



CHAPTER 6 TRANSPORTATION AND MOBILITY

INTRODUCTION

A safe and efficient vehicle and pedestrian circulation system is essential to commerce and daily activities and a major consideration in the city's development. The transportation network of streets, rail, and sidewalks are important parts of the city's infrastructure.

Land use patterns are important to the size and use of adjacent streets. It has a significant effect on trip generation and travel behavior. Compact, mixed-use and walkable developments mitigate traffic generation and thoroughfare impacts by shortening trip distances, capturing greater share of trips internally, and facilitating transit and non-motorized trip-making.

ALGONAC'S TRANSPORTATION SYSTEM

Approximately 23 miles of public roads and eight bridges are located in the City of Algonac. Algonac can be reached from the north and south via state trunkline M-29 (which runs through the city) and connects Algonac with the City of New Baltimore (in Macomb County) to the west, with the cities of St. Clair, Marysville, and Port Huron to the north. Algonac is linked to Interstate 94 (the expressway link between Detroit and the Port Huron/Sarnia area) via three main routes: M-29, which becomes 23 Mile Road in Macomb County, Washington Street in New Baltimore, and Marine City Highway/County Line Road.

Algonac can also be reached from the townships to the north via Marsh Road and Stone Road, which are paved county primary roads. Auto ferry service across the St. Clair River is available from Algonac to Russell Island. Additionally, ferry service from mainland Clay Township to Harsens Island is available just west of the city limits on M-29. Further north in Marine City is ferry service connecting Marine City and Downtown Sombra, Ontario, Canada.



St. Clair River Drive winds along the edge of the city along the St. Clair River.

FUNCTIONAL CLASSIFICATION AND FUNDING

Administrative jurisdictions identify roads in terms of governmental responsibility for construction and maintenance. The two classifying jurisdictions that affect the Algonac street system include the Michigan Department of Transportation (MDOT) Act 51 fund allotment and the federal government's National Functional Classification (NFC) system. These classifications determine eligibility for state funding and federal aid. Each classification system is used for a different purpose.

Act 51 of Public Acts of 1951 is a main source of funding for street repairs. Act 51 is administered by the state and serves as a funding tool for projects involving allocation of state taxes. It creates a depository fund for specific transportation taxes as placed on fuel and license plates. It prescribes the purpose for how revenues are to

Algonac: Functional Classification, AADT and Crashes

Algonac Master Plan





M-29 is classified as a minor arterial road, which generally carries through-travel movements and provides access to important traffic generators, such as commercial businesses.

be distributed. It also establishes jurisdictional road networks including state/county roads and city/village streets, sets priorities for the use of transportation revenues and can guarantee repayment of bonding debt.

The NFC system is set by the federal government and is used for federal agency funding. The Federal Highway Administration (FHWA) developed the NFC system of classifying all streets, roads, and highways according to their function in the late 1960's. As shown on Map 6-1, road classifications in Algonac include:

- **Principal Arterials:** These roads generally carry long distance, through-travel movements and provide access to important traffic generators, such as major airports or regional shopping centers. There are no principal arterials in Algonac.
- **Minor Arterial:** These roads are similar in function to principal arterials but carry trips of shorter distance and of lesser traffic generation. The only minor arterial in Algonac is State Highway

M-29, known locally as St. Clair River Rd or Pointe Tremble near the south side of the city.

- **Major Collectors:** Major collector streets connect traffic from residential areas to arterials. These streets often provide more access to property. Algonac's collector streets are as follows:
 - ⇒ Smith from M-29 to city limits
 - ⇒ Clay from M-29 to Washington
 - ⇒ Fruit from Washington to State
 - ⇒ Howard from Michigan to Washington
 - ⇒ Liberty from M-29 to State
 - ⇒ Michigan from Smith to Clay and Howard to M-29
 - ⇒ Washington from Clay to Liberty
 - ⇒ State from Smith to M-29
- **Local Streets:** These streets prove access to property. Streets not previously mentioned are classified as local roads for Algonac.

