

MARQUETTE COUNTY 2040: YOUR COUNTY, YOUR PLAN.

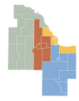
Our Common Future

A Master Plan for the County of Marquette

DRAFT

April 20, 2021

Prepared by the Marquette County Planning Commission and the
Marquette County Planning Division



Introduction

This plan is the first comprehensive re-write of the Marquette County Master Plan since 1982. It is a product of nearly two years of continuous input and engagement from the residents of Marquette County. This update brings the entire comprehensive plan into the 21st century, addressing the realities, problems, and opportunities that exist in 2021 which would have been unthinkable even a few years ago. It also attempts to answer the question that the Marquette County Planning staff posed to ourselves and to the thousands of County residents who engaged in this process:

"What do we want our Marquette County communities to be like in the year 2040?"

Plan Purpose

The county-wide Master Plan is pursuant to Public Act 33 of 2008, the Michigan Planning Enabling Act. This is a public policy document that can be integrated into the community master plans of local units of government to help achieve a common vision for the future of Marquette County over the next 20 years. The Master Plan will serve as a resource guide and foundation for local land use policies and a common source of data and information, aiming to help unify the County's many unique communities. The Plan reflects common themes and goals to enhance the current planning initiatives already underway at the



Look for this logo throughout the Plan to learn about Marquette County's Planning Division



Role of County Planning

Marquette County Planning, Community Development, Forestry, and Recreation is a division of the Resource Management and Development Department of the Marquette County government. In this Plan, it is referred to simply as the "Planning Division." The County Planning Commission and Planning Staff provide guidance to the rest of the County government on implementation of the Master Plan. They also assist with a wide variety of local and regional planning efforts in Marquette County, including community development, forestry and recreation.

County and in each community, and provide a general framework for local leaders and decision-makers.

Plans are a basis for zoning and support land use and zoning decisions made by municipalities. As noted in the Michigan Zoning Enabling Act, "Zoning shall be based on a plan." (MCL 125.3203(1)). Beyond use by municipalities within Marquette County for zoning and land use planning, the Marquette County 2040 Master Plan is intended to be referenced by organizations, businesses and non-profits in grant applications to help obtain funding to benefit the people, businesses, and communities of Marquette County.

Methodology

This Plan was created "in-house" by the Planning Division, with strong guidance from the Marquette County Master Plan Subcommittee and oversight by the full County Plan-

How to Read this Plan

The Master Plan is organized broadly by:

1. Introduction.....Page 1
2. Who we are & what we do.....Page 5
Demographics, economy, public health, arts & culture, recreation
3. Where we live.....Page 19
Environment & natural resources
4. How we live.....Page 30
Land use, housing, food access, energy, transportation
5. How we work together.....Page 51
Community services & infrastructure, Intergovernmental cooperation
6. 2040 Vision & how we'll get there.....Page 62
Vision, goals, & implementation strategies
7. References.....Page 75



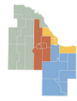
This symbol introduces the following topics that are highlighted throughout the Plan:

1. County Planning Division
2. Community Survey Snapshots
3. Planning Regions at a glance

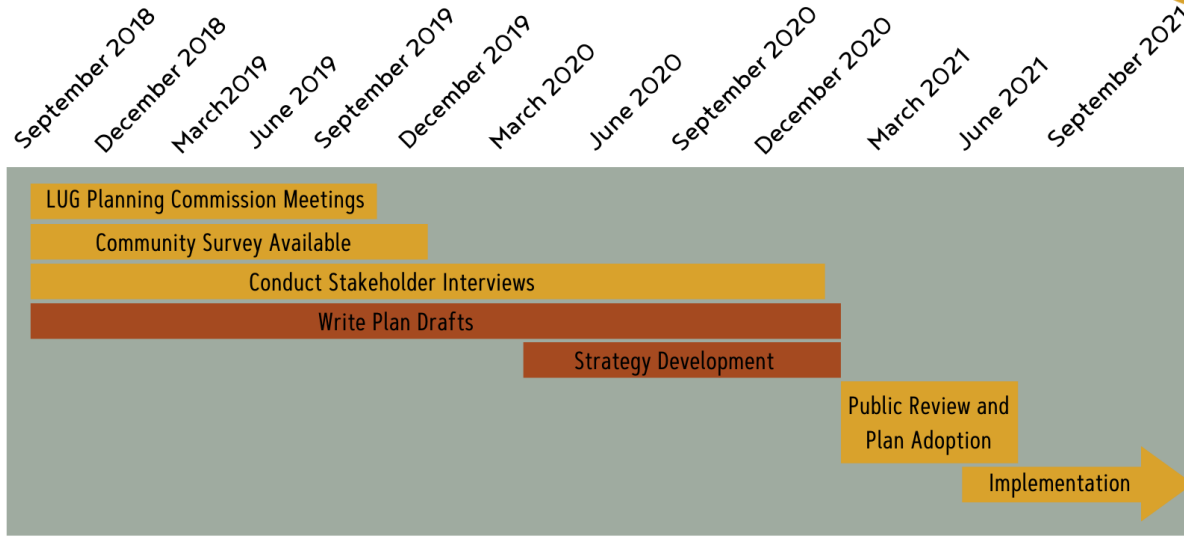
Sources are [hyperlinked](#) throughout this Plan.

Marquette County
2040 is not just this
document!





Look for Survey Snapshots throughout the Plan
to learn about findings from the Community Survey



ning Commission. An extensive public participation strategy was developed to ensure that the final Plan represented the complexity and diversity of communities in the County. For the purposes of this planning process, Marquette County was subdivided into four planning regions based on geographic and socioeconomic characteristics.

*This Plan is only as good as the public input
which forms its foundation.*

Public Participation Strategy

Before writing a single word of this plan, the Planning Division embarked on a public input gathering campaign of unprecedented scale with varying forms of

public participation to engage the largest possible number of County residents and stakeholders. A website was created to serve as the hub of the master planning process and included public participation information, community data, and a link to the community survey. A social media and email campaign called "Fun Fact Friday" was implemented to create dialogue and awareness of the master planning effort. A widely advertised community survey was made available for over a year. **Data-based fact sheets** for each local unit of government and each planning region were developed and used as a tool for analysis and dialogue. County planners also engaged Marquette County's local planning commissions to gather input from local planners and community leaders. At these meetings, members of the local planning body were asked the same series of questions and given an opportunity to describe specific issues and opportuni-

Introduction to the Community Survey

Survey Snapshots

3,053
Responses

Open
15 months

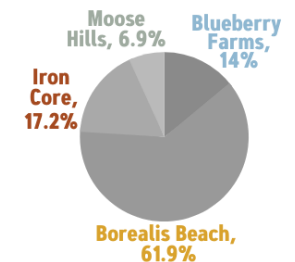
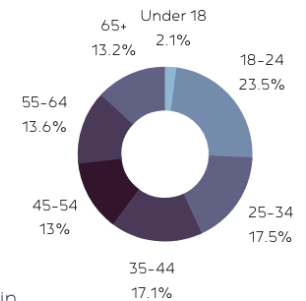
The survey alone represented a truly unprecedented level of public participation in a local planning process in the Upper Peninsula of Michigan.

- Available online
- Heavily publicized by the County, community partners, and residents
- Publicized via social media posts; posters displayed in public gathering places; links on many municipal websites; and in-person promotion by County planners at public meetings and events.
- Statistically valid and representative of all demographics in Marquette County, including hard-to-reach populations such as residents of both high-poverty and extremely rural communities.

37% of survey respondents in the City of Marquette* were age 18-24

vs. **23%** in the County as a whole

*location of NMU's campus



Community Survey data cited and highlighted in this Plan include both:

- quantitative information, like hard public opinion data, and
- more subjective but equally important qualitative data, like quotes from free response questions in the survey.

ties in their community. Their relationships and partnerships with other municipal governments and the County government were also discussed. Throughout the process, dozens of stakeholder interviews with representatives of various local organizations, businesses, and government entities were also conducted.

Planning Regions Concept

The planning regions concept was developed and implemented to address the distinctive challenges of creating a purposeful county-wide master plan for Marquette County. Marquette County's large geographic presence, numerous municipalities within its boundary, varying geo-

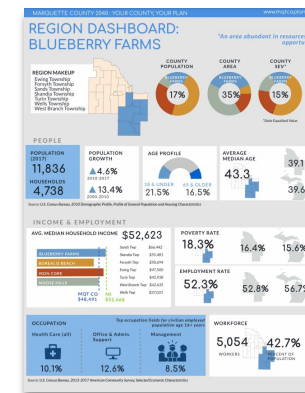
Look for this four colored box throughout the Plan to learn about the Planning Regions



raphy, and rural-urban spectrum are examples of how a “one size” plan does not fit all. A guiding principle to this concept was the acknowledgement that although there are similarities, communities throughout Marquette County are also unique and the same is true to the issues and opportunities they face. Subdividing the County into four planning regions allowed for the planning process to take a deeper focus within Marquette County with a goal of having region-specific data and strategies that comple-

Online Dashboard

The online Dashboard provides a wide range of additional data related to the Marquette County 2040 Master Plan. It is designed to provide a statistical snapshot of the current situation in Marquette County, including data on the County's population, the local economy, housing, community services and assets, and a wide range of other topics. The dashboard is interactive and can be sorted by the four planning regions.



Introduction to the Four Planning Regions of Marquette County

MOOSE HILLS REGION

The western gateway of Marquette County, Moose Hills is home to many beautiful inland lakes and pristine woodlands and wetlands, and it boasts many miles of Lake Superior shoreline. It is the largest region by land area but also the least populous, dotted with only a few small communities and containing more “camps” and seasonal homes than permanent residences. In the next 20 years, Moose Hills will significantly benefit from managing the impacts of increased seasonal homeownership and tourism, while also diversifying the local economy and improving the quality of services available to local residents.

Champion, Ely, Humboldt, Michigamme,
Powell, & Republic Twps.

Chocolay & Marquette Twps.
and City of Marquette

and City of Marquette A vibrant populous region that is still close to nature, Borealis Beach is defined by its location along the south shore of Lake Superior, with its beautiful beaches, marinas, public lands, and iconic ore docks. Marquette is the County seat and the largest town in the U.P., and has many of the assets of a much larger city, including Northern Michigan University, a regional hospital, an extensive park system, retail, and a thriving downtown. In the next two decades, the region will significantly benefit from managing growing pains, including increased tourism and shortages of family-sustaining jobs and affordable housing.

BOREALIS BEACH REGION

IRON CORE REGION

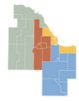
The Iron Core's rich iron ore mining heritage and historic neighborhoods contribute to the rugged, resilient small-town character of this region. Ishpeming and Negaunee are proud American Heartland communities that contain most of the Iron Core's population, but they have struggled in recent years with population loss, the Empire Mine closure in 2016, and residential and downtown blight. In the next two decades, Iron Core will significantly benefit from continued revitalizing of its neighborhoods and downtown districts, meeting the evolving needs of its population, and capitalizing on local, national, and global trends to create opportunity for the next generation.

Cities of Ishpeming & Negaunee and
Ishpeming, Negaunee, Richmond & Tilden Twps.

Ewing, Forsyth, Sands, Skandia,
Turin, Wells, & West Branch Twps.

BLUEBERRY FARMS REGION

Turin, Wells, & West Branch Twps. Abundant in resources, land, and opportunity, Blueberry Farms is a rural region founded on a natural resource based economy that included forestry, mining, and agriculture. The closure of the K.I. Sawyer Air Force Base has resulted in a unique set of challenges and opportunities that the region continues to navigate 25 years post closure. In the next 20 years, Blueberry Farms will significantly benefit from finding a way to meet the needs of all its residents and using its natural assets to generate sustainable, equitable growth.



ment the county as a whole.

Changes due to the COVID-19 Pandemic

The public participation plan had originally included "Region Rallies," large, in-person community input sessions to be held at non-governmental public gathering spaces, with the goal of drawing at least 50 community members to each Region Rally. The Region Rallies were scheduled for the spring and summer of 2020, but were cancelled due to the COVID-19 pandemic. Public participation after the cancellation of the Region Rallies moved to virtual engagement through digital meetings, social media and an e-mail list serve. Fortunately, an extensive amount of input had already been gathered prior to the pandemic.

Finally, public participation will not end with the adoption of this plan - it will be an ongoing process that continues throughout the next 20 years. The Planning Division received a grant from the Marquette County Community Foundation to fund the public participation and implementation components of the 2040 Master Plan. Small grants will be awarded to help fund projects and programs in each of Marquette County's four planning Regions which are attempting to address problems or implement ideas identified in this Plan.

Acknowledgements

A special thank you to the Community Foundation of Marquette County, the Keweenaw Bay Indian Community and the Sault Ste. Marie Tribe of Chippewa Indians for their monetary grant support of this endeavor.

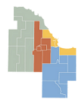


Many partners and local and regional stakeholders added valuable content and connections to catalyze this plan into the implementation of its contents.

Thank you to the following public bodies for open dialogue and support in engaging the community throughout the planning process.

- ⇒ City of Ishpeming Planning Commission
- ⇒ City of Marquette Planning Commission
- ⇒ City of Negaunee Planning Commission
- ⇒ Champion Township Planning Commission
- ⇒ Chocolay Township Planning Commission
- ⇒ Ely Township Planning Commission
- ⇒ Ewing Township Board
- ⇒ Forsyth Township Planning Commission
- ⇒ Humboldt Township Planning Commission
- ⇒ Ishpeming Township Planning Commission
- ⇒ Michigamme Township Planning Commission
- ⇒ Negaunee Township Planning Commission
- ⇒ Powell Township Planning Commission
- ⇒ Republic Township Planning Commission
- ⇒ Richmond Township Planning Commission
- ⇒ Sands Township Planning Commission
- ⇒ Skandia Township Planning Commission
- ⇒ Tilden Township Planning Commission
- ⇒ Turin Township Board
- ⇒ Wells Township Planning Commission
- ⇒ West Branch Township Planning Commission
- ⇒ Sawyer Community Alliance (SCA)

Many thanks are due to the thousands of Marquette County residents who helped create this plan – without them, this task would have been impossible. The vision they articulated for Marquette County's future is ambitious and inspiring, and if local policymakers are willing to put this plan into action, that vision can become a reality. As you read this plan, we would ask you to decide for yourself: What do you want Marquette County to be like twenty years from now?

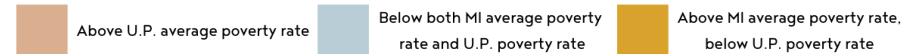


Demographics

According to the [2018 American Community Survey \(ACS\) 5-Year Estimates](#), which are the primary demographic data source throughout this section, the Upper Peninsula has a population of 303,802, down 2.4% from the 2010 U.S. Census. This is comparable to the 1.9% population decline the U.P. saw from 2000-2010. Marquette County's population peaked at 74,101 in 1980, experienced a sharp decline of nearly 7,000 from 1990-2000, due mostly to the closure of K.I. Sawyer Air Force Base in 1995, and has since recovered to its current level of 66,939. In fact, Marquette County's population has stagnated at about 67,000 since 2010, despite the fact that Marquette County was the only county in the U.P. to experience population growth (+3.8%) from 2000-2010. Populations in the rest of the U.P. have also declined or stagnated over the past two decades, with an estimated population loss of 1.8% from 2000-2010 and 2.4% across the U.P. since 2010.

Population characteristics by U.P. county

County	Population	Under 18	65 & Over	Black	American Indian	Poverty Rate
Alger	9,194	15.2%	24.3%	7.7%	6.6%	11.6%
Baraga	8,507	18.2%	20.8%	10.6%	14.9%	16.4%
Chippewa	37,834	18.6%	17.0%	8.1%	20.0%	18.5%
Delta	36,190	20.0%	22.7%	0.9%	4.2%	13.3%
Dickinson	25,570	20.0%	21.4%	0.9%	1.6%	13.3%
Gogebic	15,414	15.5%	24.6%	4.8%	3.8%	18.1%
Houghton	36,360	20.2%	16.6%	1.4%	1.5%	20.9%
Iron	11,212	16.2%	29.5%	0.9%	2.1%	14.0%
Keweenaw	2,130	15.9%	33.4%	2.0%	0.5%	12.0%
Luce	6,364	16.6%	20.8%	8.5%	11.1%	16.6%
Mackinac	10,817	16.2%	26.6%	3.4%	20.9%	15.9%
Marquette	66,939	18.1%	17.8%	2.3%	3.1%	11.4%
Menominee	23,234	18.8%	22.9%	1.0%	3.7%	12.8%
Ontonagon	5,968	12.6%	34.3%	0.6%	2.7%	15.3%
Schoolcraft	8,069	17.8%	25.7%	1.0%	11.7%	20.5%
U.P. TOTALS	303,802 (3.1% of MI)	18.3%	20.9%	3.1%	6.5%	15.1%
Michigan Totals	9,957,488	22.1%	16.3%	15.2%	1.5%	13.0%



Demographics Characteristics by Planning Region

MOOSE HILLS REGION

POPULATION GROWTH

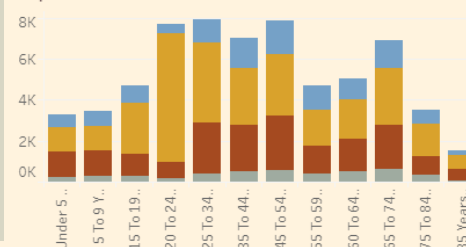
▼ -7.8%
2010-2017

▼ -0.9%
2000-2010

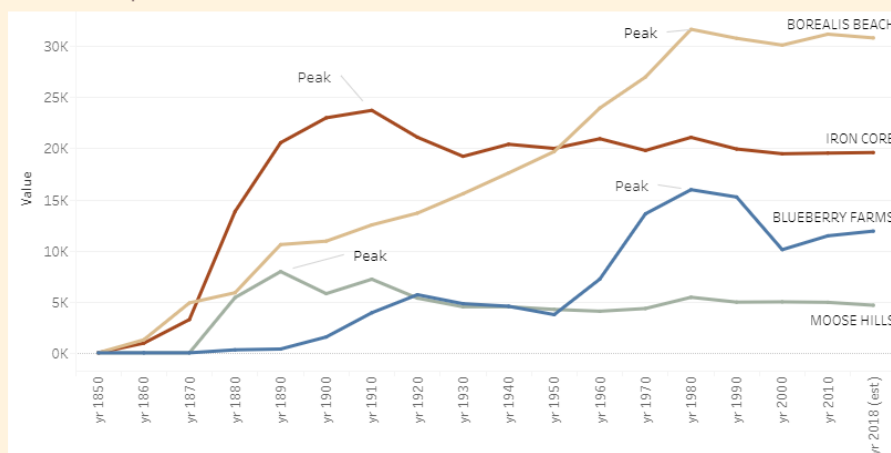
8%

Of County Population

Population Distribution



Historic Population



IRON CORE REGION

POPULATION GROWTH

▲ 0.5%
2010-2017

▲ 0.3%
2000-2010

29%

Of County Population

BOREALIS BEACH REGION

POPULATION GROWTH

▼ -0.6%
2010-2017

▲ 3.5%
2000-2010

46%

Of County Population

BLUEBERRY FARMS REGION

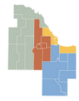
POPULATION GROWTH

▲ 4.6%
2010-2017

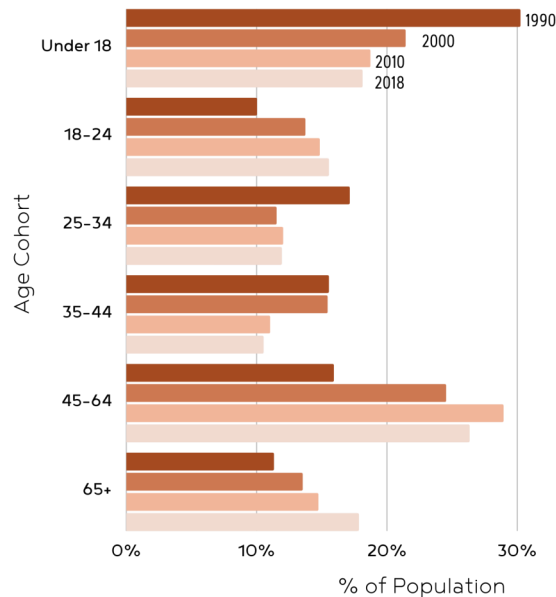
▲ 13.4%
2000-2010

17%

Of County Population



Gross population loss in Marquette County occurred mainly among younger age cohorts from 2000-2010, since 2010 these younger age cohorts have remained relatively stable both in terms of raw numbers and share of the total population. This stabilization of the young population has occurred even as the “Baby Boom” generation has aged, increasing Marquette County’s senior population (ages 65+) by 21% from 2010 to 2018. Marquette County and the U.P. are “graying,” with the elderly making up an increasing percent-

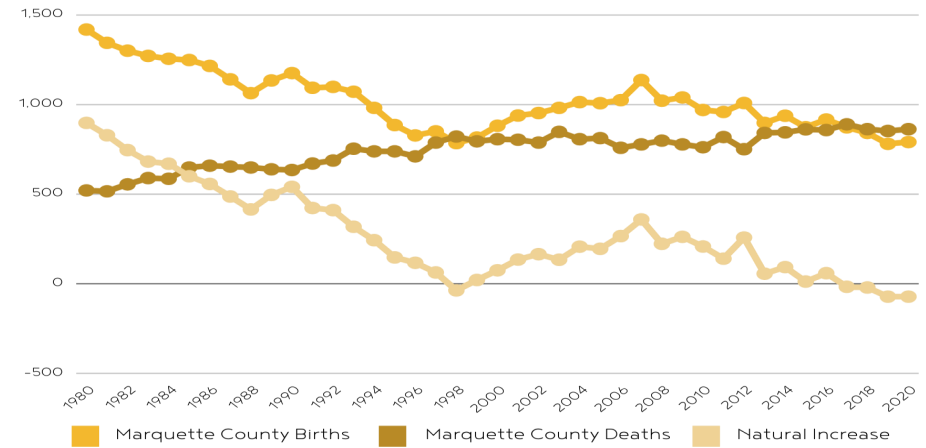


Historic population by age cohort, Marquette County

age of our population. It is also still possible to mitigate this “graying” trend by attracting and retaining more young people – in fact, according to the 2018 ACS 5-Year Estimates, in 2018 Marquette County still had slightly more residents under the age of 18 (12,124 or 18.1%) than residents age 65 or older (11,904 or 17.8%), and as previously mentioned, the median age actually declined from 2010-2018. How Marquette

County can achieve this goal of attracting and retaining more Millennial and Generation Z residents will be a major focus of this Plan.

Population loss in Marquette County occurred mainly among the Under 18 and 25-34 age cohorts (i.e., those age cohorts most likely to be part of a family with children) from 1990-2010. The large population decline during this period was primarily due to the closure of K.I. Sawyer Air Force Base in 1995. This base closure disproportionately impacted younger people whose families and livelihoods depended on the base. However, since 2010 these younger age cohorts have stabilized both in terms of raw numbers and share of the total population. This stabilization of the young population has occurred even as the “Baby Boom” genera-

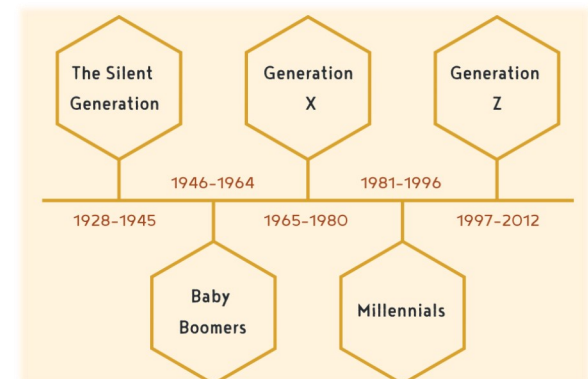


Births, deaths, and natural increase, Marquette County

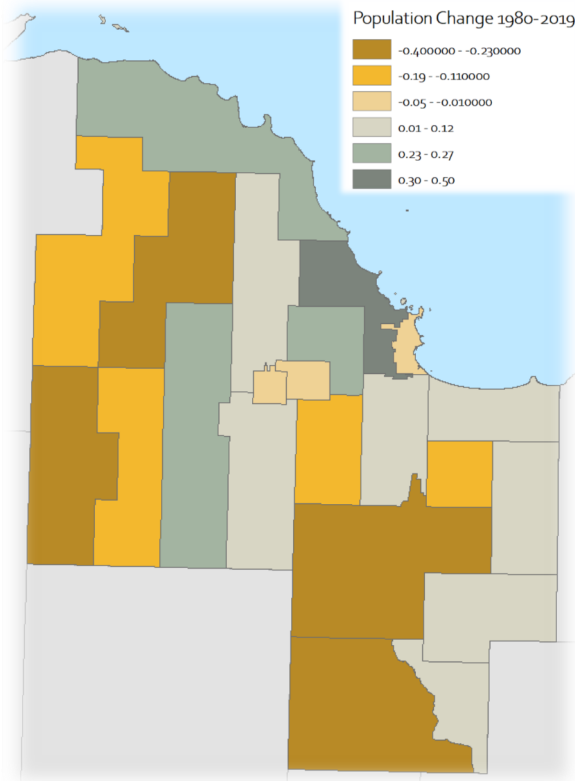
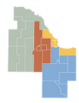
tion has aged – from 2010-2018, Marquette County’s senior population (ages 65+) increased by 21%, but in the same time period Marquette County’s median age actually declined slightly after increasing rapidly from 1990-2010.

Within Marquette County, there have been variations in this overall demographic pattern. Marquette and Negaunee Townships have experienced modest population growth since 1980 while the County as a whole has experienced a

Generational names timeline

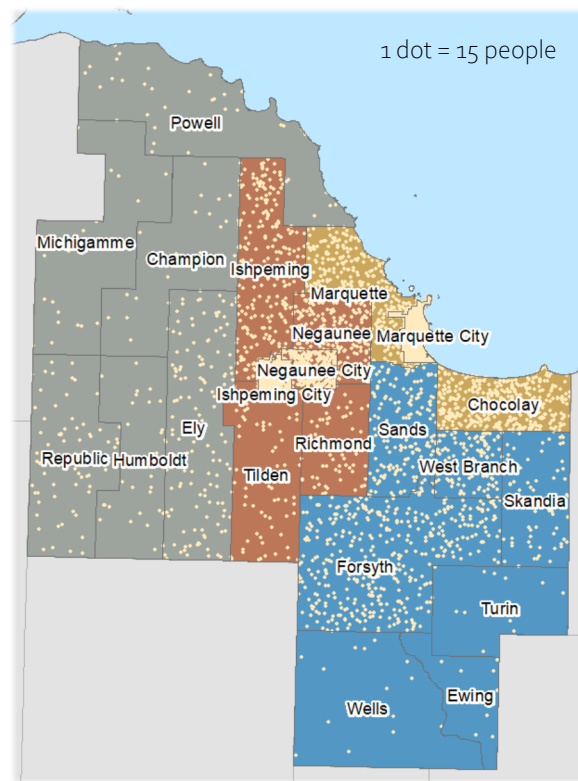


Census Bureau population estimates for the City of Marquette and Marquette County include the prison population. Marquette County is home to the Marquette Branch Prison, a Level I and Level V state prison which housed 981 inmates as of October 2020. the presence of the Marquette Branch Prison in the City of Marquette likely has impacts on local demand for housing and social services, due to prisoners’ families and recent parolees potentially residing in the county, either permanently or temporarily. However, the extent of these impacts is unknown and difficult to quantify.



Percent population change by municipality, 1980-2019

10% population decline from 1980-2017. The City of Negaunee has seen a recent influx of families with young children that has kept its median age relatively low compared to most other parts of Marquette County – in fact, the City of Negaunee’s median age has declined from about 40 years old in the 2000 and 2010 U.S. Censuses to just 36 years old as of 2018, a major shift in less than a decade that was driven primarily by in-migration among 25-34 year-olds and children under 5 years old. Meanwhile, since the 2000 U.S. Census the City of Marquette has experienced a 19.4% decline in the number of “family households,” a staggering 23.2% decline in the number of children under 5, and a similar 22.4% decline in the number of children ages 5-9, with



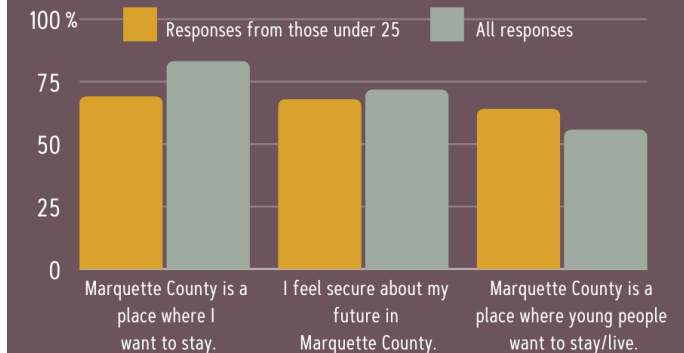
Population distribution, Marquette County

the bulk of the decline in families and the under-5 population coming since 2010. Both of these trends are probably due to rapidly rising housing costs in Marquette and an ample supply of decent, affordable homes in Negaunee. In Marquette County as a whole, not only are increasing numbers of people entering retirement age, but the mortality rate surpassed the birth rate for the first time ever in 2017. A declining birth rate means that there will be fewer working-age residents to replace retirees in the workforce, fund public services through taxes, and provide services and care for seniors.

Demographics and the Economy

Demographic trends represent the greatest current threat to Marquette County’s economic well-being, as Marquette County’s economic future is intimately tied to its demographics. Three of the County’s major employers - Northern Michigan University, public school districts, and UPHS Marquette - are directly affected by changes in the age structure of the local population. Attracting new residents and retaining young people who grow up here or come here to get an education will be crucial to Marquette County’s long-term economic prosperity over the next twenty years.

Survey Snapshot

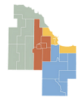


Population

Distribution

Marquette County is home to three incorporated cities (Ishpeming, Marquette, and Negaunee) and 19 townships. The dot density map shows population distribution throughout Marquette County.

“Young people like me want to stay here, but most of us are on limited incomes and need affordable housing options and decent, middle-class jobs...” *-Borealis Beach*



Economy

Marquette County faced major job losses and declines in local industry and tax revenue, as the Empire Mine closure in 2016 (a loss of more than 400 jobs) was followed by the closure of the Presque Isle Power Plant in 2019 (a loss of about 150 jobs). Like many other communities across the country, Marquette County has also lost hundreds of jobs



Federal Reserve Bank of St. Louis,
Bureau of Economic Analysis

to big-box retail closures of Shopko, Best Buy, and many anchor businesses at the Westwood Mall in Marquette. Additional concerns lie ahead, as Marquette County remains vulnerable to concerning long-term economic and demographic trends.

Overview of Economic Sectors

Marquette County experienced very little economic growth from 2016-2018, with a cumulative increase in local GDP of only 1% over those 3 years – in fact, Marquette County ranked 78th out of 83 counties in Michigan in GDP growth over this time period.

Marquette County's economy, while more diversified than other Upper Peninsula economies, is still largely concentrated in just a few industries, with government services (including public education), health care, and mining being the three most important.

"Mining, forestry, and agriculture are our history and our future. They must continue to be encouraged."

