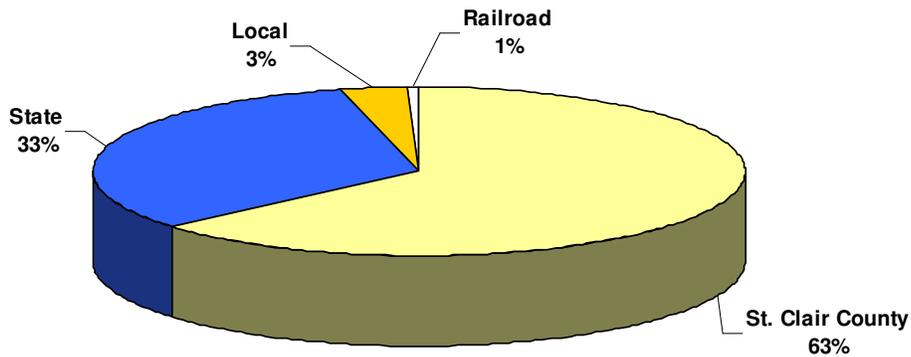


Table 5-8: Bridge Types in St. Clair County and Southeast Michigan

	Over Water	Over Highway	Over Railway	Over non-motorized	Pedestrian Overpass	Railway over Highway	Other	TOTAL
St. Clair County	296	46	10	1	1	2	0	356
	(83.15%)	(12.92%)	(2.8%)	(0.28%)	(0.28%)	(0.56%)	—	
Southeast Michigan	1,766	1,188	143	5	128	303	40	3,573
	(49.43%)	(33.25%)	(4%)	(0.14%)	(3.58%)	(8.48%)	(1.12%)	

Source: SEMCOG, 2014

Figure 5-2: St. Clair County – Bridge Ownership



Source: SEMCOG, 2014

breakdown of St. Clair County bridges by type. These totals are compared to bridges for the entire Southeast Michigan region.

Bridge Conditions

As bridges age, the issue of funding for repair and replacement becomes a concern. The MSIA database contains the following bridge components or subsystems that are adhered to when rating bridge conditions:

- ⇒ Deck
- ⇒ Deck wearing surface
- ⇒ Superstructure
- ⇒ Substructure
- ⇒ Channel and Channel protection
- ⇒ Culverts

Out of the 343 bridges located in St. Clair County, 55 (16%) are rated in poor or serious

condition. The remaining 288 (84%) bridges are in fair to excellent condition. As of December 2013, there were no St. Clair County bridges rated critical or worse. Bridge appraisal ratings cover structural integrity, deck geometry, underclearances, waterway adequacy and approach alignment .

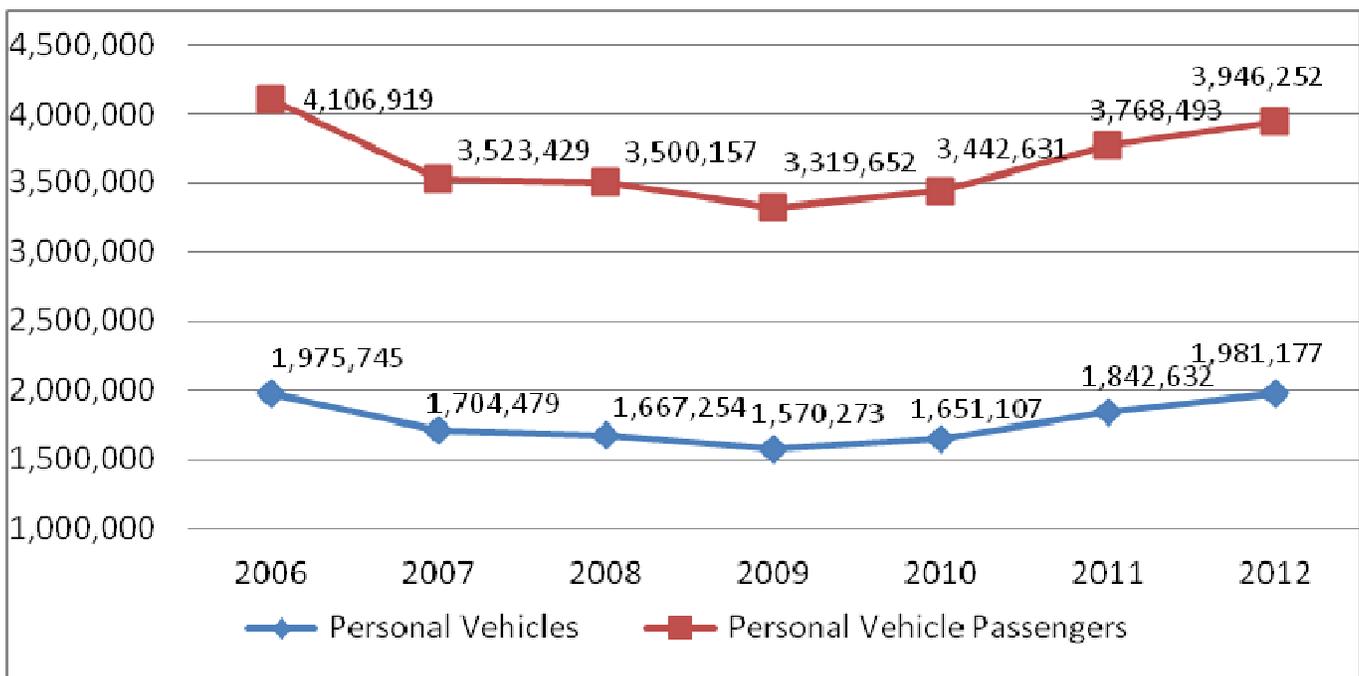
Condition and appraisal rating evaluation identify those bridges that are either structurally deficient or functionally obsolete and are defined by the FHWA as those bridges only carrying highway traffic. A bridge must be classified as structurally deficient or functionally obsolete in order to be eligible for funds from the federal Highway Bridge Replacement and Rehabilitation Program. In 2010, St. Clair County had 87 structurally deficient bridges and 39 functionally obsolete bridges. Map 5-5 displays the location of the 2013 structurally deficient and functionally obsolete bridges within St. Clair County.

Blue Water Bridge

The Blue Water Bridge in Port Huron serves as a conduit for international trade between Canada and the United States. This bridge is the fourth busiest crossing between the U.S. and Canada, and the second busiest truck crossing between the two countries. MDOT is currently conducting a Blue Water Bridge Plaza study to:

- ⇒ Improve the Blue Water Bridge Plaza and Welcome Center;
- ⇒ Enhance border security; and

Figure 5-3: Annual Personal Vehicles crossing Blue Water Bridge (2006-2012)



Source: MDOT

Table 5-9: Average Occupancy (Persons per vehicle) in Vehicles Crossing Blue Water Bridge (2006-2012)

YEAR	2006	2007	2008	2009	2010	2011	2012
Occupancy	2.08	2.07	2.10	2.11	2.09	2.05	1.99

Source: MDOT

⇒ Improve the border processing to help reduce congestion and accommodate projected traffic growth through 2040.

Figure 5-3 displays the annual person vehicles crossing at the Blue Water Bridge crossing between 2006 and 2012. While the number of personal vehicle trips has declined in recent years, this gateway remains a critical access point for passenger vehicles and freight traffic between St. Clair County and Canada.

Transit

The Blue Water Area Transportation Commission (BWATC) provides transit services to several communities within St. Clair County including the cities of Port Huron and Marysville and the townships of Port Huron, Fort Gratiot and Burtchville. BWATC operates a combination of fixed route, demand response and contract services. The following summarizes these services.

History

Public transportation has been a critical part of the City of Port Huron since 1866. Beginning in the 1880's, Port Huron was one of the first communities to operate an electric transit system, and during the 1930's, was one of the first communities to operate motor coaches. With the exception of a brief period from 1968 to 1976, Port Huron has operated some form of public transportation for over 135 years. Since 1976, BWATC has continued this tradition by carrying over 15 million passengers in its nearly 70 square mile service area. In 1996, BWATC began operating compressed natural gas (CNG) buses.

Fixed Route

BWATC currently operates eight regularly scheduled bus routes (routes #1 to #6, #9, and shopper shuttle) within the City of Port Huron and Fort Gratiot Township. Although there are fixed stops along each route, the service operates a flag system where necessary to allow bus riders to catch the bus anywhere along route. Headways are generally 45 minutes and all vehicles for the fixed route service are lift or ramp equipped and are equipped with bicycle racks. Map 5-6 displays the BWATC's current countywide service, including a detailed inset view of service in downtown Port Huron.

ADA Services

On-demand services are available for Americans with Disabilities Act (ADA) eligible riders, as well as limited mobility passengers. Reservations can be made as early as two weeks in advance and as late as the day prior to scheduled pick-up. All vehicles available for this service are lift-equipped.

Demand Response

Demand response, or Dial-A-Ride, services are available Monday- Saturday to residents living in Burtchville, Port Huron, and Fort Gratiot townships and Monday, Wednesday, and Friday in the City of Marysville. Bus service is often dispatched within the hour, depending on when a customer reserves a ride. Reservations made 24 hours in advance can usually guarantee a trip that conforms to a customer's schedule.

Blue Water Trolley

During the summer tourist season, BWATC operates a trolley route that highlights the historic and scenic sites of the downtown area. The route lasts approximately an hour and includes several points of interest, historic sites and panoramic views of the Blue Water Bridge and the St. Clair River. The fare for the Blue Water Trolley is ten cents.

Shopper Shuttle

Shuttle service to major shopping centers in the northern end of the community is available to customers Monday through Friday beginning at 9:35 a.m. and Saturday beginning at 10:20 a.m. The shuttle provides door-to-door service to the shops along the route. Transfers between the shuttle and other BWATC buses are free. Shopper shuttle service ends at 8:50 p.m.

Commuter Route

A commuter service runs to Chesterfield Township, a community in northern Macomb County that is home to many suburban office parks, twice a day Monday through Friday. This service



Blue Water Area Transit operates the majority of its fleet on compressed natural gas (CNG), which greatly reduces pollution and saves about a dollar per gallon on the cost of fuel. During the summer months, BWATC operates a trolley route that highlights historic and scenic sites in downtown Port Huron. Photos courtesy of Blue Water Area Transit Commission.

St. Clair County Blue Water Area Transit

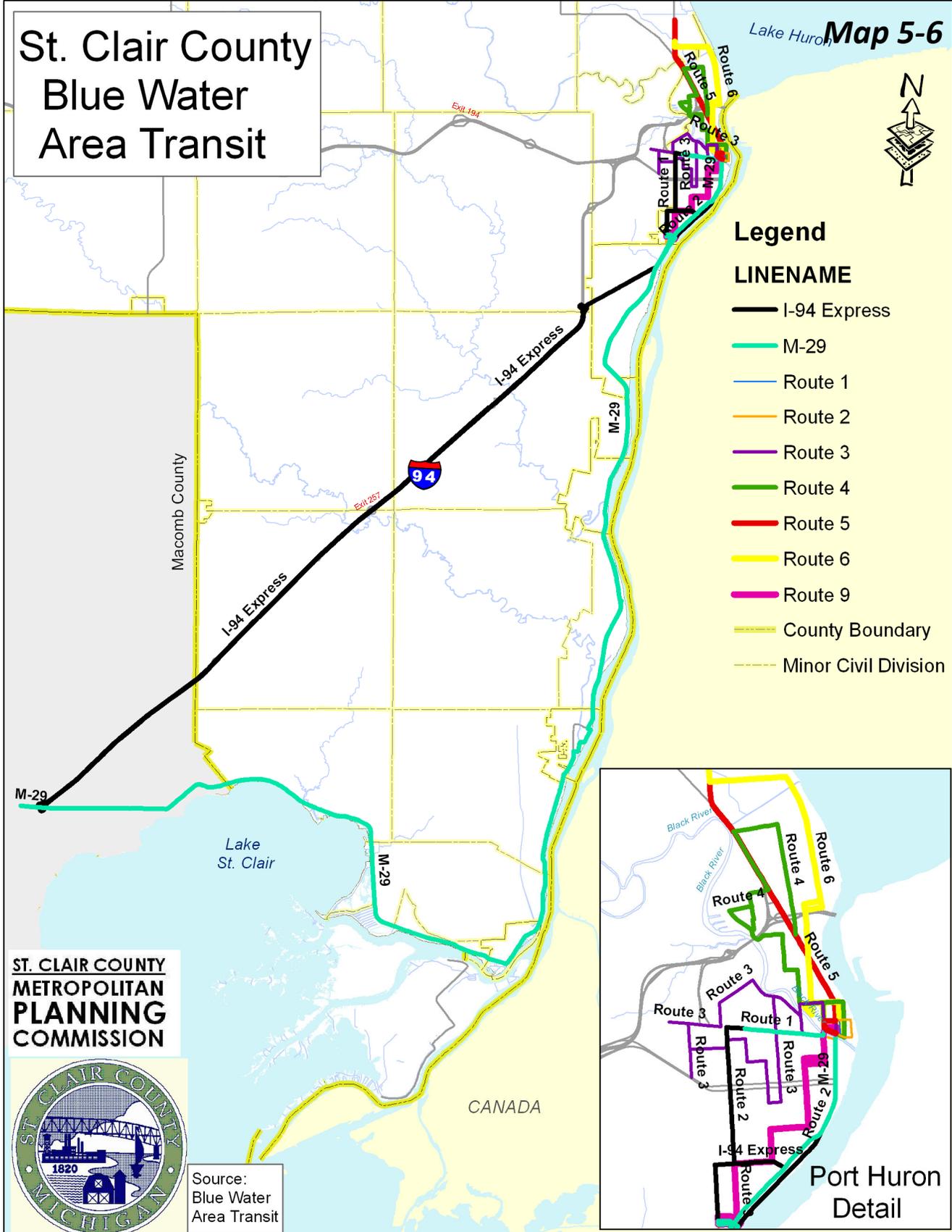
Map 5-6



Legend

LINENAME

- I-94 Express
- M-29
- Route 1
- Route 2
- Route 3
- Route 4
- Route 5
- Route 6
- Route 9
- County Boundary
- Minor Civil Division



ST. CLAIR COUNTY
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Source:
Blue Water
Area Transit

also links up with the Suburban Mobility Authority for Regional Transportation (SMART) buses so commuters can make a connection to their final destination in Southeast Michigan and/or downtown Detroit. This route is called the I-94 Express Route. It has 4 stops in St. Clair County before reaching its final destination at 23 Mile Rd. and Gratiot. Commuters can also take the M-29 Route that will take customers to New Baltimore, in Macomb County.

Transfer Center

In 2011, BWATC was awarded \$6,860,000 by the Federal Government and \$1,715,000 by the State of Michigan to construct a modern passenger transfer center in downtown Port Huron. The award was won through a national competitive grant program. The center will be located in the area now occupied by the McMorran Sport and Entertainment Complex south parking lot. The project has passed all environmental reviews and construction is planned for the spring of 2014.

Fares and Schedule of Services

The base fare for regular bus service, which includes the shopper shuttle and dial-a-ride services, is 75 cents. Discount fares are offered to children, seniors and limited mobility customers and are detailed below:

- ⇒ Children under 5 ride free
- ⇒ Children (ages 6-17) - 60 cents
- ⇒ Seniors (ages 65 and up and those with valid Medicare Card) - 35 cents
- ⇒ ADA riders - 35 cents

Monthly passes (Go-As-You-Please) are available for a \$25.50 fee. The monthly pass entitles the transit rider to unlimited travel on the BWATC system. Regular route and Dial-A-Ride services are available Monday through Friday from 6:15 a.m. to 11:00 p.m. and Saturday from 7:45 a.m. to 11:00 p.m. Routes 2 and 5 also operate extended late night service on Friday and Saturday. These routes run until 3 a.m. Saturday and Sunday Mornings.