MDOT is responsible for the maintenance and improvements to M-29, St. Clair River Road/Pointe Tremble. The balance of the roads are controlled and maintained by the City of Algonac or are private roads or lanes.

TRAFFIC VOLUMES AND SAFETY

Traffic Volume

The Southeast Michigan Council of Governments (SEMCOG) collects and provides traffic volume data for the seven-county Metro Detroit region. Based on the data, the city has limited traffic congestion except on days of special events. As depicted on Map 6-1, the highest average daily traffic is found at Pointe Tremble and Nook Road with an annual average daily traffic (AADT) volume of 10,313 vehicles. Some other high volume roads include St. Clair River Road at the northern city limits with a volume of 4,228 vehicles, Nook Road from Fruit Street to Dyke Road (2,450 vehicles), and Fruit Street from Nook Road to Stone Street (1,840 vehicles).

Table 6-1: High-Crash Intersections, City of Algonac, 2008 - 2012

Local Rank	County Rank	Intersection	2008-2012 Total
1	127	Pointe Tremble at State Street	16
2	326	Fruit Street at Nook Street	7
3	574	Fruit Street at State Street	4
3	574	State Street at Columbia Street	4
3	574	Nook Road at Rachel Street	4
6	736	Pointe Tremble Road at Edgewater	3
6	736	Pointe Tremble Road at Michigan St.	3
6	736	St. Clair River Drive at Smith Street	3
6	736	Michigan Street at Michigan Street	3
6	736	St. Clair River Drive at Green Street	3

Source: SEMCOG Community Profile for Algonac, 2013

Table 6-2: Traffic Crashes by Severity, City of Algonac, 2008 - 2012

Crash Severity	2008	2009	2010	2011	2012
Fatal	0	0	0	0	0
Incapacitating	0	2	0	1	1
Other Injury	6	8	7	7	9
Property damage only	28	20	25	15	15
Total Crashes	34	30	32	23	25

Source: SEMCOG Community Profile for Algonac, 2013

Traffic Crash Analysis

From 2008-2012, 144 crashes were reported within the City of Algonac. Of these, 74% resulted only in property damage. There are two intersections that received significantly more crashes than other intersections - Pointe Tremble at State Street (16 crashes) and Fruit Street at Nook Road (7 crashes). Those two intersections rank among the top 300 intersections in terms of crash frequency for all of St. Clair County. Table 6-1 indicates the number of crashes by road segment. Table 6-2 lists the crashes by severity.

