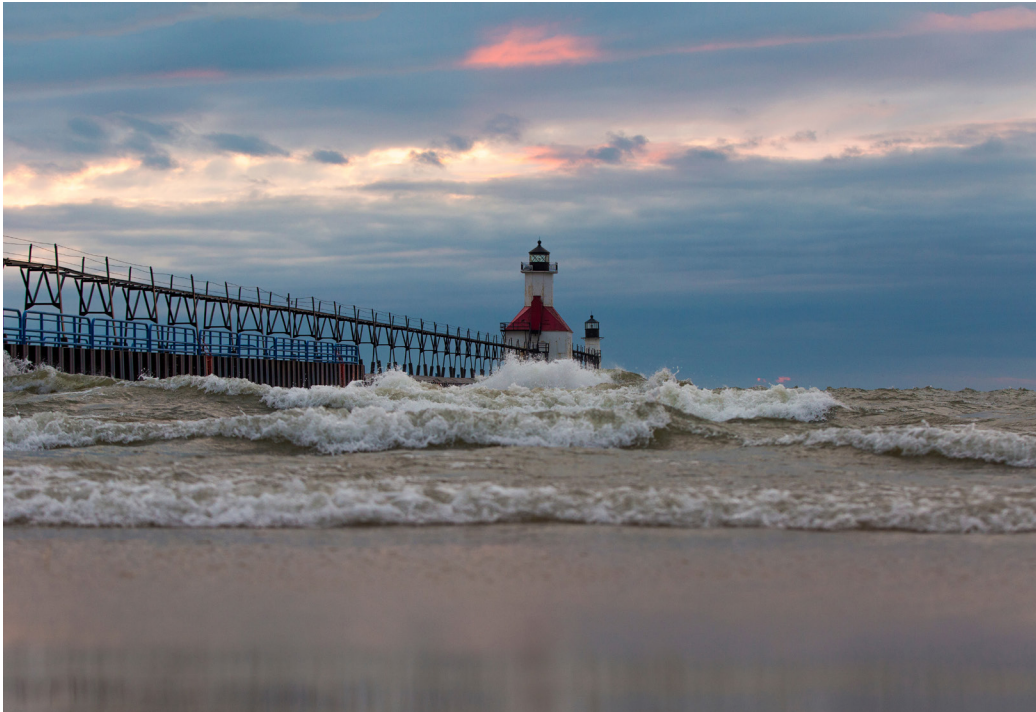


# City of St. Joseph

## 2016 Master Plan



## Acknowledgments

*We would like to thank all those who participated in the development of St. Joseph's Master Plan. The content in this plan reflects the input from almost 300 residents and stakeholders who attended meetings focused on the Resilient St. Joseph Master Plan effort over the course of an 18-month period, as well as from more than 1,000 individuals who responded to the St. Joseph Master Plan Survey. We recognize that the level of participation is impressive for a city of St. Joseph's size.*

## Project Funders

Generous funding for the Resilient St. Joseph Master Planning effort was provided by the Kresge Foundation and the University of Michigan Water Center. In addition, the City of St. Joseph provided a local match to augment these generous grants.





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## DEPARTMENTS

CITY MANAGER  
269-983-5541

BUILDING  
INSPECTIONS  
269-983-1212

CITY ASSESSOR  
269-983-1231

CITY CLERK  
269-983-6325

CITY ENGINEER  
269-983-5541

CODE ENFORCEMENT  
269-983-1212

COMMUNICATIONS  
& MARKETING  
269-985-0349

FINANCE / TREASURER  
269-983-4731

WEST BASIN MARINA  
273 MARINA DRIVE  
269-983-5432

PERSONNEL  
269-983-0443

PLANNING & ZONING  
269-983-1212

PUBLIC SAFETY  
DIRECTOR  
269-985-0300  
Deputy Director - FIRE  
269-983-4641  
Deputy Director - POLICE  
269-985-0300

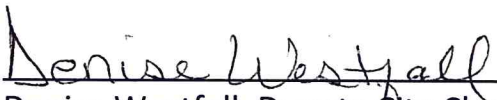
PUBLIC WORKS  
& SERVICE  
DIRECTOR  
STREETS/SANITATION  
WATER/SEWER  
PARKS/BEACHES  
TREES/LIGHTS  
CEMETERY  
1160 BROAD STREET  
269-983-6341

WATER/SEWER  
BILLING  
269-983-6324

WATER TREATMENT  
PLANT  
269-983-1240

I, Denise Westfall, the duly qualified and appointed Deputy City Clerk of the City of St. Joseph, Berrien County, Michigan do hereby certify that the foregoing City of St. Joseph 2016 Master Plan is a true and complete copy of action adopted by the City Commission at a meeting held on June 13, 2016 the original of which is on file in my office. Public notice of said meeting was given pursuant to and in compliance with Act No. 267 of the Public Acts of Michigan of 1976, as amended.

IN WITNESS WHEREOF, I have hereunto affixed my signature this July 14, 2016.

  
Denise Westfall, Deputy City Clerk

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*Photo courtesy of Philip Maki*

# PREFACE

Like any Master Plan, this document has a great deal of ground to cover. We received information and ideas from more than 1,000 people, in dozens of public meetings, through a survey, e-mails, letters and face-to-face interviews and other interactions. This has all been reviewed, considered, distilled and prioritized into a compact plan that addresses the perceived needs and wants of our citizens as well as the foreseen challenges of the next five to twenty years.

Our goal was to have an open process that would obtain more public input than any previous city planning effort, and also would result in a shorter, more concise and more usable document than previous plans. We are certain the community succeeded on the first point—thanks to the willing participation of our residents, property owners, and interested community members and visitors, for which we are grateful—and we believe we have made great progress in bringing that information together into a concise, practical plan.

The plan is, however, a living document. We cannot predict the exact circumstances the community will be facing as it makes each decision, whether to repair a specific street or instead to improve a particular park; to amend an ordinance; or to approve a proposed development. It is not possible to pursue every desired action at once. We believe that over the next five years (at which time the plan must be reviewed under state law) this plan will remain an important and relevant document, but we recognize circumstances will change and as-yet-unforeseen opportunities and challenges will emerge.

Foremost, we believe our residents want St. Joseph to be a good home.

What gauge should be used by the community to prioritize its actions on a changing physical, economic and social landscape? Nothing in this plan stands alone for its own sake. Everything in this plan contributes to making the City of St. Joseph a good home. Our neighborhoods are important—that is where our residents live and they represent the most basic element of being a good home.

We want good employers because we want good jobs, with a wide variety of retail opportunities and services. We need a vibrant downtown as the center of our community—it is where we gather and what we think of as “St. Joseph”. We welcome visitors who make it possible for our community to have more and stronger businesses and better recreational facilities. Recreation, education, health care, community non-profit organizations, police and fire protection, public works and infrastructure are all important parts of being a good home.

We want a strong tax base for the community to help provide desired public services but at the same time we want our individual taxpayers to feel as little burden as possible. We need consistent, transparent public processes to ensure fairness. We want to communicate and collaborate with neighboring communities and stakeholders, because we are interconnected and we believe working together we will find opportunities to make the entire area a better home.

None of these elements should be pursued or protected at the expense of all others, in all circumstances. We do not simply want “more”. Each element is important in proportion. Some of the more frequent conflicts have been with respect to residential areas affected by more intense activity such as commercial development and tourism, and judging how best to protect these areas from unwanted impacts while still allowing commercial and visitor activity that is considered beneficial will continue to be a challenge.

We believe our residents want a good balance, to make St. Joseph a good Home, and believe this sentiment and this philosophy should be the lens through which the specific comments of this plan are viewed.

## CHAPTER 1

# INTRODUCTION

*This master plan is the official document used to guide the future development and growth of the City of St. Joseph and the management of its resources. Organized through a series of goals, objectives, and strategies, this master plan provides the framework and basis for sound decision-making and establishes a clear direction and set of expectations for the community. This master plan is intended to be a usable reference document, easily readable and accessible to all residents.*

Specifically, the St. Joseph master plan:

- Identifies and evaluates existing conditions, characteristics, community values, trends, issues, and opportunities as the factual basis for decision-making.
- Solidifies a vision for the community.
- Establishes the basis for the zoning ordinance, capital improvements, new policies and other implementation tools and programs.
- Provides the framework for day-to-day planning and land-use decisions by city staff, the Planning Commission, and the City Commission.
- Establishes the basis for policies and tools that help build greater community resilience.
- Builds an informed constituency that can help support and participate in implementing this plan.
- Builds support for the allocation of funding and helps leverage funding from regional, state, and federal agencies.

The master plan is intended to take a long-term view of the community, guiding growth and development for the next 20 years and beyond, while providing flexibility to respond to changing conditions, innovations, and new information. By state law, the master plan must be reviewed every five years.

The master plan identifies important natural and cultural resources that contribute to quality-of-place and provides recommendations on how they can be preserved, enhanced, and incorporated into future development plans. The master plan describes where new development should be directed and the character and standards to which new buildings should adhere. The Future Land Use Map is not intended to be used to identify future land use on a parcel-by-parcel basis, but rather to identify districts that may evolve

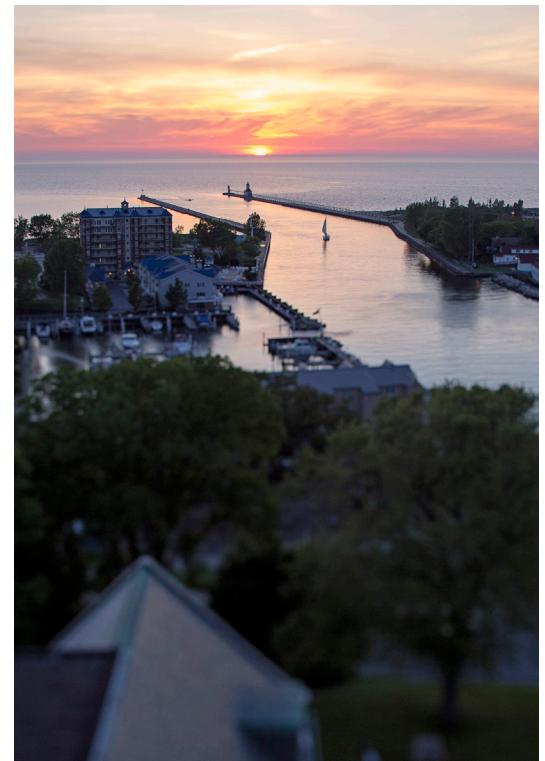


Photo courtesy of Joshua Nowicki

within the City. All rezoning requests must be considered on a case-by-case basis and in accordance with the rezoning process. In particular, the City believes it is important to buffer residential uses from adjacent commercial development and plans to develop techniques through its zoning ordinance to do so. These techniques could include design standards, landscaping standards, restrictions on hours of operation, or enhanced site plan or other types of review. In addition, the master plan identifies the characteristics of neighborhoods, strategies to improve public health, and improvements to the transportation system. The master plan also identifies how the community can better adapt to changes in the Earth's climate and become more resilient.

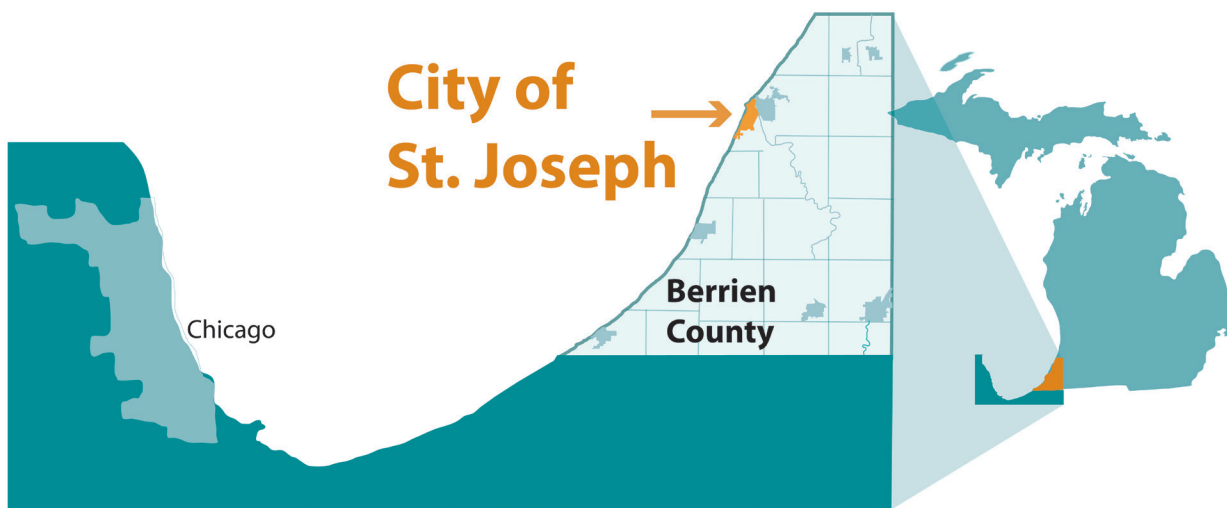
St. Joseph's last master plan, the *City of St. Joseph Comprehensive Master Plan*, was adopted in 2008. The plan was thorough and well-articulated in describing the conditions of the community and identifying key community goals.

While the conditions and challenges of the community have changed, many of the goals and policies outlined in the 2008 plan remain applicable. Therefore, the *City of St. Joseph 2016 Master Plan* is intended to build upon the *2008 Comprehensive Master Plan*, using direct excerpts and revised language, as appropriate.

## St. Joseph at a Glance

The City of St. Joseph is located in the southwestern region of the State of Michigan, within Berrien County. The City of St. Joseph has been the county seat of Berrien County since 1894. Berrien County is the southwestern-most county in Michigan.

The City of St. Joseph's most significant natural features are its water bodies. Lake



Michigan, the St. Joseph River, and the Paw Paw River largely define the east and west City limits and the geographic character of the community. The City of St. Joseph has grown in part due to its natural resources, has prospered as a waterfront community, and has been a tourism destination since the late 1800s. The creek and ravine, which bisect the City from southwest to northeast, are also important natural features.

## Framework

The City of St. Joseph Master Plan has been prepared under the direction of and with direct participation by the City Planning Commission. The components and content of the master plan and the master planning process were established by the Planning Commission under the following guiding principles:

1. **Connect** people, community assets, and services. The residents of St. Joseph are committed to providing accessible, convenient, and affordable options for traveling by foot, bicycle, bus, and car.
2. **Balance** the needs and desires of residents, visitors, and businesses. This plan focuses on meeting the needs of the current population while also continuing to adapt to meet the needs of shifting demographics. Neighborhood infrastructure should be preserved while also enhancing opportunities for tourism, recreation, and economic development.
3. **Preserve** unique historical and cultural resources that define St. Joseph. Cultivate historical and natural resources, protect the views of Lake Michigan and the St. Joseph River, and bolster the historic neighborhoods, downtown, the harbor area, cultural amenities, and natural systems including parks and wetlands.
4. **Be Resilient** to climatic disruptions, a changing economic climate, social changes, and external events through resource conservation, a diversified economy, a renewable and a diversified energy supply, and local food. The residents and leaders of the St. Joseph community are committed to maintaining a high quality of life and a thriving community.

### Resilient St. Joseph

The community-wide Master Plan planning effort in St. Joseph, branded as *Resilient St. Joseph*, was conducted under an overall lens of resilience. Resilience is an umbrella term for the planning and design strategies needed in order to help communities develop the necessary capacity to meet the economic, social, environmental and climate challenges of the future. Community Resilience is a measure of the sustained ability of a community to utilize available resources to respond to, withstand, and/or recover from adverse situations.

### *Master Plan Overarching Goal*

*Initiate and maintain strong collaborative relationships with citizens, governmental units, community and regional organizations, businesses and other stakeholders in order to make the City and region a vibrant and attractive place to live, work, play, visit, and do business.*

#### Phase 1 - Project Start-Up

- Initiate Master Planning Process
- Begin Community Discovery and Conduct First-Level Asset Mapping
- Develop Community-Specific Work Plan
- Determine Community Values

#### Phase 2 - Raising Awareness and Building Engagement

- Develop Detailed Public Participation and Civic Engagement Work Plan
- Convene Community Meetings and Input Sessions
- Administer Community Master Plan Survey

#### Phase 3 - Data Gathering and Research

- Assemble Traditional Community Planning Data Sets
- Assemble Community-Specific Baseline Data for Systems Approach to Planning
- Conduct Community-Wide Vulnerability Assessment

#### Phase 4 - Plan Making and Adoption

- Work with Planning Commission to Refine Goals, Objectives, and Actions
- Hold a Public Open House and Public Hearing, Leading to Formal Adoption of the Master Plan



## The Public Input Process

The community-wide master planning effort involved direct participation from a broad variety of community stakeholders. Almost 300 individuals attended one or more master plan meetings, and over 1,000 individuals provided input through the St. Joseph Master Plan Survey. The community-wide planning process was structured into four major phases as previously identified.

## Planning Commission

The St. Joseph Planning Commission took a leadership role in the master plan process. The master plan consistently appeared as an agenda item during regular monthly planning commission meetings from April 2014 through May 2016. The Planning Commission conducted the public hearing on March 23, 2016. In addition, the Planning Commission convened monthly for special meetings to focus solely on the master plan during this same time period.

## Community Action Teams (CATs)

Citizens from throughout the community were invited to join a set of work sessions to develop topic-specific community planning recommendations for the City. Participants were asked to select one of six topics to examine and discuss together in groups known as Community Action Teams (CATs). The teams were organized under the following six distinct topics:

Access and Transportation

Parks and Natural Areas

Agriculture and Food

Energy and Economy

Human and Social

Neighborhoods and Infrastructure

A diverse group of approximately 80 individuals participated in a series of three CAT meetings during the months of August, September, and October of 2014. CAT members were comprised of the public and private sector, and included elected officials, municipal staff, non-profit directors, business leaders, neighborhood leaders, and numerous other stakeholders. Participants chose the system or topic they were most interested in working on. Through a lens of community resilience, the six teams worked together to identify assets and opportunities for each system, as well as to develop a vision, goals, objectives, and actions for each system. Many of the ideas generated through this process were directly integrated into the master plan. A full CAT report can be found in Appendix A.

## City of St. Joseph Master Plan Survey

In February 2015, the City administered a survey to residents, employees and employers, and visitors of the St. Joseph community. The goal was to learn how community members perceive their community, and what they wish it to be in the future. A total of 1,044 individuals responded to the survey. A full survey report with complete results can be found in Appendix A.

## Waterfront Redevelopment and Harbor Visioning

The project team held three well-attended meetings in November 2014, January 2015, and February 2015 to initiate the process of defining desired future land-use and transportation

circulation for the area surrounding the commercial harbor as well as the greater City of St. Joseph waterfront. At the first two meetings, local leaders and state experts provided presentations and served as panelists to provide background information and perspective on key issues surrounding the harbor area. At the third meeting, participants were asked to work in small groups to identify preferred locations for residential, commercial, mixed-use, and industrial development along the St. Joseph waterfront. A public input summary from the three meetings can be found in Appendix A.

### Below the Bluff Community Vision

In November 2014, residents living below the bluff as well as members of the larger St. Joseph community gathered to identify issues and to develop a long-term vision for the area below the bluff, which includes Silver Beach, Lions Park Beach, and the Lions Park Neighborhood. Almost 100 citizens attended, breaking up into small groups to identify unique features, challenges, and desired improvements to the neighborhood. A full report from the meeting can be found in Appendix A.

## Master Plan Report Structure

Chapter 2 of this document addresses existing land use and future land use for the City of St. Joseph. This chapter answers two important questions: (1) where are we now; and (2) where are we headed? Chapter 3 contains the overarching goals, objectives, and actions for the Plan, and Chapter 4 provides an overview of key implementation strategies for achieving these goals. This plan is relatively short to ensure that it is accessible and usable for all members of the St. Joseph community.

Much of the data and analysis that informed the Future Land Use Map, the goals, objectives, actions, and many of the implementation strategies can be found in the Appendices. For in-depth information on the planning process; population trends; community-specific data; existing conditions; best management practices for transportation and infrastructure; community and place; economic development; and a community vulnerability assessment, please refer to Appendices A through F. Appendix G includes all maps referenced throughout the plan.



Participants in the Energy and Economic CAT work through their vision for the St. Joseph Community.

## CHAPTER 2

# LAND USE

## EXISTING LAND USE

*The physical characteristics and uses of the land in St. Joseph change over time. Trees grow and mature in areas that were once open fields. Homes are built in areas that were once forests. Areas that once supported factories become open fields. In order to make informed decisions regarding future land use, it is critical to have a clear understanding of existing land uses and relationships between land uses. The existing categories on the land-use map are based on the City's property classification data and an analysis of aerial photographs taken in 2009. Map 1 in Appendix G shows the locations of the existing land uses in the City. The following summarizes existing land-use categories as referenced on the Existing Land Use Map.*



Homes within the Lions Park Neighborhood are generally older than homes in other areas of the City, with a significant number recently remodeled. These fall within the Single Family Residential Land Use category.

### Residential

This classification includes single-family detached dwelling units as well as multi-family residences. North of the St. Joseph River, single-family land uses exist along Ridgeway and in the newest single-family residential developments in the City, Edgewater Dunes and Fairways. A majority of the land south of the St. Joseph River and the Central Business District is used for single-family residences. Multi-family uses are located sporadically throughout the City, with condominium developments primarily located along Lake Michigan and the St. Joseph River.



There is a series of multi-family developments along Lakeshore Drive in St. Joseph.

### Commercial

Commercial land uses include retail sales and services, offices, and businesses other than industrial. The two primary commercial areas are the downtown district and the Niles Avenue corridor. While the downtown district includes many smaller locally-owned businesses, the Niles Avenue corridor, which runs north and south in the southern half of the City, includes regional and national chain retailers, restaurants, and strip developments. Other large commercial areas include the area northwest of Hilltop Road; South State Street, which is anchored by Leco Corporation; and an office park development located north of the St. Joseph River within the Edgewater Development.



The Niles Avenue Commercial corridor hosts a variety of commercial establishments, including a number of national chains.



Lafarge is an existing industrial land use.



While not owned or operated by the City, the Berrien County Sheriff's Department is an example of an Institutional use.



Areas north of the St. Joseph River currently classified as vacant are generally identified as Waterfront Mixed Use in the Future Land Use Map.

## Industrial

Manufacturing and commercial harbor uses are the main industrial land uses. Manufacturing is primarily located within the southwestern region of the City, and on and near the St. Joseph River.

## Institutional

This classification includes properties used for government offices, schools, churches, emergency services, and other similar uses. Three of the largest institutional uses are St. Joseph High School, the Joint Wastewater Treatment Plant located on Marina Island, and the Lakeland Health Complex.

## Recreation

This classification includes parks as well as natural woodland and vegetated areas. Much of the land used for recreational purposes is along Lake Michigan, throughout the ravine, and in public parks and recreation facilities dispersed sporadically throughout the City. The largest areas within this classification are located along the Lake Michigan shoreline, which include, among others, private and public beaches, Silver Beach, Lions Park, Tiscornia Park along M-63 north of the St. Joseph River, Kiwanis Park, and the wooded area and ravine extending to the southwest.

## Vacant

This classification includes undeveloped properties, commercial and industrial properties no longer in use, street and railroad rights-of-way, and several areas along Lake Michigan and the St. Joseph River for which no other classification was identified.

### **The PA 425 Conditionally Transferred Property.**

In 2005, the cities of St. Joseph and Benton Harbor and Harbor Shores Community Redevelopment, Inc., entered into a development agreement which conditionally and temporarily transferred a portion of the City of St. Joseph to the City of Benton Harbor. This transfer is authorized under Public Act 425 of 1984, as amended.

The purpose of the transfer was to allow the subject properties to be included in the Berrien County Brownfield Redevelopment Authority plan for the overall Harbor Shores development. This in turn allowed the use of tax increment financing to capture taxes resulting from development of these properties to help offset the costs of activities such as environmental remediation and the construction of utilities in the broad Harbor Shores development area.

The properties included in the PA 425 conditional transfer area are on the north side of the St. Joseph River, south and east of Upton Drive, the CSX railroad, and state highway M-63. This includes the development parcel on the St. Joseph River west of M-63; the Harbor Village development east of M-63; and the Fairways neighborhood and holes 3, 4 and 5 of the Harbor Shores golf course. The complete legal description can be found at City Hall. The agreement terminates and this property returns to the City of St. Joseph for all purposes on 11:59 p.m. on December 30, 2025, which is within the timeframe of this master plan.

## FUTURE LAND USE

An important component of any master planning effort is the development of a Future Land Use Plan. The City of St. Joseph Future Land Use Map and Plan were developed based on stakeholder input at public meetings, feedback from the City and Planning Commissions, and goals and objectives developed throughout the Resilient St. Joseph planning effort.

The Future Land Use Plan and Future Land Use Map describe a generalized, preferred organization of future land uses in the City of St. Joseph. The Future Land Use Plan is a general framework intended to guide land use and policy decisions within the City over the next 20 years. It guides the development of the Zoning Plan (found in Chapter 4 of this Master Plan) and ultimately influences changes that may be made to the zoning ordinance. By state law, the master plan must be reviewed every five years.

A key change from the 2008 Future Land Use Map is that this updated map uses softened edges to transition from one district to another, allowing for added flexibility when determining appropriate land use throughout the community. The map was informed by a variety of factors, including existing land use, public input from the planning processes, analysis of community vulnerabilities, desired community character, development impacts on natural features, and future growth. The Future Land Use Map, found on page 12 and as Map 2 in Appendix G, shows generalized locations for the broad future land use districts described on the following pages.

The Future Land Use Map is not intended to be used to identify future land use on a parcel-by-parcel basis, but rather to identify districts that may evolve within the City. All rezoning requests must be considered on a case-by-case basis and in accordance with the rezoning process. In particular, the City believes it is important to buffer residential uses from adjacent commercial development and plans to develop techniques through its zoning ordinance to do so. These techniques could



As the demographic makeup of the City of St. Joseph shifts, residential housing choices must follow suit. If trends indicated in the Census data continue in the future, St. Joseph will have smaller households and a need for condominiums, apartments, smaller homes, and other options to supplement the City's traditional stock of single-family detached homes.



There is only one Downtown St. Joseph, and the character and charm of the Central Business District is much of what defines the City's identity.

include design standards, landscaping standards, restrictions on hours of operation, or enhanced site plan or other types of review.

### *Residential*

The intent of the Residential Future Land Use District is to provide for single-family homes in residential neighborhoods. The Future Land Use Map includes accessory dwelling units in this district, a change from the 2008 map. In general, there has been a slight decrease in the total land area designated as residential as compared with the 2008 Future Land Use Map. This is because some residential corridors have been identified as potential locations to consider limited mixed-use and commercial development as long as it is compatible with existing neighborhoods.

### *Central Business District*

The intent of the Central Business District (CBD) is to provide an exclusive district for the downtown to serve as a central convening place for business and leisure, in a pedestrian-oriented and historic setting. This district should include an appropriate mixture of commercial, office, residential, entertainment, institutional, and public uses. The City is willing to consider expanding the CBD east of Main Street and one block south of Main Street. Currently, this area consists of numerous banks, a few coffee shops and restaurants, the Berrien County Courthouse and Sheriff's Department, Lake Michigan Catholic High School and the Catholic Church. This will allow for expansion of the CBD and facilitate mixed-use traditional downtown developments, with commercial uses on the ground floor and residential and/or office above. The zoning is consistent with existing Downtown and Commercial Office zoning districts.

### *Commercial*

The intent of the Commercial District is to provide for general retail and commercial uses with pedestrian-oriented nodes compatible with surrounding residential areas. This district can accommodate a mix of businesses, such as restaurants and grocery stores, with potential for some residential uses above ground-floor retail in commercial nodes. This is compatible with portions of the City currently zoned Commercial Business and Commercial Office.

### *Neighborhood Mixed Use*

The intent of the Neighborhood Mixed Use District is to provide a mix of residential and commercial uses. Developments may include a mix of housing types, including multiple-family units, and a variety of retail, service, and office uses. The inclusion of this district is the most significant change from the 2008 Future Land Use Map. This district would accommodate some



Many existing commercial establishments on Niles Avenue would be appropriate in the Neighborhood Mixed Use District.

neighborhood commercial uses in areas that are currently zoned strictly residential. The primary purpose of this new zoning district would be to provide an opportunity for neighborhood services to be located within walking and biking distance to residences, while retaining the primary land use as residential. These neighborhood mixed-use areas would occur primarily along busier corridors in the City that already have some commercial uses mixed with residential – including Main Street, Lakeshore Drive, Niles Avenue, and Napier Avenue. This district is compatible with portions of the City currently zoned Waterfront Recreational, Two-Family and Multiple Family Residence, Commercial Office, and Commercial Business.

### *Waterfront Mixed Use*

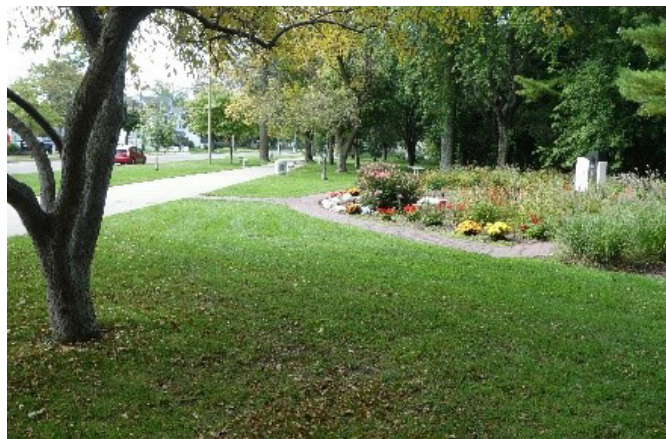
The intent of the Waterfront Mixed Use District is to provide a mix of residential, commercial, service, entertainment and lodging, with an emphasis on providing public access to private and public land uses. Appropriate developments in this district include a mix of residential, commercial, service, lodging, and limited industrial uses compatible in a waterfront setting. The City sees value in ensuring that new industrial uses are compatible with nearby uses and neighborhoods. Developers will be required to work with the City to provide for public right-of-way easements to ensure non-motorized connectivity as outlined on the Future Land Use map (p. 12). Any new industrial uses must be functionally dependent on or associated with the waterfront. This district should not be used for industrial uses that do not require a relationship with the waterfront. This district is compatible with areas currently zoned Water Recreation, Two-Family and Multi-Family Residence, and some limited existing Industrial.

### *Industrial*

The intent of the Industrial District is to provide an exclusive area for industrial uses dependent on transportation to and from the site, including large plants that involve manufacturing, stamping, and machine operations. This district is concentrated in southern St. Joseph and is compatible with portions of areas currently zoned Light Industrial.

### *Parks and Open Space*

The intent of the Parks and Open Space District is to identify and protect park land, open space, conservation areas, and environmentally sensitive areas. This includes land not currently owned by the City identified for land acquisition or future recreation easements. Potential recreation easements include the Lakeshore Greenway and the St. Joseph Ravine. The City plans to expand parks and open space areas to allow for a series of connected greenways throughout the City, linking key recreational amenities to residences and services. The City will need to pursue acquiring easements from private property owners and other governmental entities to expand greenways along both sides of the St. Joseph River, surrounding



Lake Bluff Park provides a great view of Lake Michigan and opportunities for passive recreation. The Park is adjacent to downtown and near residential neighborhoods.

Marina Island, through the ravine, and south along Lake Michigan to the extent possible. Over time, it is envisioned that these greenways will connect with surrounding communities. This district is compatible with areas currently zoned Open Space and Waterfront Recreation.

### Existing Wetlands

The City believes that identifying locations of existing wetlands is important to inform future land use and to increase awareness of these critical natural resources in light of new development pressure. According to analysis conducted by the Michigan Department of Environmental Quality (MDEQ) Water Division, wetlands exist in the northern portion of the City, which is zoned Water Recreation. There are also existing wetlands on Marina Island in areas zoned Water Recreation as well as areas in the Edgewater Dunes Neighborhood and the Edgewater commercial development. The City will take steps to protect these wetlands and take their locations into account when reviewing site plans and development proposals. See Map 3 (Appendix G) for exact locations and sizes of existing wetlands.

### Next Steps

Once these districts have been established by the community, the next step is charting out a plan for implementing the changes to land use described above. The Zoning Plan found in *Chapter 4: Implementation* lays out a comprehensive set of changes to the zoning ordinance that the City will work toward implementing.

Important ecosystem services provided by wetlands include sediment retention, floodwater control and water filtration, which improves water quality. Communities should take a watershed-level approach to preserving and restoring wetlands. Pictured clockwise from left below: wetland informational signage, a wetland at the north end of a northern subdivision in St. Joseph, and a wetland on Marina Island.

The Michigan Department of Environmental Quality (DEQ) has conducted a Landscape Level Wetland Functional Assessment for the St. Joseph River Watershed. A Wetland Functional Assessment rates each wetland according to its ability to perform specific ecological functions. According to the DEQ analysis, all but one of the existing wetlands within the City of St. Joseph are designated as highly significant for storing excess water during flood events and reducing flood damage to roads and property.

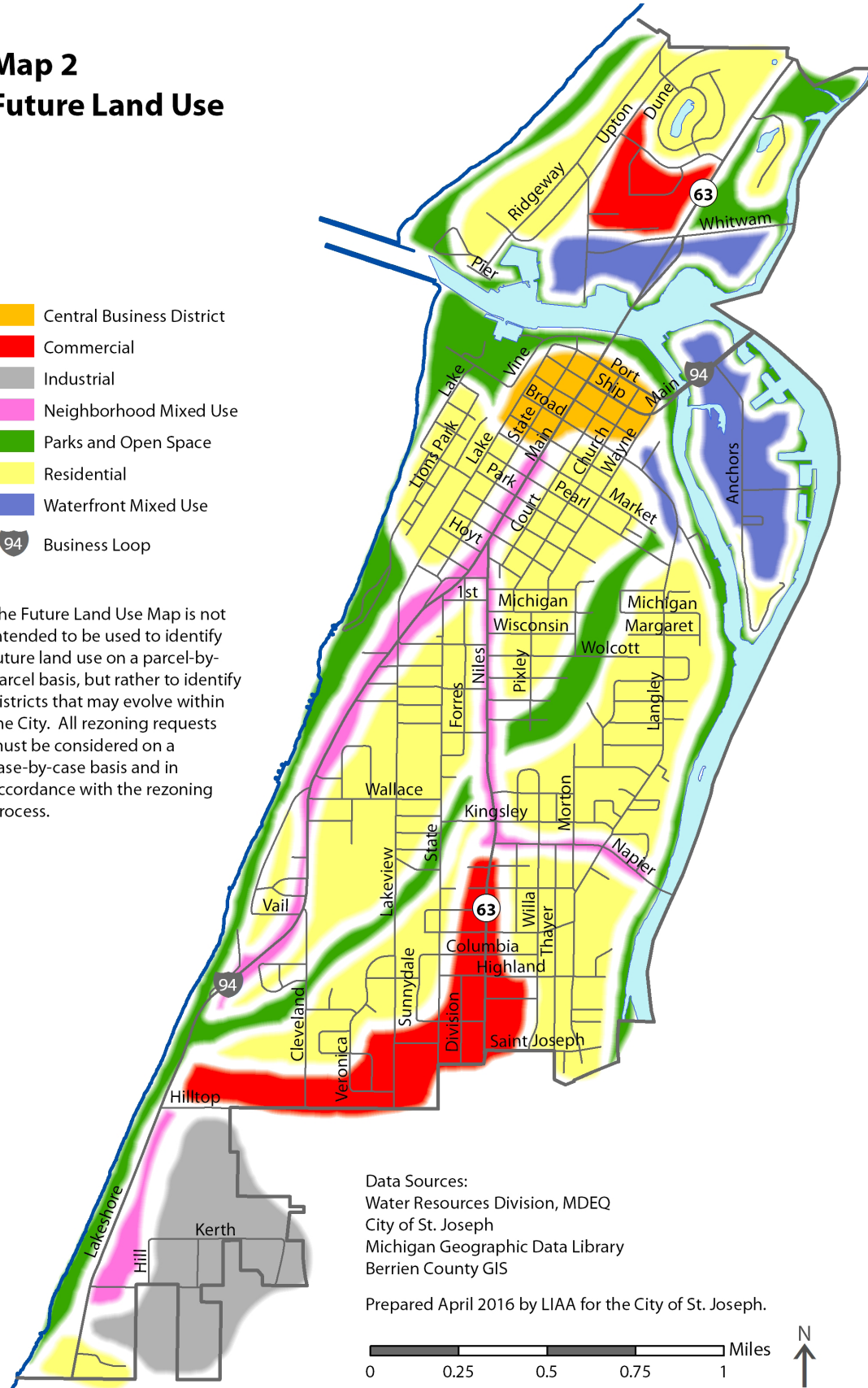




## Map 2 Future Land Use

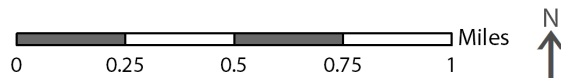
- Central Business District
- Commercial
- Industrial
- Neighborhood Mixed Use
- Parks and Open Space
- Residential
- Waterfront Mixed Use
- 94 Business Loop

The Future Land Use Map is not intended to be used to identify future land use on a parcel-by-parcel basis, but rather to identify districts that may evolve within the City. All rezoning requests must be considered on a case-by-case basis and in accordance with the rezoning process.



Data Sources:  
 Water Resources Division, MDEQ  
 City of St. Joseph  
 Michigan Geographic Data Library  
 Berrien County GIS

Prepared April 2016 by LIAA for the City of St. Joseph.



## CHAPTER 3

**GOALS, OBJECTIVES, AND ACTIONS**

*The goals, objectives, and actions in this chapter were created with citizen and stakeholder input collected throughout the master plan process. This planning process differed from the previous St. Joseph Master Plan update in 2008 in that the Plan includes goals, objectives, and actions that are not solely the responsibility of the City. Many actions found in this plan require political support from the City and a willingness to collaborate with other groups and agencies, but do not require any direct funding from the City to implement. The table at the end of this chapter outlines a planned implementation schedule for each action and includes a general time-frame for implementation, the party responsible for implementing, priority, and anticipated funding source.*

**Overarching Goal**

The City of St. Joseph will initiate and maintain strong collaborative relationships with citizens, governmental units, community and regional organizations, businesses and other stakeholders in order to make the City and region a vibrant and attractive place to live, work, play, visit, and do business.

The Stormwater, Asset Management, and Wastewater (SAW) program provides grants for planning efforts and projects to identify and manage stormwater and wastewater assets, create stormwater treatment management plans, and reduce sewage, stormwater, or non-point source pollution. The grants can also fund the testing and demonstration of innovative water quality improvement projects.

**Transportation and Infrastructure****Goal 1: Assess and maintain the City's existing infrastructure.**

Objective: Ensure road improvements are done in a strategic way to efficiently improve connectivity and access for all users.

Objective: Implement the results of the Stormwater, Asset Management, and Wastewater (SAW) grant to improve road pavement quality, focusing on highest priority actions first.

## Goal 2: Encourage biking and walking as an integral part of daily life in the city.

Objective: Improve bicycle and pedestrian safety and connectivity with transit, schools, parks, employment centers, shopping, and other municipalities.

- Action: Develop a plan for a non-motorized network that highlights opportunities for modifications to existing infrastructure as well as investments in new infrastructure.
- Action: Identify opportunities to encourage placement of bicycle racks at public and private destinations.
- Action: Install comprehensive signage to define bike routes.
- Action: Identify high pedestrian-vehicular conflict locations and high traffic intersections and prioritize these for improvements.
- Action: Identify and prioritize locations for traffic calming improvements.
- Action: Ensure key sidewalk corridors are cleared of snow in a timely manner so residents can safely access walkable areas of the community year-round.
- Action: Identify streets and corridors where bike lanes can be immediately implemented and execute these improvements.

**Traffic calming** includes a variety of methods of street improvements with the overall goal of reducing vehicle speeds, improving safety, and enhancing quality of life.

## Goal 3: Investigate solutions to better manage transportation and parking demands.

Objective: Investigate implementing a shuttle service and/or additional transit routes connecting large parking lots in areas outside of downtown with amenities in the core of the City.

- Action: Identify off-site parking locations that are not used to full capacity and work with property owners to secure shuttle pick-up locations.
- Action: Investigate the feasibility of developing seasonal public transit routes to serve the off-site parking.

Objective: Identify creative solutions for easing the summer season parking.

- Action: Enhance enforcement during the peak summer season and holidays.



With better connections between the north and south side of the St. Joseph River, many residents may choose to bike and walk in the surrounding area, reducing traffic congestion and improving health for St. Joseph residents.

- Action: Review existing regulations and consider increasing parking fines to deter people from parking illegally.
- Action: Review zoning requirements for parking.
- Action: Conduct a comprehensive parking study for both downtown and out-of-downtown parking.
- Action: Work with Berrien County to add signage and improve communication on beach parking availability to encourage beach-goers to park in beach parking lots and other available lots when Silver Beach parking is at capacity.
- Action: Review existing on-street parking regulations to ensure they are compatible with parking needs and the impact on existing neighborhoods, services, and infrastructure.
- Action: Analyze and identify existing streets and parking lots capable of accommodating additional parking.

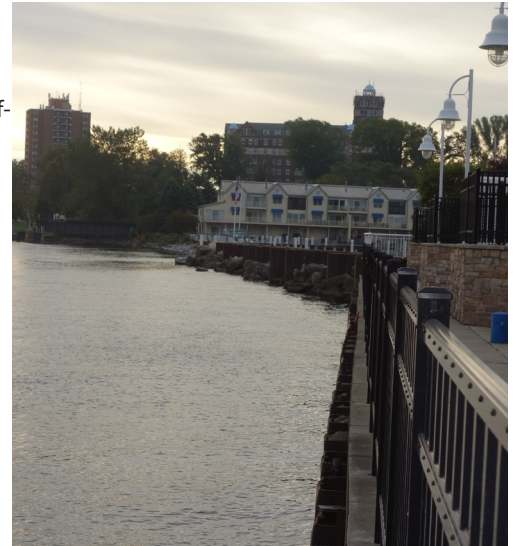
#### **Goal 4: Maintain, protect and expand public access and connectivity to Lake Michigan, the St. Joseph River, and the Paw Paw River waterfronts.**

Objective: Improve pedestrian, bicycle, and vehicular connectivity and access between the north and south sides of the St. Joseph River.

- Action: Consider encouraging use of street-legal low speed vehicles as a common form of transportation north of the St. Joseph River with possible connection and expansion to the rest of the city.

Objective: Establish paths in corridors not well served by existing bicycle and pedestrian facilities.

- Action: Establish a St. Joseph riverfront pedestrian and bicycle trail from the Margaret Upton Arboretum to Lakeland Health and beyond, eventually connecting further south to the St. Joseph Charter Township trail system.
- Action: Identify potential easements on private property along the riverfront to improve connections on both sides of the river.
- Action: Work with Lakeland Health to establish a path through the hospital property by establishing an easement.
- Action: Connect existing trail facilities at Harbor Shores and Harbor Village with downtown St. Joseph and the waterfront.
- Action: Establish a trail along the CSX right-of-way along Lake Michigan south of the water treatment plant.
- Action: Identify potential easements on private property along the lakefront to improve connections south to the city limits



The City plans to work strategically with private landowners to secure easements along the entire length of the waterfront to provide public access to the waterfront.