The I-94 Express Route operates Monday through Friday beginning at 6:15 a.m. and ending at 7:15 p.m. The M-29 North & South operates Monday through Friday beginning at 6:40 a.m. and ending at 7:35 p.m.

Ridership

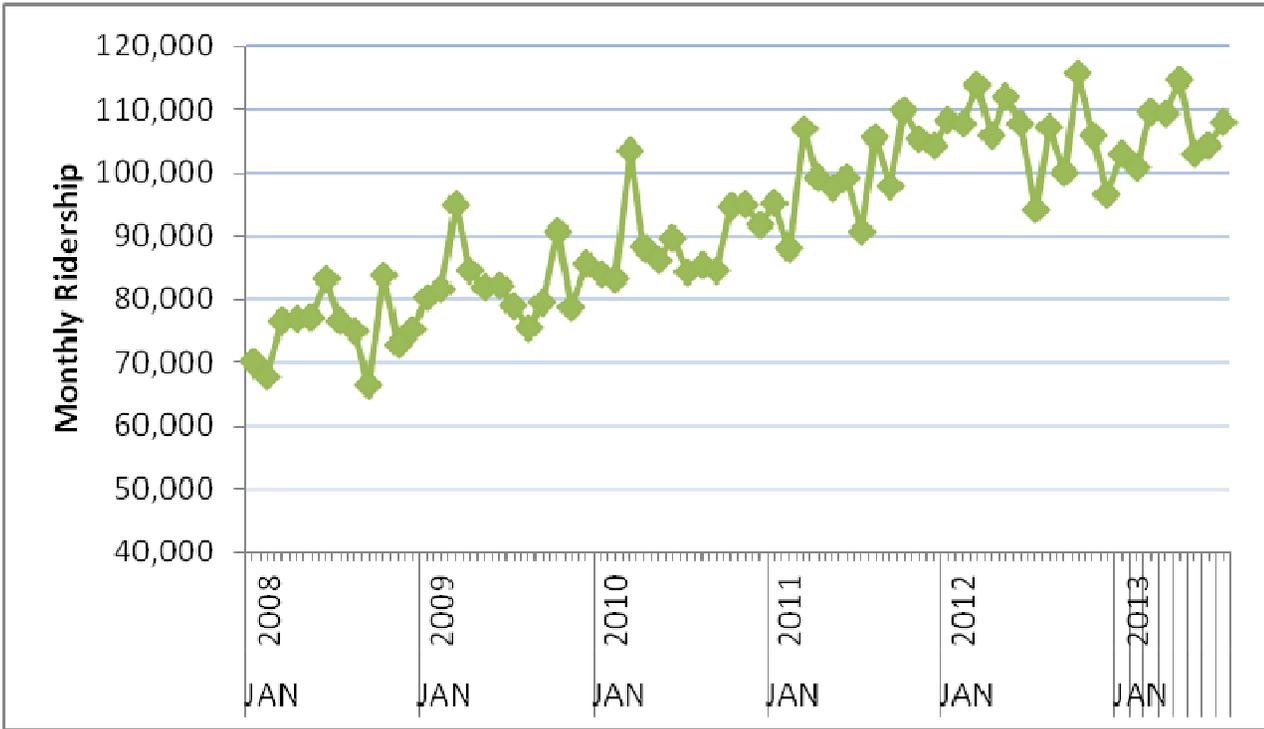
BWATC ridership has steadily increased every year since 2002. Ridership took a big spike in 2011 as a couple months were approaching 110,000 monthly riders. A significant portion of this increase is attributed to spikes in fuel costs and the beginning of the Job Access Reverse Commute (JARC) service. Figure 5-4 displays the monthly transit ridership between 2008 - 2013.

In 2012, the BWATC transported nearly 1,276,000 passengers. This was an increase of about 5.9% over 2011 ridership totals. Of this total, almost 781,700 (or, approximately 61%), were

Table 5-10: BWATC Ridership by Service Type (October 2007- August 2013)

B.W.A.T.C. RIDERSHIP FIGURES											
Month	Year	PH & B'Ville Marys	Pt. Huron Special Needs	Fixed Routes	Ft. Gratiot Dial-a Ride	All Trolley	Arc CMH YMCA	JARC System	JARC Regional	Sub Total	Grand Total
OCT	2007	5,105	4,360	45,036	2,453	1,321	7,074	1,724		67,073	18,764,812
NOV	2007	4,911	4,402	43,867	2,368	0	6,966	2,982		65,497	18,770,309
DEC	2007	4,835	3,582	43,127	2,057	3,261	5,826	3,382		66,070	18,836,379
JAN	2008	5,486	3,922	47,070	2,361	194	7,907	3,563	65	70,268	18,906,647
FEB	2008	5,525	3,674	46,194	2,370	0	6,143	3,374	617	67,897	18,974,544
MAR	2008	5,624	3,700	49,101	2,461	4,135	7,075	3,954	663	76,713	19,051,257
APR	2008	6,674	3,531	50,760	2,605	0	8,294	4,179	742	76,785	19,128,042
MAY	2008	6,329	3,888	50,157	2,849	1,718	7,820	3,460	1,005	77,026	19,205,068
JUNE	2008	6,544	4,106	50,043	2,504	7,233	7,204	4,524	1,177	83,335	19,288,403
JULY	2008	6,075	3,654	42,666	2,599	8,127	7,063	4,821	1,473	76,469	19,364,872
AUG	2008	6,252	3,949	48,331	2,523	1,803	6,857	3,896	1,491	75,102	19,439,974
SEPT	2008	5,397	3,550	43,079	2,218	491	7,268	3,447	1,022	66,454	19,506,428
OCT	2008	6,811	4,081	54,610	3,125	358	9,726	3,778	1,249	83,738	19,590,166
NOV	2008	5,168	3,516	47,269	1,544	0	10,668	3,642	1,047	72,822	19,662,988
DEC	2008	5,036	3,671	45,419	1,590	3,607	10,076	4,613	1,232	75,244	19,738,232
JAN	2009	5,624	3,833	51,898	1,483	323	12,264	3,807	1,114	80,346	19,818,578
FEB	2009	5,644	3,596	51,732	1,607	205	13,452	4,091	1,229	81,556	19,900,134
MAR	2009	5,650	4,091	58,691	1,768	4,890	13,432	4,744	1,610	94,876	19,995,010
APR	2009	5,351	3,922	55,189	2,356	16	11,569	4,809	1,389	84,601	20,079,611
MAY	2009	4,953	3,902	51,918	2,449	1,839	11,502	3,692	1,520	81,956	20,161,567
JUNE	2009	4,951	4,308	50,755	2,705	56	9,717	4,470	1,746	82,136	20,243,703
JULY	2009	5,544	4,246	50,589	2,650	2,024	7,720	4,440	1,663	78,676	20,322,579
AUG	2009	5,285	4,327	48,008	2,542	1,839	7,821	4,319	1,677	75,418	20,397,997
SEPT	2009	5,129	3,614	49,367	2,641	811	11,964	4,500	1,595	79,621	20,477,618
OCT	2009	5,606	2,871	56,155	2,659	369	17,083	4,205	1,847	90,836	20,568,454
NOV	2009	4,985	2,285	49,714	2,409	24	13,387	4,213	1,779	78,796	20,647,250
DEC	2009	4,964	2,630	53,356	2,592	2,086	13,162	5,215	1,679	85,648	20,732,898
JAN	2010	4,935	2,626	53,079	2,191	71	14,884	4,642	1,512	83,940	20,816,838
FEB	2010	4,691	2,739	54,023	2,340	240	12,771	5,084	1,434	83,322	20,900,160
MAR	2010	5,116	3,434	60,832	2,764	4,645	17,305	7,802	1,666	103,564	21,003,724
APR	2010	5,044	2,917	55,807	2,554	13	14,279	5,875	1,748	88,238	21,091,962
MAY	2010	5,197	2,973	51,699	2,359	1,447	14,789	6,332	1,477	86,273	21,179,235
JUNE	2010	4,931	3,135	55,798	2,536	3,390	10,424	7,603	1,771	89,588	21,267,823
JULY	2010	5,256	3,310	52,622	2,274	2,235	9,720	7,167	1,712	84,296	21,352,119
AUG	2010	4,659	3,332	53,402	2,301	1,651	9,842	8,420	1,916	85,520	21,437,639
SEPT	2010	4,761	3,234	51,995	2,116	1,239	11,959	7,577	1,635	84,516	21,522,155
OCT	2010	4,966	2,951	57,557	2,360	178	16,908	8,067	1,651	94,638	21,616,793
NOV	2010	5,221	2,975	57,708	2,496	0	16,253	8,772	1,493	94,916	21,711,709
DEC	2010	5,039	3,043	58,541	2,316	131	11,319	9,903	1,431	91,723	21,803,432
JAN	2011	5,819	2,864	57,668	2,417	42	15,715	9,079	1,552	95,156	21,898,588
FEB	2011	5,360	3,060	55,001	2,328	0	12,129	8,931	1,374	88,183	21,986,771
MAR	2011	6,478	3,581	60,010	2,961	5,549	16,935	9,829	1,735	107,078	22,083,849
APR	2011	6,375	2,947	58,859	3,059	470	14,466	11,082	2,019	99,277	22,193,126
MAY	2011	5,909	2,997	57,284	2,830	567	16,510	9,617	1,899	97,613	22,290,739
JUNE	2011	5,646	3,338	59,767	2,858	3,112	12,285	10,146	1,886	99,158	22,389,897
JULY	2011	6,187	3,129	54,978	2,543	2,125	9,527	10,452	1,868	90,809	22,480,706
AUG	2011	6,445	3,430	65,461	2,591	2,344	11,576	11,674	2,086	105,607	22,586,313
SEPT	2011	6,333	2,889	60,969	2,531	544	13,133	9,538	1,906	97,876	22,684,189
OCT	2011	6,321	2,656	67,569	2,700	106	17,544	11,127	1,864	109,907	22,794,096
NOV	2011	6,195	2,638	64,224	2,985	156	16,217	11,106	1,927	105,448	22,899,544
DEC	2011	6,126	2,722	65,448	3,272	442	14,029	10,523	1,705	104,267	23,003,811
JAN	2012	6,234	3,245	65,517	3,242	8	16,788	11,591	1,781	108,406	23,112,217
FEB	2012	6,498	3,111	65,235	3,272	108	15,153	12,511	1,933	107,919	23,220,036
MAR	2012	7,075	2,612	69,404	3,428	0	16,382	13,093	2,040	114,034	23,334,070
APR	2012	6,355	2,944	65,291	2,827	406	13,311	12,657	2,058	105,849	23,439,919
MAY	2012	6,454	2,690	66,320	3,047	1,738	17,670	11,612	2,486	112,017	23,551,936
JUNE	2012	6,461	3,109	65,851	2,951	3,276	11,013	12,602	2,425	107,688	23,659,624
JULY	2012	5,106	3,289	57,991	2,759	1,317	10,669	10,976	2,117	94,224	23,753,848
AUG	2012	5,878	3,044	67,947	2,890	1,500	11,847	11,566	2,580	107,252	23,861,100
SEPT	2012	5,513	2,539	61,137	3,059	638	14,221	11,061	1,942	100,110	23,961,210
OCT	2012	6,239	2,898	69,875	3,239	287	18,253	12,591	2,364	115,746	24,076,956
NOV	2012	5,285	2,553	66,807	2,824	49	15,653	10,627	2,234	106,032	24,182,988
DEC	2012	4,887	2,455	60,347	2,598	504	13,062	10,922	1,929	96,704	24,279,692
JAN	2013	5,313	2,696	64,825	2,842	0	14,238	11,037	1,925	102,876	24,382,568
FEB	2013	5,205	2,503	64,609	2,636	95	13,029	10,993	1,880	100,950	24,483,518
MAR	2013	5,324	2,838	68,701	2,773	0	15,742	12,299	1,981	109,658	24,593,176
APR	2013	5,241	2,642	68,410	2,731	332	16,097	11,749	2,285	109,487	24,702,663
MAY	2013	5,355	2,713	69,978	2,952	2,085	17,262	11,893	2,450	114,688	24,817,351
JUNE	2013	4,622	2,733	65,036	2,748	2,773	10,473	12,317	2,289	102,991	24,920,342
JULY	2013	4,646	3,069	64,558	2,644	2,994	11,427	12,458	2,483	104,277	25,024,819
AUG	2013	5,492	3,219	66,390	3,011	2,488	11,172	11,942	2,350	106,064	25,132,583

Figure 5-4: Blue Water Area Transit Ridership (2008-2013)



Source: Blue Water Area Transit Commission, 2014

passengers using the fixed-route system. This percentage is down slightly from previous years when approximately 66% to 67% passengers used the fixed-route service.

Ridership figures for early 2013 (January to August) indicate a similar trend in transit ridership. Comparing ridership totals between January and August (2012 vs. 2013) shows a near .5% decrease. Table 5-10 summarizes the ridership by service type.

Funding and Revenue Sources

There are several funding and revenue sources that enable BWATC to operate its services including:

- ⇒ Federal: BWATC receives both capital and operating assistance from the FTA Urbanized Area Formula Program.
- ⇒ State and Local: BWATC receives capital assistance from state gasoline taxes. Operating assistance comes from both state gasoline taxes and local community property taxes.
- ⇒ Fare Revenue and Purchased Transportation Revenue: BWATC receives fare revenue from both directly operated and purchased transportation services.

The total revenues and expenses between 2009 and 2012 are summarized in Table 5-11.

Table 5-11: BWATC Revenues and Expenses (2009-2012)

Revenues	2012	2011	2010	2009
Urban	\$6,788,943	\$6,784,164	\$6,251,095	\$6,348,393
Non-Urban	\$2,754,429	\$2,722,635	\$2,538,439	\$2,336,304
JARC	\$1,190,647	\$1,192,946	\$1,036,407	\$1,035,393
Expenses	2012	2011	2010	2009
Urban	\$6,297,688	\$6,214,314	\$5,559,764	\$5,717,649
Non-Urban	\$2,664,599	\$2,601,840	\$2,494,026	\$2,266,448
JARC	\$1,051,060	\$1,051,060	\$943,227	\$955,508

Source: Blue Water Area Transit Commission, 2014

Non-motorized Facilities

Non-motorized facilities, which include bicycle facilities and pedestrian walkways, are an important component of the St. Clair County transportation system. Non-motorized facilities are primarily used for recreational purposes, but for some individuals, bicycling may be used for commuting to work, shopping, or other trip purposes. The addition of bicycle racks on the BWATC buses allows non-motorized users greater mobility throughout St. Clair County as portions of a trip can be completed either by bicycle or bus. The following summarizes the existing St. Clair County non-motorized facilities.

Existing Facilities

There are currently two primary non-motorized trails within St. Clair County. They are the Wadhams-to-Avoca Trail and the Bridge-to-Bay Trail. The Wadhams-to-Avoca Trail is a rail-trail, located on property owned by the County. The St. Clair Parks and Recreation Commission (PARC) is responsible for construction and maintaining the trail as a County Park.

The Bridge-to-Bay Trail is a combination of side paths, paved shoulders and rail-trail segments. This trail is located on a combination of public road ROW's, public property and easements on privately held land. St. Clair County PARC helps to plan and promote the trail but each local unit of government is responsible for constructing their trail section. Even though St. Clair County PARC plays an instrumental coordinating role in the development of the Bridge-to-Bay Trail, the property that makes up that trail is owned by various municipalities and townships.