Bridges

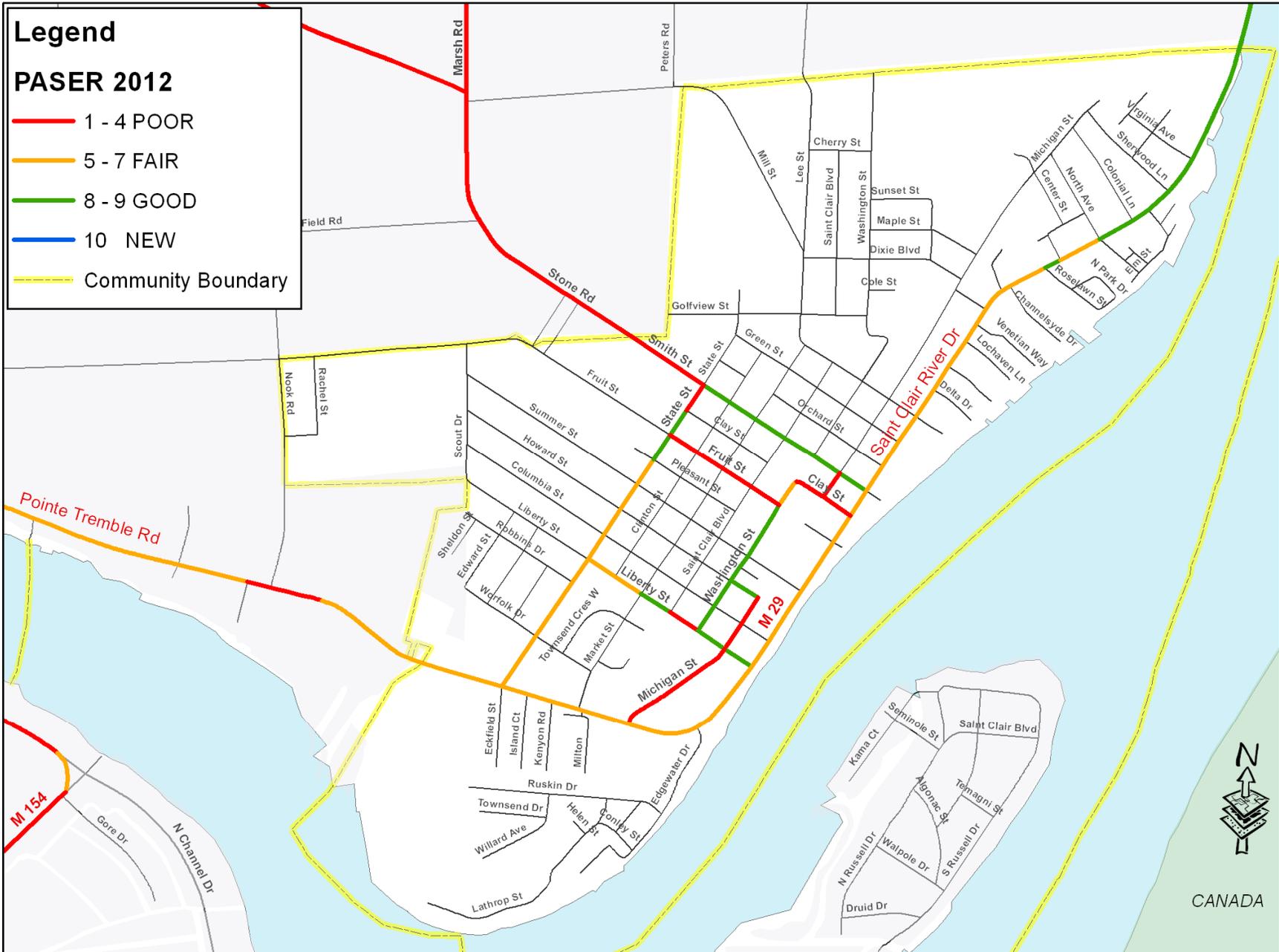
Algonac is unique in that it has a number of canals and channels flowing throughout residential neighborhoods. This means that bridges had to be constructed when neighborhoods in these areas were developed to provide people with ingress/egress from their homes. As noted in earlier city plans, problems related to bridge structures involve the quality of the original construction. In certain cases, canal bridges were built by the developer at minimum standards and thereafter dedicated to the then Village of Algonac as part of the platted street system. As such, the city inherited a number of substandard bridge structures. A prime example of this condition is the bridge located on Edgewater Street, south of M-29. The inadequate approach to this structure severely restricts vertical sight distances; hence, resulting in a hazard to oncoming traffic.

Problem Intersections

A number of problem intersections occur within the city; however, the majority of these situations involve local residential streets rather than major thoroughfares and, consequently, are not of a critical nature.



The inadequate approach to the bridge located on Edgewater Street, south of M-29, restricts vertical sight distances and creates a hazard to oncoming traffic.



The two most critical locations involving improper horizontal alignments occur at the intersection of St. Clair River Drive and M-29, and at the intersection of Mill and Lee Streets. In both cases, the acute angle at which these streets intersect results in a definite restriction to vehicular sight distances.