A **Pocket Park** is a small park accessible to the general public, generally within walking distance of the surrounding neighborhood.



## **Community and Place**

### **Goal 1: Preserve the traditional neighborhood feeling of safety, neighborliness, and value in residential districts.**

Objective: Maintain high quality, well-staffed, rapid response emergency services.

Objective: Respect existing neighborhoods and improve transitions between commercial, residential, and other zoning districts.

- Action: Explore height restrictions, landscaping standards, and regulations on hours of operation to ensure commercial developments are well-buffered from residences.

*See Chapter 4: The Form Based Code Regulating Plan for a description of the existing character of downtown.*

- Action: Improve street lighting in residential districts, considering LED or street light covers, to shield the brightness of the halogen lights.

**Objective:** Define the unique elements of each neighborhood.

- Action: Inventory and document unique characteristics of each neighborhood.
- Action: Ensure definitions in the zoning ordinance are consistent with conditions in neighborhoods and are appropriate to the desired characteristics of the community.
- Action: Encourage creation of neighborhood associations.
- Action: Explore locations for pocket parks within walking distance of all residences.
- Action: Lead a series of focused meetings on local neighborhoods to define existing conditions and prioritize future projects and initiatives the neighborhood would like to undertake, including but not limited to Below the Bluff neighborhoods.

**Goal 2: Promote a vital multi-use traditional downtown district.**

**Objective:** Investigate form-based overlay districts in the downtown core to protect existing character.

**Objective:** Support and encourage residential opportunities above street level with varied ownership/rental qualities and many varied price points.

**Objective:** Make St. Joseph more diverse and inviting by encouraging growth of art, culture, and aesthetics.

- Action: Nurture art-based businesses through regular art walks and art shows.
- Action: Maintain and promote strong cultural and civic events.
- Action: Identify additional public and quasi-public opportunities for outdoor eating and gathering places.



Burying overhead utilities improves the overall visual appeal of the community.

**Goal 3: Improve the sense of community cohesion on and near main thoroughfares.**

**Objective:** Investigate design standards or form-based overlay districts on Niles Avenue, Main Street, and Lakeshore Drive to improve aesthetics and function and better incorporate these corridors into the community.

**Objective:** Bury power lines and other utilities when possible in conjunction with planned roadwork.

**Objective:** Improve visual character of main thoroughfares to foster business retention and attract new businesses.

- Action: Conduct a design charrette focused on main thoroughfares to identify key node(s) and opportunities for a more welcoming streetscape.
- Action: Review parking standards and appropriate sized parcels to attract desired types of businesses.
- Action: Facilitate Access Management by reducing driveways on main thoroughfares to improve safety.

## Goal 4: Work to provide recreational activities and community services that enhance quality of life for residents and attract new visitors.

Objective: Improve collaboration and cooperation with local and regional entities to maximize existing parks and recreational offerings and amenities.

- Action: Establish a clearinghouse to serve as a single point of contact for organized recreational opportunities.
- Action: Use the Parks and Recreation Master Plan to evaluate existing conditions and prioritize replacements and upgrades.
- Action: Evaluate whether existing facilities meet the diverse needs of the entire community.
- Action: Keep the Parks and Recreation Master Plan current within the 5 year cycle.
- Action: Periodically review the use and amenities at city parks to keep up with resident demand, visitor demand, and the market.

Objective: Maximize the enjoyment and use of Riverview Park.

- Action: Evaluate the feasibility of additional recreational amenities, for example, disc golf and a campground.
- Action: Maintain and expand the trail system within park and add connectivity between city and other municipalities through implementation of a non-motorized path or bike lanes along M63 in conjunction with MDOT.



## Goal 5: Continue strong communications between city government and local and regional governmental entities as well as non-governmental organizations to ensure actions are in harmony with the surrounding area.

- Action: Hold regular joint meetings with community leaders, city boards and commissions, and with adjacent jurisdictions.

## Goal 6: Maintain consistent, efficient, and transparent government processes.

Objective: Continue frequent and diverse city communications using multiple forms of communication, including social media, city newsletters, and neighborhood groups.

Additional traffic counts is one strategy to help identify areas of conflict between residential and industrial land uses in the Harbor area.

### **Goal 7: Develop a long-range land use and development vision for the Harbor area.**

Objective: Take a leadership role in identifying relevant stakeholders and spearheading conversations to share information, ideas, and concerns with regards to the future of the Harbor area.

- Action: Conduct additional traffic counts on streets throughout the harbor area to identify key traffic patterns and potential conflicts between residential and industrial users.
- Action: Determine the potential impacts of different future uses for the existing commercial harbor.

Objective: Support and protect the Federal commercial harbor designation.

- Action: Investigate long term, sustainable locations and options for inner harbor dredging spoils, looking for potential collaborations with other communities.
- Action: Take a leadership role in encouraging and securing U.S. Army Corps of Engineers dredging activities of both the inner and outer harbors.
- Action: Encourage continued appropriate placement of dredging spoils on City beaches and waterfront.

### **Goal 8: Seek a balanced approach to tourism, recognizing its contribution to the local economy while minimizing impacts on residents' quality of life.**

## **Economic Development**

### **Goal 1: Support workforce needs of local employers.**

Objective: Support efforts by Whirlpool, Lakeland Health, LECO, Berrien County, Lake Michigan College, AEP, and other existing employers to attract and retain high quality employees.

- Action: Research the needs and wishes of 25-30 year-olds and create an action plan to address these needs.
- Action: Add WiFi hotspots to downtown St. Joseph.
- Action: Provide broadband as an essential city infrastructure.

Objective: Increase support of existing companies and employers in order to retain them in the city.

- Action: Work with St. Joseph Today to support business collaboration with events and networking opportunities.
- Action: Collaborate with Cornerstone Alliance, Cornerstone Chamber Services, and Southwest Michigan Tourist Council to recruit new, desirable employers to the St. Joseph community.
- Action: Support access to and awareness of high quality pre-school, daycare, and out of school activities.
- Action: Enhance after-school programs through partnerships between schools and PTA collaboration.

### **Goal 2: Attract and encourage new businesses and cultivate entrepreneurs.**

- Action: Explore incentives to attract new businesses.
- Action: Work with Cornerstone Alliance to explore business incubator or shared workspace opportunities for start-up companies.

### Goal 3: Identify strategies to incentivize the development of diverse and desirable residential development within St. Joseph city limits.

- Action: Utilize the 2016 Kinexus Housing Market Analysis to inform identification of affordable housing locations and multifamily developments.
- Action: Consider modifying the zoning code where appropriate to maximize housing options.
- Action: Foster public-private partnerships to promote increased housing options.
- Action: Study options for pursuing affordable housing funds through programs like the MSHDA HOME program, downtown rental rehab, and low income tax credits.

One resounding theme throughout the planning effort was that the City of St. Joseph is defined by its water. Water is the life blood of the community. Protecting water quality is paramount to economic development and a high quality of life.



### Goal 4: Provide a transparent, supportive, welcoming environment for development or redevelopment of property when supported by the Master Plan and ordinances.

## Natural Areas and Resilience

### Goal 1: Maintain, preserve and protect St. Joseph's shorelines, natural areas and natural resources.

Objective: Protect public trust property along the Lake Michigan shoreline, and existing homes near the shore.

- Action: Revisit appropriate coastal measures south of the St. Joseph River as discussed in the 2012 Coastal Study.
- Action: Update the 2012 Coastal Study north of the St. Joseph River at appropriate time intervals or water level change benchmarks, as described in the study.
- Action: Enforce appropriate regulations to ensure there is no improper construction in at-risk areas along the coast as identified by FEMA.



**Objective:** Increase the tree canopy cover city-wide.

- Action: Investigate becoming a nationally recognized 'Tree City'.
- Action: Use the tree canopy inventory conducted as a part of the vulnerability assessment to prioritize public street tree plantings.
- Action: Consider instituting tree planting or maintenance requirements as a part of the zoning ordinance.
- Action: Adopt a tree maintenance, tree planting, and tree-cutting policy for public properties.
- Action: Research projected shifts in tree species and transition street tree-planting programs to trees that will thrive in hotter summers and wetter winters.
- Action: Create a list of appropriate tree species to plant and educate private property owners on proper maintenance and upkeep.

*Since 1976, the Tree City USA program has provided a framework necessary for communities to manage and expand their public trees. More than 3,400 communities have made the commitment to becoming a Tree City. Information on requirements can be found at [arborday.org](http://arborday.org).*

**Objective:** Preserve water quality.

- Action: Collaborate with local, and regional entities and the State of Michigan to monitor water quality regularly, sharing data with surrounding jurisdictions.
- Action: Conduct business education and outreach to home owners.
- Action: Encourage upstream jurisdictions to reduce nutrient loading in the St. Joseph River from agricultural run-off and lawn care products.
- Action: Complete the combined sewer overflow disconnection effort.
- Action: Preserve existing wetland functions and consider adopting a local wetland ordinance for added protection.
- Action: Evaluate strategies to control invasive species.

## Goal 2: Explore policy making and management options for local alternative energy use and conservation of resources.

**Objective:** Consider adopting ordinances that detail permissible use of alternative energy sources; as well as conservation measures.

**Objective:** Identify energy efficiency cost-saving opportunities for residents and business owners.

- Action: Create measurable goals to incentivize businesses and residents, identifying appropriate non-regulatory benchmarks.

**Objective:** Improve infrastructure for electric vehicles.

- Action: Explore a comprehensive electric vehicle infrastructure ordinance to encourage provision of electric car charging stations.

**Objective:** Improve stormwater management on public and private properties.

## Goal 3: Improve access to local food.

**Objective:** Expand the City of St. Joseph Farmer's Market.

- Action: Review the location and operating hours of the farmers market. Consider operating it near local employment base during business hours to offer workers the opportunity to purchase fresh foods.
- Action: Address delivery logistics to reduce congestion.



Objective: Promote and expand small-scale food entrepreneurship.

- Action: Explore locations for community gardens.
- Action: Encourage and support regional food entrepreneurs by providing a hub for advertising and shuttles to farms, vineyards, and breweries.

## GRANTS AND OTHER FUNDING OPPORTUNITIES

Although many actions detailed above will be funded through the City general fund and other local partners, there are State and Federal funding sources as well as creative local strategies the City will continue to explore as it works to implement specific actions identified in this planning effort, including those listed below.

### Community Development Block Grants

Community Development Block Grant (CDBG) funding is provided to local communities through the Michigan Strategic Fund with assistance from the Michigan Economic Development Corporation (MEDC). A variety of grants related to economic development, downtown development, and housing projects are available. The City could investigate utilizing CDBG funding for facade improvements, neighborhood projects, and historic preservation projects. Additionally, CDBG Farm to Food funding is available for the construction, improvement, or expansion of a three- to four-season farmer's market facility. This funding could be used to expand the St. Joseph Farmer's Market.

### Corridor Improvement Authority

A Corridor Improvement Authority functions in a similar way to that of a Downtown Development Authority (DDA). A Corridor Improvement Authority could be considered for the Niles Avenue corridor and would be overseen by a board made up of residents, business owners and public officials. The Corridor Improvement Authority Act also allows the use of Tax Increment Financing (TIF) to fund and maintain public infrastructure projects.

### Transportation Alternatives Program (TAP)

The Transportation Alternatives Program was authorized under Section 1122 of the Federal Moving Ahead for Progress in the 21st Century Act (MAP-21). Under the Program, each state Department of Transportation is required to allocate 2 percent of its total Federal Highway funds for programs and projects defined as transportation alternatives. Examples of transportation alternatives include non-motorized trails, sidewalks, transit stops or stations, and education and safety programs such as Safe Routes to School. This is a potential funding source for the proposed Greenway system in St. Joseph and improvements identified in the Sidewalk Gap analysis and non-motorized plan.

### Natural Resource Funding Sources

The Michigan Natural Resources Trust Fund (MNRTF) provides funding assistance for state and local outdoor recreation needs, including land acquisition and development of recreation facilities. This assistance is directed at creating and improving outdoor recreational opportunities

and providing protection to valuable natural resources. Development project grant amounts range from \$15,000 to \$300,000, with a required local match of at least 25 percent. Trails and greenways are a priority project type for MNRTF grants. The City should pursue these funding sources to support ravine improvements and other recreation projects in the community.

The Michigan Department of Natural Resources (DNR) Land and Water Conservation Fund provides funding to local governments for the acquisition and development of public outdoor recreation areas and facilities. A local match of at least 50% of the total project cost is required. Grant amounts range from \$30,000 to \$100,000. This funding source could be used to develop trails and acquire properties to expand local recreation and trail systems.

### Brownfield Redevelopment Authority

The City of St. Joseph has a Brownfield Redevelopment Authority (BRA) which can help offset the additional costs of redeveloping previously developed properties through tax increment financing as established in an approved brownfield plan. Under state law, the BRA through an approved brownfield plan is able to approve reimbursement of eligible expenses such as environmental remediation, demolition of blighted or functionally obsolescent structures, and installation of infrastructure. The state law is intended to encourage the re-use of previously developed properties. For the tax year 2016, there is one active St. Joseph BRA brownfield plan which is capturing tax increment revenue to reimburse a new multiple-family residential development.

In addition, the Berrien County BRA has a brownfield redevelopment plan for the properties north of the St. Joseph River that are included in the broader Harbor Shores development. The county plan includes the parcels subject to the PA 425 conditional transfer agreement as well as the large vacant parcel at the southwest corner of M-63 and Klock Road. Taxes captured from the growth in this area are used to reimburse environmental remediation and infrastructure cost for the Harbor Shores development.

### Housing Options

The Michigan State Housing Development Authority (MSHDA) is partnering with Kinexus to conduct a target housing market analysis for the Cities of St. Joseph and Benton Harbor. The purpose of this study is to help the communities determine whether a market exists for additional types of housing, and if so, where. The study will contain statistics on demographics and income and information on current rental market conditions. The results will be used to inform potential investments in public-private partnerships that could support more needed housing in the community.

### Action Plan

Much of the impact of a community master plan lies in the ability of the community to implement actions. An important first step in implementing any master planning effort is identifying a time-frame and funding source in which each action will be implemented as well as the entities within the community with capacity to implement each action. Because resources are limited, it is also helpful to identify the relative priority of each objective, with the understanding that the master plan is a wish list of projects and initiatives. Table 3.1 outlines an Action Plan for the manner in which the City of St. Joseph plans to begin implementing the goals, objectives, and actions identified through the master plan process. Each objective is identified on a priority continuum ranging from *important* to *most important*. Each action is assigned a time-frame of either *within 2 years*, *2-5 years*, *5 plus years*, and *continuous*. City staff took the lead on identifying a responsible party for each action as well as a list of potential funding sources.

**Table 3.1 Action Plan**

Transportation and Infrastructure	Priority (Objectives only)			Time Frame (Actions only)				Actions only	
	Most Important	Very Important	Important	Within 2 years	2-5 years	5 plus years	Continuous	Responsible Party or Key Partners	Potential Funding Source
<b>Goal: Assess and maintain the City's existing infrastructure.</b>									
<i>Objective:</i> Ensure road improvements are done in a strategic way to efficiently improve connectivity and access for all users.		X							
<i>Objective:</i> Implement the results of the Storm Assessment Management and Wastewater (SAW) grant to improve road pavement quality, focusing on highest priority actions first.		X							
<b>Goal: Encourage biking and walking as an integral part of daily life in the city.</b>									
<i>Objective:</i> Improve bicycle and pedestrian safety and connectivity with transit, schools, parks, employment centers, shopping, and other municipalities.		X							
<i>Action:</i> Develop a plan for a non-motorized network that highlights opportunities for modifications to existing infrastructure as well as new infrastructure investments.					X			City, PC, MDOT, Others	Public, Grants
<i>Action:</i> Identify opportunities to encourage bicycle racks at public and private destinations.				X				City, Business Owners	Public, Grants
<i>Action:</i> Install comprehensive signage to define bike routes.				X				City, Others	Public
<i>Action:</i> Identify high pedestrian vehicular conflict locations and high traffic intersections and prioritize these for improvements.				X				City, MDOT	Public, Grants
<i>Action:</i> Identify and prioritize locations for traffic calming improvements.						X		City, MDOT	Public, Grants
<i>Action:</i> Ensure key sidewalk corridors are cleared of snow in a timely manner so residents can safely access walkable areas of the community year-round.				X				City, Home Owners, Business Owners	Public, Private
<i>Action:</i> Identify streets and corridors where bike lanes can be immediately implemented and execute these improvements.					X			City, Others	Public, Grants
<b>Goal: Investigate solutions to better manage transportation and parking demands.</b>									
<i>Objective:</i> Investigate implementing a shuttle service and/or additional transit routes connecting off-street parking in areas outside of downtown with amenities in the core of the City.			X						
<i>Action:</i> Identify off-site parking locations that are not used to full capacity and work with property owners to secure shuttle pick-up locations.					X			City, County	Public, Others
<i>Action:</i> Investigate the feasibility of developing seasonal public transit routes to serve the off-site parking.						X		Staff, County	Public, Others
<i>Objective:</i> Identify creative solutions for easing the summer season parking.	X								
<i>Action:</i> Enhance enforcement during the peak summer season and holidays.				X				Staff	Public
<i>Action:</i> Review existing regulations and consider increasing parking fines to deter people from parking illegally.				X				Staff, PC	Public
<i>Action:</i> Review zoning requirements for parking.				X				Staff	Public
<i>Action:</i> Conduct a comprehensive parking study for both downtown and out-of-downtown parking.				X				Staff, County	Public, Grants
<i>Action:</i> Work with Berrien County to add signage and improve communication on beach parking availability				X				Staff, County	Public
<i>Action:</i> Review existing on-street parking regulations to ensure they are compatible with parking needs and the impact on existing neighborhoods, services, and infrastructure.				X				Staff, County, Residents, Businesses	Public
<i>Action:</i> Analyze and identify existing streets and parking lots capable of accommodating additional parking.				X				Staff	Public
<b>Goal: Maintain, protect and expand public access and connectivity to Lake Michigan, the St. Joseph River, and the Paw Paw River waterfronts.</b>									
<i>Objective:</i> Improve pedestrian, bicycle, and vehicular connectivity and access between the north and south sides of the St. Joseph River.	X								
<i>Action:</i> Encourage use of street legal low speed vehicles as a common form of transportation north of the St. Joseph River with possible connection and expansion to the rest of the city.					X			City, MDOT	N/A
<i>Objective:</i> Establish paths in corridors not well served by existing bicycle and pedestrian facilities.		X							
<i>Action:</i> Establish a St. Joseph riverfront pedestrian and bicycle trail from the Margaret Upton Arboretum to Lakeland Healthcare and beyond, eventually connecting further south to the St. Joseph Charter Township trail system.					X			City, Residents, Others	Public, Grants
<i>Action:</i> Identify potential easements on private property along the riverfront to improve connections on both sides of the river.					X			City, Residents	Public
<i>Action:</i> Work with Lakeland Hospital to establish a path through the hospital property by establishing an easement.					X			City, Others	Public
<i>Action:</i> Connect existing trail facilities at Harbor Shores and Harbor Village with downtown St. Joseph and the waterfront.					X			City, Others	Public, Grants
<i>Action:</i> Establish a trail along the CSX right of way along Lake Michigan south of the water treatment plant.					X			City, Others	Public, Grants
<i>Action:</i> Identify potential easements on private property along the lakefront to improve connections south to the city limits					X			City, Others	Public, Grants

Community and Place	Priority (Objectives only)			Time Frame (Actions only)				Actions only	
	Most Important	Very Important	Important	Within 2 years	2-5 years	5 plus years	Continuous	Responsible Party or Key Partners	Potential Funding Source
<b>Goal: Preserve the traditional neighborhood feeling of safety, neighborliness and value in residential districts.</b>									
<i>Objective:</i> Maintain high quality, well staffed, rapid response police and fire services.	X								
<i>Objective:</i> Respect existing neighborhoods and improve transitions between commercial, residential, and other zoning districts.		X							
<i>Action:</i> Explore height restrictions, landscaping standards, and regulations on hours of operation to ensure commercial developments are well-buffered from residences.				X				City	Public
<i>Action:</i> Improve street lighting in residential districts, considering LED or street light covers, to shield the brightness of the halogen lights.						X		City, Developers, Others	Public, Private
<i>Objective:</i> Define the unique elements of each neighborhood.			X						
<i>Action:</i> Inventory and document unique characteristics of each neighborhood.					X			City	Public
<i>Action:</i> Ensure definitions in the zoning ordinance are consistent with conditions in neighborhoods and are appropriate to the desired characteristics of the community.				X				City	Public
<i>Action:</i> Encourage creation of neighborhood associations.				X				City	Public
<i>Action:</i> Explore locations for pocket parks within walking distance of all residences.				X				City	Public
<i>Action:</i> The City Commission will convene a series of focused meetings on key issue areas identified in the master plan to define existing conditions and prioritize future projects and initiatives, including but not limited to Below the Bluff neighborhoods, Niles Avenue, and the Harbor.				X				City	Public
<b>Goal: Promote a vital multi-use traditional downtown district</b>									
<i>Objective:</i> Investigate form-based overlay districts in the downtown core to protect existing character.			X						
<i>Objective:</i> Support and encourage residential opportunities above street level with varied ownership/rental qualities and many varied price points.			X						
<i>Objective:</i> Make St. Joseph more diverse and inviting by encouraging growth of art, culture, and aesthetics.			X						
<i>Action:</i> Nurture art-based businesses through regular art walks and art shows.						X		Others	Private
<i>Action:</i> Maintain and promote strong cultural and civic events.						X		City, Others	Public, Private
<i>Action:</i> Identify additional public and quasi-public opportunities for outdoor eating and gathering places.						X		City, Developers, Business Owners	Public, Private
<b>Goal: Improve the sense of community cohesion on and near main thoroughfares.</b>									
<i>Objective:</i> Investigate form-based overlay districts on Niles Avenue, Main Street, and Lakeshore Drive to improve aesthetics and function and better incorporate these corridors into the community.			X						
<i>Objective:</i> Bury power lines and other utilities when possible in conjunction with planned roadwork.		X							
<i>Objective:</i> Improve visual character of main thoroughfares to foster business retention and attract new businesses.		X							
<i>Action:</i> Conduct a design charrette focused on main thoroughfares to identify key node(s) and opportunities for a more welcoming streetscape.						X		City	Public
<i>Action:</i> Review parking standards and appropriate sized parcels to attract desired commercial types of businesses.						X		City	Public
<i>Action:</i> Facilitate Access Management by reducing driveways on main thoroughfares to improve safety.						X		City, Developers	Public, Private
<b>Goal: Work to provide recreational activities and community services that enhance quality of life for residents and attract new visitors.</b>									
<i>Objective:</i> Improve collaboration and cooperation with local and regional entities to maximize existing parks and recreational offerings and amenities.	X								
<i>Action:</i> Establish a clearinghouse to serve as a single point of contact for organized recreational opportunities.						X		City, County	Public
<i>Action:</i> Use the Parks and Recreation Master Plan to evaluate existing conditions and prioritize replacements and upgrades				X				City	Public
<i>Action:</i> Evaluate whether existing facilities meet the diverse needs of the entire community.				X				City	Public
<i>Action:</i> Keep the Parks and Recreation Master Plan current within the 5 year cycle.						X		City	Public
<i>Action:</i> Periodically review the use and amenities at city parks to keep up with visitor demand, resident demand, and the market.						X		City	Public
<i>Objective:</i> Maximize the enjoyment and use of Riverview Park.			X						
<i>Action:</i> Evaluate the feasibility of additional recreational amenities, for example disc golf and a campground, at Riverview Park.				X				City, Others	Public, Private, grants
<i>Action:</i> Maintain and expand trail system within park and add connectivity to city and other municipalities through implementation of a non-motorized path or bike lanes along M63 in conjunction with MDOT.				X				City, Others	Public, Grants

Goal: Continue strong communications between city government and local and regional governmental entities as well as non-governmental organizations to ensure actions are in harmony with the surrounding area.										
Action: Hold regular joint meetings with community leaders, city boards and commissions, and with adjacent jurisdictions.								X	City, Others	N/A
Goal: Maintain consistent, efficient, and transparent government processes.										
Objective: Continue frequent and diverse city communications and maximize the use of all forms of communication, including social media, city newsletters, and neighborhood groups.		X								
Goal: Develop a long-range land use and development vision for the Harbor area.										
Objective: The City will take a leadership role in identifying relevant stakeholders and spearheading conversations to share information, ideas, and concerns with regards to the future of the Harbor area.		X								
Action: Conduct additional traffic counts on streets throughout the harbor area to identify key traffic patterns and potential conflicts between residential and industrial users.							X		City, SWMPC	Public, Private
Action: Determine the potential impacts of different future uses for the existing commercial harbor.							X		City, SWMPC, Others	Public
Objective: Support and protect the Federal commercial harbor designation.		X								
Action: Investigate long term, sustainable locations and options for inner harbor dredging spoils, looking for potential collaborations with other communities.								X	City, County, Business Owners	Public, Private
Action: Take a leadership role in encouraging and securing Army Corps of Engineering dredging activities of both the inner and outer harbors.								X	City, County, Business Owners	Public
Action: Encourage appropriate placement of dredging spoils on City beaches and waterfront.								X	City, County	Public
Goal: Seek a balanced approach to tourism, recognizing its contribution to the local economy while minimizing impacts on residents' quality of life.										

Economic Development	Priority (Objectives only)			Time Frame (Actions only)					Actions only	
	Most Important	Very Important	Important	Within 2 years	2-5 years	5 plus years	Continuous	Responsible Party or Key Partners	Potential Funding Source	
Goal: Support workforce needs of local employers.										
Objective: Support efforts by Whirlpool, Lakeland Healthcare, LECO, Berrien County, Lake Michigan College, AEP, and other existing employers to attract and retain high quality employees.	X									
Action: Research the needs and wishes of 25-30 year-olds and create an action plan to address these needs.						X		City, Business Owners	Public, Private	
Action: Add WiFi hotspots to downtown St. Joseph.					X			City, Others	Public, Private	
Action: Provide broadband as an essential city infrastructure.					X			Others	Public	
Objective: Increase support of existing companies and employers in order to retain them in the city.	X									
Action: Work with St. Joseph Today to support business collaboration with events and networking opportunities.							X	City, Others	Public, Private	
Action: Collaborate with Cornerstone Alliance, Cornerstone Chamber Services, and Southwest Michigan Tourist Council to recruit new, desirable employers to the St. Joseph community.							X	City, Others	Public, Private	
Action: Support access to and awareness of high quality pre-school, daycare, and out of school activities.					X			City, Others	Public, Private	
Action: Enhance after-school programs through partnerships between schools and PTA collaboration.					X			City, School District	Public	
Goal: Attract and encourage new businesses and cultivate entrepreneurs										
Action: Explore incentives to attract new businesses.							X	City, Others	Public, Grants	
Action: Work with Cornerstone Alliance to explore business incubator or shared workspace opportunities for start-up companies.							X	City, Others	Public, Private, Grants	
Goal: Identify strategies to incentivize diverse and desirable residential development within the St. Joseph city limits.										
Action: Utilize the 2016 Kinexus Housing Market Analysis to inform identification of affordable housing locations and multifamily developments.					X			City, Others	Public, Other	
Action: Consider modifying the zoning code where appropriate to maximize housing options.					X			City	Public	
Action: Foster public-private partnerships to promote increased housing options.					X			City, Others	Public, Private	
Action: Study options for pursuing affordable housing funds through programs like the MSHDA HOME program, downtown rental rehab, and low income tax credits.						X		City, State, County	Private, Grants	
Goal: Provide a transparent, supportive, welcoming environment for development or redevelopment of property when supported by the master plan and ordinances.										

Natural Areas and Resilience	Priority (Objectives only)			Time Frame (Actions only)				Actions only	
	Most Important	Very Important	Important	Within 2 years	2-5 years	5 plus years	Continuous	Responsible Party or Key Partners	Potential Funding Source
<b>Goal: Maintain, preserve and protect St. Joseph's shorelines, natural areas and natural resources.</b>									
<b>Objective: Protect public trust property along the Lake Michigan shoreline, and existing homes near the shore.</b>									
<i>Action: Revisit appropriate coastal measures south of the St. Joseph River as discussed in the 2012 Coastal Study.</i>	X					X		City	Public
<i>Action: Update the 2012 Coastal Study north of the St. Joseph River at appropriate time intervals or water level change benchmarks, as described in the study.</i>						X		City	Public
<i>Action: Enforce appropriate regulations to ensure there is no improper construction in at-risk areas along the coast as identified by FEMA.</i>							X	City	Public
<b>Objective: Increase the tree canopy cover city-wide.</b>									
<i>Action: Investigate becoming a nationally recognized 'Tree City'.</i>			X						
<i>Action: Use the tree canopy inventory conducted as a part of the vulnerability assessment to prioritize public street tree plantings.</i>						X		City	Public, Grants
<i>Action: Consider instituting tree planting or maintenance requirements as a part of the zoning ordinance.</i>						X		City	Public
<i>Action: Adopt a tree maintenance, tree planting, and tree-cutting policy for public properties.</i>						X		City	Public
<i>Action: Research projected shifts in tree species and transition street tree-planting programs to trees that will thrive in hotter summers and wetter winters.</i>						X		City	Public
<i>Action: Create a list of appropriate tree species to plant and educate private property owners on proper maintenance and upkeep.</i>						X		City	Public
<b>Objective: Preserve water quality.</b>									
<i>Action: Collaborate with local and regional entities and the State of Michigan to monitor water quality regularly, sharing data with surrounding jurisdictions.</i>	X						X	City, State, County, Others	Public
<i>Action: Conduct business education and outreach to home owners.</i>						X		City	Public
<i>Action: Work with upstream jurisdictions to reduce nutrient loading in the St. Joseph River from agriculture run-off and lawn care products.</i>						X		City, Others	Public
<i>Action: Complete the combined sewer overflow disconnection.</i>						X		City	Public
<i>Action: Preserve existing wetland functions and consider adopting a local wetland ordinance for added protection.</i>						X		City	Public
<i>Action: Evaluate strategies to control invasive species.</i>						X		City	Public, Private, Grants
<b>Goal: Explore policy making and management options for local alternative energy use and conservation of resources.</b>									
<b>Objective: Consider adopting ordinances that detail permissible use alternative energy sources; as well as conservation measures.</b>									
<i>Action: Create measurable goals to incentivize businesses and residents, identifying appropriate non-regulatory benchmarks.</i>			X						
<b>Objective: Identify energy efficiency cost saving opportunities for residents and business owners.</b>									
<i>Action: Create measurable goals to incentivize businesses and residents, identifying appropriate non-regulatory benchmarks.</i>			X						
<i>Action: Explore a comprehensive electric vehicle infrastructure ordinance to encourage provision of electric car charging stations.</i>						X		City	Public
<b>Objective: Improve stormwater management on public and private properties.</b>									
<i>Action: Evaluate strategies to control invasive species.</i>			X						
<b>Goal: Improve access to local food.</b>									
<b>Objective: Expand the City of St. Joseph Farmer's Market</b>									
<i>Action: Review the location and operating hours of the farmers market. Consider operating it near local employment base during business hours to offer workers the opportunity to purchase fresh foods.</i>					X			City, Others	Private, Others
<i>Action: Address delivery logistics to reduce congestion.</i>					X			City, Others	Private, Others
<b>Objective: Promote and expand small scale food entrepreneurship</b>									
<i>Action: Explore locations for community gardens.</i>			X						
<i>Action: Encourage and support regional food entrepreneurs by providing a hub for advertising and shuttles to farms, vineyards, and breweries.</i>						X		City, Business Owners, Others	Private, Others

## CHAPTER 4

# IMPLEMENTATION

*This implementation chapter of the plan builds on the Goals, Objectives, and Actions in Chapter 3 with a more detailed description of strategies for implementing key goals and initiatives identified through this planning process. This chapter begins with the Zoning Plan, then transitions to an overview of potential design standards and form-based codes that could be used to facilitate desired growth and development in the City. The next section describes a series of non-motorized infrastructure improvements. Lastly, this chapter will address strategies for redevelopment in the City and its waterfront.*

## THE ZONING PLAN

According to Section 2(d) of the Michigan Planning Enabling Act (PA 33 of 2008), the Master Plan shall include a Zoning Plan depicting the various zoning districts and their use, as well as standards for height, bulk, location, and use of buildings and premises. The Zoning Plan serves as the basis for the Zoning Ordinance.

### Relationship to the Master Plan

The Master Plan describes the vision, objectives, and strategies for future development in the City of St. Joseph. As a key component of the Master Plan, the Zoning Plan is based on the recommendations of the Master Plan and is intended to identify areas where existing zoning is inconsistent with the objectives and strategies of the Master Plan, and to guide the development of the Zoning Ordinance. The Zoning Ordinance is the primary implementation tool for the future development of St. Joseph. The following sections detail existing zoning regulations in the City.

### Residential Districts

#### The residential zoning districts in the City of St. Joseph are:

- Section 6.2 “R1” Single-Family Residence District
- Section 6.3 “R2” Two-Family Residence District
- Section 6.4 “R3” Multiple-Family Residence District

The main purpose of these zoning districts is to provide a variety of housing options within the City. The R1 Single-Family Residence District is intended to accommodate single-family housing neighborhoods. The R2 Two-Family Residence District is intended to accommodate housing in duplex units. The R3 Multiple-Family Residence District is intended to accommodate a variety of multiple-family housing types.



The Edgewater Dunes Neighborhood is a relatively new residential development and serves as a good example of a single-family residential district located in the City.



### *Commercial Districts*

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**The commercial zoning districts in the City of St. Joseph are:**

- Section 7.2 “C” Commercial District
- Section 7.3 “CO” Commercial Office District
- Section 7.4 “D” Downtown District

As stated in the Zoning Ordinance, the purpose of the Commercial Districts is to accommodate a variety of commercial and service uses intended to serve people residing in the surrounding neighborhoods as well as neighboring communities. The Commercial District is intended to provide areas for retail, financial, professional, office, service and other general commercial activities. The Commercial Office District is intended to accommodate office, service, and related uses. The Downtown District is intended to accommodate a variety of office, service, entertainment, and retail uses to serve the City, surrounding community, and visitors. Residential uses are allowed in these districts, although not at the ground floor.

### *Industrial Districts*

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**The industrial zoning districts in the City of St. Joseph are:**

- Section 8.2 “I1” Light Industrial District
- Section 8.3 “I2” Heavy Industrial District

The purpose of the Industrial Districts is to accommodate a variety of industrial and manufacturing uses. The intended purpose of the Light Industrial District is to accommodate wholesale and warehouse activities and industrial operations whose external physical effects do not detrimentally affect the surrounding districts. The Heavy Industrial District is designed to accommodate necessary industrial and related uses of such a nature that they require isolation from many other kinds of land uses, and to make provision for commercial uses that are necessary to service the immediate needs of people in these areas. The industrial districts include the current commercial harbor operations.

### *Special Districts*

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**The following are considered “special” zoning districts in the City of St. Joseph:**

- Section 9.2 “OS” Open Space District
- Section 9.3 “W” Water Recreation District
- Section 9.4 “DH-OD” Downtown Height Overlay District
- Section 9.5 “LB-OD” Lake Bluff Scenic View Protection Overlay District
- Section 9.6 “FP-OD” Floodplain Overlay District

According to the Zoning Ordinance, the intended purpose of the Open Space District is to retain or conserve the open character of certain waterfront areas, ravines and scenic overlooks. The intended purpose of the Water Recreation District is to accommodate a mix of commercial, service, recreational, and residential uses on waterfront properties within the City. Any uses permitted in Water Recreation Districts may be allowed by Planned Unit Development, provided they meet certain standards. The Downtown

Table 4.1 Existing Zoning Districts

Land Designation	Minimum Lot Size (Sq. Ft.)	Density (DU/acre)	Maximum Height (ft)	Minimum Living Area (sq. ft./unit)	Minimum Side Setback (ft)	Minimum Back Setback (ft)	Minimum Front Setback (ft)	Maximum Lot Coverage (% of Lot)	Minimum Lot Width (ft)
<b>Residential Uses</b>									
<b>R1 Single-Family Residence District</b>									
R1-A	6000	7.26	35	1000	7	30	30	35	60
R1-B	5000	8.712	35	1000	7	30	25	40	44
R1-C	5000	8.712	35	1000	7	30	20	40	44
R1-D	5000	8.712	35	1000	7	30	15	40	44
R1-E	4000	10.89	35	1000	7	30	10	45	33
R2 Two-Family	4000	21.78	35	800	7	30	10	45	33
R3 Two-Family	6000	14.52	35	800	7	25	25	40	60
R3 Multiple-Family	2400	54.54	60	400	5	25	25	50	50
<b>Non-Residential Uses</b>									
C Commercial Business			35		5	5	15	50	
<b>CO Commercial Office</b>									
CO-A			35		5	0	15	90	
CO-B			80		0	0	0	90	
D Downtown			80		0	0	0	100	
I1 Light Industrial			50		15	15	15	75	
I2 Heavy Industrial			80		40	30	40	75	
OS Open Space			35		7	7	7	34	
W Water Recreation			50		5	5	15	50	
LB-OD Lake Bluff Scenic View Protection Overlay									
FP-OD Floodplain Overlay District									

*Blank = Not Applicable*

Height Overlay District is an overlay district intended to preserve the character of the traditional downtown shopping district. The Lake Bluff Scenic View Protection Overlay District is an overlay district intended to limit the environmental and aesthetic degradation associated with destroying public sight lines. The Floodplain Overlay District includes areas within the floodplain identified by FEMA as having a 1% chance or greater of flooding in any given year. The purpose of this overlay district is to protect human life, health and property from the dangerous and damaging effects of flood conditions.

Table 4.1 illustrates the regulations of the existing zoning districts in the City of St. Joseph Zoning Ordinance.

## Opportunities for Rezoning

The following section reflects proposed changes to the existing Zoning Ordinance. Proposed changes are based on the Future Land Use Map as well as public input gathered throughout the Resilient St. Joseph planning process.

### *Greenways*

The City plans to use the Open Space Zoning District to allow for a series of connected greenways throughout the City, connecting key recreational amenities as well as residents and services. In addition to updating the Zoning Ordinance, the City will need to pursue

easements from private property owners and other entities to expand greenways along both sides of the St. Joseph River, surrounding Marina Island, through the ravine, and south along Lake Michigan. It is envisioned that these greenways will connect with surrounding communities in the long term.



Church Street is one area of the City that could likely transition to more of a downtown feel.

### *Accommodate for Neighborhood Mixed-Use*

The City plans to investigate zoning tools that would accommodate some neighborhood commercial uses in areas that are currently zoned residential. This could be accomplished through a form-based code or with a new zoning district. The primary purpose of this effort would be to provide an opportunity for neighborhood services to be located within walking and biking distance of residences. These neighborhood mixed-use zones would occur primarily along busier corridors in the City that already have some commercial uses mixed with residential – such as Main Street, Lakeshore Drive, Niles Avenue, and Napier Avenue. See the Future

Land Use Map (Map 2, Appendix G).

### *Transition Commercial Office (CO) to Downtown District (DD)*

As discussed previously, the City could expand the Downtown/Central Business District east of Main Street (See Future Land Use Map). Currently, this area is zoned CO, consisting of numerous banks, a few coffee shops and restaurants, the Berrien County Courthouse and Sheriff's Department, Lake Michigan Catholic High School and St. Joseph Catholic Church. By changing this district to allow for uses accommodated in the DD, downtown St. Joseph can be expanded to allow for mixed-use traditional downtown developments, with ground-floor commercial uses and residential or office above.

### *Industrial Districts*

The City plans to retain existing industrial zoning designations in the southern portion of the City. However, there are anticipated changes to the process for establishing new industrial uses in the Waterfront Mixed Use District. Currently, new developments in the Waterfront District must go through a Planned Unit Development approval process. In the future, the City anticipates requiring a Special Use Permit for all new development in the Waterfront Mixed Use District, including Industrial. One concern expressed over the PUD process is that it is often reactionary to a proposed development. The City could use a Special Use Permit process as a more prescriptive ordinance to reflect what the community wishes to see in this area. New industrial uses should be compatible with adjacent uses, and the developer should work with the City to provide for public right-of-way easements to ensure non-motorized connectivity as outlined in the Future Land Use Map. The proposed development should have a connection and/or association with the waterfront.

### *Multi-Family Residential Districts*

The City is considering amending the ordinance to allow duplexes and accessory dwelling units (ADUs) if the owner lives onsite. Currently, these uses are only allowed if they have been grandfathered in, so no new duplexes or ADUs are permitted under current policy.

## Other Zoning Issues

### *Protect Existing Wetlands*

According to an analysis conducted by the Michigan Department of Environmental Quality (MDEQ) Water Division, wetlands exist in the northern portion of the City, which is zoned Water Recreation and can accommodate uses such as high-density residential, industrial, and mixed-use. There are also existing wetlands on Marina Island in areas zoned Water Recreation as well as areas in the Edgewater Dunes Neighborhood and Edgewater commercial development. The City should consider adopting a local wetland ordinance based on the model local wetland ordinance created by Michigan Department of Environmental Quality. A local ordinance would allow the City to ensure added protection of wetlands smaller than 5 acres, increase the wetlands buffer requirements, and consider additional mitigation to offset wetland fill permits.

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*A local wetland ordinance allows communities to adopt added protections. According to the Michigan Department of Environmental Quality, there are currently 43 local wetland ordinances in the State of Michigan.*

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*Design standards establish a set of development guidelines that support a more walkable and pedestrian-oriented corridor. The standards can address overall site design, landscaping, building form, orientation, and signage to impact both the private and public realm.*

## DESIGN STANDARDS

*In this master plan effort, there was considerable emphasis on desirable urban form. As a result, the City should consider updates to the Zoning Ordinance to foster high-quality public and quasi-public places. Many of these changes can be made by adopting design standards. For example, the City could create standards on Niles Avenue to foster a more pedestrian-friendly environment. Some examples of these standards include reduced setbacks, landscaping requirements, reduced height maximums in the sign ordinance, wider sidewalks, and other screening practices to separate pedestrians from roadway traffic and parking lots. The City is also exploring city-wide requirements on outdoor lighting to minimize negative impacts. In the downtown district, the City could also consider design standards to foster a greater sense of community and to enhance the area's historic character. Design standards and aesthetic considerations can have a positive impact on economic development and on the overall livability of a community.*

### **Niles Avenue**

Right now, the Niles Avenue Corridor has no unique character. In many ways, it looks like a typical suburban commercial corridor developed in the 1960s and 1970s without any overall guiding plan. In order to attract new businesses and reinvestment along



Streetscape is a term that refers to the natural and built fabric of the street, and is defined as the design quality of the street and its visual effect.



Establishments with outdoor seating provide for quasi-public gathering spaces and make the commercial node a more desirable place to linger and spend time.

the corridor, a unique identity and sense of place needs to be established. Results from the St. Joseph Master Plan Survey and public input throughout the master plan process articulated a public desire for street improvements along the Niles corridor. Over 50% of survey respondents said it was either *important* or *very important* for the City to improve the Niles corridor.