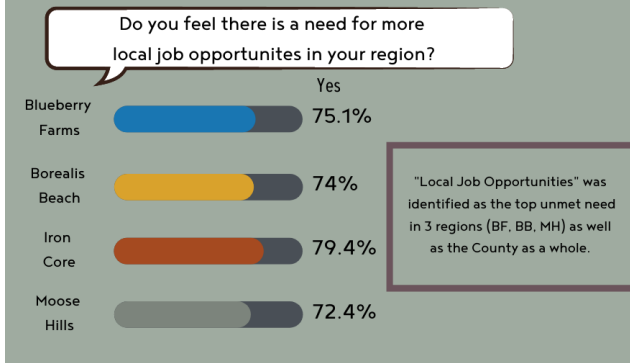
–Blueberry Farms



Mining

Mining has long been a mainstay of the Marquette County economy. Its impact on the county, while still significant, has diminished over time. Until recently, Cleveland-Cliffs Inc. operated two iron ore mines in Marquette County, the Empire Mine and the Tilden Mine. These open-pit mines represent a change from the historic underground mines throughout the Marquette Iron Range. The Empire Mine in Richmond Township employed more than 400 workers

Survey Snapshot



and had an annual capacity of 5.5 million tons in 2010, but just a few years later profitable iron ore reserves had been depleted and the mine was closed in 2016. In contrast, the Tilden Mine, located nearby in Tilden Township, employs nearly 1,000 workers, has an annual capacity of 8.0 million tons, and proven reserves of 214 million tons which are estimated to last for another 20-30 years. The **Eagle Mine**, located in Michigamme Township, has 400 full-time em-

Sources of Sustainable Rural Prosperity

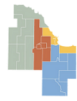
In 2007, a study entitled "*Why Some Rural Communities Prosper While Others Do Not*," was conducted at the University of Illinois that evaluated counties based on four metrics:

1. High school dropout rate
(7.2% in Marquette County),
2. Federal poverty rate
(14.1% in Marquette County),
3. Unemployment rate, and
(3.3% in Marquette County)
4. The rate of housing issues (lack of complete plumbing facilities, lack of complete kitchen facilities, the percentage of "cost-burdened" households spending more than 30% of their gross income on housing, etc.)

Long-term prosperity is generally the result of sustainable, steady economic growth and a predominance of financially stable working-class and middle-class households. This groundbreaking study still holds valuable lessons for Marquette County more than a decade later.

ployees but is scheduled to close in 2025. Approximately 91% of those employed at Eagle Mine are local hires.

However, mining remains a volatile industry – in April 2020, more than 700 Tilden Mine employees were **temporarily laid off** due to "the extraordinary disruptions in manufacturing and steel production in North America due to ... the COVID-19 market shock." The mining industry has seen both successes and struggles over the past decade, as



exemplified by the closure of the Empire Mine and the projected long-term profitability of the Tilden Mine. The future of the Eagle Mine in Michigamme Twp. (opened in 2014 and owned by Lundin Mining), remains uncertain. In 2019, the first nickel and copper ore from the Eagle East ore body was mined, extending the life of the Eagle Mine, but the long-term viability and impacts remain unclear. The eventual closure of the Eagle Mine will have major negative impacts on local residents, businesses, and municipal budgets that have come to rely on jobs, income, and tax revenue from more than a decade of operations. Planning for closure began at the Eagle Mine in 2019. The mine is currently cross training their existing workforce with the goal of giving each employee a broader skill set that will make them more employable. However, that employment may be locally, regionally, or nationally.

In the meantime, Humboldt Twp. is now home to the **Humboldt Mill**, a \$275 million facility on a historic brownfield site which processes 2,000 tons of nickel and copper ore per day. The Humboldt Mill could survive the closure of the Eagle Mine, as it could serve multiple mines at once and process various kinds of ores, although its long-term future is still far from certain and it is currently scheduled to close with the mine in 2025.

Iron-ore mining and beneficiation, the processing of, is the major industry in Marquette County. Substantial amounts of the high-grade, easily accessible, direct-shipping ore have been reduced by various methods of underground mining. Attractive reserves of these ores do exist in areas such as Richmond Township, where occurrences can be found at depths of 1000 feet. There is currently one active underground mining operation located within Marquette County. The Eagle Mine, located in Northern Marquette County, began operations to mine nickel, copper, and other metals in 2014. Prior to this, the last operating underground mine was the Mather "B" which closed in 1979. One open-

UPHS-Marquette Specialties

- Has the only NICU in the U.P.
- Cardiac cath lab (first in state of Michigan in 2018)
- Is the only open heart surgery and neurosurgery provider in the U.P.
- Has a medical residency program affiliated with Michigan State University
- Guardian Flight provides third-party medical helicopter service.



pit mine is presently operating in the county (the Tilden), while another such mine (the Empire) closed in 2016. Open pit mining utilizes vast amounts of water and land resources. Iron ore mining is of course sensitive to the demand for steel, and fluctuations in the steel industry have historically affected the local economy as a result.



"Marquette is great! Hope I'm living here in 2040." - Current NMU Student

Education

Education is a critical part of Marquette County's economy, and it is strongly tied to demographics. Without a major influx of young families, it seems that K-12 school enrollments will continue to decline in the area. Most school districts in Marquette County have already struggled with de-

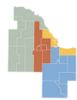
clining enrollment or are heavily reliant on school of choice. It is imperative that the County attract and retain young residents. In addition to Northern Michigan University (NMU), which is a major employer and source of population and economic growth for Marquette County, the county is also home to six public K-12 school districts and two public K-8 districts. In addition, Turin, Ewing, and Wells Townships send many of their K-12 students to the Mid-Peninsula and Escanaba districts in Delta County, and a small number of students still attend local charter or parochial schools in Marquette. Finally, another important component of the local educational system is the network of local public libraries which exist in several communities in Marquette County, most notably Peter White Public Library in the City of Marquette.

According to the 2018 American Community Survey 5-Year Estimates, approximately 1,900 Marquette County residents are employed in "Educational instruction and library occupations." However, these figures also do not encompass all employees of educational institutions in Marquette County – for example, administrators, bus drivers, janitors, IT, security/law enforcement, etc. would not be included in these estimates.



Health Care

The health care industry is the largest category of employment in Marquette County. Major employers include UPHS Marquette, UPHS-Bell Hospital in Ishpeming, and U.P. Home Health and Hospice. UPHS Marquette employees approximately 2,500 employees with an additional 350 employed at UPHS Bell. Great Lakes Recovery Centers also



provide a variety of substance use disorder and mental health treatment at four locations in Marquette County, including two outpatient centers in Marquette and Ishpeming, an adult residential facility in Marquette, and an adolescent services center in Negaunee. Since the 2012 purchase of the nonprofit Marquette General Hospital and Bell Memorial Hospital by Duke LifePoint, a for-profit Tennessee-based health care corporation, the Marquette County health system has been unified under the for-profit U.P. Health Systems (UPHS). In that time, a new, modern hospital campus has been built in south Marquette near US 41, and the County Land Bank has taken steps to redevelop the old Bell Memorial Hospital property in Ishpeming, which has been vacant since 2008. However, since the creation of UPHS, there have been multiple strikes by the Michigan

Nurses Association (MNA) and problems with physician retention, and the future of the abandoned Marquette General Hospital property in central Marquette remains uncertain. Having a more robust, diverse economy here would help with recruitment, because their spouses need to work as well. Several biomedical companies also exist in Marquette County, with opportunities for expansion in the coming years.

Rural hospitals continue to struggle and face high risks of closure across the state and the country, and UPHS will not necessarily be immune to these struggles in the long run. However, COVID-19 has forced UPHS to expedite telehealth and implement it in a more robust way. This will continue to be a major trend throughout the country, especially

in rural areas like the U.P. Proposals for national health care reform also introduce a great deal of uncertainty into the future of health care in Marquette County. This will remain a topic of debate over the next 20 years.

"I ... secured a good-paying job ... 25 years ago. My profession is not providing the same salary for new hires though, and that is driving the young people away."

– Borealis Beach

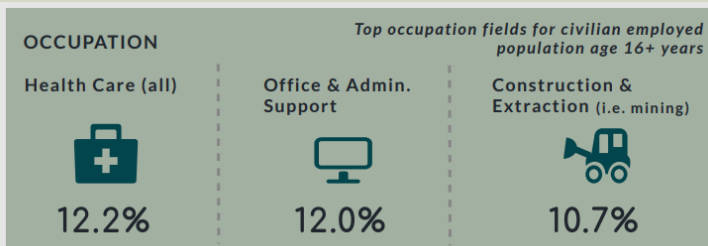


Forestry

Forestry has a long history in Marquette County, and like mining, had an impact on the settlement of the area. Similar to the mining industry, forestry is dependent on regional

Top Occupations & Key Employers

MOOSE HILLS REGION

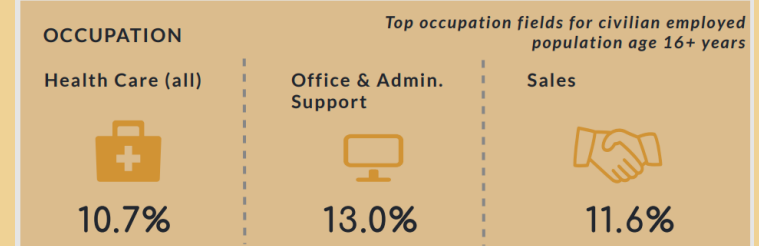


Source: U.S. Census Bureau, 2013-2017 American Community Survey, Selected Economic Characteristics

Key Employers: Eagle Mine (187) Maple Ridge Resort (45) Wawonowin County Club (44) Moose Country Lodges (30)

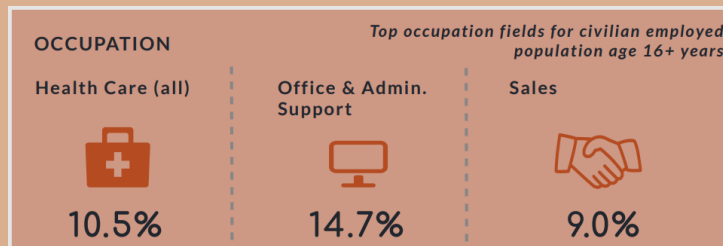
Key Employers: UPHS-Marquette (1,878), Northern Michigan University (1,200), Peninsula Medical Center (650), Marquette Area Public Schools (435), Michigan Dept. of Corrections (350), Meijer (284)

BOREALIS BEACH REGION



Source: U.S. Census Bureau, 2013-2017 American Community Survey, Selected Economic Characteristics

IRON CORE REGION



Source: U.S. Census Bureau, 2013-2017 American Community Survey, Selected Economic Characteristics

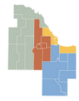
Key Employers: Cliffs Natural Resources (990), UPHS-Bell (258), Negaunee Public Schools (190), NICE Community Schools (183), Eastwood Nursing Center (180)

Key Employers: Envoy Air (200 employees), Superior Extrusion (143), Gwin Area Community Schools (140), PotlatchDeltic (137), VanDamme Trucking (132)

BLUEBERRY FARMS REGION



Source: U.S. Census Bureau, 2013-2017 American Community Survey, Selected Economic Characteristics



and global markets. There are many family-owned logging companies throughout the Upper Peninsula. However, loggers also face the difficulty of increased fragmentation of land ownership. Permission must often be received from multiple owners in order to log an area that was once held by one large landowner. The individual landowners may have different land management strategies from one another, making it difficult to implement sustainable and consistent forestry practices.

The industrial side of forestry in Marquette County is concentrated at KI Sawyer, where PotlatchDeltic Corporation operates a sawmill. The Potlatch mill is one of the largest lumber production facilities in North America and employs 170 workers, making it one of the largest private-sector employers in Marquette County outside of the mining, health care, and public sectors.



Agriculture

Agriculture in Marquette County is concentrated in the Skandia-West Branch area, Wells Township, and Ewing Township – this is part of why this region is referred to as Blueberry Farms (although, as of 2020, while there are many blueberry patches and many farms in southern Marquette County, there are no blueberry farms). The soils of much of the rest of the county are generally not well-suited to farming, although some farms have existed in other regions. Jilbert's Dairy still operates in Marquette, although it is now owned by Dean Foods, a major Texas food and beverage corporation which is itself a subsidiary of the Dairy Farmers of America (the largest dairy cooperative in the U.S.) as of 2020. There has been a large downward trend of

dairy producers in the region. Although many farmers are currently struggling in the U.S. due to a variety of economic factors, agriculture could still be a source of future growth and economic opportunity in Marquette County.

According to the ACS 2018 5-Year Estimates, **1,222** Marquette County residents (4.1% of the total civilian labor force) were employed in "Agriculture, forestry, fishing, hunting, and mining" as of 2018, and of these, only 102 were employed in "Farming, fishing, and forestry occupations." While this may seem low at first, it can be largely explained by two factors: 1) the heavy automation and mechanization of these occupations compared to the past, and 2) the fact that most farms in Marquette County are very small, generate very little income, and are operated by part-time farmers. In fact, according to the **2017 United States Department of Agriculture (USDA) Marquette County Profile**, there were 179 farms in Marquette County in 2017, but half of these were less than 50 acres and only 16 were more than 500 acres. According to the same USDA data, 47% of farms grossed less than \$2,500 in sales in 2017 and only 11% grossed even \$25,000, while just a single farm in the entire county grossed more than \$500,000. Most farms in Marquette County today are better described as hobby or sustenance farms, providing some supplemental income but not serving as the primary source of income for most of their owners – in fact, according to the **2012 USDA Marquette County Profile**, less than half of farmers in Marquette County list farming as their primary occupation. However, farming is actually a growing occupation in Marquette County, with the number of farms and farmers increasing slightly since 2012. **Nearly 1 in 3** farmers classified as "new and beginning farmers" by the USDA.

National trends in organic agriculture have increased drastically, along with increasing consumer awareness. These trends have been a catalyst for an increase in small/local

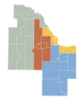
farming. Locally, the Marquette Food Co-op has created a market for farmers to sell to. The creation and expansion of farmers markets has also provided more of a means for farmers to get exposure and sell products. Community supported agriculture (CSA) programs have also seen growth and stronger demand, especially during the COVID-19 pandemic. CSAs provide for direct sale from farmer to consumer and are an excellent way for the community to support local farmers.



Tourism

Tourism has long been important in the local economy. Most tourists in Marquette County come from within the state of Michigan, but the County also sees many tourists from Wisconsin, Minnesota, and Illinois. While the natural scenery of Marquette County is equaled or exceeded in other parts of the Upper Peninsula, Marquette County offers amenities close to the scenery. Tourism is a source for economic growth in Marquette County. It also carries the risk of gentrification, rising housing prices and cost of living for locals, overcrowding, threats to community character, and degradation of natural areas. As a result, Marquette County should promote tourism, but in an equitable and balanced way that is part of a larger strategy of economic diversification.

Tourism is a major industry in Michigan – in 2018, the 124.8 million tourists who visited various locations in our state spent \$25.7 billion, accounting for 6% of all Michigan jobs and \$2.8 billion in state and local tax revenue. In fact, tourism is now Michigan's second-largest industry after manu-



facturing, and this is even truer in the U.P. than in many other parts of the state.

At a local level, much of the tourism in Marquette County is associated with our proximity to Lake Superior – a [2018 study](#) estimated that water-based tourism and recreation contributed \$255.5 million to Marquette County's economy, with 74% of tourism in Michigan's harbor communities like Marquette and Big Bay attributable to "the water-based culture of those regions." Although it is difficult to estimate exactly how many jobs are directly attributable to tourism, according to the 2018 American Community Survey 5-Year Estimates, 3,690 Marquette County workers (12.3% of the total workforce) were employed in "Arts, entertainment, and recreation, and accommodation and food services." These tourism-dependent industries actually employed more Marquette County workers than agriculture, forestry, fishing and hunting, mining, and construction combined.

However, it should be noted that [median earnings](#) are generally significantly lower in these tourism-dependent industries than in heavy industries like mining, construction, manufacturing, etc. The number of jobs created by a particular industry should not be the only consideration for economic development planners – the quality of those jobs must also be considered. From this standpoint, tourism is an important and growing industry in Marquette County, but it is not an economic "silver bullet" that will solve all of the County's economic challenges over the next 20 years.



Construction

As Marquette County has recovered from the Great Recession over the past decade, the local construction industry

has experienced a dramatic revitalization. Marquette County has added construction jobs over the past decade – according to the American Community Survey, in 2010 there were 1,664 people employed in the construction industry in Marquette County (5.3% of the entire workforce), but by 2019 this number had risen to 1,948 jobs (6.4% of the entire workforce), a net increase of nearly 300 jobs.

One contributing factor to the growth of the local construction industry is the fact that many major developments have taken place in Marquette County in recent years, including the \$30 million Liberty Way project in Marquette (2016), the \$16 million Grandview Marquette orphanage renovation (2017), the \$300 million UPHS-Marquette hospital (2018), the \$6 million Jasperlite Senior Living project in downtown Ishpeming (2021), and the ongoing \$50 million Founders Landing project in Marquette (begun in 2010).

The Carpenters & Millwrights Local 1510 opened a Union Skilled Training center in Negaunee Township in 2020. Their goal is to provide young people with lifelong, hands-on careers with living wages and local jobs. While the Union Skilled Training Center is funded and operated by the Carpenters & Millwrights union, the Center will provide Career and Technical Education (CTE) to both union and non-union contractors and their employees in Marquette County.



Retail Trade

According to the 2018 American Community Survey 5-Year Estimates, retail trade is the largest industry in Marquette County by total employment, with 3,976 employees (13.3% of the total workforce). However, the retail trades are not a

particularly well-paying industry – [for full-time, year-round employees](#), "Sales and related occupations" paid about \$34,000 per year, just 80% of Marquette County's median annual income across all occupations and far less than most other major occupations in the County.

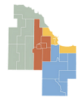
Marquette County's Labor Force

From 2000-2009, [Marquette County's labor force](#) expanded by 6.6% and the county experienced steady job growth. Although the impacts of the Great Recession were delayed by about a year in Marquette County, by late 2009 a major economic decline had begun, with the labor force shrinking by 11.5% from 2009-2020 (and that is not including the major negative impact of COVID-19 starting in the spring of 2020). Still, for much of the next decade Marquette County experienced job growth even as the state of Michigan as a whole was losing jobs.

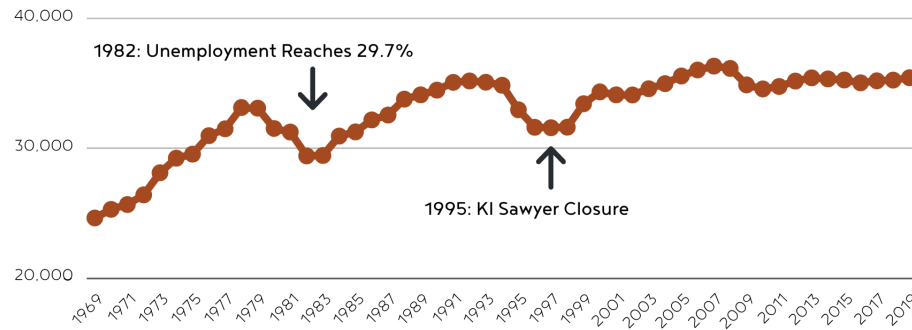
Marquette County's population in 2020 is significantly lower than its peak population in 1980, but the number of jobs has increased over the same period. One explanation for

"Young people WANT to stay in this area, but many of them cannot find ... a long lasting career here. Attracting more tech/research/telecommunications/manufacturing employers to the area would be great." – Borealis Beach

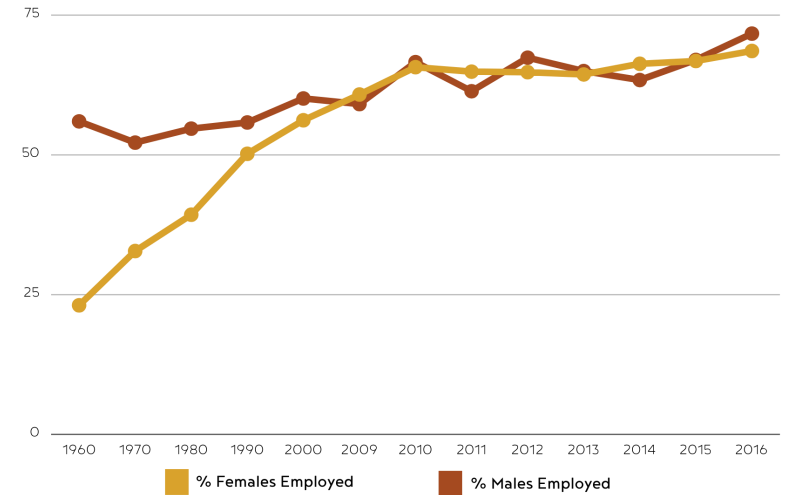
this apparent contradiction is the increasing participation of women in the workforce, with women joining the workforce in greater numbers over the past 60 years. As of 2009, men had a slightly lower labor force participation rate than women in Marquette County for the first time ever, which has persisted to the present day. These trends are in line with nationwide trends, and are likely to continue, making child care access and affordability, family leave policies, and gender pay equity increasingly important issues for Mar-



Jobs in Marquette County



Employment by sex, Marquette County



Labor Force Statistics by Region

MOOSE HILLS REGION

Employment Rate	48.4%
Avg. Median Household Income	\$48,231
Lowest: Republic Twp.	(\$30,000)
Highest: Ely Twp.	(\$56,771)
Poverty Rate	13.9%

BOREALIS BEACH REGION

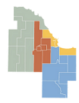
Employment Rate	53.9%
Avg. Median Household Income	\$45,236
Lowest: City of Marquette	(\$38,998)
Highest: Chocolay Twp.	(\$59,177)
Poverty Rate	20.0%

IRON CORE REGION

Employment Rate	51.7%
Avg. Median Household Income	\$51,365
Lowest: City of Ishpeming	(\$42,075)
Highest: Negaunee Twp.	(\$61,179)
Poverty Rate	12.3%

BLUEBERRY FARMS REGION

Employment Rate	52.3%
Avg. Median Household Income	\$52,623
Lowest: Wells Twp.	(\$37,031)
Highest: Sands Twp.	(\$66,442)
Poverty Rate	18.3%



quette County in the next two decades. In order to provide a more skilled workforce and increase the overall labor force, a heavy focus must be placed on improving educational opportunities and attracting new residents over the next 20 years.

Emerging Local Industries

Hope for Marquette County's economic future can be seen in its consolidation as a regional center. Regional institutions like Northern Michigan University and UPHS Marquette are major employers and sources of economic growth and potential. Marquette also has the potential to become a regional center in the following industries:



"Let's keep moving towards alternative energy options!" – Borealis Beach

Energy

Hundreds of megawatts of new energy generation and storage capacity, primarily in the form of utility-scale solar and natural gas power plants, is anticipated in the next few years. Low-carbon energy generation is a very promising source of future growth for the area. The Upper Peninsula Power Co. (UPPCO) was the first electric utility in Michigan to voluntarily **increase the size of their distributed generation** (DG) program beyond the legal minimum level required by state law, doubling the size of their DG program in May 2019. 96% of new distributed generation capacity in Michigan is solar energy.

"Renewable energy development (solar, wind, etc.)" is the most desired type of new development among County residents.



Materials Management

With the Marquette County Solid Waste Management Authority (MCSWMA) making major upgrades to its **recycling facility** in 2020, Marquette County is poised not only to increase its own recycling rate and significantly extend the lifetime of the County Landfill in Sands Township, but also to become the recycling hub for the entire U.P., with multiple U.P. counties and municipalities reportedly interested in sending their recyclables to Marquette County. Studies are currently underway to reuse and repurpose materials, such as glass, strengthening a regional closed loop economy.

"(Marquette County needs) more jobs in the tech and manufacturing industries ... (and) more jobs outside the mine, hospital and NMU."
– Iron Core

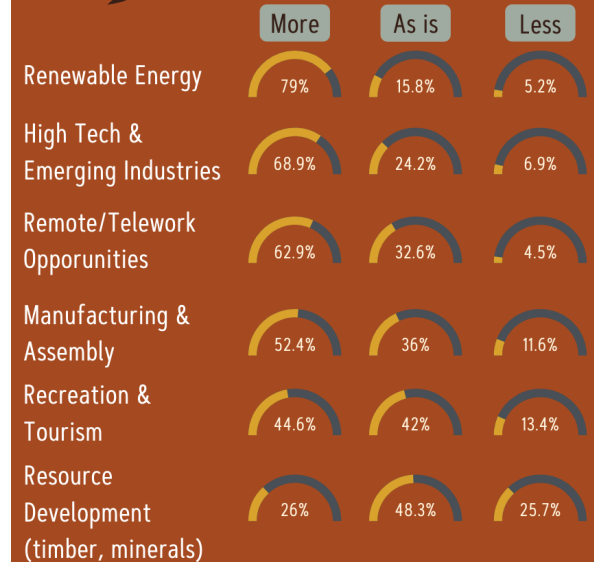


Technology

Computer science is growing in popularity as a major. In 2019 NMU launched the new Upper Peninsula Cybersecurity Institute to create a cybersecurity education and industry hub in Marquette. The **Marquette SmartZone** is also a unique community organization that helps to "facilitate the commercialization of tech and tech-enabled ideas that come from the inventors, innovators, and researchers of the Marquette community." As of 2020, the SmartZone had **hired a new CEO** and was planning to take a more active role in economic development in Marquette County. In the coming years, increased skills-based tech education, the growth of more local tech startups, and the intro-

Survey Snapshot

How much of the following types of development are needed in Marquette County?



How important do you feel each of these topics are?

Answered Important or Very Important

78.6%

Attracting & retaining a talented workforce

77.4%

Using alternative energy sources

76.1%

Entrepreneurship & business opportunities

75.8%

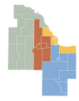
Maintaining & improving downtowns

72.2%

Redevelopment of unused, vacant, or contaminated sites

68.9%

Expanding internet & wireless service



duction of high-speed broadband internet with upload and download speeds of 1 Gbps or more could all help Marquette County become a major regional tech industry hub.



Aerospace

Several aerospace companies have been founded or expanded in Marquette County over the past decade, particularly at Sawyer and in Marquette. The proposed development of a small spaceport in northern Marquette County, announced by the Michigan Aerospace Manufacturers Association (MAMA) in 2020, could also lead to the creation of a considerable number of jobs and drive long-term growth in the local aerospace industry. Of course, as with other heavy industries, the potential environmental impacts of this proposed development will need to be carefully assessed.



Craft Beer & Cannabis

Marquette County has already seen an explosion in the craft beer and cannabis industries, and while growth may eventually level off, these industries are likely to continue to provide significant economic opportunities. Marquette County was home to at least ten microbreweries in 2020.

As for cannabis, after the legalization of recreational adult-use marijuana in Michigan in 2018 and the rollout of statewide regulations and guidelines in 2019, various canna-

bis-related businesses have sprung up. Although not all communities will welcome it, many local governments have indicated interest the cannabis industry as a source for needed economic growth, jobs, and tax revenue, and those that do embrace this rapidly growing industry could see significant economic growth. By the end of 2020 at least eight cannabis businesses were in operation or pending approval in the County. In 2019 NMU launched an extremely popular **Medicinal Plant Chemistry program**, "the first 4-year undergraduate degree program of its kind designed to prepare students for success in the emerging industries relating to medicinal plant production, analysis, and distribution."



Transportation

The access provided by Sawyer International Airport enhances opportunities for economic growth. Marquette County has only 26 per cent of the Upper Peninsula's population, but Sawyer accounts for 53 percent of the airline passenger traffic in the region, and Sawyer has also attracted considerable industry to the region, accounting for a total of approximately 1,000 jobs. If Customs could be provided at Sawyer International Airport, facilitating international travel and trade, the Sawyer community could see significant economic growth, with positive spillover effects in the rest of the County. Rail transportation may also become a source of economic growth in Marquette County, with the County's planned renovation and extension of a rail spur to serve local industry at Sawyer.

"(Marquette County) is uniquely positioned to be both a place for working people and tourism ... that first caters to those who live and work here..."
- Borealis Beach

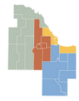


Tourism

"Ishpeming is working to follow the NTN silent sport model for residents and tourism. The rest of the county can follow this model." - Iron Core

Tourism has been a significant part of Marquette County's economy for nearly a century. Marketing efforts by tourism bureaus, like **Travel Marquette**, have been widely successful in attracting visitors to the area. Its beautiful and enduring natural assets, coupled with the expansion of recreational assets such as the extensive local motorized and non-motorized trail networks, the supply of local hotel rooms and campsites, and revitalized downtown districts from Michigamme to Ishpeming to Marquette have led to dramatic growth in the local tourism industry over the past decade. This has not come without costs, with many local natural assets being "loved to death," increased traffic congestion during the tourist season and rising housing prices. These trends are particularly pronounced in the Borealis Beach region, while the rest of the County has been comparatively "left out" of the benefits from tourism. The potential for economic growth from tourism is also limited by the fact that it primarily produces low-wage service-sector jobs rather than the higher-wage, family-sustaining jobs generated by the industries mentioned above, and can also lead to gentrification and increases in the cost of living for locals. As a result, tourism is not a silver bullet for economic development, and should be part of a larger strategy to diversify Marquette County's economy and drive sustainable economic growth.

Short-term rental services, such as Vacation Rental By Owner (VRBO) and Airbnb, have also had mixed impacts on communities in Marquette County, providing accommodations for tourists and a source of supplemental income for some families, while also leading to increased real estate speculation and the removal of long-term rental units from



the market. This can contribute to rising housing prices and gentrification, most notably in the Borealis Beach region. While some local communities, like the City of Marquette, have implemented innovative regulations to limit the potential negative impacts of short-term rentals, others have taken a more hands-off approach, and there remains a great deal of long-term uncertainty about the extent to which the State will allow municipalities to regulate short-term rentals. However, all communities in Marquette County should make proactive decisions about how they will deal with short-term rentals in the coming years.

Local Challenges for Public Health

- The impacts of an aging population,
- High rates of chronic disease due to lack of preventative care,
- Reducing the correlation between health outcomes and socioeconomic status (income, education, race, etc.), and
- Adapting to a rapidly changing political and policy landscape

Arts and Culture

Marquette County has a long history of arts and culture stretching back to the arrival of the first Indigenous peoples in the region. The land now known as Marquette County has been inhabited by the Anishinaabe people for many centuries, and their rich historical, cultural, and artistic traditions are still practiced by many Indigenous Marquette County residents today and continue to shape local artistic and cultural practices. Marquette County has been permanently inhabited by a wide variety of European settlers since the mid-19th century, with the influence of the Finnish, Italian, and various Scandinavian cultures continuing to have a major influence on local culture today.

Marquette County is home to many important artistic and cultural events. Numerous visual and performing arts festivals are hosted in the County each year, particularly in the Marquette area. In fact, the City of Marquette has funded a Marquette Arts & Culture Center (MACC) in the Peter White Public Library since 2000, and in 2017 established a Public Art Commission which has funded several notable works of public art. Marquette has also hosted **Finn Fest USA**, the annual national festival for Finnish Americans, in 1996, 2005, and 2008, and a local Italian Fest is held annually in Ishpeming to celebrate Italian American culture. Historic downtown districts, and the many community events



they host each year, are also vital parts of the local culture in Marquette, Negaunee, Ishpeming, Gwinn, and Michigamme. Finally, Marquette County has many public and private venues where both residents and visitors can enjoy outdoor recreation, sports, food, visual arts, and performing arts, all of which are important components of Marquette County's unique cultural identity.