PAVEMENT SURFACE EVALUATION AND RATING (PASER)

Each year, the St. Clair County Metropolitan Planning Commission (MPC) performs a visual inspection to evaluate pavement surface conditions on 50% of the federal-aid roads in St. Clair County. The next year, the same pavement evaluation is performed for the other 50% that was not done the previous year. Typically, PASER evaluates pavement distress in asphalt and concrete roads. For asphalt roads, the rating team looks at surface defects, surface deformation, cracks, patches and potholes. For concrete roads, the rating team evaluates joints, pavement cracks, pavement deformation (such as settlement or heave, utility repairs, patching, etc.), and surface defects (such as polishing, spalling, shallow reinforcing, etc.). In reviewing various defects, it is important to consider both the severity and extent. Typically, a defect will begin slowly and gradually become more severe. Rating the roads helps communities and road agencies manage road maintenance in an effective and fiscally responsible manner.

The most recent PASER data for Algonac is from 2012. The results of that evaluation showed that 78% of all federal-aid roads were rated as being in “Good” condition, 1% were rated as being in “Fair” condition, and 21% were rated as being in “Poor” condition. Algonac has just over five miles of federal-aid roads. See Map 6-2.

TRAFFIC MANAGEMENT OPPORTUNITIES

Traffic and accident concerns can be mitigated through planning and design solutions. The potential conflict between pedestrians and vehicles is an important consideration especially as Algonac

strives to build a connected bike/walkway system connecting to the riverfront. Safety can be addressed in several ways.

Access Management

Access management is a set of planning and design techniques to control access to a street system. There are several objectives, including:

- Limit number of driveways on a corridor, specifically near signalized intersections.
- Promoting good driveway spacing – This reduces the risk of conflicts between the turning vehicles with other vehicles, pedestrians, or bicyclists.
- Aligning driveways across the street, to reduce conflicts between turning vehicles.

Access management improvements can be implemented as part of street reconstruction and improvement projects or as individual sites are developed and redeveloped.

Traffic Calming

Traffic Calming is a method of encouraging drivers to decrease speed by the use of physical and visual prompts, slowing but not stopping traffic. The purpose is to improve pedestrian and bicyclist safety. Traffic calming reduces traffic speeds, accidents, and noise levels. Some of the benefits of such methods include the following:

- Reduction in speed and traffic conflict providing a safer neighborhoods.
- Motorists are more aware of the street’s function.
- Minimized conflicts between motorists, cyclists, pedestrians, and others without the need to separate street users.

There are numerous techniques that communities have successfully used for calming traffic, including:

- Speed bumps
- Dead ends/cul-de-sacs
- Roundabouts/traffic circles
- On-street parking and trees

WATER TRANSIT

The City of Algonac was originally settled as a village along the river and is located on the world's biggest fresh-water delta. The city has many canals within its borders, giving it the nickname "The Venice of Michigan." The proximity to the water offered business and job opportunities as a port, water transportation, and shipbuilding center. Water is also important in the movement of people and goods.

There are three ferry services in and around Algonac that provide access to the community. Auto ferry service across the St. Clair River is available from the Walpole Algonac Ferry, which connects Algonac to Walpole Island in Ontario, Canada - the closest route between the Detroit area and the Chatham/Wallaceburg/London/Toronto region in Ontario.

There is also passenger (but not automobile) ferry service from Algonac to Russell Island via the Russell Island Ferry, which shares a dock with the Walpole Algonac Ferry. There is a large parking lot for Russell Island Ferry passengers located near where M-29 bends through the central business district on the east side of the road. This lot is immediately south of the Seafarers International Union headquarters.

Just west of the Algonac city limits on M-29 in Clay Township is Champions Auto Ferry, which connects mainland Clay Township to Harsens Island.

Additionally, there is a fourth ferry service located further north in Marine City, connecting Marine City and Downtown Sombra, Ontario, Canada.

Given its location along the St. Clair River, the Algonac is a popular permanent and transient mooring spot for Great Lakes pleasure boating.