Most trail construction projects are funded by grants while St. Clair County PARC usually helps to fund the local match requirements. The Bridge-to-Bay Trail extends from St. Clair County's northern border, under the Blue Water Bridge, through Port Huron, Marysville, St. Clair, Marine City, and Algonac, and past state and municipal parks, museums, gazebos, and lighthouses. Occasionally the trail is within reach of the water's edge and at other times extends a few miles

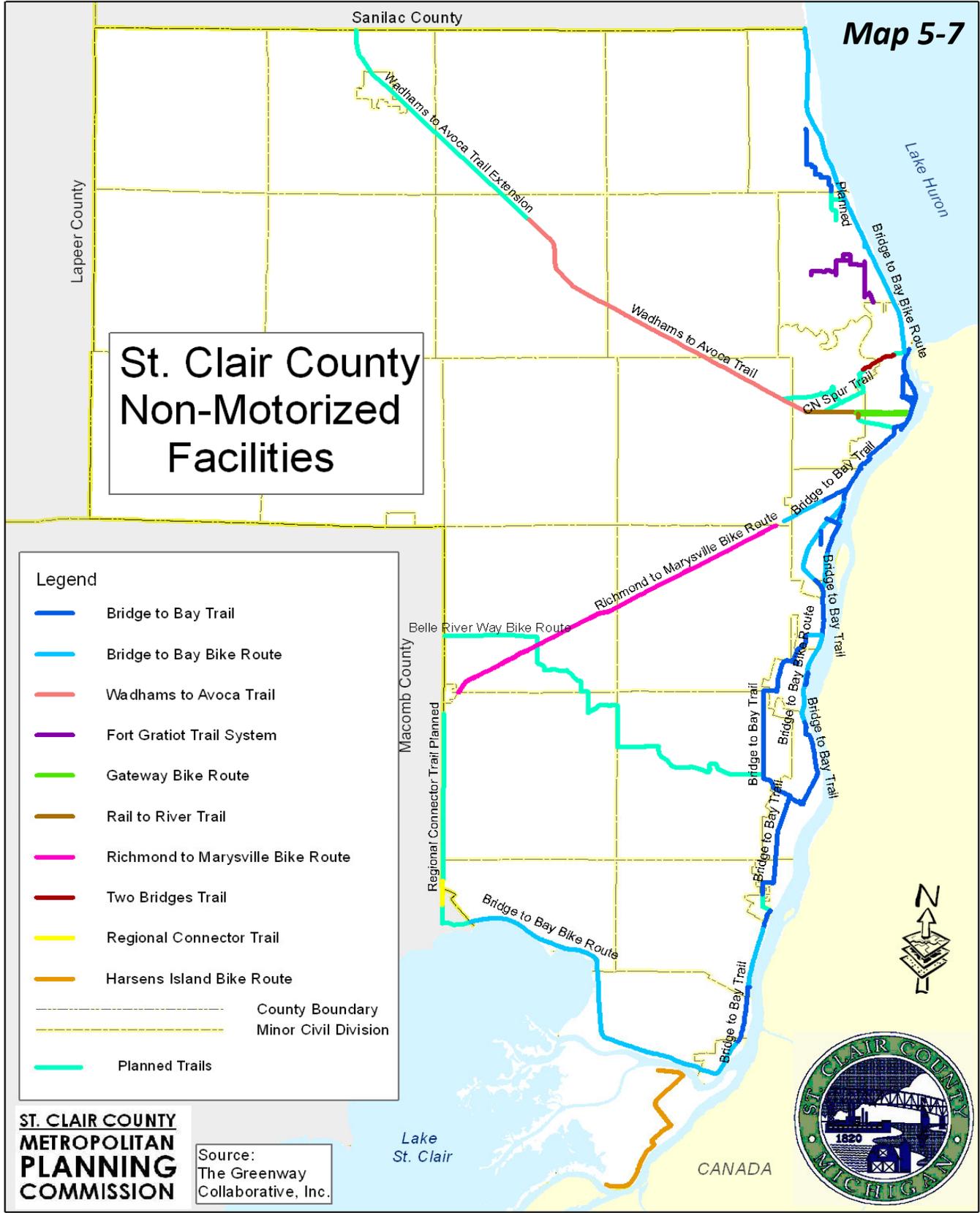
St. Clair County Non-Motorized Facilities

Legend

- Bridge to Bay Trail
- Bridge to Bay Bike Route
- Wadhams to Avoca Trail
- Fort Gratiot Trail System
- Gateway Bike Route
- Rail to River Trail
- Richmond to Marysville Bike Route
- Two Bridges Trail
- Regional Connector Trail
- Harsens Island Bike Route
- County Boundary
- Minor Civil Division
- Planned Trails

ST. CLAIR COUNTY METROPOLITAN PLANNING COMMISSION

Source:
The Greenway Collaborative, Inc.



Map 5-8

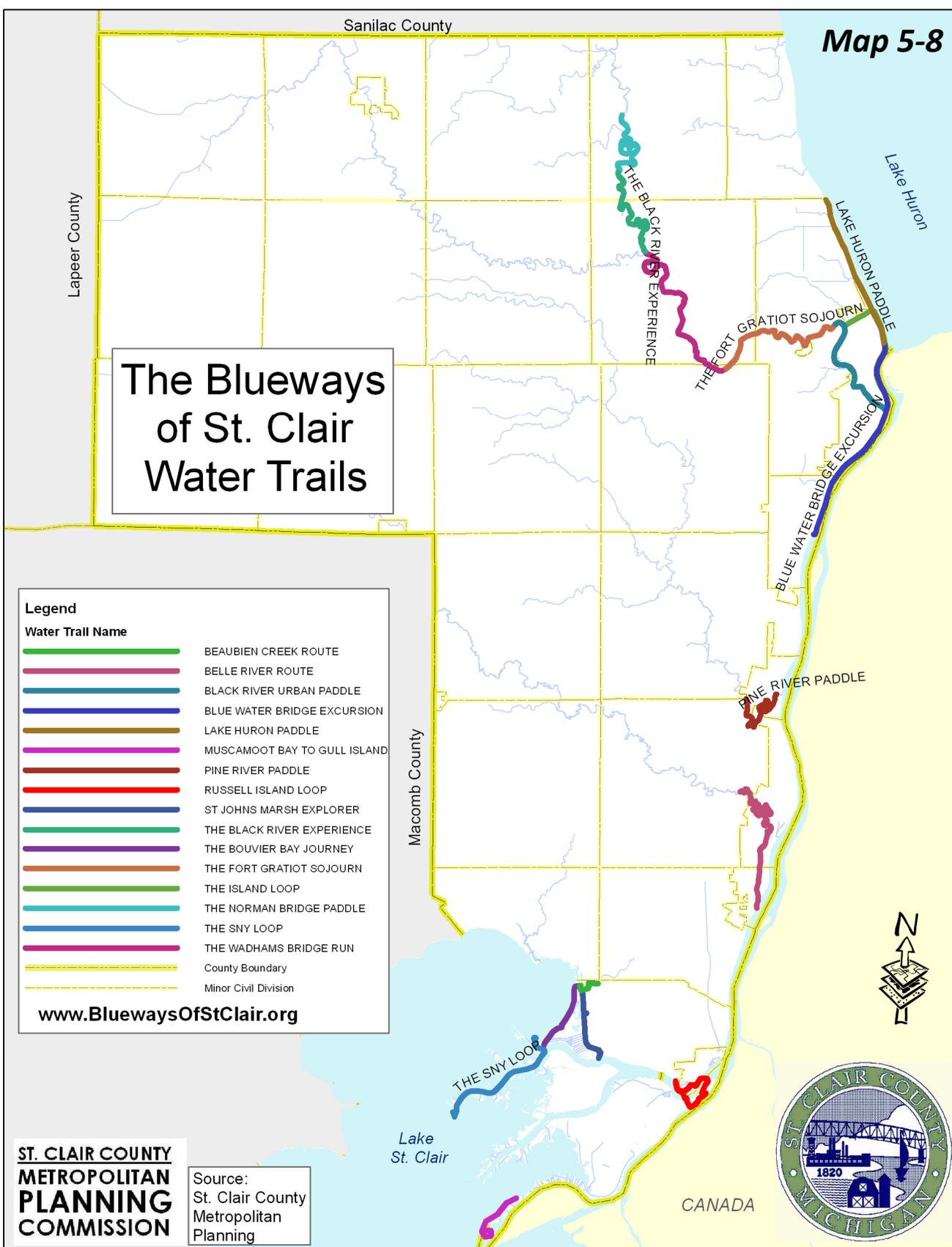
The Blueways of St. Clair Water Trails

Legend

Water Trail Name

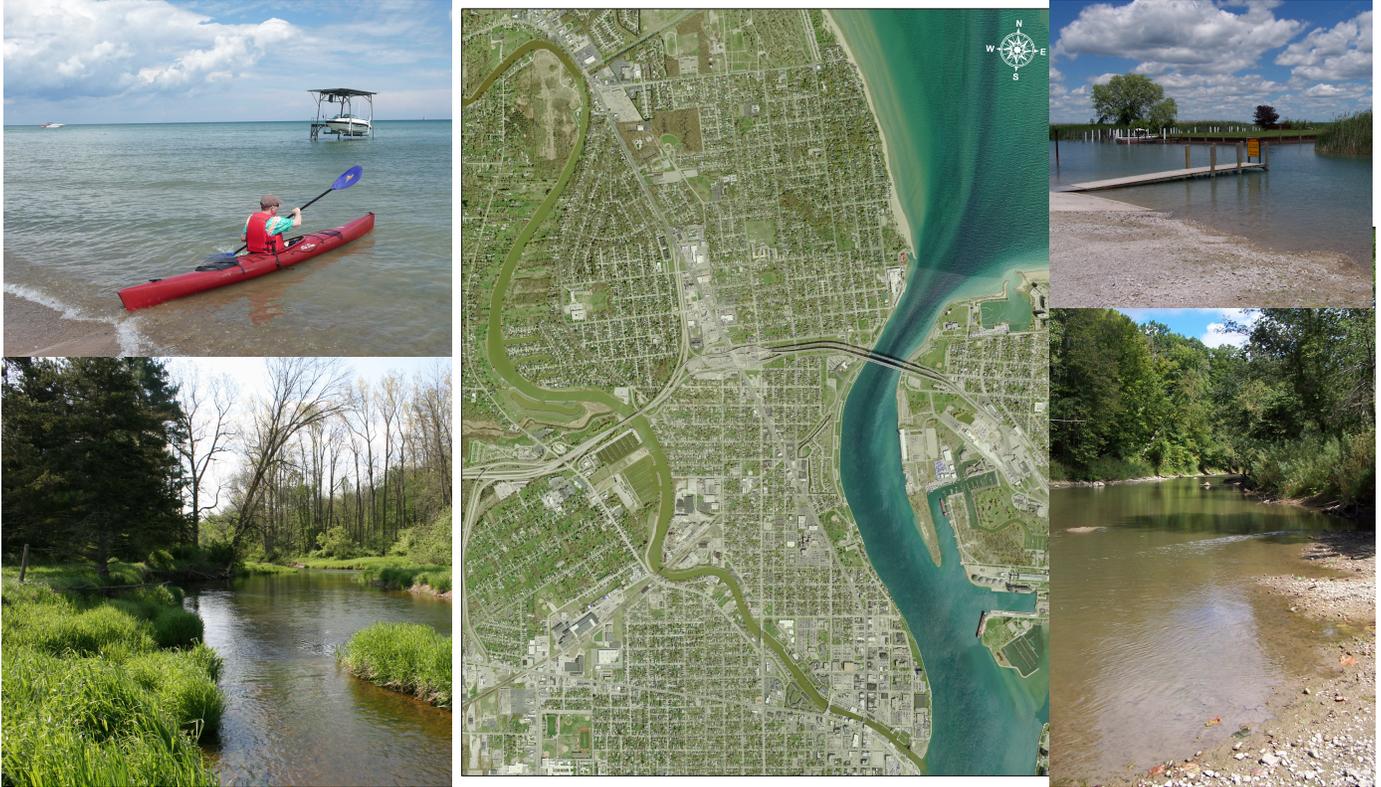
- BEAUBIEN CREEK ROUTE
- BELLE RIVER ROUTE
- BLACK RIVER URBAN PADDLE
- BLUE WATER BRIDGE EXCURSION
- LAKE HURON PADDLE
- MUSCAMOOT BAY TO GULL ISLAND
- PINE RIVER PADDLE
- RUSSELL ISLAND LOOP
- ST JOHNS MARSH EXPLORER
- THE BLACK RIVER EXPERIENCE
- THE BOUVIER BAY JOURNEY
- THE FORT GRATIOT SOJOURN
- THE ISLAND LOOP
- THE NORMAN BRIDGE PADDLE
- THE SNY LOOP
- THE WADHAMS BRIDGE RUN
- County Boundary
- Minor Civil Division

www.BluewaysOfStClair.org



ST. CLAIR COUNTY METROPOLITAN PLANNING COMMISSION

Source:
St. Clair County
Metropolitan
Planning



The Blueways of St. Clair is a comprehensive system of 16 water trails across 9 different bodies of water. In 2013, the National Park Service designated the Island Loop Route as a National Water Trail - the first National Water Trail in Michigan and one of only 14 in the United States.

inland. The trail connects communities together for walkers, joggers, strollers, and bicyclists of all ages. The Bridge-to-Bay Trail can potentially link to the Wadhams-to-Avoca Trail within St. Clair County, the Discover Michigan Trail, the Macomb Orchard Trail (ending just west of the St. Clair County Line in Richmond), and – via ferry – the St. Clair Parkway Trail in Lambton, Ontario, Canada. Map 5-7 displays the existing non-motorized facilities.

Non-motorized Studies

As mentioned in the 2035 Long Range Plan, St. Clair County has done significant work to improve the overall countywide non-motorized network. The St. Clair County Parks and Recreation Commission (PARC) worked closely with The Greenway Collaborative, Inc. to complete several detailed planning studies, including:

- ⇒ St. Clair County Non-motorized Guidelines
- ⇒ St. Clair County Trails and Routes Action Plan
- ⇒ Bridge to Bay Sign Alternatives

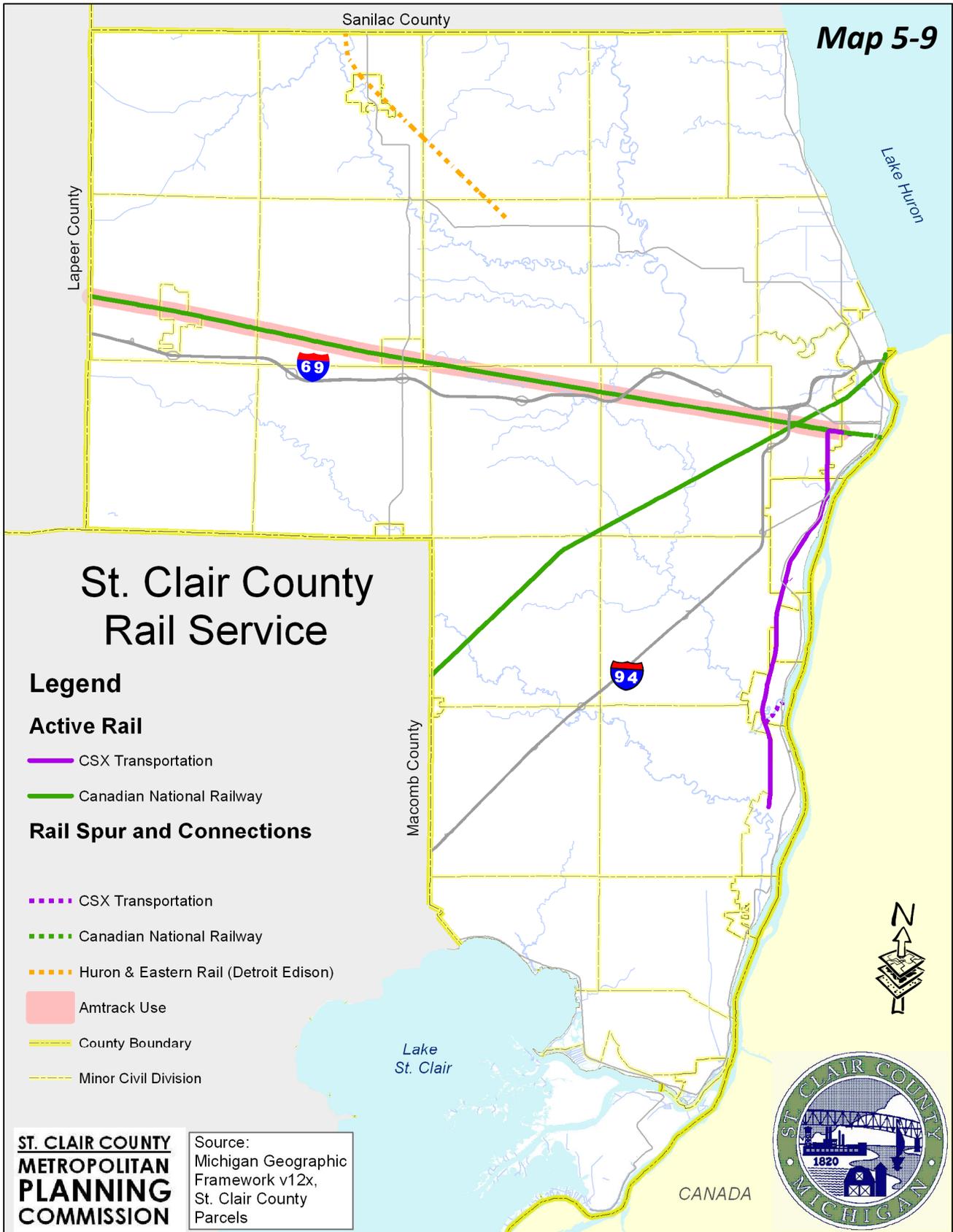
The Southeast Michigan Council of Governments (SEMCOG) is working on developing a Regional Non-Motorized Plan, and MPC Staff has been involved in the development of this plan. This plan will be a compilation of all non-motorized plans, recreation plans, complete streets plan, etc

and will be a part of SEMCOG's Regional Transportation Plan. This plan will analyze where there are gaps in the non-motorized transportation system and offer suggestions and priorities.