Two recent cultural developments of note are the **Iron Ore Heritage Trail** (a 47-mile multi-use recreational and educational trail which extends from Republic to Marquette and explores the history and cultural impact of iron ore production in Marquette County), and the **Marquette Cultural Trail**, which will be developed starting in 2021 and will be an educational trail focusing on the unique history and culture of the City of Marquette, with a particular emphasis on local Anishinaabe history and culture.

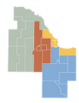
"We need to continue making our County a place that young people want to live ... (with) recreation, arts, and good jobs."

– Moose Hills

Public Health

According to the CDC, "public health is concerned with protecting the health of entire populations" which "can be as small as a local neighborhood, or as big as an entire country or region of the world." The **Marquette County Health Department (MCHD)** is the local state-mandated public health authority in Marquette County – their mission is "preventing disease, promoting healthy lifestyles, and protecting the environment" in Marquette County. During the COVID-19 pandemic (which is still ongoing at the time of the writing of this Plan), the MCHD **played a critical role** in educating Marquette County residents, businesses, and institutions about public health measures and information, providing transparent public health data, and organizing a massive public vaccination effort.

The **2018 Upper Peninsula Community Health Needs Assessment** (which was published on the MCHD website) identified several long-range challenges for public health in Marquette County and the rest of the U.P. Over the next two decades, the MCHD will continue to manage both public health emergencies like COVID-19 and long-term public health challenges.



Recreation

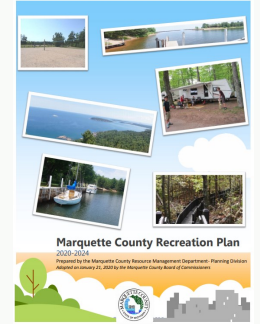
Nearly all municipalities in Marquette County participate in recreation planning at the local level. Recreation areas often span over multiple jurisdictions. Recreation planning is largely influenced on meeting state requirements

Organization Name	Funding Sources	Type of Recreation	Municipalities
North Country Trail Assoc.	Donations, Sponsorships, Grants, Fundraising	Hiking	Michigamme Twp., Champion Twp., Ishpeming Twp., Marquette Twp., Marquette City, Chocolay Twp.
Noquemanon Trail Network (NTN)	Donations, Sponsorships, Grants, Fundraising, Memberships	Mountain Biking, Trail Running, XC Skiing, Snowshoeing, Camping, Hiking	Negaunee Twp., Marquette, Marquette Twp., Powell Twp.
Range Area Mountain Bike Assoc. (RAMBA)	Donations, Sponsorships, Grants, Fundraising,	Mountain Biking, Trail Running, XC Skiing, Snowshoeing, Hiking	Ishpeming, Ishpeming Twp., Negaunee, Negaunee Twp.
Iron Ore Heritage Trail Assoc. (IOHT)	Donations, Grants, Tax Millage	Biking, Running, XC Skiing, Snowshoeing, Hiking	Chocolay Twp., Marquette, Marquette Twp., Negaunee, Negaunee Twp., Ishpeming, Ishpeming Twp., Ely Twp., Humboldt Twp., Republic Twp.
Moose Country Snowmobile Club	Membership Dues, Fundraising	Snowmobiling	Michigamme Twp., Republic Twp.
Trenary Northern Trails	Membership Dues, Fundraising	Snowmobiling	Skandia Twp., Forsyth Twp.
Hiawatha Trails Inc.	Membership Dues, Fundraising	Snowmobiling	Marquette Twp., Forsyth Twp.
550 Snowmobile Club	Membership Dues, Fundraising	Snowmobiling	Marquette Twp., Powell Twp., Negaunee Twp.
UP Central Trails	Membership Dues, Fundraising	Snowmobiling	Chocolay Twp., Marquette, Marquette Twp., Ishpeming Twp.

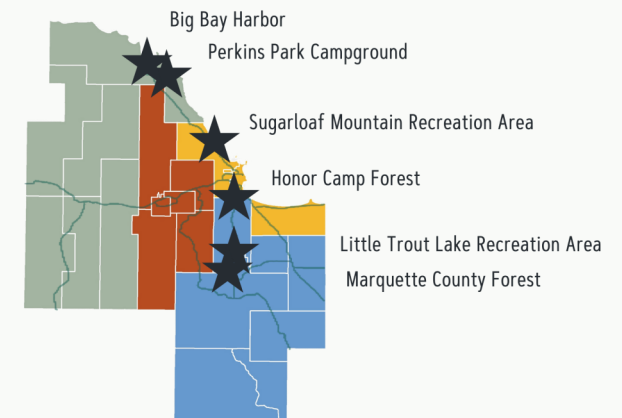


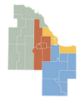
Role of County Planning

Marquette County maintains a **County Recreation Plan** which is primarily focused on County-owned facilities and is updated every five years. County facilities draw recreation participants from throughout the County and beyond. As such it is necessary to widely gather public input.



Funding for Marquette County-owned recreation facilities is provided by the Marquette County Forest and Recreation Fund, which derives revenue from three sources: 1) timber sales in the County Forest, 2) user fees generated by campers at Perkins Park and boaters at the Big Bay Harbor of Refuge, and 3) grants. Planning Division staff are responsible for day-to-day parks and recreation management.





in order to be eligible to pursue state funding opportunities. As such regional coordination tends to be overlooked.

Long distance trails are difficult to establish and even harder to maintain properly without proper planning. It can be difficult to secure permanent easements of private and public lands in order to build longer trails. Regional planning is vital in this process to ensure that adequate funding can be secured in the future, as well as appropriate easements and insurance to protect land owners provided by the [Natural Resources and Environmental Protection Act, 1994 PA 451](#), as amended. Joint cooperation with trail organizations through the joining municipalities can

be a great asset to help maintain and preserve the trail. With regional planning, long distance trails can run through multiple municipalities and be successful, as with programs such as rails to trails that relies on regional transportation planning to help secure funding and to carry the joint vision of the trail into the future. [REFERENCES](#)

42% of County residents who say that at least one parks & recreation facility in their community is "especially attractive" or "create(s) a 'good feeling' in the community."

Survey Snapshot

MOOSE HILLS REGION

11.4% TRAILS
7.9% THOMAS ROCK
6.7% DIORITE PARK



Favorite parks and recreation areas?

BOREALIS BEACH REGION

23.3% TRAILS
21.3% PRESQUE ISLE PARK
11.8% BEACH



IRON CORE REGION

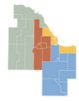
28.5% IRON ORE HERITAGE TRAIL
19.4% AL QUAAL
14.5% TEAL LAKE



BLUEBERRY FARMS REGION

18.8% TRAILS
15.4% NORDEEN PARK





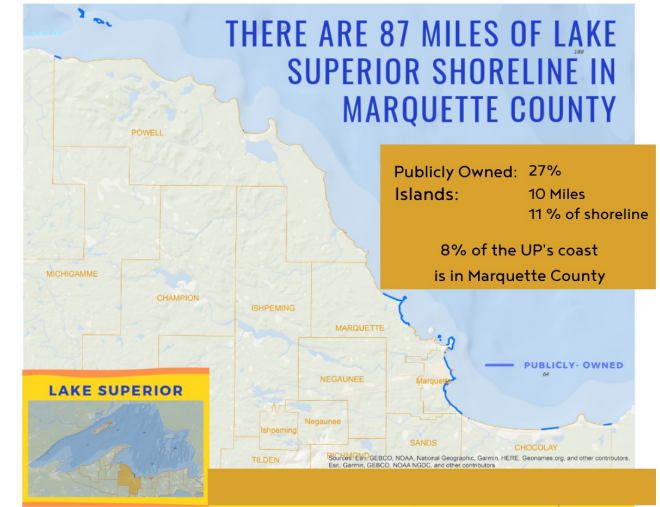
Environment & Natural Resources

Marquette County's diverse physical environment makes it unique among the 83 counties of Michigan. This uniqueness is first obvious from the county's size, shape, and location. Marquette County is the largest county in the state, containing some 1,873 square miles, well above the statewide average of 685 square miles. In addition, there are 87 miles (10 miles of which are islands) of Lake Superior shoreline along its northeast margin.

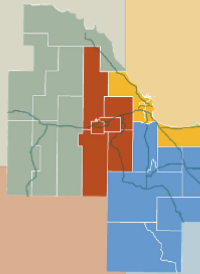
The county is situated in the transition zone where the ancient Precambrian crystalline rocks emerge from beneath

the more recently deposited Paleozoic sandstones and limestones of the Michigan Basin. This, coupled with as many as four occurrences of glaciation, created the mountainous landscape in the central and northern regions of the county and the rolling, forested glacial deposits to the south and east. As glaciers receded 8,000-10,000 years ago, scenic sharp cliffs and sandy beaches were left along the shoreline. Inland from the lakeshore, the glaciers deposited large tracts of sand plains and scoured out depressions that today form many lakes, wetlands and ponds. The result is a landscape that favors land and water-based forms of recreation, important components of the region's economy.

Roughly half of the County's watersheds drain north to Lake Superior, while the other half drain south to Lake Michigan. The climate and weather of Marquette County are heavily



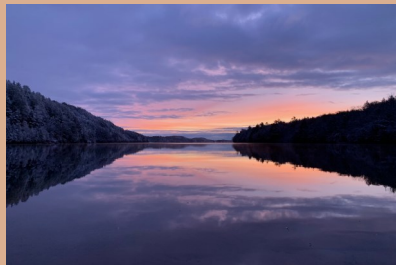
MOOSE HILLS REGION



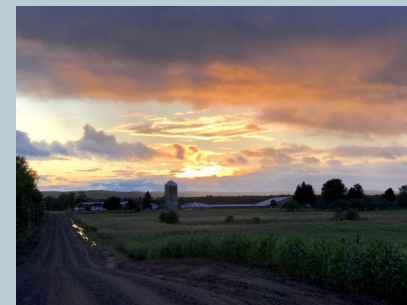
BOREALIS BEACH REGION

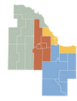


IRON CORE REGION



BLUEBERRY FARMS REGION





Mining

Two distinct formations of iron-rich rock have been identified: the Marquette Iron Range, stretching west from Negaunee to Michigamme and then south to Republic, and the Gwinn Iron District, located in central Forsyth Township. Deposits of gold, silver, lead, nickel, copper, and zinc are found in the lower Precambrian greenstone which stretches from north of Ishpeming to Marquette and northwest to Baraga County in a "V" shape. Gold was historically mined from several mines in this deposit, including the Ropes, Michigan, Gold Lake, Superior, Peninsula, and Fire Center Mines. Proven reserves of copper mineralization occur in the Middle Precambrian kona dolomite interbeds which begin in the Marquette Mountain area and run west to Negaunee. Concentrations of uranium can be found in the Middle Precambrian granites and Michigamme slate.

Mining does have detrimental environmental effects which should be taken into consideration. The presence of former mining areas may have an adverse effect on land values because of stripping or tailings deposits left on the land surface. Former mine sites also pose potential safety hazard to the public. As larger tonnages of lower-grade ore are mined, correspondingly greater areas will be needed for tailing disposal areas. Mining operations may affect groundwater levels in the immediate vicinity of mines. When an operation ceases groundwater levels often rise, impacting adjacent residential areas by causing basement flooding.

influenced by the forces of Lake Superior to its north. Warm, moist winter air from the open waters of Lake Superior can produce large amounts of lake-effect snow and extend the winter season; snow in May is not uncommon. In the summer months, Lake Superior helps keep much of the County relatively cool compared to inland areas.

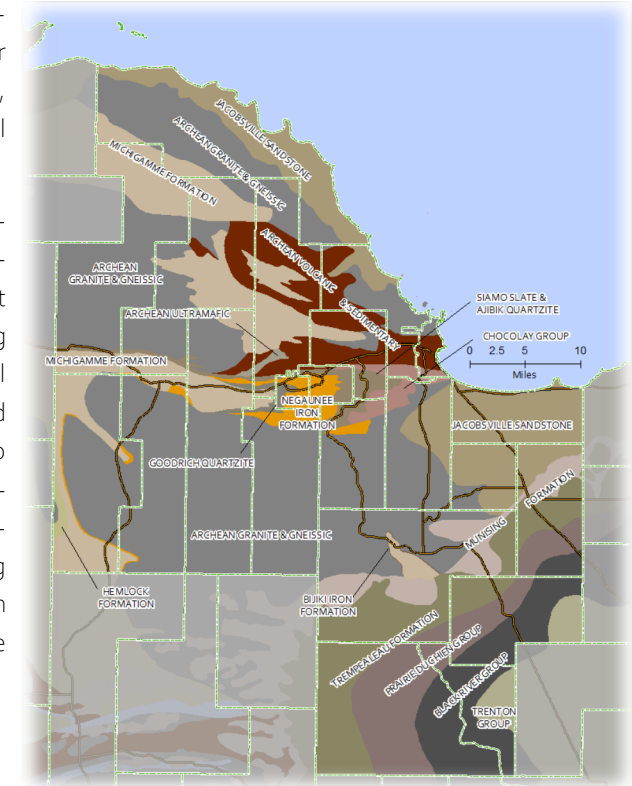
Development in Marquette County has historically been resource-dependent and has occurred in nodes or centers of mining, lumbering, or transportation activity. Further development of Marquette County's valuable natural-resource base, along with the growth of new industries, will result in additional growth. Marquette County must recognize the problems and impacts that an increased population brings and take steps to conserve and use these important natural resources wisely. Separate planning and development decisions, made without regard for all elements of an ecosystem, can lead to devastating results. Development of the County's human resources through its educational institutions is also an important part of the "natural system."

Bedrock Geology

Bedrock can be defined as the solid material which comprises the earth's crust. Bedrock geology refers to the spatial distribution, thickness, and sequence of these rocks. Although much of the bedrock in Marquette County is buried beneath glacial drift, sufficient data exists from outcrop observations and drilling and mining records to illustrate the extent of various types of bedrock underlying the surface. There are two groups of rock which form this mantle: Precambrian and Paleozoic.

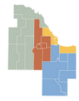
Bedrock is fundamentally important to Marquette County in two ways: It serves as the source of groundwater for domestic and other purposes and contains considerable mineral deposits which form the "foundation" of the county's present economic structure.

Bedrock geology of Marquette County



Bedrock Geology Types

PALEOZOIC	BLACK RIVER GROUP
	JACOBVILLE SANDSTONE
	MUNISING FORMATION
	PRAIRIE DU CHIEN GROUP
	SIAMO SLATE & AJIBIK QUARTZITE
	TRENTON GROUP
	TREMPEALEAU FORMATION
PRECAMBRIAN	ARCHEAN GRANITE & GNEISSIC
	ARCHEAN ULTRAMAFIC
	ARCHEAN VOLCANIC & SEDIMENTARY
	BIJIKI IRON FORMATION
	CHOCOLAY GROUP
	GOODRICH QUARTZITE
	HEMLOCK FORMATION
	MICHIGAMME FORMATION
	NEGAUNEE IRON FORMATION



The hard crystalline Precambrian rock is a poor aquifer. In upland areas, most wells fail to provide enough water for domestic purposes. Almost total reliance is placed on supply from permeable glacial drift. In valleys having more than 20 feet of this drift, wells drilled into the underlying bedrock may yield enough water for domestic purposes. A few may yield more than 50 gallons per minute (gpm). Occasionally fissure water may be encountered as water passes into fractures or fragmented areas of rock. Oftentimes this water is not filtered as it enters the underlying rock directly from surface water, creating a potential health risk. Drilling more than 300 feet into this bedrock is usually futile. During 1976, a drought year, many wells failed in the central and western areas of the county underlain by this type of bedrock. Paleozoic rocks are generally better producers of groundwater.

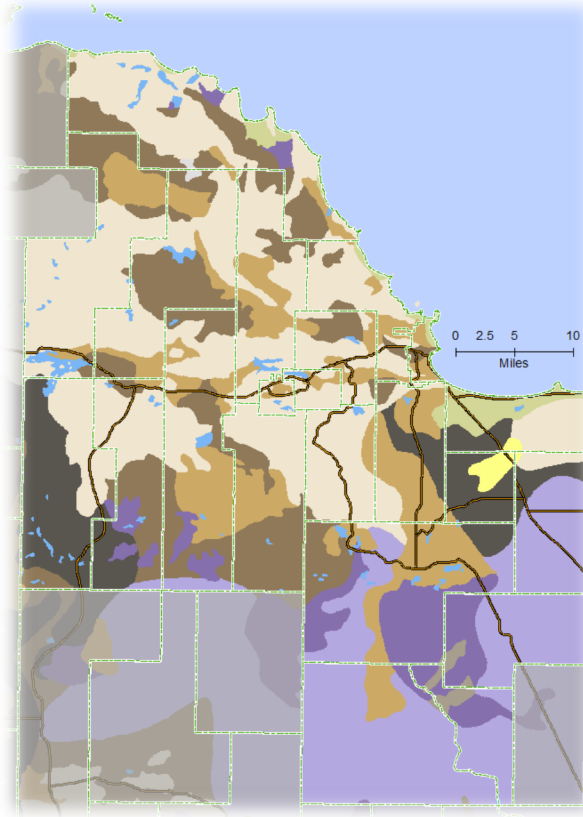
Surface Geology

Surface geology deals with the composition, areal distribution, and thickness of the unconsolidated soil and rock materials lying above bedrock. Glacial deposits range in depth from zero to 500 feet.

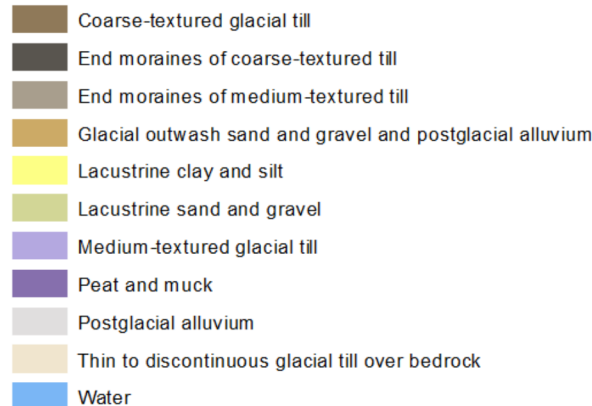
Surface geology has definite links with soils, vegetation, and land use. Soil development is often dependent upon the decomposition of the underlying parent material. Rock outcrops from glacial drift have made mineral exploration and extraction economical. Communities have developed in many of these areas. Hilly moraines and glacial till areas have given rise to more fertile soils upon which some agriculture has thrived. Glacial deposits are also an important source of gravel.

Water infiltration and runoff are directly related to the permeability of the underlying surface materials. This factor governs the amount of water available for streams and the development and size of drainage patterns. Groundwater is also gov-

Surface geology of Marquette County



Surface Geology Type



erned by the amount (thickness and area) and permeability of the sub-strata. Developed areas, which lie on top of impermeable Precambrian bedrock, rely totally on glacial drift for the supply and recharge of water systems. Outwash deposits, for example, are the best aquifers, as they have high permeability and can be quite extensive. Moraines and tills are generally poorer producers, containing impermeable clay.

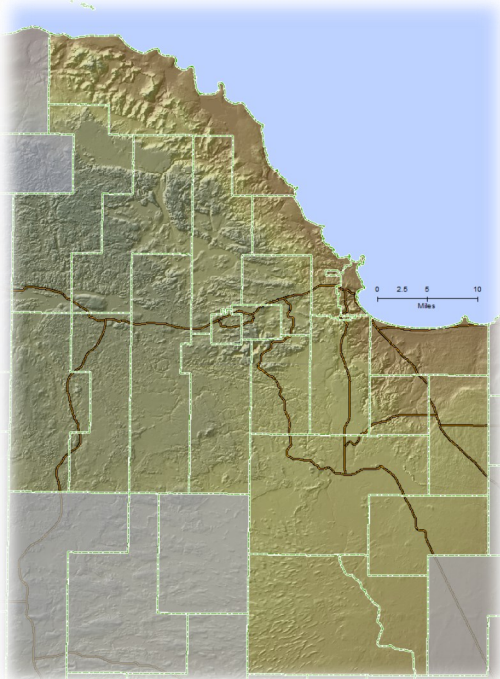
Areas of till/bedrock present many problems associated with development – shallow depth to bedrock, poor groundwater source, and inadequacy for wells and septic disposal being the primary factors. However, good potential exists for developing outwash plains as a possible groundwater source, and thicker deposits of gravel can be found in moraines and outwash areas which were near the ice front.

Terrain

Marquette County terrain varies from mountain slopes to swampy depressions. One of the “mountain” masses in the Upper Peninsula, the Huron Mountains, arch across the northern edge of the county. Basically, these comprise lake/knob topography. The majority of slopes in the area range from 20-45%. The remainder of the county varies from rolling in the west to almost level in the east, where there are many swampy depressions. Slopes are quite steep around kettle lakes in southern Republic, Humboldt, Tilden, and Forsyth Townships. There are also steep, dramatic cliffs, ravines and canyons along the Mulligan Plains, the Lake Superior shoreline, and along segments of the Yellow Dog and Chocoday Rivers. Several waterfalls also exist where masses of bedrock meet such features as outwash plains. Some of the highest topography (greater than 1,800 feet in elevation) in Michigan is located in northwest Marquette County. Here relief ranges as high as 400 feet. Altitudes range from about 600 feet



Terrain of Marquette County



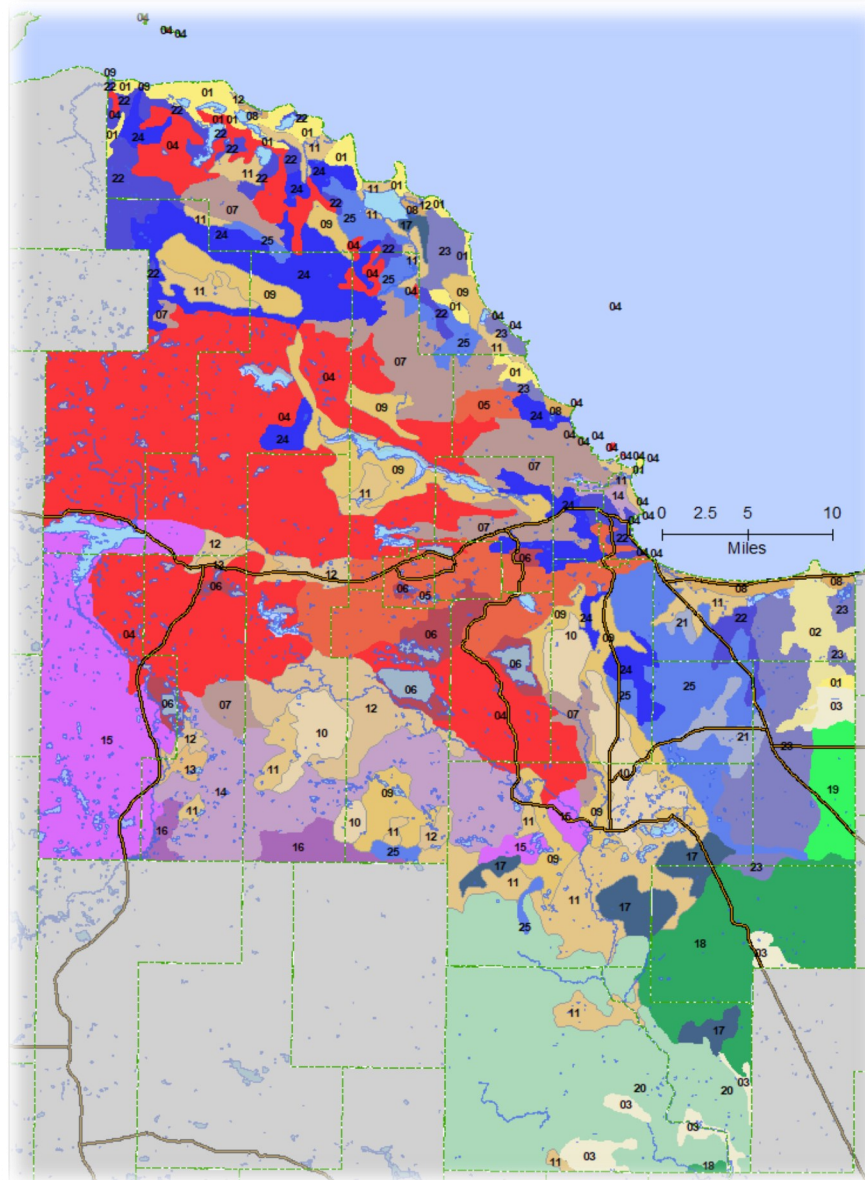
above sea level along the Lake Superior shoreline to 1,900 feet in Section 31, T50N, R29W, in the northwest.

The varied landscape of Marquette County creates a wealth of opportunity for outdoor recreation, such as skiing, hiking, rappelling, and sight-seeing, for example.

Soils

There is a direct relationship between soil types and underlying glacial deposits. Soils overlying outwash are predominantly sand or sandy loam at the surface grading downward to sand and

Soil types of Marquette County



Soils on Bedrock Benches

- 1 Buckroe-Yalmar Association
- 2 Zeba-Jacobsville Association
- 3 Cunard-Nahma Association

Soils and Miscellaneous Areas on Bedrock-controlled Moraines

- 4 Keewaydin-Michigamme-Rock Outcrop Association
- 5 Schweitzer-Michigamme-Rock Outcrop Association
- 6 Pits-Dumps, Mine-Slickens Association
- 7 Kalkaska-Ishpeming-Rock Outcrop Association

Soils on Outwash Plains, Terraces, and Beach Ridges

- 8 Deer Park Association
- 9 Rubicon-Sayner Association
- 10 Grayling Association
- 11 Kalkaska-Carbondale-Deford Association
- 12 Pence Association
- 13 Sundog-Minocqua-Channing Association

Soils on Disintegration Moraines

- 14 Rubicon-Keweenaw Association
- 15 Goodman-Sundog-Greenwood Association
- 16 Sagola-Rubicon Association

Soils in Swamps on Lake Plains, Outwash Plains, and Moraines

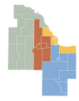
- 17 Carbondale-Tawas Association

Soils on Ground Moraines

- 18 Shoepac-Ensley-Charlevoix Association
- 19 Shoepac-Carbondale Association
- 20 Emmet-Carbondale Association

Soils on Till-floored Lake Plains and Dissected Moraines

- 21 Munising-Fence-Paquin Association
- 22 Munising-Yalmer Association
- 23 Skanee-Munising-Gay Association
- 24 Keweenaw-Kalkaska-Waika Association
- 25 Garlic-Alcona-Voelker Association



gravel. Soils that have formed over clay-rich glacial till and lacustrine deposits consist of silty loam to loamy clay. Thick, mucky peat soils overlie organic deposits. Little or no soil has developed in areas where bedrock is exposed, primarily due to the resistance to weathering and break-up of the rocks and the natural ability of materials to move downhill. Soil type within the County are displayed on the previous page.

Awareness of soil characteristics should be a prerequisite to development. Pertinent soil characteristics include moisture and nutrient content for agriculture, bearing capacity for structures, permeability levels affecting drainage, erosion factors, and many other important considerations. Soils are major components of the ecosystem. Limitations can sometimes be overcome by careful applications of technology. Enforcement of the [Soil Erosion and Sedimentation Control Act](#) by the Marquette County Building Codes Dept. will help ensure soil conservation in Marquette County.



Tree Species

Listed in order of abundance:

Balsam Fir, Sugar Maple, Quaking Aspen, Red Maple, Cedar, Black Spruce, Paper Birch, Jack Pine, Black Ash, Hemlock, Big Tooth Aspen, Yellow Birch, White Spruce, Black Cherry, Ironwood, White Pine, Tamarack, Red Oak, Red Pine, Pin Cherry, Mountain Maple, Striped Maple, Basswood, Choke Cherry, Green Ash, Scots Pine, American Elm, White Ash, Apple, Beech, Norway Spruce, River Birch, Black Maple, Silver Maple

MSU Extension

Vegetation

The vegetation patterns that originally occupied Marquette County before 1840 have been altered considerably. Large stands of hardwood were harvested during the late 1800's for use in blast furnaces for making pig iron. Pure stands of pine and other species were cut to provide building materials and supports for underground mining. Both human-caused and natural wildfires followed extensive timber cutting and this drastically altered soil conditions which resulted in a change in the capability of many sites to produce the same species.

According to the [Michigan Natural Features Inventory](#) (MNFI), 90% of the county is forested, while other vegetative cover consists of shrubs and grasses.

9 in 10 (89.4%) County residents say that "Preserving open spaces, green spaces, and natural areas (e.g., woodlands, wetlands) is "Very or Somewhat Important."



Common Animal Species

Beaver, Black Bear, Coyote, Eastern Chipmunk, Garter Snake, Green Snake, Pine Snake, Porcupine, Red Squirrel, Ruffed Grouse, Red Fox, Skunk, Snowshoe Hare, Spruce Grouse, White Tailed Deer, Woodcock

Common Birds (Over 300 observable species)

Herring Gull, Warbler, Waxwing, Canada Goose, Blackbird, Pine Siskin, Redpoll, Grackle, Starling, Junco, Grebe, Swallow, Grosbeak, Sparrow, Robin, Chickadee, Raven

County Forest Management Plan

Wildlife

Historically, as land cover changes, so do the types of animal species. Wildlife is highly dependent on the local ecosystem. Wildlife currently present in Marquette County can be found at MNFI, and key species are highlighted in the boxes below.

"People come here to live and visit due to trees and hills and water and snow..." -Borealis Beach

Water

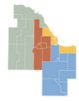
One of the most valuable natural resources in Marquette County is the abundance of fresh water. Surface water is but one element of the hydrologic cycle.



Common Fish

Largemouth Bass, Smallmouth Bass, Brook Trout, Brown Trout, Catfish, Carp/Suckers, Chinook Salmon, Coho Salmon, Crappie, Lake Trout, Steelhead Trout, Menominee, Northern Pike, Pink Salmon, Rainbow Trout, Smelt, Sunfish, Walleye, Whitefish, Yellow Perch

MDNR



Surface Waters

The surface waters of Marquette County face development pressure. Other than residential lots, some of the main uses of streams, lakes and reservoirs are for recreation, agriculture, fishing, dilution of wastewater, hydroelectric power generation and iron ore processing.

Sedimentation

Large quantities of sediment allowed to enter surface water from land adjacent to water features create negative impacts. Transported sediments degrade water quality, destroy natural plant growth, increase nutrient levels, and decrease the carrying capacities of watercourses. The highest sediment yields in the county can be expected from exposed soil materials. Increased recreational use of lakes and streams, more development in general, and poor farming practices can greatly increase sediment yields.

Erosion

Beach erosion, both natural and human-caused, has been an issue along the Lake Superior shore. Naturally occurring longshore currents along the Lake Superior shoreline continually transport material (sand). The process causes erosion along some areas of the coastline and can infill other areas. This process has implications in that it causes valuable recreational beach loss and necessitates dredging of harbors such as the Big Bay Harbor of Refuge and harbors in the City of Marquette. Erosion also causes fluctuating currents that may create dangerous swimming conditions.

Wetlands

Wetlands are areas of low, level or nearly level land where water is at or near the surface for all or part of the year. These areas are often described as marshes, swamps, or bogs. Production of food and cover for wildlife, natural filtration of surface water and surface water storage are some of the functions of these areas. Michigan's wetland statute,

Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, is intended to provide for the preservation, management, protection and use of wetlands. The Act requires permits for altering these areas.