Near Algonac's city center, passenger ferry service is available to Russell Island, a small private island in the St. Clair River and auto ferry service is available to Walpole Island in southwestern Ontario.

PUBLIC TRANSIT

Public transportation is available through Blue Water Area Transit (BWAT). There are several stops in or near Algonac along a transit route connecting Port Huron with a large retail center in Chesterfield Township on the 23 Mile Road corridor in Macomb County. Bus stop locations include St. John's Marsh at Pearl Beach, the Kroger Store in Clay Township, north of the ferry to Canada in Algonac, and at the South Entrance of Algonac State Park. Southbound and northbound stops are scheduled on the weekdays, once in the morning and once in the afternoon.

AIRPORTS

Passenger air travel is primarily provided by Detroit Wayne County Metropolitan Airport (66 miles) and Flint Bishop International Airport (81 miles). Both facilities also offer large scale air freight service. The St. Clair County International Airport, the nearest airport (25 miles), offers corporate, general aviation, cargo, and medivac/lifeline services. Marine City (private) and Romeo (state) airports are other nearby facilities offering general aviation services.

RAIL TRANSPORTATION

Passenger rail is available via Amtrak stations in Port Huron, Royal Oak, Detroit, and Birmingham. The closest station - in Port Huron - is located 23 miles from Algonac. There is no rail freight that runs through the city.

TRANSPORTATION PLANNING IN ST. CLAIR COUNTY

The St. Clair County Transportation Study (SCCOTS) is the federally-designated transportation planning agency responsible for identifying future transportation needs and then developing and evaluating proposed solutions to maximize the effectiveness of system investments throughout St. Clair County. SCCOTS is comprised of representatives from local units of government throughout St. Clair County, including Algonac.

The St. Clair County Board of Commissioners appoints eleven citizens to serve as the Metropolitan Planning Commission (MPC). MPC representation is countywide, with appointees from various sectors of the community and two members at-large. A staff of professional planners, analysts, technicians and administrative support staff assist the MPC. MPC staff members also serve as staff to SCCOTS.

In order to fulfill its federal and state mandates, SCCOTS, in conjunction with the Southeast Michigan Council of Governments (SEMCOG), is engaged in the following ongoing transportation planning activities:

Plan Monitoring:

The SCCOTS program provides project-oriented assistance to federal, state, regional, and local transportation planning agencies. The work performed in this program element has a direct impact on areas internal and external to the County. SCCOTS staff closely monitors local agency plans and planning efforts, providing analysis and formal reports on consistency with county and local comprehensive planning recommendations.

Plan Development:

SCCOTS, 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. Transportation plans are the comprehensive documentation of the transportation planning process. Continuous public involvement and participation is essential at process inception.

Planning Services:

SCCOTS advocates for the needs of the County and its member units at local, regional, statewide, and national levels. SCCOTS also disseminates custom information, upon request, to clientele that is not frequently involved in the transportation planning process. The information provided may consist of traffic counts or other spatial data not available or packaged in a generally accessible format by other agencies. SCCOTS monitors, analyzes, and updates information relevant to the transportation planning process including land use, transportation, employment, economic, demographic, and environmental data. This type of planning and analysis are essential to effective transportation decision making.

Plan Implementation:

The program implementation element is centered on the short-term implementation of longer-term plans. SCCOTS focuses on the provision of capital projects or planning processes administered through local agencies. Staff assists in the development of projects, the coordination of resources, and access to funding. Staff also engages the programmatic requirements for federal transportation funding. SEMCOG, MDOT and the Federal Highways Administration (FHWA) are the other agencies that program projects in St. Clair County.

Administration:

SCCOTS also manages the administrative duties of the transportation planning program, which includes the development of an annual Unified Planning Work Program (UPWP), general program

administration and professional development, enabling St. Clair County to receive federal transportation funding.