In 2012, PARC completed the St. Clair County Recreation Master Plan, which outlines the program goals that the Parks and Recreation Commission will pursue over the next five years and lists the strategies that the Commission will use to achieve those goals. Greenways and Blueways projects include the following:

- ⇒ Connect the Bridge-to-Bay Trail to Fort Gratiot County Park, which includes a safe M-25 pedestrian crossing at Metcalf Rd.
- ⇒ Research opportunities and pursue grant funding to expand and connect existing non-motorized trail segments including:
 - Extending the Wadhams-to-Avoca Trail to the City of Yale;
 - Connecting the Bridge-to-Bay Trail to the Wadhams-to-Avoca Trail in Port Huron and Port Huron Township;
 - Developing a Griswold Road trailhead where the Wadhams-to-Avoca and Bridge-to-Bay trails connect;
 - Connecting the Bridge-to-Bay Trail to the Macomb Orchard Trail (Great Lake-to-Lake Trail);
 - Connecting to other trails owned by neighboring counties; and
 - Consider acquiring abandoned railroad rights-of-way for future trails.
- ⇒ Work with local units of government in completing the Bridge-to-Bay Trail by providing technical assistance and financial support for the required local matching funds for acquisition and development grants.
- ⇒ Implement the Bridge-to-Bay Trail Uniform Signage program in phases.
- ⇒ Work with transportation agencies to provide non-motorized access to trail, parks and greenways consistent with the St. Clair County Non-motorized Guidelines.
- ⇒ Continue to work in concert with the St. Clair County Community Foundation and the St. Clair County Road Commission on the development of the Blue Water Riverwalk at Desmond Landing.
- ⇒ Work with appropriate agencies and stakeholders to implement the Regional Trails and Greenways Vision for St. Clair County and the Southeast Michigan Greenways Plan.
- ⇒ Continue to develop and promote the Blueways of St. Clair and identify funding opportunities to install informative and wayfinding Blueways signage throughout the County.
- ⇒ Collaborate with local units of government to increase the number of canoe/kayak launches along the Blueways.
- ⇒ Work to increase ADA compliance along all trail routes.
- ⇒ Continue to make improvements to the Wadhams-to-Avoca Trail including, but not limited to:
 - Vegetating the gravel shoulders on paved sections of the Wadhams-to-Avoca Trail;

Map 5-9



- Parking lots and trailheads as needed;
- Parallel bridle trails where feasible;
- Interpretive and information panels/kiosks; and
- Surfacing improvements as needed.

Rail Transport

CSX Transportation and CN North America Railroad provide Class I rail service to the County. The Class I rail routes in St. Clair County provide U.S. freight connections to Canada through the International Railroad Tunnel in Port Huron, as well as service to industrial sites throughout Michigan. In 2012, nearly 233,000 loaded containers and nearly 165,000 empty containers were shipped across the United States-Canadian border.

The CN North America's primary line runs east to west through the communities of Port Huron, Emmett, and Capac. CN North America also has a route through the communities of Columbus Township and Smiths Creek on a SW-NE Detroit line. The CSC line runs from Marine City through St. Clair, Marysville, and Port Huron. St. Clair County rail routes are depicted in Map 5-9.

Amtrak Passenger Rail Service

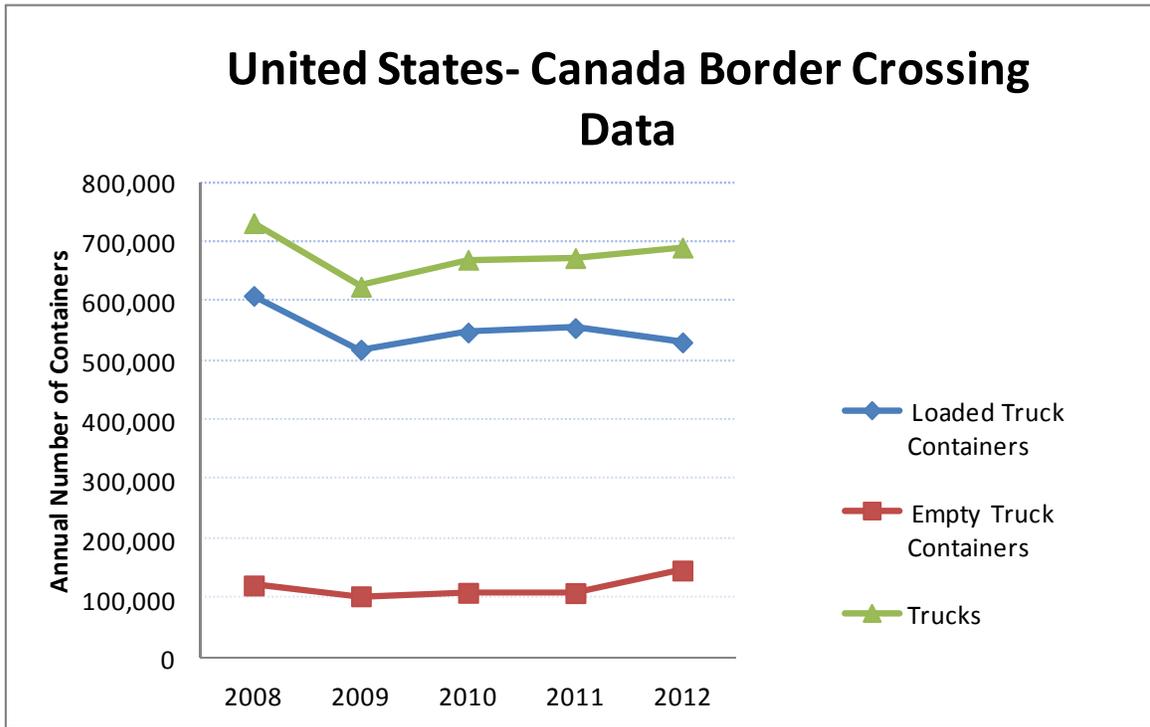
In addition to freight, the CN east-west route provides passage for Amtrak passenger rail service. The Port Huron depot station is the only scheduled stop in the County for daily round trip service between Port Huron and Chicago. And as this service continues to grow, more trips are likely to be added. The current Amtrak station is located on 16th Street in Port Huron and has a number of deficiencies that detract from the passenger experience and the functioning of the station itself.

Overall, the existing Amtrak station is inadequate to serve Amtrak passengers. The property on which the station is located is a narrow parcel that does not provide enough parking for passengers. Additionally, there is currently no connection to public transportation and there are further deficiencies from a security standpoint.

A collaborative group of community officials and local stakeholders have convened meetings to begin discussing the potential for developing a new Amtrak station to serve the Port Huron/St. Clair County area. Initial discussions have highlighted potential opportunities that a new Amtrak station could bring to the community. A likely location for a new station is the area between 24th Street and Michigan Street, at the site of the existing CN Tiffin Yard.

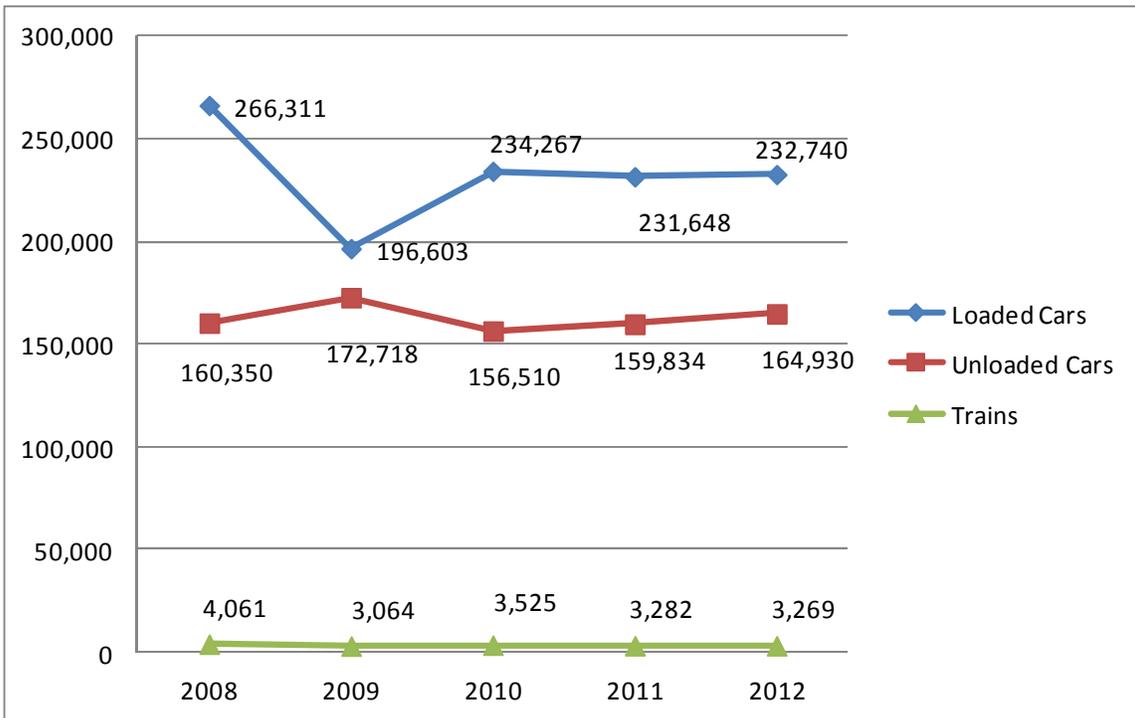
There is overwhelming community support for a new station that would be part of a larger development that would complement the services of the Amtrak station - amenities such as food, retail and hospitality services, potential for serving as a regional transportation center with connections to Blue Water Area Transit service, and other features that could make the new station part of a transit-oriented development (TOD). Both CN Railroad and Amtrak have taken

Figure 5-5: United States – Canada Border Crossing Data– Rail

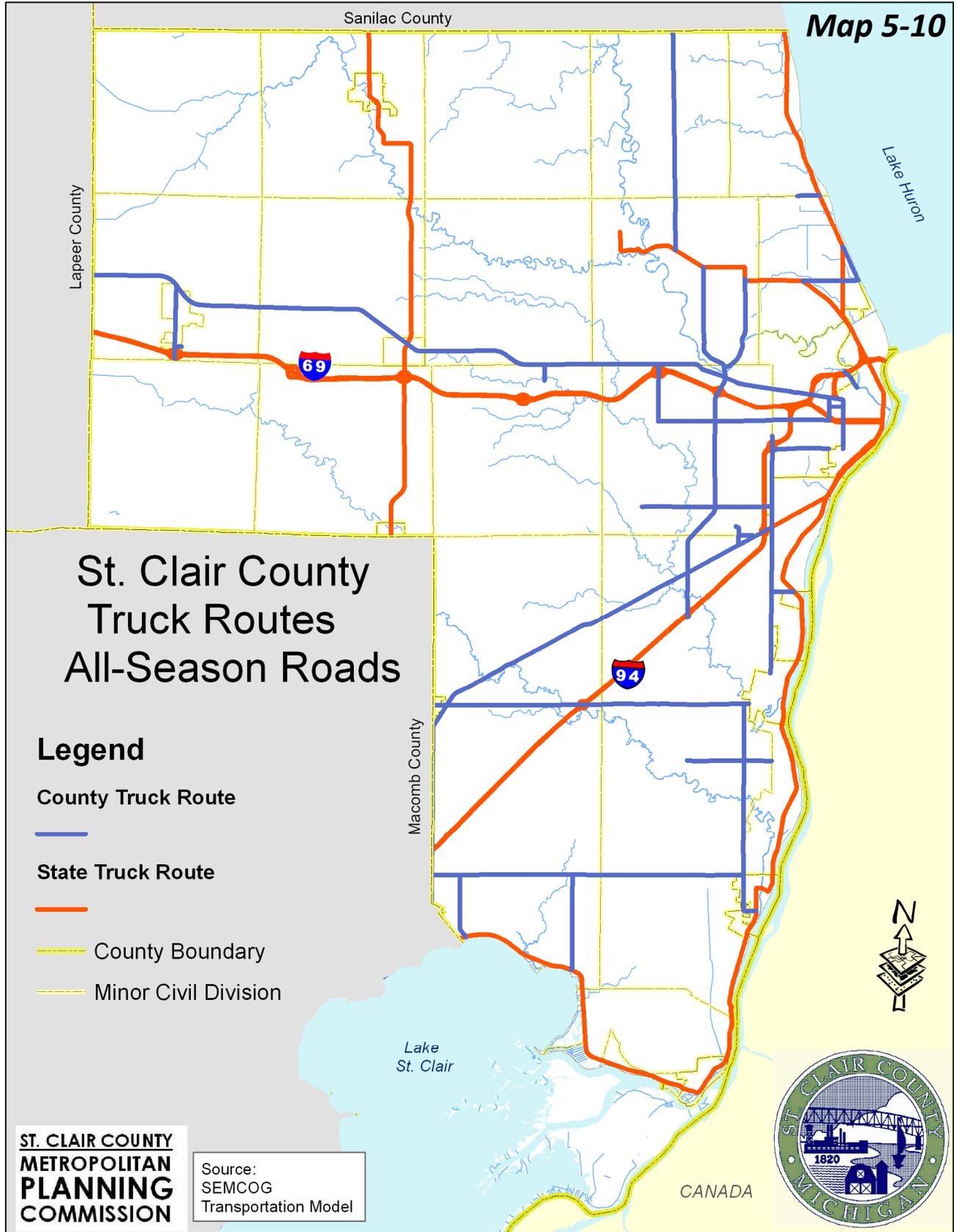


Source: MDOT

Figure 5-6: United States – Canada Border Crossing Data– Trucks/Freight



Source: MDOT



part in these initial discussions and are amenable to further discussions about a new location, development as a larger transportation center, and establishment of other retail and hospitality amenities that will provide additional economic development opportunities.