Considerable urbanization along U.S. 41 Whetstone and Badger Creek watersheds in the City of Marquette and Marquette Township has resulted in excessive surface runoff which consequently affects low lying areas downstream.

Much of the development in Marquette County, which utilizes groundwater as a source for municipal or industrial use, is located on the Precambrian bedrock formations. Here glacial drift is the main source of subsurface water. Glacial outwash deposits in these areas appear to be the best source of potential groundwater. These deposits are up to 250 feet thick. Most wells in the northern and extreme southern part of the county are completed in bedrock at depths less than 100 feet with yields between 3 and 40 gallons per minute. Deeper wells are found in the central part of the county in glacial deposits and yield up to 200 gallons per minute. The static water table is near ground surface (0-50 feet) in most of the county. However, some areas, such as area outwash or hilly terrain underlain by bedrock, this figure may approach 100 or more feet.

"Protecting waterbodies (rivers, streams, lakes)" was rated the most important issue in Marquette County by survey respondents.

96.1% of County residents who say that protecting waterbodies is "Very or Somewhat Important."

Major waterbodies and rivers



Lake Michigamme
4,212 acres



Dead River
Storage Basin
2,704 acres



Greenwood Reservoir
1,400 acres

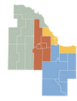
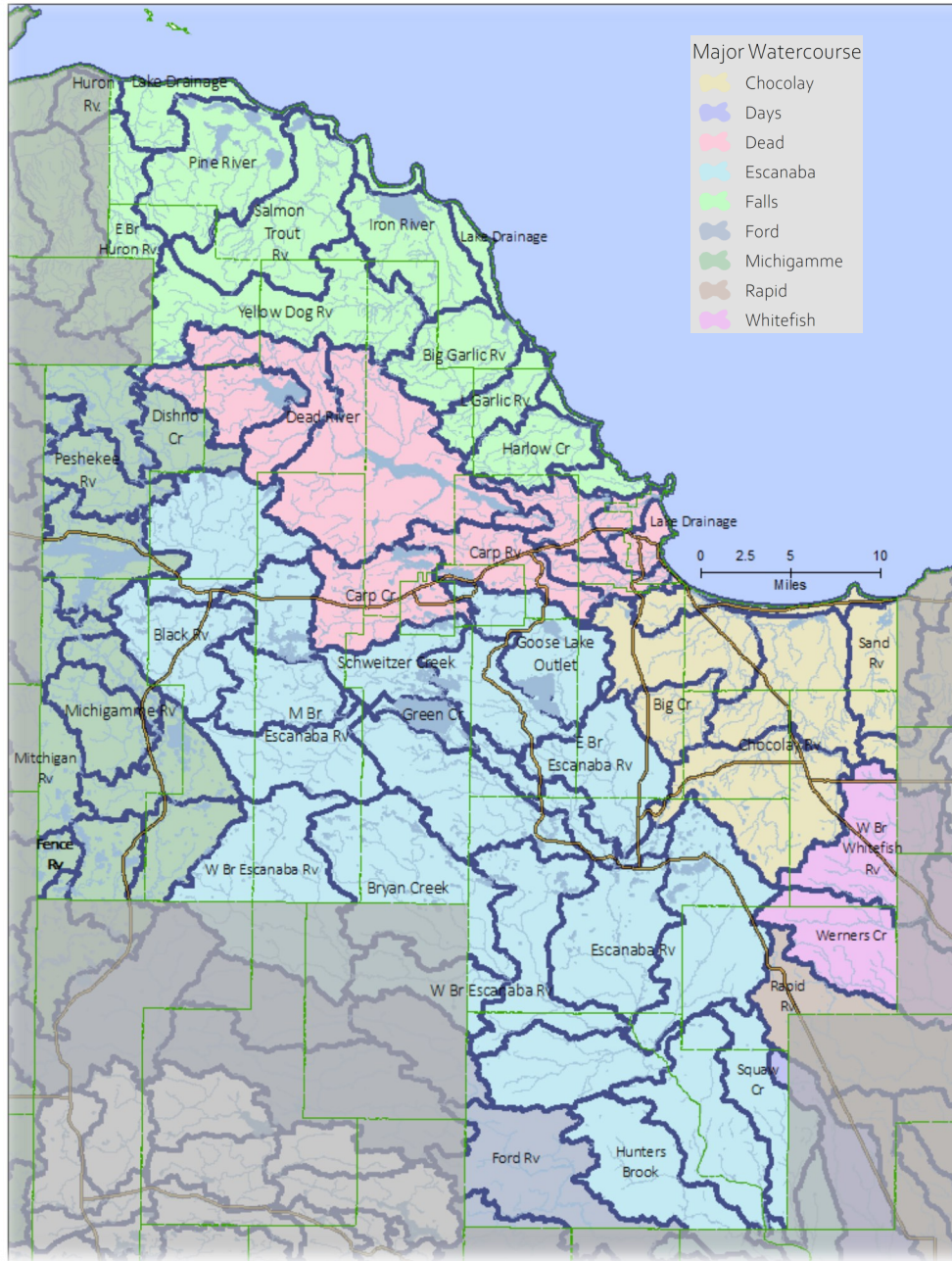


Silver Lake Basin
1,214 acres



Switzer's Reservoir
650 acres

River	Length (miles)	Drains To
Dead	43.2	Lake Superior
Carp	21.9	Lake Superior
Chocolay	21.7	Lake Superior
Michigamme	67.0	Lake Michigan
Escanaba	52.0	Lake Michigan

*Watersheds of Marquette County**Flood Plains*

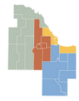
A flood plain is that area adjacent to rivers, streams, etc., that is subject to flooding under high water conditions. Flood plain development today is primarily related to the aesthetics associated with living near them.

Watersheds

No matter what the reason for development on flood plains, the inherent risk of loss to flooding exists. The attraction to these areas means some flood loss will take place and, therefore, one should plan to minimize the loss. The main methods by which this may be achieved are: engineering works (dams, dikes, etc.), regulation of development, and modification of structural requirements for construction. From another perspective, financial loss can be reduced through flood insurance.



"Clean water, in lakes, in rivers, in our drinking water ... soothes the soul, nourishes all the life surrounding us, and makes up the major portion of our bodies." –Moose Hills



Climate Change

Climate has a strong influence on all natural and cultural processes. It controls social patterns—recreation and tourism for example—and impacts agriculture as well as other types of land use activities. Energy consumption is tied to climatic conditions. Stream flow and availability of groundwater are also affected.

The [Intergovernmental Panel on Climate Change](#) (IPCC) and the overwhelming majority of climate scientists have examined a wide variety of changes associated with a warming planet and concluded that climate change due to the burning of fossil fuels is occurring and is increasingly well documented. The effects of climate change on human enterprises and quality of life and

68% of County residents who agree that "Climate change is impacting Marquette County and should be considered when regulating future development."

on ecosystems vary widely across the Earth, necessitating place-based adaptation planning.

According to the [National Oceanic and Atmospheric Association](#) (NOAA), "climate" is defined as long-term averages and variations in weather measured over a period of several decades. According to the [National Climate Assessment](#), "The global warming of the past 50 years is primarily due to human activities, predominantly the burning of fossil fuels."

Human-induced climate change is projected to continue, and it will accelerate significantly if global emissions of heat-trapping "greenhouse gases" like carbon dioxide and methane continue to increase. The underlying cause of climate change is a warming planet stemming from an increase in greenhouse gases (e.g., carbon dioxide, methane, water vapor) that trap re-

Observed Climate Trends in Marquette County

- Shorter Winters
- Hot, Dry Summers
- Frequent, Intense Precipitation and Wind events
- Warming Lake Superior Temperature
- Lake Superior Water Level Fluctuation

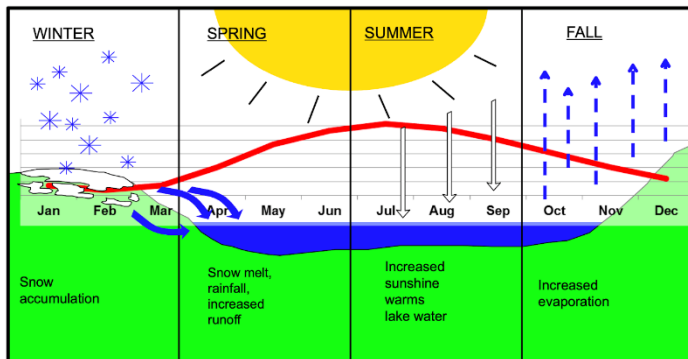
flected solar radiation on Earth. According to a [report](#) from the World Research Institute, this rise in temperature translates to higher ambient temperatures but also to complicated interactive effects such as increased storm frequency and intensity, droughts, melting of glaciers and ice caps, rise in sea levels, increases in plant pathogens and more. This build-up of greenhouse gases results primarily from human activity, with the largest contributor being electricity generation using fossil fuels.

Marquette County has **22** watersheds or drainage basins, nearly **4,000** miles of rivers & creeks, over **1,900** inland lakes, **87** miles of Lake Superior shoreline (islands account for **10** of these)

Lake Superior Water Levels and its Relation to Climate



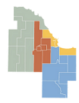
ANNUAL WATER LEVELS AND THE HYDROLOGIC CYCLE



There are many factors that affect lake levels. The major factors are evaporation and precipitation. Evaporation is simply the liquid water in the lakes turning into a gas and entering the air. Evaporation is always happening, but it increases when the water is warmer than the air and decreases when the water is colder than the air. Precipitation is any liquid (rain) or solid (snow) water that falls from the air into the lakes. Runoff is water that falls within the drainage basin area of the Great Lakes and makes its way into the waters of the Great Lakes via running over land and into creeks and rivers.

Primary drivers of changing levels include weather patterns and evapotranspiration (evaporation and transpiration from plants, soil and water bodies) rates during the fall and winter seasons. Fall evapotranspiration rates are responsible for bringing lake levels down from their peak in late summer, and are driven by the gradient between water and air temperatures.

Continued on next page



Climate Data Trends

Air Temperature

Compared to average temperature levels of the early to mid-20th century, the Midwest region and Michigan have both warmed overall as shown by the Great Lakes Integrated Sciences and Assessments (GLISA) in the following figure. Marquette's climate has undergone similar though not completely identical changes. Residents are experiencing higher overall temperatures, with the most dramatic increases occurring in the winter.

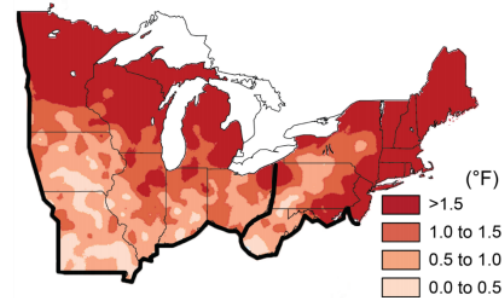
"I would love to see more development with alternative energy resources and more focus on self-sustainability ... and less harm to our environment..." – Iron Core

3 in 4 (77.3%) County residents rate alternative energy sources as "Very or Somewhat Important."

"I'd place more emphasis on renewable, sustainable energy..." – Moose Hills

Change in temperature from 1951-2017 in Western Upper Michigan

Annual	+2.7
Winter	+3.9
Spring	+2.5
Summer	+2.1
Fall	+2.5



Midwest temperature changes, 1991-2012 average compared to the 1901-1960 average

The Marquette County Multi-Jurisdictional Hazard Mitigation Plan contains information related to environmental hazards, including recent storm events from the NOAA Storm Events Database.



HAZARD MITIGATION PLAN

COUNTY OF MARQUETTE, MICHIGAN

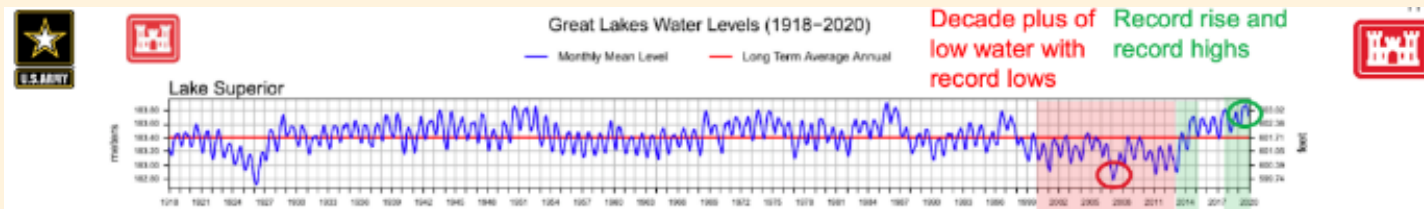
Prepared by the Resource Management and Development Department, Planning Division
Date of adoption: December 15, 2020

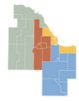
Lake Superior Water Levels and its Relation to Climate, continued

Lake Superior's maximum annual ice coverage has been trending down since the 1970's according to a 2017 report from NOAA. Less winter ice coverage means more open water and moisture can be picked up and turned into lake effect precipitation for downwind communities. It also means that more water evaporates from the surface of the lake further destabilizing lake water levels.

U.S. Army Corps of Engineers (USACE) data indicates that in 2007, Lake Superior had record low lake levels, but in 2013 and 2014, the lake experienced a record two-year rise. In 2019, Lake Superior broke several monthly lake-level records. It is difficult to predict future lake levels. In early 2020, the USACE explained that the factors influencing lake levels, and levels of uncertainty around those factors, was larger than the USACE had ever seen.

The USACE reports water levels as a measure of the lake's elevation above sea level as a lake-wide average. Lake levels are a measure of still water and do not account for storms or flooding events, which are measured and monitored by other agencies such as NOAA.

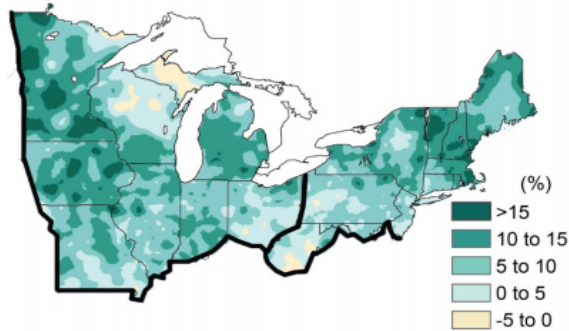




According to the [2019 Assessment of Climate Change on the Great Lakes Report](#), precipitation rates have increased in the Great Lakes region nearly 10% since 1976. By 2099, rates could increase another 10% with precipitation coming in larger singular events.

Change in precipitation from 1951-2017 in Western Upper Michigan (in. & %)

Annual	-0.4, -1.21%
Winter	+0.05, 10.11%
Spring	-0.4, -4.95%
Summer	-1.7, -15.70%
Fall	+1.3, 14.95%



Midwest annual total precipitation changes, 1991-2012 average compared to the 1901-1960 average

Lake Superior Water Temperature

Lake Superior is the [fastest warming of the Great Lakes](#) while also warming three times faster than the global average. Lake Superior's surface temperature has risen 3 degrees Celsius in the past four decades resulting in a substantial decrease of total ice cover and duration of ice cover. One of the obvious reasons is the warming air tempera-

tures. A direct effect of global warming, regions further north feel these changes the most due to the historic presence of snow and ice. However, that presence is slowly declining. These changes create challenges for coastal communities and stress aquatic and terrestrial ecosystems throughout the region.

Climate Change Effects and Impacts

Climate and weather events have contributed to damaging infrastructure and impacting human health. In Marquette County the groups considered particularly sensitive include the aging, young children, those in poverty, the homeless, those without access to health care or other essential services, people with chronic diseases and mental stress, and socially isolated individuals and towns. The tables list a subset of key socio-economic and health related indicators of vulnerability for Marquette County compared to the rest of the state.

Extreme Weather

The Great Lakes region has experienced more frequent and intense extreme weather events like high winds, heavy rains and periods of drought. Examples include: floods impacting roads and water treatment plants; wildfires cutting off power and access to services; cold snaps freezing pipes; stream and beach contamination from storm water runoff; and diminishing aquifer recharge leading to water shortage. High Lake Superior water levels paired with high winds builds record setting wave heights that cause shoreline erosion and damage to shoreline infrastructure.

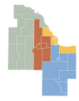
Predicted Climate Change Impacts

- Infrastructure Damage
- Influx of "Climate Migrants"
- Negative Mental Health Implications
- Loss of Native Plant Species
- Increased Spread of Diseases
- Elevated Risk of Chronic Health Conditions

Elevated Rates of Chronic Health Conditions	Marquette County	State of Michigan
Disability	30.3%	25.2%
Asthma (Still)	14.6%	10.9%
Asthma (Ever)	26.3%	15.0%
Obesity	36.5%	31.1%
Arthritis	34.8%	31.1%

Socio-Economic Vulnerability Factors	Marquette County	State of Michigan
Age under 5 yrs.	4.8%	5.8%
Age 65 yrs. And over	18.0%	16.2%
Population in Poverty	15.0%	15.8%





Water Quality

A changing climate in the area brings concerns of flooding, contaminated surface and groundwater, and reduced groundwater access. Storm water runoff may cause human exposure to contaminated water through intensified precipitation events and less time for water to be filtered through absorbent surfaces before entering inland lakes and streams used for human recreational activities and water intake sources.

Air Quality

Increasing average annual temperatures and shifting seasonal precipitation patterns that have at times led to drought conditions can lead to intensified wildfires, poorer air quality, and increased pollen counts. This can impact human health by causing or exacerbating respiratory illnesses as well as inducing stress and straining mental health. The expected changes in climate on a broad scale will affect all forest types and are likely to increase the risk of summer wildfires throughout the region. With warmer temperatures and increasing atmospheric CO₂, forest productivity will likely increase.

“Planning for the long term future (not just for our lifetimes, but for our children’s and grandchildren’s lifetimes) in terms of environmental changes and renewable energy should be more important.” – Borealis Beach

Vector Borne Diseases

Mosquitoes and ticks act as vectors for a variety of diseases. In the U.S. and in the Midwest, these insect vectors will likely survive in greater numbers as winters become milder and summers become longer and hotter. Climate-related changes in the vectors’ habitat and host species populations will also influence future disease risk. In Michigan, the **primary diseases of concern** are West Nile Virus (mosquito borne) and Lyme Disease (Tick borne). Click the image to learn more:



Climate Migration

With Marquette County being more minimally impacted by climate change compared to other places nationally and around the earth, we expect to see an influx of people moving to the area, a “climate migration”. This means that climate change will exasperate existing social issues we face, such as equitable housing and food access.

REFERENCES

Marquette Area Climate and Health Adaptation (MACHAP) Guidebooks

The three MACHAP Guidebooks demonstrate how local adaptive capacity can be built to reduce or prevent the health impacts from climate change.

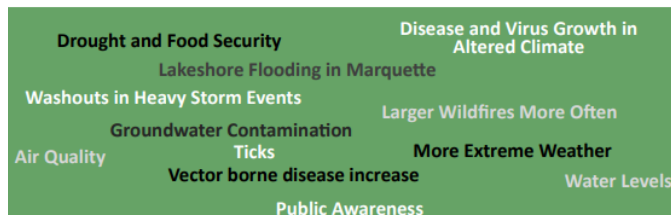
Following the CDC’s **Building Resilience Against Climate Effects framework (BRACE)**, MACHAP is building a climate-resilient public health system by following three main principles:

- Climate change is recognized as a public health issue and is integrated into public health practice
- Public health agencies and stakeholder organizations have the tools, resources and activities to respond to climate change impacts within existing programs, and
- Vulnerable populations are explicitly considered in programs and policies addressing climate change impacts.

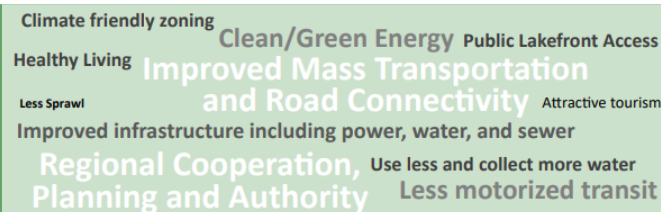
Click the image to learn more:



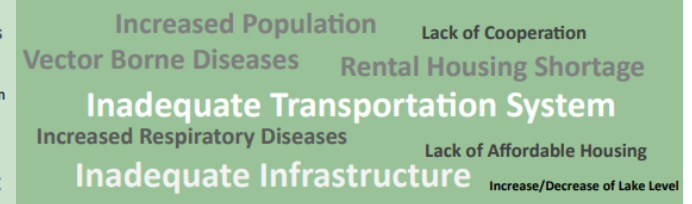
What are the biggest climate threats?

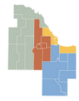


What is the best hope for your community in relation to addressing climate and health impacts?



Rank the major climate change and health priorities for Marquette County.





This section of the Plan addresses how our community, and its basic needs, interacts with the natural environment. Thoughtful use of land is essential in order to maintain and improve the characteristics that our community values the most.

Land Use

In order to coordinate existing and future land development and maximize the

Factors Affecting Land Use

- public interest
- transportation
- land ownership
- land conservation
- land value
- natural determinants
- economics

“Lake Superior and the entire shoreline (and its openness to the public) ... (is) key to the character of Marquette ... Presque Isle Park is an absolute gem.” –Borealis Beach

benefits of the land we use, it is necessary to be aware of factors affecting land use. It is at the local level that the government can have the greatest influence on land use. Public investment in schools, parks, roads, water and sewer extensions, etc., all provide opportunity for development and often will determine what type of development will occur. The legislative authorities granted by planning and zoning laws as well as a variety of codes for building and sanitation issues allows local units to determine parameters within which development can occur.

benefits of the land we use, it is necessary to be aware of factors affecting land use.

It is at the local level that the government can have the great-

“As it stands now, Marquette County is a great place ... (with) lots of public land, and good use of natural resources. If Marquette continues to expand, then the things that people hold dear (like) driving a short distance and being able to hunt, fish, (and) explore ... will disappear.” –Iron Core

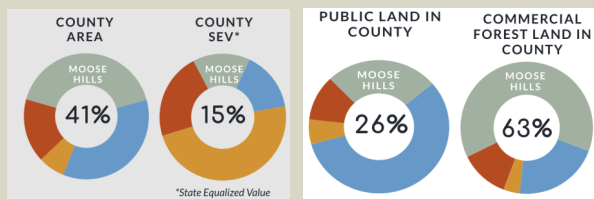
Land Value

The value of land can impact its use and adjacent uses. Land value is the value of land in terms of its ability to be used to satisfy a particular need and as a commodity. In order for property to have monetary value, there are three features it must possess: utility (usefulness), scarcity (supply), and desirability (demand). Either an increase in demand or a decrease in supply will increase the value of land. The inverse

is also true – when an excessive supply of land or a lack of demand exists, value will be lower.

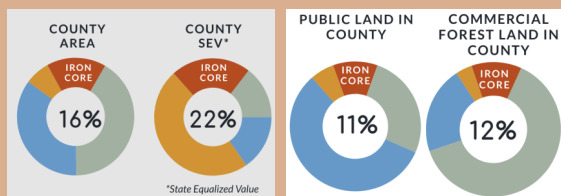
Approximate Equalized Value and Land Profile by Planning Regions

MOOSE HILLS REGION



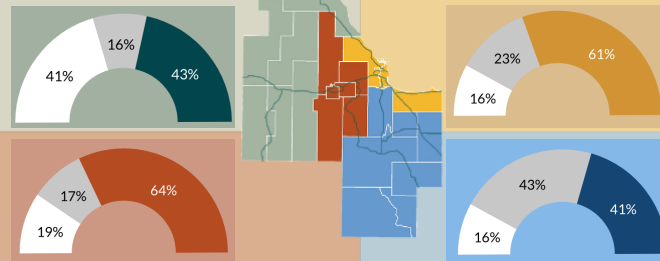
Equalized Value: \$296 million

IRON CORE REGION



Equalized Value: \$585 million

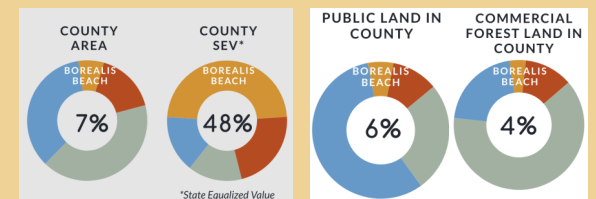
Total equalized value in Marquette County was
\$2.45 billion in 2019



Commercial Forest Land- private land managed for timber production, receiving a reduction in taxes and open to the public (foot access) for fishing and hunting

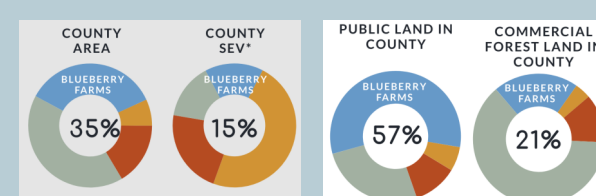


BOREALIS BEACH REGION

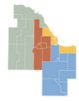


Equalized Value: \$1.19 billion

BLUEBERRY FARMS REGION



Equalized Value: \$379 million



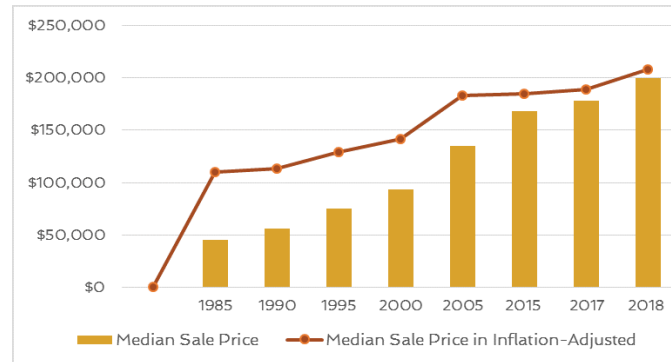
Market, Resale, and Equalized Value

For purposes of comparing or rationalizing the worth of anything, there needs to be a mechanism by which value can be gauged. Market value is an old and simple measure and is defined as relating to personal, real, or public utility property. Personal property consists of moveable items that are not permanently affixed to the land. Real property is the land and all things attached to the land, and real property value must account for potential future land uses on that property. Finally, the market value of public utility property is the present value of the property, plus costs of improvements, minus depreciation.

One measure of value that can be easily compared between states, regions, and communities is the average resale price of housing. Home values have fallen considerably in the U.P. over the past decade relative to the rest of the state, even as individual communities in the U.P., like Marquette and Munising, are dealing with significant housing affordability crises. Marquette County, however, has shown continued increases in home sale prices, while many other parts of the U.P. have seen home values stagnate or decline.

In this Plan, average prices have been used because most data are available in that format. The median price, however, is a more reliable measure as it is less affected by extreme outliers in the data – for example, a luxury home that sold for \$1 million or a fixer-upper that sold for less than \$100,000. The Median Sale Price Figure shows the median residential sales price in the Marquette area (i.e., the Borealis Beach region plus Sands Township) by year. According to Closser Associates, after decades of stability the median home sale price in Borealis Beach rose rapidly in the early-to-mid-2000s, and has been doing so again in recent years, with the intervening housing crisis of 2008-2012 likely

playing a major role in temporarily reversing this trend. **The median home sale price in Marquette** has nearly doubled since 1985 in real, inflation-adjusted dollars. As can be seen below, the median sale price of a home in Borealis Beach **rose 12.4%** in one year alone from 2017 to 2018. For a more detailed discussion of this issue, see the **Housing section** of this Plan.



Residential median sale price, Marquette area

Assessed property values are another measure of land value. Features such as towns, lakes, businesses, and even transportation corridors have significant effects on values of specific locations. The property with the highest value per acre typically is within denser core communities, such as the Cities of Ishpeming, Marquette, and Negaunee, than in the surrounding lower-density rural areas.

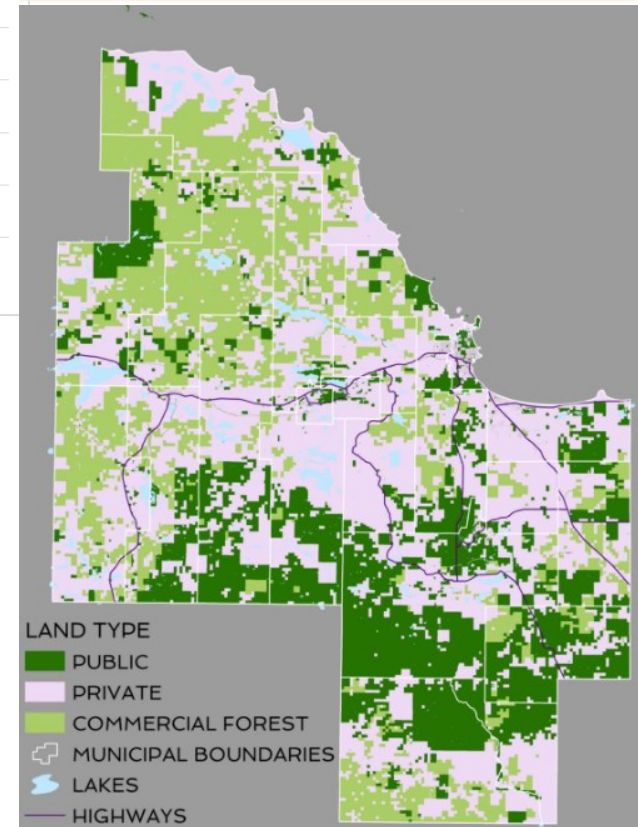
“Black Rocks, Presque Isle and Little Presque Isle, access to hunting land ... (and) hiking trails ... are what really make Marquette so enjoyable, in my opinion.” – Borealis Beach

Land Ownership

In 2020, roughly 26% of the land in Marquette County was publicly owned, while the remaining 74% was under private ownership. The three-quarters of the County's land that is privately owned is split between a few large corporate ownerships and a much larger number of small landowners. The largest private landowners in the County are corporate owners such as Cleveland-Cliffs, Inc.

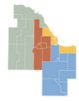
Michigan Mineral and Surface Rights

“**Mineral rights**” are the rights to some or all of the mineral resources beneath a piece of property and are separate from “surface rights”. Most property owners do not own the mineral rights under their property and are held independently from the surface rights.



Marquette County Land Ownership Highlights

- 26% Publicly owned
- 74% Privately owned
- 3/4 of privately owned land is split between a few large corporate ownerships
- 27% designated as commercial forestland. See map of CFA lands [here](#)

*Continued on next page*

(the owners of the Tilden and Empire Mine properties), **Weyerhaeuser Company** (a timber company), and Longyear Realty Corporation (which is affiliated with **J.M. Longyear, LLC**, the parent company of JML Forestry and Northern Hardwoods). Much of this land is used for forestry – 27% of all land in Marquette County is designated as commercial forestland and enrolled in the Michigan DNR **Commercial Forest Program**.