In an effort to improve the visual appearance of the built environment along key commercial corridors, the City should work with property owners along these corridors to establish a comprehensive set of design standards. In general, the design standards establish a set of development guidelines that support a more walkable and pedestrian-oriented corridor. Standards can have an impact on the public and private realm.

**Design standards can address:**

- Overall site design including parking, building location, mechanical infrastructure, and access
- Landscaping
- Building form and orientation including bulk, entrances, and facades
- Signage

Collaborating with local property owners is important, as they can be one of the biggest advocates of change. Once design standards have been established, they are used to inform future zoning changes that address these components.

*Street Trees and Vegetative Buffers*

A detailed analysis of tree canopy cover in the City of St. Joseph indicates that there is sparse tree coverage on private and public properties along the Niles corridor (see Map 4 in



Updating the sign ordinance to require smaller, monument-style signs (like the one pictured at far left located on Main Street) is another strategy that could be used to support a slower traffic flow and a greater sense of place.

Appendix G). Trees provide protection from extreme heat and have a natural cooling effect on their immediate surroundings. Trees also reduce the scale of the street, humanize large and tall buildings, make environments more pedestrian friendly, and improve the overall aesthetics of commercial districts.

The City should aim to plant street trees along the public right-of-way continuously on both sides of Niles Avenue wherever possible (consistent with MDOT standards). Because of stormwater management potential, the City should promote bioswales and vegetative buffers around the perimeter of new parking lots and promote islands within existing parking lots to increase onsite water storage capacity.



Aging properties on Niles Avenue will be refreshed in coming years. This is an opportunity to improve the corridor by considering eliminating some parking in front, reducing sign heights, and adding trees and other vegetative screenings. Such requirements could stimulate additional desired development.

### Streetscape Design

Streetscape design can be a very effective strategy to reduce traffic speeds and improve the overall appeal of the public right-of-way. Currently, the majority of buildings are set back from the street with parking in front. While it is not realistic to call for a complete rebuild of the urban landscape on Niles Avenue, the City should work to encourage shorter setbacks on Niles Avenue as properties are redeveloped and new development proposals are submitted for review. When considering new design forms, it is important to consider adjacent uses and use screening and buffering whenever possible. Another element of high-quality streetscapes is design conformity in lighting, directional signage, utilities, and traffic signals. Beginning in 2016, MDOT, with City participation, plans to replace all existing traffic lights with black mast arm lights. In addition, all street signs at these intersections will be internally illuminated. This is a great first step in improving local streetscapes.

### Access Management

Another way to improve the character and overall function of Niles Avenue is through *access management*. Many of the existing parking areas are not interconnected and serve only one parcel. By consolidating driveways and connecting retail destinations through shared accessways, the City could improve safety, traffic flow, and overall aesthetics on Niles Avenue.

The greatest benefit would come from implementing access management strategies near major intersections, since these areas have the highest Average Daily Traffic (ADT) counts and average the most accidents per year. As new construction and redevelopment site plans are reviewed, the City should work to ensure that the total number of driveways is not increased, and that driveways are eliminated or moved to non-residential adjacent streets whenever possible or feasible.

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*Access management is a set of proven techniques that can help reduce traffic congestion, preserve the flow of traffic, improve traffic safety, prevent crashes, preserve existing road capacity, and preserve investment in roads by managing the location, design and type of access to property.*

### *Walkability and Pedestrian Access*

There are portions of Niles Avenue that already have adequate sidewalk infrastructure, with a sufficient buffer between pedestrian and vehicular traffic. Moving forward, sidewalk infrastructure should be extended so it is continuous on both sides of Niles Avenue. Ideally, there would be a connected grid of sidewalks leading to residential developments alongside streets that intersect with Niles. In addition, improving pedestrian crosswalks should be considered in future road improvements, especially at non-signalized intersections.

### **Parking**

In general, parking lot design throughout the City follows the typical suburban “strip” commercial development pattern. Most businesses provide parking in front, and with the exception of peak shopping times, the majority of the parking lots are less than half full. The City could consider reducing the minimum parking requirements. The Zoning Ordinance could be amended to deter businesses from building expansive parking lots in front. One strategy to reduce the number of parking spaces but still meet the peak parking demand is by encouraging businesses with different patron schedules to share parking spaces. For example, a church and a restaurant that are adjacent to one another could share a parking lot. Although this is allowed under the current Zoning Ordinance, it could be better publicized and promoted.

### **Downtown St. Joseph**

In order to maintain St. Joseph’s small-town atmosphere and promote redevelopment within the downtown area, the City could consider adopting a set of design standards for the Central Business District (CBD). In downtown, buildings are generally two stories and have a ground-level facade with vernacular elements that were originally built around 1910 to 1930. The buildings form a unique, dense commercial district not found anywhere else in the City. Design standards could perform a number of functions in downtown St. Joseph. First, design standards for setbacks, parking, and public right-of-way could be used to preserve the unique character of the CBD. Second, as the City is also considering expanding the geographic boundary of downtown St. Joseph to encompass lower-density areas (see Future Land Use Map 2 in Appendix G or on page 12 of this document), design standards would help the area transition, over time, to have similar character to the existing downtown. Lastly, design standards could also be used to foster streets designed for pedestrians and calmer traffic speeds.

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*Form-Based Codes create a predictable public realm, primarily by controlling physical form, with a lesser focus on land use, through ordinance regulations.*

## EXPLORING FORM-BASED CODES

*While not in the scope of this master plan update, the City of St. Joseph is interested in a public input process to explore the possibility of adopting a Form-Based Code (FBC) for appropriate areas in the community. An FBC is a method of regulating development to achieve a desirable urban form. Form-Based Codes create a predictable public realm, primarily by controlling physical form, with a lesser focus on land use, through ordinance regulations.<sup>1</sup>*

*Form-Based Codes focus on the quality of spaces and can target a specific development project or an entire portion of a community. They are vision-based, unique to individual places, and can be applied to undeveloped or redevelopment areas.*

A number of communities in Michigan have successfully implemented FBCs and would be good resources for the City of St. Joseph:

- **Birmingham's** FBC helped attract extensive investment to the downtown, which is now a walkable business district comprised of townhouses, live-work units, entertainment facilities, shops, restaurants, and offices.
- **Farmington Hills** adopted an FBC as part of its central business district to reflect the traditional urban fabric that the community values.
- **Genoa Township** used an FBC to guide development of a new mixed-use Town Center.
- **Grand Rapids** and surrounding communities are using FBCs to document the urban fabric of their community and develop regulations that ensure that new development fits into the existing community fabric.
- **Grosse Pointe** used an FBC to intensify its central business district by converting surface parking lots into mixed-use developments, while maintaining the scale and character of the community.
- **Oxford** used an FBC to reinforce the traditional downtown while creating transitional areas around the edges for residential-scale buildings with a range of low-intensity commercial uses.
- **Rochester Hills** used an FBC to control the form and quality of its commercial corridors.
- **Tecumseh** used an FBC to reinforce the traditional downtown district with mixed-use buildings lining the main street.
- **West Bloomfield** used an FBC to convert a section of a commercial corridor into an area with a strong sense of place, walkable streets, and a range of inviting uses.

*There are four types of Form-Based Codes<sup>2</sup>*

- 1. Mandatory Codes - A free-standing form-based code*
- 2. Mandatory Integrated Codes - Integrated into existing code*
- 3. Optional (Parallel) Codes - Applies only in specifically mapped geographic areas that are not related to zoning districts*
- 4. Floating Zone Codes - Authorized by the code but not assigned to specific properties.*



A Form-Based Code in downtown St. Joseph could be used to preserve the existing high-quality public spaces, streetscapes, and building stock.

1. Form-Based Code Institute, Definition of Form-Based Code, [www.formbasedcodes.org/definition.html](http://www.formbasedcodes.org/definition.html). June 27, 2006.

2. Parolek et al. (2008) Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers. John Wiley & Sons, Inc., New Jersey. p. 26



St. Joseph's FBC would likely be a *Mandatory Integrated Code*. Mandatory Integrated Codes are integrated into the existing code but do not require rezoning or other special planning approvals in order to take effect. They can be established with an overlay zone that supersedes the underlying zone, or by replacing pre-existing boundaries with one or more new districts.<sup>3</sup>

## Potential Areas for a FBC Overlay in St. Joseph



The Main Street corridor is an obvious candidate for an FBC overlay zone. The City could consider adopting an FBC for Main Street that is very similar to that of the downtown to facilitate an expansion of the traditional downtown character and development patterns along the entire Main Street corridor. Main Street currently has a mix of historic homes and commercial buildings interspersed with new commercial establishments. These new commercial buildings are often single-story with parking in front; they do not fit with the historic development patterns. An FBC on Main Street could address building size, placement, and height, as well as other components of the public realm.



Downtown is another candidate for an FBC overlay district. An overlay here could preserve and reinforce the traditional downtown character, especially by preserving downtown's block sizes and how the public realm relates to the private realm.

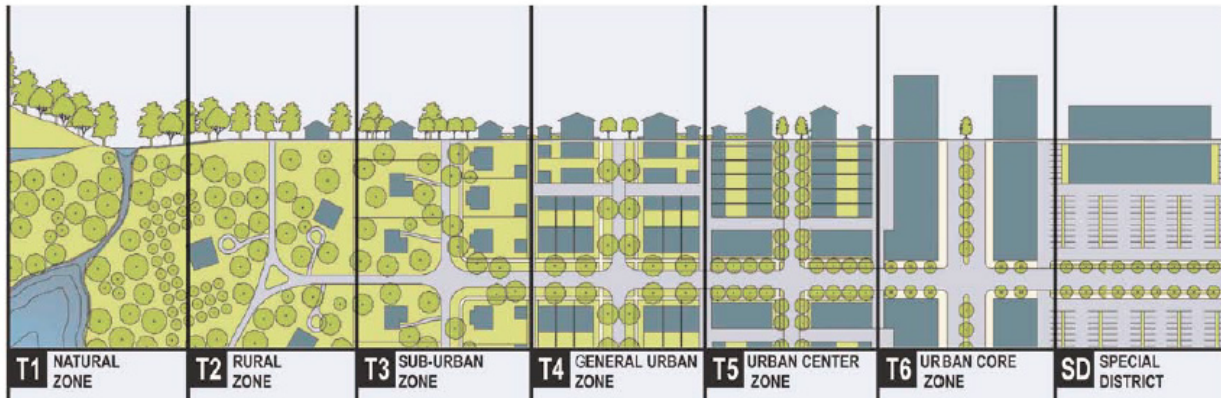
Concerns have been raised on Niles Avenue over the size of parcels and what size of parcel is most appropriate for successful commercial development. An FBC could potentially be used to consolidate small commercial parcels to create a more marketable, larger parcel.

A Form-Based Code differs from design standards in that design standards can improve the appearance of the building and site landscaping, but are not effective in changing the underlying form.

## Next Steps

The next step for the City of St. Joseph in evaluating the feasibility of a Form-Based Code is to engage the public to see what, if any, type of FBC would be appropriate for particular areas of the community. An important component of this process will be to evaluate existing conditions of areas where the community is considering adopting an FBC. This existing conditions inventory is fairly labor intensive and involves a detailed analysis of lot widths, setbacks, building heights, street right-of-ways, non-motorized infrastructure, and other components of the built environment. With a good understanding of the existing forms of the community, a public process can be conducted to gain a consensus on the existing community quality that should be maintained, or what kind of new quality should be achieved. This is often done through a design charrette or workshop. It is important to engage and get buy-in from the full community. Part of getting buy-in is ensuring that members of the community are well-informed on what an FBC is, its benefits, and how it would

Figure 4.1



Source: Center for Applied Transect Studies

look from a regulatory standpoint. This framework is then developed into an ordinance and applied to a regulating plan.

### *The Urban-Rural Transect*

To implement an FBC, some communities choose to identify zones throughout the community as occurring along a succession of transects. Traditionally, these transects have served as the foundation of many FBCs. The Urban-Rural Transect zoning system replaces conventional separated-use zoning systems that have encouraged a car-dependent culture and land-consuming sprawl; this provides a basis for real neighborhood structure, which requires walkable streets, mixed-use, transportation options, and housing diversity.<sup>3</sup> A transect illustrates a type of development pattern that follows a continuum beginning with permanently preserved land (T1 in Figure 4.1), and ending with highly-developed and dense areas, such as the Central Business District.

## NON-MOTORIZED INFRASTRUCTURE PLAN

*Respondents to the St. Joseph Master Plan Survey ranked “improvements for pedestrians” and “better safety features for pedestrians and bicycles” as the two most important transportation improvements that should be considered in this planning effort. Given this high level of citizen support for multi-modal infrastructure, the City of St. Joseph plans to take a comprehensive approach to improving safety and access for bicycles and pedestrians within the City, and where the City connects to neighboring communities. A comprehensive approach includes expanding access along key corridors by adding bicycle lanes, improved crosswalks and wider sidewalks, as well as expanding and improving trail connections.*

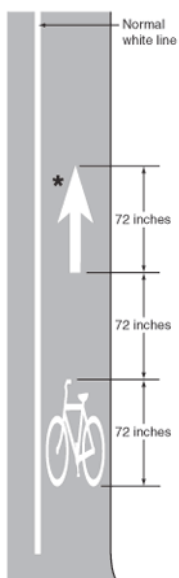
3. Center for Applied Transect Studies (2015). Web. <http://transect.org/transect.html>



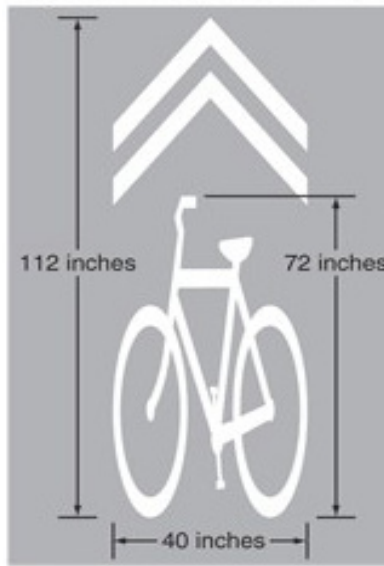
Recent public and private investments in non-motorized trails including the John and Dede Howard Family Recreational Trail (left) and the Harbor Shores Trail System (right) have given the City of St. Joseph a solid foundation for expanding its non-motorized network.



Although Lakeshore Drive has a wide shoulder used by bicyclists, the City has identified this roadway (as well as others within the City limits) as having potential for an improved designated bike lane that meets the standards of the American Association of State and Highway Transportation Officials.



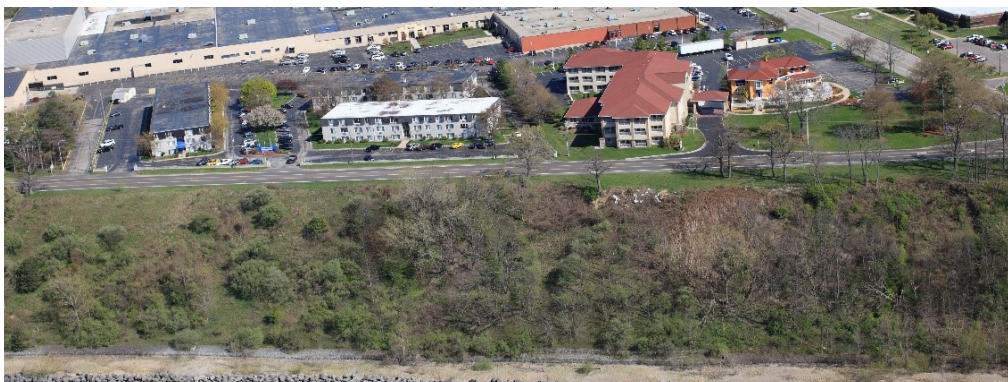
Bike Lane Marking



Shared Lane Marking, or "Sharrow"

For some roads, a separated bike lane is most appropriate (far left). These roads are indicated on the Non-Motorized Plan Map (Map 6 in Appendix G) with a dashed green line. However, some lower-speed neighborhood streets can accommodate shared use of bicycles and automobiles (near left). These roads are indicated on the Non-Motorized Map with a dashed blue line. According to the American Association of State and Highway Transportation Officials, a shared lane marking, or "sharrow," should not be placed on roadways that have a speed limit above 35 mph.

State Street (left) and Lakeview Avenue (right) are identified in the Non-Motorized Plan as being crosstown routes. A shared lane marking would be an appropriate method for marking these bike routes.



The City hopes to extend the John and Dede Howard Family Recreational Trail south along the shore of Lake Michigan to the southern border of the City and beyond. The vision is for this pathway to eventually link to trails in St. Joseph Charter Township.



### Waterfront Greenway

There is already a substantial base of trails and pathways extending along both sides of the St. Joseph River and along the Lake Michigan shoreline. Moving forward, the City will continue to fill gaps in the waterfront trail network and establish connections to link both sides of the St. Joseph River. Establishing these connections will require coordination with private property owners and significant collaboration with neighboring jurisdictions.



Part of the Harbor Shores Resort development features a wide walkway along the riverfront in front of the Inn (right) that is accessible to the public and offers a great view of pleasure crafts and commercial ships.



There has been substantial investment in public art and sculptures along the waterfront. These original art pieces make for a unique waterfront identity in St. Joseph.



## Greenway System

A key change on the updated Future Land Use Map is a connected system of greenways along the waterfront and through the ravine. The Future Land Use Map articulates an ambitious system of connected greenways along the entire Lake Michigan waterfront and St. Joseph River waterfront to connect St. Joseph with neighboring communities. Implementation of this vision will require substantial coordination with private property owners, surrounding municipalities, and public agencies. In addition to the planned trail segments shown on the Future Land Use Map, the City plans to pursue additional connections between neighborhoods, parks and recreation amenities, local waterways, and public beaches.

As existing trail segments are improved and new ones are installed, consideration should be given to safety and visibility at intersections with other modes of transportation.

## Sidewalk Gap Analysis

The City of St. Joseph has a comprehensive sidewalk network that serves its neighborhoods, commercial areas, and recreational areas. However, the conditions of some sidewalks are deteriorating, and areas exist where gaps limit pedestrian safety and mobility.

To identify areas of the community lacking sidewalk infrastructure, we conducted a sidewalk gap analysis. Map 5 in Appendix G illustrates locations within the City of St. Joseph with existing sidewalks (yellow) or pathways (blue). Streets that are not marked with yellow or blue present opportunities for infrastructure investments. There are a total of 71 miles of sidewalks and 3.7 miles of pathways in the City. Overall, most of the City is accessible by foot. Streets currently lacking sidewalks include Hilltop Road, some sections of Lakeshore Drive, portions of Marina Island and areas north of the St. Joseph River, and some neighborhood streets within the Lions Park Neighborhood.

As a next step, the City should conduct a walkability audit to assess sidewalk conditions, physical barriers to walking (such as lack of signalized crosswalks), accessibility to transit, and conformance with ADA (Americans with Disabilities Act) guidelines.

## Non-Motorized Plan

The Non-Motorized Plan Map summarizes a comprehensive set of proposed infrastructure investments for the City to work toward complete multi-modal connectivity. This plan integrates priorities from the Walk and Roll Plan (a regional non-motorized plan completed by the Southwest Michigan Planning Commission), gaps identified in the sidewalk gap analysis, and priorities identified in the Resilient St. Joseph Master Planning process and Master Plan Survey.

*As defined by the Center for Disease Control, a walkability audit is designed to broadly assess pedestrian facilities, destinations and surroundings along and near a walking route and identify specific improvements that would make the route more attractive and useful to pedestrians.*

Part of the Non-Motorized Plan includes a trail that follows the St. Joseph Ravine, connecting northern and southern recreational assets within the City as well as providing access to adjacent neighborhoods.



## COLLABORATIVE APPROACH TO WATERFRONT REDEVELOPMENT

*The St. Joseph River waterfront is an incredibly dynamic natural resource with a rich history. In an effort to set forth a vision for the entire waterfront and a plan on how to get there, the Resilient St. Joseph master plan process included three separate meetings focused on developing a future vision for the waterfront. However, it was evident throughout these meetings that additional data and public input is necessary to truly establish a comprehensive vision supported by the entire community. There are a number of polarizing issues that must be addressed before a vision for the Harbor can be agreed upon.*



This photo was taken looking east across the St. Joseph River in 1896. It has been a working harbor for many years, though industry types have transitioned over time.



Locations of the inner and outer harbor overlaid on an oblique photograph.

### Key issues identified during the public meetings:

- Long term viability of the commercial harbor in light of the availability of dredging funds. The community acknowledges the importance of the commercial harbor and is committed to securing long-term funding for continued dredging.
- Balancing the commercial, recreational, residential, and industrial needs of the harbor area and ensuring appropriate buffers between incompatible uses.
- Desire to use the land surrounding the St. Joseph waterfront to the highest and best value to benefit the public while still supporting the regional economy.

## Background

The following background information and data helps frame the complexity of issues surrounding the harbor.

### Availability of Dredging Funds

The St. Joseph Harbor is the only deep-draft commercial harbor between Burns Harbor, Indiana and Holland, Michigan. Each year, the Army Corps of Engineers

budgets funding for dredging. However, because of reduced tonnage moving through the harbor, competing priorities, and political obstacles in Washington, this funding is becoming less and less certain. Recognizing this pressure, Berrien County proposed a reconfiguration of the Harbor that concentrates commercial docks at one site in the westerly portion of the harbor, known as the outer harbor. According to Berrien County, this realignment would also make way for more extensive inner harbor waterfront recreational development. However, this proposed reconfiguration was not vetted through a public process. The proposal has solicited a great deal of negative response from nearby residents and other community stakeholders who are concerned about increased traffic and noise that may be caused by the proposed relocation.

*There has been a small decline in the annual number of ships using the commercial harbor each year. From 2004 through 2009, there was an average of 34 ships per year. From 2010 through 2014, there was an average of 20 ships per year.*

## Economic Development

In determining the long-term viability of the commercial harbor, it is important to understand its economic impact on the region. Land-use planning decisions must be made with an eye on the future and should assume that trends will continue to evolve. Although manufacturing still plays a vital role in the regional economy, we have seen a steady drop in manufacturing and related jobs (see Appendix E: Economic Development). As St. Joseph and surrounding communities continue to embrace the New Economy with an increased focus on knowledge and information services, the community will need to figure out what role industry, manufacturing and related jobs will play in the local economy.

*The New Economy refers to the transition from a manufacturing-based economy to a service- and information-based economy.*

## A Gateway

The St. Joseph Harbor serves as a gateway to the St. Joseph and Benton Harbor communities. One goal that was articulated clearly throughout the master plan process was the importance of increasing collaboration with the City of Benton Harbor in a way that is mutually beneficial to both cities. Benton Harbor and St. Joseph are separated by only the St. Joseph River and share public utilities and infrastructure services, a public transit system, county services, and a variety of other cultural amenities. Future harbor meetings will require broad representation from both cities.



Students from Benton Harbor High School and St. Joseph High School painted a collage symbolizing unity of the two communities. The collage was displayed at the border between the two communities.

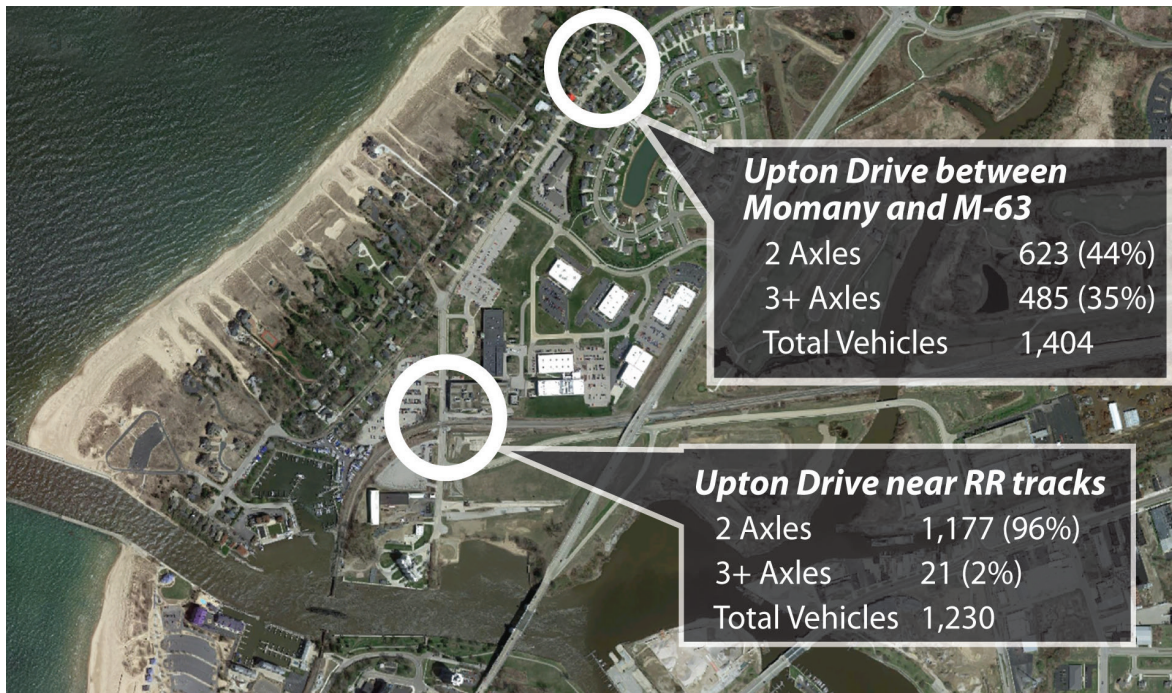
## Traffic and Nuisance Concerns

Neighborhood residents north of the harbor have concerns regarding traffic, noise, and other associated industrial nuisances. Upton Drive specifically was noted as currently having significant truck traffic, and residents expressed concerns that this could be greatly exacerbated by a harbor relocation. A 2012 traffic study



conducted by the Southwest Michigan Planning Commission (SWMPC) recorded average daily traffic counts of 1,230 vehicles per day at the intersection of Upton Drive and the railroad tracks (see Figure 4.2). Of those vehicles, approximately 21, or 2%, could be classified as heavy-duty vehicles (having three or more axles). Traffic counts at the intersection of Upton Drive between Momany and M-63 indicated an average of 1,404 vehicles passing through each day. However, it is interesting to note that 35% of vehicles passing through this intersection had three or more axles. Moving forward, additional traffic counts are needed to identify areas with excessive traffic and potential opportunities for rerouting trucks to non-residential streets.

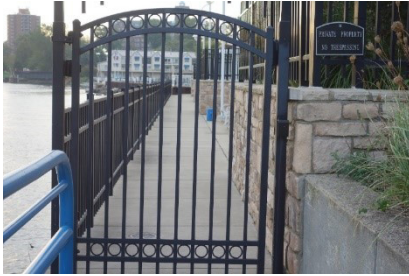
**Figure 4.2** Upton Drive Traffic Trends *June 2012*



Source: Southwest Michigan Planning Commission



Residents near Upton Drive have expressed concern over truck traffic passing through their neighborhood. Further concerns have arisen in regards to increased truck traffic from a potential realignment of the commercial harbor facilities.



These photos highlight areas of the harbor that prevent bicycle and pedestrian connectivity.

## Public Access and Non-Motorized Connectivity

In the Master Plan Survey, 47% of respondents noted that better public access to the riverfront was either *important* or *very important*. Currently, there is limited bicycle and pedestrian access between the north and south ends of the river. Some community stakeholders recommended a bicycle and pedestrian pathway along existing bridges. It is not clear how this could be practical, but improved cross-river access should be explored. Additionally, travel along the south side of the river is encumbered by multiple gates, fences, and an array of private properties. There appears to be opportunity for better connectivity along the water since much of the waterfront is publicly owned (see Map 7 in Appendix G). Along areas that are privately owned, the City and partners plan to work to obtain easements so as much of the waterfront as possible is accessible to the public via trails and pathways.

## Harbor Shores Development

The northern portion of the City has recently undergone significant redevelopment, and there are plans for continued redevelopment and investment in the Harbor Shores area. The Harbor Shores development includes a golf course, resort, upscale condominiums and townhouses, walking and biking paths, and canoe and kayak rentals. Although this redevelopment alone should not define the vision for the harbor's future, it is important to recognize the impact this development has on the entire waterfront. It is also important to plan for development that is consistent with changes currently underway. In the northeast corner, the Fairways Neighborhood has seven out of a planned 29 residential units complete as of October 2015. An additional residential development is underway just south in Harbor Village. On the west side of M-63, although not part of the Harbor Shores development, single-family residences are being built as part of the Edgewater Dunes development.

## Next Steps

The City of St. Joseph plans to take the lead on convening regional strategic discussions to determine whether or not a commercial port project fits within a long-term strategic plan. The City understands the need to set forth a regional

vision for how to best utilize the entire harbor area to meet the needs of the local economy while providing appropriate access for the enjoyment for all residents.

A regional vision for the harbor should take into account ways to encourage transient boaters to visit the community, provide public access with walking trails and fishing piers, stimulate desired development, and create jobs. A key underpinning of these conversations is determining if and how a commercial harbor fits within the overall community vision. The City also recognizes the key role a wide diversity of stakeholders will play in establishing this vision, including the federal government, state agencies, local governmental

jurisdictions beyond St. Joseph, and area businesses and impacted residents from the entire area.



An illustration on a billboard outside the Inn at Harbor Shores depicting the planned development for the vacant parcel east of the Inn at Harbor Shores.

## Redevelopment Success Stories

The City of St. Joseph has taken a proactive approach in redeveloping a number of other properties that serve to increase the local tax base and potentially spur additional development in the surrounding neighborhoods. This redevelopment is critical to economic development because the City does not have additional open space for development. Thus, the City is open to reasonable, rational redevelopment proposals.

There is a housing complex redevelopment project on Lakeshore Drive at the corner of Lakeshore and Hawthorne. This project provides 90 units of much-needed housing for doctors during their residency program at Lakeland Hospital.

A redevelopment project on Niles Avenue resulted in a new CVS Pharmacy, which opened in the fall of 2015. The pharmacy is located on the parcel just south of Kingsley Avenue on the west side of Niles Avenue. There was significant opposition to this development, which centered on concerns of added traffic and noise in the area and the effects on nearby residents. City commissioners eventually approved the redevelopment under a Planned Unit Development (PUD) permit.

An example of adaptive reuse in St. Joseph is a redevelopment project that converted Jefferson School, formally an elementary school, into a residential development with 22 units.

## Redevelopment Ready Sites

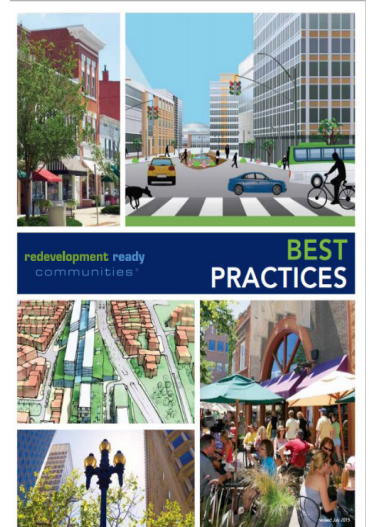
From a land-use planning perspective as well as an economic development perspective, it is important to take stock of the areas in the community that are ripe for redevelopment. The Michigan Economic Development Corporation (MEDC) encourages communities to take a proactive approach to identifying and preparing properties to be redeveloped. A key element of the MEDC's Redevelopment Ready Communities Program is to identify redevelopment-ready sites and strategies associated with each site.

There are a number of public and private properties ripe for redevelopment in the City. For example, the Cedarwood Property located west of Willa Drive and east of Niles Avenue is 4.4 acres with a vacant building located on the site. This site could be redeveloped with ground-floor retail as well as office or residential uses.

The Lake Park Place is located at the corner of Lake Boulevard and Pleasant Street and the site is currently vacant. A new development at this location would benefit from its proximity to Lake Michigan and Silver Beach Park. The site is far enough removed from Main Street that traffic noise is not a concern; however, its proximity to Main Street (M-63) provides for easy access to and from the site. A condominium development is one idea that emerged through this master plan effort.

There are also a number of City-owned parking lots in the area downtown along the bluff. These lots are prime locations if the City is looking to expand mixed-use developments in and around the downtown district. If the City decides to pursue development of these properties, the City will need to identify locations for additional parking, such as within the structures, to offset the parking spaces lost from the new development.

The MEDC Redevelopment Ready Communities Program is a statewide certification program that helps communities become development-ready and competitive in today's economy. There is a formal certification program to ensure well-defined development procedures, a community supported vision, an open and predictable review process, and compelling sites for developers to locate their latest projects.



The Cedarwood Property could be an impetus for redevelopment in the surrounding commercial district and could spur establishment of a mixed-use node for the Niles corridor.



## APPENDIX A

# THE PLANNING PROCESS

### Background

The Resilient St. Joseph Master Planning project was a comprehensive effort aimed at developing a master plan for the community through a robust public engagement process with significant supporting information on resilience. The 2015 Master Plan reflects a community-driven process to assess existing conditions and influences, establish a vision, and develop policies and recommendations to serve as a guide for community decision making.

Research, planning and process facilitation services were provided by the nonprofit Land Information Access Association (LIAA) with support from partners including the Michigan Municipal League (MML), Michigan Association of Planning (MAP) and the Taubman College of Architecture and Urban Planning at the University of Michigan. Funding for this effort has been provided by the City of St. Joseph, the Kresge Foundation, and the University of Michigan's Water Center.

### The Outreach and Engagement Strategy

The St. Joseph Planning Commission took a leadership role in the master plan process. Regular special meetings dedicated to the master plan took place from April 2014 through October 2015. In addition, the master plan was discussed during a number of regular monthly meetings. The Planning Commission also held three joint meetings with the City Commission.



### Community Action Teams (CATs)

Citizens from throughout the community were invited to join a set of working sessions to develop topic-specific community planning recommendations for the City. Participants were asked to select one of six systems to examine and discuss together in groups known as Community Action Teams (CATs).





**The CATs were organized under the following six distinct systems:**

- Access and Transportation      Agriculture and Food
- Human and Social                Parks and Natural Areas
- Energy and Economy            Neighborhoods and Infrastructure

A diverse group of approximately 80 individuals participated in a series of three CAT meetings during the months of August, September and October of 2014. CAT members represented both the public and private sector, including elected officials, municipal staff, nonprofit directors, business leaders, neighborhood leaders, and residents. Through a lens of community resilience, the six teams identified assets and opportunities for each system, as well as a vision, goals, objectives, and actions for each system. Many of the ideas generated through this process were directly integrated into the master plan.

The following summarizes key goals identified by each CAT group.

*Access and Transportation*

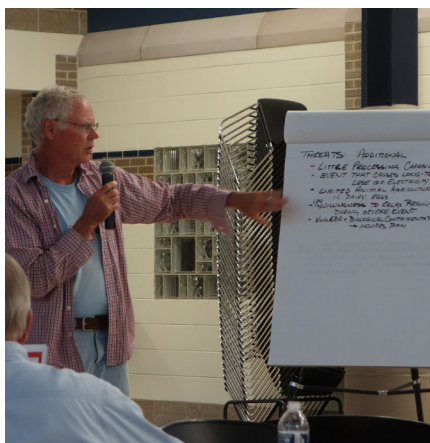
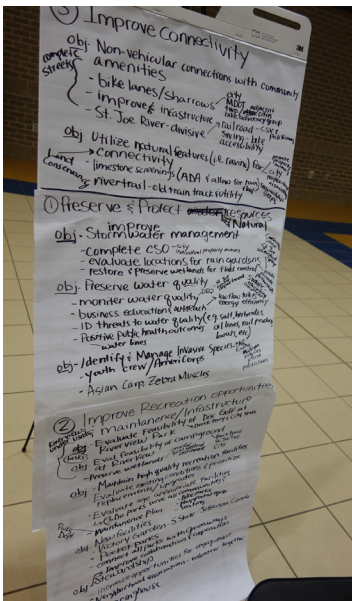
*Vision:* Our vision is to develop a balanced, equitable, and efficient transportation system that provides a range of transportation choices while increasing accessibility, reinforcing livability of neighborhoods, supporting a strong and diverse economy, and reducing air, noise, and water pollution.

- *Goal:* Make the bicycle an integral part of daily life in St. Joseph, and improve general consideration for bicyclists, pedestrians, and low-speed electric vehicles.
- *Goal:* Maintain a system of local roads and sidewalks that supports the movement of public transit vehicles (i.e., buses) for regional and local trips, and unencumbered access of residents and workers to transit connections.
- *Goal:* Establish off-street recreational trails in corridors not well served by existing bicycle and pedestrian facilities.
- *Goal:* Reduce and manage automobile travel and parking demand in downtown St. Joseph and promote transportation choices before considering addition of motor vehicle parking capacity near downtown.

*Agriculture and Food*

*Vision:* St. Joseph will become known for using local agriculture and food systems year-round to promote the health and wellness of the individual, community, natural environment and local economy.

- *Goal:* Support and build community-level food infrastructure that ramps up food production and processing.
- *Goal:* Promote and prioritize year-round access to local food for all.
- *Goal:* Create a policy that will encourage small-scale food entrepreneurship and connect the community at a neighborhood level.



## Human and Social

*Vision:* A vibrant, diverse community that gives every resident the opportunity to be engaged, grow, work, and play.

- *Goal:* Build greater awareness of social services.
- *Goal:* Increase access and awareness to high quality preschool, daycare, and out-of-school activities.
- *Goal:* Increase the openness of St. Joseph.

## Parks and Natural Areas

*Vision:* A continued commitment to preservation and enhancement of St. Joseph's natural areas and parks. Priorities include preservation, especially of our water resources; safety, monitoring, and maintenance of what we have, and possible future enhancements; cooperative planning and maintenance; and increasing connectivity of paths between parks, beaches, private attractions, and nearby communities

- *Goal:* Preserve and protect natural resources.
- *Goal:* Improve recreation opportunities, maintenance and infrastructure.
- *Goal:* Improve connectivity.

## Energy and Economy

*Vision:* Through proper use of area resources we create a growing year-round hub of economic activity, stability and connectivity, and enable an environment that offers efficient and progressive energy use, renewables and a diversified energy supply.

- *Goal:* Make good choices with limited land.
- *Goal:* Consistent and reliable energy (Cook Nuclear, hydro-power, wind power)
- *Goal:* Create measurable goals to incentivize businesses and residents as a community
- *Goal:* Foster a green city.
- *Goal:* Broaden base of our economy.
- *Goal:* Support and grow art and culture.
- *Goal:* More and continuous support of existing companies/employers while broadening the economic base.
- *Goal:* Support downtown economy.
- *Goal:* Local, diverse labor force actively employed on a year-round scale.
- *Goal:* Develop a resilient regional economy through effective communication and collaboration.



### Neighborhoods and Infrastructure

*Vision:* A small town that is a collection of neighborhoods connected strongly to the beauty and function of its unique natural environment while embracing the business and industry that complements its assets.

- *Goal:* Foster environmental health and sustainability of natural systems.
- *Goal:* Enhance existing natural systems and link capacity of natural systems with our man-made needs and patterns.
- *Goal:* Foster high-functioning infrastructure.
- *Goal:* Preserve neighborhood character.



### Master Plan Survey

In February 2015, the Planning Commission and City Commission administered a master plan survey to residents, employees and employers, and visitors of the St. Joseph community. The goal was to learn how members of the community see the state of the city now, and what they wish it to be in the future to help the City develop a community master plan that will help realize the vision of its community members. A total of 1,044 individuals responded to the survey. The following summarizes some interesting findings from the survey.

1. Of the 1,044 respondents, 74% were full-time City residents, 2% were part-time residents, and the remainder lived outside of the City (many of whom work within the City).
2. The most popular reasons for living in the City included safety, access to the water, recreational opportunities, and the neighborhoods.
3. More convenient parking was cited as the incentive that would get respondents to visit downtown more often. However, respondents were split on whether or not they were willing to subsidize parking through additional taxes or support pay-to-park options, and the greatest number of respondents indicated that parking was a seasonal issue that could be tolerated.
4. The highest priority community amenities/services were well-maintained sidewalks, schools, downtown, access to Lake Michigan, and public safety.



5. Top priorities for improving the local economy included better access to locally produced food and working to retain current employers and employees.
6. The majority of respondents supported better bicycle and pedestrian facilities and improved public transit options.

For a copy of the survey, complete survey results, and a full listing of additional survey comments, visit the City of St. Joseph Master Plan web page at [www.sjcity.com](http://www.sjcity.com).

## Waterfront Redevelopment and Harbor Visioning

The project team held a well-attended series of three meetings in November 2014, January 2015, and February 2015 to initiate the process of defining desired future land-use and transportation circulation for the area surrounding the waterfront, including the commercial harbor. At the first two meetings, local leaders and state experts provided presentations and served as panelists for background information and perspective on key issues surrounding the harbor area. At the final meeting, participants were asked to work in small groups to identify preferred locations for residential, commercial, mixed use, and industrial development along the St. Joseph waterfront.

This section describes what key stakeholders identified through the public meeting process as well as key concerns and potential solutions. The main conclusion that emerged from the discussions was that many residents and local stakeholders do not feel they have enough information yet to create a future land-use vision for the St. Joseph River waterfront.

Key Stakeholders for the St. Joseph River Waterfront:

- U.S. Army Corps of Engineers
- United States Coast Guard
- Lake Carriers' Association
- Commercial Harbor Users (Lafarge North America, Dock 63, and Central Dock)
- Harbor Shores
- Edgewater Neighborhood Association and Businesses
- Ridgeway Neighbors
- St. Joseph Harbor Authority
- CSX Railroad



## Key Issues Identified:

1. Numerous residents expressed a desire to preserve the view of the river and open the waterfront up to the public, making it accessible and connected. Meeting attendees also noted concerns that relocation of the gravel piles to the outer harbor would be an eyesore from the downtown and other public gathering areas.
2. The commercial harbor designation creates eligibility for US Army Corps of Engineers dredging funds from the Harbor Maintenance Trust Fund. These appropriations have become increasingly difficult to acquire, and are more readily available to harbors that (1) handle greater than 1 million tons of cargo each year, and (2) have plans and processes in place to reduce maintenance costs. Currently, the St. Joseph Harbor does not fit either category.
3. The recreational boating community shares in the federal dredging benefits at no cost. In the absence of routine, annual maintenance to the inner harbor, recreational boaters will likely lose access to the harbor or will need a local revenue source for dredging.
4. The vacant property located on the north side of the river (between Lafarge and M-63) has potential for redevelopment. There is disagreement on what land use will benefit the most people (e.g., open space, industrial activity, or mixed use/water recreational development).
5. Although a preliminary analysis has been conducted by Berrien County to estimate the economic impact of the commercial harbor, there is still a desire for additional economic analysis as to how the region benefits from the commercial harbor and the opportunity cost of transitioning to an economy that is not serviced by a commercial harbor.
6. Residents living near the waterfront in the Ridgeway/Edgewater Neighborhoods have significant concerns over current truck traffic volumes as well as additional truck traffic that could result from a realignment of the commercial harbor.