Freight Traffic

Southeast Michigan's unique geographic position, and specifically St. Clair County, forms an integral gateway to Canada, Chicago and the Midwest, Mexico, and beyond. Given the geography of the region, the efficiency of the transportation system is determined by the quality and effectiveness of the state and regional highway and road system as well as by the efficiencies at the international border crossings.

St. Clair County is likely to experience significant increases in truck volume due to its status as a U.S. port/border gateway. The additional volume will place greater pressure on the county's transportation network by trying to balance the concerns of freight companies with local commuters and tourists. Due to the changes in truck volume, MDOT has worked to improve the Blue Water Bridge Plaza and continues to work to improve the interstate in and around the Blue Water Bridge. Currently, they are improving the I-94/I-69 interchange and constructing a new Welcome Center.

Figures 5-5 and 5-6 display border crossing data between 2008 and 2012. Map 5-10 illustrates current truck routes as defined by MDOT, SEMCOG, and St. Clair County.

Port Facilities

There are four ports of entry between St. Clair County and Ontario, Canada:

- ⇒ Blue Water Bridge
- ⇒ International Railroad Tunnel
- ⇒ Marine City Ferry
- ⇒ Walpole Island Ferry

Blue Water Bridge

The Blue Water Bridge is a twin-span bridge that provides a crucial link for the long distance movement of goods to Chicago and other parts of the United States. Almost \$70 billion of trade is completed via the Blue Water Bridge. This bridge is the fourth busiest international crossing between Ontario and Michigan for total vehicles and the second busiest for truck crossings with over 3.5 million passenger cars and over 1.5 million trucks crossing annually. On a typical weekday, approximately 10,000 cars and 6,000 trucks use this facility. Additional freight information follows:

- ⇒ The Blue Water Bridge is the number one entry point for carriers of hazardous, radioactive and flammable materials between St. Clair County and Ontario, Canada, and the number two entry for those same materials in the United States.
- ⇒ 75% of the U.S bound trucks are through traffic to Michigan, Illinois, Indiana and Ohio.
- ⇒ 63% of the Canada bound trucks are through traffic coming from Michigan, Illinois,

Table 5-12: Existing ITS Elements in St. Clair County

Agency	ITS Element	Description
St. Clair County CRC	St. Clair County Traffic Operations (TOC)	Responsible for municipal signal system operations
	St. Clair County Traffic Signals	Multiple traffic signals interconnected and operated by St. Clair CRC
	St. Clair County Transit Center	Provides public transportation in St. Clair County
Blue Water Area Transit Commission (BWATC)	BWATC Transit Center	Provides public transportation in Port Huron and St. Clair County
	BWATC Transit Data Archive	The transit data archive for BWATC. Used by FTA and MDOT
	BWATC Transit Vehicles	Transit vehicles owned by BWATC
	BWATC Website	Website with information owned by BWATC
MDOT	MDOT Blue Water Bridge	The MDOT Blue Water Bridge Authority is responsible for construction
	MDOT Blue Water Bridge DMS	Dynamic message signs operated by a local agency to provide information to drivers such as lane closures due to a crash from weather
	MDOT Blue Water Bridge HAR	High advisory radio operated by MDOT Blue Water Bridge TOC to get information to drivers
	MDOT Blue Water Bridge Security Monitoring Field Equipment	Roadside equipment located on MDOT Blue Water Bridge routes used for monitoring key infrastructure elements from damage or attacks. These elements include structures such as bridges or dams.
	MDOT Blue Water Bridge TOC	The TOC is responsible for municipal signal system operations
	MDOT Blue Water Bridge Toll Plazas	Toll Collection used for the Blue Water Bridge
	MDOT Blue Water Bridge Website	Website information about fares and schedules

Source: SEMCOG

Table 5-13: SEMCOG ITS Deployment for St. Clair County

Agency	Project	Description
St. Clair County	AVL– St. Clair County	AVL for winter maintenance operations
MDOT	I-94: St. Clair County from Macomb County Line to Port Huron	Rural Deployment of freeway management system operations
MDOT	Facility integration with St. Clair County	Interconnect MITSC with St. Clair County

Source: SEMCOG,

Indiana and Ohio.

International Railroad Tunnel

The International Railroad Tunnel is 6,125 feet long and has a diameter of 31 feet. The tunnel can accommodate double-stacked container trains, multi-level auto carriers and other large rail cars and payloads. The tunnel significantly reduces transit times for rail traffic that, in the past, had to be barged across the river, as well as for container traffic between Halifax and Chicago, and the central U.S.

Ferry Service

- ⇒ The Marine City Ferry operates year-round between Marine City and Sombra, Ontario.
- ⇒ The Walpole Island Ferry provides year-round transport between Algonac and Wallaceburg, Ontario.
- ⇒ The ferry service from Algonac to Russell Island and Harsens Island is the only access to the island outside private boat and aircraft.

Aviation

The St. Clair County International Airport (SCCIA) primarily functions as a cargo airport providing 24-hour customs/immigration services. The SCCIA is equipped with Pilot Controlled Lighting, an Automated Weather Observation System and an Instrument Landing System. The SCCIA's primary runway is 5,103 feet long by 100 feet wide and the secondary runway is 4,100 feet long by 75 feet wide. Major roadways that serve the airport include I-94, I-69, and Gratiot Avenue.

Directly adjacent to the airport is the 80-acre St. Clair County Airport Industrial Park. This industrial park is geared towards attracting applied research and technology with 12,000-20,000 square foot facilities available. This location is considered ideal for corporate research and development, rapid prototyping, or related industrial activity due to the convenience of airport facilities for corporate and time sensitive logistics.

The Marine City Airport is a privately owned airport. The airport is classified as a general-utility airport. The I-94/26 Mile Road interchange is the closest major access point to serve this airport.

Intelligent Transportation Systems (ITS)

Fulfilling the commitment to make roadways safer and more efficient is no longer as simple as building new roads or expanding existing ones. These traditional methods are very expensive and sometimes carry adverse environmental and/or social impacts. Furthermore, congestion deficiencies are only one of many concerns that need to be addressed. Travelers throughout the Southeast Michigan region need accurate, up-to-date, and relevant road condition information in order to make the best decision for their trip.

Benefits



The benefits of ITS are significant. ITS can address a multitude of transportation issues while improving operations and maintaining safety in a cost effective manner. For example:

- There are reduced crashes and fatalities when vehicles are equipped with ITS components.
- The flow of traffic from one area to another can be optimized when using ITS applications.
- ITS traffic management systems can utilize permanent vehicle detection technologies in coordination with closed circuit television cameras (CCTV) to monitor the traffic conditions on the roadway.
- Fewer traffic stops and less congestion will translate into reduced fuel emissions.

In summary the benefits of utilizing ITS systems include:

- ⇒ Reducing delay and congestion
- ⇒ Reducing incident response time
- ⇒ Reducing travel time and variability in travel time
- ⇒ Improving available traveler information
- ⇒ Informing travelers of current weather and pavement conditions
- ⇒ Reducing the number of crashes and secondary crashes
- ⇒ Reducing emissions and fuel consumption
- ⇒ Improving roadway capacity
- ⇒ Improving traffic flow and travel speed

SEMCOG Region ITS Architecture

Development of a regional ITS architecture is an important step in planning and implementation of ITS in a region. In July 2007, MDOT, in partnership with SEMCOG, began an update of the SEMCOG Region ITS Architecture. In conjunction with the regional architecture update, the SEMCOG ITS Deployment Plan was developed to identify and prioritize specific ITS projects needed to implement the ITS architecture. The update of the SEMCOG Regional ITS Architecture and the development of the SEMCOG ITS Deployment Plan occurred with significant input from local, state, and federal officials. A series of workshops was held to solicit input from stakeholders and ensure that the plans reflected the unique needs of the region.

The update of the SEMCOG Region ITS Architecture, completed in November 2008, focuses on a 10-15 year vision of ITS for the Southeast Michigan region. This vision provides a high level plan that identifies the need for various services that ITS can provide and documents how ITS components can be integrated together. This regional ITS update provides a framework for implementing ITS projects, encourages interoperability and resource sharing among agencies, identifies applicable standards to apply to projects, and allows for cohesive long-range planning with all the regional stakeholders.

St. Clair County Existing/Planned ITS Systems



Table 5-12 provides a list of ITS elements in St. Clair County that are existing and planned based on inventory of ITS elements identified in the SEMCOG Regional ITS Architecture (November 2008). It should be noted that there may be ITS components not listed as they are part of a larger regional ITS initiative. For example, multiple traffic signals are listed as an ITS element that are interconnected and operated by MDOT.

ITS, or Intelligent Transportation Systems, refers to the application of a wide range of advanced technology that collects, processes and distributes information regarding the movement of people and goods. ITS utilizes electronics, computers, communications, and advanced sensors to collect and process data and ultimately provide travelers with important information aimed at improving safety and efficiency of the transportation system.

St. Clair County Deployment Plan Projects

The SEMCOG Region ITS Deployment Plan provides a sequence of ITS projects to implement the ITS services identified in the SEMCOG Region ITS Architecture. The plan identifies the geographic location of the projects, the technologies to be deployed, and timing of the deployment (i.e. short, medium, and long-term). Developing the list of projects for the deployment plan was based on input from the SEMCOG region and its stakeholders. Through a series of screening processes, an initial list of projects was developed which evolved into a final list of projects. Those final projects were analyzed with predetermined criteria and ultimately combined into a statewide ITS Investment Plan.

Based on the above process, a limited number of projects are proposed for St. Clair County, including a freeway management system along I-94 and integration of the MITSC with the Blue Water Bridge and St. Clair County (see Table 5-13). Projects that are under construction or funded projects are considered as existing deployments.



CHAPTER 6

TRAVEL DEMAND MODEL



IN THIS CHAPTER:

- ⇒ *TRAVEL DEMAND MODEL*
- ⇒ *NETWORK DEVELOPMENT*
- ⇒ *TRAFFIC ANALYSIS ZONES (TAZ)*
- ⇒ *TRIP GENERATION AND DISTRIBUTION*
- ⇒ *MODE SPLIT*
- ⇒ *TRAFFIC ASSIGNMENTS*
- ⇒ *CONGESTION ANALYSIS*

TRAVEL DEMAND MODEL

The following provides a brief summary of the St. Clair County travel forecasting model. The St. Clair County model is part of the larger regional model which is maintained by SEMCOG.

Network Development

The SEMCOG travel demand forecast model is a suite of applications run on personal computers using TransCAD, a windows-based urban transportation planning program. The major elements of this model mirror the series of decisions faced by travelers including: whether to make a trip (trip generation), which route to take (trip distribution), what mode to use (mode choice), and which route to travel (traffic assignment).

In direct relation to St. Clair County, the SEMCOG TransCAD computer model network is a representation of the St. Clair County roadway system. Roadways in the model network include all roads functionally classified as interstate, freeway, major arterial, minor arterial, collector and highway ramp. In some cases, local streets are included to provide additional detail and help the model respond logically.

Network Link Attributes

Map 6-1 illustrates the computer model network for St. Clair County. In the computer model, each of the streets and highways are described by a series of link attributes. The primary link attributes used in the TransCAD computer network are listed below.

- ⇒ Functional class
- ⇒ Area type
- ⇒ Daily capacity
- ⇒ Link speeds in miles per hour
- ⇒ Number of lanes

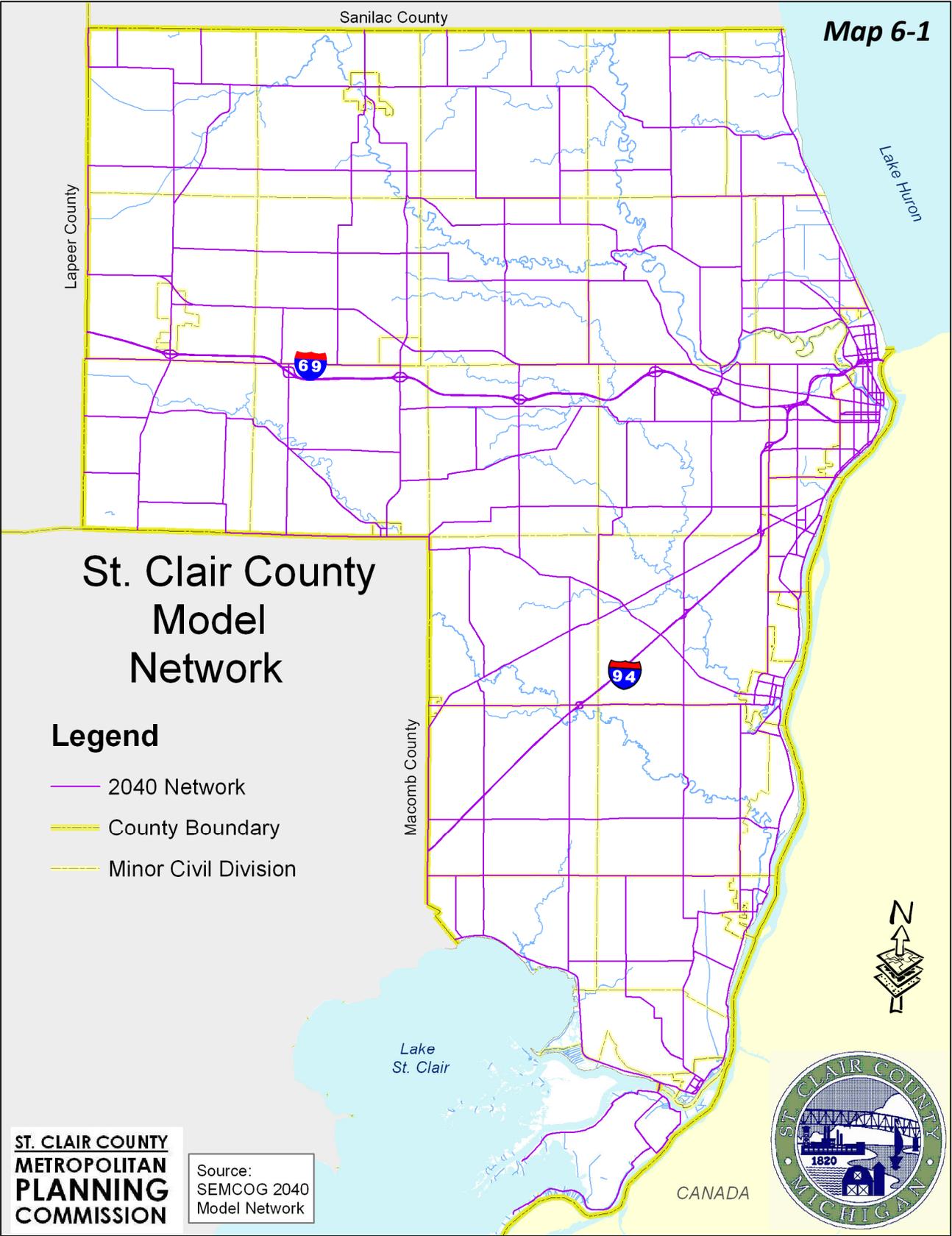
Socioeconomic Data

Socioeconomic data (number of households, total employment and square footage of employment centers) for the year 2010 base calibration were provided by SEMCOG. Model methodology data is documented fully in SEMCOG's report entitled *SEMCOG Travel Model Documentation Final Report*. SEMCOG's trip generation module is a specially developed module that allows the approved SEMCOG land use assumptions to be aggregated to the Traffic Analysis Zone (TAZ) level (see Map 6-2).