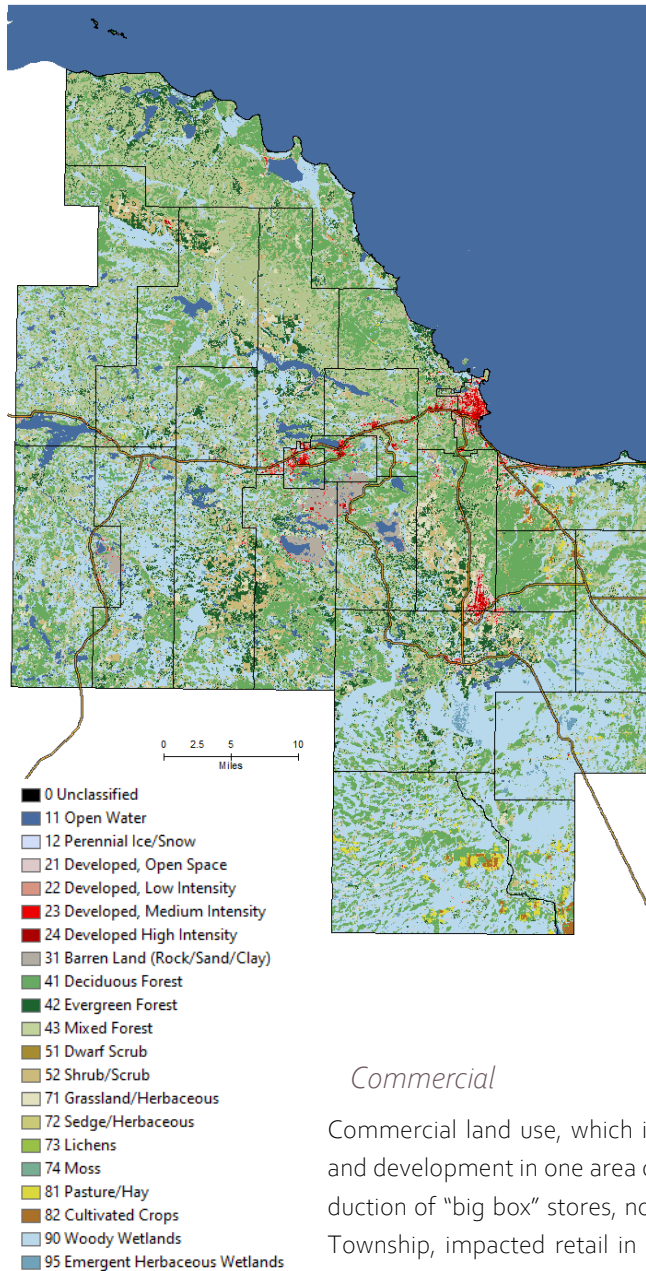
Public lands are located primarily in southern Marquette County, though less consolidated public lands exist throughout the County. Public land ownership includes State, County, township, public school district, and city-owned properties. The large amount of public land ownership in Marquette County has many ramifications. In terms of land use planning, large tracts of state forest lands will probably not be used for any purposes other than conservation, recreation, and occasional timber production. From a land value standpoint, these lands are not "on the market," functionally reducing Marquette County's supply of land by a quarter.

"State lands and waterways provide outdoor rec opportunities – fishing (so many lakes in the Gwinn area), cross-country skiing (at) Anderson Lake, as well as Blueberry Ridge..."
–Blueberry Farms

Current Land Use and Cover

An inventory of land use is valuable in understanding how use changes over time. In previous plan updates, land cover data from 1978 and 2005 were analyzed. For this Plan, 2016 and 2018 land cover data were used.

Land Cover Marquette County, 2016



Sprawl

The Organization for Economic Cooperation and Development (OECD) released a **report** in 2018 which defined sprawl as, "... an urban development pattern characterized by low population density that can manifest itself in multiple ways."

Sprawl is particularly wasteful in its consumption of tax dollars to provide extension of infrastructure (utilities, water, sewer) and in providing services such as fire and police protection, snowplowing, student bus-ing, etc. Development of this type is low density and requires large amounts of land. Sprawl is also auto-dependent in that everything in the developing area is spread out, and the development itself is removed from services and employment that are most typically in the urban area.

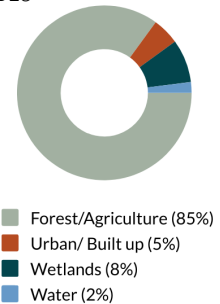
Residential

Residential land use exists throughout the County. Most of the residential growth is in or near the county's urban corridor which encompasses Marquette, Negaunee, and Ishpeming. However, inland water bodies scattered throughout the County have experienced a range of residential development including: small cabin development, conversion of seasonal dwellings to year round homes, and construction of expansive single family dwellings.

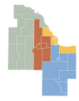
Commercial

Commercial land use, which includes retail and business, changes over time and development in one area can affect land use across the county. The introduction of "big box" stores, noticeable along the US-41 corridor in Marquette Township, impacted retail in downtowns requiring these areas to transform

Generalized land cover, 2018



Urban and built-up land is a general land use category that encompasses "developed" land uses such as residential, commercial, extractive, institutional, and industrial.



and move toward specialty stores and entertainment. Today, the use of large retail structures is in a state of transition, evidenced by the demolition of the Marquette Mall and the high vacancy rate in the Westwood Mall.

Downtown Marquette has remade itself in the last twenty years, and the downtown areas of Negaunee and Ishpeming have made some movement in the same direction. Big box stores and strip development can still be found along US-41 in or near all three cities, and in some cases has even expanded (for example, the construction of the new Meijer supermarket in Marquette Township in 2019), but big box, low-density retail as whole has struggled in Marquette County and the rest of North America in recent years due to the rise of online retail and the revitalization of downtown districts in many cities and towns. At least in these core communities, there may be a gradual transition away from low-density strip development along highways and back towards a more walkable, downtown-centric retail industry. This will be especially true if local small businesses can adapt to the booming e-commerce economy and local government entities encourage greater density, reduce blight, and attract greater commercial and residential development in their downtown districts.

Industrial

Industrial uses continue to change the land make up of Marquette County. The mining industry is a land intensive use More than a third of the land characterized as urban and built up has been used for the mining industry. The impact of mining in Marquette County is noticeable from space.

Mining

A variety of land uses are associated with mining operations. Land is used for excavation of the ore, industrial areas for processing, tailings disposal areas, transportation, and forest land. With these varied uses are a number of past, present, and future impacts. Mining first occurred underground, but it eventually switched to an open pit approach to maintain financial viability. The County's history of underground mining creates the risk of caving grounds. Areas that are at risk have been identified, cataloged, and should be evaluated before future development. Present mining operations are also an activity that has an impact on adjacent land uses. The open pit mining method requires large volumes of material to be extracted and generates vast amounts of waste that need to be disposed of near the site. There have also been use conflicts with nearby residential communities who are impacted by the ore dust emitted during processing. Future mining activities will likely be accompanied by additional land use changes such as removal of tree cover and will require reclamation planning.

Landfills

The management of solid waste is an important component in land use planning. The [Michigan Solid Waste Management Act of 1979](#) allowed Marquette County to gain control over the many "scattered" landfills (more appropriately, dumps) in the County. During the 1980s, the Marquette County's Resource Management and Development Department identified 78 such sites scattered throughout the County. Materials management planning has resulted in closure of these scattered sites and concentration of waste disposal at one site engi-

Sprawl continued

Sprawl is a resource consumptive (both economic and physical) type of development. It is essential that sound land use planning and strong land use controls are in place to deter proliferation of this type of development. Much of the area being consumed by this type of development in Marquette County is being converted from forest cover, increasing the risk of ecological damage and wildfires. This forest/residential zone is referred to as the "wildland/urban interface." More information on this topic can be found in the County's [Hazard Mitigation Plan](#).

Many residents are concerned about sprawl in the US 41 corridor:

"Cease sprawl ... while leaving large vacant commercial areas undeveloped." – *Moose Hills*

"Curb the feeling of unplanned sprawl in the Townships..." – *Iron Core*

"The US-41 corridor from Marquette to Ishpeming is getting out of control ... trees along US-41 are being clear cut in order to put up things like storage units ... Traffic patterns are problematic." – *Iron Core*

"Encourage more businesses to locate closer to downtown ... there is too much sprawl west of the city." – *Borealis Beach*

Aerial view of the Tilden and Empire Mines





needed to precise technical specifications in order to maintain environmental integrity today and into the future.

Landfill sites are a relatively permanent land use as they typically are not readily convertible to other uses in the future. Waste deposited in these facilities is encapsulated in plastic liners that can be easily damaged and costly to repair. It is a priority to extend the lifetime of the County landfill in order to minimize the impact of this land use. Thankfully, recent recycling facility upgrades and a shift to single stream recycling are projected to extend the lifetime of the County Landfill by a decade or more

Housing

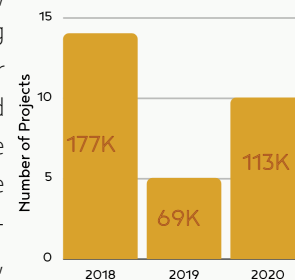
Shelter is a basic need of all individuals. While most housing is privately owned, it is generally considered a valid governmental function to influence it and in some cases directly provide it. The supply and condition of housing affects the quality of life within a community, the financial wellbeing of local households, and the physical welfare of individuals. Housing costs, as the largest expense in most household budgets, have a major impact on each household's standard

of living and Marquette County's economic prosperity and sustainability. This section evaluates the housing stock in Marquette County with respect to four criteria: availability, affordability, form and location, and condition.



Role of County Planning

The Planning Division administers the Marquette County Housing Rehabilitation Program to provide assistance to homeowners in Marquette County to help ensure their residence is safe, habitable, and livable. By providing emergency home repair assistance to qualified homeowners, we are able to improve the housing stock, strengthen the local tax base, implement energy efficiency standards, and help residents age in place.



Housing Rehabilitation Program Investment

3 in 5 (57.2%) County residents say Marquette County needs more housing development.

These four factors are all strongly interrelated, and each household must find an acceptable balance between them in order for their housing needs to be met. A wide range of housing types must be provided within each community in the County in order to meet the needs of all households. If a community cannot provide a range of housing options, it will likely see households migrate to other communities that can better meet their housing needs. This can have serious negative consequences for a community in the long-term. Thus, all local governments have a vital interest in helping to meet the housing needs of all local residents.

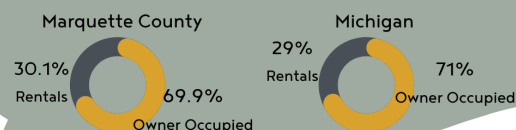
Availability

The population, number of existing housing units, tenure of occupancy (owner occupied or renter occupied) and current vacancy rates among those units determine the availability of housing in Marquette County. These factors are relative to the number of individuals and households seeking housing.

According to the U.S. Census Bureau, there are 34,738 housing units in Marquette County.



Rental housing is heavily concentrated in the City of Marquette, as well as the Negaunee-Ishpeming and Sawyer areas.



Marquette County Land Bank Authority

- Work collaboratively with local units of government and community organizations in finding the best way to return tax-foreclosed properties to the tax roll.
- Promoting homeownership, provide affordable housing, revitalize blighted neighborhoods, and return properties to the tax rolls.



Land Bank Authority

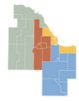
Marquette County Brownfield Redevelopment Authority

- Facilitate the implementation of Brownfield plans relative to the designation and treatment of qualified Brownfield Redevelopment projects.
- To educate the public and promote the benefits of the Brownfield Program throughout Marquette County to encourage revitalization of environmentally distressed areas.



Brownfield Redevelopment Authority

While nearly 1 in 4 housing units in Marquette County are labeled as "vacant" by the U.S. Census Bureau, homes may be vacant for a variety of reasons. For example, 70% of the vacant housing units (or 17% of all housing units) in Marquette County are used "for recreational, seasonal, or occasional use" - in essence, the Census Bureau considers "camps," short-term rentals, and seasonal homes to be "vacant" even though they have a current use. In fact,



the percentage of housing units in Marquette County used for “recreational, seasonal, or occasional use” has increased over the past decade, from less than 13% in 2010 to 17% in 2017. This is likely due to the growing popularity of the Upper Peninsula as a destination for seasonal tourism and a location for seasonal homes and short-term rentals.

High vacancy rates can have negative impacts on local communities and neighborhoods, as homes that are intended to be used as full-time residences are left vacant or abandoned. If a home remains vacant for an extended period it often begins to physically deteriorate, making the neighborhood look blighted and affecting the surrounding property values and the character of the neighborhood.

On the other hand, extremely low vacancy rates (below 1.5% for owner-occupied homes and below 5% for rental units) may indicate a housing shortage, which often contributes to rapidly rising housing costs. As you can see, Marquette City and Township have the lowest vacancy rates in the County for both owner-occupied and rental housing by a considerable margin. The Borealis Beach region (Marquette City and Township and Chocoday Township) has a homeowner vacancy rate of just 0.8% and a rental vacancy rate of 5.0%, the lowest of any of Marquette County’s four regions. These very low vacancy rates are indicative of significant shortages of both owner-occupied and rental housing. Left unaddressed, rising housing costs can compromise the future prosperity, diversity, and sustainability of a community by effectively “pricing out” low- and middle-income households, young professionals, and families with children.

“Marquette needs a ‘housing first’ approach to homelessness and more affordable housing options for low income families looking for a path out of poverty.” – Borealis Beach

Housing for an Aging Population

The population of the United States is aging, and that is true in Marquette County as well. As age increases, mobility generally decreases and more assistance and services are needed to meet basic needs. Our aging “Baby Boomer” population will require different housing accommodations in order to live comfortably. This massive demographic shift will require both the public and private sectors to place a renewed emphasis on improving accessibility and meeting the needs of retirees on limited incomes in Marquette County.

The County’s housing stock is old. Typical dwellings in historic neighborhoods in Marquette and old mining communities like Ishpeming, Negaunee, and Michigamme are multi-storied structures with no bathrooms or bedrooms on the main level. Steps leading into homes and staircases within them are also very common. These characteristics present a problem as individuals age and lose mobility. Seniors, regardless of health and access to services, will only be able to age in place if their homes accommodate reduced mobility.



If housing cannot be renovated to accommodate a reduction in mobility, a different type of housing must be built. Accessible subsidized housing is available in some parts of the County, but often has extensive waiting lists. Assisted living facilities provide support for daily living to ensure health, safety, and well-being, and nursing homes provide

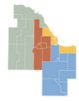
care to seniors with significant needs, but these options can be prohibitively expensive for many seniors and their families, and are in short supply in Marquette County. Expanding the supply of accessible, affordable housing in the County will be critical to meeting the rapidly changing housing needs of the Baby Boomers. This development should be concentrated in walkable core communities like the Cities of Marquette, Ishpeming, and Negaunee, allowing seniors who are unable to drive to still meet their basic needs and participate in community life by living within walking distance of basic services and downtown amenities.

3 in 4 (77.1%) County residents say reducing barriers to affordable housing & addressing homelessness is “Very or Somewhat Important.”

Homelessness

Marquette County has a growing homeless population, particularly in the City of Marquette. Room at the Inn, Janzen House, Harbor House, Superior Housing Solutions, and Lutheran Social Services offer shelter to homeless individuals on an emergency and transitional basis. According to [statistics](#) provided by Room at the Inn (RATI), as of 2018 the RATI Warming Center in Marquette averaged 25-30 guests per night, with 115 unique individuals served annually and 34 chronically homeless individuals, representing an increase in homelessness from previous years. While youth and veteran homelessness is currently declining statewide, homelessness is increasing in Michigan among seniors and families with children (60% of homeless families are headed by single mothers), and homelessness in the U.P. increased by 14% from 2016 to 2018 alone.

The [Room at the Inn](#) (RATI) Warming Center is an emergency nighttime homeless shelter for adults in Marquette that is run by an interfaith coalition of churches and volunteers. For

*Homelessness organizations & resources, Marquette County*

Organization	Services Provided
Alger-Marquette Local Planning Body (LPB)	Coordination of various homelessness/housing services in Marquette and Alger Counties.
Room at the Inn (RATI)	Permanent emergency homeless shelter, warming center, and support services.
Superior Housing Solutions (SHS)	Transitional/permanent supportive housing.
Lutheran Social Services (LSS)	Rapid rehousing, homeless prevention.
Janzen House	Transitional housing, emergency shelter, and support services.
The Women's Center Harbor House	Emergency shelter for victims of intimate partner violence.
Community Action Alger-Marquette (CAAM)	Housing, Homelessness Services, Heating & Utility Aid, Home Repair

15 years, the RATI shelter location rotated on a weekly basis between several local churches, and was open only from September through May. However, in 2020 RATI received approval from the City of Marquette to convert their current "Warming Center" in downtown Marquette into a 24-bed permanent homeless shelter, which will also qualify for state funding like many existing shelters downstate.

The RATI permanent homeless shelter alone is not enough to provide a long-term solution to Marquette County's homelessness problem. Marquette needs a way to provide emergency housing for homeless families, as families with children cannot currently be admitted to the RATI shelter. There is also a dire need for more transitional and "Permanent Supportive Housing" in the Marquette area. The **Janzen House** is a transitional housing facility located in downtown Marquette and can serve up to 32 clients, but it is typically at 95-100% capacity. The director of the Janzen House reports that more housing options and programs for ex-felons would help their capacity issues.

The Women's Center in Marquette also operates an emergency shelter, along with counseling and support services, for survivors of domestic abuse at their "**Harbor House**" facility in Marquette. According to the **Women's Center FY 2019 Annual Report**, in 2019 the Harbor House sheltered 144 domestic violence clients, all but 2 of whom were women and children, with 2,617 total shelter nights and an average of 7 people in the shelter per night. The Women's Center also provided \$78,242 in rental assistance to help clients transition to violence-free homes in FY 2019.

Lutheran Social Services has three homelessness programs. The Substance Abuse and Homeless Prevention Program serves families and individuals at risk of being homeless and have a history of substance abuse. The Welcome Home Program helps individuals transition from homelessness to safe, secure and permanent housing. Voices for Youth offers services designed to meet the basic needs of homeless youth, while offering support services that will allow youth to be reunited with their family or make a successful transition to independence.

However, the current transitional and permanent supportive housing resources in Marquette County are insufficient to

meet demand, which has unfortunately been growing in recent years. While the vast majority of Marquette County residents experiencing homelessness are actually in short-term "housing crises" that can usually be resolved relatively quickly, a significant minority of Marquette County's homeless population are experiencing long-term homelessness due to mental illness, substance use disorders, disabilities, past evictions, and criminal records that make it difficult to find housing and employment. According to Michigan Continuum of Care, 44% of homeless individuals in Michigan in 2018 had a disability (compared to just 14% of the general population) - 43% were physical disabilities, 28% were substance use disorders, and 39% were non-substance-related mental disabilities.

While a permanent emergency homeless shelter and rapid rehousing programs that are currently being developed in Marquette County will be very helpful, they will not be sufficient to address homelessness. A housing-first approach that incorporates adequate transitional and permanent supportive housing is the only viable long-term solution to homelessness in Marquette County.

Affordability

Housing is considered affordable if it consumes **no more than 30%** of a household's gross monthly income. When affordable housing is not available, households are forced to pay a higher percentage of their incomes to reside in adequate housing, resulting in inadequate funds for home maintenance and improvements and living expenses. Alternatively, they may be able to downgrade to housing that is low-quality or in a remote location far from the jobs and services located in the County's urban centers.

"We need more affordable housing, both rental and new single-family home construction." **-Borealis Beach**



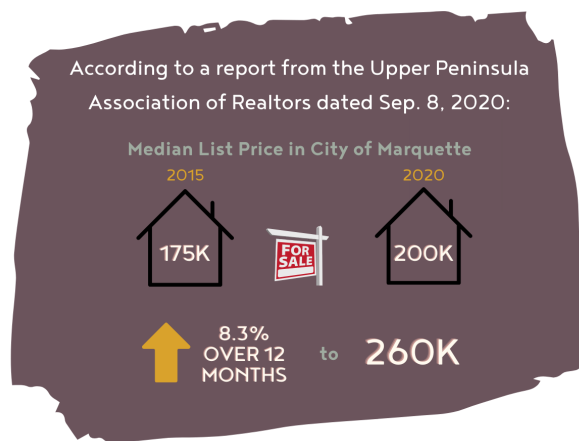
Those that have achieved homeownership are significantly better-off financially than renters. According to the 2018 American Community Survey, there are approximately 10,586 homeowners with a mortgage in the County. Of those homeowners, only 22.6% spend more than 30% of their household income on housing. This is likely due to homeowners generally having higher incomes and the ability to refinance to receive lower interest rates on their mortgage, thus lowering their monthly payment.

By contrast, 56.6% of renters in Marquette County spend more than 30% of their household income on housing. Renters typically have lower incomes than homeowners, making them more vulnerable to market rent conditions. This creates major financial challenges for rental households already struggling to make ends meet on lower incomes. These challenges will be explored in greater detail in the following section on the local housing affordability crisis.

The Housing Affordability Crisis: Local Trends

Like many other parts of the country, Marquette County is facing rapidly rising housing prices, and this trend has been especially severe in Borealis Beach, sparking a serious and steadily worsening housing affordability crisis in the Marquette area.

One in five Marquette County residents (and 52% of City of Marquette residents) are renters, and according to American Community Survey data, median gross rent has increased along with owner-occupied home prices in Marquette County, rising by 8.3% in the county as a whole and 17% in the City of Marquette from 2013-2018. In 2018, the percentage of renters who were considered “cost burdened” (spending more than 30% of their gross income on housing) was 56.6% in the City of Marquette and 52.0% in Marquette County as a whole. Given all of these statistics, it



is not surprising that Borealis Beach has the highest rate of “cost-burdened” households in the County, with 1 in 3.5 households spending more than 30% of their gross income on housing - this cost-burdened rate ranges from 1 in 5 to 1 in 7 in the other three regions in Marquette County. This housing affordability problem has been exacerbated by the fact that new residential development in Marquette County over the past two decades has been very limited and highly concentrated at the high end of the market.

“There is a very high need for affordable family housing.” -Borealis Beach

The median household in the City of Marquette, with an income of \$40,398, an average interest rate slightly over 3% on a 30-year mortgage, and a down payment of \$15,150 (the **median down payment** in the U.S. in 2018) could only realistically **afford to spend** \$163,000 on a home - this number only rises to \$187,000 for Borealis Beach and \$215,000 for Marquette County as a whole. Other new housing development in Marquette County over the past two decades has primarily consisted of suburban-style development of large,

owner-occupied homes on large lots on the periphery of higher-density core communities, which have generally been sold at high price points that are not affordable for the vast majority of local residents.

One of the greatest challenges for Marquette County and local communities over the next two decades will be to facilitate new housing development and the redevelopment of existing housing stock to provide quality housing that is affordable for low- and middle-income households. These new housing units will also need to meet the needs of both the aging Baby Boom generation and a new generation of younger Marquette County residents who have different housing needs and preferences than their parents and grandparents. Homeownership should also be promoted, but many Marquette County households will continue renting housing either by choice or out of necessity, and increasing homeownership should not come at the cost of ignoring the needs and concerns of renters. Rentals are not inherent-

Accessory Dwelling Units

Accessory Dwelling Units (a.k.a., ADUs) are small housing units that are typically built on properties on which a single-family home is already located, usually in a back yard, side lot, or even on top of a garage. Because they are smaller than most single-family homes and many rental units, and are generally easier and cheaper to build than most other types of housing, ADUs can often be rented at prices that are affordable for working-class people, without negatively altering the appearance, character, property values, or parking availability of existing neighborhoods. Unfortunately, local zoning often prohibits or severely restricts ADUs despite their potential for expanding the supply of Missing Middle Housing and increasing housing choice and affordability.



ly bad, and in fact, there is an urgent need to increase the number of available rental units that are affordable for low- and middle-income households. This will inevitably require gradual change in lower-density single-family neighborhoods that are composed primarily of owner-occupied homes.

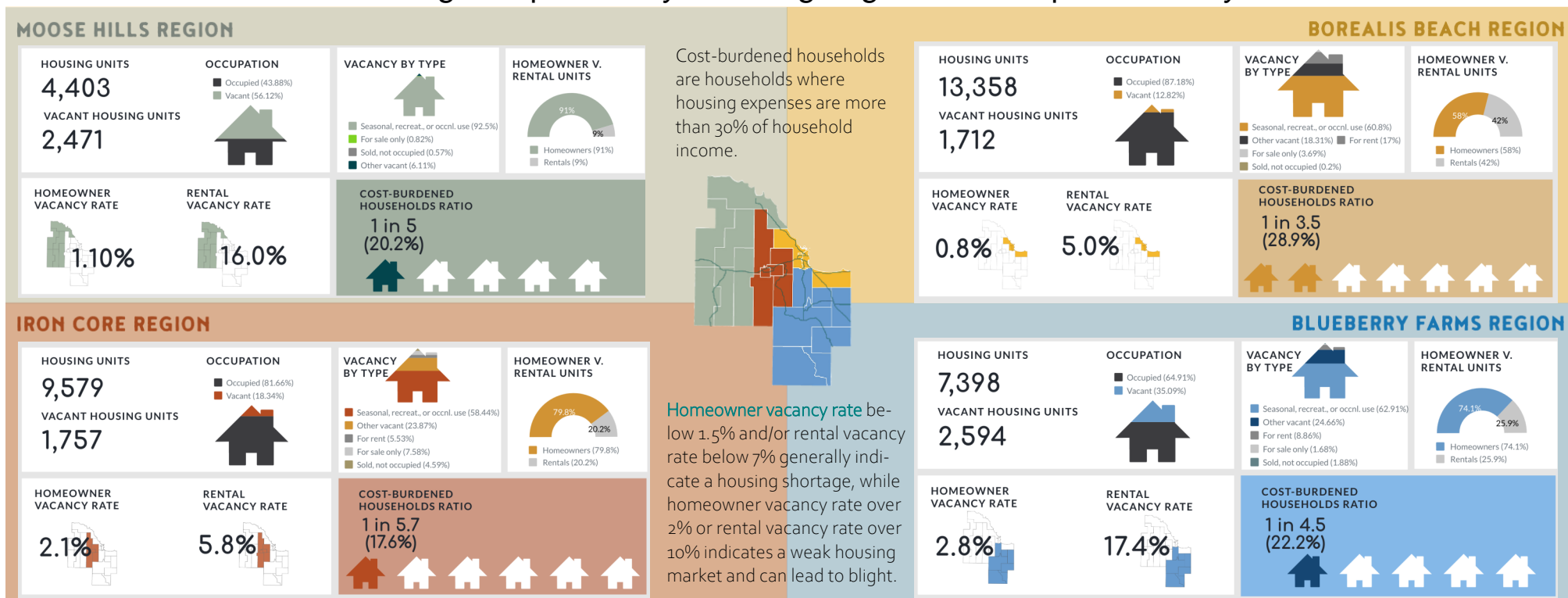
There are many steps that communities, housing developers, and the County can take to help meet this goal, and in fact the challenge of expanding housing affordability and housing choice is so large and complex that it will require an “all of the above” approach and strong partnerships between the public and private sectors.

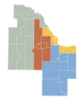
Form

A community must provide a wide range of housing forms to meet the needs of all of its residents, and this is certainly true in Marquette County. As previously discussed, there are a wide range of populations in Marquette County whose housing needs are often not being satisfied, but there are a wide range of needs and preferences among these populations. The growing senior population will need homes that are accessible and affordable but may not need as much space, while middle-income families with children need housing that is affordable, and would likely have a preference for homeownership, green space, and locations within walking distance of schools. Marquette’s growing young professional population needs “Missing Middle” rental hous-

ing, preferably in walkable neighborhoods, while for low-income families and NMU students the top priorities will be affordability and the ability to get to work quickly and reliably. Shortages of certain housing forms are not just a “Marquette problem.” Residents of the Iron Core region also identified a need for more decent, affordable multi-family rental housing for seniors and low-to-middle-income families in Negaunee and Ishpeming. There will of course always be demand for housing at the high end of the market, but while affluent families with children may prefer large homes on large lots on the edge of town, wealthy retirees or couples without children may prefer luxury apartments or townhomes near the lakeshore or downtown district. All of these evolving housing needs must be met, but the question

Housing Comparison by Planning Regions of Marquette County





The Missing Middle

The phrase “Missing Middle Housing” was coined by the groundbreaking planner and urban designer Daniel Parolek, and his **definition** has become widely accepted among planners and housing experts:

“Missing Middle Housing is a range of house-scale buildings with multiple units—compatible in scale and form with detached single-family homes—located in a walkable neighborhood.”

It is also common to include small, affordable detached single-family homes as a form of Missing Middle Housing, and we will do so for the purposes of this Plan. Besides modest single-family homes, Missing Middle Housing encompasses a wide variety of housing forms, including duplexes, triplexes, fourplexes, townhomes, cottage courts or tiny home communities, medium-sized apartment buildings, and accessory dwelling units, among other housing forms. It is important to note that the word “middle” in Missing Middle Housing refers not only to affordability (i.e., Missing Middle Housing should be affordable for middle-income families), but also scale – Missing Middle Housing is a way of providing more housing units in existing neighborhoods while still adhering to the general size and land use intensity of existing single-family homes in those neighborhoods. Missing Middle Housing units can generally be sold or rented at more affordable price points because they are

smaller and more efficient than traditional single-family homes, but are also easier to build and less controversial than large apartment complexes.

But why does more Missing Middle Housing not exist in Marquette County? One reason is that local zoning codes frequently prohibit any housing forms other than detached single-family homes in most residential neighborhoods, or pose other significant barriers to the development of more “missing middle” housing types in these neighborhoods. These policies are often in place due to logistical issues (for instance, winter parking bans discourage missing middle housing development by precluding on-street parking for half the year), or political (for example, residents in low-density, higher-income neighborhoods opposing a new apartment building or allowing duplexes in their neighborhood, a.k.a. the “Not In My Back Yard,” or NIMBY mentality). Besides restrictive zoning, other regulatory barriers and construction costs are another major reason more Missing Middle Housing does not exist in Marquette County. Creating a wider variety of housing forms and expanding the supply of Missing Middle Housing in Marquette County will be critically important as Marquette County evolves over the next 20 years.

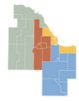
is how to generate a wide variety of housing forms in Marquette County, and where the emphasis should be placed.

The private housing market has produced relatively little new housing in Marquette County in the past two decades, and what has been built has tended to be large, expensive homes in suburban-style neighborhoods, or expensive luxury condos and apartments near the lakeshore in Marquette. Marquette County needs a greater supply of “Missing Middle Housing.” But what is Missing Middle Housing, how can it meet a wide variety of housing needs, and how can more Missing Middle units be generated in Marquette County to meet the changing needs and preferences of local residents?

Besides restrictive zoning, other regulatory barriers and construction costs are another major reason more Missing Middle Housing does not exist in Marquette County. Creating a wider variety of housing forms and expanding the supply of Missing Middle Housing in Marquette County will be critically important as Marquette County evolves over the next 20 years. This is a big task, and is also directly linked to the related challenges of creating more quality affordable housing in Marquette County and more walkable neighborhoods. Housing choice, form, affordability, and walkability go hand in hand, and must be a critical component of the housing strategies implemented by local policymakers and housing developers in the coming years.



“Improve living conditions of older homes in the area ... Some buildings in my area have been left to rot ... and it’s a waste of housing space and a risk to human and environmental health.” – Iron Core

**A 2013 National****Association of Realtors survey found that:**

- 60%** of respondents favor a neighborhood with a mix of houses and businesses that are easy to walk to, rather than neighborhoods that require more driving
- 52%** said their ideal home would be a single-family home with a large yard
- 78%** said neighborhood amenities are more important than the size of the house or property
- 57%** would compromise on space if it meant a shorter commute or living with walking distance of work, schools, and amenities
- 41%** said that expanding public transit would be the best way to improve transportation
- 29%** preferred the development of walkable communities
- 20%** preferred building or expanding more roads and highways to reduce commute times, indicating a clear preference for commuting by walking, biking, or riding public transit rather than driving.