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*The New Economy refers to a global, entrepreneurial and knowledge-based economy where business success comes increasingly from the ability to incorporate knowledge, technology, creativity and innovation into their products and services.*

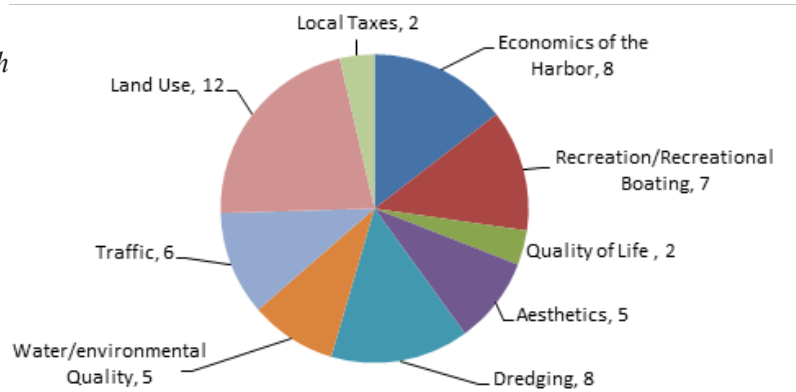


7. Meeting attendees expressed support for regional economic diversity, recognizing that the community cannot rely on tourism alone. Losing the commercial harbor could negatively impact the economic resilience of the region, however, the information sector is growing in St. Joseph and trends indicate a transition to the New Economy.

To better understand which issues are most pertinent to the harbor and the area surrounding the St. Joseph waterfront, community members who attended the January Harbor Visioning meeting answered three questions about the future of the St. Joseph Harbor. The following summarizes the answers from 46 survey respondents.

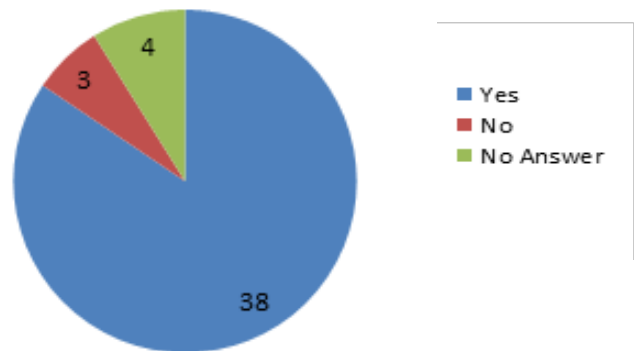
The first question asked:

*In forming your opinion about the harbor, which issue or issues are most important to you?*



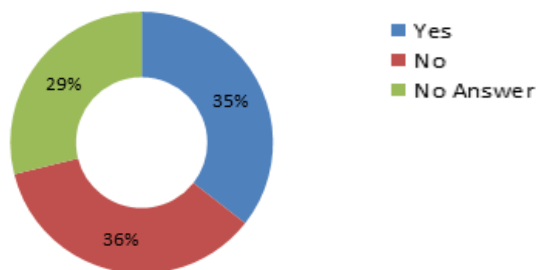
The second question asked:

*Do you think the commercial harbor should remain in operation?*



Finally, the third question asked:

*Do you support the realignment of the commercial harbor to consolidate all industrial land uses west of M-63 (within the outer harbor)?*



The following summarizes recommendations we heard in relation to the St. Joseph River Waterfront.

1. There was much discussion regarding improved connectivity for bicyclists and pedestrians throughout the waterfront area. Recommendations included a non-motorized trail that went the entire length of both sides of the St. Joseph River and connected with Benton Harbor, St. Joseph, adjacent parks, and Marina Island. Residents also recommended exploring the possibility of connecting land north and south of the river with a pedestrian bridge attached to the CSX Rail swing bridge.
2. From a recreational perspective, there was significant support for public access throughout the waterfront area regardless of whether the properties were publicly or privately owned. Meeting attendees suggested adding a public kayak/canoe launch with a restroom and picnic shelter facilities, and also suggested adding additional recreational trails created in a way that preserves existing wetlands and wildlife habitat.
3. Neighbors living near the waterfront stressed the importance of appropriate buffers that are well thought out and reduce impacts from noise and visual nuisance.
4. One group suggested that the City and/or County investigate the quality of the sediment that is being dredged in the inner harbor since this sediment is likely less polluted as compared with historic contaminant levels. Another participant suggested investigating sediment management to evaluate whether procedures can be put in place upstream to reduce sediment movement.
5. From a vehicular transportation and connectivity standpoint, meeting attendees suggested adding an on-ramp at Whitwam Drive and M-63 to improve efficiency and traffic flow and to reduce the neighborhood cut-through traffic. There was also a recommendation to evaluate the feasibility of adding a rail spur to the harbor to reduce truck traffic. One participant worried that the current railroad track turn is too sharp to add a spur to it.



### Below the Bluff Community Vision

In November 2014, neighbors living below the bluff as well as members of the larger St. Joseph community gathered to develop a long-term vision for the area below the bluff. Almost 100 citizens attended, breaking up into small groups to identify unique features, challenges, and desired improvements to the neighborhood.

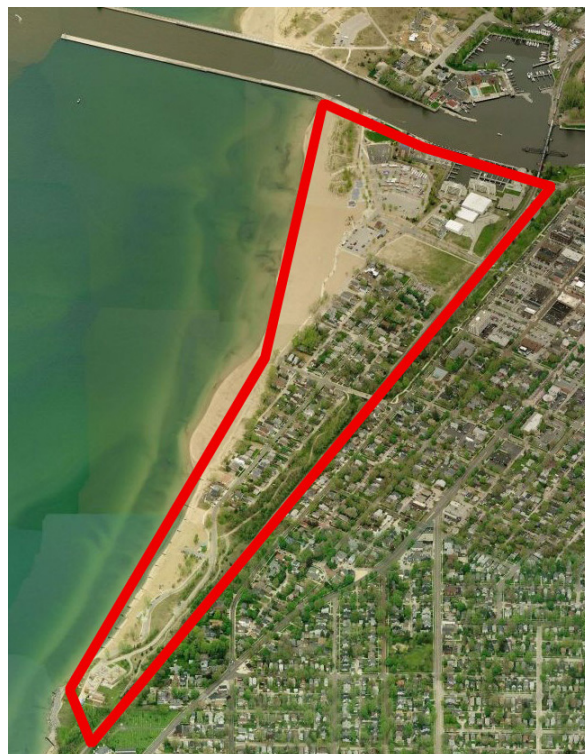
The area below the bluff is defined by the northern boundary of the St. Joseph River, the southern boundary of the water plant, Lake Michigan to the west, and the bluff to the east. Included in this boundary are Silver Beach, Lions Park Beach, and residential areas including Lions Park Neighborhood. Participants were asked to look at key focus areas that

included: (1) improvements to public beaches, (2) short-term rentals, (3) parking, (4) bicycle and pedestrian connectivity, and (5) shoreline management. To address these issues, participants broke into small groups to answer a series of visioning questions described below.

In the first activity, participants were asked about the attributes that make the area below the bluff unique, some of the unique challenges the area faces, and if there are any new amenities or improvements they would like to see. The following summarizes key themes expressed by meeting attendees.

### *1. What makes the area below the bluff unique?*

To understand and define the identity of a neighborhood or district, it is important to define what makes that area unique. When asked to list three unique features of the area below the bluff, there were a number of themes that arose. Key amenities that consistently rose to the top of lists included the lighthouse, the pier and public access to the lake and beaches. Silver Beach, the fountain as a public gathering place, the carousel, and Curious Kids Museum were noted as valuable amenities. Other amenities that were also cited multiple times included Silver Beach Pizza and the Amtrak station; public art; walking and biking amenities including the John and Dede Howard Family Recreational Trail; the water plant; and the well-established residential neighborhoods in the area.



### *2. What challenges are faced by the neighborhood?*

Likewise, when asked to identify three unique challenges to the area below the bluff, there were a number of themes that arose. The key issue that arose was conflicts between long-term residents and visitors, manifested in parking and traffic issues, short-term rentals and property maintenance, public beach maintenance and amenities, and conflicts between cyclists, vehicles and pedestrians.

From a parking standpoint, neighbors cited more demand than supply during the summer months, leading to overflow parking on residential streets and vehicles blocking driveways, side streets, garages, intersections, and crosswalks. Transportation concerns cited included traffic backups and congestion at public beach access locations, and gaps in the non-motorized network leading to safety issues and congestion. Regarding the public beaches, participant concerns stemmed from issues of safety, sanitation, maintenance and upkeep. Common complaints included lack of enforcement, unkempt public restrooms, trash, and trespassing on private property.

### *3. What new amenities or changes would you like to see below the bluff?*

In the final part of this first activity, participants were asked to provide input on the types of amenities they would like to see below the bluff in the future. Suggestions for



improvements to the area centered on parking, transportation and connectivity, better enforcement of existing regulations, and public beach improvements.

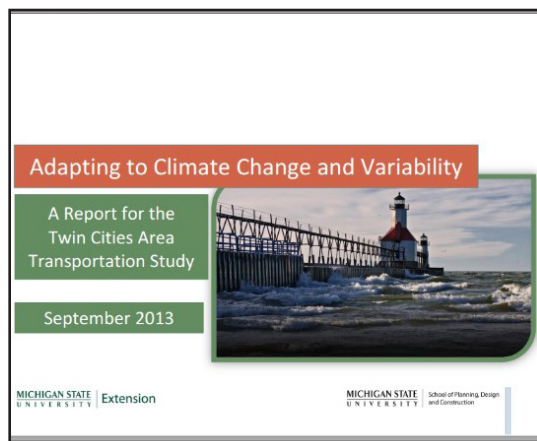
From a parking standpoint, it was noted that more parking at Lions Park Beach would ease the parking burden on neighborhood streets. One popular suggestion was to consider a shuttle from underutilized parking lots to the area below the bluff in the summer months. Some residents also suggested marking on-street parking spaces and installing meters to better control peak parking demand. Another popular idea was to designate drop-off and loading locations to reduce congestion and backups. At the public beaches, participants recommended additional restroom facilities, more seating (specifically covered seating) and ADA-accessible amenities, convenient parking for bicyclists, more regular replenishment of beaches, and improved landscaping.

A full report from the meeting can be found online at [www.resilientmichigan.org/below\\_the\\_bluff.asp](http://www.resilientmichigan.org/below_the_bluff.asp).

## Documents Reviewed

St. Joseph's last master plan, the City of St. Joseph Comprehensive Master Plan, was adopted in 2008. The comprehensive plan was a thorough and well-articulated document, describing the current conditions of the community and identifying key community goals. This master plan effort builds on the 2008 plan as well as a number of recent plans and ongoing planning efforts in the City and surrounding region, including:

### **Adapting to Climate Change and Variability: A Report for the Twin Cities Area Transportation Study (2013)**



This report summarizes a comprehensive attempt to work with key stakeholders in the agriculture, transportation, and natural resources areas to identify and prioritize their climate change concerns. The effort was led by MSU Extension and GLISA (Great Lakes Integrated Sciences + Assessments Program) and included two community forums. This resulted in a series of climate adaptation strategies specific to Berrien County.

### **Berrien County Hazard Mitigation Plan (2005)**

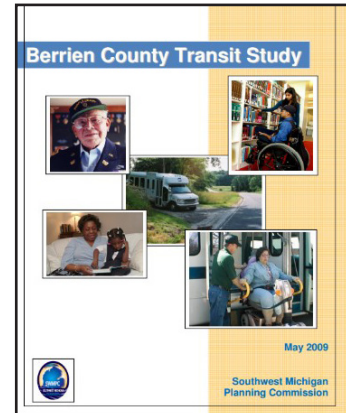
This document is a comprehensive study of the hazards that have impacted Berrien County in the past, as well as those that have the potential to occur in the future and have been used to inform the analysis of climate vulnerabilities to the St. Joseph Community.

### Berrien County Master Plan (2015)

The County’s master plan is intended to guide land-use decisions and provide direction to current and future Planning Commissions and Boards that will implement the plan, with a special focus on policy, not on individual properties or developments.

### Berrien County Transit Study (2009)

This study aimed to gather a comprehensive understanding of the current role of transit in Berrien County; an understanding of the gaps and challenges facing users, agencies, and businesses across the county; and opportunities for service improvement and expansion.

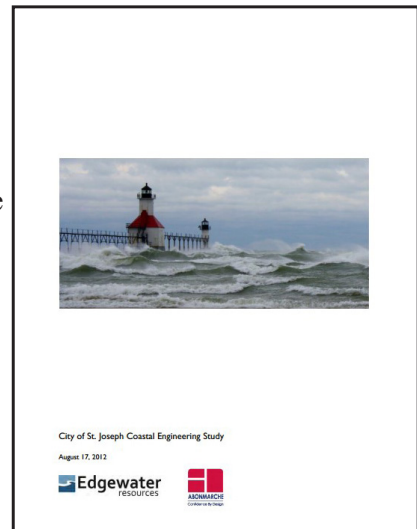


### City of St. Joseph Parks and Recreation Master Plan (2010-2015)

The purpose of this plan is to provide a guide for park planning in the community over a five-year period. The plan includes a complete inventory of recreational assets and a series of implementable goals, objectives, and actions. In addition, the plan allows for potential funding from the State of Michigan for citizen-desired park improvements. This plan is scheduled to be updated by spring 2016.

### City of St. Joseph Coastal Engineering Study (2012)

This report evaluates the Lake Michigan coast within the St. Joseph City limits, providing recommendations for shoreline management to preserve the public trust property along the shoreline and protect private interests and property. The study was used to help City policy makers evaluate shoreline management options and resulted in a local ordinance regulating structures along the northern shoreline of the City.



### Comprehensive Economic Development Strategy (2013)

The CEDS is a collaborative strategy for regional economic development in the Southwest Michigan Economic Development District, which is comprised of Berrien, Cass and Van Buren counties. This study brings coordinated regional action and a heavy focus on the pursuit of an innovative business climate to the forefront of the regional strategy, and identifies five key goals: (1) supporting existing businesses and entrepreneurs; (2) focusing on education and skill-building for the future workforce while leveraging support from the private sector; (3) developing cluster-based strategies and sharing information with partners; (4) building and maintaining modern infrastructure; and (5) attracting and retaining talent.



### **Lower St. Joseph/Galien River Watershed Management Plan (2007)**

This management plan is intended to identify and implement actions needed to improve water quality and reduce water quantity impacts by encouraging cooperation between the diverse public and private entities in the watershed. Building on other plans, the focus of this plan is to alleviate the adverse impacts caused by wet-weather discharges from separate stormwater sewer systems in the watershed. The cities of St. Joseph and Benton Harbor are identified as critical areas in need of mitigation efforts centered on stormwater management.

### **Moving Forward: A Plan for Public Transit in Berrien County (2014)**

This plan includes extensive data and information on the four transit systems currently operating in Berrien County, with emphasis on opportunities to improve transit services in the County through expanded coordination, mobility management efforts, and consolidation of the provision of transit services through one county-wide program.

### **Southwest Michigan Non-Motorized Transportation Plan (2011)**

This plan provides a non-motorized transportation system vision for the Michigan Department of Transportation's southwest region which includes Allegan, Barry, Berrien, Branch, Calhoun, Cass, Kalamazoo, St. Joseph and Van Buren counties. The plan emphasizes collaboration, coordinated funding, and connectivity between neighboring communities.

### **The State of the Southwest Michigan Region Report (2013)**

This report by the Southwest Michigan Planning Commission compiles and presents a variety of current data on the people, economy, institutions, and environment of the Southwest Michigan region comprised of Berrien, Cass and Van Buren Counties.

### **Streetscape Master Plan: St. Joseph, Michigan (2006)**

The Streetscape Master Plan, although somewhat dated, identifies goals and objectives aimed at enhancing residents' quality of life through a series of design guidelines along Main Street in St. Joseph. The project area runs from the intersection of Port Street and Main Street to the intersection of Central Avenue and Main Street.

### **Walk & Roll: Official TwinCATS Non-Motorized Plan (2011)**

This report includes an inventory of area roads and identification of the best feasible walking and biking facilities. The plan contains an overview of public input gathered on non-motorized travel, examples of different types of non-motorized shortcomings seen throughout the area, a summary of area walking and biking safety statistics, and a brief discussion of local conditions that affect the importance of walking and biking mobility.



### **What Moves You, TwinCATS? 2013-2040 Long Range Transportation Plan (2013)**

This Long Range Transportation Plan (LRTP) identifies strategies for how communities in the region will address their transportation needs over the next 25 years, how they will prioritize improvements, and how federal, state, and local dollars will be used to further a system that supports highways, transit, bicycle and pedestrian facilities, airports, and harbors. The plan also provides guidance for the area's local officials as they plan for present and future development of their communities.

## APPENDIX B

**THE PEOPLE OF ST. JOSEPH**

*The following section describes the population and socioeconomic statistics, housing, and travel trends of the City of St. Joseph.*

**Population**

Based on data published by the U.S. Census Bureau, there were 8,365 people living in the City of Joseph in 2010, a 4.82% decrease from the population recorded in 2000. Table B-1 presents the population trends from 1990 to 2010 for the City of St. Joseph, City of Benton Harbor, Berrien County and the State of Michigan.

**Table B-1 Population Trends**

	1990	2000	2010	% Change, 2000 to 2010
St. Joseph	9,214	8,789	8,365	-4.82%
Benton Harbor	12,843	11,182	10,038	-10.23%
Berrien County	171,276	162,453	156,813	-3.47%
State of Michigan	9,262,078	9,938,444	9,883,640	-0.55%

Source: U.S. Census Bureau 1990, 2000, 2010

Although there is no way to predict population trends with certainty, it is important to consider population projections while developing public policy and land-use regulations. Table B-2 presents the population projections for the City of St. Joseph for the next 25 years. These population forecasts are based on a demographic forecast provided by Regional Economic Models, Inc. (REMI) and have been downscaled regionally by the Michigan Department of Transportation (MDOT) Statewide Urban Travel Analysis Section (SUTA) in 2012. These projections suggest that a decrease in the overall population in the City of St. Joseph can be expected through 2040. According to MDOT, these projections are based on an analysis of physical growth patterns and do not take growth management strategies into account. It is interesting to note that the decrease in population projected for the City is similar to surrounding jurisdictions.

**Table B-2 Population Projections**

	Actual Population	Projected Population			% Change 2010-2040
	2010	2020	2030	2040	
City of St. Joseph	8,365	8,033	7,842	7,729	-7.60%
City of Benton Harbor	9,953	9,848	9,544	9,230	-7.26%
St. Joseph Charter Twp	9,150	8,873	8,727	8,668	-5.27%

Source: Regional Economic Models, Inc. (REMI), and MDOT Statewide Urban Travel Analysis Section (SUTA), 2012

### Age

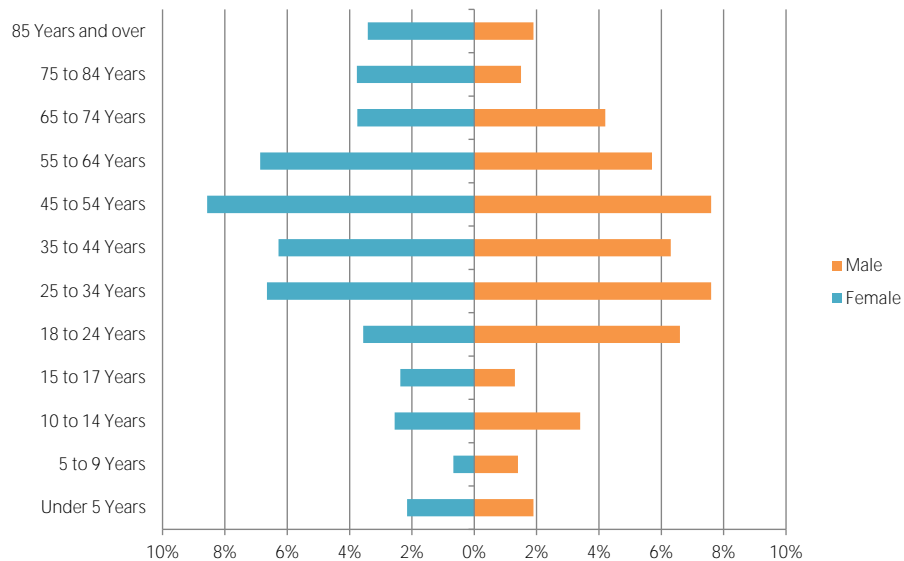
The age distribution of a community can be an important factor in identifying social and economic trends as well as public service needs. Table B-3 summarizes the 2000 to 2010 trends as well as projected changes in age distribution by 2020. Figure B-1 summarizes the 2010 breakdown of males and females by age cohort from the 2010 Census.

**Table B-3 Age Distribution, 2000 to 2010 and 2020 Estimate**

Age Range (In Years)	2000	2010	% Change 2000-2010	2020 Estimate
0-4	425	391	-8.7%	344
5-9	149	374	60.2%	344
10-14	526	378	-39.2%	367
15-19	526	408	-28.9%	402
20-24	606	588	-3.1%	458
25-34	1310	1363	3.9%	1082
35-44	1382	1036	-33.4%	1210
45-54	1240	1193	-3.9%	984
55-64	753	1078	30.1%	1092
65-74	648	630	-2.9%	986
75-84	646	505	-27.9%	577
85+	308	421	26.8%	415

Source: U.S. Census Bureau 2000, 2010. ESRI 2020 Estimate.

**Figure B-1 Percent of Population by Age and Sex, 2010**



Source: U.S. Census Bureau 2010

**Table B-4 Summary of Economic Characteristics, 2000 to 2013**

Economic Characteristics	St. Joseph			Benton Harbor		
	2000 Census	2009-2013 ACS	% Change	2000 Census	2009-2013 ACS	% Change
Median Household Income (In Dollars)	37,032	51,027	38%	17,471	18,028	3%
Per Capita Income (In Dollars)	24,949	36,084	45%	8,965	10,083	12%
% of Families Living in Poverty	4.3	4.2	-2%	39.6	44.8	13%
% Unemployed	2.6	10.3	296%	16.3	32.2	98%

Economic Characteristics	Berrien County			Michigan		
	2000 Census	2009-2013 ACS	% Change	2000 Census	2009-2013 ACS	% Change
Median Household Income (In Dollars)	38,567	43,633	13%	44,667	48,411	8%
Per Capita Income (In Dollars)	19,952	36,084	81%	22,168	25,681	16%
% of Families Living in Poverty	9.3	12.3	32%	7.4	12.00	62%
% Unemployed	6	12.1	120%	5.8	12.7	119%

Source: U.S. Census Bureau 2000, American Community Survey, 2009-2013, 5-year estimates

The median household income in St. Joseph increased from 2000 to 2009-2013 (see Table B-4). Table B-5 depicts household trends and changes for the City of St. Joseph as well as the region. According to American Community Survey data from 2009 to 2013, St. Joseph had 3,828 households. Compared to the County and State, a greater percentage of households in St. Joseph have one or more people over age 65.

**Table B-5 Household Characteristics, 2009-2013**

Household Characteristics	St. Joseph	Berrien County	State of Michigan
% of households with one or more people under 18	20.9%	28.7%	31.1%
% of households with one or more people over 65	5.5%	3.8%	3.7%
% of households with householder living alone	20.5%	11.5%	11.1%
Total Number of Households	3,828	60,414	3,823,280
Average Household Size	2.1	2.5	2.5

Source: American Community Survey, 2009 to 2013, 5-year estimates

**Table B-6 Housing Unit Summary**

	2000	2010	% Change, 2000 - 2010	2018 Estimate
Owner-Occupied Housing Units	2,373	2,335	-1.6%	2312
Renter-Occupied Housing Units	1,744	1,598	-8.4%	1645
Vacant Housing Units	477	862	80.7%	832
Total Housing Units	4,594	4,795	4.4%	4788

Source: U.S. Census 2000, 2010, ESRI 2018 Estimate

Table B-6 shows the change in renter-occupied housing units over time in the City of St. Joseph. According to the City Assessor, in September 2014, there were 1,905 rental units within the City of St. Joseph. Of these, 48 were identified as being located above commercial establishments within the downtown district. A map of short-term rental locations is included in Appendix G (Map 8). According to the U.S. Census, a housing unit is vacant if no one is living in it at the time of the interview, unless its occupants are only temporarily absent. In addition, housing units where all the occupants have a usual residence elsewhere are grouped with vacant units.

**Table B-7 Owner-Occupied Home Values, 2009 to 2013**

Value of Homes (\$)	Number of Homes	% of Total
Less than 20,000	22	0.9%
20,000 to 49,999	58	2.4%
50,000 to 99,000	304	12.5%
100,000 to 149,999	802	33.0%
150,000 to 299,999	791	32.5%
300,000 to 499,999	245	10.1%
500,000 to 999,999	125	5.1%
1,000,000 or more	85	3.5%
Median Value (dollars)	\$152,500	

Source: American Community Survey, 5-year estimates, 2009-2013

According to the 2009-2013 American Community Survey 5-year estimates, the median value of an owner-occupied home in the City of St. Joseph was \$152,500, which is an increase of over 50% from the median value of \$100,000 in 2000. As illustrated in Table B-7, 81% of homes within the City of St. Joseph are worth between \$100,000 and \$200,000.

According to the 2009-2013 American Community Survey, approximately 34% of renters in St. Joseph spend 30% or more of their yearly income on rent (see Table B-8). Federal Housing policy has established 30% as a benchmark, meaning families spending over 30% of their income on housing are likely financially burdened

**Table B-8 Percentage of Income Spent on Rental Housing, 2009 to 2013**

% of Income Spent on Rental Housing	St. Joseph		Michigan	
	# of households	% of Total	# of households	% of Total
Less than 10%	98	7.0%	32,771	3.1%
10 to 29%	821	58.8%	409,991	38.5%
30 to 49%	244	17.5%	239,795	22.5%
50% or More	179	12.8%	296,906	27.9%
Not computed	54	3.9%	86,755	8.1%
Median Value (%)	24.1%		32.7%	

Source: American Community Survey, 2009 to 2013, 5-year estimates

by housing expenses. Although individuals in St. Joseph spend a lower percentage of income on rental housing compared with the state average, there still appear to be housing affordability challenges. In the St. Joseph Master Plan Survey, 62% of respondents noted that affordable housing was either *somewhat important* or *very important*. Furthermore, 80% of respondents agreed with the statement that St. Joseph needs a more affordable and diverse housing stock. However, while respondents agreed in theory that affordable housing is important for a vibrant community, the overwhelming majority of respondents placed the highest priority on increasing the supply of single-family homes (as opposed to duplexes, condominiums, apartments, or housing in the downtown district), which are often more expensive and less likely to be a rental.

## Commute to Work

**Table B-9 Mode of Transportation to Work, 2009 to 2013**

	St. Joseph	Michigan
Drove Alone	84.0%	82.5%
Carpooled	7.5%	9.3%
Public Transportation	0.7%	1.4%
Worked at Home	3.0%	3.5%
Bicycled	0.5%	0.5%
Walked	3.9%	2.2%
Other	0.4%	0.6%

Source: American Community Survey, 2009 to 2013, 5-year estimates

Table B-9 shows that, similar to most communities in Michigan, the most prevalent commute mode in St. Joseph is driving alone. At 84%; this is slightly above the state average. Despite the fact that few people appear to be biking or walking, better non-motorized connections were cited as a high priority for future investment by respondents to the Master Plan Survey.

Average commute times for residents living in the City of St. Joseph are substantially less than the average commute time statewide (see Table B-10.)

**Table B-10 Travel Time to Work, Percent of Commuters, by Time, 2009 to 2013**

Commute Time (In Minutes)	St. Joseph	Michigan
Under 10	29.4%	14.0%
10 to 29	54.0%	51.6%
30 to 39	3.5%	15.0%
40 to 59	6.8%	10.1%
Over 60	3.4%	5.7%

Source: American Community Survey, 2009 to 2013, 5-year estimates

## APPENDIX C

# TRANSPORTATION AND INFRASTRUCTURE

St. Joseph's transportation system has played a vital role in the City's development. Early in the City's history, rail and water transportation supported business and industry development. As the popularity of the automobile grew, the road system shaped the patterns of development. The automobile remains the primary mode of transportation in St. Joseph, but residents, visitors, and businesses are also served by a network of sidewalks, other non-motorized transportation routes, bus, and rail. The Master Plan needs to consider existing and potential transportation options and routes when addressing ideas for future land use and community services.

## Street and Highway Network

St. Joseph's street network can be characterized into two basic types. Most streets south of the St. Joseph River and north of Harrison Avenue consist of a rectangular grid pattern with alleys and short blocks. The grid pattern continues south of Harrison Avenue, but the blocks are longer and some streets are wider. Newer streets, mostly located in southern St. Joseph and north of the St. Joseph River, use a curvilinear modified grid system (curved roads that still connect) with wider pavements. These differences are largely a result of changes to the City's design standards over the years and are generally consistent with national changes. Since the City has an established street network, few major changes are likely to occur. Therefore, the focus for future improvement and planning is to make the current streets work better and contribute to the character sought throughout the City.

## Highways

The principal highways in the City are State highway M-63 and Business Loop-94, which provide the primary connections between the City, other parts of the region, and the rest of Michigan. Coordination with MDOT and other regional partners is important to ensure that future planning and goals for these routes are compatible.



M63 enters the City on Main Street, eventually turning into Niles Avenue south of downtown.

## Road Classification

Roads within communities across the country are categorized by the National Functional Classification (NFC) System. The NFC is a system developed by the Federal Highway Administration to classify all streets, roads, and highways according to their function. The NFC system classifies roads into the following categories:

### *Principal Arterials*

These roads generally carry long-distance, through-travel trips. They also provide access to important traffic generators, such as major airports or regional shopping centers. Examples include freeways, state routes between large cities, and larger surface streets in large cities.

### *Minor Arterials*

Similar in function to principal arterials, but shorter in length and providing access to lesser traffic generators. Examples include state routes between smaller cities, and important surface streets in smaller cities.

### *Collectors*

These roads provide more access to property than arterials and funnel traffic from residential and rural areas to arterial roads. Examples include larger county roads and connecting streets in cities of all sizes.

### *Local*

These roads primarily provide access to individual properties and homes. Examples include residential streets and lightly-traveled county roads. All streets within the City of St. Joseph not included in the other NFC categories above are considered local streets.

In total, 49 miles of roads are classified by the NFC System in St. Joseph. Of this total, 12.5 miles are considered arterials, 5.5 miles are considered collectors, and 31.1 miles are considered local streets. There are 2.3 miles of road in St. Joseph that are uncoded by the NFC and are not considered certified public roads. Map 9 in Appendix G illustrates the NFC classification of roads within the City of St. Joseph.

## Asset Management



According to the City Engineer, the City is open to exploring a potential roundabout at the corner of Niles and Main Street.

As roads and infrastructure continue to age, federal and state funding sources continue to shrink, and severe weather events increase the wear and tear on local infrastructure, the City of St. Joseph needs to maximize limited resources to ensure the highest quality transportation and infrastructure network. For example, many of the roads in St. Joseph are concrete with a 50-year life span and were installed more than 50 years ago. In addition, according to the City Engineer, there has been an increase locally in freeze-thaw events which has contributed to more buckling of roads.

Asset management is an important component of a community's transportation policy and plays a key role in



St. Joseph’s prioritization of infrastructure investments. Asset management involves collecting a physical inventory and managing current conditions based on strategic goals and sound investments. It is a continuous, iterative process enabling managers to evaluate scenarios, determine tradeoffs between different actions, and select the best method for achieving specified goals.<sup>1</sup>

Under the current Long Range Transportation Plan for the TwinCATS area, in 2015-2016 there are plans to widen Napier Avenue, add roundabouts at Napier and Langley, and add roundabouts at the intersection of Niles Avenue and Main Street. The plan also calls for adding wide sidewalks on both sides of Lake Boulevard and State Street where they do not currently exist.

### Pavement Conditions

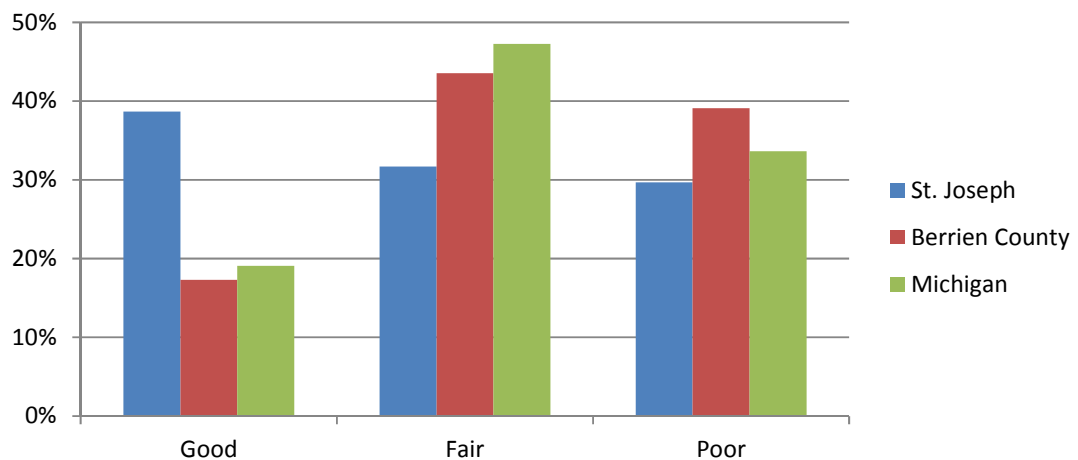
Pavement Surface Evaluation and Rating, or PASER, is a visual test of the surface condition of the road focused on pavement conditions (see Figure A-1). Each year, the Southwest Michigan Planning Commission (SWMPC), Berrien County representatives, and the Michigan Department of Transportation (MDOT) jointly conduct annual assessments of the condition of Berrien County’s street network.

As shown in Table C-1, the surface condition of federal-aid eligible roads in the City of St. Joseph has generally worsened from 2004 through 2014. While the percentage of assessed road segments receiving a Good rating of 8-10 has increased from 29.3% in 2004 to 38.6% in 2014, the percentage of road segments rated Poor (1-4) grew from a low of 6.2% in 2004 to a high of 29.7% in 2014. In addition, the percent of roads rated as fair (5-7) decreased by over 50%.



Because of limited funding, pavement condition in St. Joseph has deteriorated in recent years.

Figure C-1. Road Condition Rating in St. Joseph, Berrien County, and the State of Michigan



Source: 2004-2014 PASER <http://tamc.mcgi.state.mi.us/MITRP/Data/PaserDashboard.aspx>

1. Michigan’s Roads and Bridges 2012 Annual Report.

**Table C-1 Road Quality**

	% of Roads in Each Rating		
	2004	2014	% Change 2000 to 2014
Good	29.3%	38.6%	31.9%
Fair	64.5%	31.7%	-50.9%
Poor	6.2%	29.7%	378.5%

As illustrated in Figure C-1, the condition of roads within the City of St. Joseph are generally in better condition than roads in Berrien County and the State of Michigan overall.

## Parking Supply and Demand

Parking was raised as a significant area of concern throughout the master plan process. Lack of parking, especially during peak summer months, was cited a barrier to frequenting downtown in the Master Plan Survey. Currently, there are a total of 13 acres of parking within the DDA downtown development district (See Map 10 in Appendix G). While some are publicly owned and some are privately owned, these are all surface parking lots. The idea of developing some surface parking lots for other uses and investing in a parking structure to offset the loss of parking spaces was raised by a number of individuals throughout the planning process. In addition to the 13 acres of parking downtown, there are another 190 acres of parking throughout the rest of the City. One idea raised was to explore the possibility of having a private or publicly operated shuttle bring beachgoers and downtown visitors from an underutilized parking lot elsewhere in the City to downtown beaches and shopping destinations. This is an idea that will need to be explored further to determine financial and practical feasibility.

## Transit

According to the Southwest Michigan Planning Commission, up to 30% of the population of the St. Joseph region is either unable to drive or does not own a car. These populations include people under 16 years of age, individuals without a driver's license, older adults, persons with disabilities, and those unable to afford a vehicle. Transit options are important for ensuring equitable access for all residents to goods and services. On an individual level, public transportation saves money and provides people with choices, freedom and opportunities. At the community level, transit revitalizes business districts, allows employers to tap into larger workforces, builds economic revenues, and increases property values.<sup>3</sup>

3. Public Transportation: Benefits for the 21st Century. 2007. American Public Transportation Association (APTA).

## Bus Service

The Twin Cities Area Transportation Authority is organized under the Michigan Mass Transportation System Authorities Act (PA 55 of 1963) and currently serves approximately 24,000 residents within a 14 square mile service area. Currently, there are four separate transit providers in Berrien County, some of which extend service beyond the Twin Cities urbanized area. Operating costs for the transit providers are covered by a combination of federal, state and local funding as well as passenger fares. The fixed bus service extends through most of St. Joseph and serves a number of key employment and retail centers including Lakeland Health, the Berrien County Courthouse, Kinexus, and two large grocery stores. Service in St. Joseph is somewhat limited compared with the City of Benton Harbor because St. Joseph does not have a local bus millage like Benton Harbor does.

For older adults who are unable or choose not to drive, support for community transportation options will become increasingly important. Several transit-focused studies in Berrien County have called for better county-wide coordination efforts and for improved connections between rural and small urban service areas. To support multi-modal transportation options, the City and its partners should explore making the bus accessible to bicycles. Examples include providing multiple bike racks on all buses and installing long-term bicycle storage near transit stations and in the City center.



Dial-A-Ride is one of four transit service providers in Berrien County.

## Train Travel

Rail transportation has the potential to provide significant benefits for the City of St. Joseph and the region as a whole. Both passenger and freight rail services provide an alternative to less efficient transportation modes. By diverting passengers from automobiles and freight from trucks, rail reduces road congestion, reduces wear and tear on roadways, and reduces fuel consumption and emissions of pollutants.

The CSX line from Grand Rapids travels along the lakeshore through southwest Michigan with a stop in St. Joseph on its way to Chicago. According to the TwinCATS 2013-2040 Long Range Transportation Plan, there are seven to eight trains traveling along the tracks on a daily basis. There is a mix of both passenger and freight. Use of CSX tracks has been on the decline in southwest Michigan. CSX transports a variety of products including coal, iron, steel, passenger vehicles, and auto parts.

The Pere Marquette route on Amtrak provides once-daily service in each direction



St. Joseph residents can catch the train downtown and take it to nearby cities including Grand Rapids and Chicago.

between Grand Rapids and Chicago, with one stop in St. Joseph. Data collected for the TwinCATS Transportation Plan indicates that ridership on the Pere Marquette line has declined by 2.1 percent since 2008, but did increase by 7.2 percent between 2010 and 2012. Ticket revenues on the Pere Marquette line have increased by 12.5 percent since 2008.

## Non-motorized Infrastructure

The City St. Joseph is committed to providing a variety of non-motorized transportation options to residents and visitors. The existing City sidewalk network serves pedestrians throughout the majority of the residential and commercial areas of the City. A segment of non-motorized pathway, the John and Dede Howard Family Recreational Trail, runs from the Upton Arboretum through Silver Beach County Park to Lions Beach Park. Many of the participants in the Resilient St. Joseph process, noting connectivity and recreational benefits, expressed a need for expansion of the City's non-motorized transportation network. Responses from the 2015 Master Plan Survey indicate that residents find getting around the City by foot much easier than by bicycle. Survey respondents also ranked improvements for pedestrians and better safety features for pedestrians and bicyclists as the two most important transportation improvements that should be considered in future planning efforts.



The John and Dede Howard Family Recreational Trail provides opportunities for recreation and transportation for St. Joseph residents.

There are a number of ongoing regional initiatives aimed at expanding and connecting non-motorized pathways. The Strategic Leadership Council Taxpayer Value Group is working on developing a 10-year plan for connectivity throughout Berrien County. Furthermore, the Southwest Michigan Planning Commission and TwinCATS have a non-motorized transportation subcommittee responsible for long-term planning and coordination with funding and road projects. In 2011, the Southwest Michigan Planning Commission completed a nine-county non-motorized transportation plan, the Walk and Roll Plan, on behalf of the Michigan Department of Transportation (MDOT), which covered the nine counties in the MDOT Southwest Region. This

Plan highlights the major gaps in southwest Michigan to achieving a connected region-wide system and designates a series of proposed on-road and off-road non-motorized projects. Within the City of St. Joseph, the Walk and Roll Plan highlights the intersections of Hilltop Road with Cleveland Avenue and Hilltop Road with Niles Road as high priority intersections for improving bicycle and pedestrian safety and improving crosswalks.

## The St. Joseph Harbor

The City of St. Joseph together with the City of Benton Harbor is home to the St. Joseph River Harbor, which is the only deep-draft commercial harbor between Burns Harbor, Indiana and Holland, Michigan. While the majority of boat traffic is recreational, commercial use provides the basis for the bulk of maintenance funding. Because it is a deepwater federal navigation channel, the dredging maintenance in the St. Joseph Harbor is funded through the federal Harbor Maintenance Trust Fund.

### Commercial Uses

Each year the Army Corps of Engineers includes funds for dredging in its budget. However, because of reduced tonnage moving through the St. Joseph Harbor and political gridlock in Washington, this funding is becoming less and less certain. At about \$6 to \$8 per cubic yard, the outer harbor is less expensive to dredge. The inner harbor is more complex and challenging to dredge. Dredging is done mechanically rather than hydraulically because there are concerns about fill contamination. The fill from the inner harbor has traditionally been placed at the airport, but this location is filling up and local officials are looking for other storage locations. See *Chapter 4: Implementation* for more information on future use and development in the Harbor area.

### Recreational Marinas

The City of St. Joseph is home to many public and private marina and boat launch facilities, and is in close proximity to many more. In 2001, a comprehensive St. Joseph River Action Plan was completed, which included an inventory of all recreational boat facilities. This is still the most up-to-date study that has been conducted to inventory marina depths, number of boat slips, vacancy rates, etc. At the time the study was conducted, there were six recreational marinas within the City with a total of just under 1,000 boat slips. In the area immediately surrounding St. Joseph, there were over 750 boat slips at a total of four other marinas.



Recreational boating plays an important role in St. Joseph's local economy. At the time of the last marina inventory, there were six recreational marinas and almost 1,000 boat slips within the City limits of St. Joseph.

### Wayfinding Signage

Currently, there is some wayfinding signage in St. Joseph. Several years ago, approximately 15 similarly-themed wayfinding signs were installed within the City, directing residents and visitors toward key destinations including the library, beaches, City Hall, and Krasl Arts Center. Since then, additional non-conforming



The City should work to establish a comprehensive and uniform set of design guidelines for wayfinding signage to improve visual appeal and usability.



wayfinding signage has been installed without a comprehensive, strategic and uniform approach. The need to add better wayfinding signage was mentioned throughout the master plan process by city officials and residents. Specific opportunities for additional wayfinding signage include directing vehicles to downtown, public parking, marking preferred bicycle and pedestrian routes, and highlighting historical assets in the community.

## Public Facilities and Services

St. Joseph offers a wide variety of municipal services to its residents and businesses and operates a number of public facilities. Additionally, community facilities provided by entities other than the City, such as schools

and healthcare facilities, play an important role in the lives of St. Joseph's citizens. The quality, availability, and cost of these services impact growth and redevelopment in the City as well as quality of life in the community. Residential, commercial, and industrial users make location decisions based in part on the ability of a municipality to meet their present and future needs. To keep pace, St. Joseph must continually maintain, upgrade, and diversify facilities and services. The following is an overview of those services and facilities. The locations of critical facilities and community services in the City can be found on Maps 26 and 27 in Appendix G.