In addition to the five transportation elements outlined above, SCCOTS staff also 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. It is in the TIP document that federal-aid transportation projects in Algonac are prioritized relative to all of the other projects throughout the County.

PLANNED TRANSPORTATION IMPROVEMENTS

The SCCOTS Advisory Committee works together to select projects to spend the federal funds that are allocated to St. Clair County. The Michigan Department of Transportation uses a formula for all of the small Metropolitan Planning Organizations (MPOs) to distribute federal funds. SCCOTS also receives additional funding through its inclusion as part of the Southeastern Michigan Council of Governments.

Long Range Transportation Plan:

SCCOTS manages the administrative duties of transportation planning for the next 25 years through development and implementation of the St. Clair County Long-Range Transportation Plan (LRTP).

Although the City of Algonac has no specific projects in the LRTP at this time, projects can be amended into the document in order for it to be programmed to receive federal funds and move forward for implementation.

Transportation Improvement Program (TIP):

This document is a shorter term planning document and contains projects that will be constructed in the next four years. Currently, the



A number of residential streets throughout the city are striped with a narrow bicycle lane on the shoulder of the paved road. While these lanes are narrower than a standard bicycle lane, they do provide a clear demarcation intended to let motorists know they are sharing the road.

City of Algonac has one project in this document for Fiscal Year 2013 which consists of resurfacing segments of Fruit Street and Michigan Street. If the city receives any federal funds for road projects, this document will need to be amended as well.

COMPLETE STREETS AND NON-MOTORIZED TRANSPORTATION

Sidewalks or pathways line many of the streets within the city. These provide safe and accessible ways to reach parks, local schools, the business district, the riverfront and other community resources. There are also a limited number of designated bike lanes along some of the primary local streets in the city, providing a safe place for residents to ride their bicycle throughout city neighborhoods.

However, these designated bike lanes are typically narrow lanes on the edges of streets that are not sized or marked to bike lane standards recommended by the American Association of State Highway and Transportation Officials (AASHTO).

While the efficient, safe movement of cars and trucks has been the clear priority for streets in the past, the complete streets philosophy outlines a new perspective in which the mobility and safety needs of all users - pedestrians, bicyclists and transit riders of all ages and abilities - are balanced with those of motorists.

In recent years, transportation planners have made a significant shift in their approach to the design and intended function of streets. This paradigm shift encourages transportation planners and engineers to coordinate road improvements with land use planners and urban designers. This shift represents a new, holistic approach to transportation planning. "Complete streets" are designed to prioritize pedestrian or non-motorized traffic over cars. Streets and roadways represent the largest component of public space in Algonac. Complete streets attempts to make us reconsider the intended function and/or use of that public space.

It is recommended and encouraged to adopt land use and development policies that encourage compact development patterns, a mix of uses, connected streets and transit supportive development densities to reduce automobile dependence and vehicle miles traveled. Some suggestions include:

- Adding sidewalk and bike lane improvements wherever possible.
- Provide streetscape improvements to create a walkable environment.
- Coordinate improvements with Safe Routes to Schools, including street crossing improvements (crosswalks, refuge islands, audible signals and tactile warnings on curb ramps).

COMPLETE STREETS

"COMPLETE STREETS ARE DESIGNED AND OPERATED TO ENABLE SAFE ACCESS FOR ALL USERS. PEDESTRIANS, BICYCLISTS, MOTORISTS AND PUBLIC TRANSPORTATION USERS OF ALL AGES AND ABILITIES ARE ABLE TO SAFELY MOVE ALONG AND ACROSS A COMPLETE STREET.