Traffic Analysis Zones

St. Clair County is subdivided into 186 internal Traffic Analysis Zones (previously illustrated in Map 6-2). In addition, there are 20 external stations on major highways and roads entering the County. The TAZ and stations represent the basic units for which trip making behavior is

Map 6-1



St. Clair County Model Network

Legend

- 2040 Network
- County Boundary
- Minor Civil Division

ST. CLAIR COUNTY METROPOLITAN PLANNING COMMISSION

Source: SEMCOG 2040 Model Network





estimated. TAZ boundaries were originally established by SEMCOG based on the following parameters:

- ⇒ Constructed restrictions to travel/access, which include — railroad tracks, major roadway facilities and access to the regional system for various developments.
- ⇒ Natural restrictions to travel/access, which include — rivers, creeks and topography which impact development patterns, etc.

No further refinement to the TAZ boundaries was made to the St. Clair County sub-area model for purposes of the St. Clair County Long Range Transportation Plan.

Trip Generation

Socioeconomic data was aggregated at the TAZ geography level by SEMCOG based on SEMCOG's latest household survey data set. Trip generation was performed for the following trip purposes:

- ⇒ Home-Based Work (HBW)
- ⇒ Home-Based Shopping (HBSH)
- ⇒ Home-Based School (HBSC)
- ⇒ Home-Based Other (HBO)
- ⇒ Home-Based University (HBU)
- ⇒ Non-Home-Based Work (NHBW)
- ⇒ Non-Home Based Other (NHBO), which are trips with neither end at an origin or destination at a person's home. For example, a trip from a daycare center to a restaurant for lunch is a non-home based other trip.
- ⇒ Air Passenger Trips, which are trips with one end at home and one end at the Detroit Metropolitan Airport (DTW).

For example, if a person stops at a day care center on the way to work in the morning, the portion of the trip from home to the day care center is a home-based other (HBO) trip. The portion of the trip from the day care center to work is a non-home based work (NHBW) trip, even though the primary reason for traveling was to go to work. The travel model is not able to replicate trips with an intermediate stop.

Estimates of the number of internal trips in each of the trip purposes was accomplished within the trip generation module. In application, the trip generation module estimates 'ends' of the eight trip purposes as Trip Productions or Trip Attractions at the TAZ level as summarized in Table 6-1.

Trip Definition

Travel affecting a planning area is basically composed of two types:

- ⇒ **Internal** trips that begin and end wholly within the area which are also known as Internal to Internal (I-I) trips.
- ⇒ **External** trips that have at least one end or both ends outside the area.

External trips are further broken down into:

- ⇒ **External Local** which are external trips that have one end, either origin or destination, outside the area. These are also known as External to Internal (E-I) and/or Internal to External (I-E) trips.
- ⇒ **External Through** which are external trips that have both ends outside the area. These are also known as External to External (E-E) trips.

Typically, internal trips comprise approximately 75 to 80 percent of total area travel while external trips comprise the remaining 20 to 25 percent of total area travel.

Internal Trips

For the trip generation phase of travel model development, internal trips are:

- ⇒ **Home Based Work (HBW)**, which are trips with one end at home and one end at the work place. These are also known as Home-to-Work or Work-to-Home trips.
- ⇒ **Home Based Shopping (HBSH)**, which are trips with one end at home and one end at a shopping place.
- ⇒ **Home Based School (HBSC)**, which are trips with one end at home and one end at a school.
- ⇒ **Home Based Other (HBO)**, which are trips with one end at home and one end at a non-work place. For example, a trip from home to a recreational facility is a home-based other trip. These are also known as Home-to-Other or Other-to-Home trips.

Table 6-1: Trip Ends

Trip Purpose	Trip Production	Trip Attraction
HBW	Home End	Work Place End
HBSH	Home End	Shopping End
HBSC	Home End	School End
HBU	Home End	University End
HBO	Home End	Non-Work End
NHBW	Non-Home End	Work End
NHBO	Non-Home End	Non-Home End
Air Passenger Trips	Home End	Airport End

- ⇒ **Home Based University (HBU)**, which are trips with one end at home and one end at a regional college or university.
- ⇒ **Non-Home Based Work (NHBW)**, which are trips with neither end at an origin or destination at a person's home and one end at work. For example, a trip from a restaurant to work after lunch is a non-home based work trip.

The trip generation module assumes HBW and HBO trips with one end at home, regardless of actual direction, are **produced** at the home end. For these trips, the work place or non-work place ends at the point where they were **attracted**.

Table 6-2 summarizes the 2010 and 2040 estimates for each of the independent variables included in the trip generation module.

Trip Distribution

Trip distribution is the process through which the productions are allocated to and attractions are collected from other TAZ within St. Clair County, and the surrounding counties. Person trips within the study area were distributed from their production zone to all other attraction zones through application of the destination choice model. The destination choices model was used to predict travel between zones. The variables employed in the destination choice model were income, zonal access time, distance between zones, and size of attractions. All internal trip purposes were developed with three separate gravity models. Generally, a person's willingness to travel a specific distance varies by trip purpose. People are generally more willing to travel further distances each day for work than they are for daily shopping, school, or recreational trips. With the various levels of willingness to travel a certain distance, a different trip distribution is completed for each of trip purpose.

Mode Split

The trip generation methodology produces person trips for the internal portions of the study area while the final product of the modeling application is daily vehicle trips. Thus, a mode split analysis is completed to convert vehicle trips from the person trip table into auto, bus-auto access and bus trips. The primary application of the St. Clair County travel model for the LRTP was to identify 2035 daily roadway volumes. A detailed mode split analysis, to reflect a more detailed transit analysis, was not completed.

Traffic Assignments

During the traffic assignment process, the route a person takes for each trip is determined. An equilibrium assignment technique is applied in allocating daily vehicle trips to the roadway network. An iterative process of determining the shortest path for each trip is performed until travel demand is equal to travel supply.

Table 6-2. 2010 and 2040 Trip Generation Demographic Data

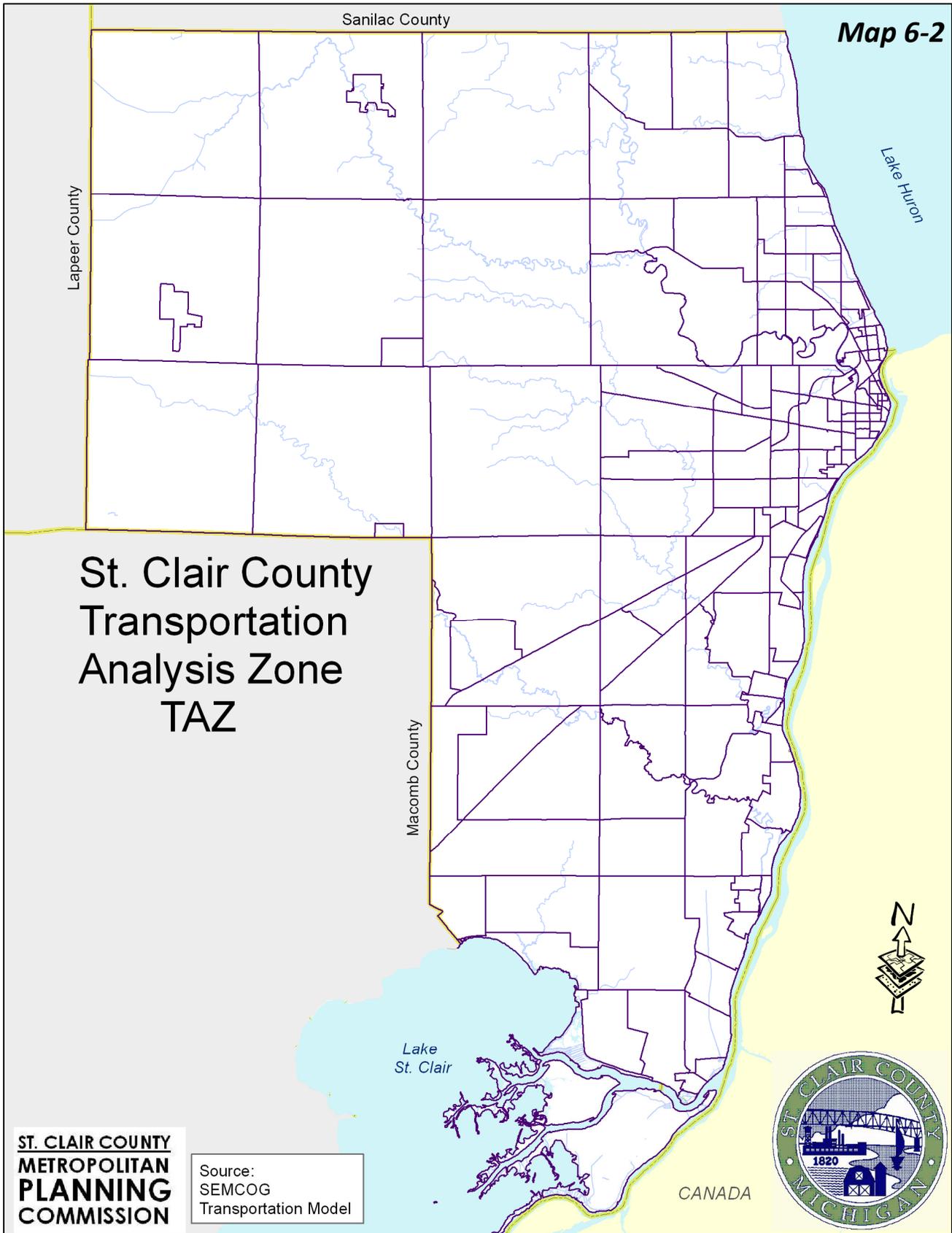
Descriptor	Year		Absolute	Percent
	2010	2040		
Households	63,841	68,960	5,119	8.0%
Retail Employment	6,796	6,283	(513)	-7.5%
Non-Retail Employment	35,057	41,193	6,136	17.5%
Total Employment	41,853	47,476	5,623	13.4%
Employment Acres	18,393	18,438	45	0.2%

Model Calibration

In order to calibrate the travel demand model, volumes output from the model must replicate current travel conditions on the existing transportation system. After the model is calibrated, future trip tables are assigned to the network and future travel demand is projected based on existing travel flows. SEMCOG completed the model calibration for the St. Clair County area and the surrounding counties.

Congestion Analysis

Roadway deficiencies were identified using a three-pronged approach that considered speed, v/c ratio, and perceived congestion to identify congested roadway links. The links are then aggregated into longer corridors to identify the potential capacity or congestion deficiencies. An overview of existing congested corridors is provided in Chapter 5 – Existing Conditions. A summary of the 2040 congestion concerns are summarized in Chapter VII – Future Transportation System.







CHAPTER 7

FUTURE TRANSPORTATION SYSTEM



IN THIS CHAPTER:

- ⇒ OVERVIEW
- ⇒ FORECASTED 2040 TRAFFIC VOLUMES
- ⇒ TRANSIT
- ⇒ NON-MOTORIZED FACILITIES
- ⇒ FREIGHT/PORTS/TUNNEL
- ⇒ RAIL TRANSPORT
- ⇒ AVIATION

FUTURE TRANSPORTATION SYSTEM

Overview

Planning the future transportation system for the next 25 years is extremely difficult. There are many unknowns and events that can change so quickly which alters decisions, priorities, and funding. This is probably best demonstrated by events that have happened in the past ten years. In 2004, the average national fuel price was \$1.44 per gallon. Ten years later the average price is approximately \$3.31 per gallon and in 2008 prices soared to an average of \$4.12 per gallon, affecting the overall quality of life for many Americans. (http://www.gasbuddy.com/gb_retail_price_chart.aspx). In addition, the national recession resulted in significant job losses, hitting Michigan's auto industry especially hard. As we work to overcome the recession, some of the effects still linger.

Concerns over fluctuating fuel prices, potential environmental impacts, and all of the other uncertainties are changing the way we think about the nation's transportation system. The future is likely to require more energy efficient vehicles and a greater emphasis on alternative transportation modes. We already lead the way in Michigan with our large fleet of compressed natural gas busses that are operated by Blue Water Transit. We will also be looking at developing a Bike Share Program. The following sections discuss important issues related to the St. Clair County future transportation system.