## Water Service

Located on Lake Michigan just south of Lions Park Beach, the St. Joseph Water Plant services the City of St. Joseph, St. Joseph Charter Township, Lincoln Charter Township, Royalton Township and the villages of Shoreham and Stevensville. These municipalities make up the Southwest Michigan Regional Sanitary Sewer and Water Authority and serve some 38,000 individuals. The City of St. Joseph has principal responsibility for the water-system service, including maintenance, billing, and meeting water quality regulations and testing. The capacity of the Water Plant is 16 million gallons per day, but it is currently operating on an average of 3 to 3.5 million gallons per day and a maximum



The St. Joseph Water Plant is currently operating at an average daily maximum of 56% of its capacity, which allows for additional population growth.

daily water demand of 6 to 9 million gallons per day. The plant uses a complete treatment scheme that includes coagulation, flocculation, sedimentation and filtration.

## Sanitary Sewer Services

The City of St. Joseph provides sanitary sewer service to nearly all residents of the City. The municipal wastewater treatment plant is located within the City of St. Joseph on Marina Island. St. Joseph has a gravity-flow sewer that was originally constructed in the early 1950s in conjunction with the treatment plant and Benton Harbor's gravity sewer system. In addition, a 20-inch force main was constructed in 1976. The plant is designed to process an average wastewater flow of 15.3 million gallons per day (mgd) with a maximum daily wastewater flow of 23.5 mgd. The peak hydraulic capacity of the plant is 30.0 mgd. The City of St. Joseph, St. Joseph Charter Township, City of Benton Harbor, Benton Charter Township, Lincoln Charter Township, Royalton Township, Sodus Township, and the villages of Stevensville and Shoreham utilize the joint treatment plant.

A modified activated sludge process for secondary treatment is used to treat the area's wastewater. Anaerobic digestion is used to stabilize the sludge, and land application of biosolids for beneficial reuse on agricultural lands is utilized for solids recycling. Through anaerobic digestion, methane gas is produced and is used to fuel gas engines that drive the wastewater pumps.

The next wastewater project on the immediate horizon calls for the installation of an additional raw wastewater influent pump and electrical system upgrades. This will enable the plant to better meet current peak hourly flow demands. The capital improvement plan also addresses aging headworks equipment installed in the original plant. The project will include new screening, grit collection, and metering equipment. It will also provide relief for the existing headworks equipment to accommodate rehabilitation work necessary in that area.

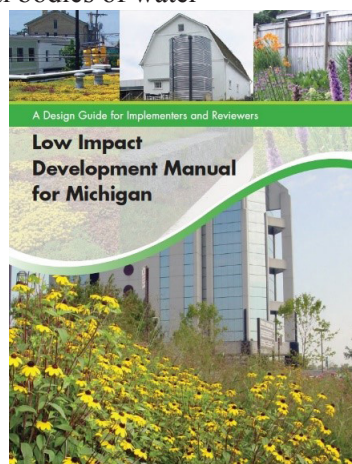
Each community is responsible for maintaining its own sewers. The City is nearing the end of a 20-year-plus effort to separate sanitary sewers from storm sewers. This helps reduce the risk of sanitary sewer overflows into local bodies of water during times of heavy precipitation. The last major remaining project in the separation effort is the construction of storage basins to retain any potential overflows.

## Stormwater Infrastructure

Nearly all of the streets in St. Joseph are equipped with stormwater control infrastructure that includes curbs, gutters, and underground stormwater pipes. The management of stormwater is an important service that is provided to protect roads, bridges, homes, and businesses from damage and to ensure the personal safety of residents. Proper



A green roof at the Discovery Zone at Silver Beach Park.



The SEMCOG Low Impact Development Manual for Michigan is a 2008 publication with over 500 pages of technical and policy guidance on stormwater management with locally relevant case studies.

stormwater management can also help protect the quality of local lakes, rivers, streams, and groundwater. As significant precipitation events increase in frequency and intensity, effective stormwater management will become increasingly important for the City. All of the stormwater collected by the City's stormwater control infrastructure ultimately flows into Lake Michigan. Despite being separated from the sanitary sewer system, urban stormwater that flows untreated into lakes and streams can still be a significant source of pollution. In order to protect the water quality of Lake Michigan, the St. Joseph River, and other bodies of water, the City should investigate ways to control stormwater more efficiently in the future.

Under State of Michigan regulations, new development in the City of St. Joseph is required to handle a 24-hour, 25-year storm event. In 2004, the City had multiple storm events that exceeded the stormwater sewer capacity. One issue is that the storm sewers regularly fill up with sand, especially near the 2nd Street and 3rd Street outfalls. Vegetation and landscaping, when designed properly, can provide significant stormwater storage. Bioswales and rain gardens can also offer onsite water storage, and vegetative buffers also increase the desirability of public and semi-public spaces.

### **Solid Waste Collection and Disposal**

At the time of this writing, residential rubbish is collected weekly under a City contract with Best Way Disposal. Recycling in the City of St. Joseph is also contracted with Best Way Disposal. The company picks up glass, plastics, paper, cardboard, and aluminum in one single-stream system on a bi-weekly basis. Berrien County also offers additional recycling services for appliances, tires, and other recyclable items not picked up by Best Way Disposal. However, according to the Director of Public Works, many private residents do not take advantage of these recycling programs. Brush and branches are collected by the City's Department of Public Works once a month May through October. In addition, Best Way offers weekly yard-waste pickup service April through November to residents who choose to contract for that service.

### **Electricity and Natural Gas**

Indiana-Michigan Power (I&M) provides electricity services to the City of St. Joseph and its residents. Michigan Gas Utilities (MGU) provides natural gas services to the City of St. Joseph.



## APPENDIX D

# COMMUNITY AND PLACE

### Neighborhoods

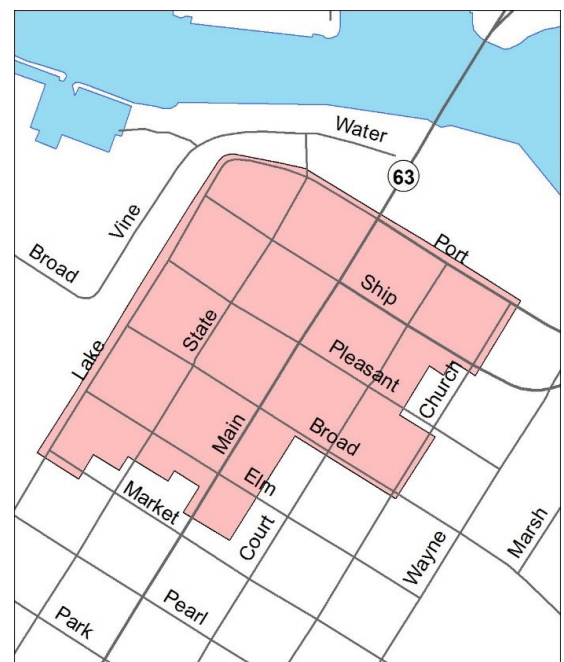
St. Joseph is a city with well-established, attractive, and historically significant neighborhoods. These neighborhoods help define the character and unique sense-of-place of the City. The preservation and enhancement of these neighborhoods is essential to the City's success. Every effort should be made to preserve and protect St. Joseph's neighborhoods.

At the same time, the City must continue to seek out and invest in new housing options. These new housing options should include the types of housing desired by young professionals, empty nesters and seniors, including duplexes, townhouses and apartments. Furthermore, these new housing options should be located in walkable, mixed-use areas of the City. This sentiment was best articulated through the St. Joseph Master Plan Survey. While single-family homes remained the dominant housing type desired by residents, over half of respondents articulated a desire for more townhouses or row houses, apartment or condominium complexes, senior-living facilities, and additional housing in the downtown shopping district.

Another priority that emerged in the Master Plan Survey as well as throughout the public meetings was the idea of establishing more formalized neighborhood associations throughout the City. There are currently some neighborhood associations that convene regular meetings. Ensuring that all residents have a platform for initiating neighborhood-based projects and articulating concerns is important. Neighborhood organizations are also often effective advocates for historic preservation. Map 11 in Appendix G outlines appropriate neighborhoods within the City. To be successful, neighborhood associations should self-define their boundaries based on their sense of common circumstances.

### Downtown

St. Joseph's downtown continues to be the traditional and primary retail and commercial center of the City. Fifty-eight percent of Master Plan Survey respondents stated that the downtown shopping district played an important role in their decision to live in St. Joseph. The downtown is the center of most governmental activities for the City and also includes activities within the Berrien County Courthouse.



Existing DDA boundary within the City of St. Joseph



The appearance and vitality of the Central Business District are influenced by the policies of the St. Joseph City Commission and the Downtown Development Authority (DDA).

The lack or perceived lack of parking opportunities, especially during the busy summer months, emerged as a key theme throughout

The St. Joseph DDA plays an important role in ensuring that the downtown is vibrant and attractive to all residents. For example, the DDA works to address parking issues, promote local businesses, support placemaking strategies, and improve coordination of infrastructure projects.



the master plan process. Eighty-two percent of survey respondents stated that more convenient parking would be an important consideration in their decision to frequent downtown. A quarter of total survey respondents said they would be willing to subsidize additional free parking options through resident taxes, while only

18% felt that downtown patrons should have to pay to park. Significantly, over half of respondents felt the City should explore options to encourage alternative transportation such as cycling, walking, and trolleys or buses before expanding parking.

Currently, within the DDA boundary, there are 11 all-day free parking lots, seven lots with free three-hour parking (all day during the summer), and one lot with free two-hour parking. Additionally, there is free two-hour on-street parking along both sides of most downtown streets. Despite the appearance of parking needs and opportunities, there has yet to be a comprehensive parking study conducted for the downtown and the City of St. Joseph. In order to justify changes to the current parking policies or the creation or reduction of existing parking spaces, the City should consider a comprehensive parking study that evaluates parking supply and demand, occupancy rates by time and location, and parking revenue generation versus cost of administration and enforcement.

In February 2014, the DDA formalized a series of goals and objectives for downtown St. Joseph. A summary of key goals and objectives identified are as follows:

1. Continue to work with the City to enhance beautification efforts.
2. Partner with local groups to better “locate” businesses in the downtown area.
3. Continue to oversee the banner program initiated in 2012.
4. Encourage parking lot improvements and landscaping upgrades.

5. Explore options to resurfacing and restriping of parking lots.
6. Review the DDA boundaries and investigate the inclusion of Lake View Park, Band Shell, and Arboretum.
7. Explore options for additional and improved street lighting and LED lights.
8. Explore ways to improve the appearance of downtown alleys.
9. Study ways to provide scheduled transit from designated parking lots into the downtown.
10. Work to better coordinate infrastructure projects.
11. Research and review traffic patterns in the downtown area.
12. Improve green space in the downtown.



At left is a photo of the St. Joseph Lighthouses taken during a storm in October, 2014. At right is a winter photo of the St. Joseph Outer Light taken in the 1920s. Courtesy of The Heritage Museum and Cultural Center.

## Historic Resources

St. Joseph has a rich history that is celebrated throughout the community. The City has numerous historic buildings, structures, and sites that together create a unique identity for the City. Two such structures are the St. Joseph North Pier Inner and Outer Lighthouses, which were constructed in 1907. The Lighthouse Forever Fund Committee, a partnership between the City of St. Joseph and Berrien County, recently successfully secured \$2 million to preserve the lights and restore the lighthouses to a circa 1932 configuration, which is scheduled to be complete in late 2015. Another important historical resource is the Heritage Museum and Cultural Center, which has approximately 15,000 visitors each year.

## Arts and Culture

Arts and cultural activities greatly enhance the quality of life in St. Joseph. They bring about enjoyment, enrich perspectives, stimulate intellectual thought, and provide opportunities for public involvement. Arts and culture can also attract new and exciting activities and fuel economic development.

Since 1979, the Krasl Art Center has been an institution in the City of St. Joseph. The Krasl Art Center serves as a public art advocate and promotes community arts education. The Art Center has rotating exhibitions but also owns pieces of art, and works with the City and local businesses to place art pieces in locations



The Krasl Art Center vision for St. Joseph is to brand the City as the “biggest little sculpture city in the world.”



There is a wide diversity of local art throughout St. Joseph, including paintings by local high school students (above), sculptures placed by Krasl Art Center (top right), and sculptures from the St. Joseph Public Art Project (at right).



throughout the community. Currently, the Art Center owns a collection of 38 sculptures throughout the community. Krasl also organizes and executes a huge community art festival called Art Fair on the Bluff. The



Fair on the Bluff. The event consists of 200 vendors who are selected via a competitive entry process and attracts over 70,000 visitors each year.

The City of St. Joseph also promotes local art through its Public Art Project. Each summer, the City of St. Joseph

Public Art Project fills downtown with unique sculptures created by community members.



Young people enjoying the skate park at Kiwanis Park.

## Recreational Amenities

Recreational opportunities in St. Joseph are plentiful. The natural resources of the region offer a variety of active and passive recreation options, and the City of St. Joseph owns an abundance of parkland that serves residents and visitors alike. The City strives to provide a wide range of recreational opportunities, programs, facilities, and equipment within its parks and is continuously updating its offerings. The area's sizable seasonal population and tourists also use the City parks, increasing demand on the recreational facilities and bringing money into the local economy.

The City of St. Joseph owns and/or operates 17 park properties, with total park acreage exceeding 200 acres. Riverview Park, located outside of the City's geographic boundary but still owned and operated by the City of St. Joseph, is the largest park, comprising a total of 107 acres.

St. Joseph's parks were frequently identified as some of the greatest community assets by residents during the Resilient St. Joseph planning process. In the Master Plan Survey, amenities such as parks and access to other recreational activities consistently were cited as key reasons for deciding to locate in St. Joseph. Additionally, 88% of respondents stated that improving existing municipal parks over the next 10 years was moderately important to very important, while 68% felt it was important to create new recreational facilities.

Because there are already well-established strategic recreation planning efforts underway for the City, this master plan attempts to coordinate and leverage those existing initiatives. The St. Joseph City Commission appointed a nine-member committee to develop the 2011-2015 City of St. Joseph Parks and Recreation Plan, which was adopted in 2011. Additionally, a Citizen Survey was sent out via the City newsletter and solicited 160 responses. Maintaining a current Parks and Recreation Plan that conforms to Michigan Department of Natural Resources (MDNR) standards is important because it qualifies the City to receive recreation grant funding through the MDNR Trust Fund. In order to remain eligible for these grant funds, the City must review, update, and submit the Recreation Plan to the MDNR every five years. The plan will be updated over the winter of 2015-2016.

One need identified through the latest park planning effort was that parks and recreational facilities should undergo improvements to meet universal design standards. Currently, none of the facilities within the City of St. Joseph completely meet universal design standards, although there are some facilities where most amenities meet accessibility guidelines. For a complete list of proposed parks and recreation projects and services, please see the 2011-2015 St. Joseph Parks and Recreation Master Plan.



The dog park located at Kiwanis Park.



A relatively new segment of the John and Dede Howard Family Recreational Trail, which connects Silver Beach and Lions Park Beach.

## APPENDIX E

# ECONOMIC DEVELOPMENT

The City of St. Joseph has a number of large employers that employ highly-skilled workers. A key goal identified throughout the master plan process was the importance of attracting and retaining entrepreneurs, talented workers, and large employers in both the City and the larger region. Table E-1 highlights the top 10 employers in the St. Joseph region (the area of southwest Michigan covered by the Cornerstone Chamber of Commerce), and Table E-2 highlights 10 employers within the City of St. Joseph.

**Table E-1**

St. Joseph-Benton Harbor Region	# of Employees
Whirlpool Corporation	4,000
Lakeland Regional Health System	3,200
Michigan Pizza Hut Inc.	1,300
Indiana Michigan Power	1,161
Bosch Braking Systems	1,150
Berrien County Administration	752
Benton Harbor Area Schools	730
Leco Corporation	640
Andrews University	561
IPC Print Services	519

**Table E-2**

City of St. Joseph Top Employers	# of Employees
Lakeland Regional Health System	1,745
Whirlpool Corporation	1,300
Berrien County Administration	752
Leco Corporation	640
St. Joseph Public Schools	325
Fifth Third Bank	185
Hoffman Die Cast Corp.	185
Pri Mar Petroleum Inc.	161
First Resource Federal Credit Union	150
Hanson Logistics	125

Source: Employer Interviews, Community Link 2015 <http://communitylink.com/us/mi/bentonharbor-stjoseph/profile/pages/topemployers.php>

Like many coastal Great Lakes communities with a commercial harbor, St. Joseph had its beginnings as a port city that relied primarily on manufacturing. However, according to many experts, most of the future economic growth in Michigan will come in the high-technology and service sectors, including health care, financial management, highly-skilled manufacturing, human services and the food industry. While the recovering manufacturing sector will remain a major component of our state’s economy, most of the jobs already lost will not return. Rather than compete for a decreasing number of manufacturing jobs, the experts say, communities and regions should embrace this “New Economy.”

The New Economy refers to a global, entrepreneurial and knowledge-based economy where business success comes increasingly from the ability to incorporate knowledge, technology, creativity and innovation into products and services. In the New Economy, talented, well-educated people choose where to live first, then look for or create jobs. As shown in Table E-3, Management, Business, Science and Arts accounts for the highest occupational category in the City of St. Joseph at over 50% of employed residents.

**Table E-3**

<b>Type of Occupation</b>	<b>St. Joseph</b>	<b>Berrien County</b>	<b>Michigan</b>
Management, Business, Science, and Arts	51%	32%	34%
Sales and Office	22%	24%	25%
Service	15%	19%	18%
Natural Resources, Construction, and Maintenance	7%	9%	8%
Production, Transportation, and Material Moving	5%	16%	15%
Total Civilian Employed Population (16 years and over)	4,309	69,977	4,369,785

Source: 2010 American Community Survey

The City of St. Joseph is blessed with diverse natural assets that play a key role in talent attraction.



Table E-4

<b>Industry Sector</b>	<b>St. Joseph</b>	<b>Berrien County</b>	<b>Michigan</b>
Educational services, and health care and social assistance	33%	23%	23%
Manufacturing	17%	20%	18%
Arts, entertainment, and recreation, and accommodation and food services	10%	9%	9%
Public administration	10%	3%	4%
Retail Trade	8%	11%	12%
Construction	8%	6%	5%
Professional, scientific, and management, and administrative and waste management services	8%	7%	9%
Finance and insurance, and real estate and rental and leasing	4%	4%	6%
Other services, except public administration	3%	6%	5%
Transportation and warehousing, and utilities	3%	6%	4%
Information	2%	1%	2%
Agriculture, forestry, fishing and hunting, and mining	0%	2%	1%
Wholesale Trade	0%	2%	3%
Total Civilian Employed Population (16 years and over)	4,309	69,977	4,369,785

Source: 2010 American Community Survey

While this is significantly higher than the County and State average, all other occupational sectors fall below the County and State averages.

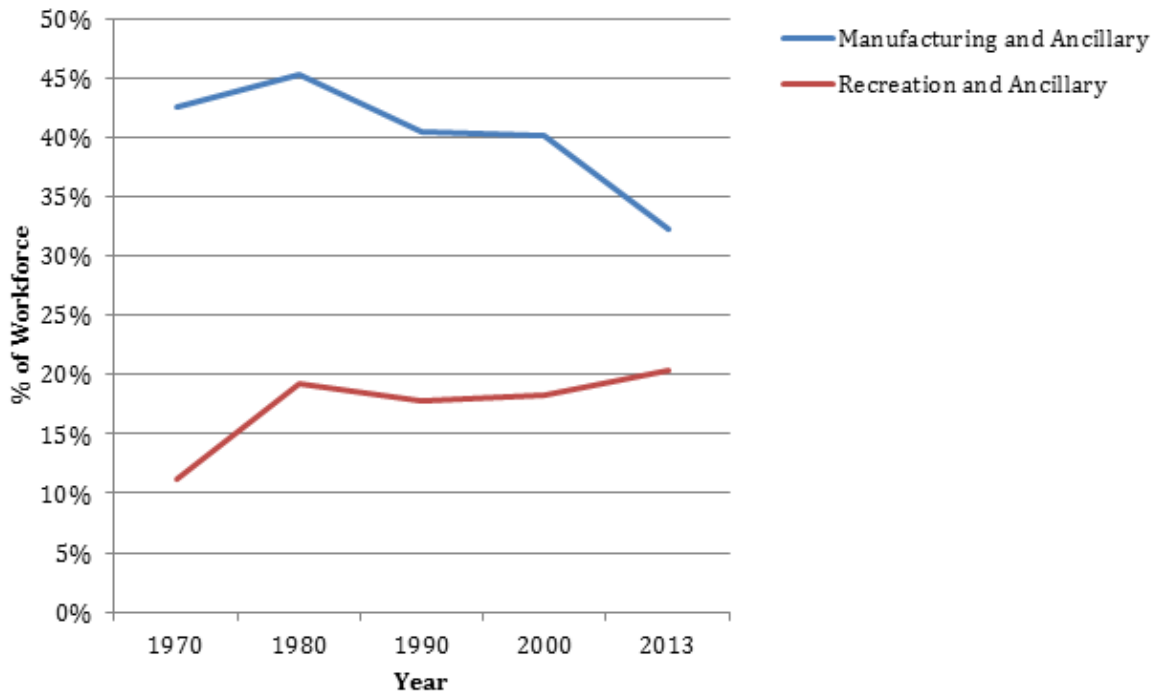
As shown in Table E-4, educational services, and health care and social assistance is the largest industry sector in the City at 33%, while manufacturing is the second largest sector at 17%.

While the share of manufacturing-related jobs has decreased since the 1970s in Berrien County (see Figure E-1 on the following page), it is interesting to note that it still accounts for a larger share of the workforce when compared with the



Figure E-1

**Industry Type as Percentage of Total Workforce in Berrien County  
1970-2013: Manufacturing vs. Recreation**



Source: 2012 Economic Census

recreation industry. Both the trends and the share of the employment sector for manufacturing and recreation are important to note in light of the discussion regarding the future of St. Joseph’s commercial harbor. While manufacturing is playing a smaller role in the overall regional economy it still has a significant impact.

## Organizations Supporting Economic Development

There are a number of groups in the St. Joseph area that promote and support economic development and are key to the overall vibrancy of the local economy.

Cornerstone Alliance is a non-profit, investor-governed economic development organization primarily focused on increasing employment opportunities, private-sector capital investments, and the local tax base in southwest Michigan with specialized business services offered in economically distressed areas. Established in 1987, the economic development organization is funded by investor donations. Their mission is to foster partnerships that grow employment opportunities, increase the tax base and add to the economic vibrancy of the area.

The Cornerstone Chamber of Commerce is a separate non-profit organization that is funded by member dues and was established in 1954. The key focus of the Chamber is to support existing businesses by providing member benefits, increased visibility, networking opportunities, and legislative tracking.

St. Joseph Today is a nonprofit organization founded in 1974. The organization's mission is to enhance the image and recognition of St. Joseph, promote business and development, and to augment the efforts of local governmental units. Each year, St. Joseph Today hosts over 30 free events in the downtown area. Some highlights include Reindog Parade and the Magical Ice Festival. St. Joseph Today serves visitors, residents and local businesses.

The Southwest Michigan Tourist Council also plays a crucial role in economic development for the City of St. Joseph. According to the Council, which serves as the Convention and Visitors Bureau for the tri-county region, the three most important assets in the St. Joseph region from a tourism perspective are its beaches, arts and culture, and its agricultural diversity.

Overall, tourism has been steadily increasing. The hotel occupancy has been increasing in the region every year since statistics began to be kept in 1986. One note of interest was that hotel occupancy in the St. Joseph area jumped 25% during the winter of 2013-2014 because of poor driving conditions causing drivers to delay getting to their final destinations.



The new Inn at Harbor Shores as well as the nearby golf course and recreational amenities are examples of the continued development of St. Joseph as a tourist destination.

## APPENDIX F

# VULNERABILITY ASSESSMENT

## Defining Vulnerability in the St. Joseph Community

### Introduction

The harmful impacts of climate change on agriculture, infrastructure and human health are being felt almost everywhere across Michigan. With planning and preparation, communities can weather challenges and recover, becoming even better places to live and thrive. Through community-wide planning, resilient cities and townships actively cultivate their abilities to recover from adverse situations and events, working to strengthen and diversify their local economies and communication networks, increase social capital and civic engagement, enhance ecosystem services, improve human health and social systems, and build local adaptive capacity.

### Building Community Resilience

According to the Rand Corporation, community resilience is a measure of the sustained ability of a community to utilize available resources to respond, withstand, and recover from adverse situations.<sup>1</sup> The Rockefeller Foundation emphasizes equity as an important component of resilience, stating that city resilience is the capacity for people – particularly the poor and vulnerable – to survive and thrive no matter what stresses or shocks they encounter.<sup>2</sup> Communities that are resilient are able to learn from adversity and adapt quickly to change. In general, the most important characteristics of community resilience are: (1) strong and meaningful social connections, (2) social and economic diversity, (3) innovation and creative problem-solving capacity, and (4) extensive use of ecosystem services.<sup>3</sup> The Rockefeller Foundation has identified 12 indicators that make for a resilient community (see panel at right). However, it is important to acknowledge that every community is unique and not all indicators or characteristics are needed to be “resilient.”

The St. Joseph planning process aimed to increase resilience by fostering civic engagement and improving communication and cooperation between cultural and service organizations. To improve economic resilience, communities can work to encourage and support local production of goods and supplies, increasing self-reliance and reducing the flow of funds out of the community. Programs to encourage local investing and entrepreneurship have been

According to the Rockefeller Foundation, indicators of a resilient community can include...

- Minimal human vulnerability
- Diverse livelihoods and employment
- Adequate safeguards to human life and health
- Collective identity and mutual support
- Social stability and security
- Availability of financial resources and contingency funds
- Reduced physical exposure and vulnerability
- Continuity of critical services
- Reliable communications and mobility
- Effective leadership and management
- Empowered stakeholders
- Integrated development planning

1. The Rand Corporation. <http://www.rand.org/multi/resilience-in-action/faqs.html>

2. The Rockefeller Foundation: City Resilience Framework. April 2014. ARUP. <https://www.rockefellerfoundation.org/report/city-resilience-framework/>

3. Walker and Salt. (2006) Resilience Thinking: Sustaining Ecosystems and People in a Changing World. Island Press, Washington.

helpful in building both employment and production capacity. Local investments, consumption of locally produced products, and locally owned businesses all help to diversify the community's economy, giving it greater resilience.

The following is a community vulnerability assessment performed by LIAA that focused on the City of St. Joseph. This assessment begins with an overview of regional climate trends and predicted societal impacts, then transitions to detailed assessments of the community's vulnerabilities to extreme heat and flooding events. Although the assessment is concentrated on these two specific types of events, many of the considerations and societal impacts identified would be present under other stresses and shocks within the community.

In completing the assessment, LIAA considers factors such as demographics, environmental conditions, locations of critical facilities and essential services, and the built environment. This assessment informs recommendations in the community's master plan for reducing the identified vulnerabilities through policies, programs, and projects, which will inevitably lead to a more resilient community.

## Climate Change and Variability

Climate and weather are directly related, but not the same thing. Weather refers to the day-to-day conditions we encounter in a particular place: sun or rain, heat or cold. The term *climate* refers to the long-term weather patterns over regions or large geographic areas. When scientists speak of global climate change, they are referring to generalized, global patterns of weather over months, years and decades. To help predict the future climate, scientists use three-dimensional computer models of the earth's atmosphere, oceans and land surfaces to understand past trends and predict future changes. These General Circulation Models (GCM) have been improved and verified in recent years, resulting in relatively reliable predictions for climate changes over large regions. To help predict climate change at the Earth's surface for smaller regions, scientists apply downscaling techniques.

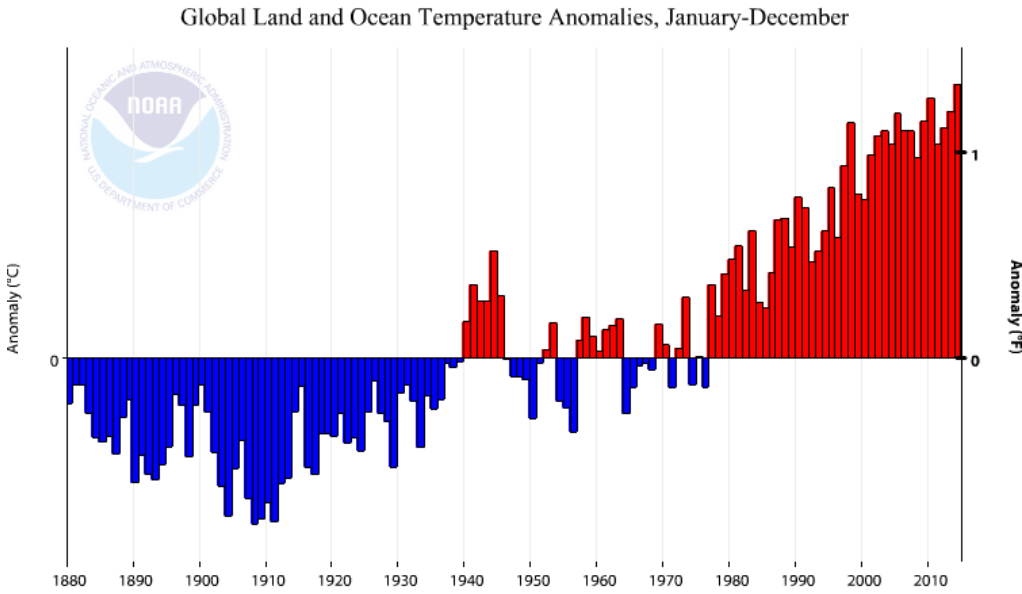
Downscaling climate data is a strategy for generating locally relevant data using global-scale predictions to create regionally specific forecasts.

As stated by the Intergovernmental Panel on Climate Change (IPCC), significant changes in the Earth's climate have been observed and thoroughly documented.<sup>4</sup> Warming of the climate system is unequivocal and is now evident in average air and ocean temperatures, rising sea levels and the melting of ice. Figure F-1 provides a summary of observed changes in land and ocean temperatures over the last 135 years.<sup>5</sup> The bar graph in Figure F-2 presents observed changes in the amount of ice cover on the Great Lakes. Overall, there has been a 71% reduction in the extent of Great Lakes ice cover between 1973 and 2010, led by losses on Lake Superior.<sup>6</sup> The decrease in ice cover is another strong indicator of change.

4. Intergovernmental Panel on Climate Change. (2007). Observed changes in climate and their effects. Web. Accessed July 2015.

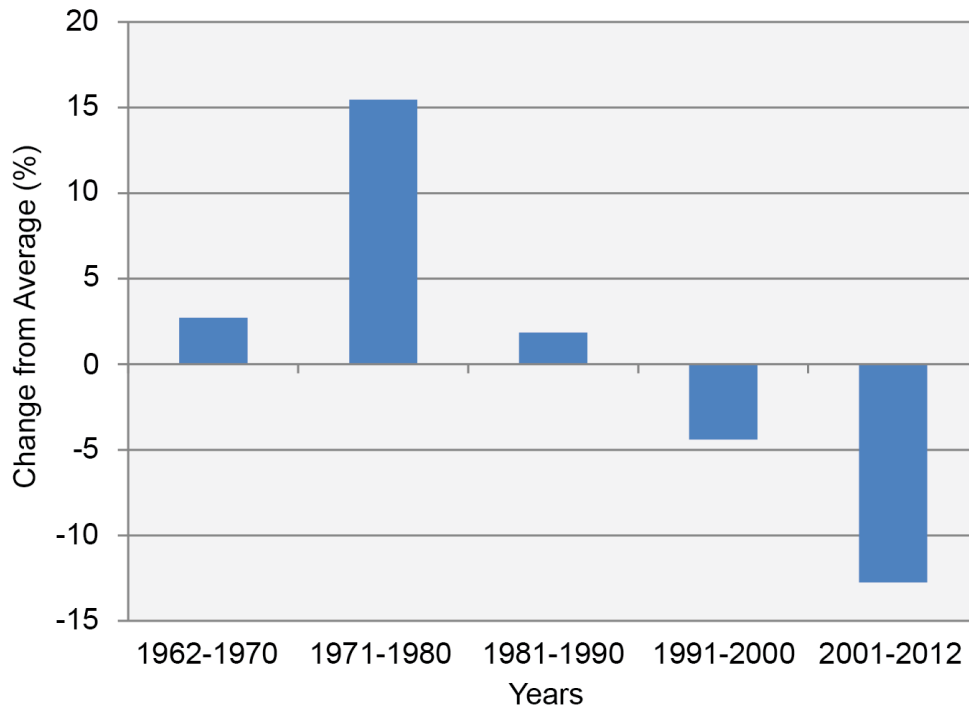
5. NCDC/NEDIS/NOAA at [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

**Figure F-1: Global Surface Mean Temperatures Compared to Century Average**



Source: <http://www.ncdc.noaa.gov>

**Figure F-2: Ice Cover in the Great Lakes**



Source: <http://nca2014.globalchange.gov/report/our-changing-climate/melting-ice#graphic-16703>

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*“This is just unprecedented. It’s an extreme we haven’t experienced before.”*

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*Dave Pagel of Dave Pagel Farms near Berrien Springs, in response to the 2012 early warming and late frost that devastated crops in Berrien County.*

The Great Lakes Integrated Sciences + Assessments Program (GLISA) is a consortium of scientists and educators from the University of Michigan and Michigan State University that is funded by the National Oceanic and Atmospheric Administration (NOAA) to provide climate information and resources, including downscaled models, for communities across the Great Lakes region. According to GLISA, the Great Lakes region has already experienced a 2.3° F increase in average temperatures since the 1900s. An additional increase of 1.8 to 5.4° F in average temperatures is projected by 2050. Although these numbers are relatively small, they are driving very dramatic changes in Michigan.

Based on the most recent models, the climate of St. Joseph will continue to warm, with greater increases in temperature during the winter months and at night. There are a variety of weather impacts expected with this change in average temperatures. Some of the potential impacts of climate change in St. Joseph are as follows:

- Storms are expected to become more frequent and more severe
- Increases in winter and spring precipitation
- Less precipitation as snow and more as rain
- Less winter ice on lakes
- Extended growing season (earlier spring/late fall)
- Greater frequency and intensity of storms
- More flooding events with risks of erosion
- Increases in frequency and length of severe heat events
- Increased risk of drought, particularly in summer



Japanese Knotweed is an invasive species and a concern in St. Joseph and the greater region.

---

*“Future crop yields will be more strongly influenced by anomalous weather events than by changes in average temperature or annual precipitation. Cold injury due to a freeze event after plant budding can decimate fruit crop production, as happened in 2002, and again in 2012, to Michigan’s \$60 million tart cherry crop.”*

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*Third U.S. National Climate Assessment - 2014*

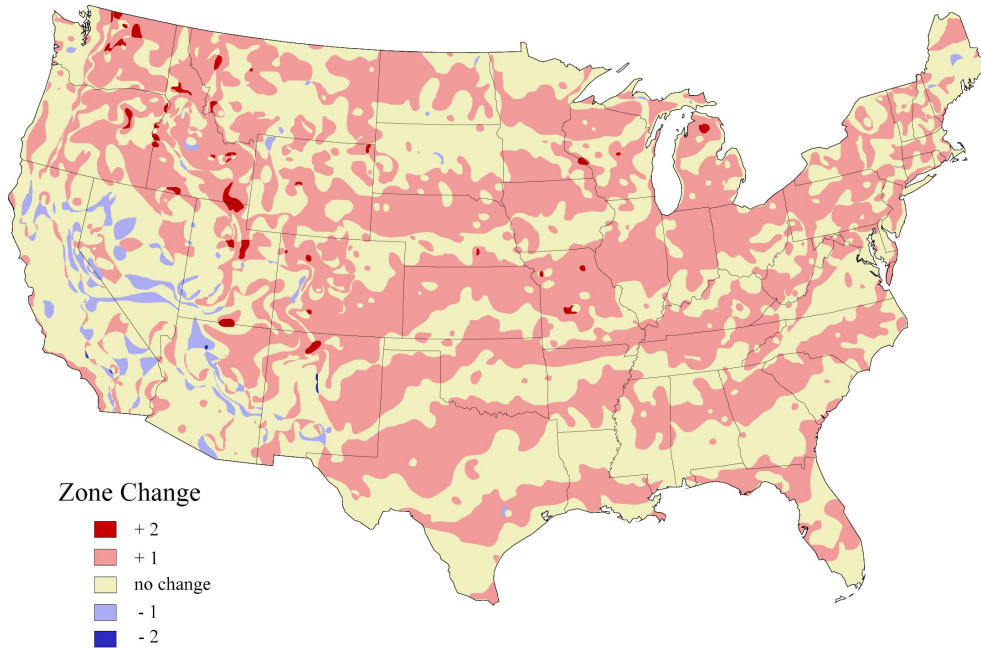
It is important to note that increased flooding and more intense drought are not mutually exclusive nor contradictory. In the Great Lakes region, scientists are predicting more intense rain events in the fall and winter, and more intense droughts in the summer months. These changes in climate could have a number of both positive and negative effects on the St. Joseph community. For example, an extended growing season could help support new crops and increase crop yields for farmers in Berrien County. On the other hand, highly variable weather conditions, such as severe storms and flooding mixed with summer droughts, present significant challenges to farming.

Much of the United States has been warmer in recent years, and that affects which plants grow best in various regions. The Arbor Day Foundation completed an extensive update of U.S. Hardiness Zones based upon data from 5,000 National Climatic Data Center cooperative stations across the continental United States. As illustrated in Figure F-3, zones in west Michigan are shifting northward. Zone 5

6. Wang, J., X. Bai, H. Hu, A. Clites, M. Colton, and B. Lofgren. 2011. Temporal and spatial variability of Great Lakes Ice Cover, 1973-2010. *Journal of Climate* 25:1318-1329.

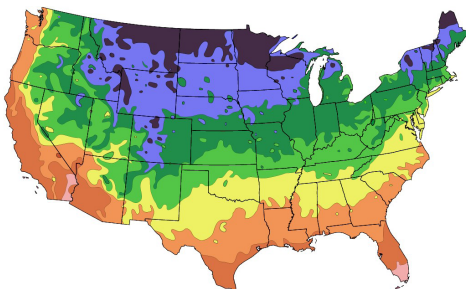
Figure F-3

Differences between 1990 USDA hardiness zones and 2006 arborday.org hardiness zones reflect warmer climate

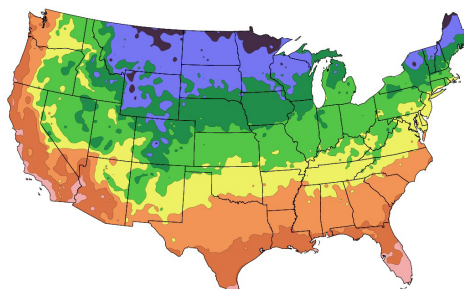


1990 Map

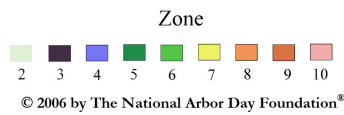
2006 Map



After USDA Plant Hardiness Zone Map, USDA Miscellaneous Publication No. 1475, Issued January 1990



National Arbor Day Foundation Plant Hardiness Zone Map published in 2006.



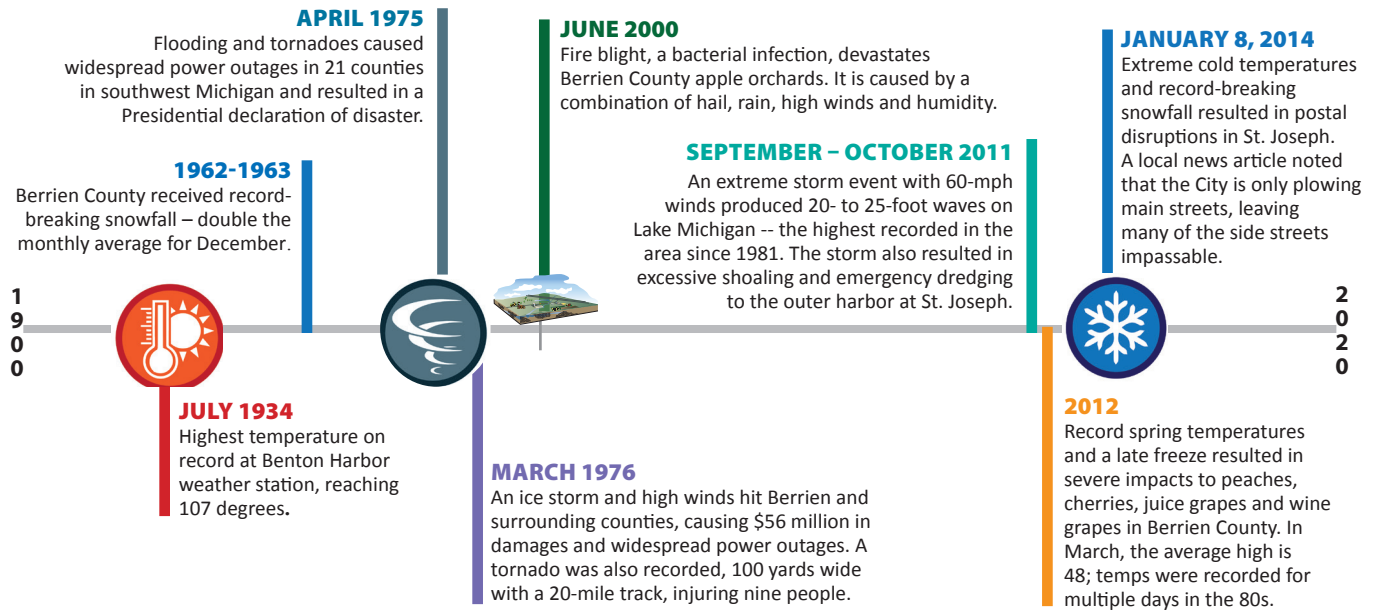
Source: [https://www.arborday.org/media/map\\_change.cfm](https://www.arborday.org/media/map_change.cfm)

plants that previously thrived in St. Joseph now do best in northern Michigan, while Zone 6 plants that once thrived in states like Tennessee will now grow well in St. Joseph.

### Weather Events in the St. Joseph Community

Figure F-4 summarizes a few of the major weather-related events in the St. Joseph community and southwest Michigan over the past 80 years. Oftentimes, severe weather events results in negative impacts to the local economy and to vulnerable populations in the community.

Figure F-4





## Public Health and Climate

Major health effects of long-term climatic change are predicted for the Midwest U.S. Over the past few decades, people in Michigan have experienced increased rates of skin and eye damage from increased exposure to ultraviolet radiation; increased incidence of respiratory and cardiovascular diseases; and increased incidence of vector-borne and water-borne diseases.<sup>7</sup> Severe storms, heavy precipitation, and high heat events exacerbate poor health conditions like allergies, asthma, and obesity.