Location

As of the 2010 US Census, 48% of the County's population lived within the city limits of Ishpeming, Marquette, and Negaunee. Prior to 1970, as much as 68% of the population of Marquette County was concentrated in these three cities, but the increasingly low-density, suburban character of new housing development in the post-war period and the local housing construction boom of the 1970s eventually led to the townships' collective population exceeding that of the three incorporated cities. While there are some people who want to live in rural areas of the County, many others are increasingly being forced to live outside the Borealis Beach region because housing is more affordable and readily available in the Cities of Ishpeming and Negaunee and outlying townships.

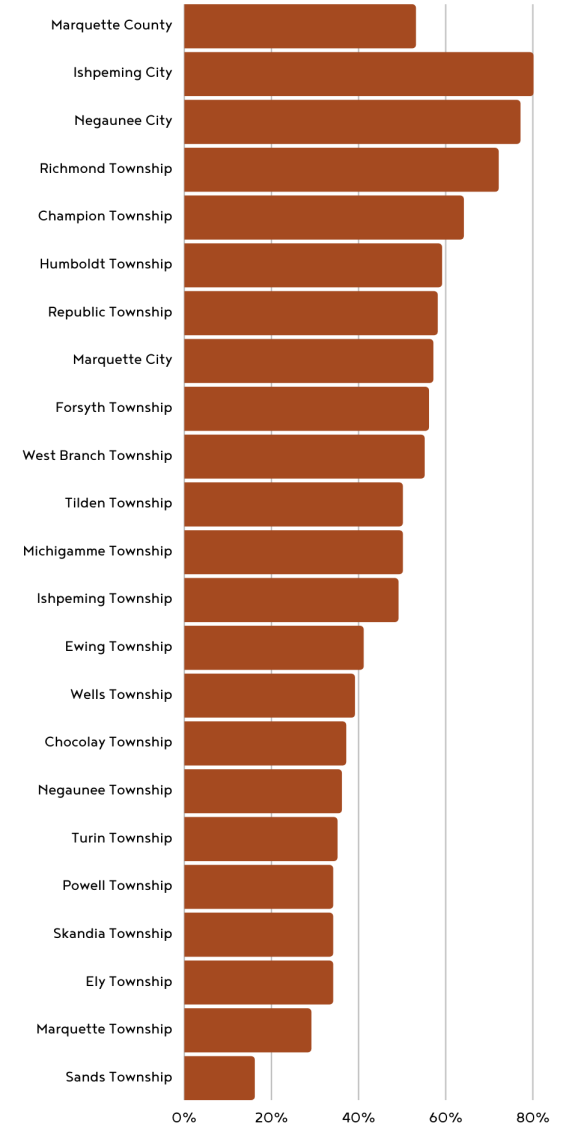
However, there is strong evidence that housing needs and preferences are changing, and Marquette County policymakers

and housing developers must adapt with the times. **Surveys** show that Americans (especially younger Americans) increasingly prefer to live in pedestrian-friendly communities within walking distance (or at least easy driving distance) of work and important amenities. They also generally expect to be able to use public transportation.

There is also growing evidence that low-density, auto-centric, suburban-style residential development is not only increasingly undesirable among consumers and contributing to rising housing costs, but that it is also fiscally unsustainable. In most cases, this suburban-style development carries greater long-term infrastructure maintenance costs for local governments than it generates in new tax revenue. In fact, even lower-income but higher-density neighborhoods often generate more tax revenue per acre for local governments than more affluent suburban-style subdivisions. These shifting needs and preferences must be taken into account by both public and private housing developers and local planners and policymakers.

Condition

Marquette County housing stock is relatively old. Nearly one-quarter of structures were built in 1939 or earlier. Statewide, only 17 percent of structures were built before 1939. Over 23,000 housing units were built in the County before the State began requiring building permits in 1970. Housing units built before that time did not have access to modern, low maintenance materials. Energy standards were lower, many older homes were never insulated properly, and their windows are inadequate. Construction standards currently required by the state building code may not have been used, increasing the possibility of defects and poor workmanship. Table 1 shows the percent of houses built be-



Percent of residential structures built before 1970 by municipality



fore 1969 by unit of government. The Cities of Ishpeming and Negaunee show the highest percent of older houses.

The County's Building Code Division issues structural, mechanical, plumbing, and electrical permits for new construction and improvements. With an aging housing stock, it is essential that repairs and upgrades occur. Tracking the number of mechanical, plumbing, and electrical permits for existing residential dwellings (referred to as "maintenance permits") is a good way to monitor housing maintenance activity in the County. However, these permits are only issued to homeowners or property owners having the financial resources to do the repair work. Lower income households typically cannot afford major household repairs, as they tend to spend most of their income on immediate needs. To compound this problem, many low-income families can only afford older homes that are in poor condition and in need of major repair work. These homes also tend to generate higher utility bills due to inefficient use of water, electricity, and heat.

"... we have a lot of blight ... houses that have been vacant far too long. I feel bad for the people that live next to these places." – Moose Hills

The Residential Blight Crisis in Marquette County

High vacancy rates generally lead to higher levels of residential blight and declining property values and property tax revenue. We can see a clear example of this problem in Blueberry Farms, which has a high homeowner vacancy rate of 2.8% (nearly double the recommended level of about 1.5%) and an extreme rental vacancy rate of 17.4% (more than triple the statewide rental vacancy rate), contributing to the severe blight that has afflicted the region, and the community of Sawyer in particular, since the closure of K.I. Sawyer Air Force Base 25 years ago.

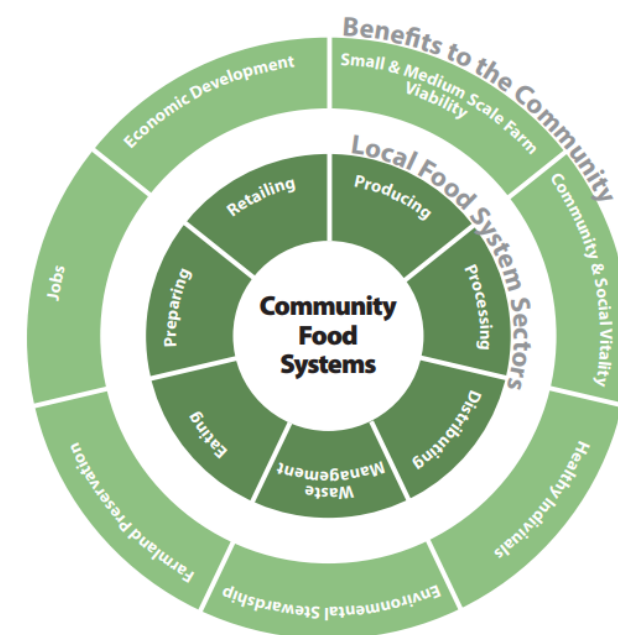
However, residential blight is not always the result of high vacancy rates. For example, the Iron Core region (i.e., the Ishpeming-Negaunee area) has a fairly low rental vacancy rate and an only slightly above average homeowner vacancy rate, but has a substantial problem with blight. As in Ishpeming and Negaunee, blight can result from a combination of poverty and economic decline, evolving code enforcement, and concentration of housing vacancies in a few neighborhoods without the need for a high overall housing vacancy rate. In fact, while residential blight at K.I. Sawyer is usually attributed to high vacancy rates as described above, this same combination of concentrated poverty and economic stagnation has been a major contributor to blight and community challenges.

Building codes ensure that minimum standards are met for new construction, but they have little impact on home maintenance. A home in need of repairs can have a negative effect on household occupants and the surrounding neighborhood, and ultimately contributes to the growing problem of residential blight in Marquette County. Municipalities in Marquette County are increasingly attempting to control residential blight by adopting or strengthening property maintenance ordinances. As of 2020, Forsyth Township had recently adopted a new blight ordinance, the City of Negaunee had adopted a new Property Maintenance Code, and the City of Ishpeming was drafting a unified property maintenance ordinance that would combine and strengthen elements of multiple existing ordinances as well as some new approaches to blight reduction.

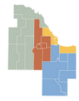
9 in 10 (90.1%) County residents say that access to healthy, affordable, and nutritious food is "Very or Somewhat Important."

Food Access

Access to healthy affordable food is a right and impacts the health of citizens. Food insecurity, lack of reliable access to healthy food, is present in areas of Marquette County and has been identified as a concern. A robust food system is rooted in a thriving agricultural industry that is able to supply healthy, nutritious food to the community. A contributing factor of a robust food system includes the recogni-



According to the [Michigan Good Food Charter](#), a food system is "all the people, processes and places involved with moving food from the seed the farmer plants to your dinner table, your local restaurant or the cafeteria lunch line. Food systems – from farming to processing and distributing, from retailing to preparing and eating, from all the farm inputs necessary for farm products to grow well, and finally to recycling and composting food wastes at each stage..."



tion and support by government leaders often through supporting policy and action.

Food insecurity was identified as a major concern in Marquette County in local stakeholder meetings and the 2040 Master Plan survey, most notably in the Blueberry Farms and Moose Hills planning regions. A lack of reliable access to healthy, affordable food and community centers that can provide access to social assistance programs is a particularly serious problem in isolated rural communities like K.I. Sawyer or Michigamme. This issue is also intimately connected to other problems in the County like systemic poverty, a lack of services and economic development in rural communities, and limited access to public transportation.

The [Upper Peninsula Food Exchange](#) (UPFE) is made up of food systems stakeholders and aims to improve the resiliency of the region's local food system through the expansion of locally grown and processed foods. UPFE is addressing numerous barriers of the food system from connecting farmers and consumers through an online marketplace, nurturing a relationship between youth and local food in schools, to authoring numerous educational papers on policy.

In 2013, the Marquette County Planning Commission and Board of Commissioners approved a new [Local Food Supply Plan](#), a chapter of the previous Marquette County Comprehensive Plan. This chapter discussed the local food production, processing, distribution, and the role of government in Marquette County in detail. It also identified a need for increased food recovery and food waste reduction, a renewed emphasis on local food production and the costs of importing food, as well as future vulnerabilities, opportunities, and challenges for Marquette County's food system. Although the 2013 plan is not part of this Master Plan, it will remain available at www.mqtcoplan.org for reference. Marquette

County continues its work on food systems planning as a member of UPFE.

Energy

The electrical power system of Marquette County today is shaped by what was put in place in the late 1800s by the companies operating the mines, ore processing facilities and lumber mills. For the next 100 years, these industrial needs led to the development of dams and hydropower on the Dead, Escanaba and Carp Rivers and the development of the largest coal plant in the Upper Peninsula, the Presque Isle Power Plant, which was retired in 2019.

The U.P. has a patchwork energy system, and in many instances it is the "end of the line," in terms of electric power supply. Sources of energy range from distributed sources that come from hundreds of miles away, to on site energy sources that can be used if more cost effective. There is a complex system behind the act of turning the switch on in homes and businesses.

Transmission

The bulk of Marquette County's electricity is supplied from the larger Midcontinent Independent System Operator (MISO) grid. MISO is an independent, not-for-profit organization that delivers electric power across 15 U.S. states and the Canadian province of Manitoba. As the largest geographical organization of its kind, MISO provides access to the electric transmission system and supports increased grid reliability. Marquette County transmission is included in the MISO Zone 2, and is made up of Michigan, Wisconsin and parts of Indiana, Illinois, Kentucky and Missouri. MISO plays

Heat Sources for Homes

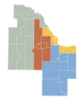
According to a 2019 UP Energy Task Force [report](#), in the Upper Peninsula, about

- 18% of homes use propane for heat,
- 58% use natural gas,
- 10% use wood,
- 9.5% use electricity, and
- the rest use other means.

Of the estimated 26,552 occupied housing units in Marquette County, the US Census reported in December 2019 the following heating fuel use:

Heating Sources	Housing Units	Percent
Utility gas	17,758	66.9%
Bottled, tank, or LP gas	3,651	13.8%
Electricity	2,919	11.0%
Wood	1,259	4.7%
Fuel oil, kerosene, etc.	636	2.4%
Solar energy	4	0.0%
Other fuel	213	0.8%
No fuel used	112	0.4%





a vital role in “generation dispatch” to relieve variability in the regional demand for electricity.

While MISO manages the supply of energy to the region, the transmission lines in the county are owned by the American Transmission Company (ATC). A [map of the existing facilities](#) as of September 2020 is included in [ATC’s 10-year assessment](#). The assessment also includes upcoming projects to systematically upgrade the network. MISO provides research and hosts an auction where the electricity demands and generation capacity are met through selling power onto the transmission network and can be monitored in [real-time](#).

Distribution

Underneath these large networks moving electricity across states and the UP is the distribution system. The distribution system is made up of the wires, poles, equipment and people that bring power from the larger transmission system into buildings and homes. Some generate some or all of the power they need, others buy electricity off of the transmission system. These lines are maintained by the utility company.

Generation

The Upper Peninsula power needs are met through a combination of power produced locally (woody biomass, hydro-power dams, natural gas engines, solar and wind plus residential woodstoves/wood pellets) and power supplied from outside sources. Those outside sources include electricity generated in Wisconsin, natural gas supplied via pipelines and propane and fuel oil supplied via pipeline/rail/truck.

In addition, several industrial facilities use co-generation for heat and to generate electricity. Co-generation is when heat and other by-products are used to make energy in the plants. This is a substantial amount of electricity and heat needs that are covered by the facilities in their operations.

Utilities

There are nineteen utility companies in the UP serving the region’s electric customers. There are four electric and one gas utility companies currently serving Marquette County, The Marquette Board of Light and Power (MBLP), Alger Delta, Upper Michigan Energy Resources Corporation (UMERC), Upper Peninsula Power Company (UPPCO) and Semco Energy Gas Company. Each has separate business models and rate structures depending on whether they are municipal, rural cooperative or investor owned. There are five distribution utilities in Marquette County:

[Alger Delta Cooperative Electric Association](#)

[Marquette Board of Light and Power](#)

[City of Negaunee Electrical Department](#)

[Upper Michigan Energy Resources \(UMERC\)](#)

[Upper Peninsula Power Company \(UPPCO\)](#)

Marquette’s Energy Future

The future of energy in Marquette County relies heavily on the decisions of utilities and customer demands, as well as the increasingly changing price of fuel, for both heat and electric sources.

Utility factors include the Integrated Resource Plans (IRP) required by the State of Michigan for [UPPCO IRP 2020-2024](#) and UMERC IRP 2019-2021. The UMERC plan de-

Assistance Programs

Low-Income Assistance Programs- Utility assistance payments for low-income communities come primarily from LIEAF (rate payer funded program) and LIHEAP (federally funded program), as well as from local sources, such as those listed below.

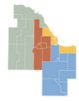
Energy Waste Reduction Programs- Each utility that operates in the county offers a variety of rebate programs designed to incentivize the adoption of energy efficient technologies and behaviors among residential and commercial rate payers.

Many utilities participate in Efficiency United’s Energy Waste Reduction (EWR) Programming.

Local sources for assistance include:

- [United Way](#)
- [St. Vincent de Paul](#)
- [Community Action Agency](#)
- [Superior Watershed Partnership Energy Office](#)
- [Over all resource for locating an assistance program is Michigan 211](#)





scribes its generation and customer benefits in [one section](#) and improvements to the customer's benefits in a [second section](#). Other factors include, purchase power agreements and energy waste reduction incentives.

Market trends include the overall cost of fuel sources, and state and federal legislation that may subsidize certain energy generation. Citizens and corporations, who are the energy consumers, help shape the future of energy through supporting technology advances such as smart thermostats that help to customize energy usage and on site renewable energy and battery storage.

In addition, whether to generate power within the UP or purchase from outside sources will be decided through a combination of market, consumer and government policy decisions. Planning and zoning for affordable, renewable energy is an important step toward creating stronger, more resilient communities.

A forthcoming trend in the energy field is electric vehicles (EV). The state of Michigan is taking a leadership role nationally by [conducting studies for where EV charging stations should be installed](#). As EVs become more cost-effective, there will be a shift towards more EV infrastructure statewide.



Transportation

Marquette County is the largest county in Michigan. Located in the central Upper Peninsula, it is removed from the interstate highway system, but has state trunk lines that run east-west through the central part of the County and north-south from the central part of the County to the south. Rail systems in the County are privately owned. The County of Marquette operates the Sawyer International Airport, located at the former K.I. Sawyer Air Force Base (AFB), and the Marquette County Transit Authority (Marq-Tran) operates a bus transit system.

Marquette County is also home to hundreds of miles of motorized and non-motorized trails. Pedestrian infrastructure such as sidewalks and bike lanes can increasingly be found not only in the County's core communities of Ishpeming, Marquette, and Negaunee, but in the more densely populated areas of outlying communities such as Champion and Forsyth Township.

Roads

The [Michigan Department of Transportation](#) (MDOT) is responsible for all state trunklines, and works with the [Marquette County Road Commission](#) (MCRC) and city road

agencies to provide routine maintenance such as snow removal and mowing. The MCRC is responsible for the County road system and cities are responsible for city streets. There are no Township owned roads, only state, county and city owned roads.

Many roads in Marquette County are in poor condition, with noticeable distortion, cracks, and potholes. There are several factors contributing to the current condition of the road system. Probably the most critical factor is funding. Less

Length of road by type (miles)

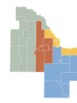
Road Agency	State Trunk-line	County Primary	County Local	Urban Primary (Major Roads)	Urban Local (Minor Streets)
Marquette County Road Commission	N/A	284.47	995.08	22.43	69.21
City of Ishpeming	N/A	N/A	N/A	12.12	32.02
City of Marquette	N/A	N/A	N/A	27.0	59.4
City of Negaunee	N/A	N/A	N/A	9.95	27.55
MDOT		N/A	N/A	N/A	N/A

The Hidden Costs of Auto Dependent Development

Continued on next page

The cost of transportation has been relatively cheap for several decades. Cheap petroleum-based fuel and the rise of universal personal vehicle ownership in the post-World War II era enabled people to move out of higher-density towns and cities and into the suburbs and the countryside. This was just as true in rural areas like Marquette County as it was in large urban areas like the De-

troit Metro Area. State and county road agencies and local governments literally paved the way for sprawl and suburbanization, and local units of government in outlying areas enjoyed an initial tax base increase in the mid-to-late 20th century. Living close to work, school, or food sources was no longer necessary or seen as desirable.



than adequate funding has created a situation in which it is not possible to improve, let alone maintain, the condition of the road network.

"County roadways are in disrepair..."
– Moose Hills

Road Funding

It is important to note that while local communities in Michigan are increasingly resorting to local property tax millages as a source of supplementary road funding, most local road funding still comes from state fuel taxes, vehicle registration fees, and federal transportation funds distributed by MDOT. This funding is distributed according to a formula laid out in [Public Act 51](#), which created the Michigan Transportation Fund in 1951. Approximately 39% of this funding goes to County roads (most roads in Townships are in fact County roads) and about 22% to municipal streets (i.e., roads within the limits of incorporated cities and villages). Ultimately, more state funding will be necessary to meet local road maintenance needs in Marquette County.

A second factor contributing to the poor condition of the County road system dates back to the period from 1950-1980. In those decades, it was common for 30-40 miles of road to be paved annually. Materials were cheap and the roads were paved to facilitate low-density, suburban-style housing developments, the first strip malls and big box stores, or simply to "control dust." Today, these roads are at

the end of their lifespan and, to compound the issue, road material is no longer inexpensive and much of this new road infrastructure has not generated sufficient new tax revenue in the form of new development to offset the cost of long-term maintenance and replacement.

"...rural roads have been forgotten for 20 or 30 years. At a township level we hear there is no money to fix them..." – Blueberry Farms

Asset Management

The MCRC evaluates the condition of county roads every other year using the [Pavement Surface Evaluation and Rating \(PASER\)](#) system. Segments of road are rated on a 1-10 scale based on factors such as surface distress, pavement strength, and deflection. A rating of 10 indicates the pavement surface is in excellent condition while a rating of 1 represents a failed roadway with extensive loss of surface integrity. Ratings are classified into three asset management strategies- good, fair, and poor. The asset management approach shifts from

Funding road maintenance through millages

- 17 of the 22 local units of government in Marquette County currently have roads millages
- nearly half (9) have passed new millages or millage increases in the past 5 years (2015-2020).
- Local millages are generating over \$2.5 million in 2020

Municipality	Has Roads Millage?	Year First Levied	Total Roads Millage Rate	Appx. Revenue Generated in 2020	% of Total 2020 Millage Rate [^]
Champion Twp.	Yes	2012*	2.00 mills		7.6%
Chocoy Twp.	Yes	2017	1.70 mills	\$350,000	7.2%
Ely Twp.	No	-	-	-	-
Ewing Twp.	Yes	2012*	2.00 mills	\$20,000	8.7%
Forsyth Twp.	Yes	2019	1.60 mills	\$285,000	5.2%
Humboldt Twp.	Yes	2018+	3.00 mills	\$90,000	10.8%
Ishpeming Twp.	Yes	2015+	1.50 mills	\$160,000	6.0%
Ishpeming City	No	-	-	-	-
Marquette Twp.	Yes	2015+	1.50 mills	\$500,000	5.6%
Marquette City	No	-	-	-	-
Michigamme Twp.	Yes	2012*	1.50 mills	\$60,000	5.1%
Negaunee City	Yes	2016	2.00 mills	\$200,000	4.9%
Negaunee Twp.	Yes	2017+	1.0 mills	\$230,000	4.0%
Powell Twp.	Yes	2014	1.75 mills	\$155,000	8.0%
Republic Twp.	Yes	2018+	2.00 mills	\$120,000	7.5%
Richmond Twp.	Yes	2012*	1.00 mill	\$20,000	3.4%
Sands Twp.	Yes	2012*	1.80 mills	\$150,000	7.1%
Skandia Twp.	Yes	2012*	1.00 mill	\$25,000	4.2%
Tilden Twp.	Yes	2020+	2.00 mill	\$70,000	9.6%
Turin Twp.	No	-	-	-	-
Wells Twp.	Yes	2012*	2.97 mills	\$70,000	12.5%
West Branch Twp.	No	-	-	-	-
TOTAL				\$2,545,000	

* Due to a lack of historical millage and election data available online from the State of Mi. and the Marquette Co. Clerk prior to 2012, millages labeled as being "first levied" in 2012 were most likely originally approved in 2012 or earlier.

[^] Percentage of Principal Residence Millage Rate. Mean total millage rate is used when multiple school districts exist within the same municipality.

+ Humboldt Twp. levied a 1.00 mill roads millage since at least 2012, but added a new "road improvement" millage of 2.00 mills in 2018. + Ishpeming Twp. levies a 1.00 mill roads millage and, starting in 2015, a separate 0.50 mill street light millage. + Marquette Twp. also levied a 0.85 mill roads millage since at least 2012, but increased this to 1.50 mills in 2015. + Republic Twp. levied a 1.00 mill roads millage since at least 2012, but increased it to 2.00 mills in 2018. + Tilden Twp. levied a 1.00 mill roads millage since 2014, but also added a "road improvement" millage of 1.00 mill in 2020.

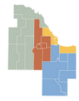
The Hidden Costs of Auto Dependent Development continued

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However, auto-dependent development is not sustainable in the long run – it destroys farmland and the natural environment, contributes to climate change by increasing vehicular carbon emissions, contributes to de facto segregation along lines of race and class and underinvestment in public transit, increases transportation costs and thus disproportionately impacts lower-income households, and has

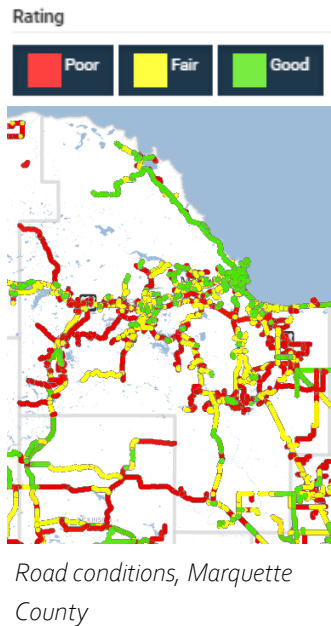
contributed to the decline of walkable, prosperous downtown districts.

Finally, an overreliance on the personal automobile results in an increasingly large amount of potentially valuable real estate being consumed by financially unproductive parking lots, which are often larger than what is actually required by



the traditional “fix the worst first” method to one that incorporates a “mix of fixes” so agencies can apply “the right fix at the right time.” Investing smaller amounts of money in roads that are in good or fair condition extends the life of the road, while similar investments in poor roads will yield much more limited results. For more information on transportation asset management, see the most recent [MDOT Transportation Asset Management Plan](#).

The [PASER ratings](#) for paved roads in Marquette County extend over a number of years because only portions of the County are rated each year. The map, hyperlinked to an interactive map, displays the condition of the roads surveyed by the MCRC from 2014–2019. This data, provided by the Transportation Asset Management Council (TAMC), shows the magnitude of the challenge facing MDOT, the MCRC, and municipalities. In gen-

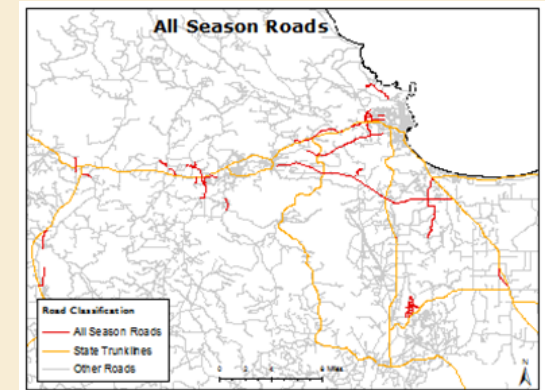


eral, road conditions have gotten worse over the past decade, with many roads which were classified as good deteriorating to fair by 2019, and many fair roads crumbling into poor condition. Many roads that were rated poor in 2011 were still rated poor a decade later, often in worse condition. Although there are exceptions to this rule, and local streets have improved in many municipalities in recent years due to local millages, in general PASER-rated local, County, and state roads have declined sharply in quality over the past decade. Road maintenance and repair will therefore be a major challenge for Marquette County over the next 20 years.

The MCRC must also inspect the condition of its 93 bridges every 2 years per federal requirements. The MCRC inspects some of its bridges annually due to their structural condition. Nearly 20% of the bridges in Marquette County are classified as in poor condition, which means that although they are structurally sound, they do not meet current design guidelines and are considered functionally obsolete. According to the MCRC, the MCRC is responsible for the bridges within their jurisdiction, MDOT is responsible for bridges on the state trunklines, and municipalities are generally responsible for their own local bridges as

Seasonal Weight Restrictions

Seasonal weight restrictions are set by road agencies to help reduce the impact of heavy trucks on roads during the spring cycle of freezing and thawing - in Marquette County, the permissible weight of a truck load is reduced by 65% from approximately mid-March to mid-May. Truck loads must be significantly reduced in order to adhere to the weight restriction. However, roads built to a Class A all-season standards do not have weight restrictions. Commercial haulers can transport fully-loaded trucks on this type of road year-round because the base of the road is built so that the seasonal freezing and thawing process does not affect its integrity. All state and federal highways in the county are built to this standard. The County road system does have some Class A roads (portions of CR 480, for example) but lacks connectivity, see map.



well. Bridge location and condition in Marquette County can be found [here](#).

Commercial Truck Routes & Seasonal Weight Restrictions

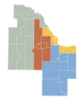
Commercial truck routes can be a contentious subject. Commodities such as timber and mineral ores are trans-

73.4% of County residents agree there is a need for more road maintenance & reconstruction.

The Hidden Costs of Auto Dependent Development continued

day-to-day parking needs. In the case of the big box stores, malls, and strip malls which have come to dominate the US-41 corridor and the periphery of Marquette County's core communities in recent decades, these parking lots eventually become useless deserts of asphalt when these low-density retail centers struggle or close. Built to meet the requirements of “Black Friday” shoppers rather than day-to-

day parking needs, these vast parking lots are difficult to maintain and even more difficult to redevelop or convert back to green space once they are no longer useful. Local zoning codes may enhance this problem by imposing excessive minimum parking requirements for new residential and commercial developments.



ported primarily using trucks. Often, developed areas are between where natural resources are and where they need to go. As with the case of low-income and “Missing Middle” housing discussed in the [Housing section](#) of this chapter, this often leads to a “Not In My Back Yard” (NIMBY) reaction from local residents. Although natural resource extraction is a major component of Marquette County’s economy, people do not want large trucks driving by their homes and businesses. They are loud, heavy, and a perceived hazard on the road. An example of this situation is access to natural resources in northern Marquette County. County Road 550, with a southern terminus at the Marquette City limit, is a busy truck route, and trucks have to pass through the City of Marquette in order to export goods. However, municipalities can define routes that trucks must use through their community per Section 726 of the Michigan Vehicle Code, Public Act 300 of 1949, and in the case of the City of Marquette, Lundin Mining provides significant funding to the City for road maintenance to make up for the wear and tear caused by their large mining trucks. Similar public-private agreements could be negotiated by other communities.

Transportation of goods is a County-wide and regional issue, but local municipalities are able to determine commercial trucking routes. As a result, careful coordination between local governments is important to ensure efficient, satisfactory commercial trucking routes in Marquette County.

Air Transport & Sawyer International Airport (KSAW)

KSAW is located at the former K.I. Sawyer AFB in south-central Marquette County. KSAW has its own [Master Plan](#) for planning future capital projects and anticipated needs. KSAW has operated as a commercial passenger service

provider since 1999. Major infrastructure investments in this mode of transportation include the construction of T-hangars for small aircraft, a passenger terminal, and an airport service center by the County. The County also manages nearly 9,500 acres of forest directly west and south of the airport, providing an important buffer between it and other

land uses. Few airports have the luxury of such a buffer zone. The County recently agreed to shorten the runway at Sawyer to 9,000 feet due to a loss of Federal Aviation Administration (FAA) maintenance funding which is still more than sufficient for most aircraft. Hangars built by the Air Force have been rehabilitated and some are being used as maintenance facilities for an airline company.

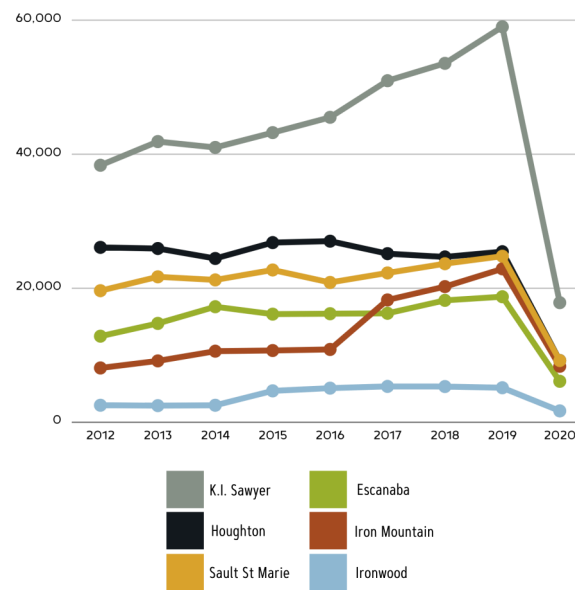
Commercial service has been increasing at KSAW since the closure of K.I. Sawyer AFB in 1995. By the late 2000s K.I. Sawyer hosted 53% of all passengers flying to or from the Upper Peninsula. However, that number has declined over the past decade due to flight changes by the airlines and competition with other regional airports that, unlike KSAW, are subsidized under the Essential Air Service (EAS) program. KSAW is the only Upper Peninsula airport that does not receive this federal subsidy.