"THERE IS NO ONE DESIGN PRESCRIPTION FOR COMPLETE STREETS. INGREDIENTS THAT MAY BE FOUND ON A COMPLETE STREET INCLUDE: SIDEWALKS, BIKE LANES (OR WIDE PAVED SHOULDERS), SPECIAL BUS LANES, COMFORTABLE AND ACCESSIBLE PUBLIC TRANSPORTATION STOPS, FREQUENT CROSSING OPPORTUNITIES, MEDIAN ISLANDS, ACCESSIBLE PEDESTRIAN SIGNALS, CURB EXTENSIONS, AND MORE. A COMPLETE STREET IN A RURAL AREA WILL LOOK QUITE DIFFERENT FROM A COMPLETE STREET IN A HIGHLY URBAN AREA. BUT BOTH ARE DESIGNED TO BALANCE SAFETY AND CONVENIENCE FOR EVERYONE USING THE ROAD."

- NATIONAL COMPLETE STREETS COALITION
<http://www.completestreets.org/complete-streets-fundamentals/>

Benefits of Complete Streets

- By providing designated space for each activity, complete streets improve overall safety for pedestrians, non-motorized and vehicular traffic.
- Complete streets are context-sensitive, meaning they do not disrupt the physical fabric of neighborhoods or individual properties.
- Complete streets demonstrate that the City of Algonac is committed to maintaining a mix of transportation alternatives.
- Complete streets will make Algonac more walkable for pedestrians of all ages and abilities and create safer pedestrian crossings.
- A balanced transportation system that includes complete streets can help facilitate economic growth and stability by providing efficient connections between residences, schools, parks, and businesses.
- Complete streets encourage more walking and bicycling which helps to make a community healthier. Nationally and

statewide, there is an obesity epidemic affecting people of all ages, ethnicities, and backgrounds. In St. Clair County, 31% of adults are obese and 25% of adults aged 20 or older reported no leisure time physical activity.

- Complete streets are good for children. Streets that allow for kids to walk or ride their bike help them to get physical activity and gain independence. According to Smart Growth America, kids who have safe walking and bicycle routes have a more positive view of their neighborhood.

Street Standards and Design Principles

To the greatest extent possible, all future street improvements should be based upon complete streets principles. These principles should be used as a guideline for rebuilding streets when they are reconstructed.

- Design roads to the minimum width necessary to minimize the impervious cover of the roadway.
- Create safe pedestrian zones at crosswalks and on sidewalks.
- Provide pedestrian right-of-way signage at major crossings.
- Create pedestrian islands to help calm traffic at major pedestrian crossings.
- Slow vehicular traffic in residential neighborhoods and limit cut-through traffic.
- Provide on-street bicycle lanes or pave and stripe shoulders to allow for bicyclists to share the road with vehicles.
- Add additional crossing signage and visual cues at all major crossings around schools, parks, and civic spaces.
- Work in concert with MDOT to implement streetscape improvements along M-29 in the “downtown” area, along the entire length of the Algonac City Park.

Residential Streets

The majority of streets within the city are residential streets, many of which connect to M-29 in both the northeast and southern parts of the city. Due to the city’s traditional grid pattern of streets aligned in generally short blocks with stop signs or yield signs placed at short distances in between one another, the potential for cut-through traffic



A number of residential streets throughout the city do not have sidewalks on either side of the street. In other areas, only one side of the street has a sidewalk.

is limited, as cutting through the grid streets offers no advantage to a driver over staying on M-29 to pass through town.