The Michigan Department of Health and Human Services (MDHHS) published the first Michigan Climate and Health Adaptation Plan in 2011. The Plan indicates that there is an increasing number of illnesses and deaths as a result of extreme heat events; that air quality is decreasing as a result of increased production of ozone and particulate matter from heat and drought events; and adverse changes to water quality and availability following severe weather events are expected to increase. In the long term, health experts are most concerned with a rising incidence of infectious diseases and outbreaks of new diseases not currently endemic to Michigan; increasing numbers of disease vectors and appearance of new vectors not currently established in Michigan; and a degradation of food safety, security, and supply. For example, deer ticks are one disease vector that has increased in recent years. According to the MDHHS, the first official reported human case of Lyme disease in Michigan was in 1985. Cases have now been reported in both the Upper and Lower Peninsula and are increasing. It is anticipated that the number of cases reported will continue to increase due to public and medical personnel education, and expanding tick ranges. Figure F-5 demonstrates the distribution of deer ticks in west Michigan, which has increased in recent years.

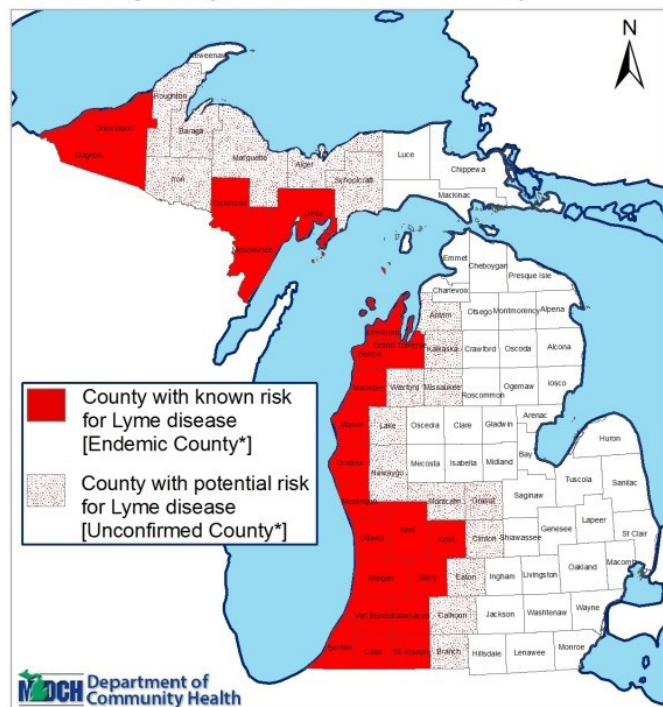
*According to the Berrien County Health Department, ozone days in Berrien County are above the state average. This can be attributed to predominate westerly winds blowing polluted air over from the Chicago metro region.*

## Vulnerability Assessments

Communities interested in becoming more resilient assess their vulnerabilities and make action plans to reduce their sensitivities and exposures to hazards of all kinds. This Community Vulnerability Assessment has been compiled by the Land Information Access Association (LIAA) to provide a wide variety of useful information aimed at improving climate resilience by reducing human and community vulnerabilities.

Figure F-5

Michigan Lyme Disease Risk Map: 2014



\* Lyme disease risk in this map is based on known, field confirmed populations of infected blacklegged ticks, or laboratory confirmed human cases.

a) Counties labeled "endemic" are counties where infected tick populations have been confirmed - and/or -

Two or more laboratory confirmed human cases have been identified with local exposure.

b) Counties labeled "unconfirmed" are counties bordering endemic counties, but which do not meet the above criteria for "endemic" counties.

MDCH Zoonotic Disease and Special Projects Section. Revised April, 2014

7. National Research Council. Reconciling observations of global temperature change. Washington, DC: National Academy Press, 2000:86.

This Assessment supports the land-use planning and community development process known as Resilient Michigan and focuses on the City of St. Joseph.

### **Vulnerability = Exposure + Sensitivity**

Exposure refers to hazards in the natural or built environment, while sensitivity refers to the degree to which a community or certain segments of a community could be impacted by an event.

A Vulnerability Assessment is designed to identify and help prioritize adaptation strategies in the community planning process. We use a model that defines vulnerability as *exposure plus sensitivity*.<sup>8</sup> Exposure refers to hazards in the natural or built environment, while sensitivity refers to the degree to which a community or certain segments of a community could be impacted by an event. This concept has been used recently in a variety of studies, including equity and adaptation assessments conducted by the NAACP,<sup>9</sup> studies of vulnerability and its relationship to adaptation,<sup>10</sup> and hazard-specific vulnerability assessments aimed at measuring exposure, sensitivity, and resilience.<sup>11</sup>

By assessing the potential for exposure to a hazard and the sensitivities of specific populations, we can generate maps that identify areas in a community with relatively greater vulnerability. This tool provides direction for community planners and public health workers in reducing risks to human health in the future by knowing where the areas of vulnerability lie and why the vulnerability exists.

For the purposes of this tool, based on the greatest risks in Michigan and most likely predicted climate changes, we decided to limit our vulnerability assessments to extreme heat waves and flooding. However, climate change is predicted to result in increases of other exposures that should also be considered in community planning and development (e.g., high winds and tornadoes).

Our assessments were based in part on data obtained from the American Community Survey, a continuing survey program operated by the U.S. Census Bureau. This data includes information on housing, income, and education characteristics of the populations in geographic areas called *Block Groups*, containing between 600 and 3,000 individuals. We also used data from the 2010 Census, including population age and racial composition, collected by *Census Blocks*, which are the smallest available geographic areas for demographic data. Data sets concerning parcel characteristics were obtained from Berrien County and the City of St. Joseph. Building footprint and tree canopy cover were digitized using an orthophotograph from 2009.<sup>12</sup>

8. Foundations for Community Climate Action: Defining Climate Change Vulnerability in Detroit. University of Michigan. December 2012.

9. Equity in Building Resilience in Adaptation Planning. National Association for the Advancement of Colored people (NAACP)

10. Adger, W. N. (2006). "Vulnerability." *Global Environmental Change* 16 (3): 268-281. Adger, W. N., N. Arnell, and E. Tompkins (2005). "Adapting to climate change-perspectives across scales." *Global Environmental Change* 15(2):77-86.

11. Polsky, C., R. Neff, and B. Yarnal (2007). "Building comparable global change vulnerability assessments: the vulnerability scoping diagram." *Global Environmental Change* 17(3-4):472-485.

## Heat Vulnerability

Community vulnerability to heat events varies spatially on local, regional, and national scales. Michigan communities have varying degrees of vulnerability to heat based on proximity to the Great Lakes, access to air conditioning, and surrounding environmental factors like tree canopy and impervious surfaces.

Studies have shown that heat-related mortality generally occurs in areas of the community that are warmer, less stable, and home to more disadvantaged populations.<sup>13</sup> One study found that neighborhoods with the highest temperatures and the least amount of open space and vegetation were also likely to be the most socioeconomically disadvantaged.<sup>14</sup> The same study also found that the strongest protective factor for residents was access to air conditioning in the home and in other places, as well as having access to transportation.

A 2012 literature review conducted by researchers at the University of Michigan indicates that children under age five and persons over age 65 are highly sensitive to heat events, as are minority populations and persons living in lower-income census tracts. Living alone, being confined to bed, using tranquilizers, having a mental illness, not leaving home daily, living on higher floors of multistory buildings, and suffering from alcoholism are additional factors associated with increased risk of heat-related mortality.

There have been limited studies conducted on how heat events impact rural and suburban communities, but one study notes that rural populations may exhibit patterns of vulnerability different from those of urban populations.<sup>15</sup>

### Heat Sensitivity Assessment

To create the maps for sensitivity, exposure, and ultimately vulnerability, LIAA relied on methodologies developed by the University of Michigan's Taubman College of Architecture and Urban Planning in a 2012 report.<sup>16</sup>

To conduct a Heat Sensitivity Assessment of the St. Joseph community, LIAA used a geographic information system (GIS) for spatial data analyses to show the relative distribution of people most at risk. LIAA considered five factors as primary contributors to the sensitivities and risks of people exposed to a heat wave: age, isolation, minority status, poverty, and educational attainment. Using U.S. Census data, the project team identified the percentages of people living in each area (Block Group or Census Block) for each sensitivity factor.

**Age:** People who are older have greater sensitivity to extreme heat events. The technical literature also indicates that older age is associated with higher hospital

12. USDA and NRCS Geospatial Data Gateway

13. Foundations for Community Climate Action: Defining Climate Change Vulnerability in Detroit. University of Michigan. December 2012

14. Semenza JC, Rubin CH, Falter KH, et al. Heat-related deaths during the July 1995 heat wave in Chicago. *N Engl J Med* 1996; 335:84–90.

15. Mapping Community Determinants of Heat Vulnerability. *Environmental Health Perspectives* 117:1730–1736 (2009). doi:10.1289/ehp.0900683 available via <http://dx.doi.org/> [Online 10 June 2009]

16. Foundation for Community Climate Action: Defining Climate Change Vulnerability in Detroit (December 2012) University of Michigan's Taubman College of Architecture and Urban Planning.

admission rates in heat waves. The Percent of Population 65 and Older (Map 12 in Appendix G) depicts the relative concentration of older people in the community by Census Block. Upon review of this map, City Planning Commission members noted that there are very few individuals living in the southern portion of the City that was flagged as red, so that may be overexaggerating the risk. It was also noted that there is a high-rise senior complex in the northern portion of the City that is flagged as red, which is likely to be a true high-risk area.

**Isolation:** Another sensitivity factor is living alone, which serves as a measure of social isolation. Although living alone is not necessarily a risky thing, people who are socially isolated are at greater risk during an extreme heat event. Isolated people may not be able to recognize symptoms of heat-related illness and take proper action. In this case, the project team used American Community Survey data for Census Block Groups, broken out into individual Census Blocks for geographic representation. Blocks with no population were not included. The higher concentration of people living alone in the downtown core is consistent with nationwide trends, because downtowns generally have a greater supply of live-work units, single apartments and/or condominium units, and accessory dwelling units. This is shown in Map 13 in Appendix G.

**Minority Status:** Literature suggests that minorities are at greater risk during extreme heat events for various reasons, including less reliable access to health care, transportation and other social supports needed to reduce heat exposures.<sup>17</sup> Census Blocks were used to map the relative percentages of non-white populations in the St. Joseph community. This is shown in Map 14 in Appendix G.

**Poverty and Education:** Two socioeconomic factors associated with increased heat-related morbidity and mortality are the percentage of the people living in poverty and the percentage of people without a high school diploma. In general, persons living at or below the poverty line have less access to air conditioning or other cooling options for their residences. This could limit a person's access to relief from an extreme heat event. Census Blocks Groups were used to map the relative percentages of households living below the poverty threshold in the St. Joseph community. This can be found on Map 15 in Appendix G.

Similarly, University of Michigan researchers found studies that demonstrate a direct link between low education attainment and poor health.<sup>18</sup> There is also an established correlation between lower education attainment and income. Based on these findings, the project team used Census Blocks Groups to map the relative percent of persons 25 years and older with less than a high school education in St. Joseph (Map 16 in Appendix G).

To complete the heat sensitivity assessment, the project team created a cumulative score for all five sensitivity factors for each Census Block. In each of the sensitivity

17. Waugh and Tierney (eds.) *Emergency Management: Principles and Practices for Local Government*. Chapter 13: Identifying and addressing social vulnerabilities by Elaine Enarson.

18. Curriero FC, Heiner KS, Samet JM, et al. Temperature and mortality in 11 cities of the eastern United States. *American Journal of Epidemiology*. 30 (2001): 1126-8.

factors, the percentages were grouped into five categories, ranging from a very low percentage of people to a relatively high percentage living with the identified sensitivity. The five categorical groupings were generated by the GIS software ArcMap using natural breaks in the data (“groupings”). We assigned a ranking of 1 to 5 to each of the categories, ranging from 1 for the lowest percentage to 5 for the highest. Finally, the project team combined the scores within each Census Block. Thus, the most sensitive Census Blocks would have a maximum score of 25. The sensitivity is color-coded for ease of identifying areas with the greatest sensitivity.

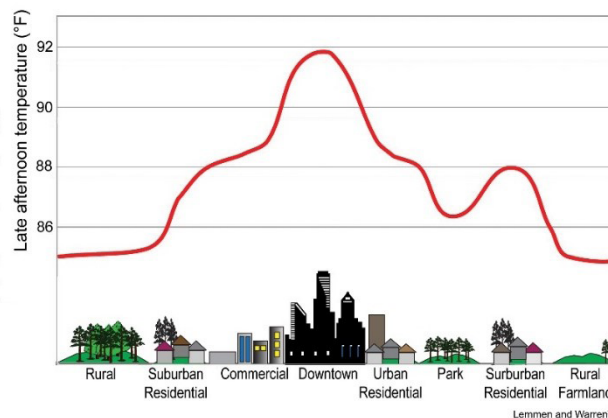
The St. Joseph Sensitivity to Excessive Heat Map (Map 17 in Appendix G) provides a reasonably detailed map of locations where the highest percentages of at-risk residents live. This does not mean these community residents are in immediate danger. Rather, the map provides planning officials a new way of identifying areas where heat waves could present serious problems for a significant number of citizens. These are populations that could be sensitive to extreme heat events.

Note that the Census data used likely double-counts people, such as in cases where a person is both a minority and over 65; this may overestimate the severity of the sensitivities in some locations. On the other hand, the sensitivity analysis may underestimate some risk because it leaves out several key sensitive populations, such as those with preexisting health concerns that denote vulnerability to heat (for example, cardiovascular disease or psychiatric disorders). Such health data is not often available publicly or on the Census Block level. Emergency managers, hospitals, and community health departments may have additional data available that can be included as the community looks to better understand its overall sensitive populations. To further improve the analysis, additional variables could be collected through local surveys and observation, such as the degree of social connections among individuals within a community, or materials used in housing.<sup>19</sup>

### Heat Exposure Assessment

When larger communities experience heat waves, air temperatures can vary significantly from place to place, both during the day and at night. Some of these differences can be attributed to the varying types of land cover found throughout the community. For example, temperatures can be significantly lower at night in

**Figure F-6. Urban Heat Island Effect**



Large amounts of concrete and asphalt in cities absorb and hold heat. Tall buildings prevent heat from dissipating and reduce air flow. At the same time, there is generally little vegetation to provide shade and evaporative cooling. As a result, parts of cities can be up to 10°F warmer than the surrounding rural areas, compounding the temperature increases that people experience as a result of human-induced warming.<sup>313</sup>

Source: US Global Change Research Program (2009).

<http://www.epa.gov/climatechange/impacts-adaptation/health.html>

19. Mapping Community Determinants of Heat Vulnerability. Environ Health Perspectives 117:1730–1736 (2009). doi:10.1289/ehp.0900683 available via <http://dx.doi.org/> [Online 10 June 2009]



As depicted in this oblique photograph, St. Joseph has the opportunity to expand its tree canopy, especially in the area of downtown pictured above (2015 Oblique photograph taken from Bing Images).

**Albedo** is the fraction of solar energy reflected from the earth back into space. It is a measure of the reflectivity of the earth's surface. Ice, especially with snow on top of it, has a high albedo, while pavement has a low albedo.

locations with a heavy tree canopy and very little pavement, versus locations with little greenery and lots of pavement.

Impervious surfaces such as paved parking lots, roadways, and buildings absorb large amounts of heat from the air and from sunshine. This heat is radiated back into the surroundings when temperatures begin to fall. At the same time, tree canopy and other vegetation tend to help cool an area through evaporation, transpiration of water, and by providing shade. In places with a high percentage of impervious surface and little tree canopy, the immediate surroundings can be much warmer. Urban areas typically have higher heat indexes (combinations of temperature and humidity) than surrounding suburban or rural areas. This condition has been termed the *Urban Heat Island Effect*.<sup>20</sup>

People living in settings with a Urban Heat Island Effect suffer greater exposures to heat over longer periods of time (e.g., warmer nights), making them more vulnerable to health impacts. Studies of the Urban Heat Island Effect (whereby air temperatures in an urban area are 3.4 to 3.7° F higher than in a nearby rural area) have shown that the *albedo*, or reflectivity, of an urban area is one of the most important determinants in reducing the magnitude of the heat island.<sup>21</sup> Increasing tree canopy cover can also reduce air temperature by 3.4 to 3.7° F. Green roofs, or plantings on roofs, may also decrease the Urban Heat Island Effect and decrease stormwater runoff and building energy use. An added benefit that stems from increasing albedo and vegetation are positive impacts on reducing ground-level ozone and energy costs associated with air conditioning use.<sup>22</sup>

To complete a heat exposure assessment, this study focuses on the Urban Heat Island Effect. Two separate exposure maps were created with data obtained from Berrien County and the City of St. Joseph. The first exposure map (Map 18 in Appendix G) depicts the percentage of impervious surfaces within the same Census Blocks used in the sensitivity assessment. These percentages are divided into five categories using the GIS software's natural breaks calculation. Since exposure is lowest in areas with the lowest percentage of impervious surface, those scored a 1, with a rating of 5 assigned to areas with the highest percentage of impervious surfaces.

20. Basu and Samet. (2002) Relation between Elevated Ambient Temperature and Mortality: A Review of the From the Department of Epidemiology, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD.

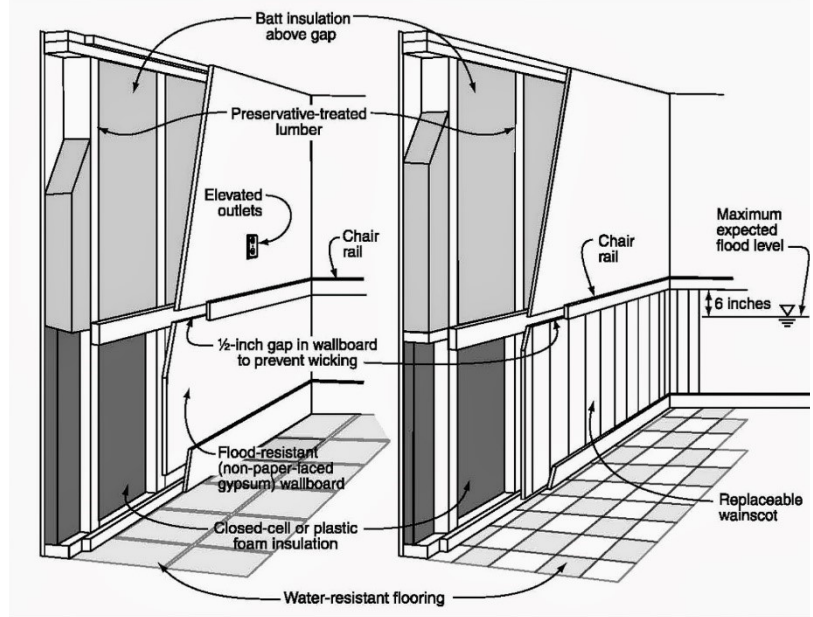
21. Kolokotroni M, Giridharan R. Urban heat island intensity in London: An investigation of the impact of physical characteristics on changes in outdoor air temperature during summer. *Solar Energy* 2008;82(11):986–998.

22. Akbari H. Shade trees reduce building energy use and CO2 emissions from power plants. *Environmental Pollution* 2002;116:S119–S126. [PubMed: 11833899]

The second exposure factor is percentage of tree canopy. St. Joseph tree canopy was mapped within each Census Block (Map 19 in Appendix G) and scored using a similar five-category process. The highest percentage of tree canopy (and therefore the lowest heat exposure) received a 1, and the least vegetated areas received a 5.

We combined the results of the two exposure maps to provide a single Community Excessive Heat Exposures Map (Map 20 in Appendix G), which provides a reliable depiction of where the Urban Heat Island Effect would be most and least intense during a heat wave. Community planners can use this map to better assess where new vegetation and tree canopy would be helpful to reduce heat impacts.

**Figure F-7. Home Design Techniques for Flood Resilience**



Source: fema.org

**Composite Heat Vulnerability**

The St. Joseph Heat Vulnerability Map is a simple additive combination of the overall sensitivity map and the overall exposures map. The resulting vulnerability index depicts where concentrations of exposures and sensitive populations create a higher risk for community residents. In general, those areas with a composite score of 8 to 10 (red) have residential populations that may be particularly vulnerable to extreme heat events. This is illustrated in Map 21 in Appendix G.

**Heavy Rain and Flooding**

Climate scientists say St. Joseph and southwest Michigan can expect more frequent storms of increasing severity in the decades ahead. The total amount of rainfall per year is also likely to increase. However, climate models suggest the precipitation will be more concentrated in the winter, spring and fall seasons, and there will be more localized, intense storms at almost any time of year. The potential for substantially larger rain events raises concerns over the potential for harm to human health and damage to buildings and infrastructure.

The following summarizes a Flooding Vulnerability Assessment conducted for the St. Joseph community. In assessing vulnerability, community planners evaluate potential exposures as well as sensitivity to flooding. Buildings, roads, bridges, sewer lines and other infrastructure located in a flood zone are exposed to greater risks than elsewhere. Where flowing floodwaters have the greatest energy, structures may be undercut, collapsed or moved, and soils will erode. Even areas outside of an identified floodplain are subject to flooding from heavy downpours. Where the soils

have low permeability and physical drainage is inadequate, water will accumulate and cause ponding during large storm events. Appropriate planning and land-use regulations can help reduce exposures caused by poor site selection. The sensitivity of structures can be modified to reduce risk of damage by applying flood-resistant design standards. See Figure F-7 for an overview of recommendations from the Federal Emergency Management Agency (FEMA) for retrofitting homes to make them more resilient to flooding events.

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*The City of St. Joseph has a local floodplain ordinance that follows a state model developed by the Department of Environmental Quality. Although there are a few homes located within the floodplain, many do not participate in the National Flood Insurance Program (NFIP).*

### **Exposure to Flooding Hazards**

The Digital Elevation Model (Map 22 in Appendix G) offers a useful view of the topography of St. Joseph, including the most prominent drainage patterns. On this map, the darkest green colors identify the lowest elevations, while the darkest red colors identify the highest elevations.

FEMA develops Flood Insurance Rate Maps (FIRMs) for each county in the United States. According to FEMA, the FIRM is “the primary tool for state and local governments to mitigate the effects of flooding in their communities.” The National Flood Insurance Program was created in 1968 to reduce future damage and provide an insurance program that would help protect property owners from losses. The FIRM shows areas subject to flooding, based on historic, hydrological, hydraulic and meteorological data as well as flood controls. The maps identify a base flood elevation (BFE), sometimes referred to as the 100-year flood zone. These are areas that have a 1% chance of flooding in any given year. The maps also identify the areas with a 0.2% chance of flooding in any given year, also known as the 500-year flood zone. FEMA points out these ratios are only probabilities, not forecasts.

### **Household Sensitivity to Flooding**

In many communities, flooding impacts are felt most significantly at the household level. A home’s flood risk is based on its relative location to floodplains and other flooding hazard areas. Household flood sensitivity refers to how well the house structure is equipped to deal with flooding. As modeled by the University of Michigan, household sensitivity to flooding can be determined by looking at the age of the housing stock and the homeowner’s financial ability to maintain and improve the home, which is approximated using the median household income. In general, homes built before 1940 used a more porous concrete material for basement construction, so floodwater can flow more rapidly through the foundation. Older homes may be more vulnerable if residents have not had the financial resources to make improvements and upgrades. By looking at median household income as a marker of likely upkeep of the home, the project team attempted to exclude older homes that have presumably been well-maintained and undergone upgrades from our areas of flood damage risk. Map 23 shows the locations of homes that were built before 1940. Map 24 overlays locations of older homes on top of Census data showing areas where there are high percentages of residents living below the poverty line.



### *Flooding Vulnerability*

By looking at the overlap of flooding exposure and housing sensitivity, the project team identified a number of Census Blocks that are the most vulnerable in the community to flooding damage, based on available data (see map 25 in Appendix G). It is important to note that other factors contribute to flood risk. For example, mobile and manufactured homes are often particularly susceptible to flood damage because they generally lack a reinforced foundation. In addition, municipal infrastructure plays an important role in protecting homes from flood damage. Communities with an aging storm-sewer system or those with storm sewers that have not been fully disconnected from the sanitary sewer are more prone to damage from an overloaded system in the event of a severe rain event.

### **Lake Michigan Coastal Dynamics**

The City of St. Joseph is a truly coastal community, with its physical geography and political boundaries largely defined by Lake Michigan, the St. Joseph River, and the Paw Paw River. Regulating areas where waterfront development would risk damage to property or injury to persons is an important factor in community planning.

The challenge the community faces in regulating coastal development is in determining an appropriate protective standard. Under current FEMA standards, floodplain regulations for the Lake Michigan shoreline is based on a “stillwater” elevation, which does not account for wave height or other factors that can result in damage above that elevation. Other state and federal regulations are also based on elevations that are lower and therefore even less protective than the FEMA elevation.

In addition, since Lake Michigan’s sandy shoreline moves over time, the elevation-based standard moves along with the shoreline. Structures built near the regulatory lines during times of low lake levels and wider beaches can quickly become threatened when lake levels rise and beaches are submerged or eroded.

There is an effort underway to develop new standards for Great Lakes coastal flooding to revise FEMA’s flood maps. The draft maps call for significantly higher flood elevations, in some cases 20 feet or more higher than the current standards. While the current flood elevations certainly are not protective standards, the draft maps do not seem to correlate to the historic record and did not seem appropriate to use as the basis for coastal recommendations in this plan.

However, the City of St. Joseph is a leader among Great Lakes communities in that it has developed additional local regulations for construction near the Lake Michigan shoreline. In 2012, the City commissioned a coastal engineering study to provide recommendations for shoreline management that would best preserve the

public-trust property along the shoreline and protect private interests and property. The study was funded by contributions from local residents.

The study, which is herein incorporated by reference, concluded that the City's Lake Michigan shoreline was divided into three discrete sections, each with a distinct recommended treatment:

- Area 1. North of the St. Joseph River, the sandy shoreline is unobstructed by shore protection structures. In this area, the study recommended adopting an ordinance establishing a fixed "no build" line landward of the conventional regulatory lines. The goal of this regulation would be to require that structures be built at a safe distance from the lake, and also to prohibit shore protection structures which could obstruct passage along the public trust property. This ordinance was adopted in 2012 and is in effect.
- Area 2. South of the St. Joseph River to the St. Joseph Water Plant, the shoreline is publicly owned under most water conditions and is impacted by existing shore protection structures. Adjacent private parcels are small and do not allow for a significant "no build" line. The study recommended establishing a consistent design for a shore protection structure that could be built on a property-by-property basis, but would be built on public property. The intention of the regulation was to protect private property from damage while preserving the ability of the public to travel along the lakeshore, although at high water levels the sandy beach would be compromised. No action has been taken on this recommendation.
- Area 3. South of the St. Joseph Water Plant, the shoreline is entirely shore protection structures of varying types and conditions, protecting bluffs against further erosion. There is little public access to this area. In this area, the report recommended no further local regulations, and that property owners should be able to install shore protection structures as allowed by state and federal agencies to prevent erosion.

At the time of this writing, the 2012 study appears to remain the best resource for planning for the Lake Michigan shoreline. The community's interest in developing regulations for Area 2 to protect private property and ensure public passage along the shore should be further explored. In addition, the study was designed to be revisited at five-year intervals or whenever the water level changes by four feet or more, and the study should certainly be updated in light of then-current conditions.

### *University of Michigan Coastal Study*

In an effort to make planning decisions based on known information, the University of Michigan has collaborated with LIAA, with funding from the University of Michigan Water Center, to analyze shoreline ecosystems and physical dynamics, conduct fiscal impact assessments, and work with community groups to plan for better coastline management. The multi-disciplinary project team has integrated scientific knowledge and research with local planning processes in the City of St. Joseph.

At the time this master plan was written, the coastal study was still in progress and the City had not evaluated the results. It is anticipated that when complete, it will be published as a separate document and may be incorporated into the master plan at a future date.

## Other Considerations for Defining Community Vulnerability

It is important to identify locations of key community assets and look at how accessible they are to residents. It is also important to identify key infrastructure and assets that could be at risk, or would be most negatively impacted by an adverse event.

### *Critical Facilities*

In general usage, the term “critical facilities” is used to describe all man-made structures or other improvements that, because of their function, size, service area, or uniqueness, have the potential to cause serious bodily harm, extensive property damage, or disruption of vital socioeconomic activities if they are destroyed, damaged, or if their functionality is impaired.<sup>23</sup> Map 26 in Appendix G shows locations of critical facilities in the City. Critical facilities include:

- emergency response facilities (fire stations, police stations, rescue squads, and emergency operation centers [EOCs]);
- custodial facilities (hospitals, long-term care facilities, health care facilities, jails, and other detention centers)
- schools;
- emergency shelters;
- utilities (water supply, wastewater treatment facilities, and power);
- communications facilities;
- other assets determined by the community to be of critical importance for the protection of the health and safety of the population; and
- places where 300+ people congregate.

### *Access and Distribution of Social Services*

Service centers and institutions (such as homeless shelters and churches) are important in delivering day-to-day support to residents. In the event of an emergency, such as an extreme heat event or flash-flooding episode, service centers and institutions are especially important as safe places where residents can go if they cannot return home. Map 27 in Appendix G highlights key locations of places where residents may seek temporary refuge in the event of an emergency. These locations include schools, places of worship, governmental buildings, hospitals and clinics, libraries, and other non-profit social service organizations. In St. Joseph, social services are concentrated in the downtown core and along major commercial corridors.

Communities with high population densities, frequent extreme weather events, or both are likely to have designated services centers. In the event of extreme heat waves, designated community cooling centers may provide refuge for sensitive populations and those without access to air conditioning. In the event of loss of power due to flooding or extreme storms, locations with a backup power source, such as a generator, are essential.

A best management practice for a resilient community is to designate community service centers that are accessible, evenly distributed across the population, open 24 hours, and well-known to residents.

### *Food Availability*

Climate change will likely make significant impacts to the availability and prices for global food supplies. A community can decrease its vulnerability to disruptions in food sources through a strong local food economy. Support for and reliance upon locally produced foods not only helps to alleviate potential future challenges in the food market; it also helps foster another strong economic sector for the region.

Just as cultivating local entrepreneurship makes a community stronger, the capacity of a community to produce and process its own food greatly increases resilience. Because of its ability to impact health, wealth, and quality of life, there is a national trend in support of the local food movement. Communities can leverage their existing assets, such as local farmers markets, community gardens, and an established agricultural base, to lay the foundation for additional local food-related jobs. Communities can take more creative approaches as well, such as allowing for agriculture on publicly owned and vacant lands in existing neighborhoods and parklands.

In evaluating community vulnerabilities, LIAA looks at locations of full-service grocery stores in relation to where people live. In the event of loss of power or disruption in potable water supplies, it is important to ensure that residents have access to affordable food and drinking water.

We also evaluate access to healthy food to see if there are areas of the community that qualify as *food deserts*. According to the United States Department of Agriculture (USDA), a food desert is defined as an area devoid of fresh fruit, vegetables, and other healthful whole foods, usually found in impoverished areas. This is largely due to a lack of grocery stores, farmers markets, and healthy food providers. Communities looking to reduce the number of residents living in food deserts can promote or zone for pop-up farm stands in low-income areas, enact housing policies supportive of mixed incomes, and establish community gardens in areas identified as food deserts.

Map 28 in Appendix G identifies neighborhoods within St. Joseph that are located within one mile of a full-service grocery store.

## **Additional Resources:**

Snover, A.K., L. Whitely Binder, J. Lopez, E. Willmott, J. Kay, D. Howell, and J. Simmonds, 2007: *Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments*. In association with and published by ICLEI – Local Governments for Sustainability, Oakland, CA.

Michigan Climate and Health Adaptation Plan (MI-CHAP) 2010-2015 Strategic Plan. Prepared by the Michigan Department of Community Health (2011).

## APPENDIX G

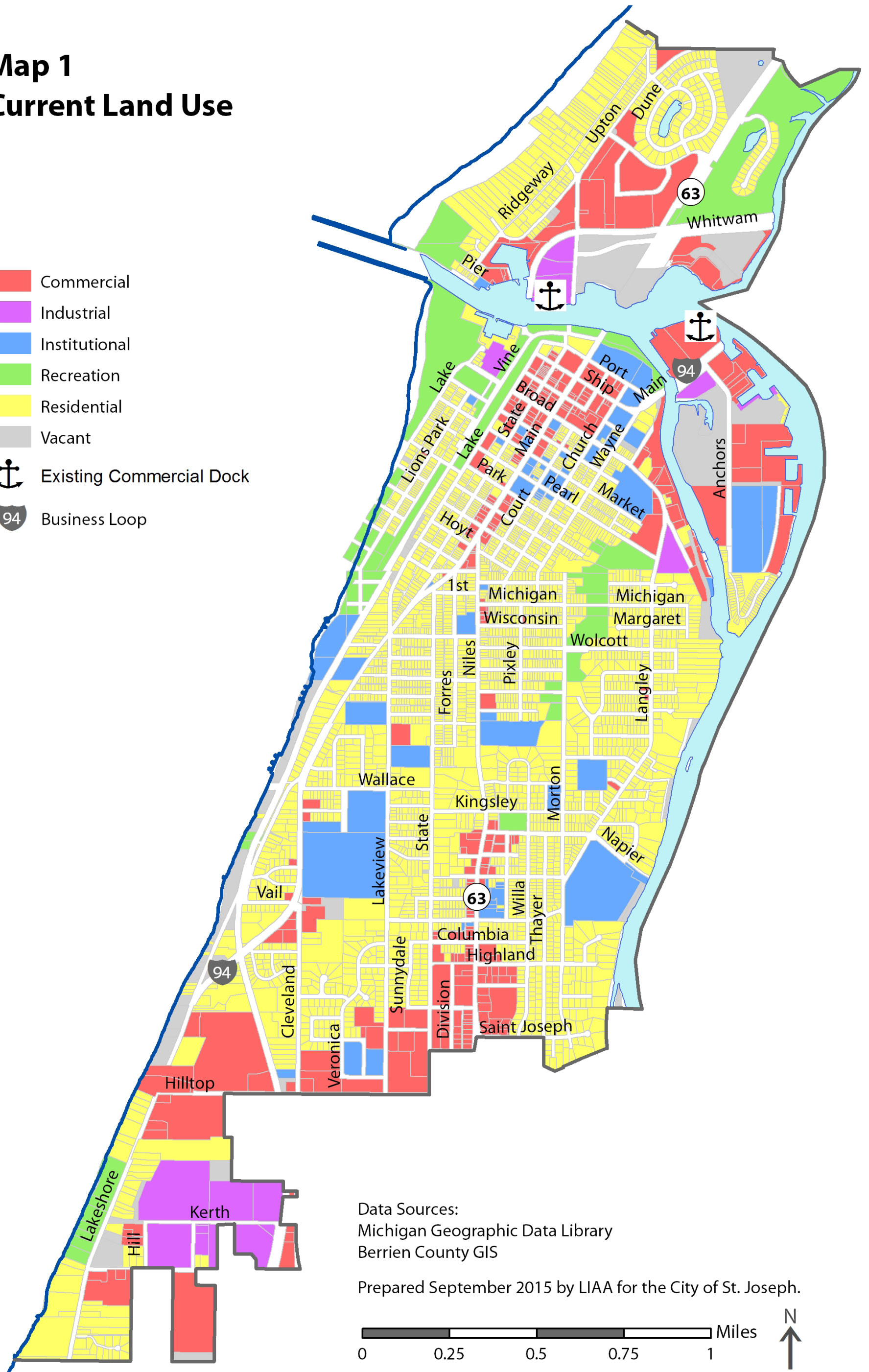
# Maps

## Figure List

1. Current Land Use
2. Future Land Use
3. Existing Wetlands
4. Tree Canopy
5. Sidewalk Gap Analysis
6. Non-Motorized Plan
7. Public Properties in Near Harbor Area
8. Short-Term Rental Locations
9. National Functional Highway Classification
10. Locations of Public and Private Parking
11. St. Joseph Neighborhoods
12. Percentage of Population Aged 65+
13. Percentage of Households Living Alone
14. Percentage of Non-White Population
15. Percentage of Population in Poverty
16. Percentage of Population by Educational Attainment
17. Relative Sensitivity of Population to Extreme Heat Events
18. Percentage of Impervious Surface Exposure
19. Percentage of Tree Canopy Coverage
20. Relative Environmental Exposure to Extreme Heat Events
21. Population Vulnerable to Extreme Heat Events
22. Digital Elevation Model
23. Year Home was Built
24. Percentage of Population Living Below Poverty Threshold and Older Homes Built Before 1940
25. FEMA Coastal Flood Study and Older Homes Built Before 1940
26. Critical Facilities
27. Social/Community Services
28. Food Availability Tree Canopy

# Map 1 Current Land Use

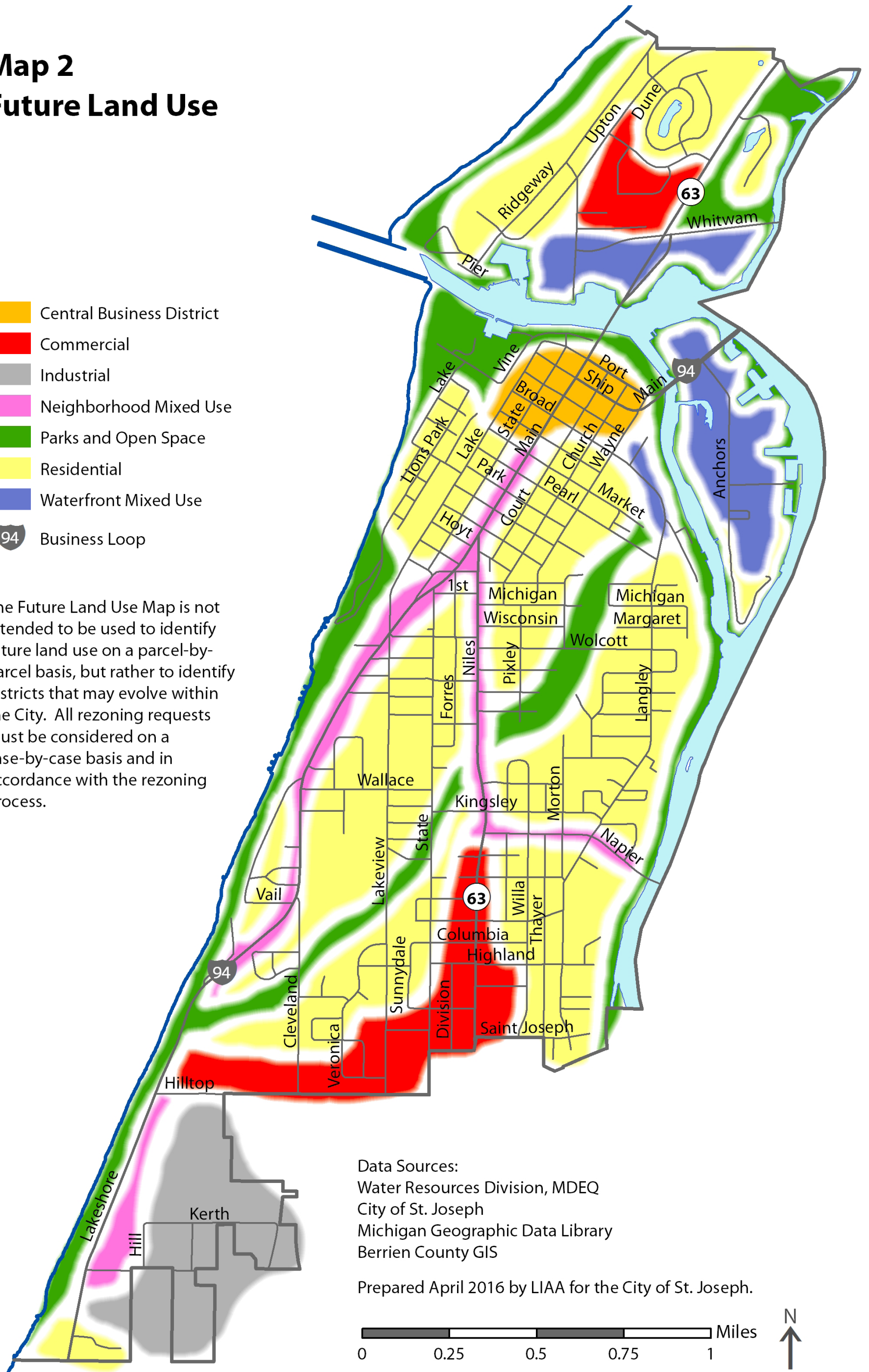
- Commercial
- Industrial
- Institutional
- Recreation
- Residential
- Vacant
- Existing Commercial Dock
- Business Loop



# Map 2 Future Land Use

- Central Business District
- Commercial
- Industrial
- Neighborhood Mixed Use
- Parks and Open Space
- Residential
- Waterfront Mixed Use
- 94 Business Loop

The Future Land Use Map is not intended to be used to identify future land use on a parcel-by-parcel basis, but rather to identify districts that may evolve within the City. All rezoning requests must be considered on a case-by-case basis and in accordance with the rezoning process.



Data Sources:  
 Water Resources Division, MDEQ  
 City of St. Joseph  
 Michigan Geographic Data Library  
 Berrien County GIS

Prepared April 2016 by LIAA for the City of St. Joseph.

0 0.25 0.5 0.75 1 Miles

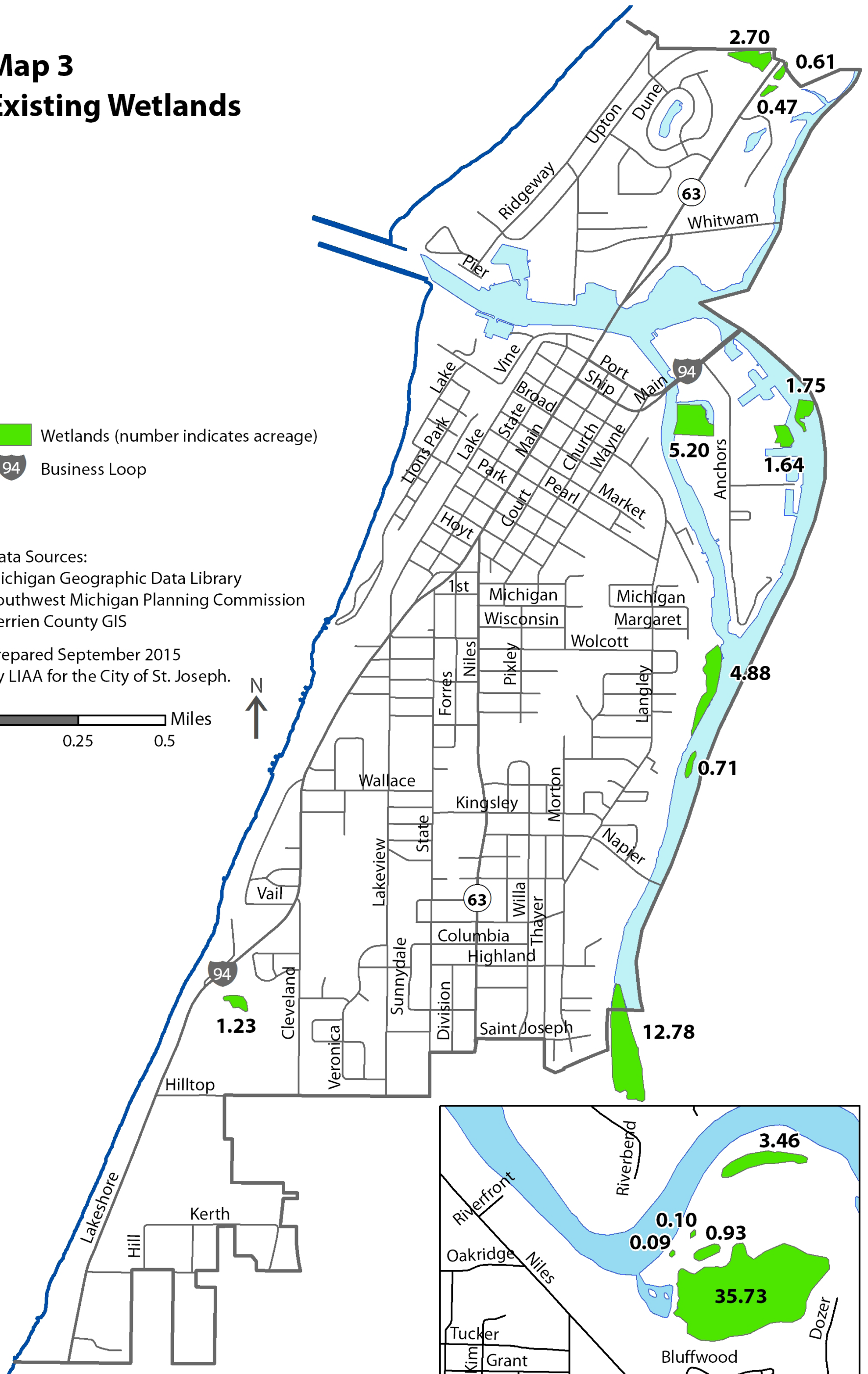
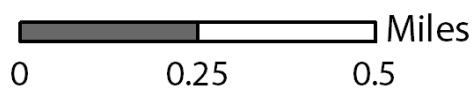


# Map 3 Existing Wetlands

- Wetlands (number indicates acreage)
- Business Loop

Data Sources:  
 Michigan Geographic Data Library  
 Southwest Michigan Planning Commission  
 Berrien County GIS

Prepared September 2015  
 by LIAA for the City of St. Joseph.