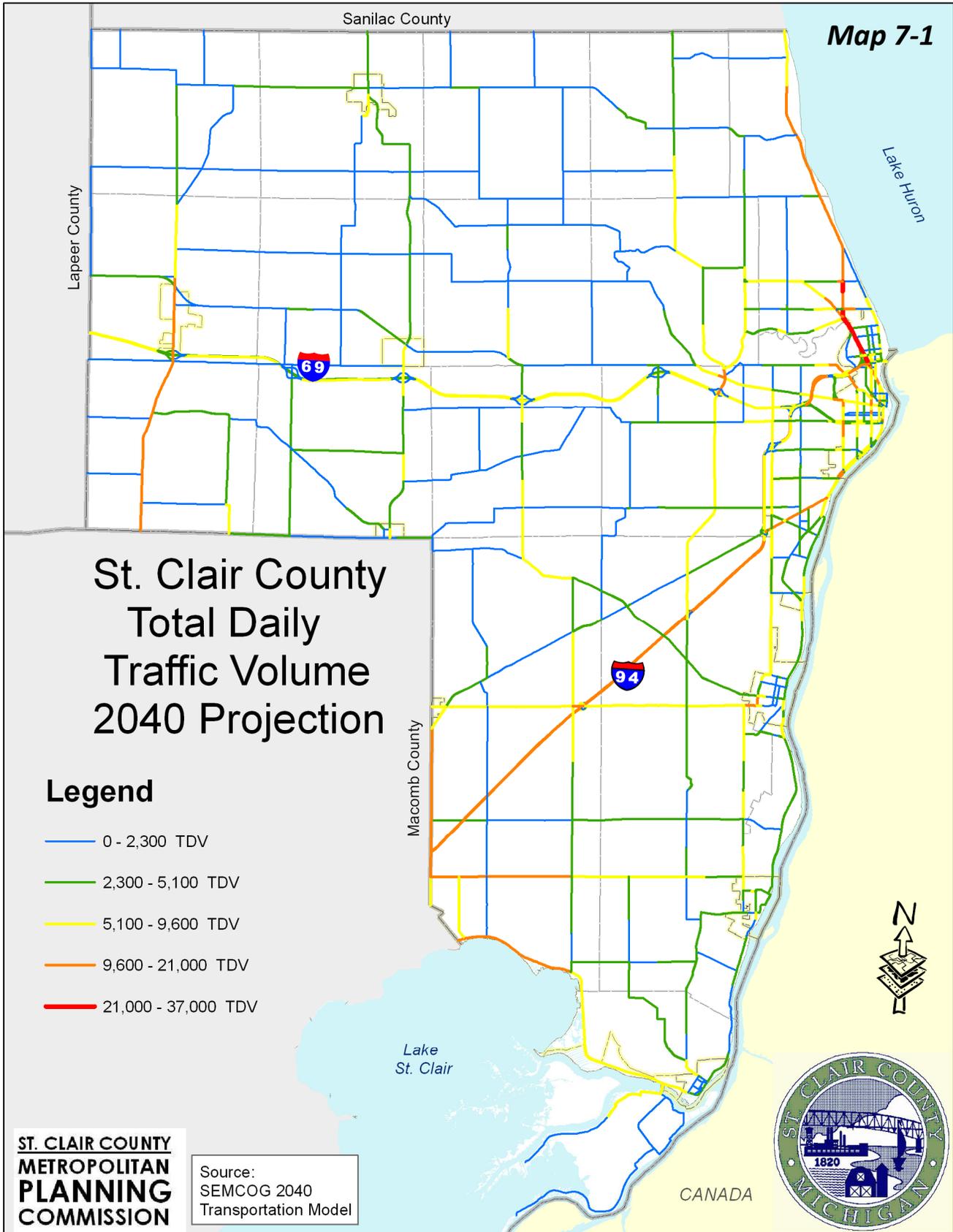
Forecasted 2040 Traffic Volumes

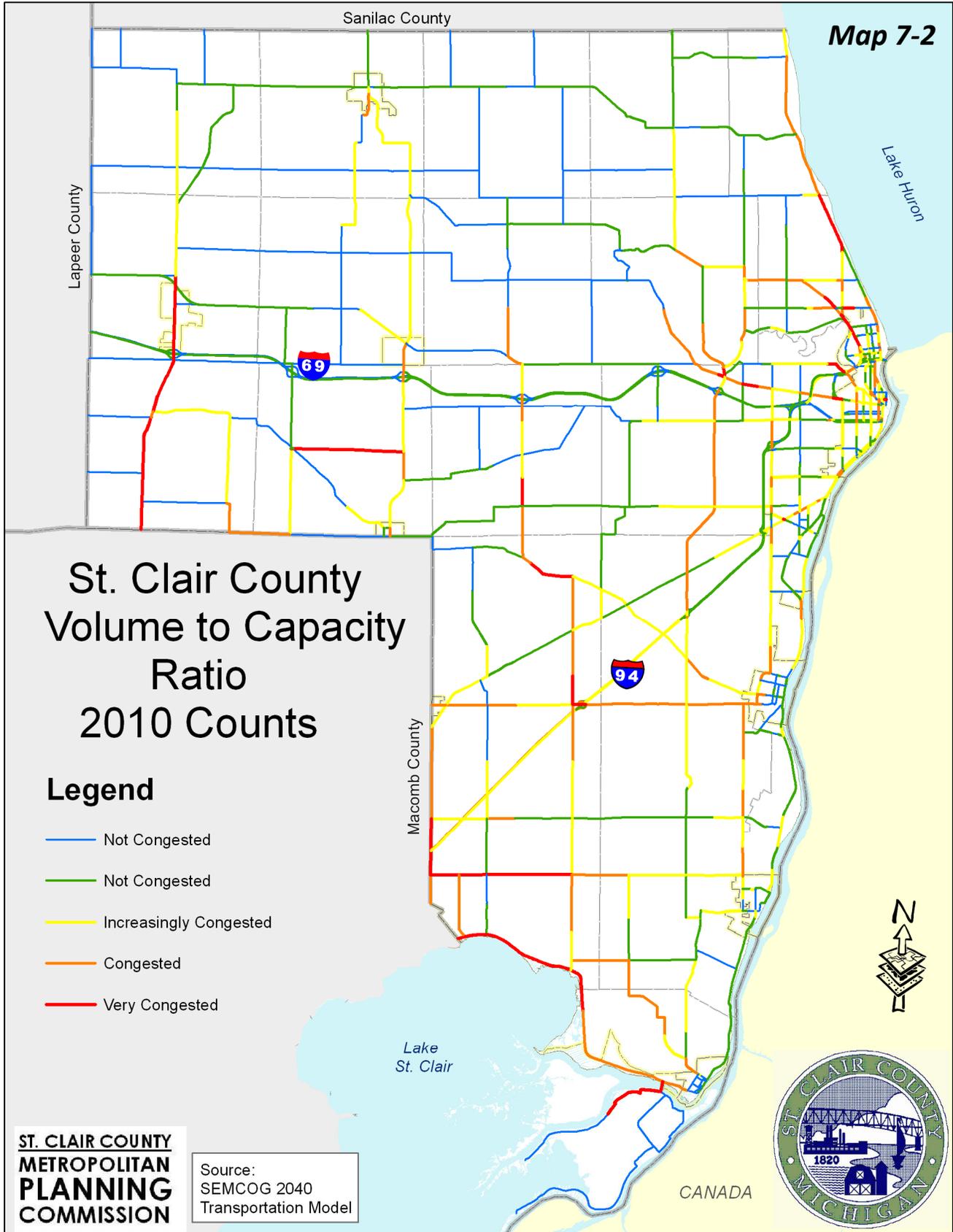
The Travel demand forecasting model, described in Chapter VI, outlined the general methodology for forecasting 2040 traffic volumes. The resulting forecasts are displayed in Map 7.1.

Congestion Analysis

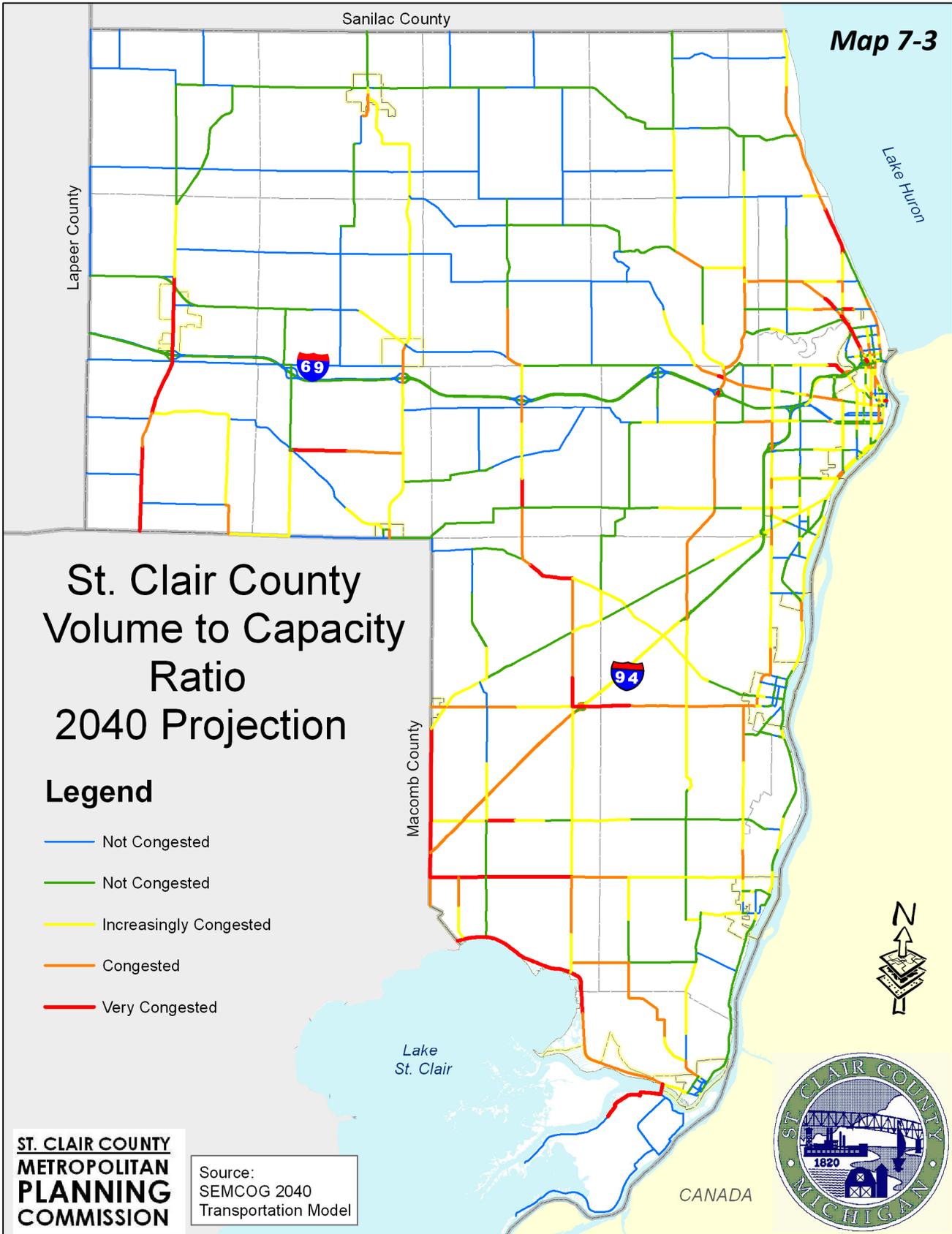
Map 7.3 displays the results of congestion analysis for the Year 2040 as completed by SEMCOG, while Map 7.2 shows congestion in the Year 2010. As you can see, they are very similar. The roads in RED appear to be the most congested in 2040 and in 2010. These roads include Capac Road, Pine Grove Avenue, as well as portions of M-29 and M-25.

Map 7-1





Map 7-3



Transit

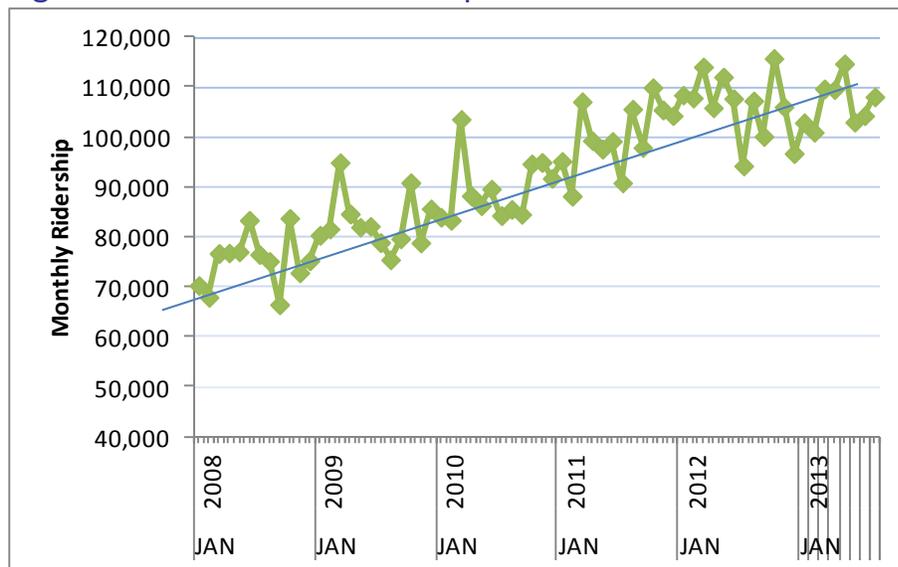
As the cost of national fuel prices remain high, public transit ridership numbers continue to increase across the United States. This also has been observed in St. Clair County, which is experiencing a steady increase in ridership since early 2007. Much of this is directly related to individuals using transit to reduce travel costs. If gas prices remain at current levels, or continue to increase, it is likely that transit ridership will remain at high levels for some time to come.

Another factor that suggests transit ridership will steadily increase is a growing population of residents age 65 and older. It is estimated that approximately 25% of St. Clair County residents will fall into this category by 2040. This is more than twice the number of residents age 65 and older in 2005. This increase has the potential to have significant impacts on the provision of transportation services throughout St. Clair County. As the county's population ages, there will be a greater need to provide viable transportation options for many residents over the age of 65. Further complicating the situation is the rural character of St. Clair County. While fixed-route transit service will continue to serve the urbanized area, the real challenge will be in finding viable transportation options for those living in rural St. Clair County. The demand for Door-to-Door, or Dial-a-Ride service will likely increase in the future.

The current transportation bill, MAP-21, does the following:

1. Provides funding;
2. Improves the development and delivery of projects;
3. Establishes standards for state of good repair;
4. Promotes continuing, cooperative and comprehensive planning;
5. Establishes programs of technical assistance;

Figure 7-1: Will transit ridership continue to increase?



Source: Blue Water Area Transit Commission, 2014

6. Continues to provide high quality services to users, including the elderly and persons with disabilities;
7. Supports research, development, demonstration and deployment programs; and
8. Promotes the development of the workforce.

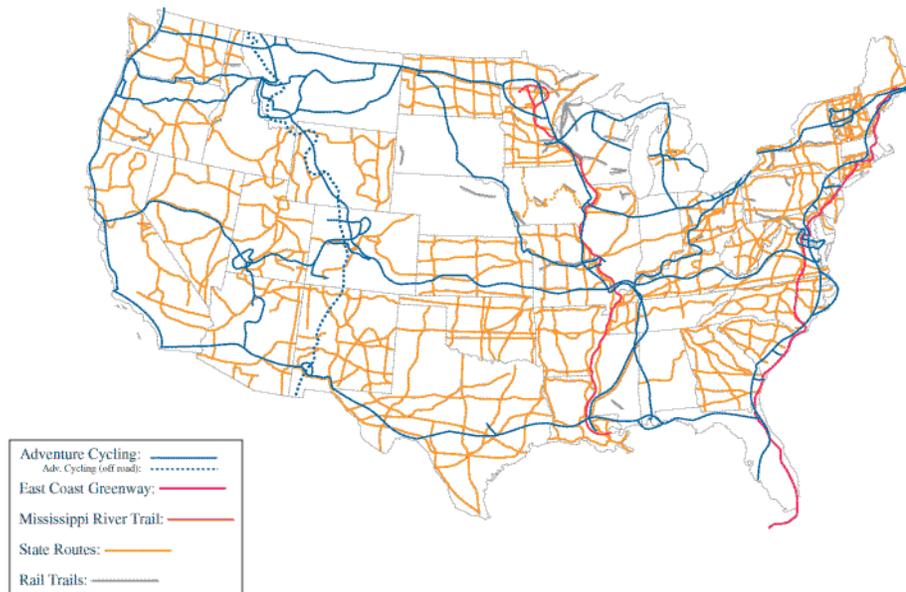
Funding will remain steady and predictable as it has in years past. Several transit programs are consolidated to improve efficiency. And, safety has been identified as a major priority in Transit so additional funding has been directed to that objective.

Non-Motorized Facilities

St. Clair County has taken a very proactive approach in planning and developing a countywide non-motorized system. Since the completion of the 2030 LRTP, the County has worked diligently to develop non-motorized guidelines, acquire land and build facilities, and continue to plan for a larger, regional non-motorized system linking to areas beyond the St. Clair County boundaries.

Looking to the year 2040, non-motorized travel will likely continue to increase. The development of the St. Clair County trail system has the potential to attract visitors and recreational users to the area. At the federal level, there has been discussion of developing a national trail system. While non-motorized travel will remain a relatively small percentage of commuting for work trips, it continues to gain interest from recreational riders.

While trails represent a substantial piece of the St. Clair County non-motorized network, on-street bicycle accommodations are also critical. As previously mentioned, St. Clair County has



Source: Americantrails.org

taken a very active role in developing the Bridge-to-Bay and the Wadhams-to-Avoca trails. Opportunities may exist to extend these trails to other areas of St. Clair County and beyond. However, constructing a dedicated trail that would run throughout the entire County is unlikely and will require the use of existing roadways to accommodate some trip segments. As such, it will be critical for St. Clair County to identify opportunities to eliminate potential gaps in the non-motorized network. Utilizing existing roadways is one way to potentially eliminate gaps and develop a comprehensive countywide non-motorized network.

The application of Complete Streets policies can help in developing and strengthening the St. Clair County non-motorized network. Complete Streets is a concept that can be applied in planning or designing a new roadway or repairing/replacing an existing roadway. Finding ways to eliminate non-motorized system gaps could be as easy as restriping roadways to allocate more space to bicyclists. Evaluating non-motorized travel should become common practice in evaluating future transportation infrastructure improvements within St. Clair County.

Freight/Ports/Tunnel

Rail Transport

Today, the U.S. freight rail network is widely considered one of the most dynamic freight systems in the world. The \$60 billion industry consists of 140,000 rail miles operated by seven Class I railroads with operating revenues of over \$433 billion, 21 regional railroads, and 510 local railroads. Not only does the 140,000 mile system move more freight than any other freight rail system worldwide, but it also provides 221,000 jobs across the country and numerous public benefits, including reductions in road congestion, highway fatalities, fuel consumption, greenhouse gasses, logistics costs, and public infrastructure maintenance costs.

The U.S. freight railroads are private organizations that are responsible for their own maintenance and improvement projects. Compared with other major industries, they invest one of the highest percentages of revenues to maintain and add capacity to their system. The majority of





this investment is for upkeep to ensure a state of good repair while 15 to 20 percent of capital expenditures, on average, are used to enhance capacity (<http://www.fra.dot.gov>).