Pedestrian Mobility

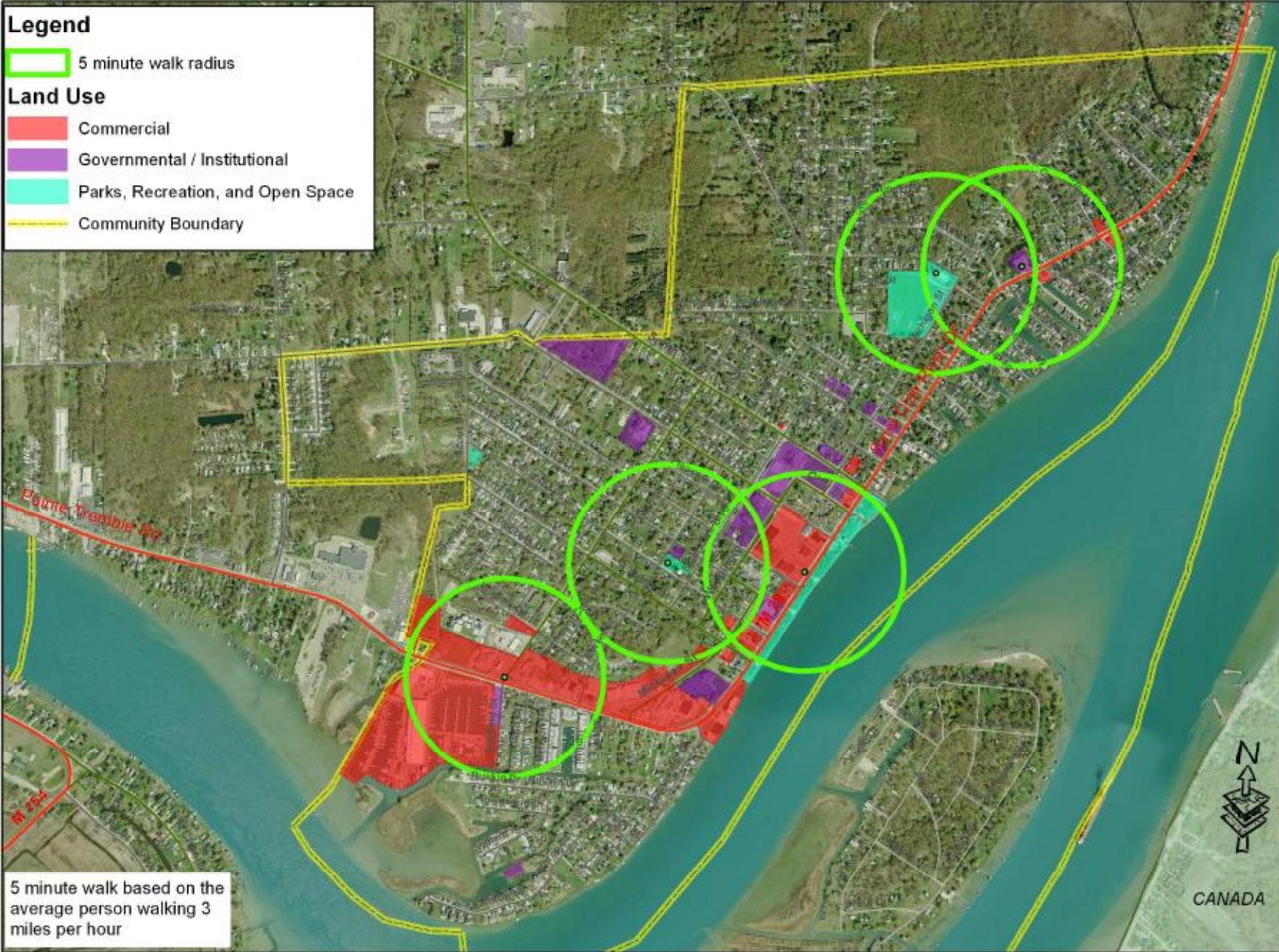
Now more than ever, planners and citizens nationwide are focusing on making their communities more walkable. Walkable communities are widely viewed as thriving, livable, sustainable places that offer their residents safe transportation options and an enhanced quality of life. Current trends show that people prefer walkable communities are choosing such places over less walkable, automobile-centric communities.

Algonac leaders should implement a policy that all city streets have sidewalks on both sides of each street and that all sidewalk improvements meet ADA (Americans with Disabilities Act) standards. Sidewalk replacement and repairs should be coordinated with street and infrastructure improvements.

As shown in Map 6-3, residents in the majority of city neighborhoods are within a five-minute walk of a variety of businesses, schools and other civic uses, and recreational amenities.

Algonac: Pedestrian Mobility

Algonac Master Plan



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