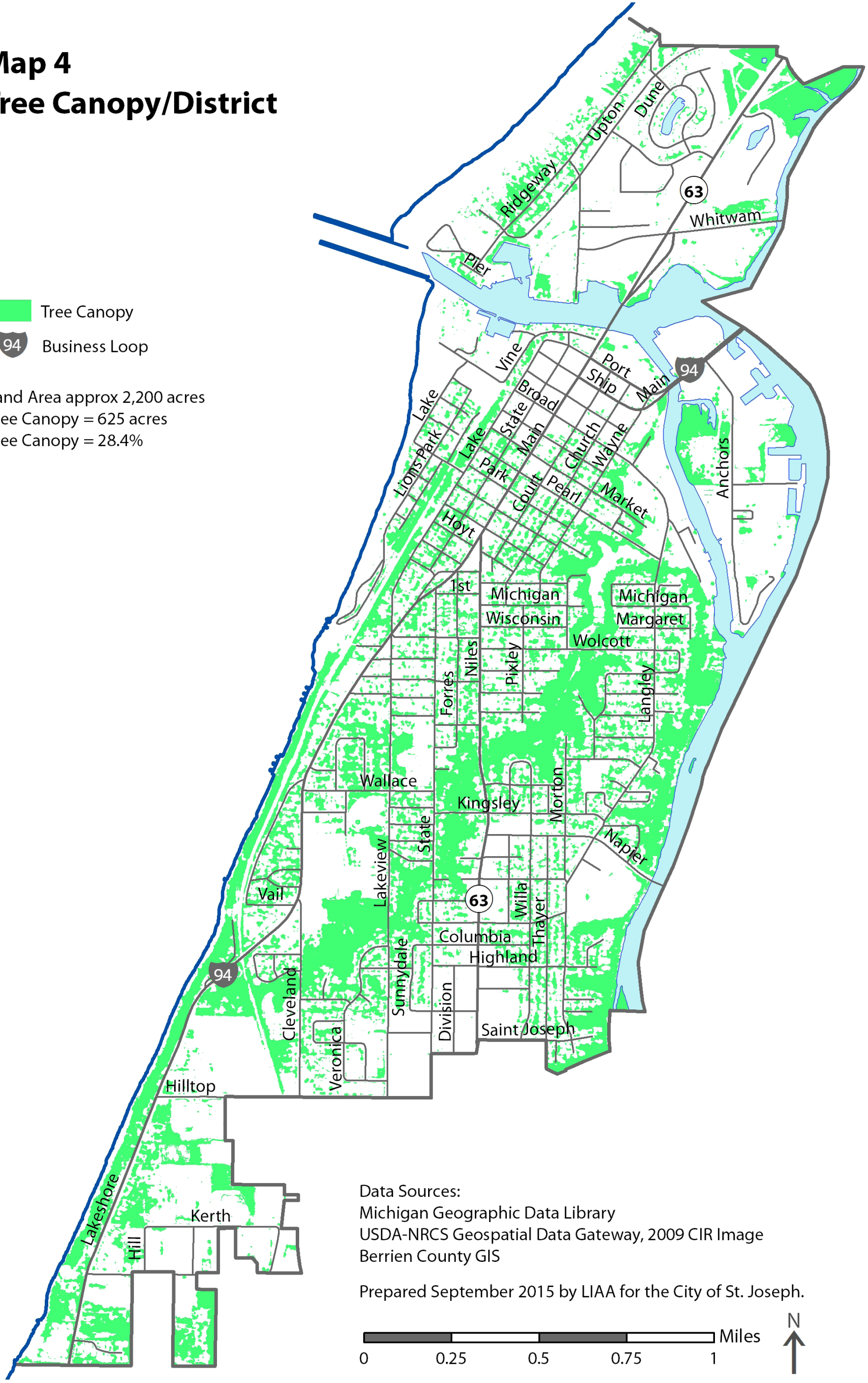




# Map 4 Tree Canopy/District

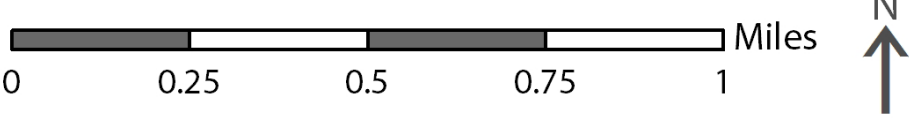
- Tree Canopy
- 94 Business Loop

Land Area approx 2,200 acres  
 Tree Canopy = 625 acres  
 Tree Canopy = 28.4%







Data Sources:  
 Michigan Geographic Data Library  
 USDA-NRCS Geospatial Data Gateway, 2009 CIR Image  
 Berrien County GIS

Prepared September 2015 by LIAA for the City of St. Joseph.



# Map 5 Sidewalk Gap Analysis

-  Existing Pathway - 3.4 miles
-  Existing Sidewalks - 70.8 miles
-  Parks
-  Business Loop










Data Sources:  
 Michigan Geographic Data Library  
 Southwest Michigan Planning Commission  
 Berrien County GIS

Prepared September 2015 by LIAA for the City of St. Joseph.

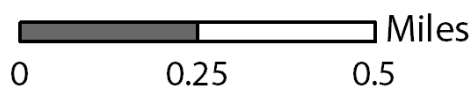


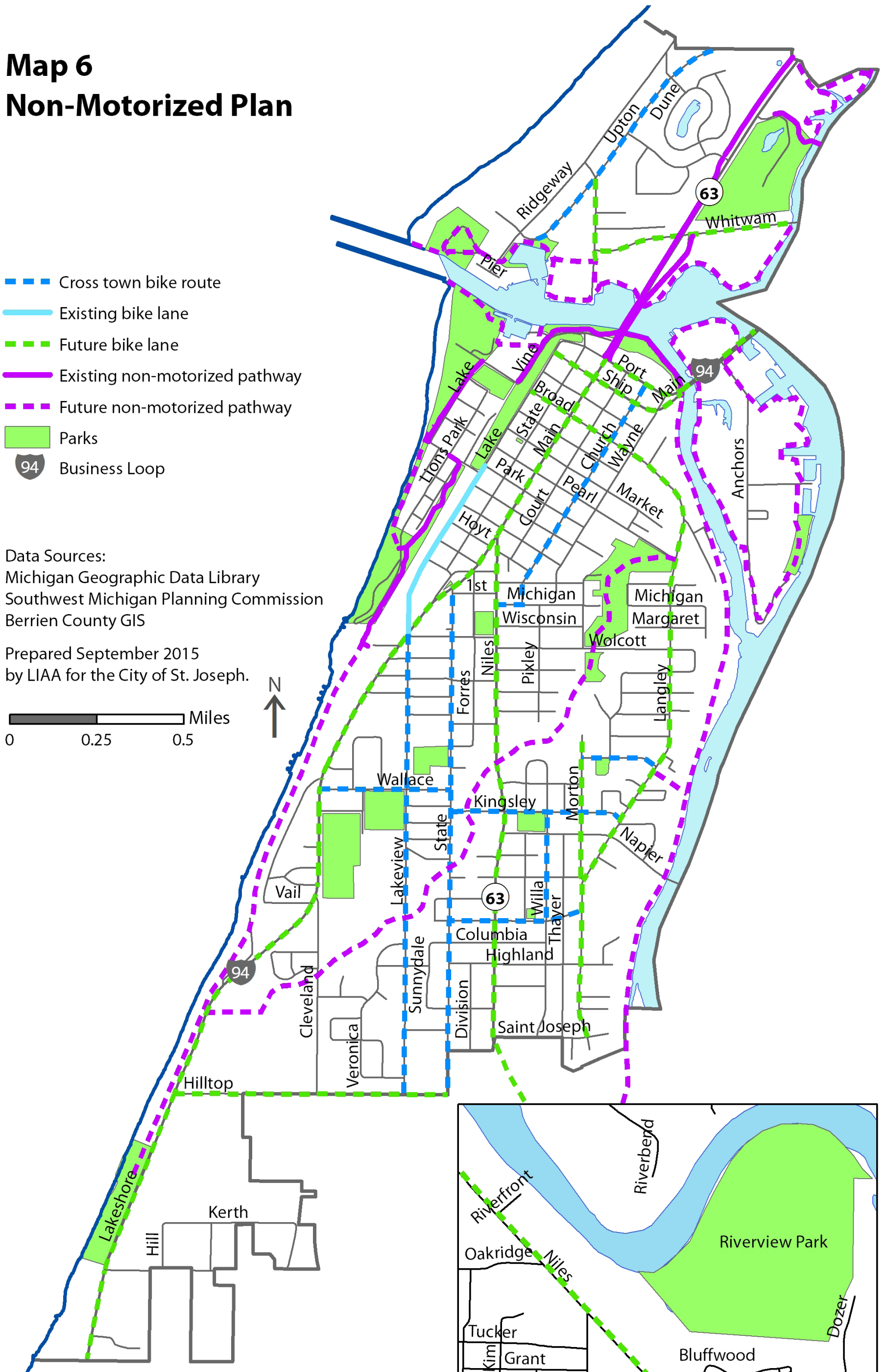
# Map 6 Non-Motorized Plan

-  Cross town bike route
-  Existing bike lane
-  Future bike lane
-  Existing non-motorized pathway
-  Future non-motorized pathway
-  Parks
-  Business Loop

Data Sources:  
 Michigan Geographic Data Library  
 Southwest Michigan Planning Commission  
 Berrien County GIS

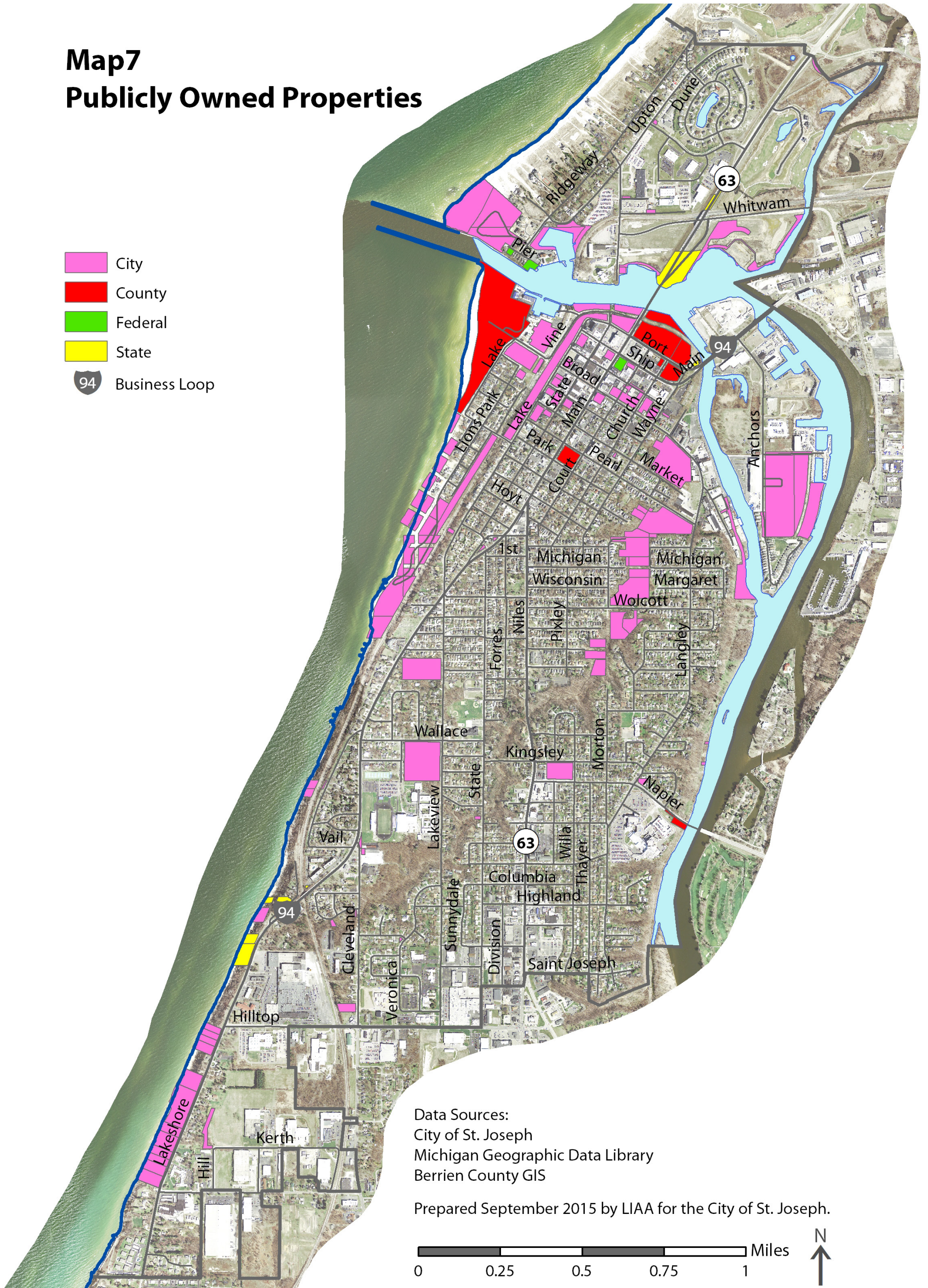
Prepared September 2015  
 by LIAA for the City of St. Joseph.

 Miles  
 0 0.25 0.5



# Map7 Publicly Owned Properties

- City
- County
- Federal
- State
- 94 Business Loop



Data Sources:  
 City of St. Joseph  
 Michigan Geographic Data Library  
 Berrien County GIS

Prepared September 2015 by LIAA for the City of St. Joseph.

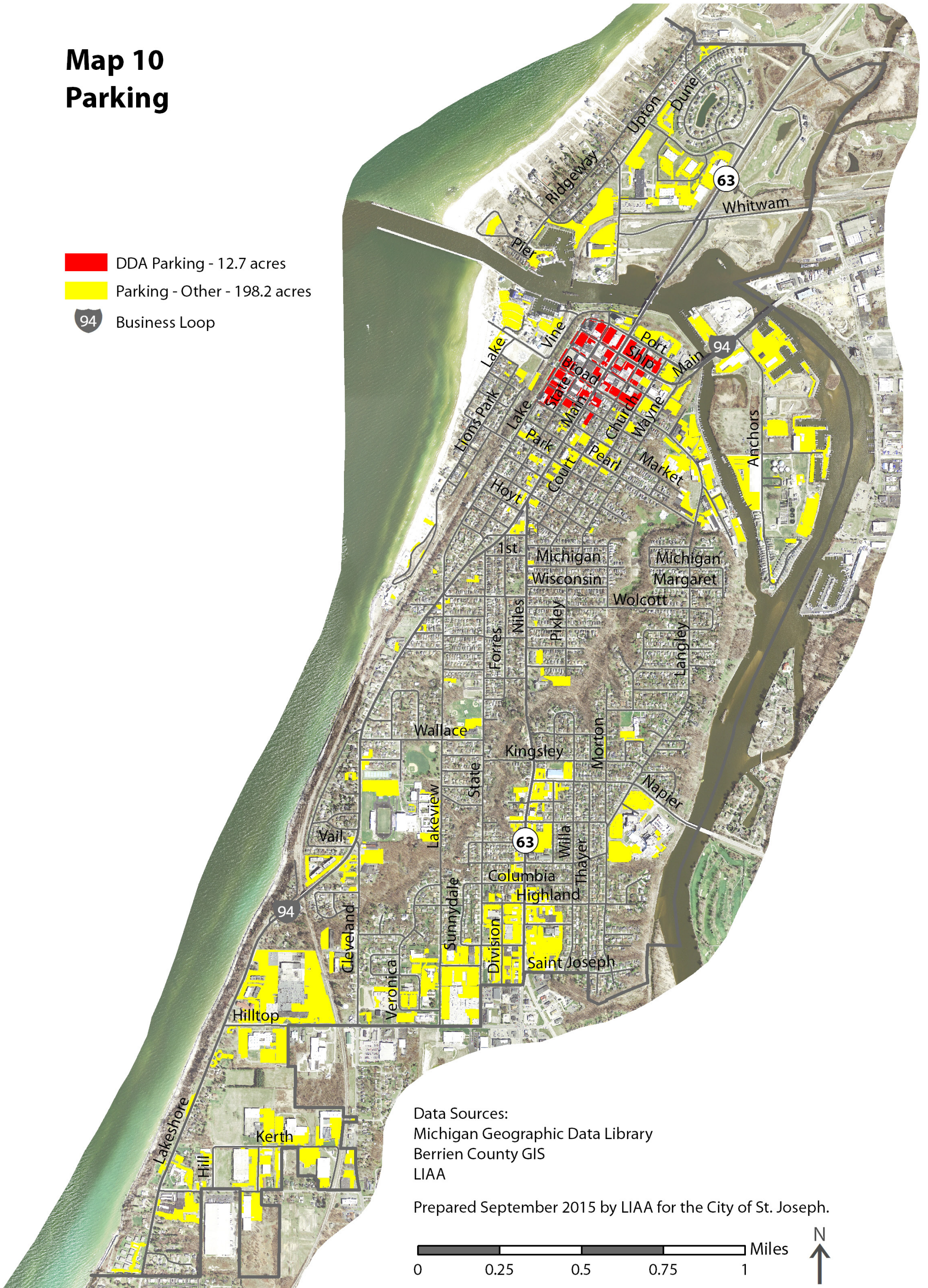






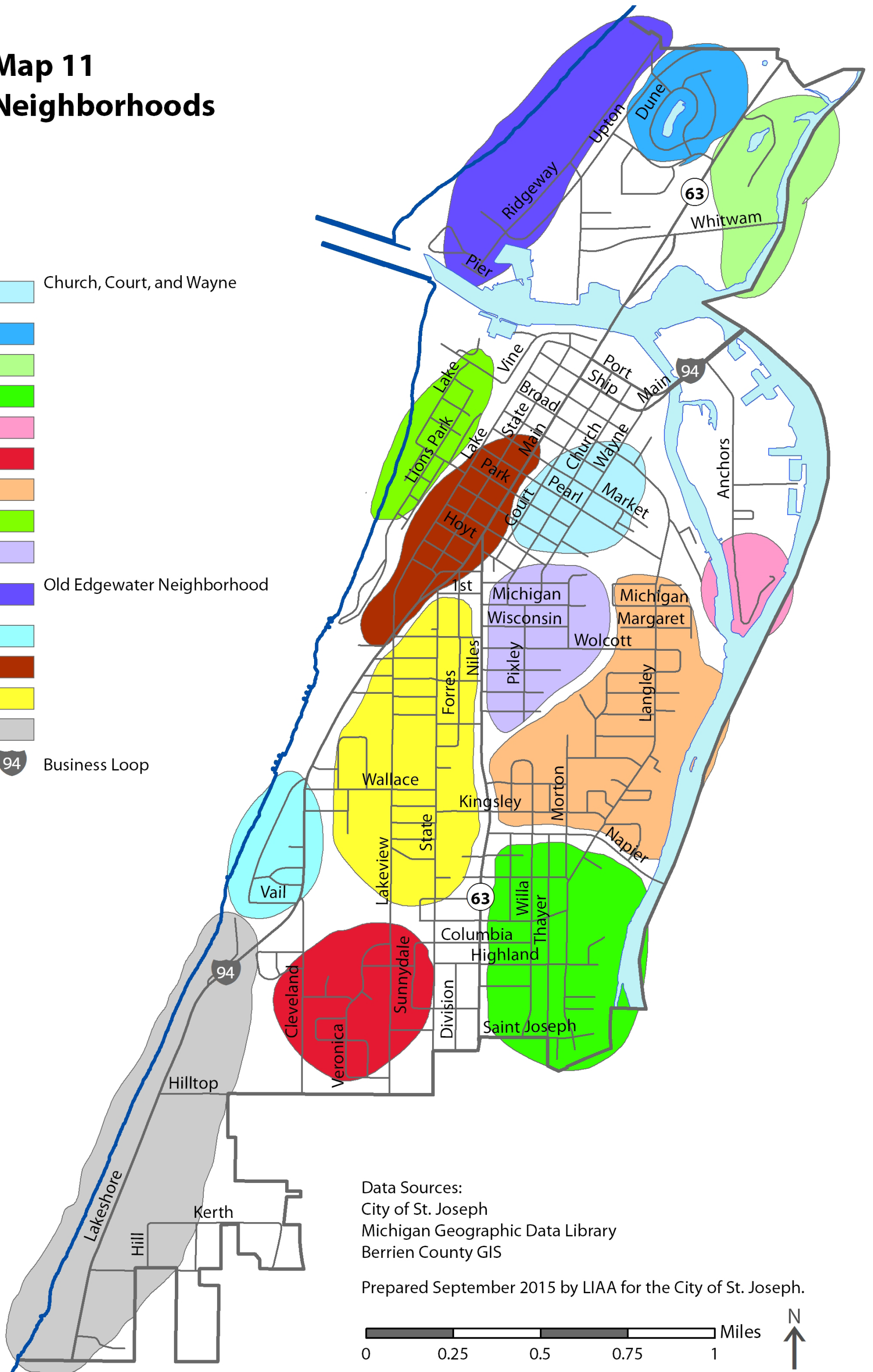
# Map 10 Parking

- DDA Parking - 12.7 acres
- Parking - Other - 198.2 acres
- 94 Business Loop



# Map 11 Neighborhoods

-  Church, Court, and Wayne
- 
- 
- 
- 
- 
- 
- 
- 
-  Old Edgewater Neighborhood
- 
- 
- 
- 
-  Business Loop



Data Sources:  
 City of St. Joseph  
 Michigan Geographic Data Library  
 Berrien County GIS

Prepared September 2015 by LIAA for the City of St. Joseph.

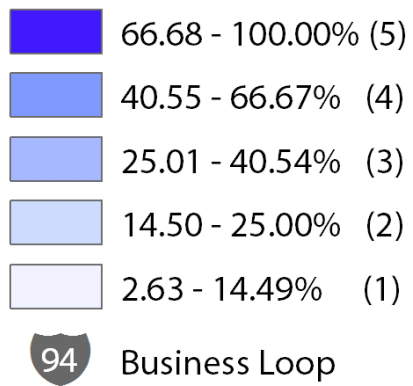
0 0.25 0.5 0.75 1 Miles



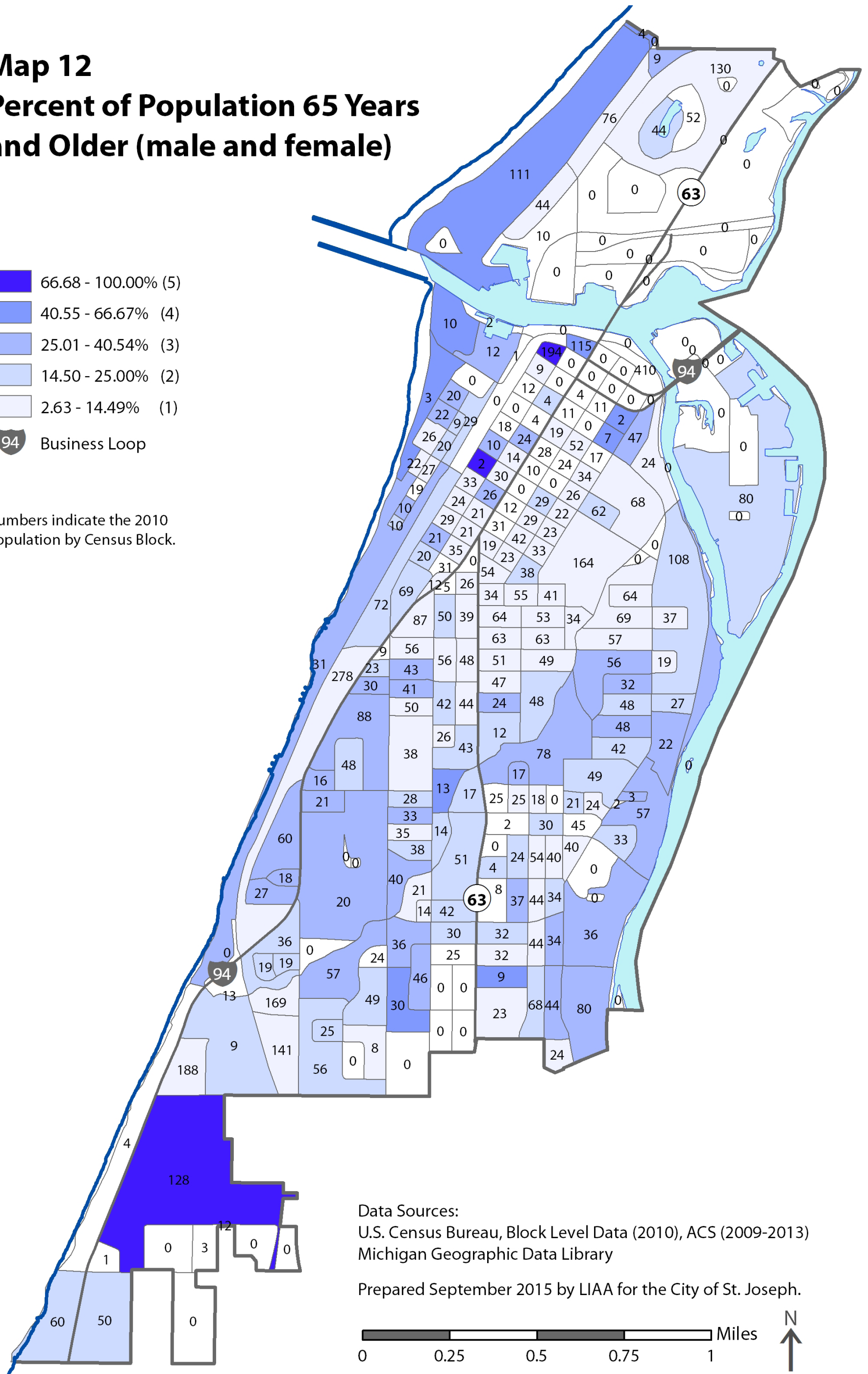


# Map 12

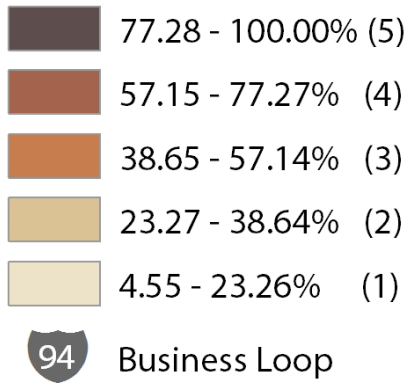
## Percent of Population 65 Years and Older (male and female)



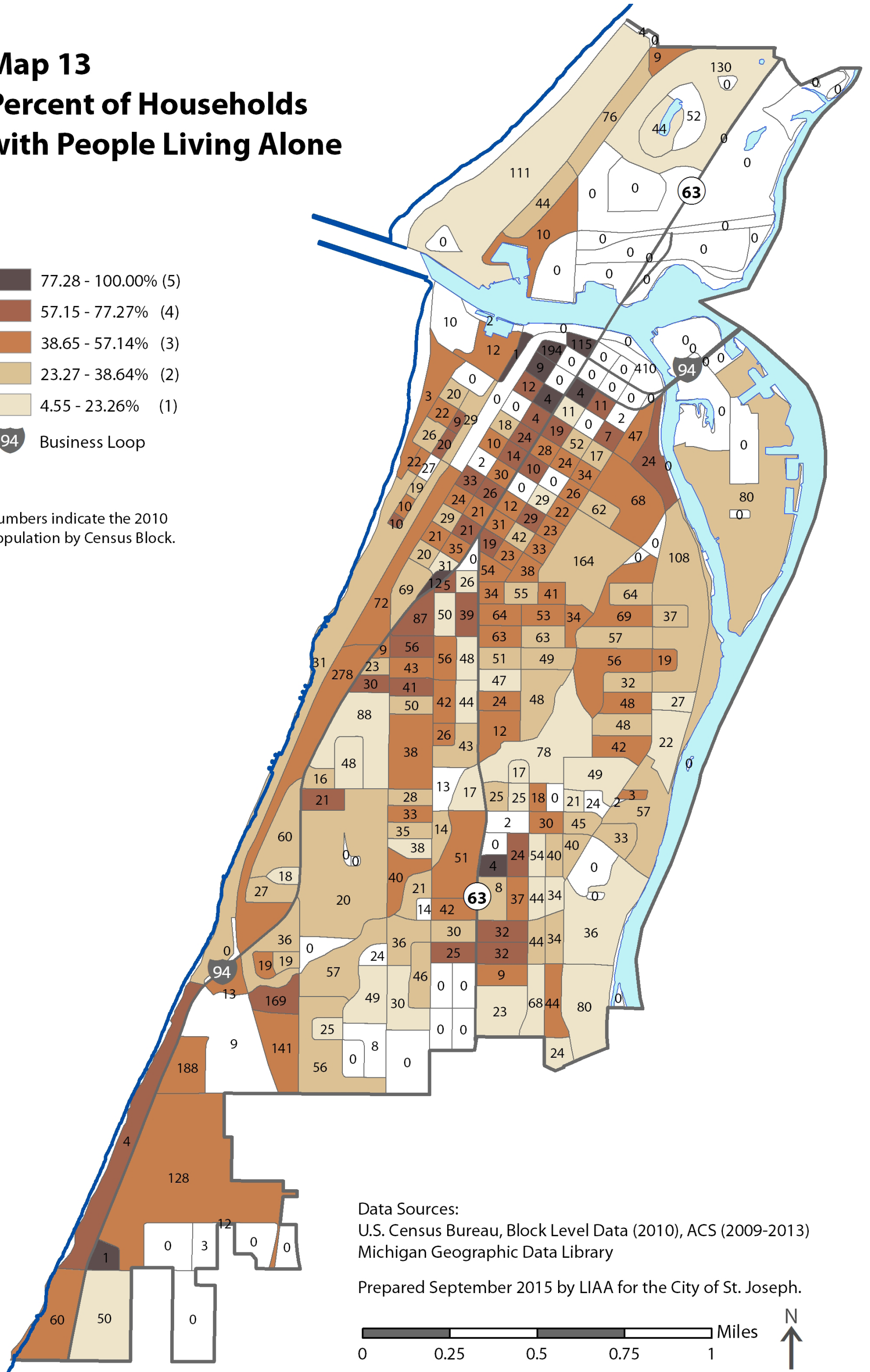
Numbers indicate the 2010 population by Census Block.



# Map 13 Percent of Households with People Living Alone



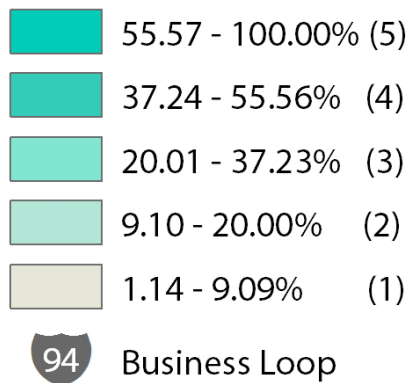
Numbers indicate the 2010 population by Census Block.



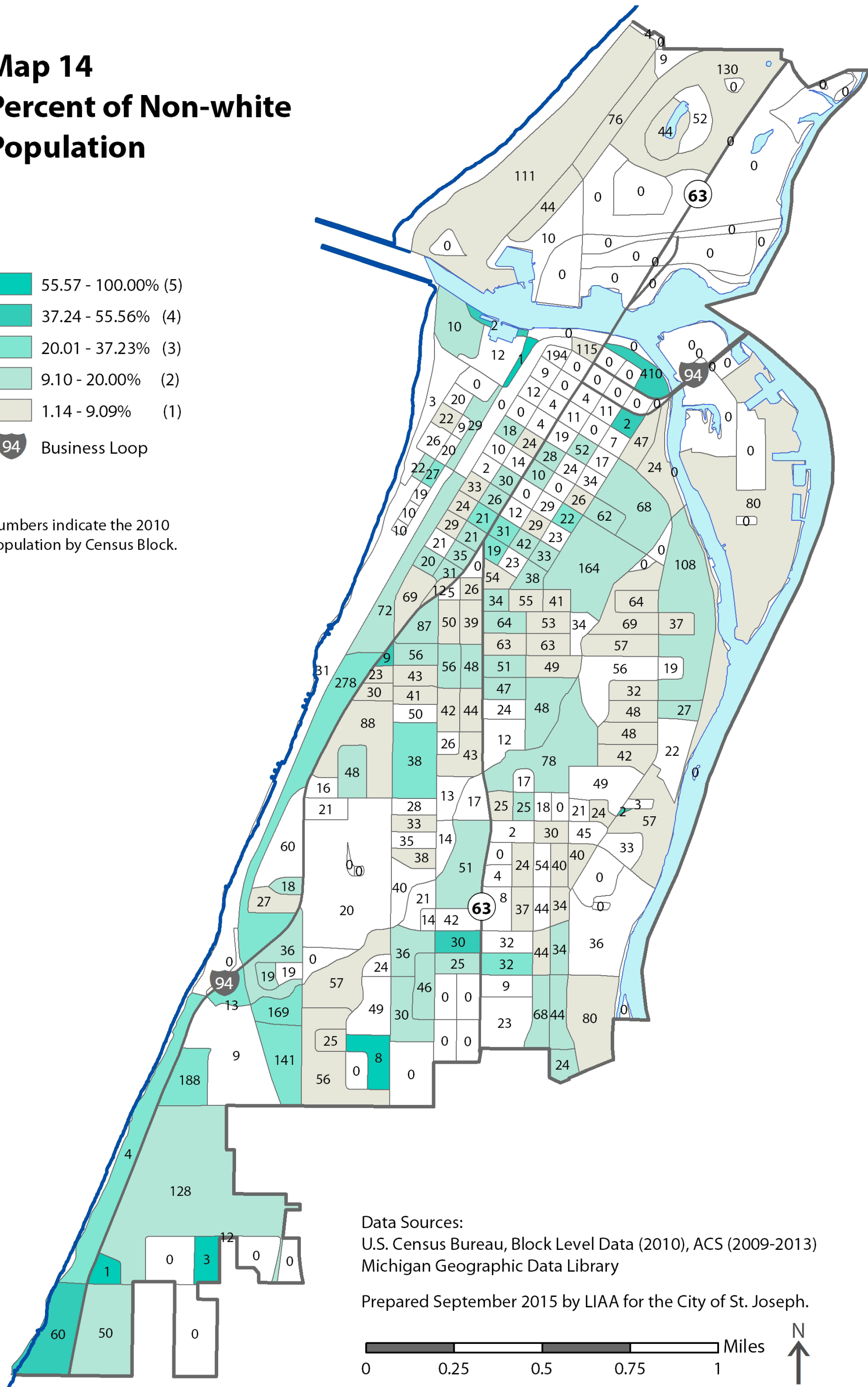
Data Sources:  
U.S. Census Bureau, Block Level Data (2010), ACS (2009-2013)  
Michigan Geographic Data Library

Prepared September 2015 by LIAA for the City of St. Joseph.

# Map 14 Percent of Non-white Population

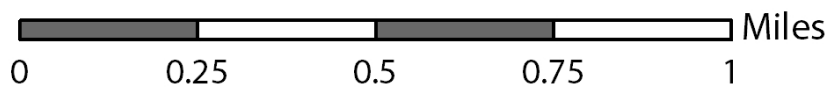


Numbers indicate the 2010 population by Census Block.



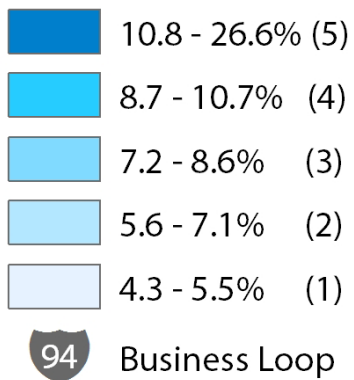
Data Sources:  
U.S. Census Bureau, Block Level Data (2010), ACS (2009-2013)  
Michigan Geographic Data Library

Prepared September 2015 by LIAA for the City of St. Joseph.

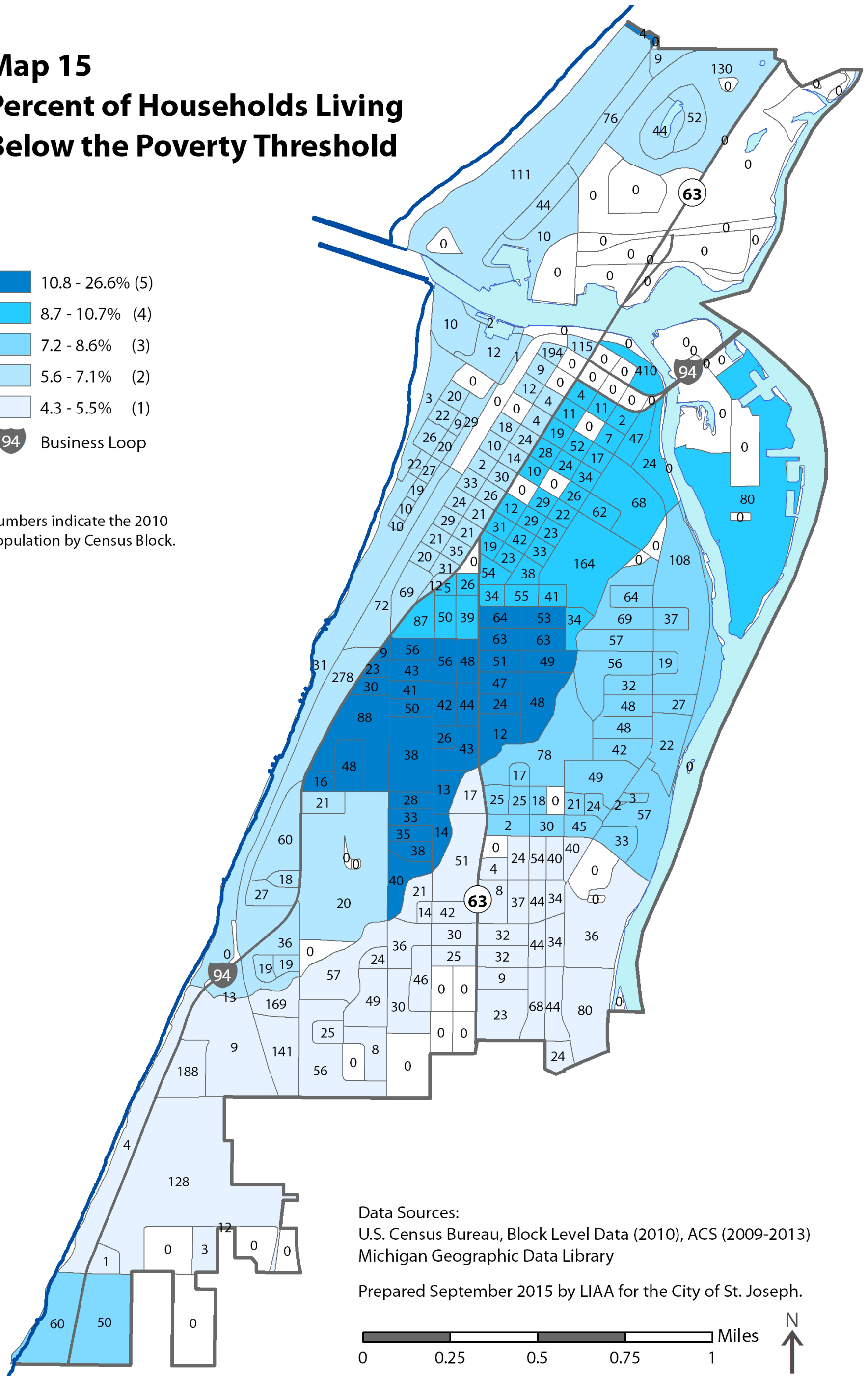


# Map 15

## Percent of Households Living Below the Poverty Threshold

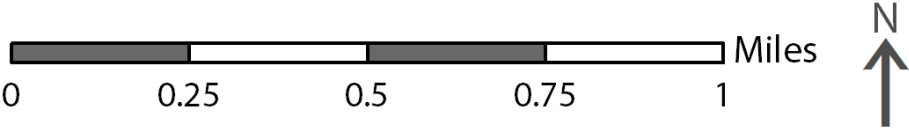


Numbers indicate the 2010 population by Census Block.



Data Sources:  
 U.S. Census Bureau, Block Level Data (2010), ACS (2009-2013)  
 Michigan Geographic Data Library

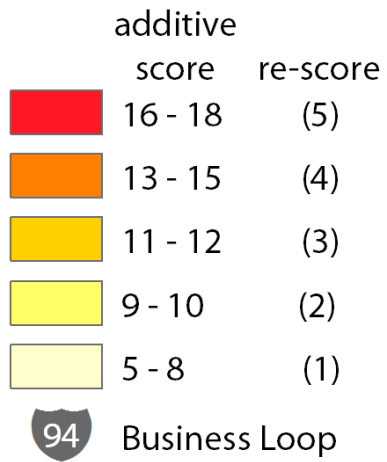
Prepared September 2015 by LIAA for the City of St. Joseph.