U.S. freight railroads operate in a highly competitive marketplace. To compete effectively against each other and against other transportation providers, railroads must offer high-quality service at competitive rates. In 2011, U.S. railroads carried more than trucks, oil pipelines, barges, and air.

The fastest growing rail traffic segment is currently intermodal, which is the movement of shipping containers or truck trailers by rail and at least one other mode of transportation, usually trucks or ocean-going vessels. Intermodal combines the door-to-door convenience of trucks with the long-haul economy of railroads. Rail intermodal has tripled in the last 25 years. It plays a critical role in making logistics far more efficient for retailers and others. The efficiency of intermodal provides the United States with a huge competitive advantage in the global economy. It is believed that the economy is coming back, and the future of rail transport looks promising.

Rail will continue to be an important piece of the St. Clair County transportation network. Not only does rail carry goods throughout the United States, and between the United States and Canada, but Amtrak continues to run passenger rail service between Port Huron and Chicago. In recent years Amtrak has seen an increase in ridership – likely linked to increasing fuel and travel costs.

Aviation

St. Clair County International Airport is currently updating the Airport Layout Plan/Master Plan. This is an effort to establish a solid plan for development of the airport and industrial park, along with the Federal Aviation Administration Detroit Airports Division Office (FAA-ADO), and the Michigan Department of Transportation Bureau of Aeronautics and Freight Services (MDOT AERO).



CHAPTER 8

RECOMMENDED TRANSPORTATION PLAN



IN THIS CHAPTER:

- ⇒ *MEETING GOALS AND OBJECTIVES*
- ⇒ *SUPPORTING LOCAL MOBILITY NEEDS*
- ⇒ *FINANCIAL FEASIBILITY*
- ⇒ *RECOMMENDED LONG RANGE PLAN PROJECTS - SHORT TERM*
- ⇒ *RECOMMENDED LONG RANGE PLAN PROJECTS - LONG TERM*

RECOMMENDED TRANSPORTATION PLAN

Overview

The main purpose of the LRTP is to identify an integrated system of transportation improvements that address the mobility needs of all St. Clair County users to the year 2040. A general description of the year 2040 LRTP elements is provided in this chapter. The LRTP is intended to address the transportation needs by:

- ⇒ Meeting the local transportation goals and objectives.
- ⇒ Supporting the mobility desires of the region.
- ⇒ Identifying fiscally constrained projects over the 25-year planning period.
- ⇒ Creating an equitable balance between impacts and benefits.

Meeting the Transportation Goals and Objectives

The potential transportation system improvements were assessed relative to the overall transportation planning goals and objectives. The goals and objectives developed as part of the planning process addressed the following:

- ⇒ *Economic Vitality*
- ⇒ *Local, County, and Regional Plans*
- ⇒ *Accessibility*
- ⇒ *Funding and Fiscal Constraint*
- ⇒ *Natural Environment*
- ⇒ *Environmental Justice*
- ⇒ *Public Involvement*
- ⇒ *System Management*
- ⇒ *Security*

Support Local Mobility Needs

A primary purpose of the St. Clair County LRTP is to ensure improved mobility and safety throughout the County using cost effective solutions and an equitable allocation of transportation funding resources. The recommended plan elements must support travel desires within all of the communities of St. Clair County to achieve this objective.

Financial Feasibility

The future transportation needs within St. Clair County exceed the estimated funding levels through the year 2040. As such, the County will need to prioritize transportation investments to ensure a good return on investment. This approach should include the following:

- ⇒ Prioritize the on-going maintenance and preservation of the existing transportation infrastructure. This approach promotes routine maintenance of the county's transportation infrastructure in an effort to maximize the infrastructure life cycle.

- ⇒ Identify low cost Transportation System Management (TSM) level improvements (i.e., addition of turn lanes, signal improvements, resurfacing Class A roadways, consolidation of driveways, etc.) as a way to improve mobility and safety.
- ⇒ Consider multi-modal solutions as a way to address future capacity issues. For example, evaluate the possibility of expanding public transportation as a way to reduce traffic congestion as opposed to major roadway expansion.
- ⇒ Pinpoint expansion improvements that reasonably address the identified transportation issues and support travel desires in the region after exhausting the assessment of lower cost TSM improvements or alternative transportation options.

Recommended Long Range Plan Projects

The St. Clair County LRTP identifies potential transportation improvements for all transportation modes including roadways, transit, non-motorized, rail, freight, ports, and aviation. St. Clair County's LRTP projects are divided into short-term and long-term projects. These projects have undergone a public review and have been integrated into the larger Regional Transportation Plan administered by SEMCOG. The short-term and long-term projects are described in the following sections.

Short-Term Plan Projects (2014-2017)

Short-term plan projects are defined as projects planned for construction/implementation over the next four-years (2014-2017). The four-year time frame was used to be consistent with the four-year TIP that SCCOTS is required to submit to SEMCOG. The projects identified as short-term plan projects have been discussed publicly through previous long range planning efforts and/or the TIP public review process. These projects are fiscally constrained and are summarized in Table 8-1.

Long-Term Plan Projects (2017-2040)

The long-term plan projects are defined as transportation system improvements that address needs between 2018 and 2040. The RTP projects represent a fiscally constrained plan based on future funding projections discussed at the end of this chapter. Tables 8-2 and 8-3 summarize the long-term projects. Long-term projects may address issues such as traffic volumes in excess of the current capacity, potentially safety concerns, improvements due to land use changes, etc. The long-term projects have undergone a public review process and have been incorporated into SEMCOG's RTP. As part of the SEMCOG RTP development, these projects will undergo a second public review process.

Transportation Needs Beyond the 25-Year Planning Horizon

Federal guidelines require that the 25-year transportation plan be fiscally constrained to the estimated level of public and/or private sector funding available to the study area. The projects identified in Tables 8-1 through 8-3 meet the fiscally constrained requirement. At this time, no additional projects beyond the 25-year planning horizon have been identified.

Table 8-1: Short Term Plan Projects (2014-2017)

Jurisdiction	Project Name	Limits	Work
2014			
BWATC	BWATC Urban Operating	Service Area	Operations
BWATC	Remote CNG Refueling Stations	Service Area	Transit Capital
BWATC	BWATC Transit Capital	Service Area	Transit Capital
BWATC	BWATC Rural Operating	Service Area	Operations
St. Clair	Diesel Vehicle Replacement	City of St. Clair	Replacement of old vehicle
SCCRC	Various Chip Seals	Various	Pavement Preservation
SCCRC	Fred Moore Highway	.65 miles west of Allington to .5 miles east of Allington	Road Rehabilitation
SCCRC	Water St.	W. Water to I-94 ROW	Reconstruction & Drainage
2015			
BWATC	BWATC Urban Operating	Service Area	Operations
BWATC	BWATC Transit Capital	Service Area	Transit Capital
BWATC	BWATC Rural Operating	Service Area	Operations
SCCRC	Bates Highway	M-154 Southeasterly to end	Restore and Rehabilitate
SCCRC	Fred Moore Highway	0.5 miles east of Allington to 0.25 miles west of Wadhams Rd.	Road Rehabilitation
SCCRC	Various	Countywide	Pavement Preservation
Port Huron	Sanborn	Stone to Gratiot	Reconstruction
Marysville	Various	Citywide	Crackseal
SCCRC	Lightle & North River Roads	North Rd to 0.15 miles west of Parker	Resurfacing
Port Huron	Stone St.	Pine Grove to McPherson	Mill/Resurface
2016			
BWATC	BWATC Urban Operating	Service Area	Operations
BWATC	BWATC Transit Capital	Service Area	Transit Capital
BWATC	BWATC Rural Operating	Service Area	Operations
SCCRC	Fred Moore Highway	0.25 miles west of Wadhams Rd. to 0.5 miles east of Carriage Lane	Road Rehabilitation

Table 8-1: Short Term Plan Projects continued (2014-2017)

Jurisdiction	Project Name	Limits	Work
2016 Cont'd			
Port Huron	Reid Rd.	16th St to Electric Ave.	Road Rehabilitation
SCCRC	Wadhams	I-69 to Lapeer	Mill and Fill Asphalt
Port Huron	Glenwood	Pine Grove to Fort	Reconstruction
2017			
BWATC	BWATC Urban Operating	Service Area	Operations
BWATC	BWATC Transit Capital	Service Area	Transit Capital
BWATC	BWATC Rural Operating	Service Area	Operations
SCCRC	Fred Moore Highway	0.5 miles East of Carriage Lane to 0.10 miles West of King Rd.	Road Rehabilitation
SCCRC	Lapeer	I-94 Bridge to Beach	Resurface and Widen
Port Huron	River Rd.	Glenwood to East of Stone	Reconstruction
St. Clair	St. Clair Highway	S. Riverside Dr. to 100' West of Goffe	Complete Reconstruction

Table 8-2: Long Term Plan Projects (2018-2020)

Jurisdiction	Project Name	Limits	Work
BWATC	BWATC Urban Operating	Service Area	Operations
BWATC	BWATC Transit Capital	Service Area	Transit Capital
BWATC	BWATC Rural Operating	Service Area	Operations
Port Huron	Huron	M-25 to M-29	Rehabilitation
Port Huron	Court St	13th to 10th	Reconstruct
Port Huron	Erie St	McMorran to Pine Grove	Reconstruct
Port Huron	Fort St	Glenwood to Quay	Reconstruct
Port Huron	Gratiot	Krafft to Holland	Resurface
Port Huron	Gratiot	Elmoody to State	Resurface
Port Huron	Holland	Pinegrove to Gratiot	Resurface
Port Huron	Lapeer	24th to 13th	Reconstruct
Port Huron	Quay	Huron to Fort	Reconstruct
Port Huron	Water St	Arch to 10th St	Reconstruct
Port Huron	10th Ave	Holland to Garfield	Resurface
Port Huron	10th Ave	Garfield to Harker	Reconstruct
Port Huron	13th St	Lapeer to Water	Reconstruct
SCCRC	Chartier Road	from Marsh to 0.92 miles E of Marsh	Rehabilitate roadway
SCCRC	Marsh Road	from Genaw to Broadbridge	Rehabilitate roadway
SCCRC	Marsh Road	from Benoit to Genaw	Rehabilitate roadway
SCCRC	Rattle Run Road	from Palms to Mayer	Rehabilitate roadway
SCCRC	Rattle Run Road	from Mayer to Gratiot	Rehabilitate roadway
SCCRC	Rattle Run Road	from Hessen to Palms	Rehabilitate roadway
Marysville	River Road	from Mack to M-29	Rehabilitate roadway
VARIOUS	Various	Various	Restore/Rehabilitate

Table 8-3: Long Range Plan Projects (2021-2040)

Jurisdiction	Project Name	Project Limits	Work
BWATC	BWATC Urban Operating	Service Area	Operations
BWATC	BWATC Transit Capital	Service Area	Transit Capital
BWATC	BWATC Rural Operating	Service Area	Operations
Port Huron	McMorran	Huron to Fort	Reconstruct
Port Huron	River St.	12th to 10th	Resurface
Port Huron	Scott St.	Riverside to Pinegrove	Resurface
Port Huron	State St.	Stone to Gratiot	Resurface
Port Huron	Stone St.	Garfield to State	Resurface
Port Huron	13th St.	Lapeer to Oak	Resurface
Port Huron	16th St.	Lapeer to Oak	Resurface
Port Huron	16th St.	Cedar to Beard	Reconstruct
SCCRC	Dolan Road	from Stoddard to Bauman	Rehabilitate roadway
SCCRC	Dolan Road	from Bauman to Fitz	Rehabilitate roadway
SCCRC	Marine City Highway	from Meldrum to Palms	Rehabilitate roadway
SCCRC	Marine City Highway	from Palms to Starville	Rehabilitate roadway
SCCRC	Mayer Road	from Rattle Run to Frith	Rehabilitate roadway
SCCRC	Rattle Run Road	from Fitz to Wales Center	Rehabilitate roadway
SCCRC	Rattle Run Road	from Wales Center to Hessen	Rehabilitate roadway
Marysville	Ravenswood Road	from Michigan to M-25	Reconstruct roadway
SCCRC	Stoddard Road	from Dolan to Bordman	Rehabilitate roadway
SCCRC	Wadhams Road	from I-69 to Lapeer	Add center left turn lane
Various	Various	Various	Restore/Rehabilitate
Port Huron	Court St.	10th to Military	Resurface
Port Huron	Gratiot	Keewahdin to Krafft	Resurface
Port Huron	Gratiot	Holland to Elmwood	Resurface

Table 8-3: Long Range Plan Projects continued (2021-2040)

Jurisdiction	Project Name	Project Limits	Work
Port Huron	Reid	Electric to Military	Resurface
Port Huron	Stone	State to Pine Grove	Resurface
Port Huron	Union	24th to 10th	Resurface
Port Huron	7th	Black River to Oak	Resurface
Port Huron	10th Ave.	Harker to Black River	Reconstruct
Port Huron	12th Ave.	River to Scott	Resurface
Port Huron	16th St.	Beard to Electric	Reconstruct
Marysville	Huron Boulevard	from Gratiot to Busha	Reconstruct roadway
Marysville	Huron Boulevard	from Range to Gratiot	Rehabilitate roadway
Port Huron	16th St.	17th to Lapeer	Resurface
Port Huron	16th St.	Oak to Cedar	Reconstruct
Port Huron	Conner	Electric to Military	Resurface
Port Huron	Court St.	24th to 13th	Resurface
Port Huron	Erie St.	Black River to McMorran	Resurface
Port Huron	Hancock	Riverside to 16th Ave.	Reconstruct
Port Huron	Hancock	Pinegrove to Gratiot	Resurface
Port Huron	Lapeer	13th to 7th	Resurface
Port Huron	McMorran	Erie to Huron	Resurface
Port Huron	Quay	Grand River to Huron	Resurface
Port Huron	Riverside Dr.	Sanborn to Brandywine	Resurface
Port Huron	Riverside Dr.	Mansfield to Scott	Resurface
Port Huron	Scott	Pinegrove to Scott	Resurface
Port Huron	Water St.	10th St. to Military	Resurface
Port Huron	10th St.	Black River to Military	Reconstruct
Port Huron	17th St.	Water to 16th St.	Reconstruct
Port Huron	24th St.	Dove to Manuel	Resurface
Port Huron	24th St.	Manuel to Electric	Resurface
Port Huron	Dove St.	City Limits to 16th St.	Reconstruct
Port Huron	Glenwood	10th Ave to Fort	Reconstruct
Port Huron	Hancock	16th to BL-94	Resurface
Port Huron	Riverside Dr.	Brandywine to Mansfield	Resurface
Port Huron	Sanborn	Pinegrove to 12th	Resurface
Port Huron	Sanborn	12th to 10th	Reconstruct
Port Huron	Union	10th to Military	Reconstruct
SCCRC	Water St.	City Limits to Arch	Reconstruct
SCCRC	24th St.	City Limits to Dove	Resurface
SCCRC	Marine City Hwy.	County Line Rd. to Church Rd.	Widen Roadway
SCCRC	Fred Moore Hwy.	Palms Rd. to I-94	Widen Roadway
SCCRC	Capac Rd.	Macomb County to I-69	Widen Roadway

Table 8-3: Long Range Plan Projects continued (2021-2040)

Jurisdiction	Project Name	Project Limits	Work
St. Clair	Clinton Ave.	Fred Moore Hwy. to Carney	Resurface
St. Clair	Carney	Clinton to Fred Moore Hwy.	Resurface
St. Clair	Clinton/Carney Intersection	Add Left Turn Lanes	Add Lanes
St. Clair	St. Clair Hwy.	100' West of Goffe to Palmer	Resurface