KSAW’s success stems largely from service by two different airlines (American and Delta), providing more flight flexibility than other regional airports. Parking data from the airport indicates that people come to the airport from across the Upper Peninsula. It is especially surprising that passengers from Houghton and Escanaba regularly use K.I. Sawyer, because both cities have passenger service at their own airports. However, air travel can still be prohibitively expensive for many travelers due to the lack of Essential Air Service subsidy and Marquette County’s remote location and relatively small population.

Rail

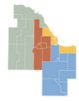
Today trains are primarily used to transport commodities, particularly in rural areas like Marquette County. Major commodities include coal, mineral ores, industrial chemicals, grain and agricultural products, and other natural resources. According to the Department of the Interior, inter-

Enplanements at U.P. Airports



EAS Community	Subsidy Rates	YE 2019 Total Passengers	YE Subsidy/Passengers
Escanaba	\$ 3,017,718	37,457	\$81
Iron Mountain	\$ 3,275,512	50,224	\$65
Houghton	\$ 2,204,520	44,937	\$49
Ironwood	\$ 3,593,464	10,223	\$352
Sault St. Marie	\$ 2,729,306	48,737	\$56

Essential Air Service and total passengers, 2019



modal traffic (the movement of truck trailers or shipping containers by rail) is the fastest growing rail traffic segment. Trucks are used to transport the trailers or containers to and from a train, reducing shipping costs.

There are three classes of rail: I, II, and III. Class I, or freight, railroads are operated by major companies that take in over \$250 million per year in revenue. Most railroad tracks in Michigan are Class I railroads operated by four companies: Canadian National Railway (CN), Norfolk Southern Railway (NS), CSX Transportation (CSX), and Canadian Pacific Railway (CP). Class II, or regional, railroads are also used for hauling freight and are operated by companies with between \$20 million and \$250 million in revenue. There are two such companies operating in Michigan: Great Lakes Central Railroad (GLC) and Indiana & Ohio Railway (IO). Class III, or shortline, railroads are operated by companies that take in less than \$20 million in revenue annually. Shortline railroads operate over a limited area and typically connect to one of the Class I or II railroad lines, making them a key link in transporting commodities from local areas to regional, national, and global markets. There are 15 shortline railroad companies in Michigan.

In Marquette County and other parts of the country, rail is again being discussed as a potential driver of economic development. In August 2013, nearly two miles of a recreational trail was approved to be converted back to rail in Humboldt Township to transport mining materials internationally, with a new recreational trail being created nearby. According to the Detroit Free Press, this project was the first reactivation of a rail line in Michigan since the “Rails to Trails” amendment to the National Trails System Act was passed by Congress in 1983. In 2020, Marquette County was pursuing a federal EDA grant to facilitate the renovation and extension of a County-owned rail spur to serve several

existing industrial firms and promote future economic development near Sawyer International Airport.



Water Transport

Marquette County is positioned favorably for water transportation on the south shore of Lake Superior, with access to the busy Great Lakes-Saint Lawrence Seaway System. Presently, iron ore is exported from the area and limestone is imported by water freight – coal is no longer imported through the Marquette Port due to the closure of the Presque Isle Power Plant and Shiras Steam Plant in 2019 and 2020. In 2013, the U.S. Department of Transportation Maritime Administration published the most recent “US Water Transportation Statistical Snapshot”, highlighting major changes that occurred in the water transportation industry from 2006-2011. During this time period, the average price for water shipping on the Great Lakes-St. Lawrence Seaway increased by 51%, and perhaps unsurprisingly, total freight carried on the Great Lakes declined 9.3%, slightly above the national average decline of 7.0% for all waterborne shipping. Total water-based domestic trade declined by 13.2% during this time, but water-based foreign exports increased by 50.8%. The variable and often cyclical

Great Lakes water levels show how water transport is vulnerable to the forces of Mother Nature.

There are two U.S. Ports in Marquette County – the Port of Marquette, which is located at the former site of the Shiras Steam Plant and is operated under the authority of the Marquette Board of Light & Power, and the Port of Presque Isle, which is the more active port that operates near the former Presque Isle Power Plant site and the Presque Isle Marina. In addition, there are two marinas in Marquette (Presque Isle and Cinder Pond) owned and operated by the City of Marquette. The Big Bay Harbor of Refuge is another harbor owned by the County of Marquette in Powell Township.

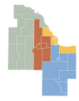
Other Types of Transportation

Public Transit

Transit service has been provided in Marquette County since 1985. The [Marquette County Transit Authority](#) (Marq-Tran) offers a variety of services including fixed and feeder routes, curb-to-curb service, special contract runs, and specialized service runs. Marq-Tran cannot provide service to all corners of the County given its size. Their fixed routes reach south to Gwinn and west to Ishpeming daily. Efforts to coordinate bus routes with carpool lots, trailheads and other regional transit are improving this mode of transportation. More information about Marq-Tran service can be found in the [Services section](#) of this Plan.

Carpooling

In 2020, there were eight carpool lots designated by MDOT in Marquette County which is up from just five carpool lots a decade ago. Information about MDOT’s carpooling pro-



gram, including a map of carpool lot locations can be found [here](#).

Non-Motorized Transportation

The most common forms of non-motorized transportation include walking and cycling, which are also important forms of physical activity. In Marquette County, it is difficult to rely solely on these modes of transportation for two reasons. First, our northern climate produces extremely cold and windy days in the winter. With some of the highest seasonal snowfall levels in the country, riding a bicycle and even walking can be challenging and dangerous in most parts of Marquette County during the winter. Second, given the rural nature and development pattern of Marquette County, there is simply a portion of our population who live too far from key destinations (work, school, food sources, etc.) to reach by foot or bicycle. Nonetheless, a significant portion of Marquette County's population does live within reasonable walking and cycling distance to many destinations.

Even small, rural communities like Champion are investing in sidewalks and other pedestrian-friendly infrastructure, and residents of other rural communities like Chocolay Township often cited improvements to walkability and pedestrian safety as being a major need. Residents of walkable core communities expressed a desire for better plowing and de-icing of sidewalks to improve walkability during the winter months. Given the clear interest in the community, developing and enhancing policies to support non-motorized transportation throughout the County is important.

"(We need) better public transportation ... I have a 20 minute walk to catch a bus, and if I miss my pickup it will be another 2 hours before I can get into town. Also it only runs till 6 at night ... Trying to make all the right connections to make it to the last bus out is almost impossible..." – Blueberry Farms

Planning for Future Land Use

The practice of land use planning has developed over hundreds of years and continues to evolve today. A number of variables influence decisions about land use and development and therefore, a comprehensive approach to decision making is necessary. Land use is regulated at the municipal level and ends at the borders of each jurisdiction. Balancing development and preservation of the rural character of our communities requires regional vision and cooperation. Coordination of land use regulation is essential in achieving the vision and goals of this Plan.

Land use planning objectives include:

- 1) Ensure that housing is located near major employment centers;
- 2) Promote more compact development that conserves land and more efficiently utilizes infrastructure should be encouraged;
- 3) Incorporate transportation alternatives, walkable communities, non-motorized trail development, and public transit into development plans;
- 4) Protect environmentally sensitive areas; and
- 5) Protect agricultural land.

Regulating Land Use

Land use in Marquette County is controlled through a combination of zoning and other mechanisms. Land use is regulated for the betterment of the land and the community and is one of the means for implementing a community's long-term plans to meet their needs. A number of mechanisms exist to guide land use with zoning ordinances being the most common.

Smart Growth

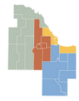
"Smart growth" shifts from a short-term focus of tax base expansion to long-term fiscal, social, economic, and environmental sustainability. General goals of smart growth include achieving a unique sense of community and place; a choice in transportation, employment, and housing options; preservation of natural and cultural resources; and a healthy public.

Ten Principles of Smart Growth

1. Mix land uses.
2. Take advantage of compact design.
3. Create a range of housing opportunities and choices.
4. Create walkable neighborhoods.
5. Foster distinctive, attractive communities with a strong sense of place.
6. Preserve open space, farmland, natural beauty, and critical environmental areas.
7. Direct development towards existing communities.
8. Provide a variety of transportation choices.
9. Make development decisions predictable, fair, and cost effective.
10. Encourage community and stakeholder collaboration in development decisions.

Other land regulating tools include, but are not limited to:

- design standards,
- planned unit developments,
- subdivision regulations,
- tax and fee systems,
- annexation,
- capital programming,
- public improvements, and
- deed restrictions/covenants



Role of County Planning

The Marquette County Planning Commission (MCPC) was established in 1969 and is governed by [the Michigan Planning Enabling Act](#). The Act enables the MCPC to prepare and adopt a master plan. The enabling legislation also allows the MCPC an opportunity to review all master plans and township zoning ordinances, including amendments, of municipalities within and adjacent to Marquette County for consistency with statutory requirements and the County master plan.

County planning has the unique role of creating a plan for growth over a larger geographic area and fostering coordination and cooperation between municipalities to address cross-boundary issues. With a county-wide plan, the Planning Commission can serve as a resource for municipalities, gather and disseminate data, and facilitate discussion by bringing groups together and encourage communities to plan together.

A zoning ordinance is a legal tool that requires maintenance and skilled use to be effective. Conventional zoning regulates the type of land use, land use densities, bulk and height of buildings, and other site-specific requirements and conditions. A primary interest of zoning is to mitigate negative side effects of individual land use decisions and still provide for the "highest and best use" of lands while reducing conflicts between adjacent land uses.

Marquette County does not have a zoning ordinance. Therefore, township and city zoning ordinances are important tools for the implementation of a county's goals and policies. There are currently 20 local zoning ordinances within Marquette County. Local zoning ordinances are generally adopted, amended, and enforced at the city and

township level by appointed planning commissions. Local planning commissions are advised and assisted by planning staff and/or a zoning administrator, and most major decisions made by planning commissions have to be ratified by the local city council or township board, which also generally appoints members of the planning commission. In 2016, local zoning ordinances in Marquette County were analyzed. Further information can be found at www.mqtcoplan.org.

This plan does not eliminate the need for local units to create and adopt their own zoning plan or the need to document the consistency between their plans and their zoning ordinance and related decisions. All decisions relating to zoning should focus upon implementing a well-thought-out plan that addresses the suitability of the land and infrastructure to the proposed use and the needs of the community. The plan(s), upon which the ordinance is based, must be updated regularly. Any ordinance that is not based upon official plans and policies, or does not comply with the State's enabling legislation, has a weak legal foundation.

Land Development Tools

Infill development is further development or redevelopment of areas that are already developed. Infill development reduces the need to expand utilities, reinvests in existing systems, and can help revitalize communities and promote mixed use development (see below). Brownfield and greyfield sites typically have existing infrastructure in place, and although it can be extremely costly to remove environmental contamination, the benefit to the surrounding community and the cost savings of not extending utilities is great, making these prime infill development sites. Incentives for infill development can include density and/or height bonuses, expedited permit reviews, or reduction in permit fees. Brownfield funds can also be sought for site remediation.

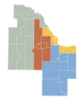
The concept of **mixed use development** includes allowing several different uses to occur in one area. The "mix" can include a range of different uses from varied types of residential to a multitude of general land uses such as residential, commercial, and office. Vibrant communities that are walkable, less auto-dependent, have higher density and capitalize on existing infrastructure result from mixed use development. Existing zoning districts can be modified to promote mixed use. Residential uses can coexist alongside commercial and even low-impact industrial uses, such as apartments above a commercial space or other business.

The idea of clustering is to develop residential units close in proximity on small sites resulting in a large area of undeveloped commonly shared land. **Cluster development** typically costs less to build and promotes efficient use of infrastructure and utilities. Per the Michigan Zoning Enabling Act, municipalities must provide a cluster option to developers either as a permitted or special land use. The undeveloped portion of the land should be placed in a conservation easement.

PUDs allow development to be designed and built as one unit and encourages innovative techniques. PUDs tolerate a variation in controls such as density, uses, open space, and timing and sequencing of the development without sacrificing public concerns for compatibility with adjacent uses of land.

Subdivision and condominium design standards regulate the layout of structures and infrastructure within a site. The standards protect the community by ensuring that lots are adequately served by proper utilities and roadway access.

The ability to view land use and development from a regional perspective, and coordinate among municipalities is invaluable. Growing "smart," using development tools and adhering to land use planning objectives will move the County toward its goal. [REFERENCES](#)



Community Services and Infrastructure

Community services are provided by a wide range of different entities and individuals in the community. Government certainly plays a critical role in providing many community services. The federal and state governments provide a wide variety of services, while local governments (counties, cities, townships, villages, etc.) provide water and sewer services, local road funding and maintenance, and public safety services, to name just a few. Other government agencies and entities provide community services as well. For example, in

the City of Marquette electrical power is provided by the Marquette Board of Light & Power, a public electric utility. Private organizations also provide many essential community services. For instance, the homeless shelter in Marquette is operated by Room at the Inn (a not-for-profit private entity), while electrical power in much of Marquette County is provided by the Upper Peninsula Power Company (UPPCO), a for-profit utility company. Individuals can also provide important community services. For example, keeping the sidewalk in front of their home clear of snow and ice during the winter. Most services provided by the County of Marquette and other local governments are mandated by state or federal law. All public services can be enhanced by coordination among service providers, including potential

public-private partnerships between government entities and not-for-profit or for-profit private service providers.

Governments are mandated to provide certain services. County governments in Michigan are required to provide law enforcement and court systems. City governments are required to provide for “public peace and health,” which implicitly requires them to provide a wide range of services from zoning to law enforcement to parks and recreation. Cities and townships are required to provide election services. In addition to constitutional requirements, the state legislature has created many new regulations that must be enforced by local governments. Mandated services are a major concern for local governments, because they are often “unfunded mandates”. In essence, the costs of provid-

Community Assets and Services That Residents Care About (Community Survey Data)

MOOSE HILLS REGION

- Parks & recreation (esp. trails & local parks)
- Road/street maintenance
- Dining & shopping
- Food access
- Transportation

BOREALIS BEACH REGION

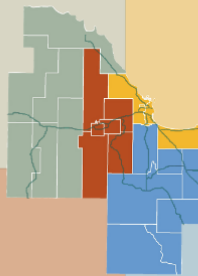
- Parks & recreation (esp. trails, Presque Isle, & beaches)
- Affordable housing choices (need more options)
- Road/street maintenance
- Health care & social services (incl. substance use treatment, mental health, homelessness, etc.)
- Pedestrian infrastructure

IRON CORE REGION

- Public school system
- Road/street maintenance
- Dining & shopping
- Youth programming
- Parks & recreation (esp. Iron Ore Heritage Trail & Al Quaal)

BLUEBERRY FARMS REGION

- Affordable housing choices
- Road/street maintenance
- Food access
- Parks & recreation (esp. trails)
- Transportation





Marquette County 2021 Budget

The 2021 Marquette County Budget totals \$25,899,734 (down 1.7% from FY 2020).

A brief summary of the current County Budget can be found at the county's [website](#).

ing these services are often unfunded or inadequately funded by the state and federal governments that require local governments to provide them. Approximately 75% of services provided by the County of Marquette are mandated by state law, and but only about half of County services are funded by state budget transfers.

ing the County Road Commission (four garages and an office), the Solid Waste Management Authority (the County Landfill and recycling facility), and the Marquette County Transit Authority (two depots in Marquette area). Below is a map of the many facilities operated by the County of Marquette and affiliated County-wide agencies:

Budget: Expenditures and Revenues

Local Government Revenue Sources

Local governments, including the County of Marquette, derive their income from three primary sources: (1) direct taxes paid by constituents, (2) user fees, and (3) transfer payments from the state and federal governments. State governments across the country have been facing significant budget constraints at least since the Great Recession, and more recently the State of Michigan has been particularly hard-hit by the COVID-19 pandemic, which has not only resulted in **more than half a million infections** and cost at least 13,401 Michiganders their lives as of January 2021, but has also cost the State of Michigan **\$3.4 billion** in tax revenue. In turn, the state has less money available to share with local units of government, most of which (Marquette County included) are also facing revenue shortfalls.

County Facilities

The County of Marquette operates many facilities throughout the County. These include criminal justice and court facilities, parks and recreation facilities, the Marquette County Health Dept., Sawyer International Airport, a Water Department and associated infrastructure at K.I. Sawyer, and many more. County-wide governmental agencies also maintain important facilities in Marquette County, includ-

Services

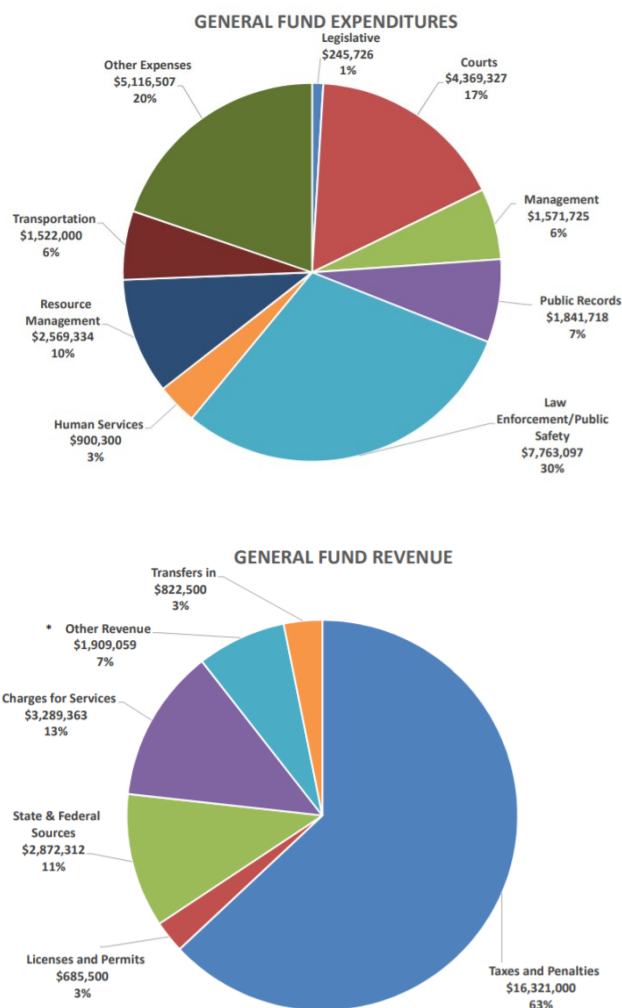
Government services must be accessible to the public. The large geographical size of Marquette County creates a challenge to provide equitable service, as evidenced by lack of transit service in some rural areas of the county, such as Ewing Township despite its residents paying a millage for it. The COVID-19 pandemic has challenged service agencies, requiring creative “out of the box” means to safely connect the public to services they need.

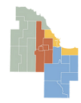
Types of Service Providers

There are a wide variety of entities that provide community services in Marquette County. In this section, we will attempt to divide these service providers into several broadly defined categories based on their jurisdiction, their public or private status, and the type of services they provide. Note that there will inevitably be service providers that fit into multiple categories.

Private For-Profit Service Providers

This category includes an extremely wide range of private, for-profit businesses that provide services in order to make a profit. This includes banks and other lending institutions, most housing developers and landlords, automotive service providers, telecommunications service providers, gas sta-





tions, supermarkets and grocery stores, etc. Some private, for-profit entities can also provide services that would normally be considered “public” in nature. For example, for-profit private schools provide education, but generally provide that service only to those students who are able to pay tuition fees or obtain private scholarships.

For-Profit Government Contractors

A subcategory within this category is For-Profit Government Contractors. These are private, for-profit businesses that contract with governmental entities to provide public services. For example, Waste Management provides garbage and recycling collection services for the City of Marquette and many other municipalities throughout the country. This subcategory does not include all private entities that make a profit by providing community services (for example, private schools or hospitals), but only those that contract with a government entity to provide those services.

Local Units of Government (LUGs)

These include counties, cities, villages, and townships, which provide a wide range of public services including public safety; water, sewer, and stormwater services; local road construc-

County Services include:

- Law enforcement, central dispatch, and the County Jail.
- Court services
- Road construction and maintenance (provided by the County Road Commission)
- Elections services provided by the County Clerk, in coordination with city and township clerks
- Administrative and record-keeping services (deeds, births, deaths, tax and fee collection, etc.)
- Building codes inspections and permitting
- Parks and recreation facilities, maintenance, and programming
- Planning, community and economic development support
- Limited water and wastewater services
- Public transportation (provided by Marq-Tran).
- Materials management (County Landfill, recycling, etc., provided by MCSWMA)
- Various public health services (provided by the Marquette County Health Dept., or MCHD)
- Soil Sedimentation and Erosion and drain control
- Mine inspections
- Airport

**City and Township services vary widely throughout the county based on population and financial ability.*

Municipal (cities, townships) Services include*:

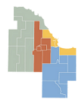
- Trash and recyclable collection
- Local road, street, and sidewalk maintenance (townships do not own roads)
- Police, fire, and EMS services
- Water and wastewater services (though these are often not provided in very rural areas)
- Snow and ice removal and other public works services
- Planning, zoning, and local code enforcement
- Public libraries and community centers
- Stormwater management
- Parks and recreation
- Various economic development entities/services (DDAs, Brownfield Authorities, etc.)
- Voting and voter registration
- Administrative services (fee and fine collection, permitting, etc.)

tion and maintenance; public transportation; court and criminal justice services; parks and recreation; planning and zoning; and many more. LUGs provide services through direct public spending, or sometimes through public-private or intergovernmental partnerships. The authority and obligation of LUGs to provide certain services ultimately comes from the State of Michigan. There are currently 22 LUGs within Marquette County.

Independent Government Entities (IGEs)

These include a wide range of governmental entities that are organized on a municipal, county-wide, regional, or statewide level that provide important services to the public. These entities are usually created by an LUG or the State of Michigan, but operate with at least some degree of independence and autonomy from the unit of government that originally created them, and often operate across municipal and county boundaries. Like Private For-Profit Service Providers and LUGs, Independent Government Entities provide an extremely wide array of services. In Marquette County this category includes public school districts, the Marquette Board of Light & Power, DDAs, the Marquette Housing Commission, the Marquette County Health Dept., Marq-Tran, the Marquette County Solid Waste Management Authority, the County Road Commission, the Marquette County Land Bank Authority, the Marquette-Alger Regional Educational Service Agency (MARESA), the Marquette County Conservation District, Central Upper Peninsula Planning and Development (CUPPAD), Mar-

ed them, and often operate across municipal and county boundaries. Like Private For-Profit Service Providers and LUGs, Independent Government Entities provide an extremely wide array of services. In Marquette County this category includes public school districts, the Marquette Board of Light & Power, DDAs, the Marquette Housing Commission, the Marquette County Health Dept., Marq-Tran, the Marquette County Solid Waste Management Authority, the County Road Commission, the Marquette County Land Bank Authority, the Marquette-Alger Regional Educational Service Agency (MARESA), the Marquette County Conservation District, Central Upper Peninsula Planning and Development (CUPPAD), Mar-

*Economic Development Organizations*

Organization	Services Provided
Lake Superior Community Partnership	General economic development services for business and govt. in Marquette County.
Invest UP	General economic development services for the Upper Peninsula.
Greater Ishpeming-Negaunee Area Chamber of Commerce	Economic development and services and support for local businesses in west Marquette County.
Ishpeming DDA	Downtown Ishpeming small business support, and downtown beautification and redevelopment.
Marquette DDA	Downtown Marquette small business support, and downtown beautification and redevelopment.
Michigamme DDA	Downtown Michigamme small business support, and downtown beautification and redevelopment.
Negaunee DDA	Downtown Negaunee small business support, and downtown beautification and redevelopment.
Marquette Brownfield Redevelopment Authority	Facilitate redevelopment of eligible sites in the City of Marquette through Tax Increment Financing.
Marquette County Brownfield Redevelopment Authority	Facilitate redevelopment of eligible sites in Marquette County through Tax Increment Financing.
Marquette Local Development Finance Authority	Facilitate economic development through Tax Increment Financing.
Innovate Marquette SmartZone	Start-up incubation, small business assistance, focus on tech development.
Invent @ NMU	Start-up incubation and support for inventors from NMU student specialists.

quette-Alger EMS Control Authority, and the Sawyer Operations Authority (SOA), to name a few.

Non-Governmental Organizations (NGOs)

This category includes private, not-for-profit entities that provide services to solve specific problems or promote some specific public good, rather than to realize financial gains. In Marquette County this category includes the Marquette County Community Foundation, philanthropic organizations, trail user groups like the Noquemanon Trail Network (NTN), churches and most other religious organizations, the U.P. Land Conservancy, the Superior Watershed Partnership (SWP) and Room at the Inn, which operates a homeless shelter in Marquette.

Business & Economic Development Service Providers

This category can include both public and private entities that represent business interests in the community and promote and facilitate economic development and support for existing local businesses. This category can also include services provided to certain types of businesses – for example, businesses located in downtown districts or tourism-dependent businesses. Downtown Development Authorities (DDAs), local Chambers of Commerce, the Lake Superior Community Partnership (LSCP), Brownfield Redevelopment Authorities, Travel Marquette, Local Development

Finance Authorities (LDFAs), and the Marquette SmartZone could all be included in this category. Almost all of the organizations in this category would also fall into one of the other categories mentioned above, but their purpose is sufficiently unique to warrant a separate category.

61.1% of survey respondents felt there was a need for more health and social services (including mental health services and substance use treatment) in their region

“... increase access to mental health services, and open a true 6 month to 12 month recovery center for addicts.”
– Moose Hills

“Access to mental health and substance abuse resources are both important and lacking.” – Iron Core

“(We need) better mental health services for adults and children.”
– Blueberry Farms

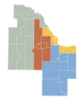
“(We need more) coordination among agencies regarding the homeless problem and mental health/addiction...” – Borealis Beach

Types of Services*Health Care & Social Services*

A wide variety of health care and social services are provided by various entities in Marquette County. The Marquette County Health Dept. provides public health expertise and services, with a notable recent example being the organization of public health announcements and vaccine distribution during the COVID-19 pandemic. General health care services are provided by Upper Peninsula Health System (UPHS) at the large regional hospital in Marquette, UPHS-Bell Hospital in Ishpeming, and the UPHS-Negaunee Family Medicine clinic. Mental health care is available at UPHS-Marquette, Pathways Community Mental Health in Marquette, and

several smaller care providers in the Marquette area. Substance use disorder treatment for adults is available at Great Lakes Recovery Centers (GLRC) in Ishpeming and Marquette and at Pathways Substance Abuse Services in Negaunee, with treatment for minors available at the GLRC Adolescent Services facility in Negaunee.

Many other vital social services are provided by a wide array of both public and private entities. Many of these service providers are discussed in greater detail in other sections of this Plan.



Law Enforcement

Currently, law enforcement in Marquette County is provided by the Michigan State Police, the Marquette County Sheriff, three city police departments, three township police departments, Northern Michigan University Public Safety, the Keweenaw Bay Indian Community, and various federal agencies. For Marquette County, law enforcement is the single largest expense, followed closely by the courts, a related activity.

Jail Overcrowding

Jail overcrowding has become a major problem for Marquette County and many other counties in Michigan. As state prison populations have decreased in recent years, county jail populations have increased. According to the Marquette County Sheriff's Dept., the COVID-19 pandemic revealed several deficiencies in the Marquette County Jail. One consequence of overcrowding at the County Jail is the inability to properly isolate inmates who have contracted contagious diseases such as COVID-19. Another deficiency in the current facility is not having enough space to hold virtual court proceedings, telemedicine appointments, and attorney visits.

Fire Protection

Fire protection was probably the first service to which intergovernmental cooperation was applied in Marquette County. Every fire department in the county has a mutual aid agreement with at least one other fire department.

A number of townships in the county have formed multi-jurisdictional fire departments, some crossing county lines. The Tri-Township Fire Department joins Turin and Ewing

When asked what they like best about living in their region,

37.7% said
"Feeling safe and secure."

with the Forsyth Township Fire Department to provide emergency services at K.I. Sawyer.

Emergency Medical Service

Emergency Medical Services (EMS) are another vital community service in Marquette County. EMS goes beyond ambulances – it is a complex system of different services that combine together to provide timely, high-quality care to those experiencing medical emergencies. In Marquette County EMS is heavily dependent on volunteer EMS first responders. There are approximately 120 EMS volunteers in the County as of 2021, and in recent years there are fewer people entering the EMS field and volunteer recruitment has fallen significantly. Most EMS agencies in Marquette County are in need of multiple additional volunteers, but are struggling just maintain their already shorthanded rosters. The shortage of EMS first responders is especially acute in the West End of the County. Residents of the Moose Hills region often need to wait for an ambulance from Ishpeming; a round trip from Ishpeming to Michigamme or Republic can take nearly an hour depending on traffic. Champion Township has an EMS unit, but is still in the process of reactivating the unit and recruiting volunteers.

Garbage Collection

Townships and cities take a variety of approaches to garbage collection. All municipalities in the county participate

in the Marquette County Solid Waste Plan, and send their waste exclusively to the Marquette County Landfill in Sands Township. The method of delivery, however, varies from community to community and includes providing garbage collection themselves, contracting with a private hauler, or have transfer stations and require residents to provide their own hauling, usually by private

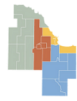
4 in 5 County residents feel that the County recycling program is "Very or Somewhat Important."



Role of County Planning

The Marquette County Planning Commission has an authoritative role as the designated planning agency for solid waste planning within the County. They are responsible for preparing the County's Solid Waste Management Plan with the advice, consultation, and assistance of the Solid Waste Planning Committee, whom are appointed by the County Board.

A main goal of the plan is to prevent adverse effects on the public health and the environment resulting from improper solid waste collection, transportation, processing, or disposal, so as to protect the quality of the air, the land, and ground and surface waters. It includes an enforceable program and process to assure that the nonhazardous solid waste generated in the County is collected and recovered, processed, or disposed of at disposal areas that comply with state law and rules promulgated by the department governing location, design, and operation of the disposal areas.



Solid Waste Management in Marquette County

The Marquette County Board of Commissioners established the Marquette County Solid Waste Management Authority (MCSWMA) in 1988, and the Marquette County Landfill opened in 1989. There are only a few government owned landfills in Michigan. In 1999, the County Board adopted the [Marquette County Solid Waste Plan](#), amended in 2007, and the MCSWMA Plan of Operations was last revised in 2020. In addition to on-site solid waste disposal and storage, the County Landfill offers many services to Marquette County residents, including drop-off recycling, household hazardous waste collection, and a drug take-back program. All 22 municipalities in Marquette County are part of the MCSWMA, but it is up to each municipality to determine how they want to manage materials collection and removal from residential areas, and commercial entities are responsible for making their own collection and hauling arrangements.

Recycling has become an increasingly important aspect of the MCSWMA's operations. In 2020, the MCSWMA implemented a landfill tipping fee increase and took out a loan to fund major upgrades to their recycling facilities, allowing Marquette County to transfer to single-stream recycling and resume recycling glass in late 2020. This is projected to significantly increase Marquette County's recycling rate in the coming years, and also has the potential to create additional jobs and make Marquette County a regional recycling hub for the entire U.P. Many neighboring counties and municipalities have expressed interest in sending their recyclables to the MCSWMA facility in Sands Township, and as of early 2021 the facility is serving six counties, including Marquette.



services. Increased coordination in garbage collection could lead to better organization of routes and more efficient, less costly collection.