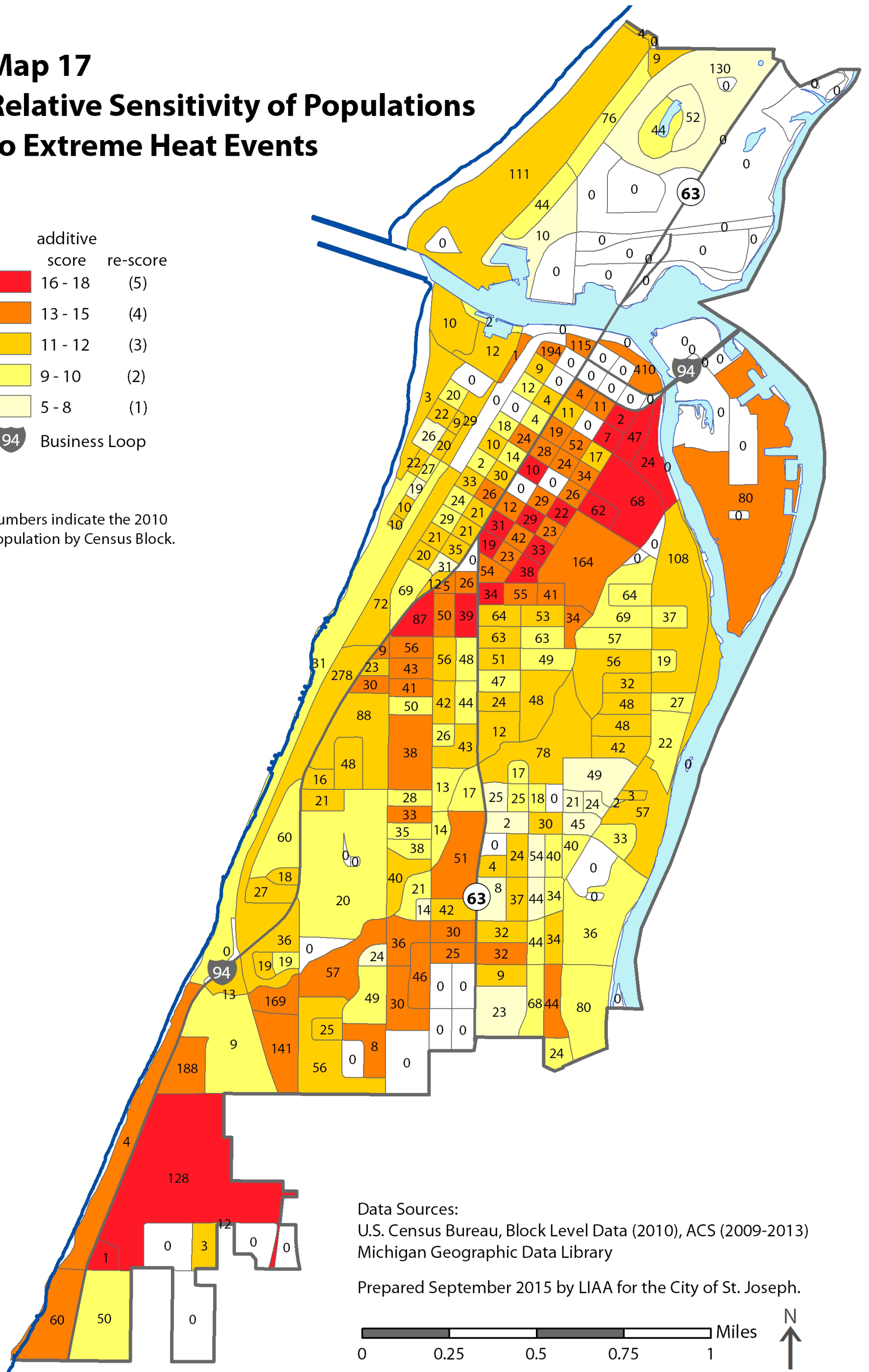


# Map 17

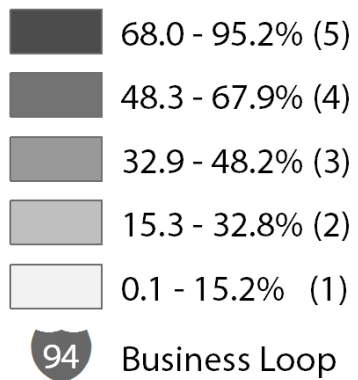
## Relative Sensitivity of Populations to Extreme Heat Events



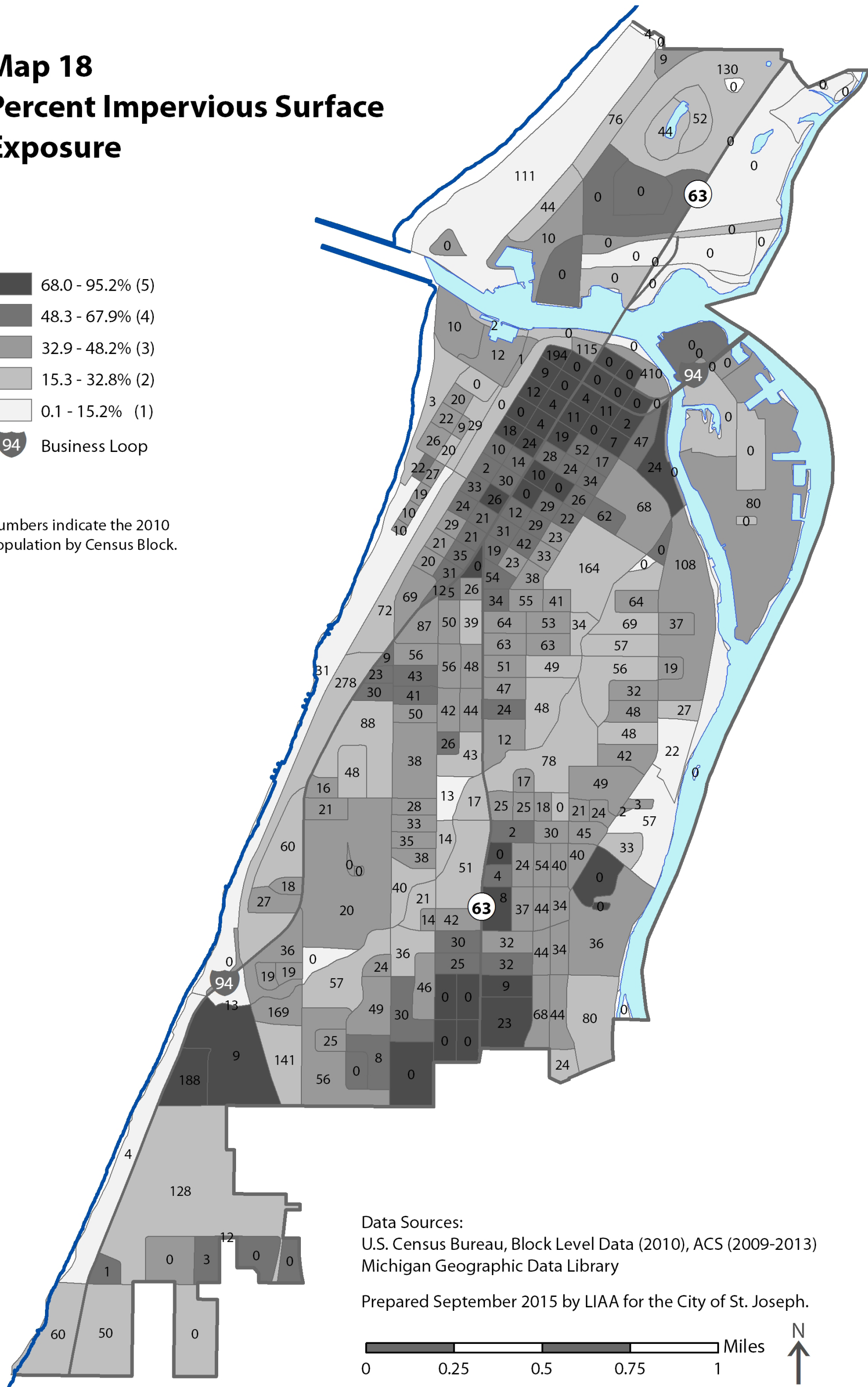
Numbers indicate the 2010 population by Census Block.



# Map 18 Percent Impervious Surface Exposure



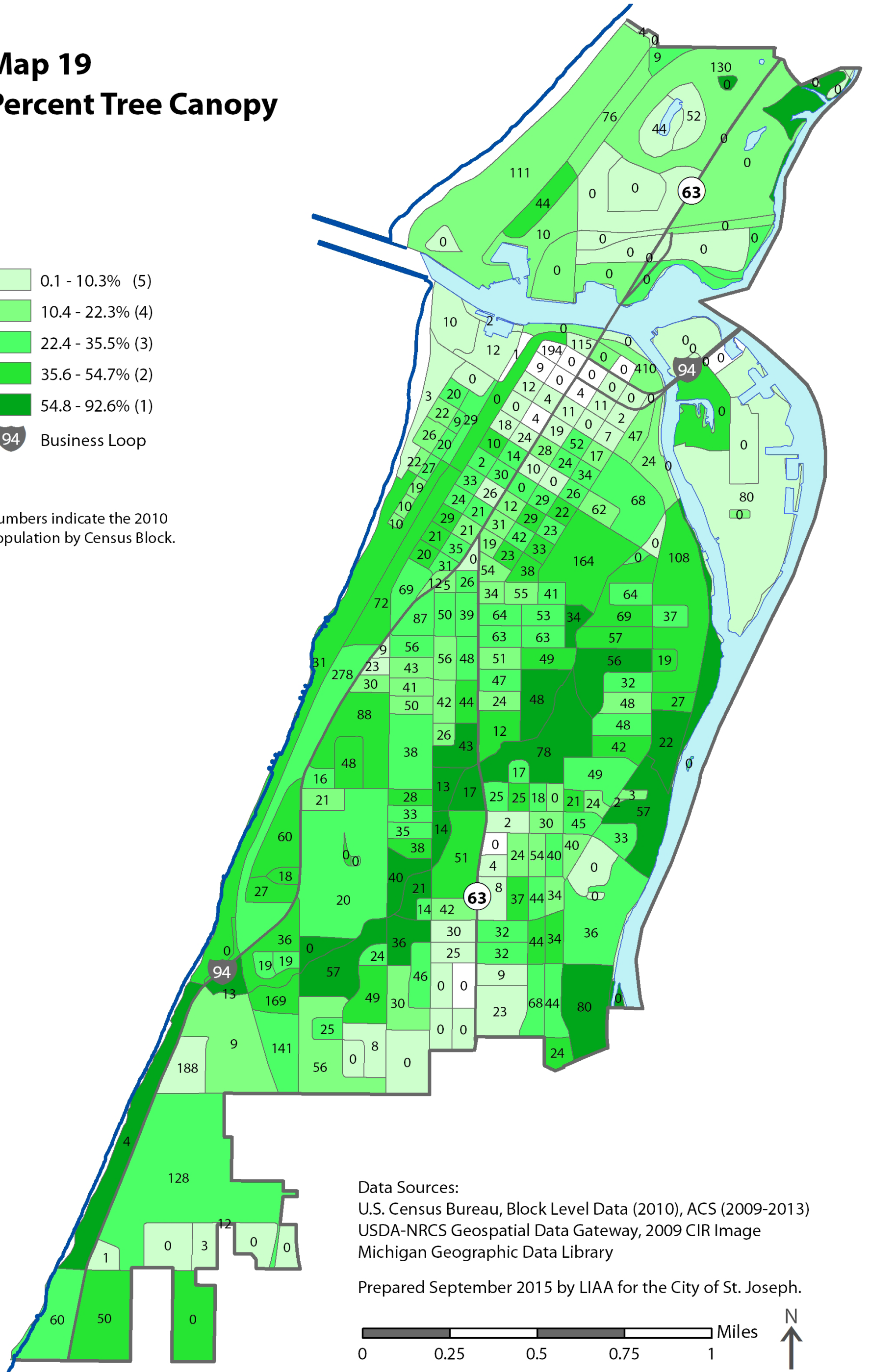
Numbers indicate the 2010 population by Census Block.



# Map 19 Percent Tree Canopy

- 0.1 - 10.3% (5)
  - 10.4 - 22.3% (4)
  - 22.4 - 35.5% (3)
  - 35.6 - 54.7% (2)
  - 54.8 - 92.6% (1)
- 94 Business Loop

Numbers indicate the 2010 population by Census Block.

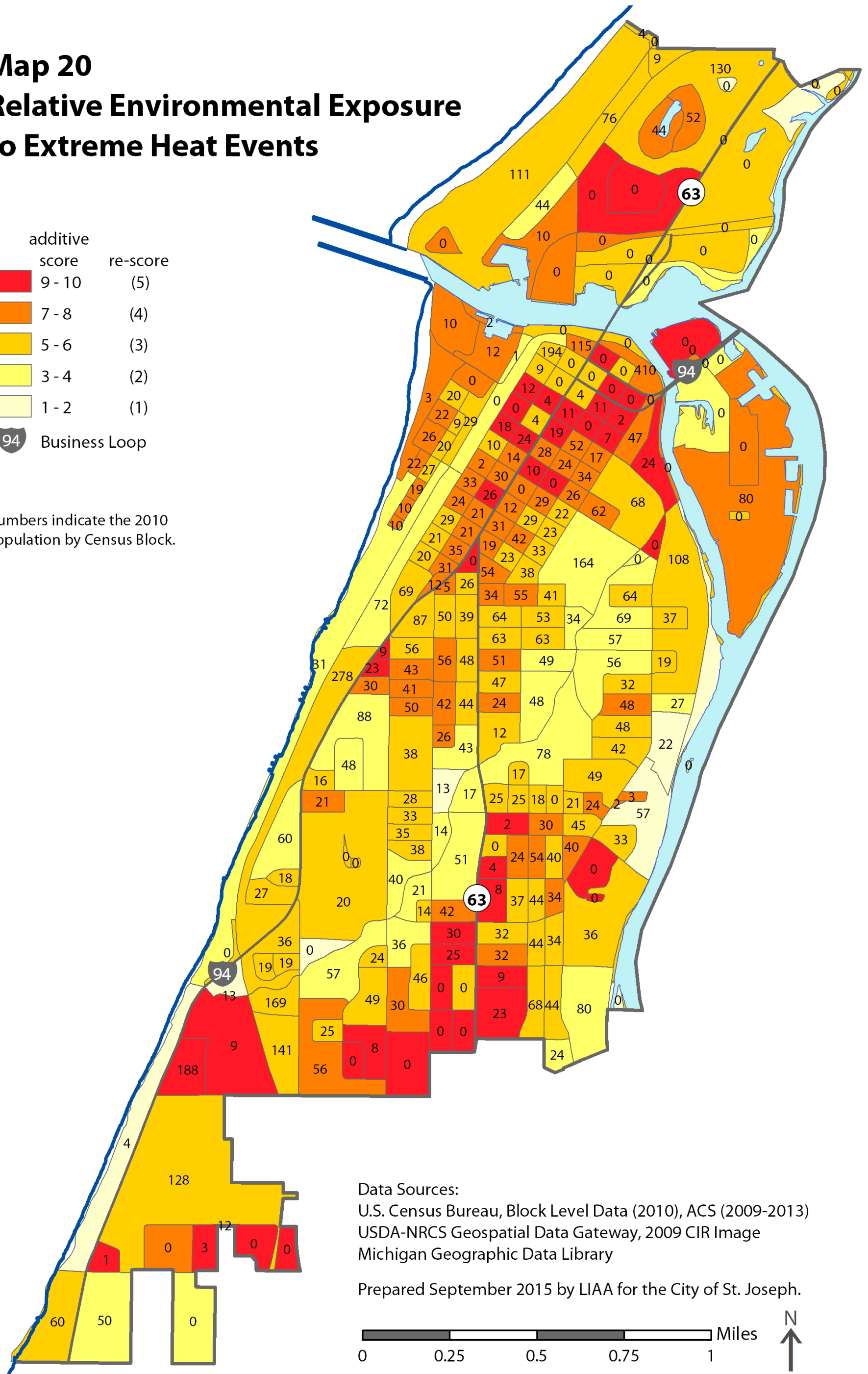




# Map 20 Relative Environmental Exposure to Extreme Heat Events

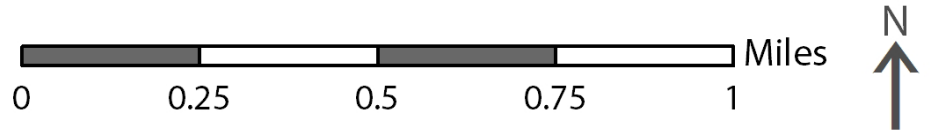


Numbers indicate the 2010 population by Census Block.

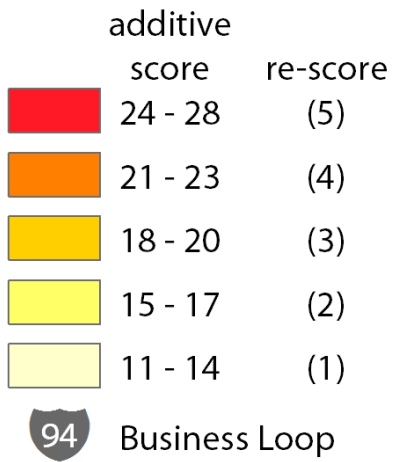


Data Sources:  
 U.S. Census Bureau, Block Level Data (2010), ACS (2009-2013)  
 USDA-NRCS Geospatial Data Gateway, 2009 CIR Image  
 Michigan Geographic Data Library

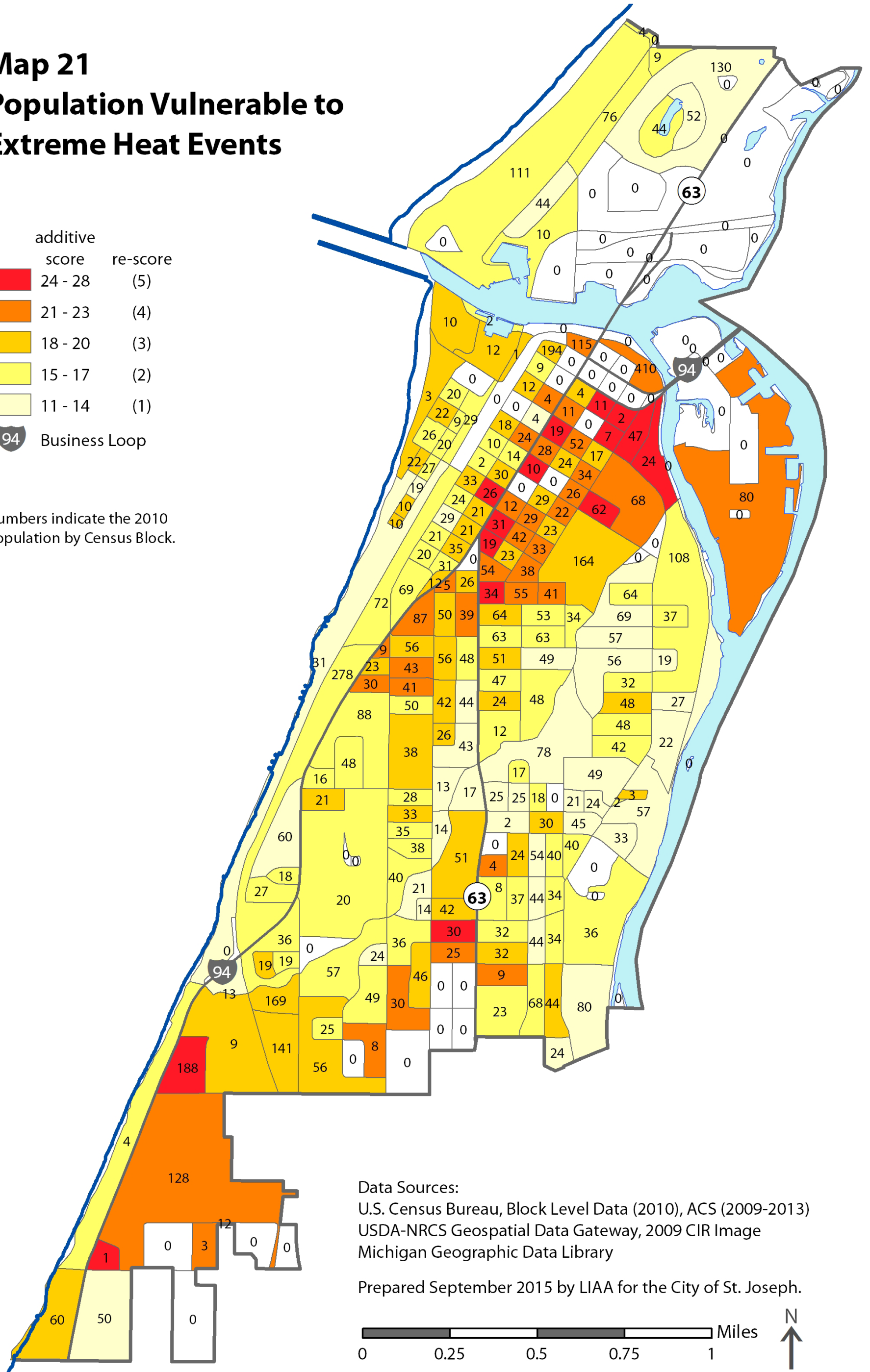
Prepared September 2015 by LIAA for the City of St. Joseph.



# Map 21 Population Vulnerable to Extreme Heat Events



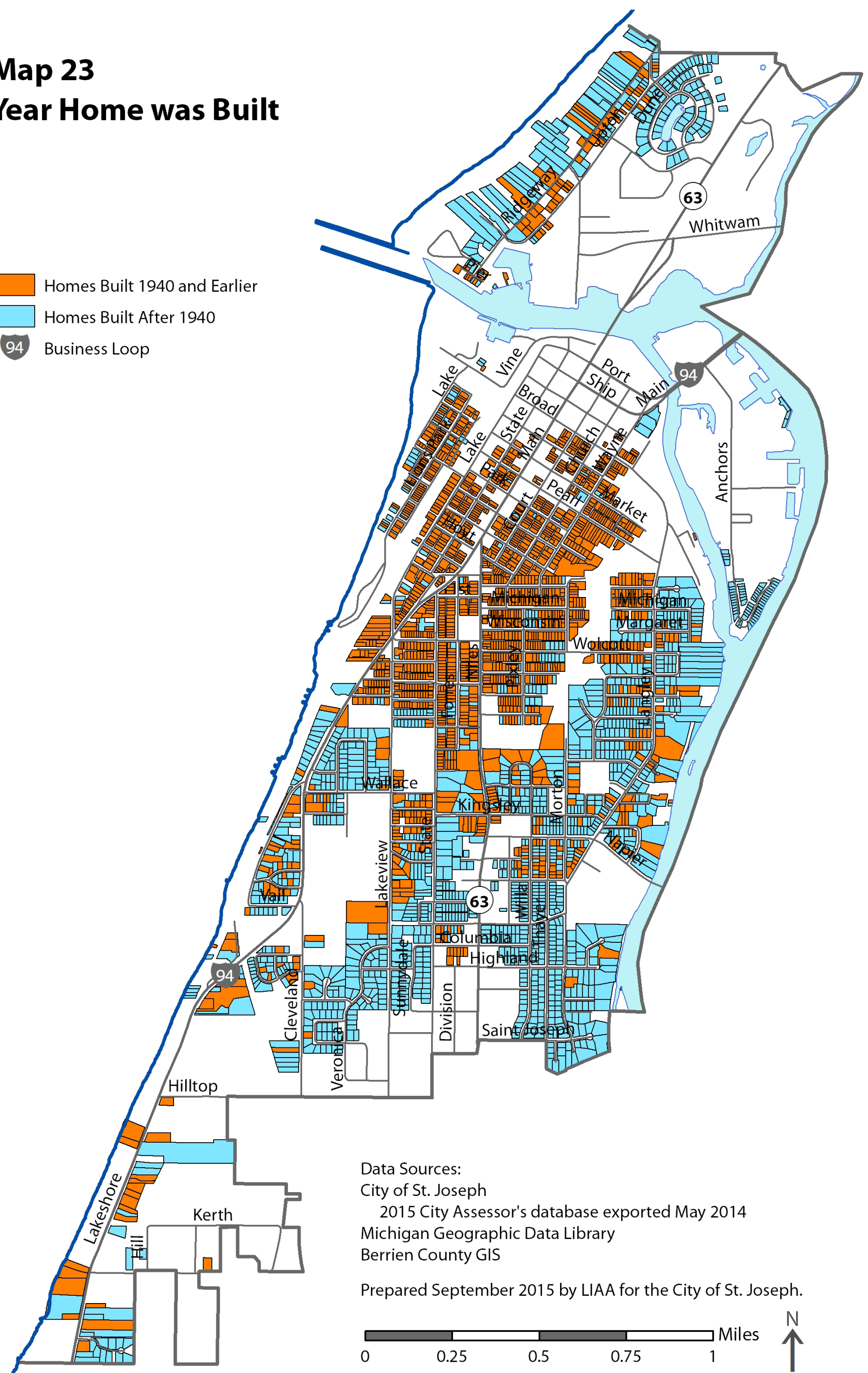
Numbers indicate the 2010 population by Census Block.





# Map 23 Year Home was Built

- Homes Built 1940 and Earlier
- Homes Built After 1940
- 94 Business Loop



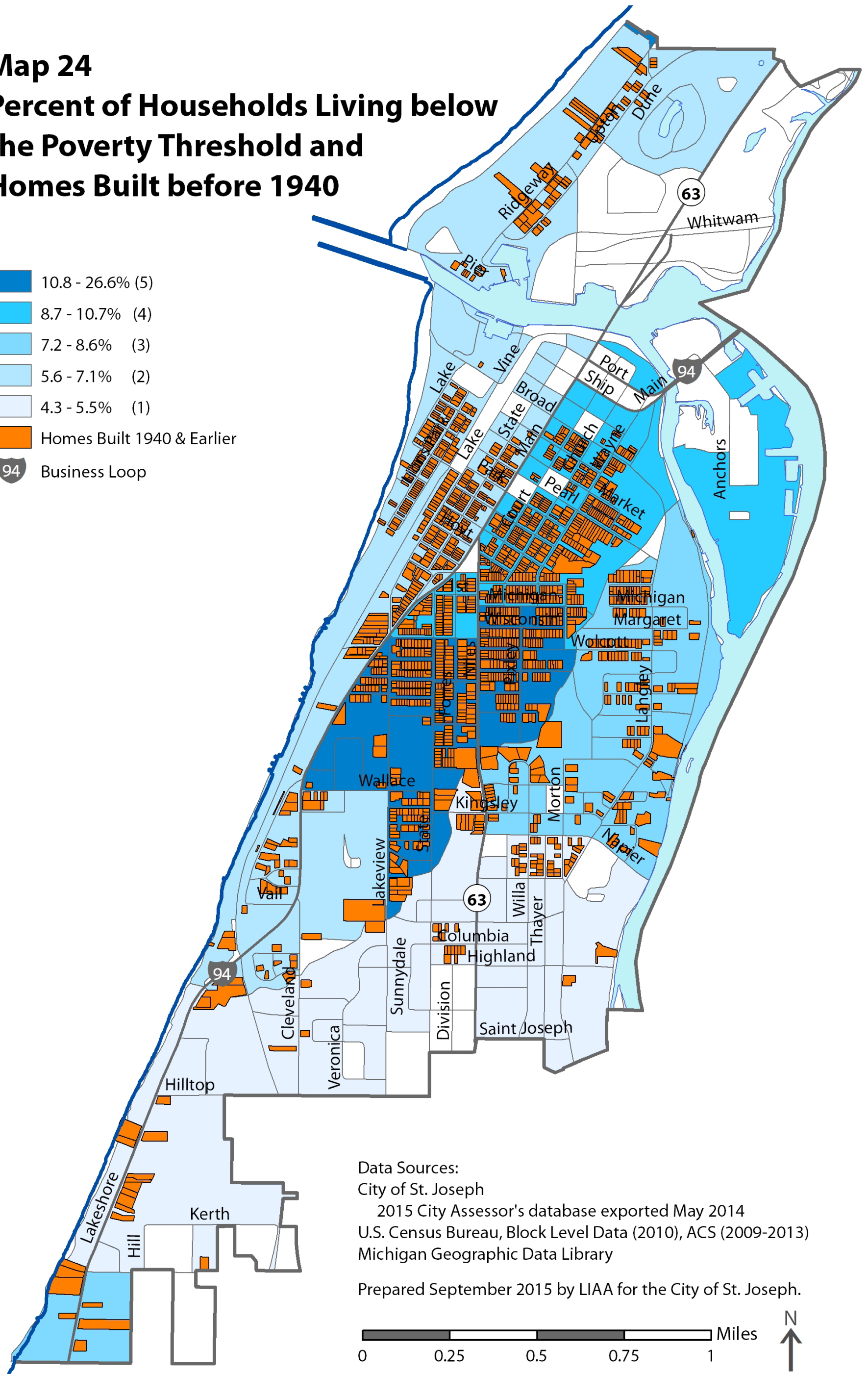
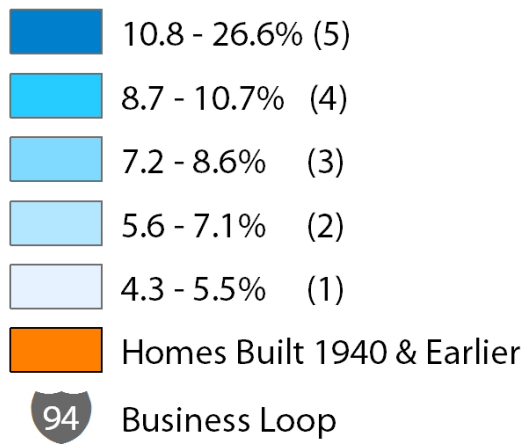
Data Sources:  
 City of St. Joseph  
 2015 City Assessor's database exported May 2014  
 Michigan Geographic Data Library  
 Berrien County GIS

Prepared September 2015 by LIAA for the City of St. Joseph.



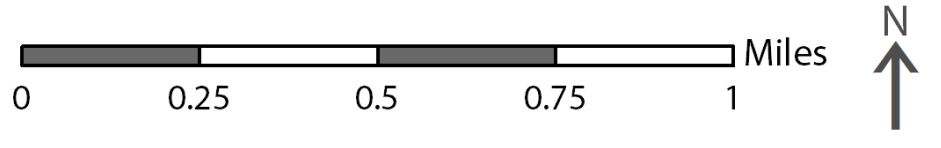
# Map 24

## Percent of Households Living below the Poverty Threshold and Homes Built before 1940



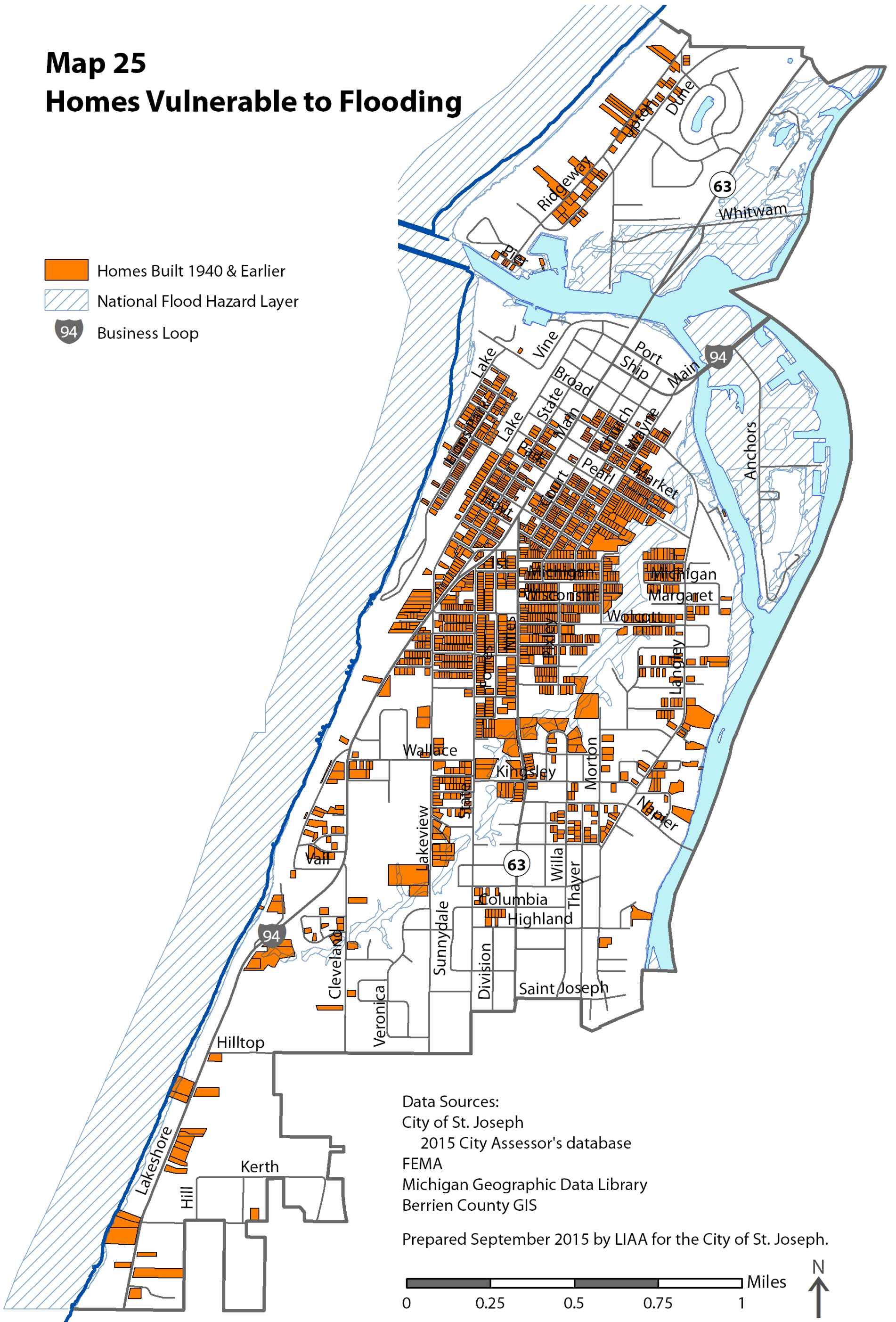
Data Sources:  
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 U.S. Census Bureau, Block Level Data (2010), ACS (2009-2013)  
 Michigan Geographic Data Library

Prepared September 2015 by LIAA for the City of St. Joseph.



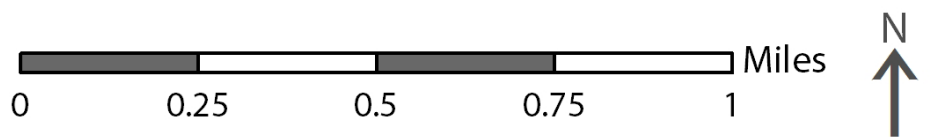
# Map 25 Homes Vulnerable to Flooding

- Homes Built 1940 & Earlier
- National Flood Hazard Layer
- 94 Business Loop



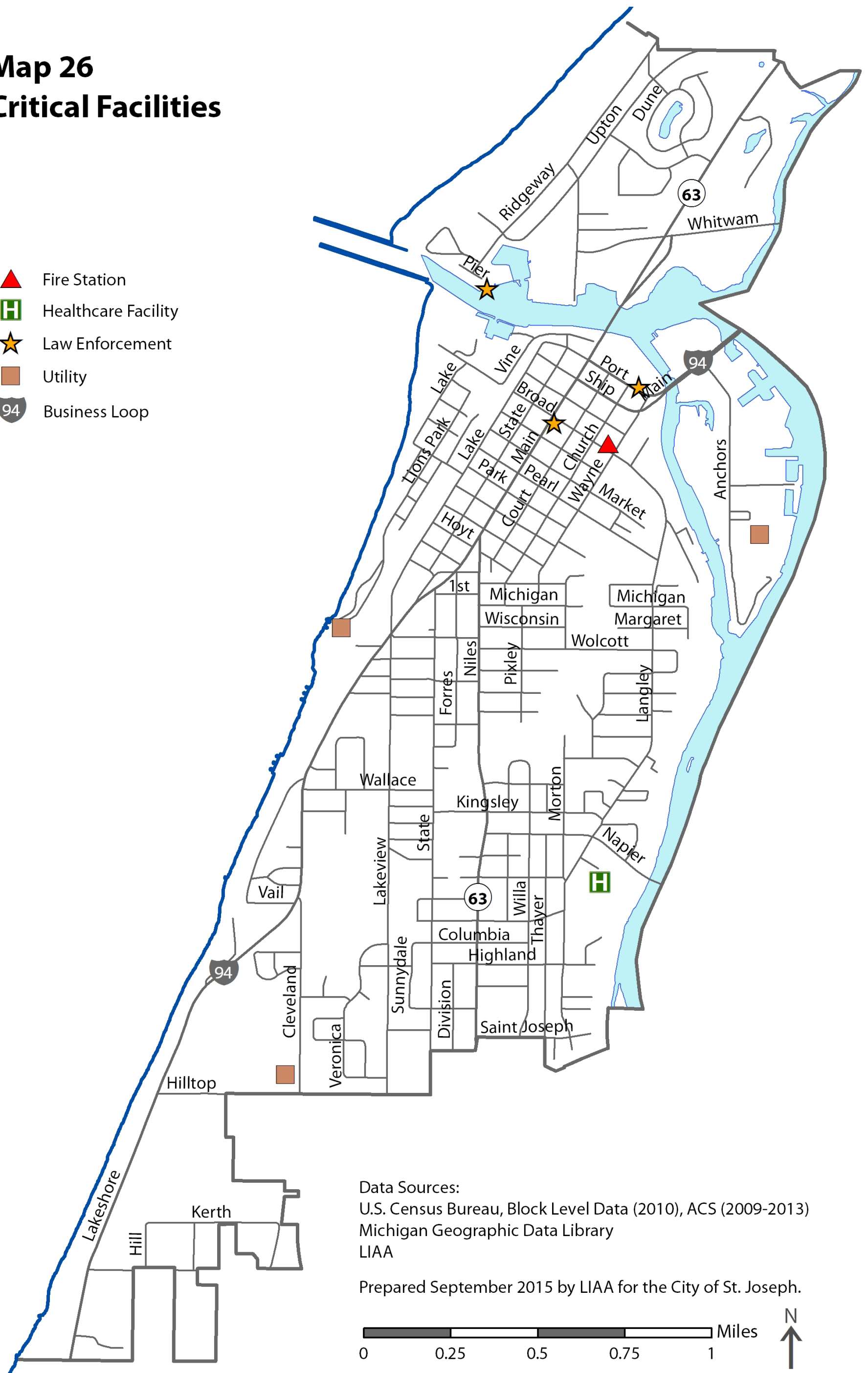
Data Sources:  
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 2015 City Assessor's database  
 FEMA  
 Michigan Geographic Data Library  
 Berrien County GIS

Prepared September 2015 by LIAA for the City of St. Joseph.



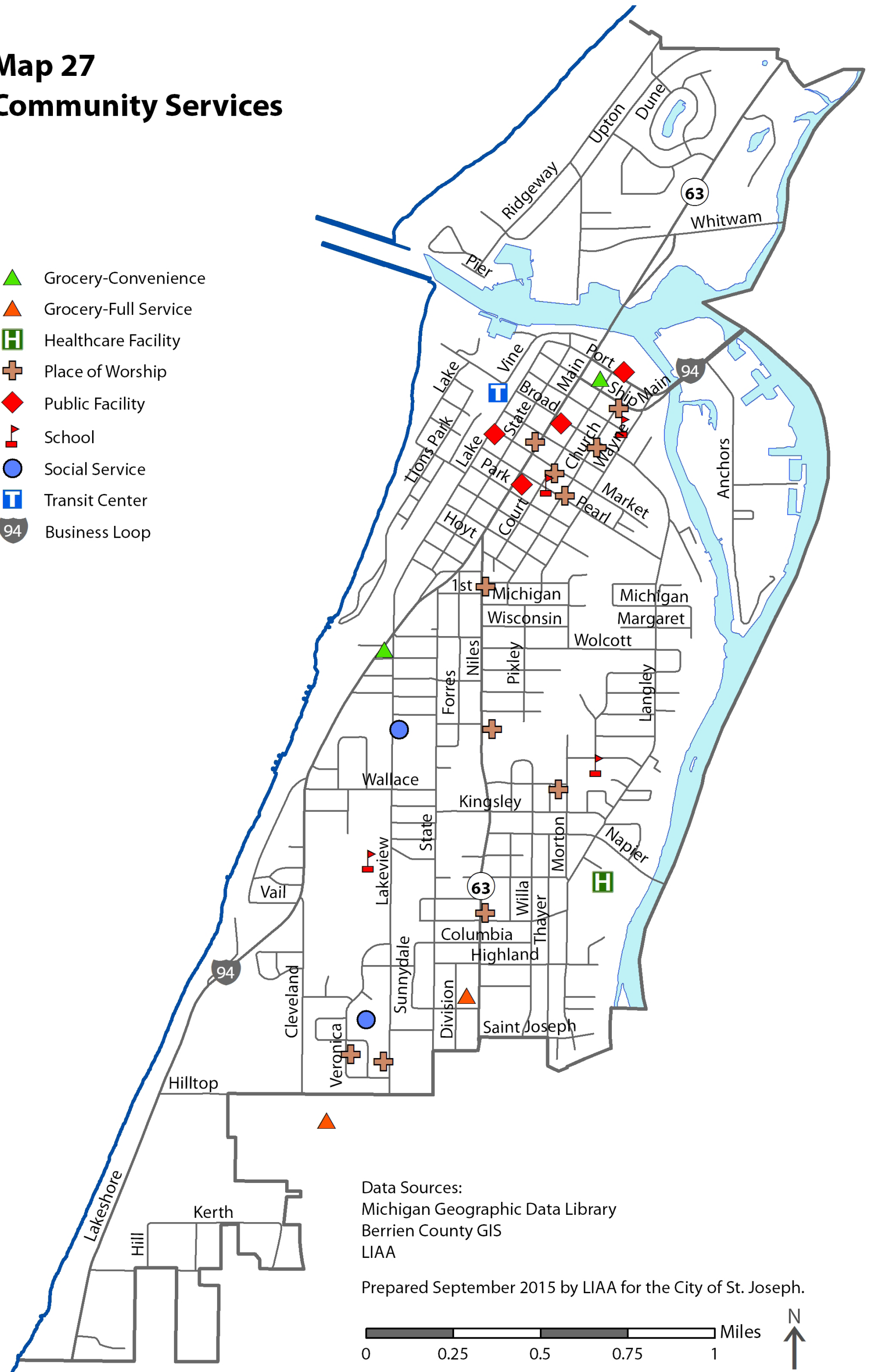
# Map 26 Critical Facilities

-  Fire Station
-  Healthcare Facility
-  Law Enforcement
-  Utility
-  Business Loop







# Map 27 Community Services

- ▲ Grocery-Convenience
- ▲ Grocery-Full Service
- H Healthcare Facility
- + Place of Worship
- ◆ Public Facility
- ▴ School
- Social Service
- T Transit Center
- 94 Business Loop





# Map 28 Food Availability

-  Grocery-Convenience
-  Grocery-Full Service
-  Full Service Grocery store (1 Mile radius)
-  Business Loop