Water Service

Water systems can be expensive to maintain over time. In addition to water extraction and treatment, the mains require continual maintenance. Four systems cross political boundaries: The Marquette system (City of Marquette and Marquette Township), Ishpeming-Negaunee Water Authority (City of Ishpeming and City of Negaunee), K.I. Sawyer's water system (Forsyth Township and West Branch Township) and the Skandia water authority (Skandia Township and West Branch Township).

Marquette County Water Coalition

The Marquette County Water Coalition is an example of regional collaboration for water resources' planning at the municipal, county and state level. Water crosses municipal boundaries as (1) a source for drinking water, (2) a carrier of potential contaminants, and (3) force for erosion and changing currents from dynamic fluctuating Lake Superior water levels.

Sanitary Sewer Service

Sanitary sewer service, like water service, is provided mainly in the urban corridor. It is even more expensive to maintain a sanitary sewer system than a water system, because while delivery costs (pipes) are similar, the treatment costs are much higher, particularly when secondary treatment is needed. Three systems cross political boundaries: the Marquette Area Wastewater Authority (City of Marquette, Marquette Township, and Chocolay Township), the Ishpeming Area Wastewater Treatment (City of Ishpeming, Ishpeming Township) and K.I. Sawyer's wastewater system (Forsyth Township and West Branch Township).



Public Transportation

Countywide bus service is provided through Marq-Tran, which is funded by a countywide tax. Transit service has been provided in Marquette County since 1985. The [Marquette County Transit Authority](#) (Marq-Tran) offers a variety of services including fixed and feeder routes, curb-to-curb service, special contract runs, and specialized service runs. Marq-Tran cannot provide service to all corners of the County given its size. Their fixed routes reach south to Gwinn and west to Ishpeming daily. Efforts to coordinate bus routes with carpool lots, trailheads and other regional transit are improving this mode of transportation.

Survey Snapshot

Do you think public transportation options are important?

Blueberry Farms

64.9%

Iron Core

60.4%

Borealis Beach

68.9%

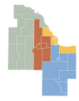
Moose Hills

58%

MARQUETTE COUNTY

66.1%

Yes
No



"MarqTran ... does not meet the needs of the residents of Marquette (County) that really would like to use it." – Blueberry Farms

"Public transportation is very problematic. We need reliable, safe, convenient public transportation." – Iron Core

"(Marquette County needs) improved public transportation, with designated bus stops and better accessibility." – Borealis Beach

Several fixed routes run within the urban areas link the three cities in the County and connect residential places to retail and commerce centers. The Ishpeming-Negaunee route runs hourly to and from Marquette. Likewise, the Sawyer route connects the K.I. Sawyer and Gwinn communities to Marquette. Fixed-route buses are equipped with racks that can hold bicycles improving the level of service for destination places too far to walk to, but close enough to cycle to. Marq-Tran also has a transfer station located at the intersection of Spring Street and Third Street in the City of Marquette.

In addition to local transit, Indian Trails offers long-distance intercity bus service from Marquette to Milwaukee daily. The Marq-Tran depot in Marquette Township is also a service center for Indian Trails and is located along the Calumet-Chicago intercity bus route.

Economic Development

Numerous organizations are involved in economic development in Marquette County. In recent years, the Lake Superior Community Partnership (LSCP) has taken a leading role in encouraging economic development in the county, while the Marquette Chamber of Commerce (now defunct) and the Greater Ishpeming-Negaunee Area Chamber of Commerce have also represented local business interests and promoted economic development. DDAs in Marquette, Ishpeming, Negaunee, and Michigamme have also played

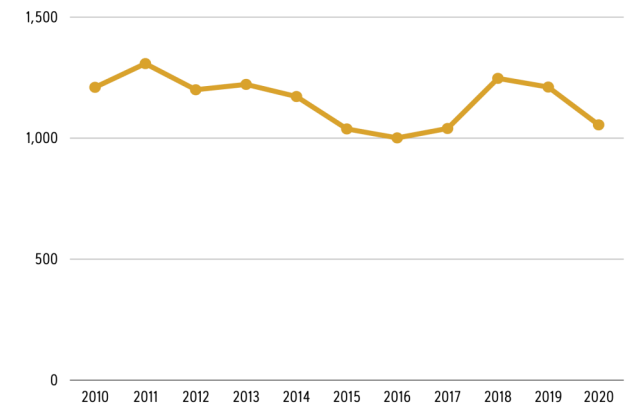
similar roles, but specifically for downtown districts and the businesses located within them. The County of Marquette has also played an active role in economic development, both through the Marquette County Economic Development Corporation and Sawyer International Airport. Various County-wide and regional authorities (the County Land Bank, Brownfield Authorities, CUPPAD, etc.) have also played important roles in economic development in Marquette County in recent years.

Investors from outside the area, on the other hand, are more likely to put their money in an area where cooperation and regional integration is a theme. Development in one township or city often has spillover effects into neighboring communities, and as a result regional and intergovernmental partnerships are critically important to promote economic development. Similarly, public-private partnerships can also lead to economic growth and opportunities that would have otherwise been impossible through public or private action alone, and can promote greater mutual understanding and cooperation between the public and private sectors.

Education

Education is one of the most important community services provided in Marquette County. Northern Michigan University was founded in 1899 as Northern State Normal School. Over time, it evolved from a center for teacher training to a comprehensive regional university. In the Fall 2020 semester, NMU hosted 7,368 undergraduate and graduate students, a 4.7% decline from Fall 2019 and substantially lower than the more than 9,000 students NMU boasted a decade ago. However, the more recent decline in enrollment is likely due to COVID-19, and graduate enrollment actually increased by 4% from 2019 to 2020.

NMU Freshmen enrollment

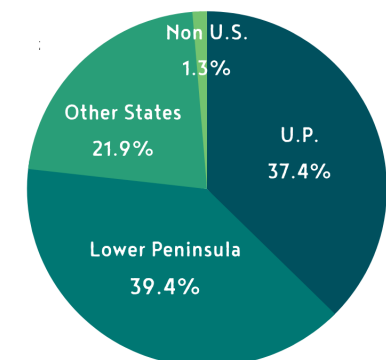


- ▶ **About 23.5% of NMU graduates stay in Marquette County**
- ▶ **Students represent all 50 States and 35 Countries**
- ▶ **Average undergrad age is 22**
- ▶ **Student body is about 57% female, 43% male**

"... focus on investments ... and education to build a vibrant new economy sector based on the broader trends in Michigan and the world. Build a tech sector." – Borealis Beach

"(We need) additional economic opportunities and business development to secure jobs and financial investment in the community." – Blueberry Farms

NMU Undergrad Enrollment by Region Fall 2019





The **NMU student body** has gradually become more diverse, with the percentage of NMU first-year students identifying as people of color nearly doubling from just 7% in 2010 to 13% in 2015. There are also more students coming from outside the U.P. In 2006 there were nearly twice as many NMU freshmen from the Upper Peninsula (43.5%) as from downstate Michigan (24.3%), but by 2015 only about a third of NMU freshmen (36.6%) were Yoopers, nearly equal to the 36.1% from downstate, with 20.4% from other Upper Midwestern states and 6.8% from other parts of the U.S. or the world. The **percentage of NMU freshmen** who identify as “first generation” college students (i.e., the first member of their family to attend a four-year college) also increased slightly from 34.4% in 2015 to 37.3% in 2020.

This could help attract new residents who come to NMU to get an education and decide they want to stay in Marquette County after graduation. Of course, the success of this strategy for attracting new residents will depend on there actually being good-paying, attractive jobs available for these NMU graduates.

Marquette County is also home to six public K-12 school districts and two public K-8 districts. In addition, Turin, Ewing, and Wells Townships send many of their K-12 students to the Mid-Peninsula and Escanaba districts in Delta County, and a small number of students still attend local charter or parochial schools in Marquette. Marquette County is also home to North Star Montessori Academy, a K-12 charter school, and Father Marquette Catholic Academy, a K-8 Catholic parochial school. Most school districts in Marquette County have struggled with declining enrollment or are heavily reliant on school of choice. For example, Marquette Area Public Schools shuttered five of its eight elementary schools in the first decade of the 21st century after the closure of K.I. Sawyer AFB in 1995. As of 2021, MAPS operates only four elementary schools and relies heavily on

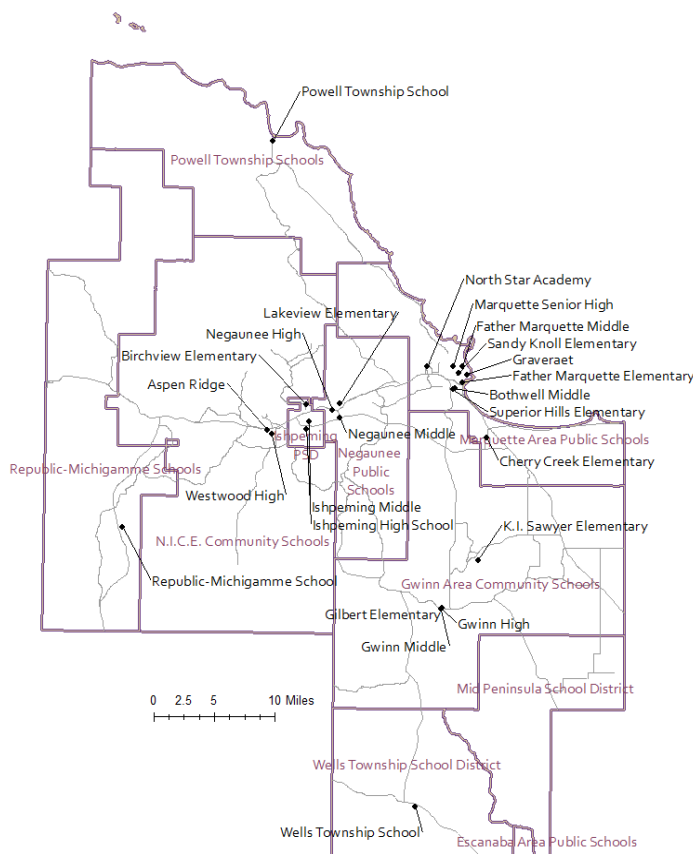
school of choice students from neighboring school districts. Homeschooling is also an important component of K-12 education in Marquette County, and the MARESA also provides special and vocational education to both K-12 and adult students in Marquette and Alger Counties. During the COVID-19 pandemic, virtual schooling has led to an increased reliance by K-12 students on their parents and at-home resources, and worse educational outcomes for students who have less reliable access to the internet and com-

puters or whose parents are less able to help them with schoolwork.

Many local school districts have struggled with state budget cuts and declining per-pupil revenue due to declining enrollment and school of choice over the past decade, and these problems will likely persist in the coming years barring major demographic or state policy changes. Many districts have struggled to maintain school buildings and infrastructure, to continue to offer advanced academic coursework, arts and music, and career and technical education, and sports programs, although local schools are offering new educational opportunities for students as well. The future of public K-12 education in Marquette County remains murky, but there is still hope that great educational opportunity can be offered to local students in the coming years. Making this hope a reality will be crucial to the future sustainability and prosperity of Marquette County.

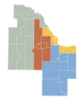
There is a major shortage of affordable, licensed child care options in Marquette County. The shortage of infant care and before-and-after-school care for school-age children is especially severe. Most child care providers in Marquette County have waiting lists, and it can take up to a year to get through some local child care centers' waiting lists. This means that an expecting mother in Marquette County would potentially need to register for child care immediately upon learning of her pregnancy (and perhaps even earlier). Child care is also increasingly unaffordable – in fact, according to a **2017 study** by the Michigan Dept. of Education, Marquette County has the 5th-highest child care market rate for infant care (\$5.67/hour) among all 83 counties in

Public Schools and Districts



“... offer access to a high quality childcare program ... so that families ... are able to seek employment without the financial burden (and also lack of availability in this area) of most private daycare programs.”

– Borealis Beach



Michigan, the 6th-highest toddler care rate (also \$5.67/hour), the 12th-highest preschool rate (\$4.53/hour), and the 17th-highest for school-age care. This shortage of affordable child care options is not reasonable or sustainable, and is hurting Marquette County families.

Internet Access & Cellular Service

In the next 20 years, one gigabit per second (1 Gbps) broadband will become the new baseline level of internet service required by businesses and residents, and will become a utility as crucial as electricity and phone service. Access to one Gbps download and upload speeds would allow Marquette County to attract remote workers and technology and manufacturing firms, while also improving the local quality of life and opening up new opportunities for current residents and businesses. However, there is currently an almost complete lack of 1 Gbps broadband internet service in Marquette County. While 87% of Marquette County households have access to 25-100 Mbps download speeds, even this modest level of internet service is unavailable in most locations in Marquette County. Connected Nation provides an [interactive map](#) that displays broadband service. It is also important to note that this data is provided to the Federal Communications Commission (FCC) by service providers themselves, and as

3 in 5 (62.9%) said Marquette County needs more remote/teleworking opportunities. (Pre-COVID)

a result the data below may actually be slightly exaggerated.

Many counties and municipalities that are underserved by internet providers have provided public broadband internet service themselves. Many communities (for example, the [Village of L'Anse](#)) are also now providing free public Wi-Fi in their downtown districts. These successful municipal internet services could eventually be replicated by local units of government in Marquette County. Recently, the COVID-19 pandemic has forced many schools to resort to full-time or part-time virtual learning, revealed just how crucial it is for students, schools, and educators to have access to reliable, high-speed internet in the 21st century. Northern Michigan University's [Educational Access Network](#) (EAN) provides low-cost LTE broadband internet service throughout much of Marquette County and the Upper Peninsula, with discounts for K-12 and post-secondary students, veterans, and NMU affiliates. NMU EAN provides low-cost internet to many Marquette County residents who otherwise would not be able to obtain or afford internet access. However, this service is not universally available and download speeds are generally 25 Mbps or lower.

Improving cell service is in some ways an even more difficult challenge for the County of Marquette and municipalities. [Maps](#) prepared by Connected Nation show service is currently available in most of Marquette County, but it is often unreliable or very low-quality, especially in rural areas. Like

Level of Internet Service 2021	Download Speed	Upload Speed
FCC Minimum Definition of Broadband Internet	25 Mbps	3 Mbps
NMU EAN Plan One	25 Mbps	1-5 Mbps
NMU EAN Plan Two	15 Mbps	1-5 Mbps
NMU EAN Plan Three	10 Mbps	1-5 Mbps

broadband data, cell service data is provided to the FCC by service providers, so the data may exaggerate actual cell service availability.

Intergovernmental Cooperation: Coordination of Services

Local governments have worked together in Marquette County for many years. Fire departments long ago realized that some fires would be too big for one department to handle alone. Mutual aid agreements provided a legal framework for one department to help out another during an emergency. Adjacent jurisdictions have also cooperated on the purchase and maintenance of expensive capital projects like utility systems and roads. In the face of declining local tax revenue and reduced revenue sharing from state and federal sources, local governments have been forced to focus on making the operation of government cheaper and more efficient. After decades of continual "fat-trimming" by local governments, opportunities for making community services more cost-effective are certainly limited, especially if current levels of service are to be maintained, but increased cooperation between local governments is one way of doing so.

Local residents and Planning Commissioners throughout Marquette County, especially in the Moose Hills and Blueberry Farms regions, identified a lack of access to broadband internet and reliable cell service as a major obstacle to economic development, emergency services, and attraction and retention of residents. Upper Peninsula Health Systems (UPHS) has stated that they are unable to deploy telemedicine services in much of Marquette County because many rural Marquette County residents lack sufficient internet access.

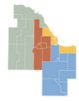
Explore the interactive data dashboard and get involved at www.mqtcoplan.org

Survey Snapshot

Do you feel expanding internet service and wireless communication is important?



of Marquette County residents think these services should be expanded.



Interlocal Agreements

Agreements between local units of government must be mutually beneficial to be sustainable in the long term. The following factors are critical to the success of any interlocal agreement:

- Cooperating units must feel that they have a say in the process.
- Everyone must feel that they are getting their money's worth.
- Services provided to each agency should be commensurate with financial or time contributions.
- Agreements should start with things that are easy to agree on; trust must be built before the tougher issues can be tackled.
- The agreement should have support both from leadership (both administrative and legislative) and from the constituents.
- Customers should be satisfied with the level of service.
- Working together should cost less than working separately, unless a new service is created that would not have been available otherwise.

Local Service Coordination: Challenges & Opportunities

The geography, development pattern, and local political realities of Marquette County often combine to make it challenging for local governments to deliver efficient and

effective local services. In some regions of Marquette County, most notably the Boreal Beach and Iron Core regions, a relatively large and compact population and development pattern makes services relatively cost-effective to deliver. However, the extremely rural parts of the County in the Blueberry Farms and Moose Hills regions must contend with a very low-density population, small local tax bases, and additional challenges such as the conversion of isolated secondary residences (i.e., "camps") into permanent residences in many rural townships, and dramatic variations in community needs even within the same municipality, for instance in West Branch Twp., where a stark divide exists between the higher-density, K.I. Sawyer community in the southwest of the township and the rest of the township, which is mostly composed of rural farms and homesteads.

To address these challenges, local governments should consider collaborating to provide services across municipal boundary lines on a regional level. These collaborative efforts can include sharing emergency services (like Skandia and West Branch Twps. and many other rural townships), parks and recreation staff and resources, and even utility delivery systems such as water and sewer pipes and treatment facilities (like the City of Marquette and Marquette Township). These interlocal partnerships often take the form of "mutual aid agreements," in which local law enforcement, fire, or EMS services agree to assist nearby communities in responding to emergencies. These mutual aid

Regional Planning and Coordination

The Central Upper Peninsula Planning and Development Regional Commission (CUPPAD), plays a vital role in supporting local governments through sharing resources and best practices to achieve planning and implementation for social and physical development in the six central UP counties.

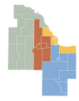
The Superior Trade Zone is a multi-governmental partnership between units of government in Delta and Marquette Counties. The Superior Trade Zone helps to establish and implement programs which encourages regional economic growth, development, investment, job creation and job retention.

Best Practices for Intergovernmental Cooperation

- Consistent standards in ordinances. Adjacent local governments can make things easier for residents and businesses by adopting consistent ordinances. A good example of this process in Marquette County is the adoption of access management standards for the US-41/M-28 corridor between Harvey and Koski Corners. After meeting with MDOT and other concerned parties, several townships have adopted standard access management ordinances for the corridor. This reduces confusion and helps local governments manage growth along the corridor.
- Regular intergovernmental meetings. For example, the Marquette County Administrator meets regularly with counterparts from the cities and townships to discuss issues of common interest. Recently, local city and township administrators have been meeting to coordinate responses to COVID-19.
- Shared government services of various kinds (explored further below).

agreements exist not only between municipalities, but also increasingly involve county and tribal governments.

Public-private partnerships also play a major role in providing services to residents and visitors to Marquette County and can be a more efficient way for local governments to provide quality public services, create a stronger economy, and improve the quality of life for local residents. For instance, the County Housing Rehabilitation Program has a



The K.I. Sawyer Community

The community of K.I. Sawyer is a perfect case study of both the great potential benefits of intergovernmental coordination and the potential harm that can result from ineffective cooperation between local governments, especially for vulnerable populations. K.I. Sawyer was established in 1955 after Marquette County signed a 99-year lease with the U.S. Air Force to construct K.I. Sawyer Air Force Base (AFB). K.I. Sawyer AFB housed thousands of military personnel and their families for decades, until being shut down and mostly abandoned in the 1990s as a result of the Base Realignment and Closure (BRAC) process that began at the end of the Cold War with the Soviet Union. However, over the last 20-30 years, K.I. Sawyer has gradually recovered, becoming an important source of affordable rental and owner-occupied housing despite its remote location. By 2019, K.I. Sawyer's population had rebounded to approximately 3,000, and most of the largest employers and tax-paying entities in Forsyth Township were located at K.I. Sawyer. Despite this, blight, concentrated poverty, and a lack of access to vital services have remained persistent problems at K.I. Sawyer, which still has the **highest poverty rate** (36.7%) of any Census-designated community in Marquette County.

Cooperation from multiple governmental entities and service providers is the key to improving the many unique circumstances borne to K.I. Sawyer. K.I. Sawyer is divided between three townships – Sands, Forsyth, and West Branch – with the populated areas

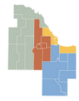
located in the jurisdiction of Forsyth and West Branch. In addition, Marquette County owns and operates Sawyer International Airport, provides water and sewer service to K.I. Sawyer residents, and operates Little Trout Lake Park. **Sawyer Village**, a low-income housing complex consisting of 200-300 units, is an enterprise of the Sault Ste. Marie Tribe of Chippewa Indians, and a large number of tribal members live in K.I. Sawyer, meaning that tribal governments are also vital stakeholders. Finally, the Sawyer Operations Authority (SOA) and **Sawyer Community Alliance** (SCA) are both quasi-governmental local entities dedicated specifically to K.I. Sawyer and its needs which operate side-by-side.

In order to adequately address the challenges and opportunities facing K.I. Sawyer in the next 20 years, all of these local governmental stakeholders should work together, listen to, and understand the needs of K.I. Sawyer residents. The Marquette County Planning Division and other regional planning entities like CUPPAD can play a vital role in this effort, including by facilitating the creation of a K.I. Sawyer Strategic Plan.

K.I. Sawyer is a strong community composed of many passionate residents who care deeply about their neighbors and the needs of the community. If greater intergovernmental coordination can be united with the strong purpose and work ethic of K.I. Sawyer residents themselves, K.I. Sawyer can continue to grow and make progress as a community and become an even better place to live for local residents.

strong partnership with Habitat for Humanity. Similarly, partnerships between different levels of government are very important. For example, Central Upper Peninsula Planning and Development (CUPPAD), the central U.P.'s regional planning agency, often assists Marquette County townships with drafting recreation plans.

In the **final chapter** of this Plan, we will discuss the specific strategies that can be implemented in each planning region to meet the needs of all Marquette County residents and communities over the next two decades. Intergovernmental cooperation, service coordination, and a need for regional planning and problem-solving will be major themes in this chapter. With many municipalities in Marquette Counties projected to lose population and experience significant declines in their local tax base in the coming years, this type of collaboration will become even more crucial for maintaining the level of public services that Marquette County residents have come to expect. **REFERENCES**



Where We're Going

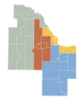
The last comprehensive update to the Marquette County Master Plan was written nearly 40 years ago. Marquette County, and the world, were very different back then – it would be years before the Internet had a meaningful impact on most peoples' lives; cell phones had just been invented; the world was still in the icy grip of the Cold War, and not coincidentally K.I. Sawyer Air Force Base was still operational and Marquette County's population was significantly larger than it is today; Michigan was in the midst of the worst economic crisis since the Great Depression. Our County and our world have seen many changes since 1982, some foreseeable and some completely unpredictable, and much will surely change between 2021 and 2040. The goal of this Plan is not to predict everything that will happen or prescribe everything that must be done over the next two decades. This section outlines a cohesive vision for Marquette County's next 20 years, using the extensive input we have gathered from experts, residents, stakeholders, and other communities to answer the question posed in the very first paragraph of this Plan: What do we want Marquette County to be like in the year 2040?

2040 Vision

Marquette County in 2040 will be a place where its people enjoy natural areas and rural character, feel safe, and celebrate culture. A stable and diverse economy empowers residents to live in thriving communities with a clean environment, good education, valuable job opportunities, and affordable quality housing.

Goals

1. A community resilient to climate change through mitigation, adaptation and coordinated public policy
2. A stimulated, sustained and diverse regional economy achieved through collaboration, economic growth and prosperity
3. Marquette County is a regional recreation hub where residents and visitors experience the natural environment and recreational assets without ecological degradation
4. Land within existing communities has been redeveloped, protecting natural areas and prime farmlands for the benefit of the region.
5. Access to diverse educational opportunities for all, especially youth
6. A mix of high quality affordable housing types located in places that adhere to the tenets of smart growth
7. Marquette County remains someplace special through celebration and promotion of culture and heritage unique to our area
8. Residents, especially vulnerable populations, feel safe, healthy, happy and secure
9. Governmental agencies, public and private service providers, and the public work together respectively to coordinate public services and utilities and address challenges faced by the community
10. Continued expansion of access to affordable assets including clean water, healthy food, medical services, broadband, cellular service, utilities and transportation

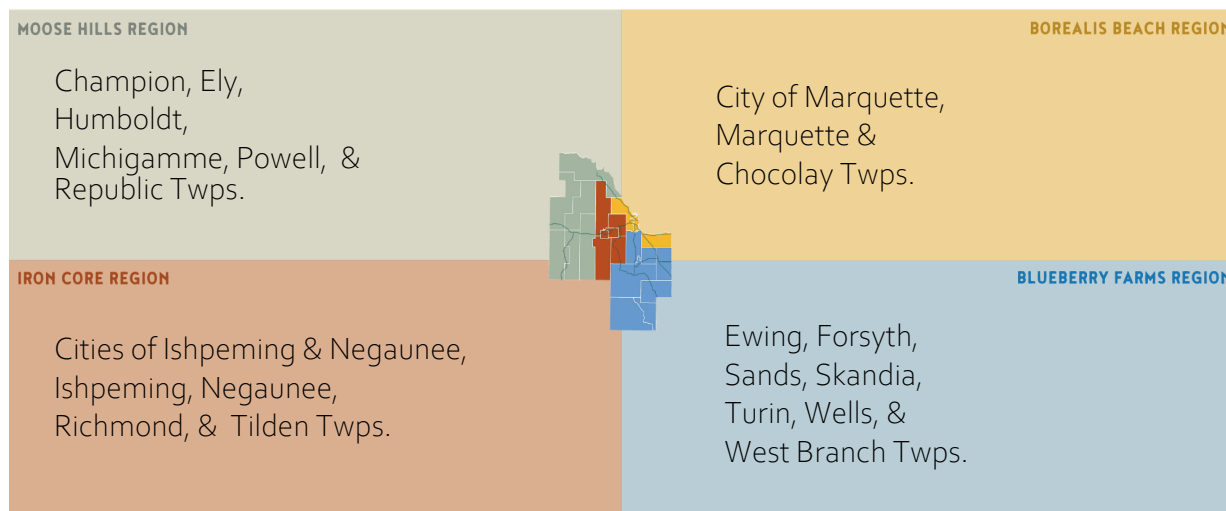


How We'll Get There

Nearly 100 strategies have been developed and serve as a blueprint for building a better future for all Marquette County residents by the year 2040. Most strategies have multiple responsible parties, signifying how key collaboration is for our community. Not one entity, agency, organization, or government will make the community's vision a reality, but in cooperation, monumental tasks are achieved.

Throughout the planning process and this Plan, four **planning regions** have been considered, recognizing that although the communities throughout Marquette County have similarities, they also have varying challenges and opportunities. The strategies account for this and identify which planning region(s) the strategy applies to. The key identifies the name, color, and municipalities of each planning region.

Strategy Color-code for Planning Regions



There are **five main themes** that the strategies are categorized by:

- Economy,
- Environment,
- Health & Human Services,
- Housing,
- Recreation, and
- Transportation

These main themes were derived from the results of the community survey, interviews, and dialogue with local planning commissions. The strategies are further categorized by **over thirty sub-themes**.

A general **timeline** is also included with the strategies.

- Short—less than five years
- Long—more than five years

A more **detailed explanation of each strategy** is housed on the www.mqtcoplan.org website. The detailed strategy can be considered the strategy with “cliff notes” of background information. It is highly recommended that you visit the website for additional information about each strategy.

A list of **responsible parties** for each strategy is also included. There are generalized and specific responsible parties and likely many who were not intentionally left off the list. This Plan asks the identified responsible parties to consider how they can achieve, or assist in achieving, these strategies collaboratively with others.

A **comprehensive table of strategies is available for viewing, sorting and downloading** on our master plan site. You can sort by planning region, main theme, subtheme, timeline, and/or responsible party.

Finally, it is the intent of the Marquette County Planning Commission and Division that this Master Plan, its strategies, and the Marquette County Planning website be a resource for the community. We hope they provide valuable information and will serve as a common blueprint for you to be part of achieving this vision:

Marquette County in 2040 will be a place where its people enjoy natural areas and rural character, feel safe, and celebrate culture. A stable and diverse economy empowers residents to live in thriving communities with a clean environment, good education, valuable job opportunities, and affordable quality housing.

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Strategies	Location				Main Themes		Sub-Themes																				Timeline (S=Short <5 Yrs, L= Long, 5+ Yrs.)	Responsible Parties																														
Strategies (See Expanded Strategies)	County-Wide	Blueberry Farms	Iron Core	Borealis Beach	Moose Hills	Economy	Environment	Health & Human Services	Housing	Recreation	Transportation	Affordable Housing	Blight	Child Care	Climate Change	Diversification	Emergency Services	Energy	Food Access	Homelessness	Infrastructure	Intergovt. Cooperation	Internet	Land Use	Municipal services	Protection & Preservation		Public Safety	Public Transit	Recreation Planning	Redevelopment	Road Maintenance	Senior Programming	Social Services	Sustainable Development	Trails	Tourism	Walkability & Bikeability	Youth Programming	Businesses	Business/Economic Development	Community Organizations	County Board/Administration	County Planning	Local Units of Government	Developers & Investors	Downtown Dev. Authorities	Federal Government	Higher Education (NMU)	Land Bank/ Brownfield Authorities	Organized Labor	Recreation Organizations	Regional Planning (CUPPAD)	Sawyer Operations Authority	School Districts	State Government	Transportation Agencies	Tribal Governments
Increase electric vehicle charging infrastructure.	X	X	X	X	X	X	X				X				X		X				X				X												S	X	X	X		X	X					X			X				Travel Marquette			
Assist municipalities in planning for eventual mine closures.			X		X	X	X									X						X									X						L		X	X		X	X				X			X				Lake Superior Community Partnership, Marquette Co. Community Foundation				
Support the responsible expansion of new industries in the region.	X	X	X	X	X	X		X			X				X																		X			S	X	X			X	X	X	X	X	X	X	X			X	X			Chambers of Commerce, Lake Superior Community Partnership, Innovate Marquette			
Conduct a land value assessment to guide future decisions about development to assure that new infrastructure pays for itself and existing infrastructure is maintained.	X	X	X	X	X	X		X			X										X			X												S					X	X				X												
Pursue grant funding to help offset infrastructure maintenance costs and fund major reconstruction projects.	X	X	X	X	X	X		X			X										X											X				L					X	X			X					X								
Create a redevelopment strategic plan to guide sustainable development at K.I. Sawyer.		X				X		X			X																			X							S	X	X	X		X	X				X							X				Sawyer Community Alliance, Lake Superior Community Partnership, InvestUP, MSU Extension
Maintain and expand Career Technical Education (CTE) opportunities.	X	X	X	X	X	X		X																												X	S	X		X	X	X	X				X	X	X		X		X				Michigan Works	
Improve high speed broadband services throughout the County.	X	X	X	X	X	X		X															X													L		X		X	X	X		X	X	X					X		X					
Improve access to free high speed WiFi.	X	X	X	X	X	X		X															X													S		X		X	X	X		X	X						X							
Improve cell phone access throughout Marquette County.	X	X	X	X	X	X		X									X																			L		X		X	X			X				X				X					Lake Superior Community Partnership	
Create a public inventory of licensed child care and pre-kindergarten service providers in Marquette County that includes availability and waitlist times.	X	X	X	X	X	X		X						X																						S			X												X					Child Care/Pre-K Providers, Community Action Alger Marquette		

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Explore the interactive data dashboard and get involved at www.mgtcoplan.org

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